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REPORT ON DIAMOND DRILLING AND OTHER WORK
AT MOOSE RIVER CROSSING PROPERTY

CARROLL & CANFIELD TWP
ONTARIO

SUBMITTED TO: JAMES BAY LOWLANDS
GYPSUM DEVELOPMENT
GROUP

DEC 07 1994

BRIAN K. FOLK B.Sc.

INTRODUCTION

BETWEEN THE DATES OCT 18 '94 AND NOV 15 '94 SMALL SCALE DRILLING WAS PERFORMED AT THE MOOSE RIVER CROSSING PROPERTY OF THE JAMES BAY LOWLANDS GYPSUM DEVELOPMENT GROUP, IN ORDER TO ASCERTAIN AN OVERVIEW OF THE LOCAL GEOLOGY FOR GYPSUM KNOWN TO OUTCROP ON THE SHORES OF THE NEARBY MOOSE RIVER.

TWO HOLES WERE DRILLED WITH A SMALL WINKIE DRILL, FOR A TOTAL OF 110.' ALTHOUGH THE HOLES WERE SHORTER THAN EXPECTED OR DESIRED, A GOOD DEAL OF GEOLOGICAL INFORMATION WAS GLEANED.

BOTH MRC-94-01 AND MRC-94-02 INTERSECTED THE MOOSE RIVER FORMATION (GYPSUM) AT OR NEAR SURFACE AND REMAINED WITHIN THAT FORMATION UNTIL THEIR ENDS (60.0' AND 50.0' RESPECTIVELY)

PROPERTY

THE MOOSE RIVER CROSSING GYPSUM PROPERTY CONSISTS OF 21 CONTIGUOUS CLAIMS, CONTAINING 58 UNITS, ALL WITHIN CARROLL AND CANFIELD TWPS., PORCUPINE MINING DIVISION. THE PROPERTY IS OWNED WHOLLY BY THE JAMES BAY LOWLANDS GYPSUM DEVELOPMENT GROUP. THE 21 CLAIMS ARE DIVIDED AS FOLLOWS;

P 1131388	1	UNITS
P 1131389	1	
P 1131390	1	
P 1170583	1	
P 1170584	1	
P 1170585	1	
P 1170586	1	
P 1170587	1	
P 1170589	1	
P 1170590	1	
P 1188872	15	
P 1188873	9	
P 1188874	4	
P 1188875	1	
P 1188876	2	
P 1188877	1	
P 1190293	1	
P 1190294	2	
P 1190295	4	
P 1190296	6	
P 1190297	2	

LOCATION & ACCESS

THE PROPERTY IS LOCATED IN CARROLL AND CANFIELD TWPS., PORCUPINE MINING DIVISION, COCHRANE DISTRICT. THE U.T.M. FOR THE PROPERTY IS APPROXIMATELY E 480,000 N 5,631,800 AND THE LATITUDE/LONGITUDE IS APPROXIMATELY N 50° 50' 20.48" W 081° 16' 58.22"

FIG. 1 SHOWS THE LOCATION WITH REFERENCE TO THE MOOSE RIVER AND THE ONTARIO NORTHLAND RAILWAYS COCHRANE - MOOSONEE LINE.

ACCESS IS PROVIDED BY THE O.N.R.. A SMALL TRAIL IS CUT FROM NEAR MILEPOST 144, SOUTH TO THE DRILL-HOLES (MRC-94-01, MRC-94-02) AND A CLEARED SEMI-PERMANENT CAMP SITE.

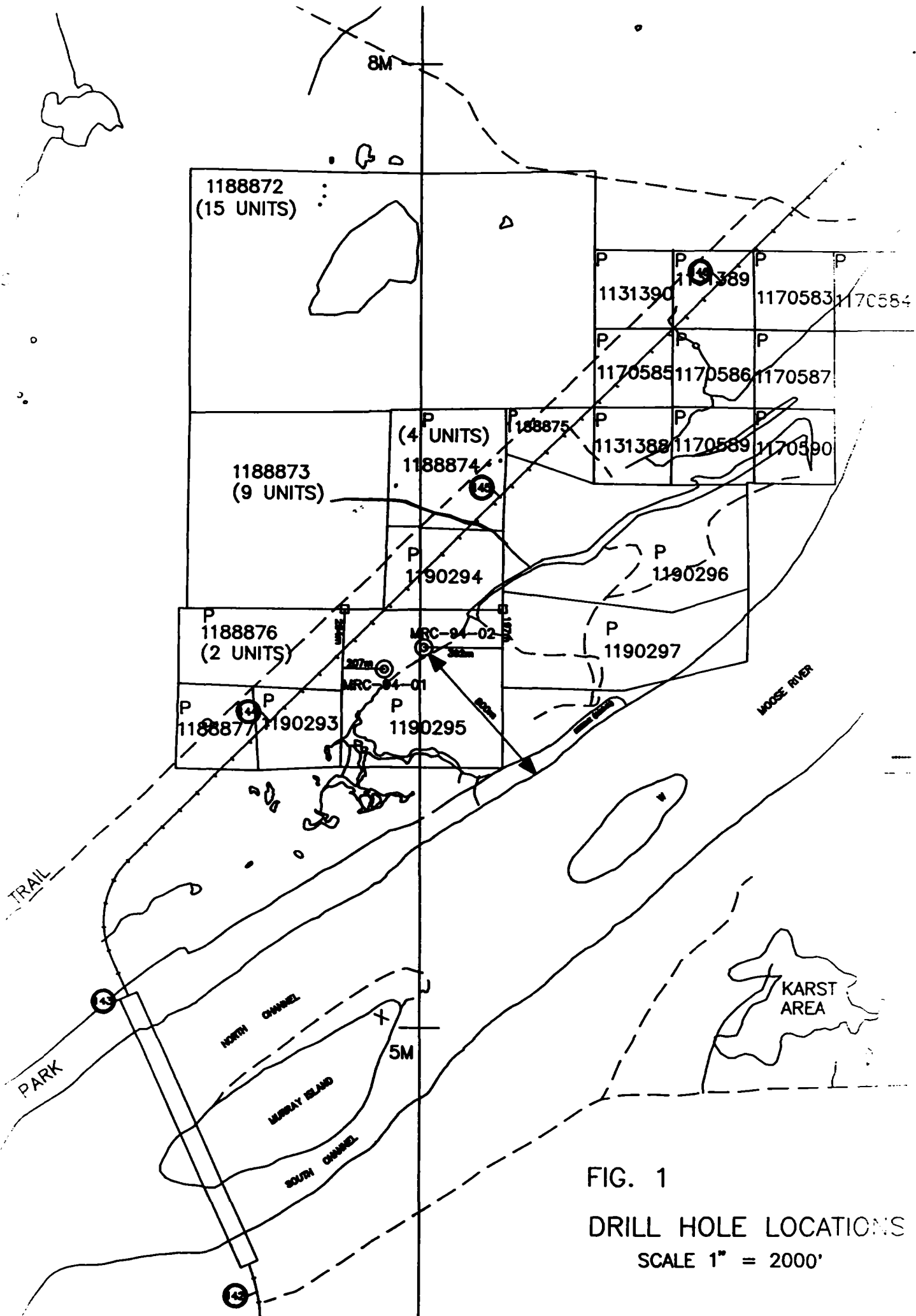


FIG. 1
 DRILL HOLE LOCATIONS
 SCALE 1" = 2000'

TOPOGRAPHY/VEGETATION

IN GENERAL, THE PROPERTY IS FLAT AND LOW LYING EXCEPT FOR LOCAL TOPOGRAPHY, INCLUDING OLD CLAY RIVER LEVEES UP TO 20 METERS THICK AND 50 TO OVER 200 METERS WIDE. THE OLD LEVEES GENERALLY TREND APPROXIMATELY NORTH-EAST, PARALLEL TO THE MODERN MOOSE RIVER (ABOUT 800 METERS AWAY)

FOR THE MOST PART, THE PROPERTY IS COVERED WITH SCRUBBY BLACK SPRUCE AND JACKPINE BUT THE RIDGES ARE DOMINATED BY LARGE POPLAR AND PINE.

EXPLORATION HISTORY

- 1923 JAMES BAY BASIN OIL Co. LTD
REGIONAL DRILLING INCLUDED 3 HOLES IN
CANFIELD TWP. (GREY GOOSE ISLAND)*
- 1926 ONTARIO DEPT. OF MINES (O.D.M.)
DETAILED GEOLOGICAL STUDY (INCLUDES
MAP No. 1946.3)
- 1930 O.D.M.
ONAKAWANA "A" LIGNITE DRILLHOLE *
- 1943 MOOSE RIVER OILS LTD.
REGIONAL OIL EXPLORATION INCLUDED
DIAMOND DRILLING IN KILMER, RAFLEY
AND HECLA TWFS.
- 1953 JAMES BAY BASIN OIL Co. LTD.
DPH 67 HIT MOOSE RIVER FORMATION
(GYPSUM) FOR 80.7m, DPH 68 INTERSECTED
19.6 m OF MASSIVE GYPSUM. *
- 1990 MNDM INDUSTRIAL MINERAL BACKGROUND
PAPER 12, GYPSUM IN NORTHERN ONTARIO
- 1992 JAMES BAY LOWLANDS GYPSUM DEVELOPMENT GROUP
OVERBURDEN DEPTH SURVEY AND DIGITAL
BASE MAP PRODUCTION
- 1993 JBLGDG
MECHANICAL TEST PITTING
- 1994 JBLGDG
DIAMOND DRILLING/GEOLOGY

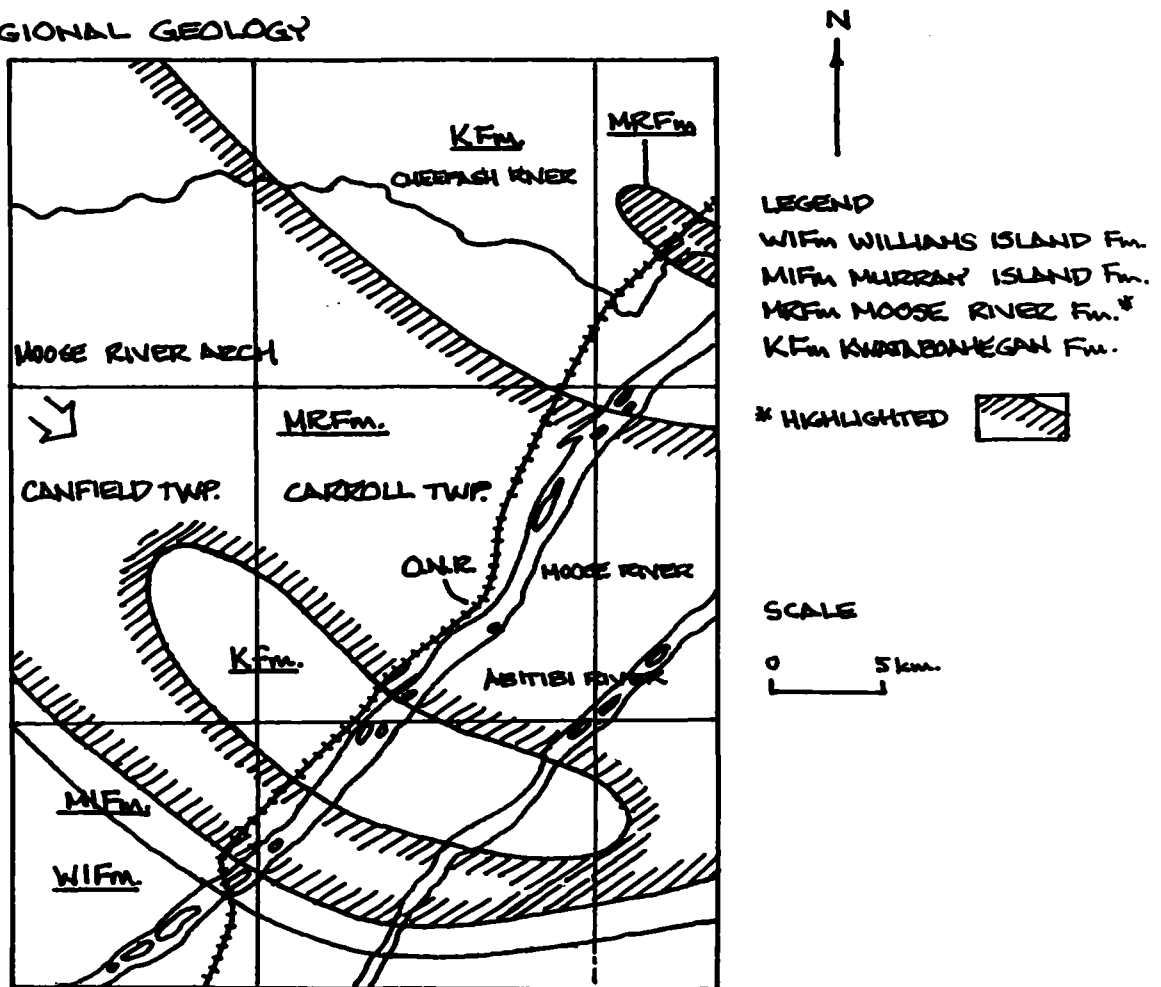
* THESE CORES ARE STORED, ALONG WITH MANY OTHER JAMES BAY LOWLAND DRILL CORES, AT THE MND&M'S CORE LIBRARY IN TIMMINS, ONT.

REGIONAL GEOLOGY

REGIONAL GEOLOGY CONSISTS OF A PRECAMBRIAN BASEMENT COMPLEX COVERED BY PROTEROZOIC - MESOZOIC, BASINAL CARBONATE ROCKS. THE MOOSE RIVER FORMATION REPRESENTS A MIDDLE DEVONIAN SEQUENCE OF BEDDED, BASINAL CARBONATES AND EVAPORITES, INCLUDING SIGNIFICANT GYPSUM. THE MOOSE RIVER FORMATION IS UNDERLAIN BY THE FOSSILIFEROUS LIMESTONES OF THE KWATABOAHGAN FORMATION, AND OVERLAIN BY FOSSILIFEROUS DOLOSTONES AND ARGILLACEOUS CARBONATES OF THE MURRAY ISLAND FORMATION. THE MOOSE RIVER FORMATION ITSELF DISPLAYS A DISTINCT SCARCITY OF FOSSILS.

THE GYPSUM OF THE MOOSE RIVER FORMATION IS BEST DEVELOPED ALONG THE NORTH-WEST TRENDED MOOSE RIVER ARCH. GYPSUM OUTCROPS OVER AN ELLIPTICAL AREA 70KM BY 17KM., TRENDED NORTH-WEST. THREE MAIN SURFACE EXPOSURES INCLUDE THE MOOSE RIVER CROSSING SITE, THE CHEEPASH RIVER SITE, AND THE GYPSUM MOUNTAIN SITE. (FIG. 2)

FIG. 2 REGIONAL GEOLOGY



MODIFIED AFTER FIG. 2, INDUSTRIAL MINERAL BACKGROUND PAPER 12, GYPSUM IN NORTHERN ONTARIO, MNDM 1990 pg. 6

1994 WORK

FROM THE DATES OCT 18 TO NOV 15 WORK WAS PERFORMED ON THE MOOSE RIVER CROSSING GYPSUM PROSPECT, INCLUDING CAMP AND TRAIL CLEARING, SMALL SCALE DRILLING OF 2 DRILL HOLES (MRC-94-01 & MRC-94-02), AND COLLECTION OF A LARGE SAMPLE.

CAMP/TRAIL CUTTING

OVER 3 DAYS, A SEMI-PERMANENT CAMPSITE, MEASURING APPROXIMATELY 20 FEET BY 30 FEET WAS CUT ON THE LEVEE NEAR Q.N.R. MILEPOST 144. ATV ACCESS TRAILS FOR THE CAMP AND DRILL HOLES, TOTTALLING 1.2 KMS. IN LENGTH WERE ALSO CLEARED.

DRILLING

TO ELIATE HIGH TRANSPORT COSTS, A PORTABLE, WINKIE DRILL WAS USED TO DRILL TWO VERTICAL DRILL HOLES. CORE FROM THE DRILL HOLES WAS SAMPLED AND ANALYZED TO ASCERTAIN GRADE AND GEOLOGICAL INFORMATION.

THE DRILLING WAS ACCOMPLISHED USING A PORTABLE WINKIE DRILL, WORKED BY TWO MEN, FOR THE MOST PART AND A THIRD MAN FOR PROBLEMS AND PULLING RODS FROM GREATER DEPTHS. AXT SIZE CORE APPARATUS WAS USED TO YEILD A LARGER SAMPLE SIZE THAN THE TRADITIONAL X-RLY OR XT SIZE CORE WOULD YEILD, AT THE SACRIFICE OF DEPTH. AS NO WIRELINE MECHANISM WAS HAD, CORE RECOVERY INVOLVED MANUALLY PULLING FOR EACH FIVE FEET DRILLED.

MAJOR PROBLEMS INCLUDED A BLOWN ENGINE, A CRACKED WATER HEAD SEAL, DRILL HANG-UPS IN DISSOLUTION CAVITIES, SANDING IN OF THE BIT AND ROD FISHING.

DRILL LOGS/PLANS ARE IN APPENDIX I
DRILL SECTIONS ARE IN APPENDIX II

GEOLOGY

THE TWO DRILL HOLES, AS EXPECTED, CORRELATED VERY WELL; PROVIDING A GREAT DEAL OF GEOLOGICAL INFORMATION ABOUT THE UPPER MOOSE RIVER FORMATION. BOTH HOLES ARE DOMINATED BY MASSIVE GYPSUM BUT, BOTH HOLES HAVE PROMINENT MARKER HORIZONS I.E. LAMINATED GYPSUM/LIMESTONE UNIT, GYPSUM BRECCIA UNIT, UPPER AND LOWER DISSOLUTION CAVITIES AND SAND SEAMS. ALONG WITH THE VARIOUS MASSIVE GYPSUM UNITS, THESE ROCKS CONSTITUTE THE LOCAL GEOLOGY.

UNIT DESCRIPTIONS

- LAMINATED GYPSUM/LIMESTONE: CONTORTED TAN-REDDISH BROWN, MILLIMETER SCALE LIMESTONE LAMINAE ARE INTERCALATED WITH DISCONTINUOUS GYPSUM LAYERS, AND BENT AROUND NODULAR AND SOMETIMES CRYSTALLINE GYPSUM GROWTH. THE LOWER PARTS OF THE UNIT CONTAIN HIGHER CLAY CONTENTS
- GYPSUM BRECCIA: MINOR, IMPURE GYPSUM BANDS, DISCONTINUOUS BRECCIATED BANDS, AND A PERSISTANT, TRUE BRECCIA. THE BRECCIA IS MATRIX SUPPORTED (65%) AND POLYMIC TIC IN NATURE. IT IS GREY-GREY BROWN IN COLOUR AND QUITE DISTINCTIVE. THE FRAGMENTS ARE ANGULAR IN GENERAL, AND RANGE IN SIZE FROM .5CM TO SEVERAL CMS. THEIR COMPOSITION VARIES, GYPSUM (VARIOUS PURITY) DOMINATES BUT LIMESTONE FRAGMENTS, VOLCANIC FRAGMENTS AND SMALL, RARE CHERT FRAGMENTS ARE PRESENT. THE MATRIX IS GENERALLY GREY AND IS SILTY IN NATURE. LOWER IN THE UNIT, FRAGMENT BECOME LESS COMMON, AND THE MATRIX COMPOSITION BECOMES MORE CLAY LIKE. THE "TRUE BRECCIA" UNIT OCCURS AT 9.8' TO 10.0' IN MRC-94-01 AND 10.0'-10.5', 13.8-16.6' IN MRC-94-02
- DISSOLUTION CAVITIES: STRATIGRAPHICALLY CONTROLLED DISSOLUTION OCCUR AT 2 INTERVALS IN EACH DRILL-HOLE. LOST/BROKEN CORE AND THE PRESENCE OF UPPER CAVITIES AT 2.7-5.0' IN MRC-01 AND 10.5'-13.0' IN MRC-02 INDICATES INDICATES AN ASSOCIATION BETWEEN DISSOLUTION AND THE BRECCIA

UNIT. LOWER CAVITIES ARE FOUND IN MRC-01 AT THE INTERVAL 20.0-25.0' AND IN MRC-02 AT 25.0' (SAND SEAM). ABUNDANT CLAY, SAND AND POLYMIC TIC SEDIMENTS OF AN UNCONSOLIDATED NATURE ARE INTIMATELY ASSOCIATED WITH THE DISSOLUTION, AS ARE POOR DRILLING CONDITIONS.

-GYPSUM: BOTH DRILLHOLES ARE DOMINATED BY GYPSUM, PREDOMINANTLY MASSIVE BUT SOMETIMES BANDED. MASSIVE GYPSUM IS GENERALLY WHITISH-YELLOW TO WHITE IN COLOUR, BUT A VARIETY OF DIFFERENT COLOURS ARE FOUND. IT IS GENERALLY SEMI TRANSLUCENT BUT SOMETIMES OPAQUE. VISIBLE IMPURITIES RANGE FROM <5% TO 20% AS COLOUR VARIATION IN THE FINE GRAINED GYPSUM. BANDED GYPSUM IS TEXTURALLY AND COMPOSITIONALLY MORE VARIABLE. COLOUR VARIES FROM TAN OR GREY TO DARK GREEN IN IMPURE SECTIONS. BANDING IS THE RESULT OF SEVERAL GENERATIONS OF GYPSUM CRYSTALLIZATION, INTIMATELY MIXED. IN SOME PLACES, GYPSUM HAS PRECIPITATED OR CRYSTALLIZED WITHIN TERRESTRIAL SEDIMENT BANDS (MUD). THE RESULT IS AN INTRICATE DISPLACIVE GROWTH TEXTURE. UP TO 20% MUD AND CLAY IS CONTOURED AROUND SECONDARY GROWTH GYPSUM. ALTHOUGH THE DISPLACIVE GROWTH GYPSUM APPEARS QUITE IMPURE, ANALYSIS DATA SHOWS GRADES OVER 85% WHERE SAMPLED

-DEPOSITIONAL ENVIRONMENT

THE TEXTURES OBSERVED INDICATE INITIAL MASSIVE GYPSUM PRECIPITATION IN SHALLOW WATER. FINE GRAINED GYPSUM REPRESENTS THIS ENVIRONMENT. UPPER UNITS, INCLUDING THE LIMESTONE/GYPSUM UNIT, GYPSUM BRECCIA UNIT AND BANDED GYPSUM REPRESENT NEAR SHORE PRECIPITATION AND SECONDARY CRYSTALLIZATION OF GYPSUM IN A SABKHA TYPE ENVIRONMENT. DISPLACIVE GROWTH TEXTURES ARE TYPICAL OF THIS ENVIRONMENT.

GEOCHEMISTRY

CORE FROM BOTH DRILL HOLES WAS SENT FOR GEO-CHEMICAL ANALYSIS AT LAKEFIELD RESEARCH IN LAKEFIELD, ONTARIO. SAMPLING WAS BASED, IN GENERAL, ON LITHOLOGICALLY DEFINED INTERVALS. MASSIVE GYPSUM UNITS WERE SAMPLED AT 2.5 FOOT INTERVALS. THE CORE WAS SAWN TO MEET THIS END, AND IS STORED AT THE RESIDENCE OF A PRINCIPAL OWNER.

SIX OF TWENTY-FOUR SAMPLES WERE ANALYZED FOR MAJOR ELEMENT DATA (WHOLE ROCK) WHILE THE OTHER EIGHTEEN SAMPLES WERE ANALYZED FOR GYPSUM ONLY.

THE RESULTS ARE QUITE ENCOURAGING (SEE TABLE 1)* TOTAL GYPSUM VALUES RANGE FROM 89% TO 100% GYPSUM. HOWEVER, IT MUST BE NOTED THAT SEVERAL ASSUMPTIONS WERE MADE TO ARRIVE AT THE TOTALS.

- i) IT WAS ASSUMED THAT ALL WATER WAS TIED UP IN GYPSUM ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$). WATER IS REPRESENTED IN THE ANALYSIS BY LOI (LOSS ON IGNITION).
- ii) IT WAS ASSUMED THAT ALL CALCIUM (Ca) WAS TIED UP IN GYPSUM. EVEN THOUGH THE ENVIRONMENT IS GENERALLY INITIALLY LIMESTONE RICH, DOLOMITIZATION IS OFTEN PREVALENT. THE PRESENCE OF MAGNESIUM IN VIRTUALLY ALL SAMPLES INDICATES DOLOMITIZATION.

BY RATIOING CaSO_4 AND LOI A CHECK CAN BE MADE AGAINST AN IDEAL GYPSUM COMPOSITION, CALCULATED USING ATOMIC WEIGHTS. THE CALCULATED IDEAL COMPOSITION IS 79% CaSO_4 AND 21% H_2O (LOI). ALL VALUES CALCULATED FROM RAW ANALYSIS DATA FOR EACH SAMPLE RANGE QUITE CLOSE TO THE IDEAL (I.E. FROM 69.5 : 25.7 TO 70.9 : 20.8). GIVEN A FEW PERCENT IMPURITY, THESE NUMBERS CERTAINLY SUPPORT THE ASSUMPTIONS MADE.

- iii) IT WAS ASSUMED THAT THE CONVERSION OF ANHYDRITE (CaSO_4) TO GYPSUM ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) IS COMPLETE IN ALL SAMPLES. AS THIS IS AN HYDRATION REACTION, THE NEAR SURFACE ENVIRONMENT AND THE PROXIMITY TO

* OFFICIAL ASSAY RESULTS ARE IN APPENDIX III

TABLE 1 ASSAY RESULTS

SAMPLE #	FROM	TO	ANAL.	CaSO ₄	LOI	GYP.%	TOTAL	NOTES
1701	1.6	2.7	Wt/gpr	72.7	20.8	93.5	95.8	POORLY GYPSUM, DARK BROWN BANDS
1702	10.0	12.1	Wt/gpr	74.4	21.0	95.4	96.0	MODERATELY PURE GYP, DARK MOTTLE
1703	12.1	16.2	GPR	74.4	21.1	95.5	96.0	"
1704	16.2	18.0	GPR	77.3	20.5	97.8	98.0	PURE GYPSUM (45% MOTTLE)
1705	18.0	20.0	GPR	77.4	21.1	98.5	98.9	VARIABLE PURITY GYPSUM.
1706	24.5	30.0	Wt/gpr	76.1	21.2	97.3	98.9	COMPOSITE, DISPLACIVE GROWTH
1707	30.3	33.5	GPR	76.9	21.2	98.1	98.3	PURE GYPSUM, BROWN COLOUR
1708	33.5	35.0	GPR	77.4	21.1	98.5	98.7	"
1709	35.0	40.0	GPR	78.2	21.0	97.2	99.5	PURE GYPSUM, DULL GREY
1710	40.0	42.5	GPR	77.4	20.9	98.3	98.6	"
1711	42.5	45.0	GPR	78.2	21.0	99.2	99.6	"
1712	45.0	48.2	GPR	75.2	21.3	96.5	96.8	"
1713	48.2	50.0	GPR	65.5	22.6	88.1	88.4	IMPURE GYPSUM, BROWN
1714	50.0	60.0	Wt/gpr	70.1	22.5	92.6	93.2	PURE GYPSUM → ECH
1715	16.6	18.1	Wt/gpr	74.8	21.2	96.0	97.4	MODERATELY PURE GYP, CLAY
1716	18.1	20.0	GPR	68.9	22.2	91.1	93.5	" , YELLOW
1717	20.0	25.0	GPR	74.8	21.6	96.4	97.6	" , BROWN
1718	25.0	28.4	GPR	65.0	24.0	87.0	93.5	MICRITIC GYPSUM, MICRITIC
1719	28.4	31.4	Wt/gpr	71.4	21.6	93.0	97.3	DISPLACIVE GROWTH, GREEN
1720	31.4	33.8	GPR	73.5	21.3	94.8	96.1	PURE GYPSUM, BANDED
1721	33.8	36.4	GPR	78.6	20.7	99.3	99.5	PURE GYPSUM, YELLOW
1722	36.4	40.0	GPR	79.5	21.1	100.6	100.9	PURE GYPSUM, WHITE
1723	40.0	45.0	GPR	76.9	20.9	97.8	98.3	"
1724	45.0	50.0	GPR	74.8	20.7	95.5	96.1	"

THE LONG STANDING MOOSE RIVER, MAKE THIS A REASONABLE ASSUMPTION. ABUNDANT DISSOLUTION CAVITIES MAY ALSO AID THE HYDRATION.

IMPURITIES THAT DO OCCUR IN THE FORMATION MANIFEST THEMSELVES IN THE WHOLE ROCK DATA. SiO_2 TO 1.82%, Al_2O_3 TO .56% AND Fe_2O_3 TO .20% REPRESENT CONTAMINATION BY SOME TERRESTRIAL SEDIMENT (i.e. CLAY, MUD, SAND etc.). DRILL HOLE SECTIONS WITH HIGHLY ABUNDANT SEDIMENT WERE NOT SAMPLED. THE PRESENCE OF MgO IMPURITIES PROBABLY REPRESENT BOTH TERRESTRIAL SEDIMENT AND DOLOMITIZATION PRODUCTS (MgCO_3)

GYP SUM GRADE

WITH ALL ASSUMPTIONS CONSIDERED, THE GEOCHEMICAL ANALYSIS YIELDED MUCH INFORMATION WITH REGARDS TO GYP SUM GRADE. GRADES RANGE FROM 89% TO 100% GYP SUM, THE MEAN VALUE FOR 24 SAMPLES BEING 99.9%. THIS VALUE CORRELATES WELL WITH A 96.3% VALUE QUOTED IN INDUSTRIAL MINERAL BACKGROUND PAPER 12; GYP SUM IN NORTHERN ONTARIO, MNDM 1990, FOR 19 SAMPLES FROM MOOSE RIVER CROSSING GYP SUM OUTCROPS.

GYP SUM GRADES, WHEN PLOTTED ON DRILL HOLE SECTIONS (APPENDIX II) DEFINE FOUR UNITS OF GYP SUM DEPOSITION.

- I THE LOWERMOST MASSIVE GYP SUM UNIT GRADES 88.1% TO 97.8% GYP SUM. THE BOTTOM OF THE UNIT REMAINS UNDEFINED AS BOTH DRILL HOLES END IN THE UNIT

MRC-94-01 47.0' - EOH
MRC-94-02 40.0' - EOH

- II THIS UNIT REPRESENTS THE THICKEST, HIGHEST GRADE UNIT OF THE UPPER THREE GYP SUM UNITS. THE TOP OF THE UNIT GRADES INTO THE BANDED GYP SUM OF UNIT III AND GRADES AROUND 85% GYP SUM BUT THE LOWER EXTREMITIES ARE VERY HIGH GRADE; UP TO 100%.

MRC-94-01 25.0 - 47.0'
MRC-94-02 25.0 - 40.0'

III HIGH GRADE Banded/MASSIVE GYPSUM WITH GYPSUM BRECCIA SECTIONS AND STRONG DISSOLUTION. GRADES RANGE FROM 91% TO 98%.

MRC-94-01 10.0 - 25.0'
MRC-94-02 16.8 - 25.0'

IV GENERALLY IMPURE GYPSUM WITH BANDING, DISSOLUTION AND BRECCIA. MOST OF THIS UNIT WAS NOT SAMPLED, AS VISUAL GRADE ESTIMATES WERE DEEMED TOO LOW TO WARRANT ANALYSIS AND CORE RECOVERY WAS GENERALLY POOR. THE LIMESTONE/GYPSUM OVERLIES UNIT III.

MRC-94-01 2.0' - 9.8'
MRC-94-02 10.0' - 13.8'

THE CYCLICAL NATURE OF GYPSUM DEPOSITION IS TO BE EXPECTED, GIVEN THE ENVIRONMENT OF DEPOSITION. A RESTRICTED SHALLOW BASIN IS OCCASIONALLY RECHARGED WITH FRESH SEAWATER, THEN IS SUBSEQUENTLY SUBJECTED TO HIGH EVAPORATION UNTIL RECHARGED AGAIN. MASSIVE, FINE-GRAINED GYPSUM IS PRECIPITATED FROM SHALLOW SEA-BRINES. Banded GYPSUM IS A RESULT OF SEASHORE REGRESSION (SEA LEVEL DROP), GIVING RISE TO SABKHA ENVIRONMENTS. TERRESTRIAL SEDIMENTS AND CARBONATES ACT AS HOST ROCKS FOR SECONDARY GYPSUM GROWTH FROM BRINAL GROUND WATER.

BULK SAMPLE

DURING THE FALL '94 DRILLING, TIME WAS TAKEN TO EXTRACT A BULK SAMPLE, TO BE GROUND DOWN FOR EXPERIMENTATION PURPOSES TO DETERMINE PHYSICAL PROPERTIES. APPROXIMATELY 300 POUNDS OF HIGH-GRADE GYPSUM WAS BROKEN FROM LARGE GYPSUM BOULDERS, UNEARTHED DURING 1993 MECHANICAL PITTING AT PIT #12 (ALSO MRC-94-01 DRILL SITE). THE BOULDERS ARE THE RESULT OF NEAR SURFACE BRECCIATION AND DISSOLUTION. THEIR ANGULAR FEATURES ATTEST TO A VERY LOCAL SOURCE. HIGH-GRADE, CLEAN GYPSUM WAS BROKEN MANUALLY INTO FIST SIZE TO 8 INCH PIECES FOR THE SAMPLE.

CONCLUSIONS & RECOMMENDATIONS

IT IS EVIDENT, EVEN WITH THE LIMITED DRILLING PERFORMED THUS FAR, THAT THE MOOSE RIVER CROSSING PROPERTY CONTAINS A SUBSTANTIAL, NEAR SURFACE DEPOSIT OF HIGH PURITY GYPSUM. THIS GYPSUM IS QUITE HIGH GRADE, WITH A MEAN TOTAL GYPSUM PERCENTAGE OF APPROXIMATELY 96% (24 SAMPLES). OVERBURDEN IN THE AREA OF DRILLING IS NEGLIGIBLE TO 8' DEEP. AS RAIL ACCESS IS VERY NEAR THE DEPOSIT, TRANSPORTATION COST COULD BE SIGNIFICANTLY LOWERED. DEPENDING ON THE GYPSUM GRADE CUT-OFF, STRIPPING OF CAP ROCK (I.E. LIMESTONE/GYPSUM, BRECCIA) WOULD RANGE FROM 2' TO 15'.

GIVEN THE CLOSED NATURE OF THE CANADIAN AND AMERICAN GYPSUM MARKETS, INTERNATIONAL AND SPECIALTY MARKETS MIGHT BE SOUGHT OUT THAT BEST UTILIZE THE ANOMALOUSLY HIGH GRADES. TOWARDS THIS END, FUTURE WORK SHOULD INCLUDE RESEARCH, LABORATORY WORK AND FIELD WORK.

RESEARCH - RESEARCH SHOULD FOCUS ON WORLDWIDE AND CANADIAN GYPSUM MARKETS WITH REGARDS TO RAW GYPSUM AND END PRODUCTS, IN HOPES OF FINDING A MARKET NICHE FOR MOOSE RIVER GYPSUM.

LABORATORY - THE 300 LB. BULK SAMPLE SHOULD BE GROUND FINE AND USED IN EXPERIMENTS AND TESTS TO DETERMINE PHYSICAL PROPERTIES AND CHARACTERISTICS SUCH AS

PARTICLE/CRYSTAL DIMENSIONS, OIL ABSORPTION PARAMETERS, INDEXES OF REFRACTION, REFLECTION AND BRIGHTNESS, DENSITY (TRUE, COMPACTED, LOOSE, WET AND DRY), HARDNESS, PH, SOLUBILITY, WATER LOSS AT VARIOUS TEMPERATURES, AND SETTING TIMES OF VARIOUS MIXTURES.

FIELD - FUTURE DRILLING SHOULD CONCENTRATE ON DEFINING ORE BODY SIZE AND GEOMETRY, OVERBURDEN DEPTH AND EXACTING THE GYPSUM GEOCHEMISTRY FOR THIS PARTICULAR DEPOSIT.

BRIAN K. FOLK B.Sc.

B.K.F.

REFERENCES

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GYPSUM IN NORTHERN ONTARIO; RESOURCES AND
MARKET POTENTIAL
INDUSTRIAL MINERALS BACKGROUND PAPER 12
1990 M.N.D.M

**Moose River Gypsum
Exploration Expense**

Direct Cost:

Wages: Labours	
- 2 drillers/labourers @ \$120/day for 12 days	\$ 2,880.00
Wages: Consultants	
- geologist @ \$167/day for 15 days	2,500.00
- assay cost	400.00
Supplies	
-casing bit	64.75
-core spring(2)	43.56
-drill bit	130.40
-ware ring	206.06
-drill supplies	195.64
Equipment Rental	
- winkie drill and rods (2 weeks @ 1,200/week)	2,400.00
Total Direct Cost	\$ <u>8,820.41</u>

Indirect Cost:

Transporation	
- rail (3 men, Chochrane to Moose River, return)	263.54
Food & Lodging	
- 3 men @ \$30/day for 14 days	1,260.00
Mob./Demobilization	
- rail (equipment freight)	72.00
- truck rental	265.54
Total Indirect Cost	\$ <u>1,861.08</u>
Total Exploration Cost	\$ <u>10,681.49</u>

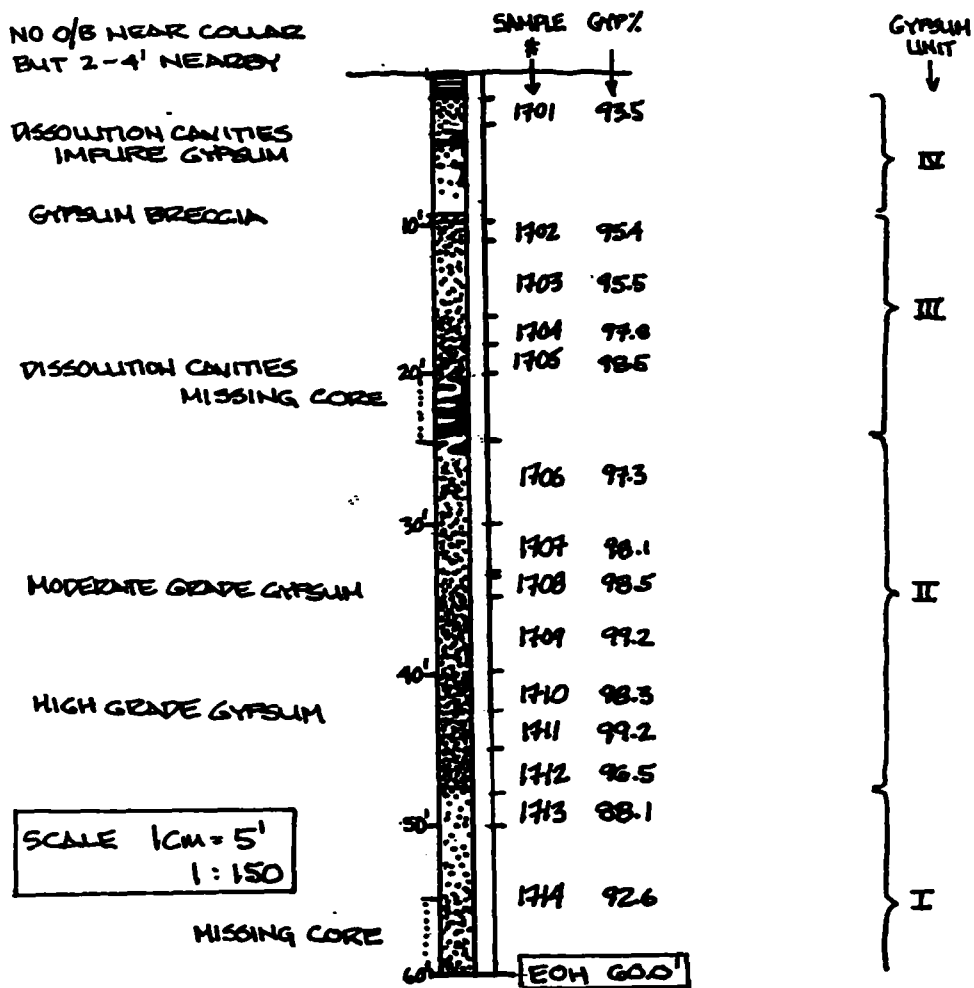
APPENDIX I






DRILL LOGS/PLANS

APPENDIX II

DRILL SECTIONS

DRILL SECTION MRC-94-01



- LEGEND
-  OVERBURDEN
 -  LIMESTONE/GYPSUM UNIT
- UPPER MOOSE RIVER FM OR LOWER KWATAGOHEGAN F.
 -  GYPSUM BRECCIA
 - 
 - 69% GYPSUM
 - 90-97% GYPSUM
 - ≥ 97% GYPSUM
 -  DISSOLUTION CAVITIES

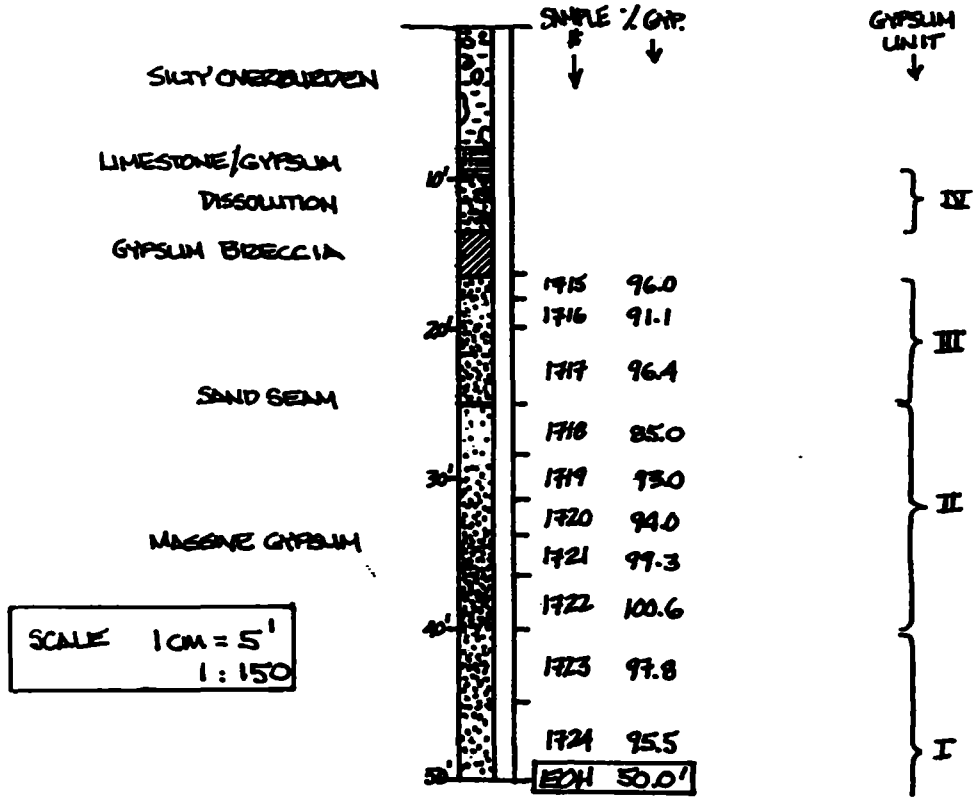
DRILL HOLE INFORMATION

DDH: MRC-94-01

AZIMUTH : VERTICAL
 DIP : VERTICAL
 EOH : 60.0'

CLAIM # : 1190295

DRILL SECTION MRC-94-02



- LEGEND
- OVERBURDEN
 - LIMESTONE/GYPSUM UNIT
- UPPER MOOSE RIVER FM OR LOWER KWATABONHEGAN FM
 - GYPSUM BRECCIA
 - 69% GYPSUM
 - 90-97% GYPSUM
 - 297% GYPSUM
 - DISSOLUTION CAVITIES

DRILL HOLE INFORMATION

DDH: MRC-94-02

AZIMUTH : VERTICAL

DIP : VERTICAL

EOH : 50.0'

CLAIM # : 1190295

APPENDIX III

ASSAY RESULTS

LAKEFIELD RESEARCH

A Division of Falconbridge Limited
 P. O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0
 Phone : 705-852-2000 FAX : 705-852-6365

General Survey & Exploration
 190 Queen Street
 Timmins, Ontario, P4N 4L7 - CANADA

Attn : B. Polk

Lakefield, November 29, 1994

Date Rec. : November 21, 1994
 L.R. Ref. : NOV9065.C94
 Reference : ---
 Project : LR9447978

CERTIFICATE OF ANALYSIS

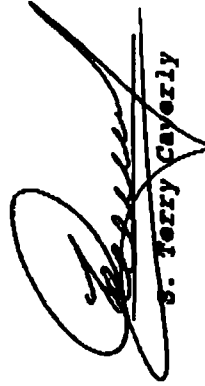
No.	Sample ID	SiO2	Al2O3	Fe2O3	MgO	CaSO4	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	LOI	SUM
		%	%	%	%	%	%	%	%	%	%	%	%	%
1	1701	0.87	0.15	0.10	1.14	72.7	< 0.05	0.04	< 0.01	< 0.01	< 0.01	< 0.01	20.8	95.8
2	1702	< 0.01	< 0.01	< 0.01	0.61	74.4	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	21.0	96.0
3	1703	--	--	--	--	74.4	--	--	--	--	--	--	21.1	96.0
4	1704	--	--	--	--	77.3	--	--	--	--	--	--	20.5	96.0
5	1705	--	--	--	--	77.4	--	--	--	--	--	--	21.1	96.9
6	1706	0.52	0.10	0.05	0.90	76.1	< 0.05	0.04	< 0.01	< 0.01	< 0.01	< 0.01	21.2	96.9
7	1707	--	--	--	--	76.9	--	--	--	--	--	--	21.2	96.3
8	1708	--	--	--	--	77.4	--	--	--	--	--	--	21.1	98.7
9	1709	--	--	--	--	78.2	--	--	--	--	--	--	21.0	99.5
10	1710	--	--	--	--	77.4	--	--	--	--	--	--	20.9	98.6
11	1711	--	--	--	--	78.2	--	--	--	--	--	--	21.0	99.6
12	1712	--	--	--	--	75.2	--	--	--	--	--	--	21.3	96.8
13	1713	--	--	--	--	65.5	--	--	--	--	--	--	22.6	88.4
14	1714	< 0.01	< 0.01	< 0.01	0.58	70.1	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	22.5	93.2
15	1715	0.28	0.10	< 0.01	0.99	74.8	< 0.05	0.03	< 0.01	< 0.01	< 0.01	< 0.01	21.2	97.4

LAKEFIELD RESEARCH

A Division of Falconbridge Limited
 P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0
 Phone : 705-652-2000 FAX : 705-652-6365

NOV9065.C94

No.	Sample ID	S102	Al2O3	Fe2O3	MgO	CaSO4	Na2O	K2O	T102	P2O5	MnO	Cr2O3	LOI	SUM
		%	%	%	%	%	%	%	%	%	%	%	%	%
16	1716	--	--	--	--	68.9	--	--	--	--	--	--	22.2	93.5
17	1717	--	--	--	--	74.8	--	--	--	--	--	--	21.6	97.6
18	1718	--	--	--	--	65.0	--	--	--	--	--	--	24.0	93.5
19	1719	1.82	0.56	0.20	1.51	71.4	< 0.05	0.19	0.02	< 0.01	< 0.01	< 0.01	21.6	97.3
20	1720	--	--	--	--	73.5	--	--	--	--	--	--	21.3	96.1
21	1721	--	--	--	--	78.6	--	--	--	--	--	--	20.7	99.5
22	1722	--	--	--	--	79.5	--	--	--	--	--	--	21.1	100.9
23	1723	--	--	--	--	76.9	--	--	--	--	--	--	20.9	98.3
24	1724	--	--	--	--	74.8	--	--	--	--	--	--	20.7	96.1
-- duplicates --														
25	1705	< 0.01	< 0.01	0.15	0.58	77.8	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	21.0	99.3
26	1715	0.22	0.09	0.01	0.98	75.2	< 0.05	0.02	< 0.01	< 0.01	< 0.01	< 0.01	21.1	97.6



S. Terry Caverly

A MEMBER OF IAETL CANADA

Accredited by CAEAL for specific tests registered with the Association

DIAMOND DRILL RECORD

CLHM. 1190295
 VERTICAL HOLE BATT SIZE
 START : 11:00 ?
 FINISH : 1:00 ?
 EOH 60.0'

NAME OF PROPERTY : MOOSE RIVER CROSSING
 HOLE NO. : MRC-94-01
 SHEET NO. : 1

FOOTAGE		DESCRIPTION	SAMPLE		ASSAYS						
FROM	TO		NO.	% GYPSUM	FROM	FOOTAGE TO	TOTAL	%	%	02/TON	01/TON
0'	1.6'	LAMINATED DOLOMITE - LIGHT BROWN MM SCALE LAMINATIONS OF DOLOMITE (VARIOUS COLOURS.. BROWN), GYPSUM (SECONDARY & NODULAR) - SOME IRREGULAR CIRCULATING ANHYDRITE VEINS (42mm)	1701	90%	1.6	2.7					
1.6	2.7	WHITE M-C.G GYPSUM - QUITE PURE, SOME NODULAR ANHYDRITE - SOME CLAY... MAY BE REMAINS OF FROM DRILLING IMPURE GYPSUM... DISSOLUTION CAVITY SANDY GYPSUM - POOR CORE RECOVERY (@ 20%) - DISPLACIVE GROWN GYPSUM & CLAY									
2.7	5.0	IMPURE GYPSUM/GYPSUM BAZELIN SANDY - GYPSUM TO @ 25% IN CLAY - TRUE BAZELIN FOR @ 3" at 9.8'									
5.0	10.0	GOOD PURE GYPSUM									
10.0	20.0	10.0 - 12.1 GYPSUM W 20% ROSE SELENITE 12.1 - 15.2 20% BROWN SELENITE 16.2 - 18.0 V. PURE GYPSUM 18.0 - 20.0 20% BROWN SELENITE DISSOLUTION CAVITY (?).. ROUNDED POLYMORPHIC PEBBLES - POOR RECOVERY.. WASH OUT ?	1702 1703 1704 1705	95% 90% 90% 90%	10.0 12.1 16.2 18.0	12.1 15.2 18.0 20					
20.0	25.0	24.5 - 25 IMPURE GYPSUM 60% SELENITE DISPLACIVE GROWN GYPSUM	1706	60%	24.5	25					
25.0	25.4	- ANHYDRITE & SELENITE IN CLAY MATRIX MIXED PURITY GYPSUM									
25.4	30.0	- SOME GOOD GRADE GYPSUM IN SELENITIC GYPSUM/ DISPLACIVE GROWN GYPSUM THIN UNIT OF GYPSUM, GYPSUM FRAGS (V SMALL) & DOLOMITIC CLAY (MICAITE ?)		60%	25.4	30.0					
30.0	30.3	GOOD GYPSUM									
30.3	60.0	GOOD GYPSUM									

- SEE NEXT PAGE -

DIAMOND DRILL RECORD

PART OF PROPERTY: MOOSE CREEK COSSING
 HOLE NO. MRG-94-01 SHEET NO. 2

FOOTAGE		DESCRIPTION	NO.	% SULPH. IDES	SAMPLE			ASSAYS			
FROM	TO				FROM	TO	TOTAL	%	%	OZ./TON	OZ./TON
		30.5 - 35.5 SELENITE GYPSUM; UP TO 20% NODULAR GYPSUM ANHYDRITE & DARK SELENITE IN C.G. X STRAIN GYPSUM	1707	85%							
		33.5 - 35.0 GOOD WHITE OPAQUE GYPSUM IN @ 15-20% DARK SELENITE	1708	95%							
		35.0 - 37.5 GYPSUM WITH SELENITE	1709	90%							
		37.5 - 40.0 " "		95%							
		40.0 - 42.5 BRACKLY PURE GYPSUM (45% SELENITE)	1710	100%							
		42.5 - 43.7 AS ABOVE	1711	100%							
		43.7 - 45 OPAQUE ... HYDRAUS & BROKEN CORE (FRAGILE)		100%							
		45.0 - 48.5 ² HIGH GRADE, TRANSLUCENT GYPSUM MINOR SEL	1712	100%							
		48.5 ² - 49.5 " "	1713	100%							
		49.5 - 50.0 HYDROG-CRYSTALL		85%							
		50.5 - 52.5 PURE GYPSUM		100%							
		52.5 - 55.0 " "	1714	100%							
		55.0 MISSING CORE ... CORE LIFTER DIP NOT WORK		100%							
55.0	59.5	RECORDED RELATIVELY PURE GYPSUM		90%							

BRIAN K. POLK B.Sc
 BRPL

1001 300
 MEC - 94.02
 1001 300
 Z

FOOTAGE		DESCRIPTION	SAMPLE		TOTAL	ANALYSIS			
FROM	TO		NO	FOOTAGE		%	%	GT TON	GT TON
22.0	23.0	GYPSUM / RED BROWN SELENITE C.G. GYPSUM / SELENITE	1219	22.0	23.0	70%	31.7	32	
25.0	25.0		1218	23.0	25.0	95%	33.6	34.5	
25.0	25.1	GYPSUM IN MINOR SELENITE V. PURE WHITE GYPSUM - NUMEROUS DRILL PROBLEMS... SAND	1219	25.0	25.1	100%	35.3	34.4	
25.1	26.0		1218	25.1	26.0	75%	36.4	40.3	
26.0	29.5	LIGHT BROWN INTIMATE GYPSUM / SELENITE - LAMINATED APPEARANCE VARIABLE GRADE GYPSUM / SELENITE - SELENITE CLUSTERS / VEINLETS - PURITY ↑ NEAR END OF INTERVAL	1219	26.0	29.5	70%	29.5	30.0	
29.5	30.0		1218	29.5	30.0	65%	31.7	32	
30.0	35.3	V.C.G. ANHYDRITE & GREY SELENITE WITH SOME SECTIONS OF QUITE PURE GYPSUM - 31.7 - 32 - 33.6 - 34.5	1219	30.0	35.3	90%	33.6	34.5	
35.3	40.3		1218	35.3	40.3	90%	35.3	34.4	
40.3	50.0	AS ABOVE IN LESS SELENITE. SOME TRANSLUCENT GYPSUM SECTIONS - NODULAR ANHYDRITE & C.G. BROWN - GREY SELENITE IN P.G. WHITE, OPAQUE GYPSUM. - SOME DISPLACIVE GROWTH GYPSUM IN MUDDY MATRIX - ROSE COLOURED GYPSUM IN MINOR SELENITE SECTIONS GYPSUM, SELENITE - NODULAR ANHYDRITE & C.G. BROWN - GREY SELENITE IN P.G. WHITE, OPAQUE GYPSUM. - MORE ENDS IN HIGH GRADE GYPSUM (OPAQUE, PURE WHITE) EOM	1219	40.3	50.0	90%	36.4	40.3	
50.0	50.0		1218	40.3	50.0	95%	40.3	42.0	
						95%	42.6	45.3	
						95%	45.3	49.8	
						95%	47.8	50.0	

BRIAN K. POLK B.Sc.

BPW

Business Office
190 Queen Avenue
Timmins, Ontario
P4N 4L7
Phone: (705) 264 8718

Survey Office
637 Agincourt Blvd East
Suite #10
Timmins, Ontario
Phone: (705) 267 5383

General Surveys and Exploration

APRIL 20/95

Ministry of Northern
Development and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7
Attn: Therese R. Binkley

Therese:

Please find attached six pages of revisions to fix our deficiencies for our report of work for diamond drilling. The four drill logs have been corrected and replace the four drill logs in the original report. The two drill sections replace the two drill sections in the original report. The diamond drill hole location map has been changed to a more suitable scale and corrected. It replaces the original drill location map, however the original map can be used as a key map for general location.

These revisions are in response to your letter dated March 9, 1995, addressed to Mark Kean. The file # is W9460.00255.

Sincerely,


Kevin Cool

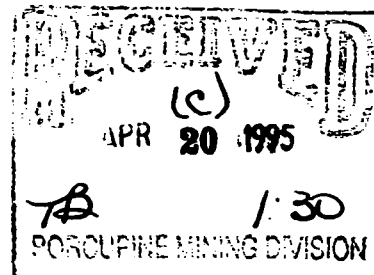
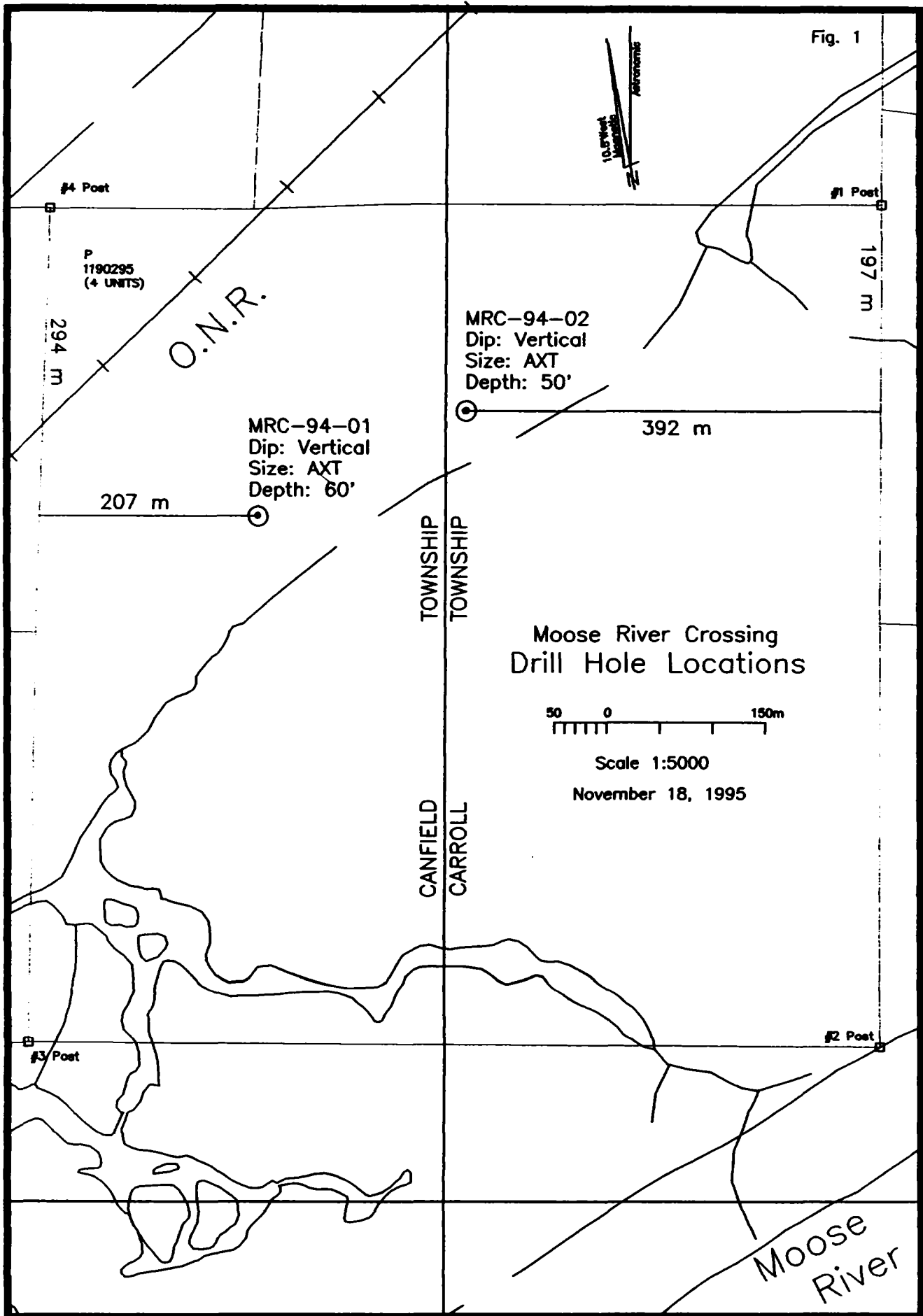


Fig. 1



DRILL SECTION MRC-94-01

← 207m TO WEST CLAIM BOUNDARY (SECTION LOOKING NORTH)
294m SOUTH OF NORTH BOUNDARY

NO O/B NEAR COLLAR
BUT 2-4' NEARBY

DISSOLUTION CAVITIES
IMPURE GYPSUM

GYPSUM BRECCIA

DISSOLUTION CAVITIES
MISSING CORE

MODERATE GRADE GYPSUM

HIGH GRADE GYPSUM

SAMPLE # GPT%

1701 93.5

1702 95.4

1703 95.5

1704 97.8

1705 98.5

1706 97.3

1707 98.1

1708 98.5

1709 99.2

1710 98.3

1711 99.2

1712 96.5

1713 88.1

1714 92.6

GYPSUM UNIT

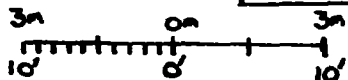
IV

III

II

I

SCALE 1cm = 5'
1:150



MISSING CORE

EOH 60.0'

LEGEND



OVERBURDEN



LIMESTONE/GYPSUM UNIT

-UPPER MOOSE RIVER FM OR LOWER KWATABOAHEGAN FM.



GYPSUM BRECCIA



69% GYPSUM
90-97% GYPSUM
≥ 97% GYPSUM



DISSOLUTION CAVITIES

DRILL HOLE INFORMATION

DDH: MRC-94-01

AZIMUTH : VERTICAL

DIP : VERTICAL

EOH : 60.0'

CLAIM # : 1190295

DRILL SECTION MRC-94-02

(SECTION LOOKING NORTH)
197m SOUTH OF
NORTH BOUNDARY

392m To EAST
CLAIM BOUNDARY

SILTY OVERBURDEN

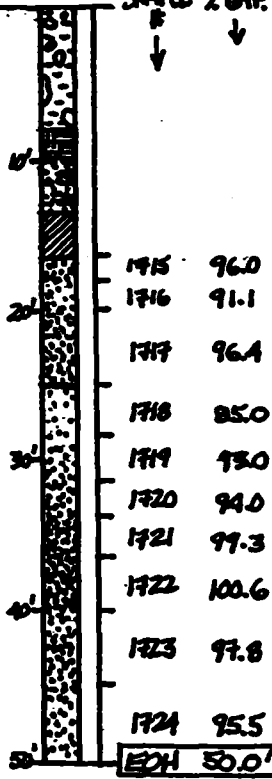
LIMESTONE/GYPSUM
DISSOLUTION
GYPSUM BRECCIA

SAND SEAM

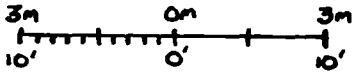
MASSIVE GYPSUM

SAMPLE # ↓
% GIP. ↓

GYPSUM
UNIT ↓



SCALE 1cm = 5'
1:150



LEGEND



OVERBURDEN



LIMESTONE/GYPSUM UNIT
-UPPER MOOSE RIVER FM OR LOWER KWATABOANHEGAN FM.



GYPSUM BRECCIA



69% GYPSUM
90-97% GYPSUM
297% GYPSUM



DISSOLUTION CAVITIES

DRILL HOLE INFORMATION

DDH: MRC-94-02

AZIMUTH : VERTICAL

DIP : VERTICAL

EOH : 50.0'

CLAIM # : 1190295

DIAMOND DRILL RECORD

HOLE DRILLED BY B. FOLK & K. COOL

CLAIM 1190245
 VERTICAL HOLE AXI SIZE
 START : NOV 2 1994
 FINISH : NOV 6 1994
 EOH: 60.0
 LOGGED: NOV 2-6 1994

HOLE NO. MKC-94-01
 SHEET NO. 1

FOOTAGE	DESCRIPTION	NO.	GYPSUM SAMPLE		ASSAYS	
			FROM	TO	%	QT/TON
0' - 16'	LAMINATED DOLOMITE - LIGHT BROWN MM SCALE LAMINATIONS OF DOLOMITE (VARIOUS COLOURS.. BROWN), GYPSUM (SECONDARY & NODULAR) - SOME IRREGULAR CIRCOSCUTTING ANHYDRITE VEINS (42mm) - SOME GYPSUM - QUITE PURE, SOME NODULAR ANHYDRITE - SOME CLAY... MAY BE PRIMARY OR FROM DRILLING - POOR CORE RECOVERY @ 20% - DISPLACIVE GROWTH GYPSUM & CLAY IMPURE GYPSUM/GYPSUM BRACIN BANNED - GYPSUM TO @ 25% IN CLAY - TRUE BRACIN FOR @ 5" at 9.8' GOOD PURE GYPSUM	1701	1.6	2.7	90%	
16' - 2.7'	WHITE M-C.G GYPSUM					
2.7' - 5.0'						
5.0' - 10.0'						
10.0' - 20.0'						
20.0' - 25.0'						
25.0' - 25.4'						
25.4' - 30.0'						
30.0' - 30.3'						
30.3' - 60.0'						

- SEE NEXT PAGE -

DIAMOND DRILL RECORD

NAME OF PROPERTY: MOOSE RIVER CROSSING
 HOLE NO. MRC-94-01
 SHEET NO. 2

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FROM	TO	TOTAL	%	%	02/TON	01/TON
		30.5 - 33.5 SELENITIC GYPSUM; UP TO 30% NODULAR GYPSUM ANHYDRATE & DARK SELENITE IN C.G. X STRAINING GYPSUM	1707	85%							
		33.5 - 35.0 GOOD WHITE OPAQUE GYPSUM IN @ 15-20% DARK SELENITE	1708	95%							
		35.0 - 37.5 GYPSUM WITH SELENITE	1709	90%							
		37.5 - 40.0 " "		95%							
		40.0 - 42.5 ESPECIALLY PURE GYPSUM (5% SELENITE)	1710	100%							
		42.5 - 43.7 AS ABOVE	1711	100%							
		43.7 - 45 OPAQUE ... HYDRAUS & BROKEN CORE (FRAGILE)		100%							
		45.0 - 48.5 ² HIGH GRADE, TRANSLUCENT GYPSUM MINOR SEL	1712	100%							
		48.5 - 50.0 " "	1713	100%							
		50.5 - 52.5 IMPURE GYPSUM	1714	85%							
		52.5 - 55.0 PURE GYPSUM		100%							
		55.0 MISSING CORE ... CORE LIFTED DID NOT WORK		100%							
55.0	57.5	57.5 - 60.0 RECOVERED RELATIVELY PURE GYPSUM		90%							

BRIAN K. POLK B.Sc
 B.P.L.

CORE STORED AT 190 QUEEN AVE, TIMMINS, ONT.

COLLAR LOCATION: 294m SOUTH AND 207m EAST OF #4 POST OF CLAIM # 1190295.
 - 2150m N.E. OF TRAM BRIDGE, ALONG MOOSE RIVER, AND
 800m N.W. (MINNER) FROM MOOSE RIVER BANK.
 - COLLAR IS NOT ON A CUT GRID.

DIAMOND DRILL RECORD

HOLE DRILLED BY B. FOLK & K. COOL

CLAIM 11902 95
 VERTICAL HOLE AXT SIZE
 START NOV 6 1994
 FINISH NOV 14 1994
 EDH 50.0
 LOGGED - NOV 6-14 1994

MOSE LIND CROSSING
 SHEET NO

FOOTAGE		DESCRIPTION	SAMPLE		ASSAYS	
FROM	TO		FROM	TO	% GYPSUM	TOTAL
0'	8'	OVERBURDEN 1-2' HUMUS 2-4' BOULDERS IN SILTY SAND 4-8' SILTY SAND/CLAY W OCCAS. BOULDER LAMINATED DOLOMITE/GYPSUM				
8'	10'	BEYOND BROWN - GREY Limestone (Dolomite) w GYPSUM/SELENITE NODULES (4.5mm) & DISCONTINUOUS LAYERS. SOME GYPSUM OCCURS AS IRREGULAR VEINLETS AND STRINGERS X-CUTTING STRATIGRAPHY. NEAR 10' A DARK BROWN, IMPURE SELENITE FRAGMENT IS INTERSECTED. AT 10' ANHYDRITE (KAPPLING & CLENS) IS FOUND IN A F.G. MURRY MATRIX. IMPURE GYPSUM/GYPSUM BECCIA GYPSUM (WHITE) & SELENITE (PALE BROWN) CLASTS ALONG W MIXED CLASTICS/CHEM FRACS IN PALE GREY-DARK GREY MURRY LOOKING MATRIX LOST CASEL - PROBABLY DISOLUTION CAVITY IN GYPSUM - SOME CLAY	9.8	10'	8% AN	
10.5'	13.0'	WHITE - GREY GYPSUM PILE NEAR TOP OF INTERVAL MURRY NEAR BOTTOM... GYPSUM BECOMING F.G. & AMORPHOUS & DARK GREY.. DISRUPTIVE GEOMETRY GYPSUM	13.0	13.2	95% GYP 4% AN	13.2
13.0	13.8	GYPSUM BECCIA - MATRIX SUPPORTED, BEK PALE GREY BROWN MATRIX @ 70% GYPSUM Limestone, & MIXED CLASTS (UP TO SEVERAL CM IN SIZE) (4 & 2) - JUST ABOVE IS 1' THE BEK BECOMES QUITE SEDIMENTARILY LOOKING PINKER GRAYED, MORE BOUNDED FRACS.. BUT STILL RETAINING ITS POLYMETIC HABITUS. A FEW IRREGULAR GYPSUM VEINLETS CUT THE BEK.	13.2	13.6		
13.8	16.6	HIGH PURITY GYPSUM (MASSIVE) - W/RY LAM. DULL GREY GYPSUM W 210% Limestone FRACS (?) (W/RY @ 2 AN ? COMB) IMPURE GYPSUM	13.6	18.1	16.6 - 18.1	18.3
16.6	19.0	ROSE COLOURED SELENITE/GYPSUM (MASSIVE) DISPLACING W/G MUDS	18.1	19.0	60%	19.0
19.0	20.0	ROSE COLOURED SELENITE/GYPSUM	19.0	20.0	70%	20.0
20.0	20.2	V PINK HYDROUS GYPSUM W CLAY - PROBABLY KAMUPPE/CLAY STAIN	20.0	20.2	100%	20.2
20.2	21.0	GYPSUM/RED-BROWN SELENITE	20.2	21.0	85%	21.0
21.0	22.0	WHITE GYPSUM	21.0	22.0	95%	22.0

DIAMOND DRILL RECORD

MRC 94.02
SHEET NO 2

BRIDGES - TORONTO - 366-1168

FOOTAGE		DESCRIPTION	SAMPLE		ANALYSIS						
FROM	TO		NO.	% SULPHUR /K ₂ S	FROM	TO	TOTAL	%	%	G/TON	G/TON
22.0	23.0	GYPSUM/BROWN SELENITE C.G. GYPSUM/SELENITE	179	70%	22.0	23.0	22.0				
25.0	25.0		179	95%	23.0	25.0	25.0				
25.0	25.1	GYPSUM W/ MINOR SELENITE + PURE WHITE GYPSUM - NUMEROUS DRILL PROBLEMS... SAND	178	100%	25.0	25.1	25.0				
25.1	26.0		178	35%	25.1	26.0	26.0				
26.0	29.5	LIGHT BROWN INTIMATE GYPSUM/SELENITE - LAMINATED APPEARANCE HEADS GRADE GYPSUM - SELENITE CLOTS/VEINLETS - PURITY ↑ NEAR END OF INTERVAL	179	70%	26.0	29.5	26.0				
29.5	30.0		179	65%	29.5	30.0	30.0				
30.0	35.3	V.C.G ANHYDRITE & GERY SELENITE W/ THE SECTIONS OF QUITE PURE GYPSUM - 31.2 - 32 - 33.6 - 34.5	179	90%	31.2	32	31.2				
35.3	36.4		179	95%	33.6	34.5	34.5				
36.4	40.3	ROSE COLOURED GYPSUM W/ MINOR SELENITE SECTIONS GYPSUM, SELENITE - NODULE ANHYDRITE & C.G BROWN-GERY SELENITE IN FG. WHITE, OPAQUE GYPSUM.	179	90%	35.3	36.4	35.3				
40.3	42.8		179	95%	36.4	40.3	40.3				
42.8	45.3	AS ABOVE W/ LESS SELENITE. SOME TRANSLUCENT GYPSUM SECTIONS	179	95%	40.3	42.8	42.8				
45.3	47.8		179	95%	42.8	45.3	45.3				
47.8	50.0	EOM - MORE ENDS IN HIGH GRADE GYPSUM (OPAQUE, PURE WHITE)	179	95%	45.3	47.8	47.8				
50.0	50.0		179	95%	47.8	50.0	50.0				

BRIAN K. POLK B.S.C.
BKP/W

CORE STORED AT 190 QUEEN AVE, TIMMINS, ONT
 COLLAR LOCATION: - 197m South AND 8392m West of #1 Post of CLAIM #1190295
 - 2550m NE. OF TRAIN BRIDGE, ALONG MOOSE RIVER, AND
 800m NW (INLAND) FROM MOOSE RIVER BANK.

Report of Work Conducted After Recording Claim

Transaction Number W9460.00255

Mining Act

Personal information collected on this form is obtained under the authority of the Min this collection should be directed to the Provincial Manager, Mining Lands, Minis Sudbury, Ontario, P3E 6A5, telephone (705) 670-7284.



900

- Instructions: - Please type or print and submit in duplicate. - Refer to the Mining Act and Regulations for requ. Recorder. - A separate copy of this form must be completed for each Work Group. - Technical reports and maps must accompany this form in duplicate. - A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s) MARK KEAN Client No. 151090 Address P.O. Box 2120 Timmins Ont. P4N-7X8 Telephone No. 705-268-3536 Mining Division PORCUPINE Township/Area CANFIELD / CARROL M or G Plan No. Dates Work Performed From: OCTOBER 18 / 94 To: NOVEMBER 15 / 94

Work Performed (Check One Work Group Only)

Table with columns Work Group and Type. Includes categories like Geotechnical Survey, Physical Work, Rehabilitation, Assays, and Assignment from Reserve. 'Physical Work, Including Drilling' is checked with 'DRILLING + SAMPLING' written in the Type column.

RECORDED APR 20 1995 Receipt

Total Assessment Work Claimed on the Attached Statement of Costs \$ 10,584

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Table with columns Name and Address. Entry: BRIAN K. POLK B.Sc. GENERAL SURVEYS + EXPLORATIONS 637 ALGONQUIN EAST. TIMMINIS ONTARIO

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder. Date Dec 9/94 Recorded Holder or Agent (Signature) [Signature]

Certification of Work Report

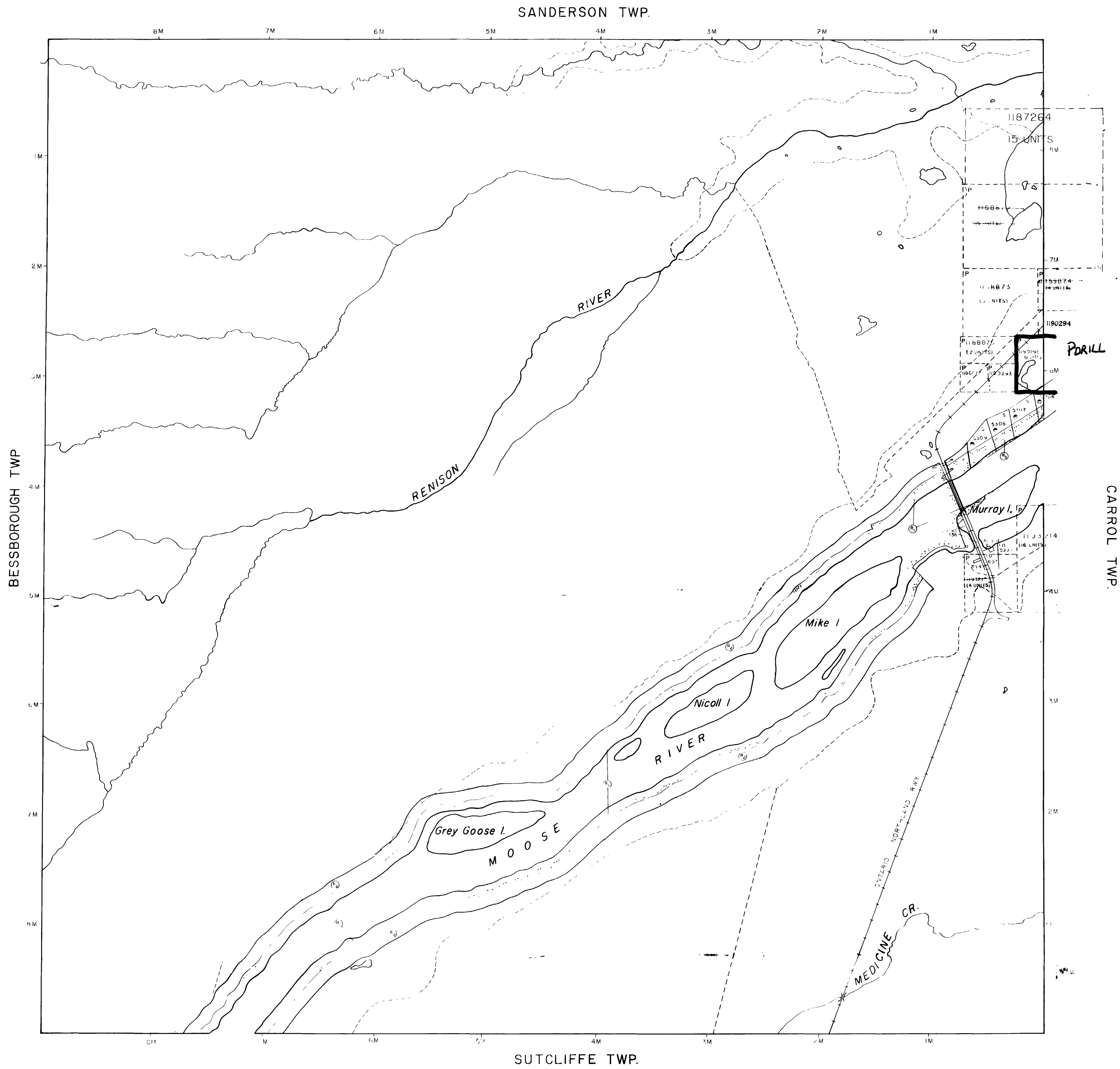
I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true. Name and Address of Person Certifying MARK KEAN P.O. Box 2120 Timmins Ont. P4N-7X8 Telephone No. 705-268-3536 Date Dec 9/94 Certified By (Signature) [Signature]

For Office Use Only

Total Value Cr. Recorded \$10,584 Date Recorded Mining Recorder T. Binkley Date Approved APR. 20, 1995 Deemed Approval Date MAR. 9, 1995 Date Notice for Amendments Sent MAR. 9, 1995 RECEIVED APR 9 1995 FORCUPINE MINING DIVISION

REFERENCES

THE INFORMATION THAT APPEARS ON THIS MAP WAS OBTAINED FROM THE RECORDS OF THE MINING DIVISION AND IS NOT GUARANTEED. THE MINING DIVISION ASSUMES NO LIABILITY FOR ANY LOSS OR DAMAGE TO ANY PERSON OR PROPERTY ARISING FROM THE USE OF THIS MAP. FOR FURTHER INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON...



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES
- TOWNSHIPS, BASE LINES, ETC.
- LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES
- LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS, ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

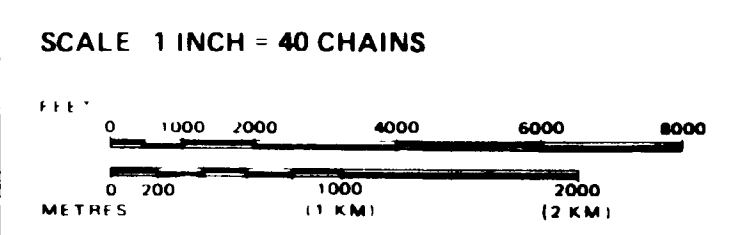
DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	◐
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◼
" MINING RIGHTS ONLY	◻
LICENCE OF OCCUPATION	▽
ORDER IN COUNCIL	OC
RESERVATION	⊙
CANCELLED	⊖
SAND & GRAVEL	⊗

AREAS WITHDRAWN FROM DISPOSITION

Description	Order No.	Date	Disposition	File
M.R.O. - MINING RIGHTS ONLY				
S.R.O. - SURFACE RIGHTS ONLY				
M.S.S. - MINING AND SURFACE RIGHTS				
PROPOSED MICHILINGO PARK BERRY EXPANSION NOTICE RECEIVED 4 OF JULY, 1991	62/72	21-10-76	S-M Rights	163199
MINING RIGHTS ONLY WITHDRAWN UNDER SECTION 16 OF THE MINING ACT R.S.O. 1960, ORDER NO. NRW 66/83 - MICHILINGO PROVINCIAL PARK				

ISSUED
FEB - 8 1995
PORCUPINE MINING DIVISION



TOWNSHIP
CANFIELD
M.N.R. ADMINISTRATIVE DISTRICT
MOOSENEE
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
COCHRANE

Ministry of Natural Resources
Ontario
Ministry of Northern Development and Mines

Date: JANUARY, 1995
Number: **G-1413**
D.C.

REFERENCES

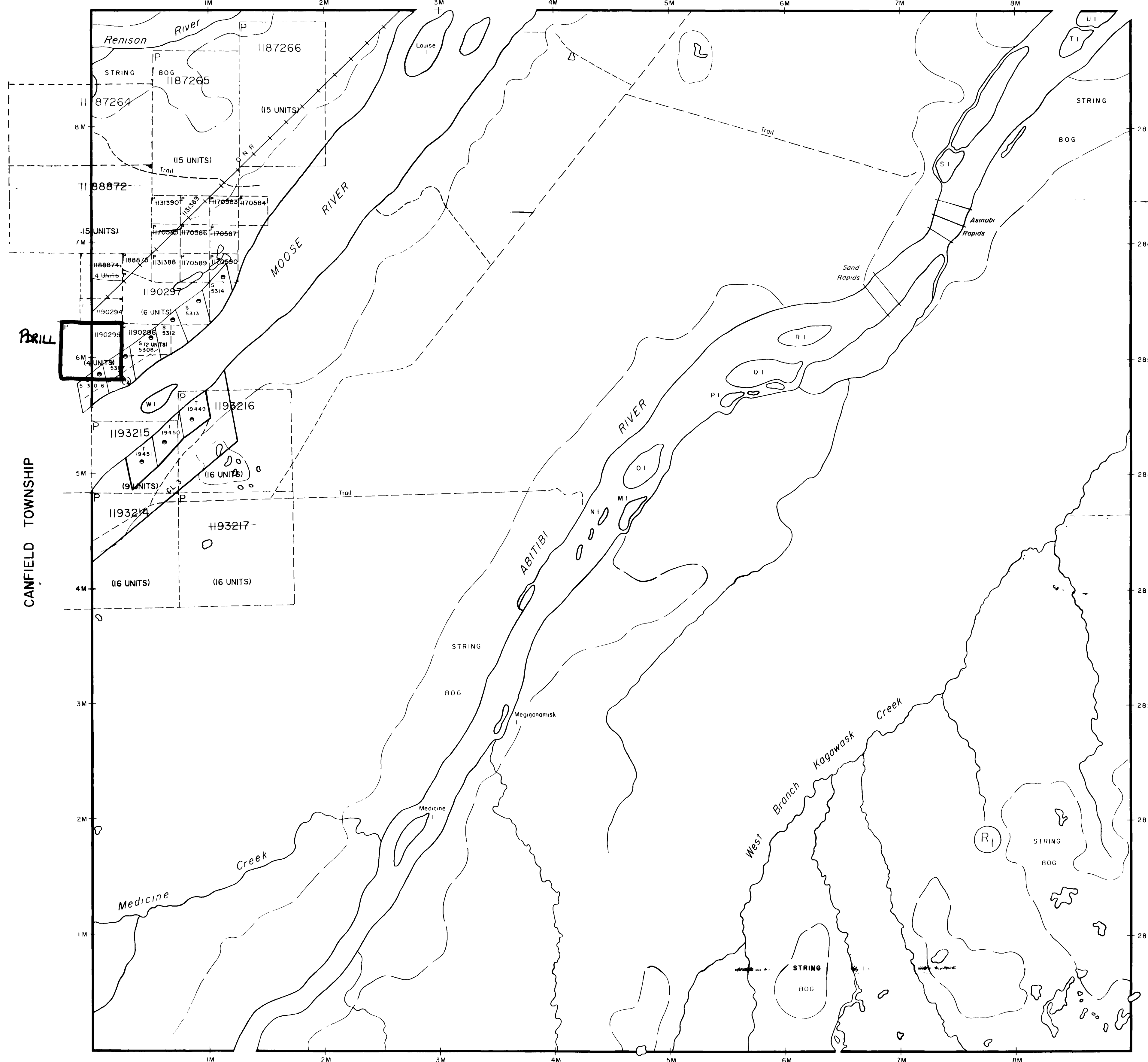
AREAS WITHDRAWN FROM DISPOSITION
 M.R.O. - MINING RIGHTS ONLY
 S.R.O. - SURFACE RIGHTS ONLY
 M.+S. - MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
① SEC 36/80	WP1/91	20/08/91	M.+S.	
② SEC 36/80	NRW 66/93	18/11/93	M.R.O.	171506

NOTES

FLOODING RIGHTS ON MOOSE RIVER TO CONTOUR 100' RESERVED TO H.E.P.C.
 FLOODING RIGHTS ON ABITIBI RIVER FROM SAND RAPIDS DOWNSTREAM TO ALLAN RAPIDS TO CONTOUR 75', FROM SAND RAPIDS UPSTREAM TO BLACKSMITH RAPIDS TO CONTOUR 126'.
 SURFACE AND MINING RIGHTS R/W AND EXTRA LAND PATENTED TO O.N.R. FILE 173009

EBBITT TOWNSHIP



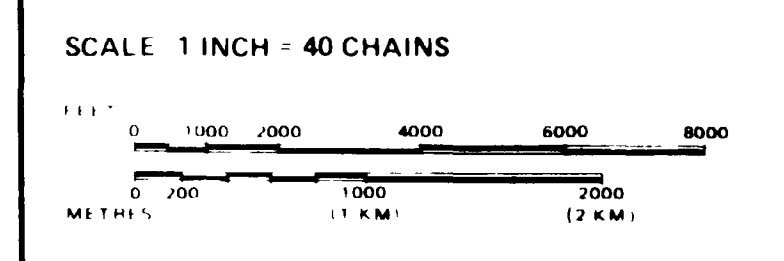
LEGEND

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- LOT LINES
- PARCEL BOUNDARY
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- UTILITY LINES
- NON PERENNIAL STREAM
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- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
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DISPOSITION OF CROWN LANDS

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" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

ISSUED
 1993 - 8 1995
 PORCUPINE MINING DIVISION



TOWNSHIP
CARROLL
 M.N.R. ADMINISTRATIVE DISTRICT
 MOOSONEE
 MINING DIVISION
 PORCUPINE
 LAND TITLES / REGISTRY DIVISION
 COCHRANE

Ministry of Natural Resources Ontario
 Ministry of Northern Development and Mines

DATE: MAY/93
 ACTIVATED MAY 20, 1993
 BY D.C.
 CHECKED BY B.B.
 Number: **G-1415**