



42A06SW0011 OP93-502 PRICE

010

SUMMARY TECHNICAL REPORT
O.P.A.P. FILE NO. OP93-502
APPLICANT: MATTI KANGAS
DATE: AUG. 2, 1993

PROJECT LOCATION AND ACCESS

The Property consists of 88 claims located approximately 10 miles south-west of the City of Timmins in the Porcupine mining division of North-Eastern Ontario. There are 47 claims in the North-West corner of Price Twp. (claim map plan M-307), 35 contiguous claims in the S. W. corner of Ogden Twp. (claim map no. G-3979), and 6 adjoining claims in N. E. Thorneloe Twp. (claim map no. G-3229). The center of the claim group lies at 48 degrees, 22' N. latitude and 81 degrees, 27' W. longitude. (N.T.S. map sheet 42-A-5/6).

Figure 1 attached is a key map showing the general location of the property. The envelope attached to this proposal contains claim map excerpts upon which the property boundaries and specific project areas are marked. Figure 2 is a list of claims for the property.

The westerly continuation of Dalton Road from Timmins (along and south of the Mattagami River) crosses the extreme N. W. corner of Price Twp. en route to the Wawaitin Falls power installation and Kenogamissi Lake. (see Fig. 3) About 100 metres south of the Price-Ogden common Twp. boundary along this road, a side-road known as the "Musgrove (timbering access) Road" branches to the south-east then turns southward and parallel to, but a half mile west of, the Grassy River. The (south)east boundary of the Price claims lies approximately midway between the Grassy River and the Musgrove Road. Numerous logging roads branch from both the above roads providing excellent property access.

GEOLOGY

a) General Geology: (refer to geological sketch map in Fig. 3)

A December 1988 geological report and map by D. Mullen, consulting geologist on the Chevron Canada Exploration Program, indicates that favourable geology and structure exist on the Price Twp. claims. Intensely deformed and altered volcanic and sedimentary rocks straddling the Deloro-Tisdale supergroup boundary on the claims are believed to be the distal equivalent sequence to that in the southern part of the Porcupine Gold Camp 10 miles to N. E. (i.e. host rocks for the Aunor, Delnite, Kenilworth, DeSantis Mines).

A south to north sequence of komatiic, tholeiitic, and calcalkalic volcanics and argillitic / graphitic metasediments is underlain to the south by a broad band of chert-magnetite-sulphide-iron formations.

A number of parallel I.P. chargeability targets were identified in the volcanic portions of the above sequence. Some of these were found to coincide with zones of anomalous copper-zinc soil samples. A number of anomalous gold soil samples also correlate well with some I.P. zones (or apparent airborne V.L.F. extensions of these I.P. zones) and the ultramafic rocks.

b) GEOLOGY BASED ON O.P.A.P. DRILL PROGRAM

The diamond drill program confirmed the presence of komatiitic ultramafic flows immediately adjacent to the north, and stratigraphically above, the widely exposed band of metasediments and iron formations which traverse the southern portion of the claim group.

The drilling further confirmed variably sheared and altered mafic volcanic flows overlying the komatiitic flows.

In general, the drill program findings co-incide with Chevron Canada's 1988 geological report & mapping. Chevron had concluded that altered felsic dikes should be the focus in the next exploration phase on the property based on their discovery of gold associated with them on the northern part of the Price Twp. claims. A few narrow felsic dikes were encountered in the 1993 drilling , but no associated gold mineralization was detected.

WORK PROGRAM

Three diamond drill holes totalling 774 feet were completed using the 1993 O.P.A.P. Grant funds. A total of 600 feet was planned in the March 29/93 proposal, but, because the core contained extensive widths of sheared & altered volcanics mineralized with pyrite. it was decided in the field to extend the drilling.

Two holes(MK933A & MK933B) were designed to test a very wide I.P. target located by Chevron in the mafic volcanics. The third & longest hole was designed to test a 5-point gold anomaly in the soil above a faulted contact between metasediments & komatiitic flows.

RESULTS OF DRILL PROGRAM

A plan & cross section & log for each of the three holes drilled are appended to this report.

DRILL HOLES MK 933A & MK 933B

These holes were drilled to test an I.P. anomaly whose surface expression gave a 375 ft. width when measured along Chevron's crossline No. 22 west (centered about 450 meters north of their baseline). A magnetic, linear east-west feature, centrally located in, and sub-parallel to the I.P. anomaly had been interpreted as a diabase dike by Chevron, but was found to be caused by magnetite-bearing portions of the volcanic flows.

Drill hole MK 933A intersected chloritic volcanics in the upper part of the hole with decreasing chlorite & increasing sericite & shearing as the hole deepened. A background of disseminated pyrite estimated to range up to 1% occurs in the upper section of the hole & increases to 2% to 3% with depth. Narrow quartz-ankerite stringers & locally silicified sections of the core contain from 5% to 15% disseminated pyrite. Between 117 and 130 feet in the hole, chalcopyrite occurs occasionally as 1 to 2 millimeter wide stringers or is contained within narrow quartz-ankerite veinlets.

Drill hole MK 933B intersected sheared chloritic volcanics over its entire length. The flows in the upper two-thirds portion of the hole are carbonatized with extensive sections of calcite stringers & bands ranging from 30% to 70% of the rock. Hard, narrow, silicified sections locally contain 5% to 15% disseminated pyrite & rarely up to 25%. Background disseminated pyrite content is 1% to 2%. This zone is immediately followed by a 41 ft. length of core 70% of which contains four different dikes-a 9.4 ft. sheared, foliated syenitic dike; a 9.7 ft. quartz porphyry dike; a sheared & foliated 3.3 ft. quartz-poor granitic dike; and (after an 11.6 ft. variolitic flow) a 6.4 ft. sheared, foliated tonalitic dike. The syenitic dike contains 5% to 10% disseminated pyrite & two quartz-tourmaline stringers totalling about 9 inches width. The quartz-prophyry contains sections with up to 30% pyrite and two quartz-tourmaline stringers (one containing 10% sphalerite) totalling 5 inches width. The granitic dike contains two quartz stringers totalling 12 inches width - one containing 2% to 5% pyrite, the other ankerite & tourmaline. The tonalitic dike is quartz-calcite altered with 10% to 15% pyrite.

Drill hole MK-931 After 85 ft. of casing, the drill cored 175 ft. of ultramafic, komatiitic volcanic flows, then 150 ft. of medium-to-coarse grained, sheared mafic volcanic flows.

Numerous examples of spinifex texture occur throughout the ultramafic unit. The first 60 ft. of the unit consists of very soft talc-carbonate altered material which is frequently rusted and vuggy while the remainder appears fresh and unweathered. Over 95% of the underlying mafic section is sheared and carbonatized (predominantly calcite). The upper 80 to 90 ft. of it is very well mineralized with disseminated pyrite reaching to 30% of the core in the more silicified & sericitic sections. The more chloritic green/white banded sections contain only 2% to 3% disseminated pyrite. The bottom 44 ft. of the hole is chloritized & sericitized & contains up to 50% quartz-carbonate stringers and 5% fuchsite. Two 12 ft. sections of this unit contain 2% to 3% disseminated pyrite. A 1.5 ft magnetic syenite dike with 5% to 10% disseminated pyrite was cut at 360 ft. down the hole. This was followed by 6 inches of 80% quartz-carbonate-fuchsite stringers, then about 7 ft. of quartz-augen schist averaging 5% disseminated pyrite but including sections of silicified brown material with quartz-ankerite veins containing 15% to 25% pyrite.

RECOMMENDATIONS

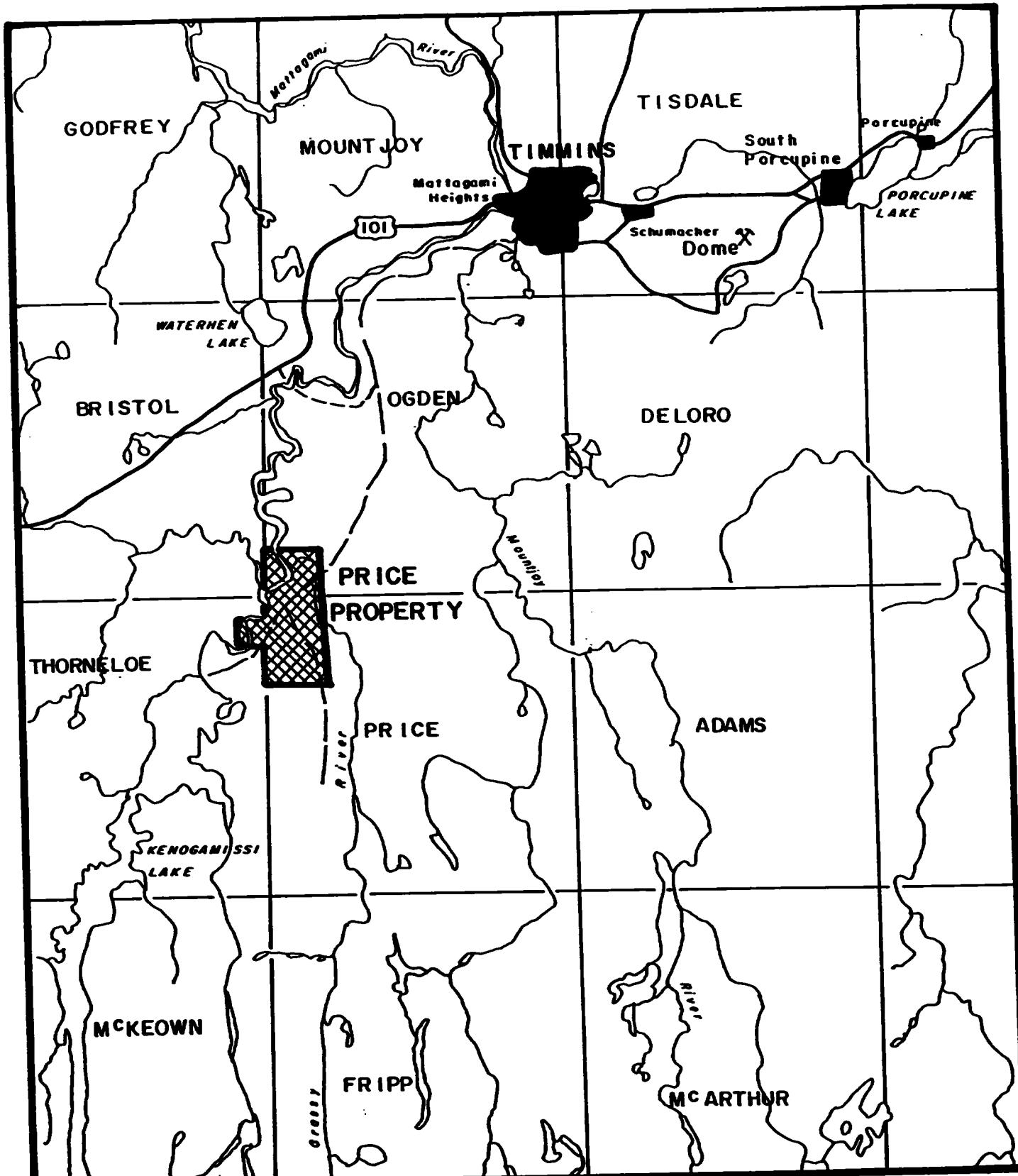
- 1) The alteration, mineralization, and rock sequences encountered in this initial drill program are considered to represent a favourable environment for the occurrence of gold and as such, require additional work.
- 2) Proposed drill holes MK-932, MK-934 & MK-935 (1993 O.P.A.P. proposal) should be drilled to test the three remaining Chevron Canada I.P. targets on the southern half of the Price Twp. claims.
- 3) The presence of gold mineralization in quartz-feldspar porphyry dikes in strongly fractured & hematized sediments in Chevron holes 2 and 4 (northern half of Price Twp. claims) should be followed up by drilling their proposed holes 5 and 6 along the zone to the east. Their proposed hole 7 should also be drilled to test for a parallel zone to the south of the so-called "mafic intrusive".
- 4) Finally, consideration should be given to further evaluation of the ring-shaped magnetic feature on the north half of the Price Twp. claims (so-called "mafic intrusive"). The shoulders of this feature were penetrated by Chevron holes 2 and 4 and core samples were verified as fenitized, rare-earth-bearing rock suggesting the possible presence of a nearby carbonatite. The over-looked potential for a number of commodities such as rare-earths, phosphates, niobium, uranium, beryllium, zirconium etc. is attested to by a series of letters from K.Barron* to the Timmins resident geologist in early 1992.

CONCLUSION

This report is believed to fulfill the requirements of the final O.P.A.P. submission & is hereby submitted to procure the final \$5000 grant payment.

K.Barron*--Ph.D. candidate, University of Western Ontario


MATTI KANGAS, APPLICANT



CROXALL - KANGAS OPTION
PRICE TOWNSHIP

PROPERTY MAP

Date : 21/06/88	Data : Mullen
Drawn : L	

Figure

-FIGURE 2-

PRICE / OGDEN / THORNELOE PROPERTY CLAIM LIST

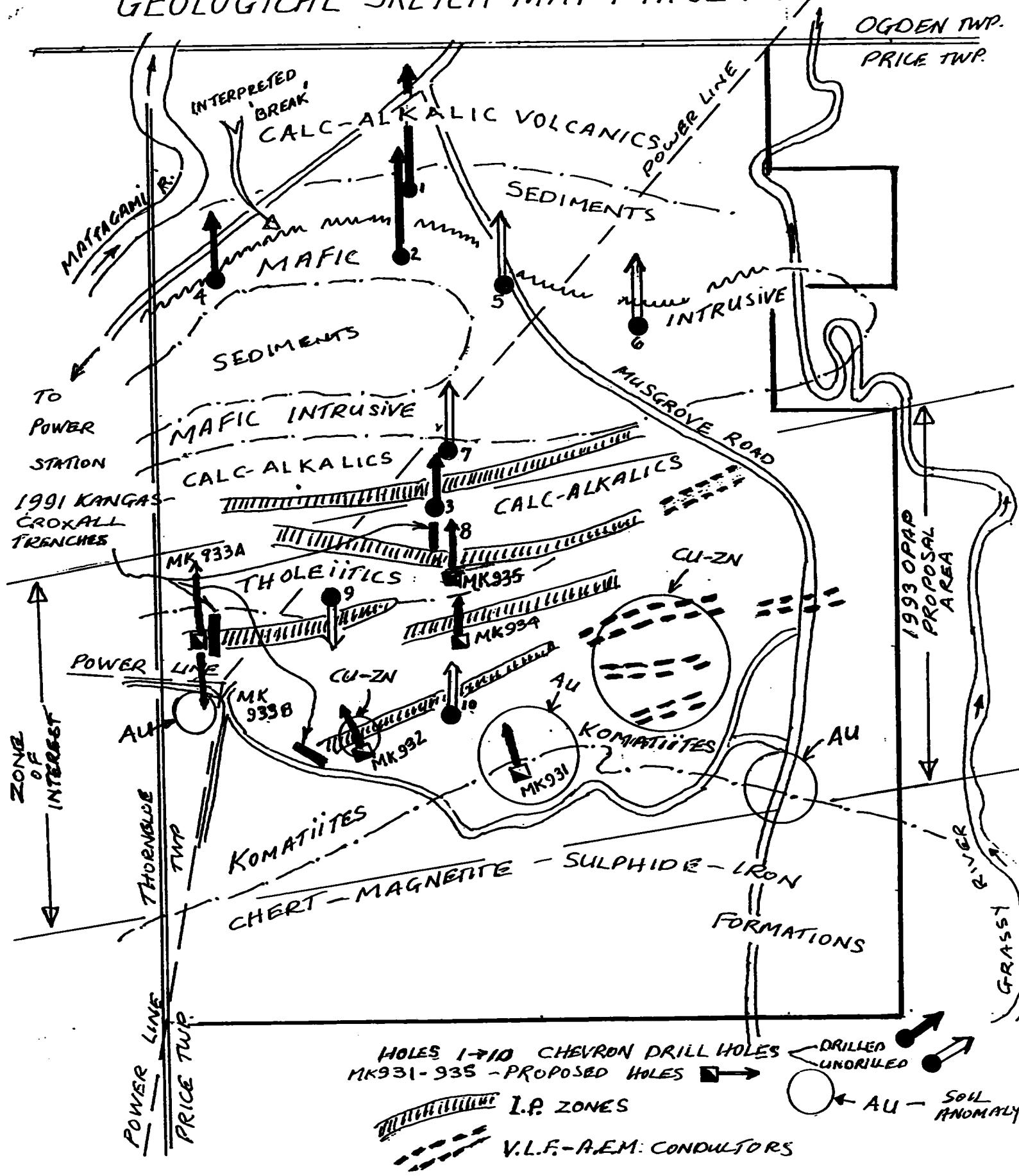
P 1159645	P 998263	P 900409	P 880309
P 1033734	P 998264	P 988131	P 880310
P 1033736	P 998265	P 988133	P 871790
P 1033737	P 998266	P 998024	P 871791
P 988134	P 998267	P 849065	P 871792
P 998246	P 998268	P 849066	P 871793
P 998247	P 998269	P 849067	P 871794
P 998248	P 998017	P 849068	P 889259
P 998249	P 998018	P 880296	P 889262
P 998250	P 998019	P 880297	P 889263
P 998251	P 998020	P 849069	P 889264
P 998252	P 998021	P 880298	P 871795
P 998253	P 998022	P 880299	P 871796
P 998254	P 998023	P 880300	P 871797
P 998255	P 998025	P 880301	P 900410
P 998256	P 998026	P 880302	P 900411
P 998257	P 1025201	P 880303	P 900412
P 998258	P 1159644	P 880304	P 900413
P 998259	P 889260	P 880305	P 988132
P 998260	P 889261	P 880306	P 905587
P 9P98261	P 900414	P 880307	P 905586
P 998262	P 900415	P 880308	P 905588

TOTAL NUMBER OF CLAIMS 88

— FIGURE 3 —

BRISTOL
TWP.

GEOLOGICAL SKETCH MAP-PRICE TWP. CLAIMS



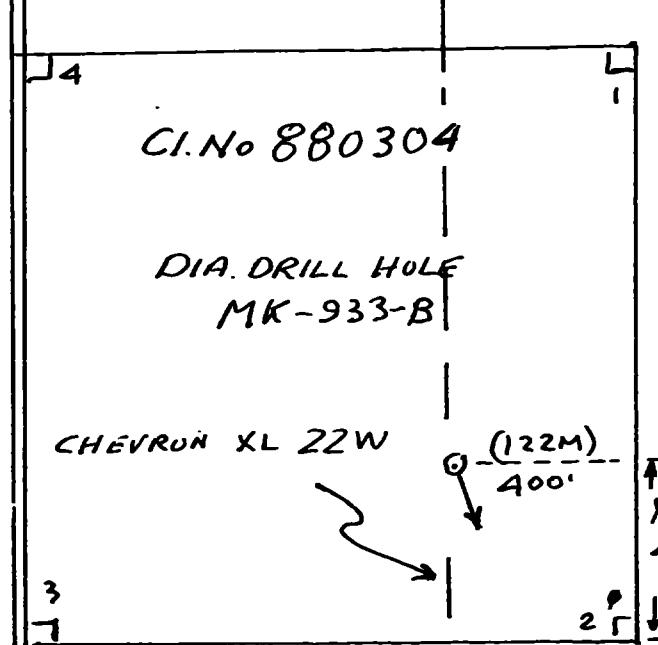
348

DRILL HOLE PLAN MAP

SCALE: 1 CM = 50 M

→ 50M ←

← 200M →



MK-933-B

LENGTH OF HOLE - 222 FT. ($0' \rightarrow 15'$ = OVERBURDEN)

DIRECTION OF HOLE - $S 20^\circ E$ (Az. 160°)

DIP OF HOLE - -45°

CORE ϕ - $1\frac{3}{16}''$

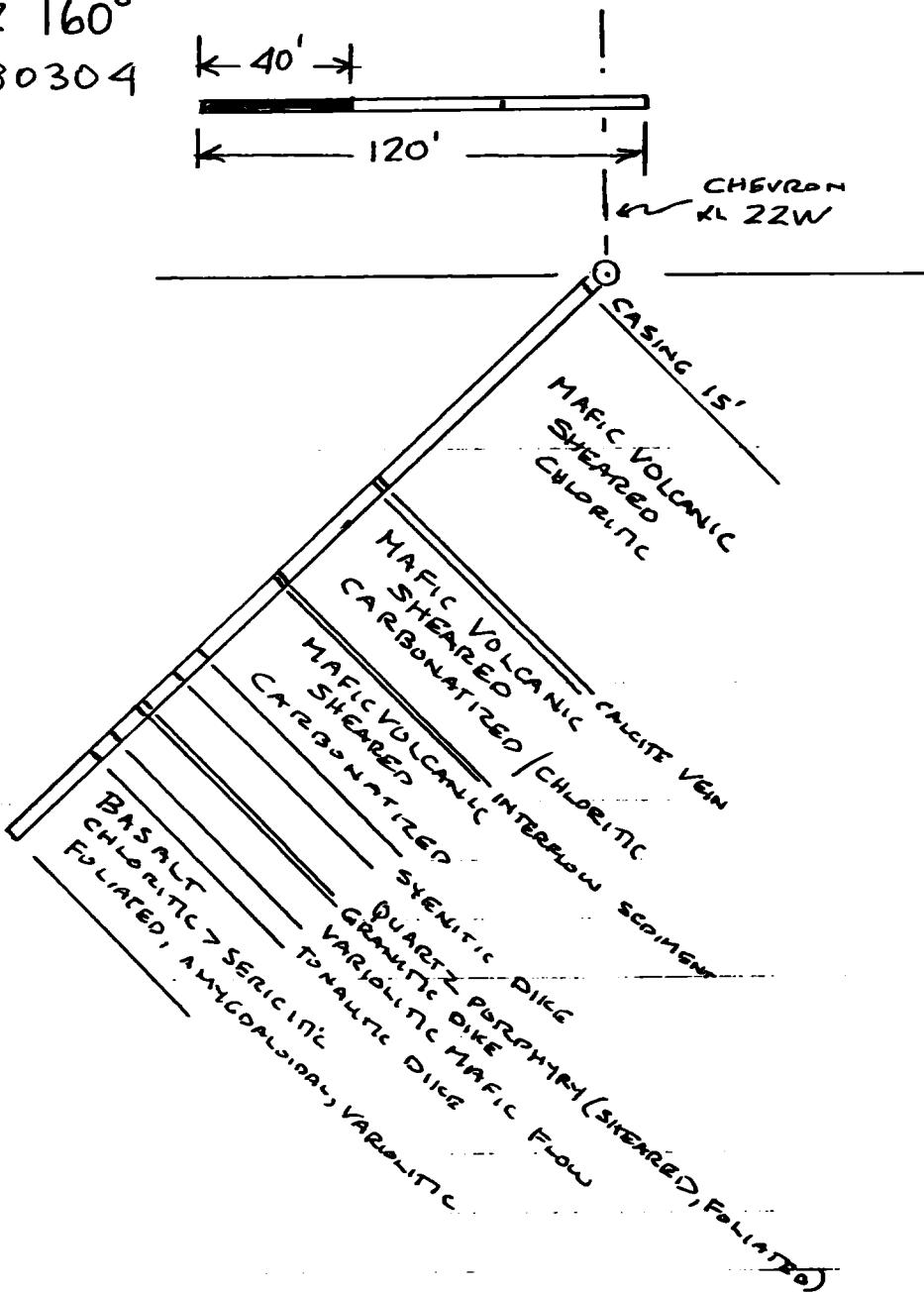
4f8

CROSS SECTION MK-933B FACING W20°S

DIP - 45° AZ 160°

CLAIM NO. P-880304

E.O.H. 220'



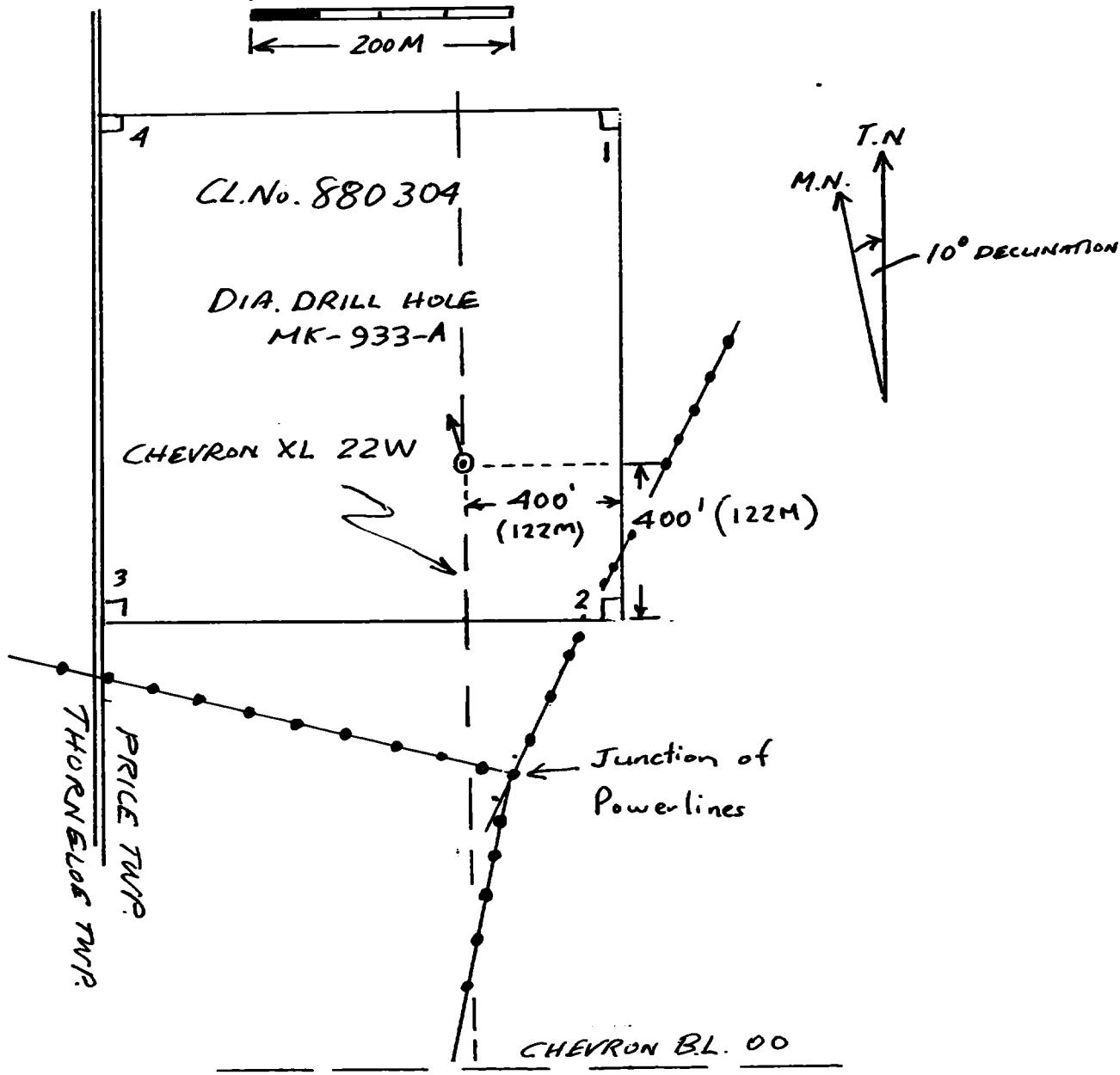
5/8

DRILL HOLE PLAN MAP

SCALE: 1CM = 50M

→ 50M ←

200M



MK-933-A

LENGTH OF HOLE - 139.6 FT ($0'-17'$ = OVERBURDEN)

DIRECTION OF HOLE - N 20° W (Az. 340°)

DIP OF HOLE - -45°

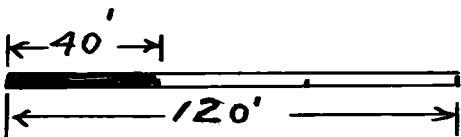
CORE Ø - $1\frac{3}{16}$ "

648

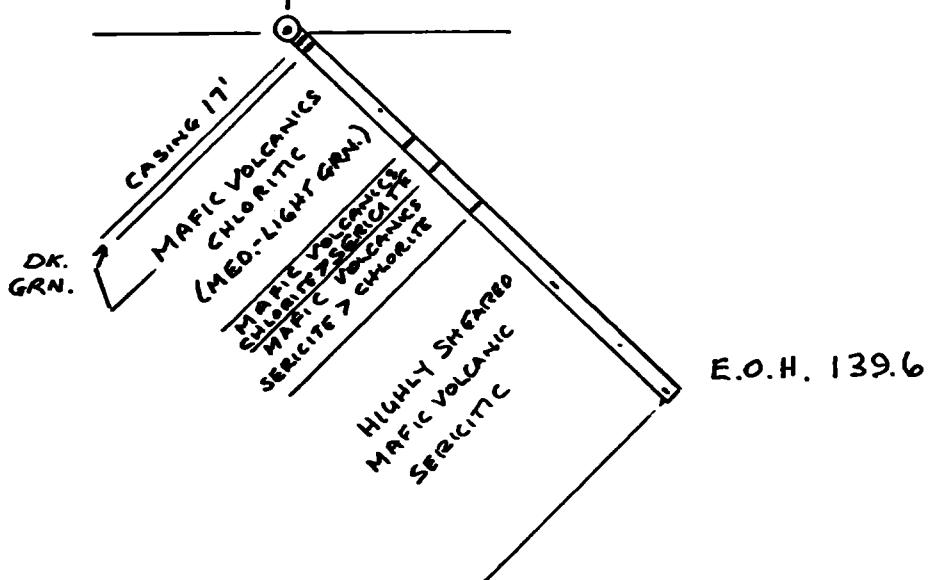
CROSS SECTION MK-933A FACING W.20° S.

DIP -45° AZ. 340°

CLAIM No. P-880304



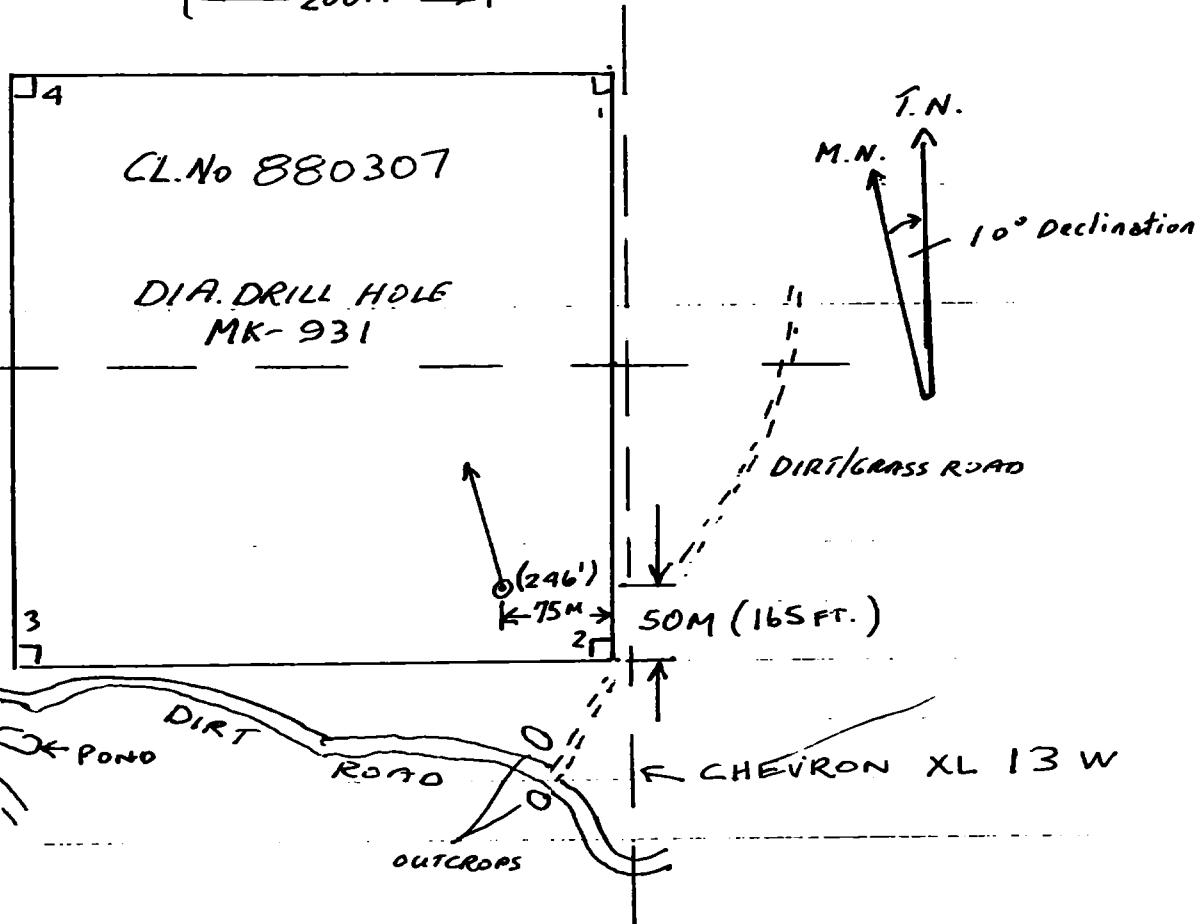
← CHEVRON XL.22W



718

DRILL HOLE PLAN MAP

SCALE: 1CM = 50M



MK-931

LENGTH OF HOLE - 412 FT ($0'-85'$ = OVERBURDEN)

DIRECTION OF HOLE - N 20° W ($Az-390^\circ$)

DIP OF HOLE - 45°

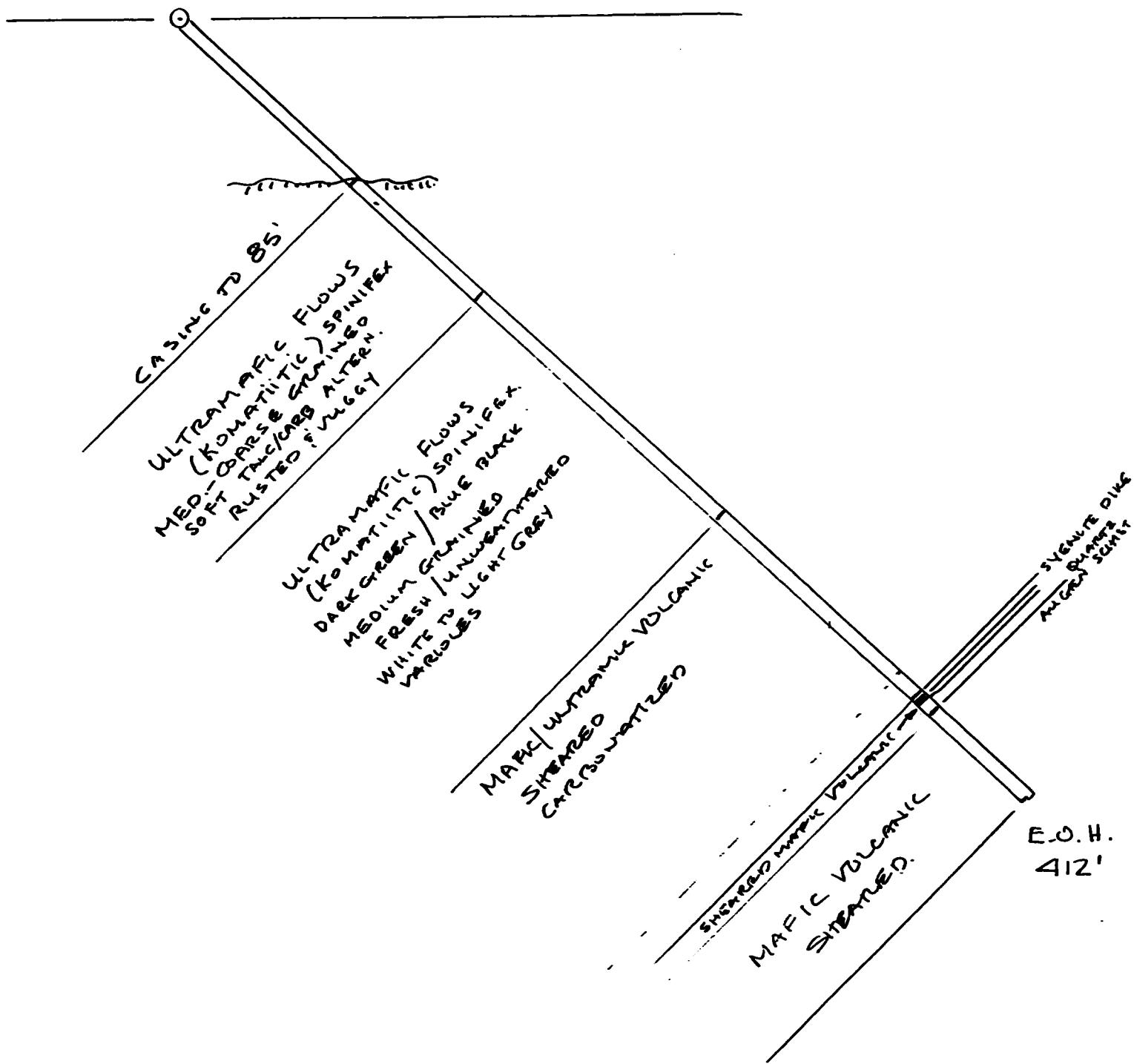
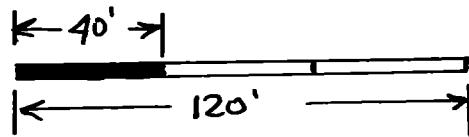
CORE ϕ - $1\frac{3}{16}''$

Sag

CROSS SECTION MK-931 FACING W20°S

DIP -45° A2 340°

CLAIM No. P-880307





Established 1928

Swastika Laboratories

A Division of TSL/Assayers Inc.

Assaying - Consulting - Representation

Page 1 of 3

Assay Certificate

3W-1852-RA1

Company: **MATTI KANGAS**

Date: **JUN-24-93**

Project:

Attn: **J Croxall**

We hereby certify the following Assay of 67 SAWN CORE samples submitted JUN-21-93 by J Croxall.

Sample Number	Au g/tonne	Au oz/ton	Au Ck g/tonne	Au Ck oz/ton
401	NIL			
402	NIL			
403	0.01	.001		
404	0.02	.001	0.01	.001
405	0.01	.001		
406	NIL			
407	NIL			
408	NIL			
409	NIL			
410	NIL			
411	NIL			
412	NIL			
413	NIL			
414	NIL			
415	NIL			
416	NIL			
417	NIL			
418	NIL			
419	NIL			
420	0.02	.001		
421	0.02	.001		
422	0.22	.006	0.21	.006
423	NIL			
424	NIL			
425	NIL			
426	NIL			
427 NOT RECEIVED				
428	0.01	.001	0.01	.001
429	NIL			
430	NIL			

Certified by Denis Chantre



Established 1928

Swastika Laboratories

A Division of TSL/Assayers Inc.

Assaying - Consulting - Representation

Page 2 of 3

Assay Certificate

3W-1852-RA1

Company: MATTI KANGAS

Date: JUN-24-93

Project:

Attn: J Croxall

We hereby certify the following Assay of 67 SAWN CORE samples submitted JUN-21-93 by J Croxall.

Sample Number	Au g/tonne	Au oz/ton	Au Ck g/tonne	Au Ck oz/ton
431	0.01	.001		
432	0.01	.001	0.02	.001
433	NIL			
434	0.01	.001		
435	0.02	.001		
436	NIL			
437	NIL			
438	0.01	.001		
439	NIL			
440	NIL			
441	NIL			
442	NIL			
443	0.01	.001		
444	NIL			
445	NIL			
446	NIL			
447	NIL		NIL	
448	NIL			
449	NIL			
450	NIL			
451	NIL			
452	NIL			
453	NIL			
454	NIL			
455	NIL			
456	NIL			
457	NIL			
458	NIL			
459	NIL			
460	0.31	.009	0.32	.009

Certified by Denis Chante



Established 1928

Swastika Laboratories

A Division of TSL/Assayers Inc.

Assaying - Consulting - Representation

Page 3 of 3

Assay Certificate

3W-1852-RA1

Company: **MATTI KANGAS**

Date: **JUN-24-93**

Project:

Attn: **J Croxall**

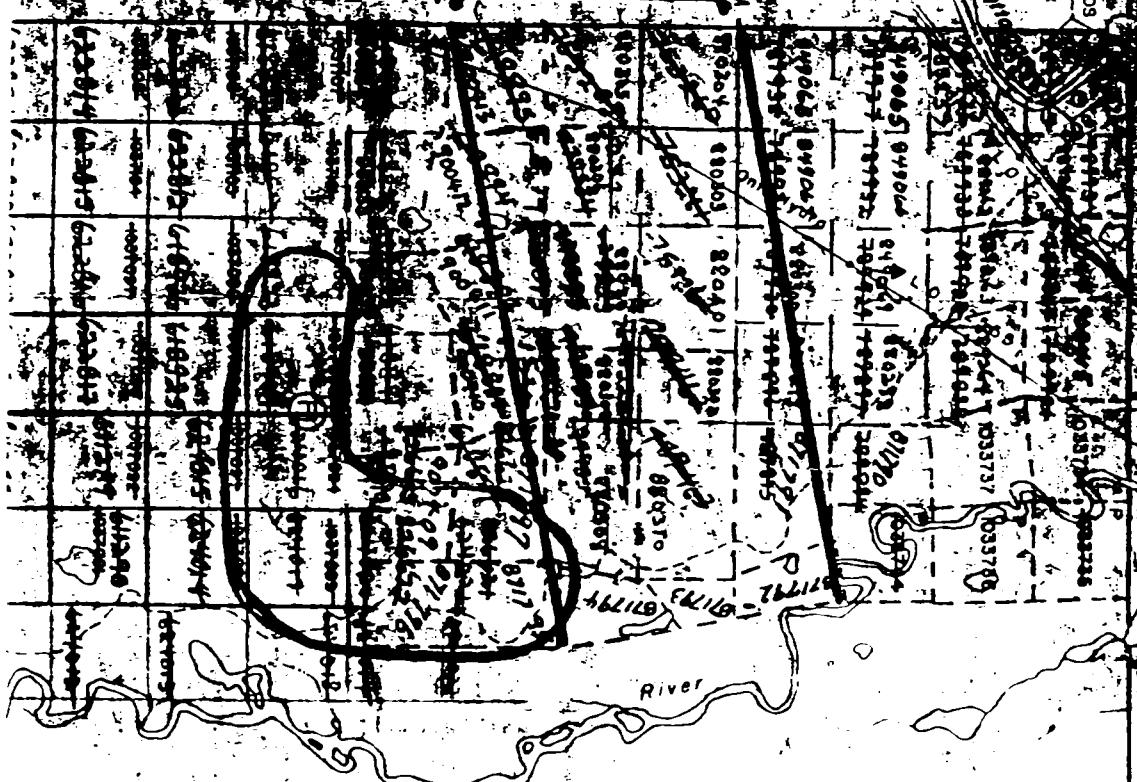
We hereby certify the following Assay of 67 SAWN CORE samples submitted JUN-21-93 by J Croxall.

Sample Number	Au g/tonne	Au oz/ton	Au Ck g/tonne	Au Ck oz/ton
461	NIL			
462	NIL			
463	0.01	.001		
464	0.02	.001		
465	NIL			
466	NIL			
467	NIL		NIL	
468	NIL			

Certified by Denis Chantre

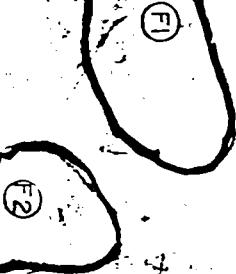
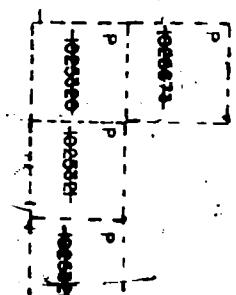
Odent Twp (M 305)

PROJECT AREA

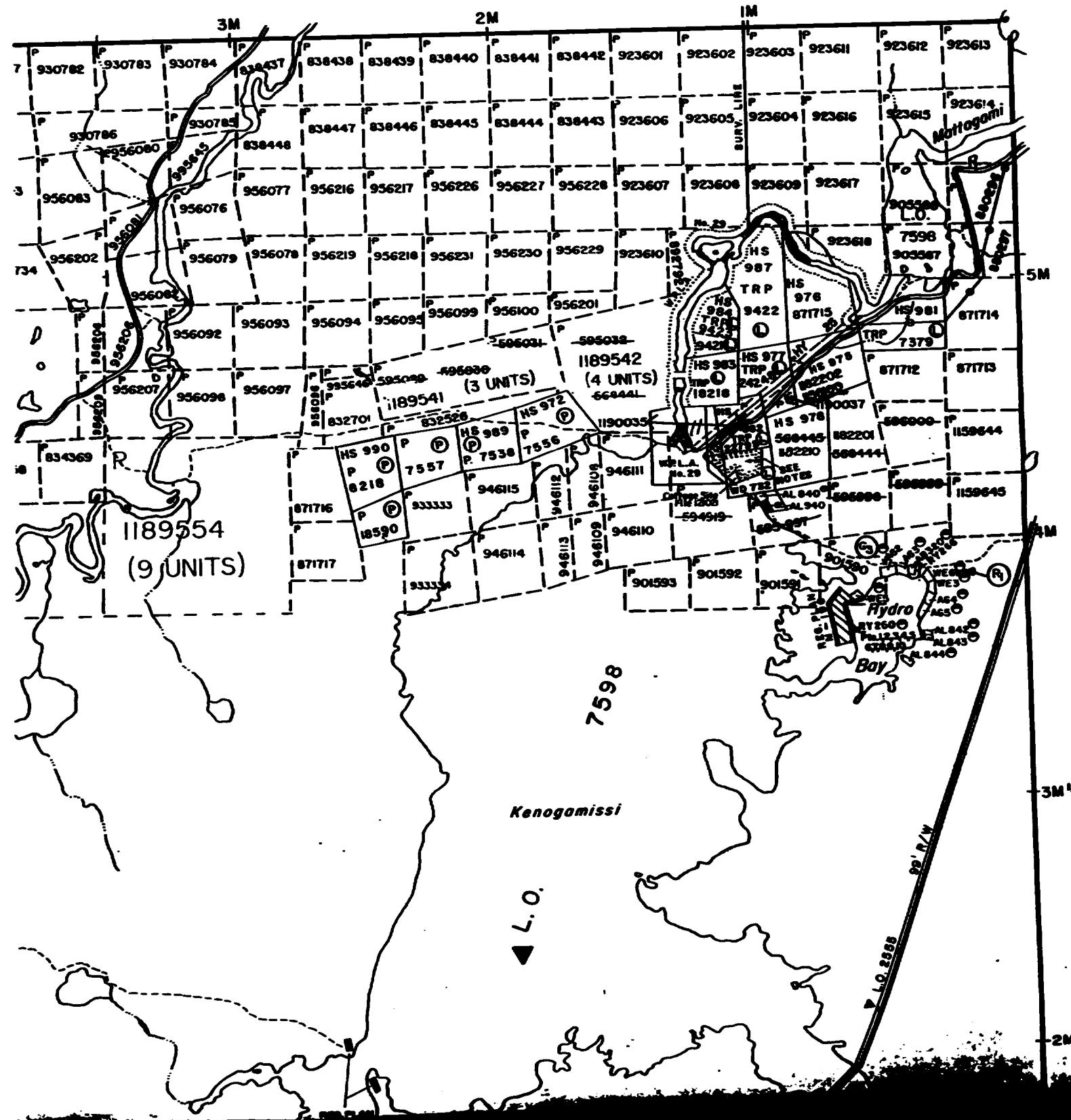


4 M.

3 M.



Bristol Twp.



THE MINING ACT - MINISTRY OF NATURAL RESOURCES
ONTARIO
DIAMOND DRILLING LOG

Start a new page for every new portion of form only on first page.



020 - IN ON HOLE NO. MK. 931 PAGE NO. /
RY PAGE ▶ CLAIM NO. P-880307
INCE NO. 42A08SW0011 OP93-502 PRICE

- IN ON HOLE NO. MK. 931 PAGE NO. /
RY PAGE ▶ CLAIM NO. P-880307
INCE NO. 42A08SW0011 OP93-502 PRICE

DRILLING COMPANY SPKTA (L. SAU) DRILLING
DATE HOLE STARTED JUNE 10/93
EXPLORATION CO., OWNER OR OPTIONEE MATT & KANGAS &
JIM CROXALL

ELEVATION FROM NORTH TOTAL FOOTAGE DIP OF RC
N 20° W 412 ft. 1 1/8° collar - 45°
DATE LOGGED LOGGED BY T. K. O'CONNOR
DATE SUBMITTED SUBMITTED BY (Signature)
July 3/93 MATT KANGAS &
JIM CROXALL

FIXED POINT ON THE CLAIM
LOCATION (Pp., Lot, Con. or Lot, and Long.)
PRICE Th.p.
PROPERTY NAME ICANGAS-CROXALL PROPERTY

FOOTAGE FROM TO ROCK TYPE DESCRIPTION
0 85' OVERBURDEN NO CORE
Colour, grain size, texture, minerals, alteration, etc.

PLANAR FEATURE ANGLE	CORE SPECIMEN NUMBER	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH
----------------------	----------------------	--------------------	---------------------	-------------------	---------------

85' - 146.5' ULTRAMAFIC MEDIUM TO COARSE GRAINED, VERY SOFT TO
KOMATITIC GREASY, RUSTED, ORANGE, VUGGY TALC/CALCULATE
FLOWS ALTERED ULTRAMAFIC WITH SPINIFEX TEXTURES
- PERIODIC "FASTER" UNWEATHERED SECTIONS.
- MODERATE ANKERITE ALTERATION WITH RARE CALCITE
ALTERATION AROUND CALCITE + CHALCOCITE +/- TROMMEL
VEINS

SPINIFEX TEXTURES FLOWING, DOWHOLE = FLOW
TOPS DOWHOLE @ 101.3'; 102.2'; 102.9';
103.6 -> 105'

② 137.8' - BRECCIATED SPINIFEX FRAGMENTS WITH
SERPENTINE MATRIX (FLOW TOP-BRECCIATED)

136.2' - 138.9' - SPINIFEX FLOWING DOWHOLE

146.5 - 260.6' ULTRAMAFIC "FRESH", UNWEATHERED DARK GREENISH TO BLUE -
KOMATITIC BLACK TALC/CALCULATE ALTERED SPINIFEX
FLOWS TO MEDIUM-SIZED ULTRAMAFIC WITH WHITE TO
LIGHTER GREY VARIETIES

② 148.5 - 151' - CARB. HEIN WITH CHALCOCITE & GREEN
SERPENTINE (SOAPSTONE) AT 149' CONTACT TO TALC
CARBONATE SPINIFEX FLOWING DOWHOLE TO FINELY
LAMINATED (see large SPINIFEX CRYSTAL ALIGNMENT)
FLOW @ 25° ACROSS AXIS

② 152.2' - 158.6' - FRACTURE RUNNING PARALLEL TO THE
CORE-AXIS INFILLED BY SHORT FIBRE ASBESTOS GROWN
PERPENDICULAR TO FRACTURE



Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO.
MK-931 | PAGE NO.
2

DRILLING COMPANY
SPARTA (L. SALO) DRILLING
DATE HOLE STARTED
JUNE 6 / 93 DATE COMPLETED
JUNE 10 / 93 DATE LOGGED
JUN 13 / 93 LOGGED BY
T. K. O' Connor
EXPLORATION CO., OWNER OR OPTIONEE

LOCATION OF HOLE IN RELATION TO A
FIXED POINT ON THE CLAIM
N 20° W
DIP OF HOLE AT
13° 45' collar - 45°
Az 340°
10m
S.W.
16.2
PROPERTY NAME
CROY, INC - KANGAS PORT
CLAIM NO.
P-880307
LOCATION (T.P., Lot, Con. or Lot, and Long.)

FOOTAGE FROM TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANE ANGLE SPECIMEN NUMBER	CORE FOOTAGE + SAMPLE NUMBER	SAMPLE FROM TO LENGTH	ASSAYS +
146.5' - 260.6'	ULTRAMAFIC KOMATITIC FLAWS (GARNETED)	② 158.8' → 159.7' - SPINIFEX FLOW DOWHOLE TO BRECCIATED FLOW TOP ② 182.1' → 1.2 cm GARNETE + CHLORITE "WELL" @ 30° TO CORE AXIS				
165.2' → 1.3 cm CARNOTITE + CHLORITE VIEW	② 35° To core axis					
176.6' → 178'	- SPINIFEX FLOW DOWHOLE WITH SWIM					
180'	CHLORITE VIEW ② OUT/CONTACT MEDIUM GRAINED SPINIFEX SECTION					
185.2' → 190.8'	THIN ANKERITE STRINGER AT IN/CONTACT TO MEDIUM GRAINED BRECCIATED "PILLOWED" WIT WITH GRADED PILLOW SELVAGES					
190.8' → 193.3'	DOUBLY GRAINED SPINIFEX SECTION WITH MEDIUM TO COARSE GRAINED					
193.3' → 194.1'	SPINIFEX, FLAWS DOWHOLE - BRECCIATED FLOW TOP					
194.1' → 205.2'	MASSIVE MEDIUM GRAINED ULTRAMAFIC, WHICH IS VARIOLITIC, PLLOODED & BRECCIATED IN PLACES					



THE MINING ACT - MINISTRY OF NATURAL RESOURCES
ONTARIO
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO. M.K.-931 PAGE NO. 3

BORING COMPANY SPAR-RA (L.S.M.L.) DRILLING	ELEVATION N 20°W	PROGRESS HOLE NO. TOTAL FOOTAGE 4112	DIP OF HOLE AT 1 1/4° collar - 45°	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM	MAP REFERENCE NO.
DATE HOLE STARTED JUN 16/93	DATE COMPLETED JUNE 10/93	DATE LOGGED JUN 3/93	LOGGED BY T.K. O'CONNOR		
EXPLORATION CO., OWNER OR OPTIONEE		DATE SUBMITTED	SUBMITTED BY (Signature)		

CLAIM NO.
P-880307

LOCATION (T.P., Lot, Con. or Lot, and Range)
PRICE TWP.

PROPERTY NAME
KING GAS - CROW VAL PRTY.

FOOTAGE FROM TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE *	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE LENGTH	ASSAYS +
						TO		
146.5' - 260.6'	ULTRAMAFIC	② 205.2' - 206.5' - FOLDED ANKERITE VEIN WITH KOMATITIC MINOR CALCITE + 15% CHLORITE + IVANOVICKIT FLOWS (CONT'D) ③ 30° CRACKS + OUT/CONTACT @ 25° TO CORE AXIS (OPPOSITE SENSE)						
		④ 206.5' - 207.5' - DOWNHOLE 25°						
207.4' - 207.7'	2 CIRCULAR AREAS (LARGEST ~0.8m) OF QUARTZ + PYRRHOTITE +/- CHALCOPYRITE							
208.3' - 209.2'	ACCUMULATION OF CREAMY BROWN COLOURED SUPHIDE THAT IS NON-MAGNETIC YET METALLIC (ALTERED PYRITIC NICKEL SUPHIDE?) ALONG A CARBONATE +/- QUARTZ - ILLED FRACTURE							
209.5' - 209.2'	SAME AS ABOVE WITHIN 15cm FRACTURED CARBONATE VEIN WITH RUSTY & RUGGY FRACTURE DUE TO GROUNDWATER WEATHERING.							
214.8' - 217'	2.5cm VEIN OF CARBONATE + GREEN TO ULTRAMAFIC WITH 3-5% DISSEMINATED PYRITIC							
235.7' - 244'	SECTION OF DIFFERENT COLOURED ULTRAMAFIC; ALTERATION IS MORE DARK BROWNISH TO YELLOWISH GREEN (KHAKI) SERICITE - DRAVEMENT. POSSIBLY DUE TO SLIGHT INCREASE IN SERICITE CONTENT OR COULD BE DUE TO AN OLD RUSTY DRILL ROD AFFECTING CORE COLOUR (THIS SECTION IS ~10FT OF CORE WITH IDENTICAL TEXTURES - JUST DIFFERENT COLOUR)							



THE MINING ACT - MINISTRY OF NATURAL RESOURCES
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO. MK-931 PAGE NO. 4

DRILLING COMPANY S.P.A.R.T.H. (Spire) DRILLING	LOCATION (Twp., Lot, Con. or Lot. and Long.) PRICE TWP.	MAP REFERENCE NO. P-880307
DATE HOLE STARTED JUNE 6/93	DATE COMPLETED JULY 3/93	DATE LOGGED T.K. O'Connor
EXPLORATION CO., OWNER OR OPTIONEE	DATE SUBMITTED	SUBMITTED BY (Signature) ft 1 .

FOOTAGE FROM TO

ROCK TYPE

DESCRIPTION

Colour, grain size, texture, minerals, alteration, etc.

ELEVATION	DEPTH OF HOLE NORTH	TOTAL FOOTAGE	DIP OF HOLE AT	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM
N 26°W	412'	134' ab collar	- 45°	

PLANE FEATURE	CORE SPECIMEN NUMBER	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM TO LENGTH	SAMPLE 02/7 - ASSAYS + PH
	442	265.6	270.0	NIL
	443	270.0	275.0	0.001
	444	275.0	280.0	NIL
	445	280.0	285.0	NIL
	446	285.0	290.0	NIL
	447	290.0	295.0	NIL
	448	295.0	300.0	NIL
	449	300.0	305.0	NIL
	450	305.0	310.0	NIL
	451	310.0	315.0	NIL
	452	315.0	319.2	NIL
	453	319.2	324.2	NIL
	454	324.2	330.0	NIL
	455	330.0	335.0	NIL
	456	335.0	341.6	NIL
	457	341.6	345.0	NIL
	458	345.0	349.5	NIL

PROPERTY NAME
KIRK GRASS-CREEK ALL PROTY.

②	324.9 → 359.2 - INTERMITTENT DARK GREEN & WHITE FINE GRAINED QUARTZ (+ MINOR SERICITE) ALTERED + CALCITE CRYSTALS ALTERED HIGHLY SHEARED, FOLDED & FOLIATED MARL VOLCANIC WITH A MORE 50° IRONBAND FOLIATION ORIENTATION OF 50° TO CORE AXIS * FOLIATION DEFINED BY PINKISH WHITE CALCITE & WHITE QUARTZ VENUS WITH RED CRYSTALS + GREEN TERRANEUM + 3% DISSEMINATED PURITE	0 75 m 50m
③	345.7 - FLUCCSITE KNEED SECTION ASSOCIATED WITH 3 X 1cm PINK CALCITE + QUARTZ VENUS ④ 30° TO CORE AXIS	

* For features such as foliation, bedding, schistosity, measured from the long axis of the core.

+ Additional credit available. See Assessment Work Regulations.



THE MINING ACT - MINISTRY OF NATURAL RESOURCES
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO. 1MK.931 PAGE NO. 5
CLAIM NO. P-880307

DRILLING COMPANY SPARTA (SA) LTD.	DRILLING	ELEVATION FROM TRUE NORTH N. 20° W	TOTAL FOOTAGE 412	DIP OF HOLE AT 3° 16' collar - 45°	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM LOGGED BY T.K. O'Connor
DATE HOLE STARTED JUNE 6 / 93	DATE COMPLETED JUNE 10 / 93	DATE LOGGED July 3 / 93	DATE SUBMITTED SUBMITTED BY (Signature)	DATE SUBMITTED	MAP REFERENCE NO. LOCATION (TP., Lot, Con. OR Lat. and Long.) PINE TWP.
EXPLORATION CO., OWNER OR OPTIONEE				PROPERTY NAME ICANAS-CARINA APPN.	
FOOTAGE FROM TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.			
359.2	360.7	FOLIATED SCHISTIC DYEKE WITH MAGNETITE STRUNGS & 5-10% DISSEMINATED PYRITE			
360.7	361.2	HIGHLY SHEARED UP TO 80% CARBONATE + QUARTZ VENS MAFIC VOLCANIC & 20-30% CHALCOCITE + FUCHSITE @ 28° TO 58° CORE AKLIS			
361.2	368.1	HARD SILICIFIED WELL FOLIATED QUARTZ AUGEN SCHIST WITH 5% DISSEMINATED & UP TO 3mm CUBES OF PYRITE * SECTIONS OF BUFF GREY TO BROWNISH HARD MASSIVE SILICIFIED ROCK WITH LATE QUARTZ + WILFERTITE VENUS & 15-25% PYRITE.			
368.1	412.2	SHEARED MAFIC CHLORITIC & SERICITIC (WITHIN 5% FUCHSITE) (EOH) VENUS			
ALTERED + SHEARED MAFIC VOLCANIC WITH 25° UP TO 50% CARBONATE + QUARTZ STRUNGS (C 75° TO CORE AKLIS (WITH minor WILFERTITE))					
394.8	398.1	10' - VARIABLY SHEARED "FRESHER" QUARTZ / ALUMITE PORPHYRY WITH UP TO 1cm QUARTZ PENDENTS			
②	②	399 - 402.5 - VARIABLY SHEARED QUARTZ PORPHYRY RECRYSTALLIZED TO MASSIVE QUARTZ + LARGES (2X 5mm) SERICITE CRYSTALS			
③	③	403.7 - 404.3 - SAME AS ①			

* For features such as foliation, bedding, schistosity, measured from the long axis of the core.

+ Additional credit available. See Assessment Work Regulations.

THE MINING ACT - MINISTRY OF NATURAL RESOURCES
ONTARIO
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

CORE STORED AT M. KANGAS' FARM AT KANGAS' LAKE.

FILL IN ON EVERY PAGE

HOLE NO. PAGE NO.
MK-933-A 1

DRILLING COMPANY
SPARTA DRILLING - L.SALO

DATE HOLE STARTED

JUNE 3/93

DATE COMPLETED

JULY 12/93

DATE LOGGED

JUNE 22/93

DIP OF HOLE AT

$1\frac{3}{16}^{\circ}$ collar

- 45°

LOGGED BY

T.K.O'CONNOR

SUBMITTED BY (Signature)

MATTI KANGAS & T. CROXALL

INITIALS

1

DATE SUBMITTED

JULY 12/93

LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM

MAP REFERENCE NO.

CLAIM NO.

P-880304

LOCATION (T.P., Lot, Con. OR Lat. and Long.)

PRICE TWP.

PROPERTY NAME

KANGAS-CROXALL PROPERTY

No. 2705

PLANE FEATURE

CONE SPECIMEN

VOUR SAMPLE

NUMBER

FROM

TO

LENGTH

SAMPLE FOOTAGE

SAMPLE

AU ASSAYS + OFF

FOOTAGE FROM TO

0 17'

OVERBURDEN

(TRUE DEPTH OF 0.8 - 12 FT.)

Colour, grain size, texture, minerals, alteration, etc.

DESCRIPTION

17'

31.9'

MAFIC VOLCANIC

(CHLORITIC)

ALTERATION

DARK TO MEDIUM GREEN; SOFT; FINE GRAINED

70°

MAFIC VOLCANICS WITH VARIOUSLY SPACED FOLIATION

PLANES @ 30° TO CORE AXIS

- LOCAL NARROW AREAS WITH MINOR VARIOUSLY AMYGDALOID

ELONGATED PARALLEL TO FOLIATION PLANES

- SMALL SCALE FOLDING OF FOLIATION PLANES IS

EVIDENT

- ALTERATION IS DOMINANTLY CHLORITIC WITH LESSER

ANKERITIC AND SERICITE ALTERATION LOCALLY

- MINOR CALCITE AS THIN, CLOSELY SPACED VENGETS

PARALLEL TO AS WELL AS DEFINING THE FOLIATION

- TRACE DISSEMINATED PYRITE AS SMALL ANHEMIM CRYSTALS

@ 26.2 - 3mm - 1.0cm GREY QUARTZ VENGET ASSOCIATED

WITH A SERIES OF WHITE ANKERITE VENGET WITHIN A

LOCALIZED ZONE OF SERICITE DOMINATED ALTERATION

RUSTY & VUGGY CORE DUE TO GROUNDWATER LEACHING

OF FACARBONATE + PYRITE @ 21'; 26'; 30.1'; 31.9'

31.9' 46.7'

MAFIC VOLCANIC

(CHLORITIC)

ALTERATION

MEDIUM TO LIGHT GREEN; SOFT; MEDIUM GRAINED

40.1

33.2

36.5

3.3

NIL

40.2

40.1

45.9

5.8

NIL

45.5'

ROTATED + SHEARED PYRITE CUBE WITH OBTUSE ANGLES 65°

PRESSURE SHADOW

↓ PYRITE PRESSURE SHADOW

↓ DOWNHOLE

↓ FOLIATION AT 60° TO CORE AXIS

* NOTE: DIAGRAM NOT TO SCALE

THE MINING ACT - MINISTRY OF NATURAL RESOURCES
DIAMOND DRILLING LOG



Ontario

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO. MK-993-A PAGE NO. 2

DRILLING COMPANY SPARTA DRILLING - L. SALO	ELEVATION	BEARING OF HOLE FROM TOTAL FOOTAGE N 20°W	DIP OF HOLE AT 139.6 ft. / $\frac{1}{16}^{\circ}$ " collar - 45°	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM	MAP REFERENCE NO.
DATE HOLE STARTED MAY 30/93	DATE COMPLETED JUNE 3/93	DATE LOGGED JUNE 22/93	LOGGED BY T. K. O'CONNOR		CLAIM NO. P-880304
EXPLORATION CO., OWNER OR OPTIONEE MATTI KANGAS & JIM CROKALL		DATE SUBMITTED	SUBMITTED BY (Signature)	LOCATION (T.P., Lot, Con. or Lot. and Long.)	PRICE TWP.

FOOTAGE FROM 31.9'	TO 46.7'	ROCK TYPE (CONTINUED)	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE	CORE SPECIMEN FOOTAGE +	VOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	TO	LENGTH

FOOTAGE FROM 46.7'	TO 54.4'	ROCK TYPE (CHLORITIC & SERICITIC)	DESCRIPTION ZONE OF FOLDED & FRACTURED MAFIC VOLCANIC ROCK WHERE CALCITE GASH VENWS ARE NOW PRESENT	PLANAR FEATURE ANGLE	CORE SPECIMEN FOOTAGE +	VOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	TO	LENGTH

FOOTAGE FROM 54.4'	TO 64.7'	ROCK TYPE ALTERATION	DESCRIPTION ② 44' - 45' PRESENCE OF PEACH COLOURED MICRO-PHENOCRYSTS WITH RHOMBIC CRYSTAL SHAPE (LEUCOKEME) THAT ARE PREFERENTIALLY DISTRIBUTED PARALLEL TO FOLIATION	PLANAR FEATURE ANGLE	CORE SPECIMEN FOOTAGE +	VOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	TO	LENGTH

FOOTAGE FROM 64.7'	TO 72.7'	ROCK TYPE MAFIC VOLCANIC	DESCRIPTION - CONTACT MARKS THE FIRST APPEARANCE OF BUFF GREY/BEIGE ; HARDER ; MAFIC VOLCANIC DOMINATED BY SERICITIC ALTERATION THESE AREAS HAVE ASSOCIATED QUARTZ-CARBONATE-PHYLLITE STAUROLITE VEINLETS WITH LOCALLY UP TO 15% PYRITIE - THE ABOVE ROCK ALTERNATES WITH LARGE AREAS OF SOFT GREY MAFIC VOLCANIC ROCK (AS BEFORE) WITH CHLORITIC & LESTER SERICITIC ALTERATION AND ~1% DISSEMINATED PYRITIE.	PLANAR FEATURE ANGLE	CORE SPECIMEN FOOTAGE +	VOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	TO	LENGTH

FOOTAGE FROM 72.7'	TO 92.7'	ROCK TYPE WITH CHLORITIC-FUCHSITIC-SERICITIC CRACK-SEAL FEATURES	DESCRIPTION ② 52.7' - 53.3' AREA OF SHEARED CARBONATE + QZ VENWS WITH CHLORITIC-FUCHSITIC-SERICITIC CRACK-SEAL FEATURES	PLANAR FEATURE ANGLE	CORE SPECIMEN FOOTAGE +	VOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	TO	LENGTH

* NOTE : THE ABUNDANCE & SIZE OF SERICITIC ALTERED SECTIONS OF CORE INCREASE DOWNHOLE ; THE AMOUNT & INTENSITY OF "SHEARING" INCREASES DOWNHOLE



Ontario

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO. MK-9224 PAGE NO. 3

DRILLING COMPANY SPP42TA DRILLING - L. SALO	ELEVATION PEARMING OF HOLE TOTAL FOOTAGE N208W / 39.6 FT	DIP OF HOLE AT 13° 0' collar -45°	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM
DATE HOLE STARTED MAY 30/93	DATE COMPLETED JUNE 3/93	DATE LOGGED JUNE 22/93	LOGGED BY T. K. O'CONNOR
EXPLORATION CO., OWNER OR OPTIONEE M.KANGAS & T.CROZIER	DATE SUBMITTED "	SUBMITTED BY (Signature) "	Az. 340° Dz. 40° } 400' } 400' PROPERTY NAME KANGAS-CROZIER PROPERTY

CLAIM NO.
P-880304

MAP REFERENCE NO.
LOCATION (P.P., Lot, Con. or Lat. and Long.)

PRICE TWP.

FOOTAGE FROM TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE NAME	CORE SPECIMEN NUMBER	YOUR SAMPLE NUMBER	SAMPLE FROM TO	SAMPLE LENGTH	ASSAYS + OZ/T
54.4' 68.7'	MAFIC VOLCANIC (SERICITE CHLORITIC) ALTERATION	CONTACT REBEGENTS POINT WHERE HARDEE BUFF GREY SERICITE ALTERATION DOMINATES OVER MUCH LESS ASSEMBLED CHLORITE ALTERED MAFIC VOLCANIC ROCKS -2-3% DISSEMINATED PYRITE ASSOCIATED WITH BUFF SERICITE ALTERED ROCK - PYRITE ALSO AS BLEB-LIKE CRYSTALS & CRYSTAL AGGREGATES DISSEMINATED PREFERENTIALLY PARALLEL TO FOLIATION WHERE QUARTZ-CARBONATE VENNETS & SHEARING ARE NOT INTENSE		405	56.8	61.8	5.0	0.01
		@ 54.4' → 55.8' - SMALL Z/mm CRYSTALS OF MAGNETITE IN BUFF, SERICITE + QU-Z-RICH AREA *		406	61.8	67.0	5.2	NIL
		* CORE IS BOTH MAGNETIC & REGISTERS INTENSE MAGNETIC SUSCEPTIBILITY READINGS UP TO 1700 SI UNITS (X10-3) ON METER		407	68.0	71.0	3.0	NIL
68.7' 139.6'	HIGHLY SHEARED (E.O.H.) MAFIC VOLCANIC (SERICITE) ALTERATION	VERY LIGHT BUFF TO GREY TO GREEN SERICITE ALTERED INTERMEDIATE TO MAFIC VOLCANIC THAT IS EITHER HIGHLY SHEARED OR TUFFACIOUS FOLIATION IS AT 62° TO THE CORE AXIS - CONTACT @ 68.7' IS MARKED BY A 19cm QUARTZ > CARBONATE (ANHYDITE) VENET WITH SERICITE CRACK-SEAL TEXTURES - IN/CONTACT IS @ 87° TO CORE AXIS - OUT/CONTACT IS @ 78-80° TO CORE AXIS - PROMINENTLY DISPLAYED TIGHT FOLDINGS OF THE SERICITE ALTERED ROCK & QUARTZ-ANHYDITE VENNETS REVEALS THAT THIS ROCK HAS BEEN SUBJECTED TO DUCTILE (PSEUDO-PLASTIC) DEFORMATION		408	77.0	80.5	3.5	NIL
				409	84.3	87.0	2.7	NIL
				410	87.0	90.2	3.2	NIL
				411	94.7	99.9	5.2	NIL
				412	99.9	105.1	5.2	NIL
				413	105.1	110.2	5.1	NIL
				414	110.2	115.4	5.2	NIL
				415	115.4	120.4	5.0	NIL
				416	120.4	125.4	5.0	NIL
				417	125.4	129.0	3.6	NIL
				418	129.0	132.0	3.0	NIL
				419	134.7	139.6	4.9	NIL



THE MINING ACT - MINISTRY OF NATURAL RESOURCES
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO. MK-933-A PAGE NO. 4
CLAIM NO. P-880304

Ontario

DRILLING COMPANY SPARTA DRILLING-L.SALO	DATE HOLE STARTED MAY 30 / 93	DATE COMPLETED JUNE 3/93	DATE LOGGED JUNE 22/93	LOGGED BY T. K. O'CONNOR	DIP OF HOLE AT 1 1/2° N	DEPTH OF HOLE TOTAL FOOTAGE 139.6 ft.	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM AZ. 340° 400'	LOCATION (Tp., Lat, Lon. OR Lati. and Long.) PRICE TWP
EXPLORATION CO., OWNER OR OPTIONEE M.KANGAS & T. CROXALL			DATE SUBMITTED	SUBMITTED BY (Signature)	"	"	"	"

FOOTAGE FROM TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANE FEATURE ANGLE *	CORE SPECIMEN NUMBER	YOUNG SAMPLE NUMBER	SAMPLE FOOTAGE FROM TO	SAMPLE LENGTH	PROPERTY NAME Post KANGAS-CROXALL PROPERTY
68.7' / 139.6' (CONTINUED)		② 75.0' → 76.0' - 30 cm QUARTZ WITH MINOR ANKERITE VEN. THAT IS FRACTURED WITH SERICITE OCCURRING THE FRACTURES ② 84.6' → 85.1' - GREY-WHITE QUARTZ VEN WITH LOCALLY UP TO 30% PRECIPITATED ANKERITE CRYSTALS - SMALL SCALE "CHEVRON" FOLDING STRT/CONTACT WITH WALL ROCK S_1 = FOLIATION = ~ 40° TO CORE AXIS S_2 = CLEAVAGE (AXIAL PLANE) TO FOLDING = PERPENDICULAR TO THE FOLIATION S_2 PYRITE INCREASES TO 5% DISSEMINATED CRYSTALS & AS THIN FOLDED BANDS PARALLEL TO FOLIATION S_2 ② 91.7' - 2-4 cm QUARTZ VEN IN CONTACT @ 70° TO CORE AXIS; OUT/CONTACT IS 120° TO CORE AXIS GRANULITE → DIAHOLE * FOLIATION WRAPS AROUND THE QUARTZ VEN. THIS IMPLIES THAT S_2 IS INDEED A TECTONIC FABRIC NOT PRIMARY TUFAEOPUS BEDDING. ② 112' → 112' - WHITE QUARTZ VEN WITH 5-10% ANKERITE CRYSTALS IN CONTACT & OUT/CONTACT @ 70° TO CORE AXIS ② 113.6' - THIN VENLET OF CHALCOPYRITE PARALLEL TO FOLIATION PLANES ② 118.3' - 2mm x 4mm CHALCOPYRITE CRYSTAL ② 123.1' - CHALCOPYRITE IN A LATE CROSS-CUTTING DIAHOLE VENLET 2mm wide - FOLIATION IS 85° TO CORE AXIS ② 125.6' → MASSIVE STRIKE OF CHALCOPYRITE PERPENDICULAR TO FOLIATION ② 126.7' → CONCENTRATION OF CHALCOPYRITE ALONG A FOLDED FOLIATION PLANE ② 128.9' → CONCENTRATION OF CHALCOPYRITE IN A QUARTZ-ANKERITE VENLET ② 130.1' → CHALCOPYRITE IN CROSS-CUTTING QUARTZ VENLET	NOTE: 40/→49	33.2	139.6			

* END *



Ontario

DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

DRILLING COMPANY S PARTA (L.S.M.D.) DRILLING	ELEVATION S 200 E.	DEPTHS OF HOLE	TOTAL FOOTAGE 222	DIP OF HOLE AT 1 1/2° collar 1 - 45	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM	MAP REFERENCE NO. P-880304
DATE HOLE STARTED MAY 27/93	DATE COMPLETED MAY 30/93	DATE LOGGED July 3/93	LOGGED BY T.K. O'Conor	ft		
EXPLORATION CO., OWNER OR OPTIONEE MATTI KANSAS #		DATE SUBMITTED July 12/93	SUBMITTED BY (Signature) Matti Kansas	ft		

JIM CROXALL	FOOTAGE FROM TO, D	ROCK TYPE OVERBURDEN	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE LENGTH	02/1 ASSAYS +	Au
15'	83.2'	SHEARED MAGIC VOLCANIC (CHONERTIC)	SOFT, FINE GRAINED, DARK TO MEDIUM GREEN CHLORITIC ALTERED MAGIC VOLCANIC WITH TO LINE	30°	420	20.0	23.3	3.3'	0.00/	
		ALTERATION	~20 - 30% CALCITE STREAKS PARALLEL TO CALCITIC ALTERATION	30°	421	38.5	41.0	5.5'	0.00/	
			- TRACES TO L. PYRITE WITH MINOR SERICITE AND WEAK ANATOMIC ALTERATION	30°	422	53.0	57.4	4.4'	0.006	
			- SOME SECTIONS OF CORE CONTAIN UP TO 70% CALCITE +/- PyRE STREAKS WITH THE REMAINING 30% = CHLORITE +/- SERICITE.	30°						
	15.6 - 17'	BRITTLE NICKELITE VEINS WHICH ARE CRUDELY PARALLEL TO THE CORE AXIS; THESE ARE FOLDED & BROKEN WITH CALCITE & DOWITE IN THE Voids.								
	19.8 - 23.1'	LIGHTER GREEN MAGIC VOLCANIC WITH LESS CHLORITE & MORE SERICITE; MAJOR PyRE-CALCITE VEINETS ALONG THE NOW FOLDED FOLIATION; MASSIVE PYRITE UP TO 25% OF CORE DISTRIBUTED PREFERENTIALLY ALONG FOLIATION PLANES								
	26.3' - 35.7'	RUSTED VUGGY CORE DUE TO SECONDARY LEACHING OF Fe-RICH CARBONATE								
	29.8 - 31.5'	1-2.5 CM WIDE CALCITE WITH LATER QUARTZ "LAYERS" IN VEIN THAT IS FOLDED AND RUNS ALONG CORE AXIS FOR ~1/3								

FILL IN ON
EVERY PAGE

HOLE NO. MK-9338	PAGE NO. 1
CLAIM NO. P-880304	
LOCATION (T.P., Lot, Con. or Lot, and Long.)	
PRICE TWP.	

PROPERTY NAME
KANGAS-CROXALL PROPERTY



Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON HOLE NO. PAGE NO.
EVERY PAGE MK-933-B 2

DRILLING COMPANY SPIRITA (L.SALO) DRILLING	ELEVATION	BEARING NORTH TOTAL FOOTAGE	DIP OF HOLE AT	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM
DATE HOLE STARTED MAY 27/93	DATE COMPLETED MAY 30/93	DATE LOGGED JUNY 3/93	LOGGED BY T.K. O'CONNOR	1 3/16" collar - 45°
EXPLORATION CO., OWNER OR OPTIONEE		DATE SUBMITTED	SUBMITTED BY (Signature)	AZ 160° 04W 400' NO. 2 POST

FOOTAGE FROM TO DESCRIPTION

FOOTAGE FROM TO	ROCK TYPE	DESCRIPTION	SAMPLE FOOTAGE		SAMPLE NUMBER	CORE SPECIMEN NUMBER	PLANAR FEATURE ANGLE	VORTEX FOOTAGE + SAMPLE NUMBER	SAMPLE FROM TO	SAMPLE LENGTH	OZ/T	ASSAYS + KIN
			FROM	TO								
15'	83.2	SHEARED MAFIC VOLCANIC (CHALCOPHYRE) (CONTINUED)	Colpor, grain size, texture, minerals, alteration, etc.									
			SHREDDED GREEN SERICITE ALTERED, MODERATELY SILICIFIED SECTION WITH PLANAR ACCUMULATIONS OF PYRITE (~15% OF CORE)									
			② 52.3' → 53.4' - SAME AS ABOVE EXCEPT CORE IS MAGNETIC & POSITIVELY MAGNETICALLY SUSCEPTIBLE DUE TO THIN PLANAR WIPS OF MAGNETITE CRYSTALS - 15' → 20' SMALL CHALCOPHYRE CRYSTALS IN A LATE CROSS-CUTTING QUARTZ STRIPE ② 53.2'									
			* SEVERAL SECTIONS OF MAGNETIC MAGNETITE-BEARING CORE AT 59.4' → 60.2'; 61.5' → 63.1' ETC.									
			② 64.8' → 65' - CHALCOPHYRE IN CROSS-CUTTING QUARTZ STRINGS SUBPARALLEL TO FOLIATION ② 30° TO CORE AXES; FOLIATION = 28° TO CORE AXES	foliation								
			# UP TO 5 CM BANDS OF CALCITE OCCURRING ② 2-30'; BOTH FREQUENCY & SIZE OF THESE BANDS INCREASE DOWNHOLE TO THE OUT/CONTACT	to core axis								
93.2'	86.2'	CALCITE VEN	MASSIVE RECRYSTALLIZED CALCITE WITH MINOR INTERSTITIAL QUARTZ; BRECCIALED IN SECTIONS WITH ABUNDANT SERICITE & CHALCOPHYRE FOLIATION PLANES/ OR CRACK-SEAL TEXTURES		423	83.3	07.2	3.9'	NIL			
86.2'	120.4'	SHEARED & CALCINATED MAFIC VOLCANIC (CHALCOPHYRE) ALTERED	MEDIUM TO FINE GRAINED WHITE GREY CALCITE-RICH BANDS; FOLIATION (50-60° OF CORE) AND DARK GREEN CHLORITE + MINER. 20° TO SERICITE BANDS (40-50° OF CORE); AMOUNT OF LIGHT CALCITE/CALCIUM-RICH SECTIONS INCREASES DOWNHOLE. NEAR OUT/CONTACT CALCITE CHANGES FORM CALCITE TO PINKISH BEIGE ANHOSITE # LAST 10' OF CORE APPEARS VARIOULIC TO AMYGDALOIDAL									

PROPERTY NAME
KING'S CROWN PROPERTY
CLAIM NO.
P-880304
LOCATION (TP, Lot, Con. or Lot. and Long.)
PR/CE TWP.

Additional credit available. See Assessment Work Regulation.



DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE

HOLE NO. 14K-933-3 PAGE NO. 3

DRILLING COMPANY (L. SAGE) DRILLING ELEVATION FROM NINE NORTH TOTAL FOOTAGE 222 DIP OF HOLE AT 13°/o collar - 45° LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM

DATE HOLE STARTED DATE COMPLETED DATE LOGGED LOGGED BY T.K. O'Connor DATE SUBMITTED SUBMITTED BY (Signature)

MAY 27/93 MAY 30/93 JUN 3 ft ft ft ft

A 2 / 60° Q 460' ↓ 460'

PROPERTY NAME KANGAS-CROXALL PROPERTY

MAP REFERENCE NO. CLAIM NO. P-880304

LOCATION (T.P., Lot, Con. OR Lat. and Long.) PRICE TWP.

FOOTAGE FROM TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANE ANGLE. ANGLE SPECIMEN NUMBER FOOTAGE +	CORE SAMPLE NUMBER FROM TO LENGTH	SAMPLE NO. 2/1 ASSAYS + Au
120.4 - 122.3'	INTERBEDDED SHALEY SEDIMENT	VERY FINE GRAINED, BANDED (DARK GREEN TO BLACK CHLORITIC OR GRAPHITIC) & YELLOWISH BROWN SERICITE & ③ PYRRITIC INTERBEDDING SEDIMENTS.	124	120.4 / 122.3 1.9'	NIL
122.3 - 150.8'	SHARDED & CARBONATIZED MAGNETIC VOLCANIC	SAME AS 86.2 - 120.4' WITH NARROW MAGNETIC SECTIONS OF MAGNETITE - BEARING FOLIATION PLANES ② ~25° TO CORE AXIS & TRACE PYRITE (ARE AREAS)	125	126.5 / 131.7 4.8'	NIL
126.4 - 131.3'	DARK GREEN SECTION	SLIGHTLY HARDER, PYRRITIC (15% OF CORE)	126	131.7 / 133.0 1.3'	NIL
131.3 - 133'	②	- VERY HARD SILICIFIED SECTION OF LIGHT BROWN TO BEIGE ALTERED BASIC VOLCANIC THAT IS WEAKLY MAGNETIC WITH 5% DISSEMINATED PYRRITIC AND TRACE PYRRHOTITE.			
150.8 - 160.2'	SYENITIC DYKE	WELL FOLIATED (MAGNETITE + MICA) MEDIUM TO COARSE GRAINED ORANGE SYENITIC DYES WITH BLUE NEPHELINE OR P2 AT TOP CONTACT - VERY HIGH ORANGE K - FELDSPAR WITH ABUNDANT LARGE MAGNETITE & BIOTITE (SILVER) CRYSTALS WITH A WEAK SILICIFIC ALTERATION & 5 - 10% DISSEMINATED PYRRITE	428 429 430	150.9 / 155.2 1.3' 155.2 / 156.7 1.5' 156.7 / 159.5 2.8'	0.001 NIL NIL
157.2 - 160.1'	②	- 20 cm QUARTZ + GREEN TOURMALINE VEIN WITH 5% CARBONATE CRYSTALS & MINOR HYDRO - MUSCOVITE			
160.1' (OUT / CONTACT)	②	- 2.5 cm QUARTZ VEIN WITH GREEN TOURMALINE & HYDROMUSCOVITE			



THE MINING ACT - MINISTRY OF NATURAL RESOURCES
ONTARIO
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON HOLE NO. MK-933-B PAGE NO. 4

DRILLING COMPANY SPAR, A (L.S.A.D.) DRILLING ELEVATION FROM HOLE NORTH TOTAL FOOTAGE DIP OF HOLE AT

S 20° E 222 1 3/4" collar - 45°

CLAIN NO. P 880 307

DATE HOLE STARTED MAY 27/93 DATE COMPLETED JULY 4/3/93 DATE LOGGED JULY 4/3/93

LOGGED BY T.K. O'Connor

PAGE NO. 4

EXPLORATION CO., OWNER OR OPTIONEE

DATE SUBMITTED

MAP REFERENCE NO.

SUBMITTED BY (Signature)

HOLE NO.

LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM

PAGE NO.

LOCATION (Tp., Lot, Cen. or Lot, and Line)

PAGE NO.

PRICE TWP.

PAGE NO.

FOOTAGE FROM TO DESCRIPTION

PLANE FEATURE ANGLE, SPECIMEN NUMBER, VOLUME FROM TO LENGTH

SAMPLE FOOTAGE SAMPLE No. 2 KM GRAS - Churnall Property

160.2' 169.9' SHEARED/FOLIATED VERY HARD, FOLIATED, LIGHT GREYISH GREENISH YELLOW

02/T 1 ASSAY + K.W.

QUARTZ PORPHYRY CORE WITH UP TO 5mm, SUB-ROUNDED QUARTZ

131 159.5 164.0 4.5' 0.001

AUGENS IN A SERICITIC ZIG-ZAG MATRIX

432 169.0 169.0 5.0' 0.001

-SERICITE (30%) REPRESENTS A NETWORK OF

ANASTOMOSING FOLIATION PLANES "WRAPPING AROUND"

QUARTZ AUGENS (60%, 30%, 30%)

-UP TO 30% PYRITE IN SECTIONS & MAJOR QUARTZ(LID)

-RARE 3-5mm PURE DARK GREEN CHALCOPYRITE

VEINS.

② 161.8' - 8cm (TRUE WIDTH) QUARTZ VEIN WITH MINOR

GREEN TONEMINALE & 10% SPHALERITE (RESON GREEN)

IN S,

165.2' - 5cm QUARTZ VEIN WITH GREEN TONEMINALE

+ HYDROMUSCOVITE

169.9' 173.2' SHEARED/FOLIATED 10cm PURE DARK GREEN CHLORITE BAND WITH 5cm

CHLORITE - POOL

GRANITE DYKE FOLIATED GRANITIC DYKE WITH K-Feldspar (65%),

QUARTZ (15%), MAGNETITE (10%), BIOTITE (5-6%), &

PYRITE (2-3%).

172.1' - 20cm QUARTZ VEIN WITH MINOR ANHISTERITE & GREEN

TONEMINALE, DARK BLACK TO BROWN DEAVILLE TONEMINALE &

HYDROMUSCOVITE

173.2' 184.8' VAROLITIC MEDIUM TO DARK FOREST GREEN CHLORITIC MATRIX

MAFIC FLOW TO COARSE (5mm) CALCITE-FILLED VARIOLITES



THE MINING ACT - MINISTRY OF NATURAL RESOURCES
ONTARIO
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON
EVERY PAGE 
HOLE NO. MK-933B PAGE NO. 5

CLAIM NO. P-880309

DRILLING COMPANY
SPARITY (L. SALO) DRILLING
DATE HOLE STARTED **MA 427/93** DATE COMPLETED **MAY 30/93** DATE LOGGED **JULY 3/93** LOGGED BY **T.K. O'CONNOR**

EXPLORATION CO., OWNER OR OPTIONEE
DATE SUBMITTED
SUBMITTED BY (Signature)

LOCATION OF HOLE IN RELATION TO A
FIXED POINT ON THE CLAIM

LOCATION (Tp., Lot, Con. or Lot. and Long.)
A2 160° Q 400' ↓ 400'

PROPERTY NAME
PRICE TWP.

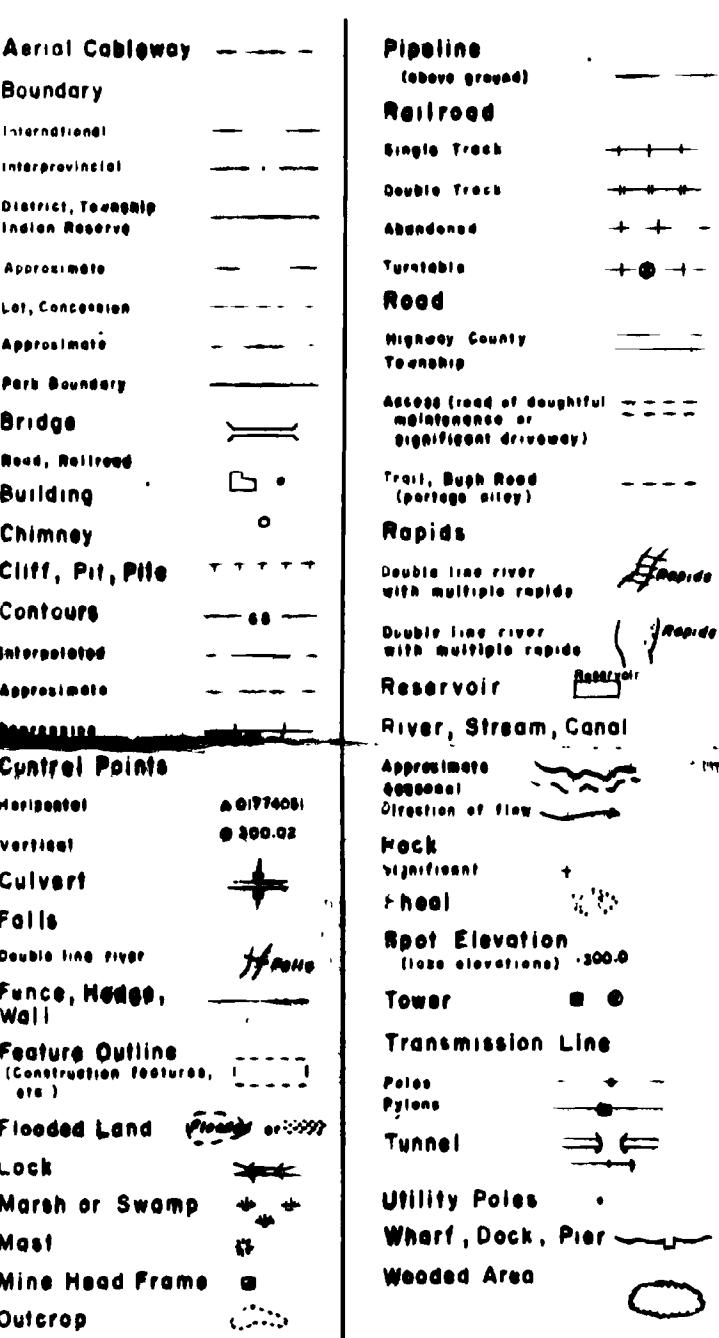
FOOTAGE
FROM **184.8** TO **191.2** DESCRIPTION
ROCK TYPE
SILICIFIED & CALCITE ALTERED SHEARED QUARTZ -

TONALITIC DYKE WITH QZ + WHITE FELDSPAR
(ALBITE) WITH 15% PURITE.
5cm CHLORITE AND 4/10% PURITE @ OUT/CONTACT
CHLORITIC & SERICITE ALTERED FOLIATED AMMOLITE
TO VENUSITIC BAKST WITH CALCITE-FILLED
AMMOLITES & QZ - CARS VEINLETS PARALLEL
FOLIATION @ 32° TO CORE-AXIS
(a) 196.3 - CHALCOPRITITE IN FRACTURE PERPENDICULAR
TO CORE AXES

* END OF HOLE *

PLAIN FEATURE ANGLE	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	OZ/FT ASSAYS +	GR
434	185.4	186.7	3.3'			0.001	
435	186.7	191.0	2.3'			0.001	
436	193.7	198.7	5.0			NIL	

MAP SYMBOLS



REFERENCES

LQ 6613 - BOOMING GROUNDS - COVERS THE WESTERLY HALF OF THE BED OF THE MATTAGAMI RIVER FLOWING THROUGH THE TOWNSHIP FILE 73543

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
S.R.O. - SURFACE RIGHTS ONLY
M.+ S. - MINING AND SURFACE RIGHTS

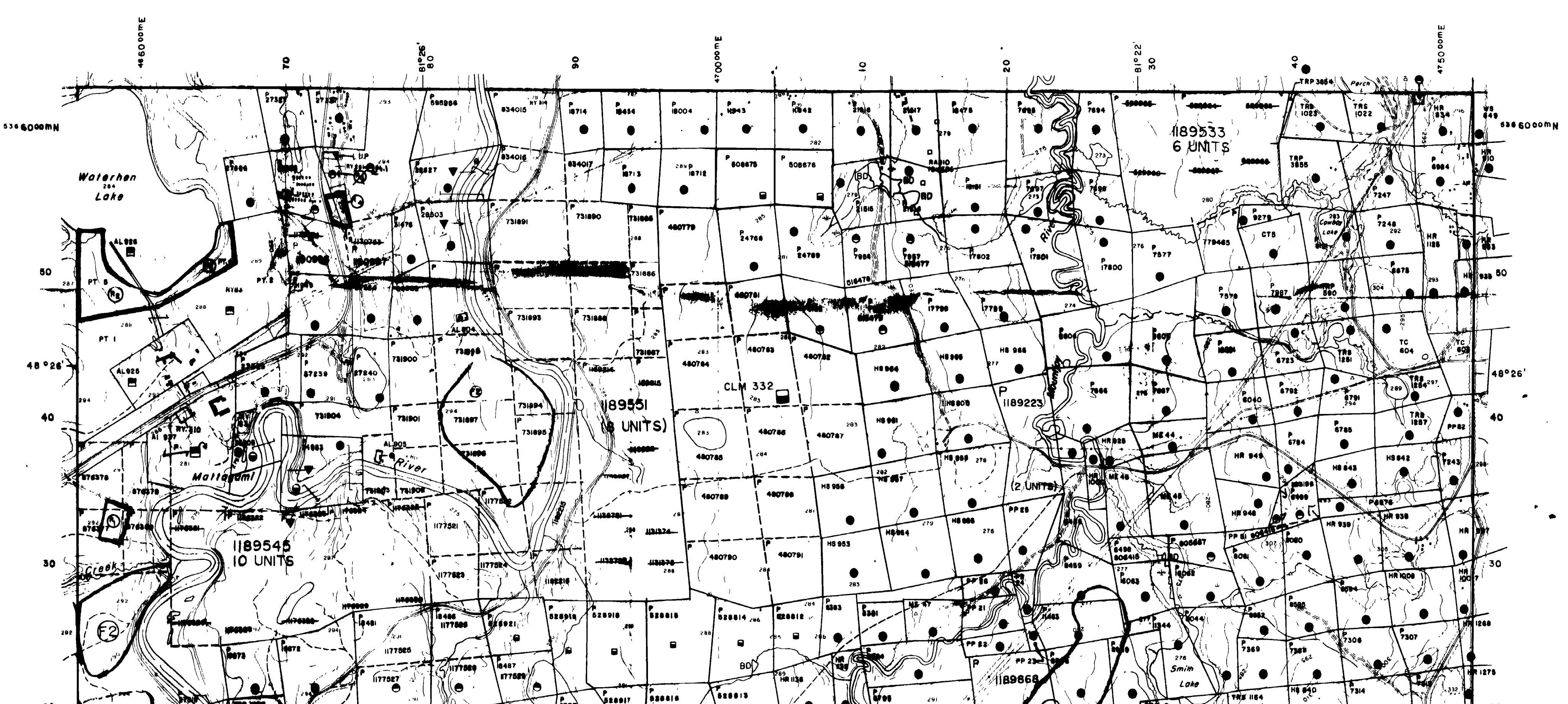
Description Order No. Date Disposition File

- (1) BONA FIDE APPLICATION UNDER P.L.A. FOR SURFACE RIGHTS
- (2) NRW 51/78, 2/II/79 S.R.O.
- (3) BONA FIDE APPLICATION UNDER P.L.A., MAY 9, 1980
- (4) BONA FIDE APPLICATION UNDER P.L.A. PLOTTED JUNE 4, 1980

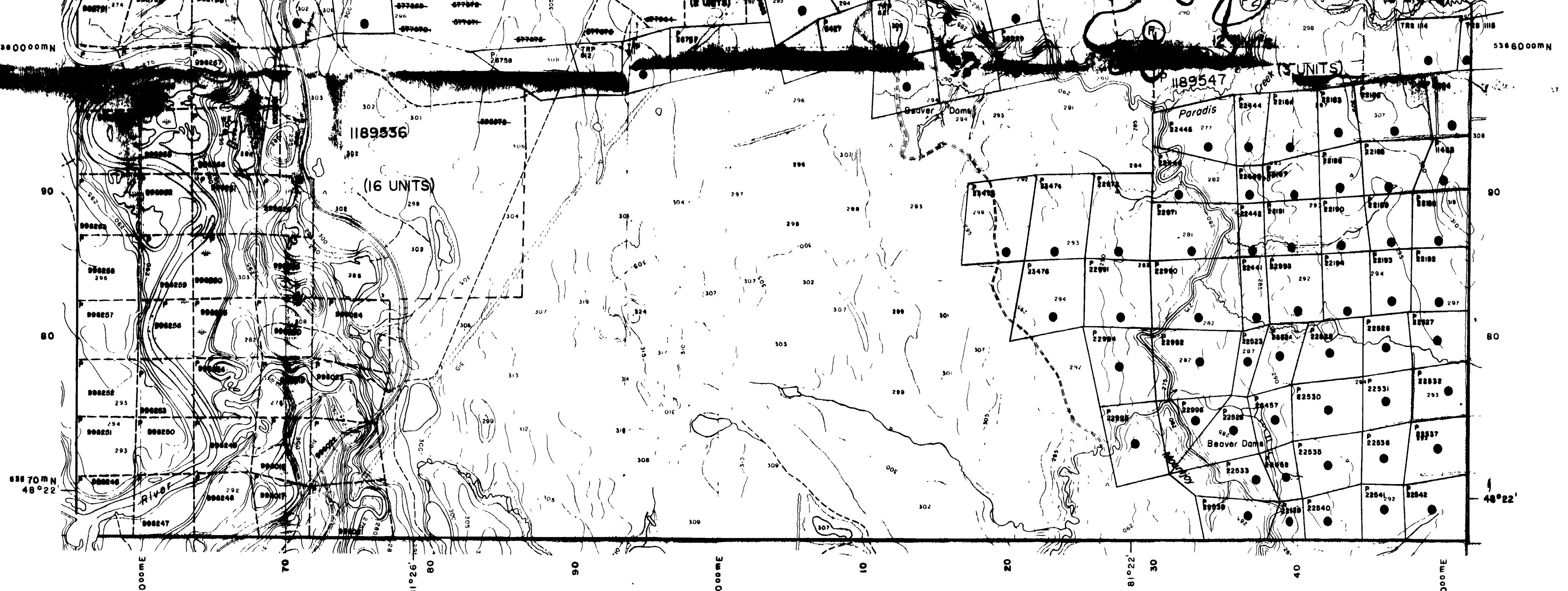
- (1) THIS TWP. IS SUBJECT TO FORESTRY ACTIVITIES IN 92/93. FURTHER INFORMATION AVAILABLE ON FILE.
- (2) THIS TWP. SUBJECT RIGHTS TO FOREST ACTIVITY IN 1993/94 FURTHER INFORMATION AVAILABLE ON FILE

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NATURAL RESOURCES, LAND AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON

MOUNTJOY TWP.

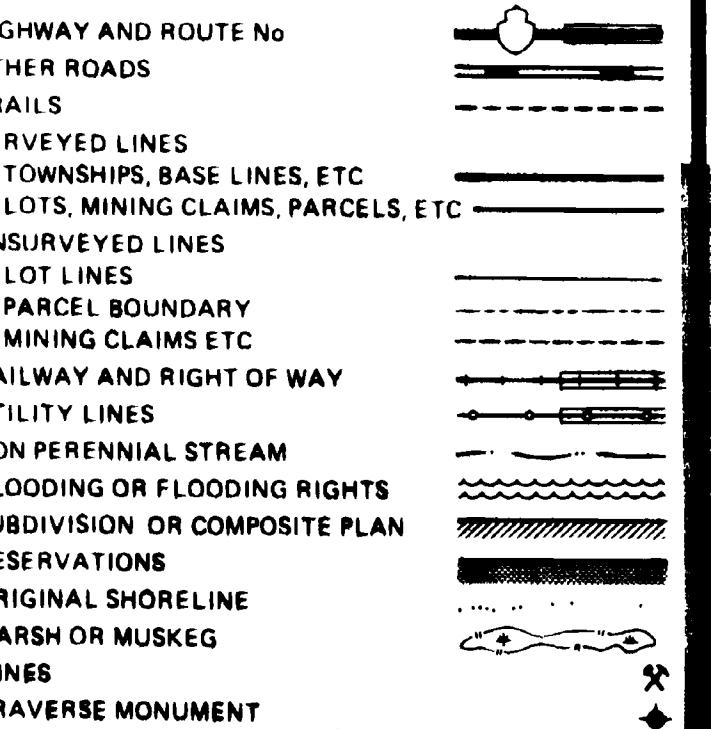


BRISTOL TWP.



PRICE TWP.

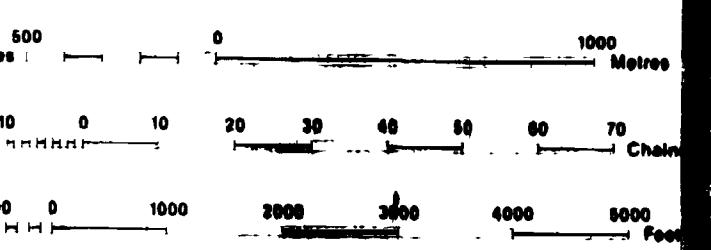
LEGEND



DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	● SURFACE RIGHTS ONLY
" MINING RIGHTS ONLY	○ MINING RIGHTS ONLY
LEASE, SURFACE & MINING RIGHTS	■ SURFACE RIGHTS ONLY
" MINING RIGHTS ONLY	□ MINING RIGHTS ONLY
LICENCE OF OCCUPATION	△ ORDER IN COUNCIL
RESERVATION	○ CANCELLED
SAND & GRAVEL	○ SAND & GRAVEL

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO 1913 VESTED IN ORIGINAL OWNERS UNDER THE PUBLIC LANDS ACT REG 1970, CHAP 380, SEC 53, SUBSEC 1



SCALE 1:20,000 GRID ZONE 17

NOTES

RECEIVED
MAY 25 1984

TOWNSHIP

OGDEN

M.N.R. ADMINISTRATIVE DISTRICT

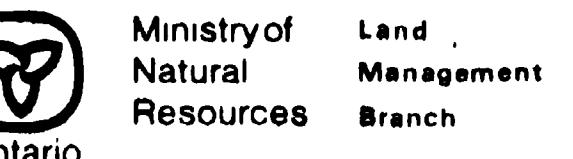
TIMMINS

MINING DIVISION

PORCUPINE

LAND TITLES / REGISTRY DIVISION

COCHRANE



ORIGINAL COMPILATION JULY 1984
ACTIVATED JULY 19, 1984 BY D.C.
REVISED
CHECKED BY G.W.

G-3979



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
SEC. 43/70 17/5/72 S.R.O. 164584

SAND AND GRAVEL

- (1) GRAVEL FILE 143834
- (2) M.N.R. GRAVEL RESERVE
- (3) M.N.R. GRAVEL PIT 830 FILE 8467

Reservation for Deputy Commissioner's Headquarters site shown thus

Flooding Rights on Kenogami Lt. & Mattagami R. are reserved to Ont. Hydro — L.O. 7898.

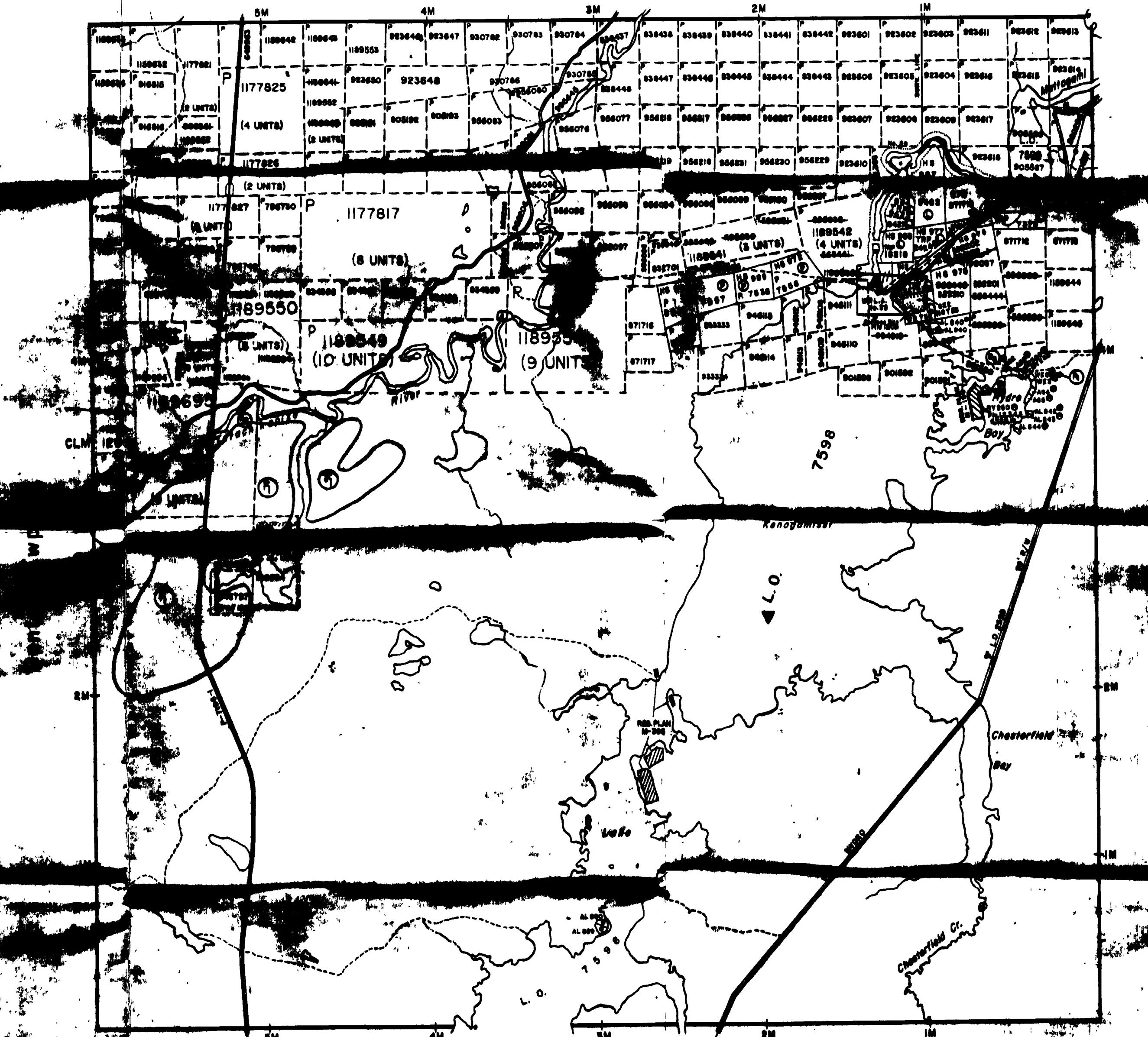
File: 1163 vol. 3

THE TWP. LIES WITHIN THE MUNICIPALITY OF THE CITY OF TIMMINS.

(6) THIS TWP. SUBJECT TO EASTERN ACTIVITIES FURTHER INFO

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN OBTAINED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STATE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND LAND SURVEYOR DIVISION. INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

Bristol Twp.



Mc Keown Twp.

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	
SECTION OR COMPOSITE PLAN	
ORIGINAL SHORELINE	
MARSH OR MUSKEG	
MINES	
TRAVERSE MONUMENT	

OWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
QUICKEN COUNCIL	
ADMINISTRATIVE DISTRICT	
CANCELLED	
SAND & GRAVEL	
NOTE	

SCALE: 1 INCH = 40 CHAINS

FEET	0	1000	2000	4000	6000	8000
METRES	0	200	1000	2000	3000	(2 KM)

TOWNSHIP

THORNELOE

M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS

PORcupine Land Titles / Registry Division
COCHRANE

Ministry of Natural Resources Branch
Ontario

Date: MARCH 1985
Entered: JULY 3, 1985
Entered by: G.S.W.

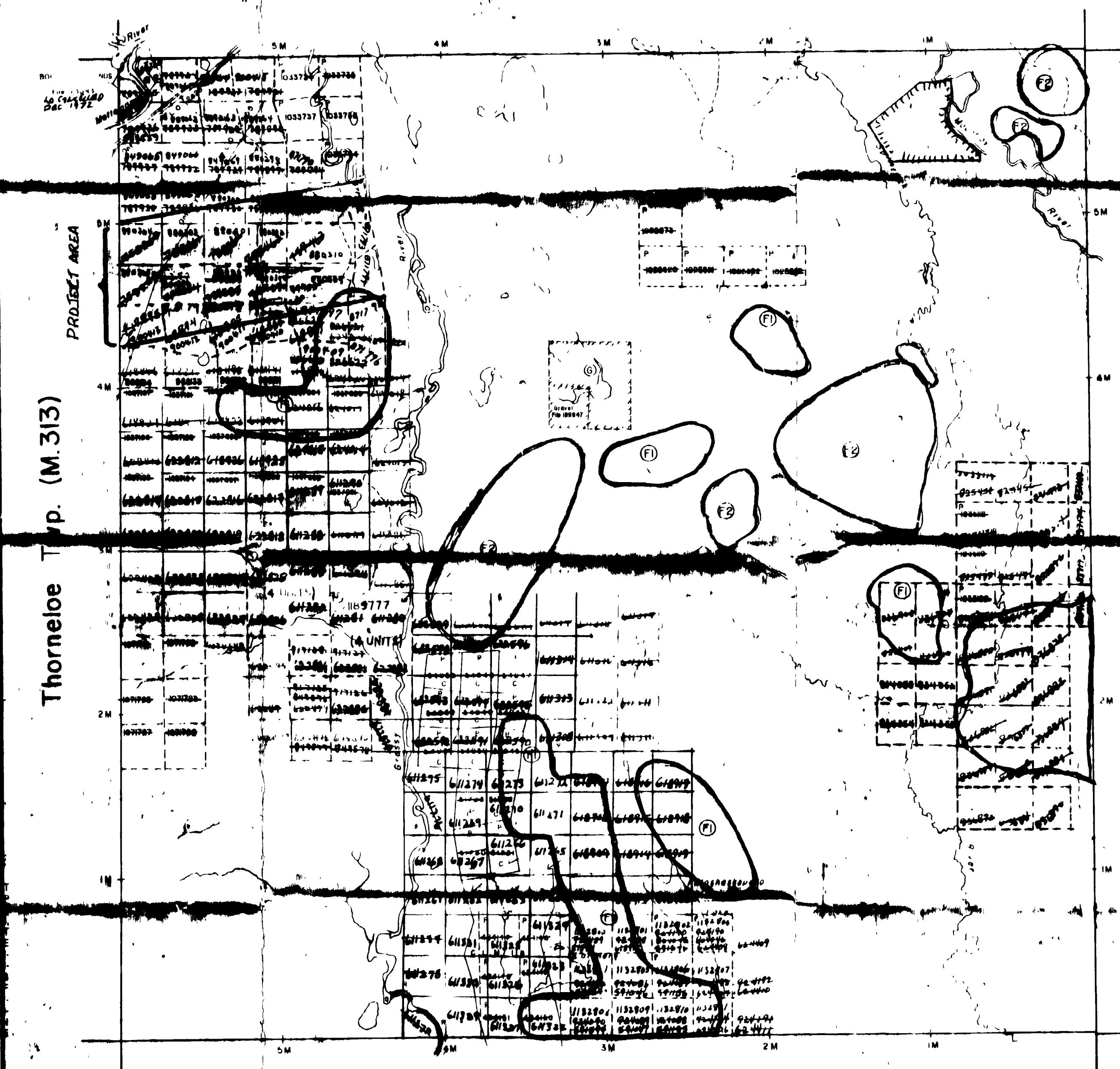
Number:

G-3229



105

Ogden Twp. (M.305)



Thorneloe Twp. (M.313)

PROJECT AREA

Fripp Twp. (M.281)

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN DERIVED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

THE TOWNSHIP OF

PRICE.

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1 INCH = 40 CHAINS

DISPOSITION OF CROWN LANDS

- PATENT, SURFACE AND MINING RIGHTS
- " SURFACE RIGHTS ONLY
- " MINING RIGHTS ONLY
- LEASE, SURFACE AND MINING RIGHTS
- " SURFACE RIGHTS ONLY
- " MINING RIGHTS ONLY
- LICENCE OF OCCUPATION
- ROADS
 - IMPROVED ROADS
 - KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970)
Order No. File Date Disposition

RECEIVED PLANNED REGISTRATION
MAR 12/83
#1-THIS TWP SUBJECT TO FOREST ACTIVITY IN 1993/94
FURTHER INFORMATION AVAILABLE ON FILE.

#2-THIS TWP. SUBJECT TO FOREST ACTIVITY IN 1993/94 FURTHER INFORMATION AVAILABLE ON FILE.

SAND AND GRAVEL
QUARRY PERMIT

Rec. Oct. 3/79
This township lies within the Municipality of
the CITY of TIMMINS.

PLAN NO. M-307

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

