GEOLOGICAL REPORT

ON THE

TOWER CLAIM GROUP

CUNNINGHAM TOWNSHIP

NTS 41-0-10

By

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For

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V6C 2V6

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1.0 INTRODUCTION

During May of 1988 a detailed sampling and geologic mapping program was conducted on the Tower claim group. Exploration emphasis was directed towards the discovery of both polymetallic Cu-Pb-Zn-Ag targets and possible structurally-controlled, iron-formation-hosted Au mineralization.

2.0 SUMMARY

The Tower claim group consists of 17 contiguous unpatented mining claims located in central Cunningham Twp, Porcupine Mining Division, Ontario. Previous work concentrated at various times on iron, zinc-lead, and copper, but this property was never explored for gold. Geological mapping, soil geochemistry, geophysics and diamond drilling were conducted on portions of the claim group throughout a 30 year period, always with the emphasis on base metals.

The property is underlain by andesite, felsic metavolcanics and minor tuffaceous volcanics, intercalated with chert, chert breccia, graphitic argillite and iron formation monzonite and gabbro are intrusive into these rocks.

Chemical sediments including chert and iron-formation were found to wrap around the north, east and south ends of Tower lake creating elliptically - shaped pattern in plan. South of Tower Lake a multiple folding event is likely to have occurred. At least two major faults truncate the map area.

Brecciated chert horizons within the chemical sedimentary rocks host significant base-metal Pb-Zn mineralization. Continuous chip sampling produced assays of 3.00% Pb and 7.08% Zn over 1.4 m. In addition anomalous gold values to 220 ppb Au were obtained in this environment. Elsewhere sporadic anomalous gold values were obtained, often associated with pyrite-bearing quartz vein material. At one locality, a strong

association between anomalous Au and anomalous As was established, hosted within a sheared, quartz vein.

Further exploration should be directed towards identifying new base metal Zn-Pb targets and evaluating the precious metal potential of the property.

3.0 LOCATION AND ACCESS

The Tower claims are located in central Cunningham township, NTS 41-0-10 approximately 40 miles south of the town of Foleyet and 14 miles north of Sultan (Figure 1).

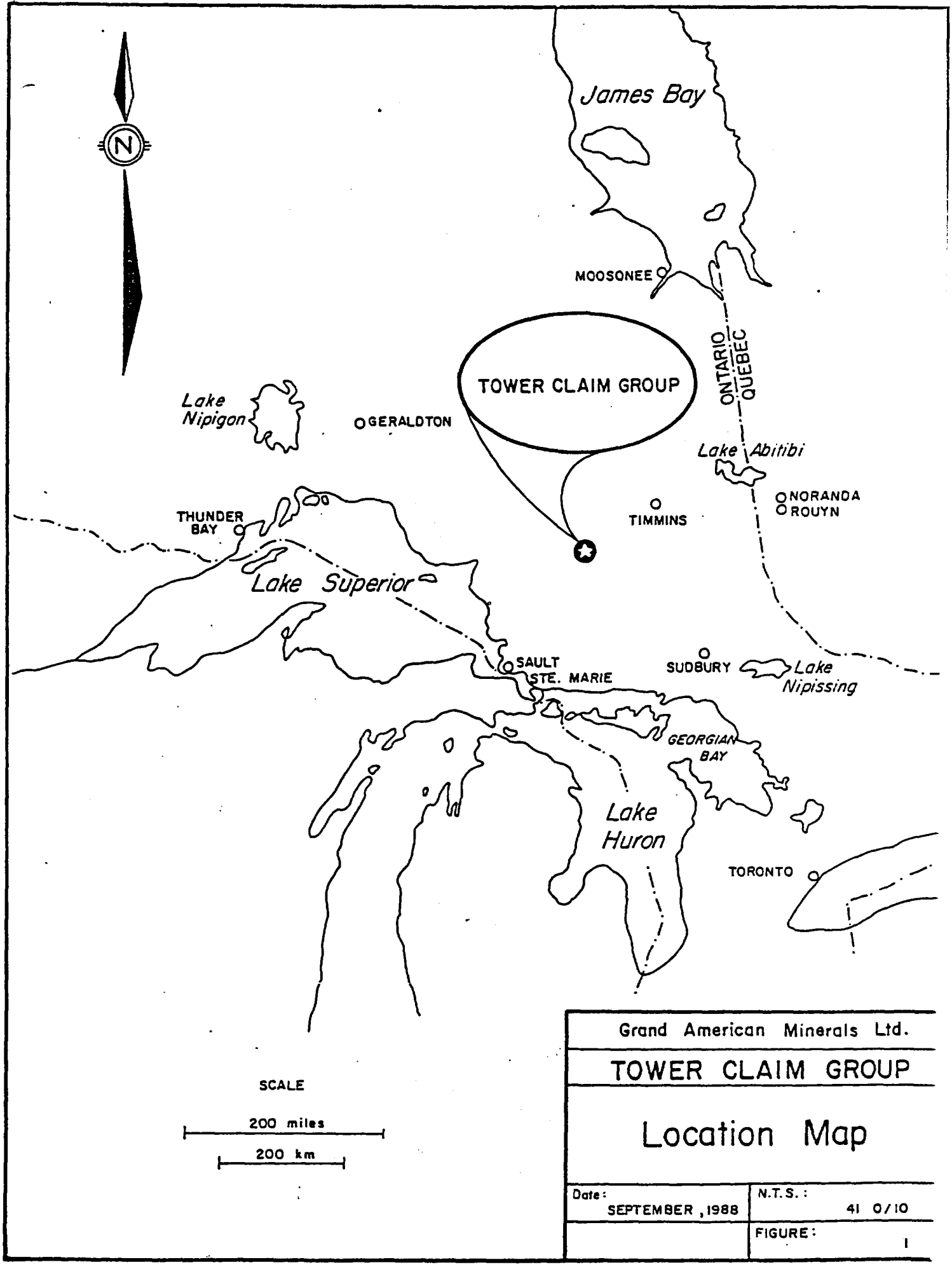
Access to the property is via paved road to Sultan from Chapleau, and from there an old wagon road that leads to the property. This wagon road is only accessible by foot, all-terrain vehicle or snow-machine in the winter. Recent logging activity will provide road access to within 4 kilometres of the property.

Alternative access is via float plane to Peter Lake and from there by helicopter to the cabin at Tower Lake. Tower Lake is too small to accommodate a float plane.

4.0 TOPOGRAPHY AND VEGETATION

Elevations in the region of the property range from 1,400 to 1,800 feet a.s.l.

Rolling hills and swamp dominate the topography, with a prominent ridge of iron formation rising 350-400 feet above the neighboring countryside. Two small lakes occur in the north-central portion of the property, surrounded by numerous swamps and muskegs. Elsewhere outcrop exposure is quite good, with iron formation and chert forming resistant ridges. Overburden is generally thin, usually not greater than 10 or 15 feet.



Grand American Minerals Ltd.

TOWER CLAIM GROUP

Location Map

Date: SEPTEMBER, 1988	N.T.S.: 41 O/10
	FIGURE: 1

Vegetation varies from jackpine, whitepine, poplar, and birch in the more well-drained areas to alder, spruce and cedar in low-lying areas.

5.0 PROPERTY STATUS

The Tower claim group consists of the following 17 contiguous unpatented mining claims (Figure 2).

Claim No.			
P-1030179	P-1030183	P-1030187	P-1030191
P-1030180	P-1030184	P-1030188	P-1030192
P-1030181	P-1030185	P-1030189	P-1030193
P-1030182	P-1030186	P-1030190	P-1030194
			P-1030195

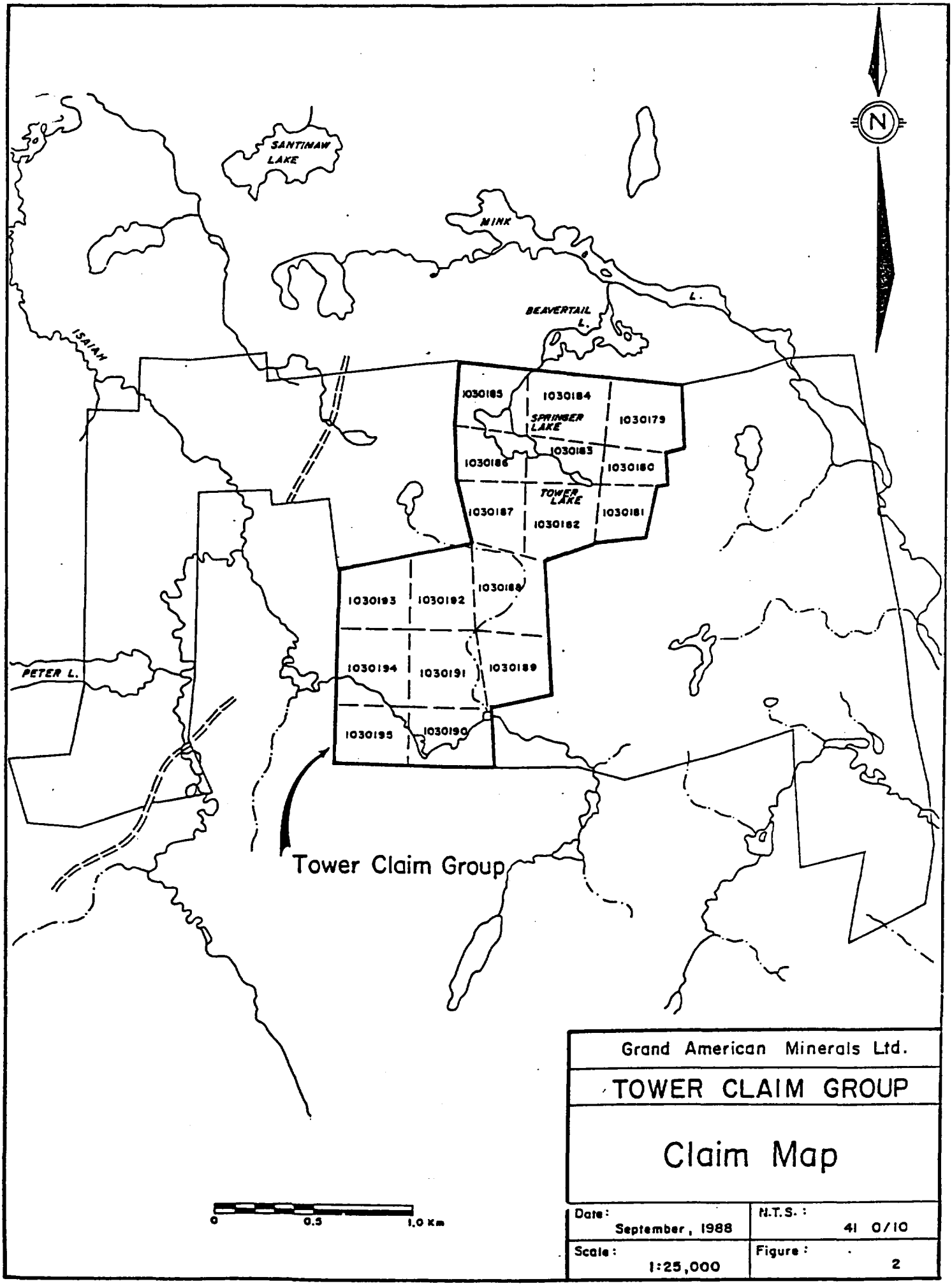
The claims are owned 100% by Grand American Minerals Ltd. located at #1020 - 800 West Pender Street, Vancouver, B.C. V6C 2V6.

6.0 EXPLORATION HISTORY

Initial interest in the vicinity of the Tower claims was directed toward the search for iron in the iron formations. Between 1904-1907 the Ridout Mining Company prospected for iron, but interest waned when the iron formations were found to be too lean for potential iron production.

In 1927 interest was renewed when lead-and zinc bearing veins were discovered in the iron formations. Ridout Cunningham Mines Limited was formed by the merging of various properties with the Ridout Mining Company, and between 1928 and 1929, systematic prospecting and some limited diamond drilling was undertaken. Since this time, the emphasis has been predominantly on base metals.

In 1953 Page Harley Mines Ltd. drilled 9 holes totalling 2,976 ft. on the Tower claim group, just south and west of Tower Lake. Zinc, lead and



Grand American Minerals Ltd.

TOWER CLAIM GROUP

Claim Map

Date: September, 1988	N.T.S.: 41 O/10
Scale: 1:25,000	Figure: 2

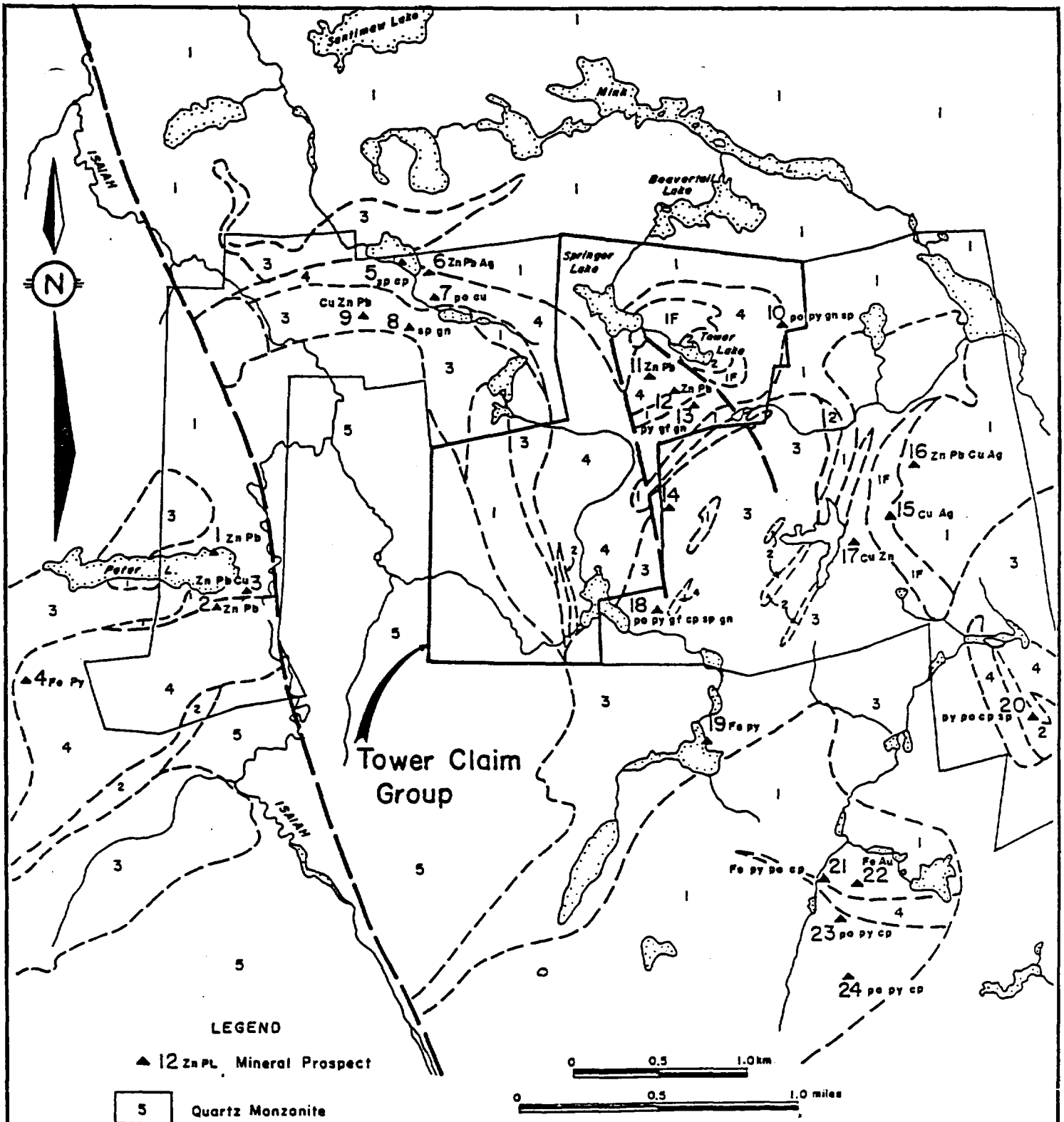
minor chalcopyrite were encountered in a brecciated chert horizon. In the intervening years, a total of 2,259 ft. have been drilled on the Tower claim group, by Consolidated Shunsby Mines Ltd. in 1957 and 1965, and by M.W. Resources Ltd. in 1978. In 1969 and 1970 Consolidated Shunsby Mines Ltd. conducted both geological mapping and soil geochemistry on the Tower claim group with the search directed towards copper. Apparently no diamond drilling resulted from this work. In 1974 Grandora Explorations Ltd. once again conducted a soil geochemistry program on six claims in the Tower claim group, centered on Tower Lake. Many coincident copper-zinc anomalies were indicated, but no follow-up work was done.

In 1979 Placer Development Limited took an option on M.W. Resources Ltd. group of claims which included most of the present claim group. In 1980 Ground EM-17 and magnetometer surveys were performed, resulting in numerous coincident anomalies. Unfortunately these anomalies were never properly followed up. Little work has been done since 1980.

7.0 REGIONAL GEOLOGY

Much of Cunningham township is underlain by high-magnesium theolitic basalts of Archean Age, (Figure 3). These flows, which strike from 90 to 130 degrees, are massive, locally pillowed, vesicular and amygdular. Their composition ranges from mafic to intermediate. Iron formation, which occurs in the middle of the basaltic series, is composed of ferruginous chert interbedded with thin beds of magnetite and local sulphide mineralization. The age of the Cunningham iron formation is estimated to be 2,650 to 2,700 Ma., the same as the nearby Michipicoten iron formations (Goldich, 1973). Metamorphism of these rocks rarely exceeds greenschist facies.

Clastic sediments are developed in the upper levels of the basaltic sequence. The metasediments of arkose, conglomerates, greywacke and slate are interbedded with the metavolcanic rocks, and are found mainly in the northern part of the township.



LEGEND

▲ 12 Zn Pb Mineral Prospect

5	Quartz Monzonite
IF	Iron Formation
4	Chert
3	Mafic Intrusives
2	Felsic Volcanics
1	Mafic Volcanics

Modified after Siragusa, 1978 O.G.S.

Grand American Minerals Ltd.

TOWER CLAIM GROUP

Regional Geology Cunningham Twp.

Date: SEPTEMBER, 1988	N.T.S.: 41 O/10
Scale: 1:31,680 1 inch = 1/2 mile	Figure: 3

An erosional unconformity separates the clastics from the underlying volcanic rocks (Laird, 1935 and Meen, 1944). Overlying the clastic sediments is a sequence of mafic to felsic volcanic rocks similar in nature to the volcanics previously described.

Mafic intrusive rocks underlie nearly 25% of the township and range in composition from medium-grained gabbro to diorite. The gabbros occasionally bear zenoliths of basalt and chert. Smaller intrusions of peridotite, quartz monzonite, and diabase area also found in the township.

Stratigraphic tops are to the north, indicated by pillow facings and graded bedding (Meen, 1944; Siragusa, 1977). Folding in the township has left most of the rock units with sub-vertical attitudes, and faulting is extensive. The Isaiah Creek Fault in western Cunningham township strikes north-northwest and has a left-handed separation of approximately 1.2 miles. The vertical component of movement along this fault is not known. Numerous other north-trending faults occur throughout the township.

8.0 PROPERTY GEOLOGY

The Tower claims are underlain by a sequence of mafic to intermediate volcanics, laminated tuffs, lapilli tuffs, felsic metavolcanics, chert, chert breccia, graphitic argillite and iron formation. All of the above has been intruded by gabbro and Algoman granitic rocks, primarily a quartz monzonite (Figure 4, in pocket).

Quartz Monzonite (Unit 7)

Quartz monzonite occurs in the southwestern portion of the property as a north-trending intrusion in contact with andesitic flows and tuffs. This intrusive where mapped is a pinkish-red coloured rock usually equigranular except where quartz forms a porphyritic texture. A typical modal

composition of this unit is; Kspar - 50%, Plag - 30%, Qtz - 15%, Bio or other mafics - 5%. Intrusive contacts were rarely seen but where observed the contact was sharp with little attendant alteration.

Gabbro (Unit 5)

Gabbro occurs predominantly in the southeastern corner of the property as a massive body, generally coarse-grained and variably magnetic. Small, possible dike-like bodies of gabbro occur elsewhere on the property. During the course of mapping it was found that a coarse grained variety of andesite was easily mistaken for gabbro. This andesite was never magnetic.

Mafic and Intermediate Rocks (Unit 3, 3a)

This is a diverse group or rocks which includes massive flows (both coarse and fine grained), variolitic flows, porphyritic flows, foliated flows, and both laminated ash tuffs and fragmental lapilli tuffs. These rocks form a major component of the geology of the Tower claims. Massive flows are predominant in the northernmost part of the property, in addition to forming lenses or interbeds within the package of chemical sediments. In claim P-1030182, two such lenses have been mapped, although previously they have been mapped as fault-bounded blocks. The writers found no evidence of this during the field program. These flows are variably carbonated usually pervasive when evident. Silicification is not common. Pyritization was seen whenever these flows were highly foliated or sheared. An outcrop of lapilli tuff (Unit 3a) was seen in only one locality, at about 7+30S and 10+00W. Here fragments were 5 to 10 cm long and 2 to 5 cm wide on average, elongated slightly. Both matrix and fragments were andesitic in composition. Laminated ash tuffs (Unit 3a) form a distinct lens in the southeastern corner of the property, mainly in claim P-1030190. Here outcrops of extremely well-bedded, generally coarse-ash tuffs strike slightly east of south and dip to the west. All outcrops of this unit occurred at the edges of swamps or marshes. At 13+75S and 3+50W this

laminated tuff contained definite discrete lenses or layers of chert or extremely silicified material. At approximately 18+75S and 4+10W in the southeastern corner of claim P-1030190, the bedded tuff is in close association with gabbro, however the contact relationship is not clear. No alteration was evident.

Chemical Sediments (6)

Volumetrically and geologically this package of sediments is probably the most important group or rocks on the property. This package includes the following rock types: chert; chert breccia; iron formation, where the iron formation is further subdivided into at least 3 distinct units, although usually all 3 are intercalated. One type is a 'greenstone' variety, which is a very hard amphibolite rich rock containing disseminated magnetite, in addition to disseminated pyrrhotite as well as lessor pyrite. The magnetic susceptibility of this rock is extremely high. The second type is ferruginous graphitic argillite with a variable sulphide content. Pyrite and pyrrhotite to a lesser extent form bands and lenses in this argillite. This unit grades continuously into a pure sulphide-facies iron formation which consists of predominantly laminations of pyrite and pyrrhotite and is essentially 100% sulphides. A good example of this sulphide facies I.F. is exposed at 9+40S and 3+05W. This type of rock has been previously (Meen, 1942) described as being replacement by pyrite of the iron formation, however the writer feels that these laminations of pyrite are syngenetic, and represent primary deposition.

Chert usually occurs as massive thick bedded units with individual layers usually 5 to 15 cm thick, often separated by a very thin, 2 to 5 mm layer of magnetite rich material. This is a very lean form of iron formation, but better described as a chemical sediment. The chert ranges in colour from white to dark grey to black. Red and yellow colourations were noted.

Chert breccia is perhaps the most important unit from a mineralogical or economical point of view. This unit is seen in a number of locations but is

extremely well-exposed immediately south of Tower Lake at Trench A. Here the chert breccia is a dark grey to almost black chert brecciated and healed by chert or silica. In addition to silica, galena and sphalerite make up a component of the matrix of this breccia. Elsewhere, Trench C, disseminated pyrite is evident in the matrix of the breccia in addition to galena and sphalerite. More often the chert breccia has a very sucrosic texture, with a yellowish-brown or reddish-brown colour and structure is difficult to determine. In these highly altered breccias base-metal mineralization was not observed. Commonly when the breccia or chert? has this sucrosic texture it is even difficult to determine whether it is chert breccia or bedded chert. In both Trench A and C chert breccia is seen intercalated with 'greenstone' variety of iron formation. Breccia fragments are usually small on the order of 1 to 3 cm long, and typically comprise 85% of the rock.

Felsic Metavolcanics (4)

This group includes quartz porphyry, feldspar porphyry, and quartz-feldspar porphyry. Previously writers have referred to these rocks as intrusive rocks, however Siragusa, 1987 labels them as felsic metavolcanics, and the writer is inclined to agree with this classification. The most common occurrence is feldspar porphyry which is nicely exposed along the north shore of Tower Lake. This rock is a very fine grained, buff coloured rock on weathered surface and a medium grey/blue/green colour on fresh surface. The feldspar porphyries are a pinkish-white flesh coloured on fresh surface and white on weathered surfaces. Their size ranges from less than 1 mm in diameter to greater than 5 mm, but average 2-3 mm. They appear to comprise about 35% max. of the rock. The phenocrysts are anhedral to subhedral and appear to be randomly oriented.

Quartz porphyry occurs in the vicinity of Springer Lake. A good exposures occurs at L0+00 at BLO+00. In this occurrence the quartz phenocrysts are up to 1/4 inch in diameter and occur in and andesitic fine grained matrix. On weathered surface they are quite prominent. Only 5 m from this

locality is an outcrop of feldspar porphyry. The relationship between these two outcrops is not clear however the writer feels that a compositional continuum between these two exists.

In both quartz and feldspar porphyries small stringers, and veins of black quartz were observed. Typically these would be quite small, on the order of 1 to 2 cm wide, however in an occurrence on the north shore of Tower Lake, one more continuous vein was at least 10 cm wide, and was accompanied by shearing.

9.0 STRUCTURAL GEOLOGY

Previous workers in the region (Siragusa, 1987) have described the iron formation and chert units as an isoclinal synclinal fold, with an east-west axial planar direction, and plunging gently to the west. The latest field work supports some of this structural interpretation, however, other aspects are not clear, and more detailed work is needed to elucidate the structural history of these sediments.

To summarize the recent mapping, it was found that the cherts and iron formation do indeed wrap around the north, east, and south ends of Tower Lake creating an elliptically-shaped pattern in plan. To the north of Tower Lake the cherts dip southwards, to the east they dip westwards, however to the south of Tower Lake consistent dip angles were not found. Instead it was found that as one mapped south of Tower Lake, repeated dip changes, either north or south were encountered, indicating perhaps that to the south of Tower Lake a multiple folding event occurred.

At least two major faults occur on the property. A major north-northwest trending fault occurs just south of Springer Lake and west of Tower Lake. This fault has been mapped by previous workers and confirmed by the latest mapping. This fault truncates the synclinal sequence. West of this fault all the units dip westward, and east of this fault dips are

predominantly either north or south. Indeed in the northern portion of this fault, a major scarp marks the trace on surface.

A second more westerly trending fault occurs on the southern shore of Tower Lake and continues to Springer Lake. A major scarp of the south shore of Tower Lake in addition to a mineralized chert breccia mark the trace of this fault. In the southeast shore of Springer Lake, shearing indicates the possible presence of this fault. Curiously the extrapolated juncture of this fault and the northwest trending fault exists almost in the centre of Springer Lake. In fact in the most northerly bay on Springer Lake strong veining and possible faulting and folding exist indicating an area of strong structural disturbance.

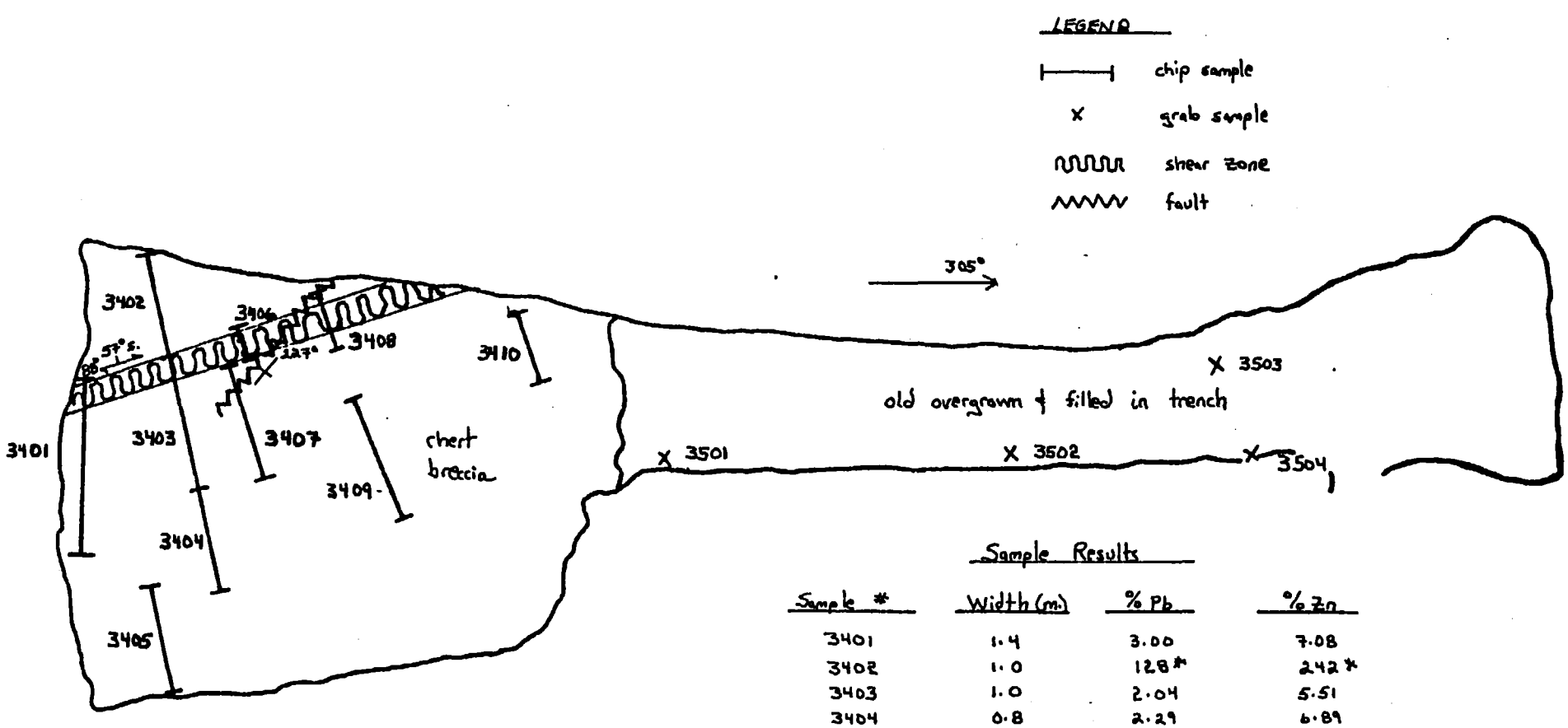
10.0 BASE METAL MINERALIZATION

Significant base-metal Pb-Zn mineralization is intimately associated with brecciated chert horizons within the chemical sedimentary rocks on the Tower claim group. In particular, two locations, Trench A and Trench C, exhibited excellent sulphide mineralization. In Trench A, sample #Pb3401 assayed 3.00% Pb and 7.08% Zn over 1.4 m. Here galena and sphalerite occur in fractures and disseminated in the matrix of the chert breccia. Sphalerite occurs as very fine grained purplish coloured mineralization. Galena, because of it's bright silver-blue colouration is easily distinguished and the nature or texture of the sulphide mineralization is much easier to determine looking at galena versus sphalerite. No other sulphides were visible in Trench A. Using samples #3401, 3403, 3404, and 3405 (see Figure , Trench A) a weighted average of 6.62% Zn and 2.50% Pb or a combined 9.12% Pb+Zn over an estimated maximum width of 2.5 m is obtained. Brecciated chert within Trench C had lower values of 2.42% Pb+Zn in a grab sample. In this area disseminated pyrite occurs in the matrix of the breccia. In addition anomalous gold values were obtained to a maximum of 220 ppb (3512).

FIG. 5 TRENCH A

south shore of Tower Lake · 20m. south of shore

1:50, 1cm = 0.5m.



Sample Results

Sample #	Width (m)	% Pb	% Zn
3401	1.4	3.00	7.08
3402	1.0	128*	242*
3403	1.0	2.04	5.51
3404	0.8	2.29	6.89
3405	0.8	2.43	6.91
3406	0.45	1.12	0.42
3407	1.0	2.63	6.27
3408	0.75	1.05	3.71
3409	1.2	2.53	6.10
3410	0.5	1.40	0.56
3501	—	1.59	4.81
3502	—	0.65	3.05
3503	—	4.23	3.47
3504	—	0.93	0.15

* ppm

TABLE 1
Trench A - Assay Results

Sample #	Width(m)	% Cu	% Pb	% Zn	% Pb + Zn
Pb3401	1.4	---	3.00	7.08	10.08
Pb3403	1.0	---	2.04	5.51	7.56
Pb3404	0.8	---	2.29	6.89	9.18
Pb3405	0.8	0.21	2.43	6.91	9.34
Pb3406	0.45	---	1.12	0.42	1.54
Pb3407	1.0	---	2.63	6.27	8.90
Pb3408	0.75	---	1.05	3.71	4.76
Pb3409	1.2	---	2.53	6.10	8.63
Pb3410	0.5	---	1.40	0.56	1.96
Ba 3501	*	---	1.59	4.81	6.40
Ba 3502	*	---	0.65	3.05	3.70
Ba 3503	*	---	0.93	0.15	1.08

* denotes a grab sample

It is significant to note that Trench A and Trench C are on differ-limbs of the same fold.

11.0 PRECIOUS METAL MINERALIZATION

Gold and silver values were generally uniformly low, however anomalous values were obtained. Silver values with the chert breccia averaged around 4 or 5 ppm. A maximum silver value was obtained in Trench F in a siliceous pyritic argillite interbedded with chert. Here 9.9 ppm Ag over a 1.8 m chip sample was obtained. Gold was disappointedly low everywhere. A maximum gold value of 220 ppb was obtained within a brecciated chert in Trench C. Numerous pyritic shear zones and quartz veins were sampled especially in the vicinity of Springer Lake. A piece of pyritic quartz float on the northeast shore of Springer Lake a pyritic, chloritic shear with euhedral pyrite (10-30%) associated with a 15 cm wide quartz vein assayed 40 ppb (#3525). Admittedly these numbers are far from economical, however they are anomalous and they do indicate that there is some gold in the system.

An interesting occurrence of quartz vein and pyritic, chloritic shear was encountered at L7+00S and 0+67W. Once again the rock here looked extremely likely to host gold but again low but anomalous values were obtained. Samples #3530 - 3534, and 3536 - 3538 were taken in this area. Five out of the eight samples assayed in the 40 ppb area. Five out of the eight samples assayed in the 40 ppb range. Interestingly enough each of these five samples (3530, 353d2, 3536, 3538) were also anomalous in arsenic, in the 100 to 250 ppm range. The rest were 10 to 20 ppm. Once again although no economic concentrations were encountered it appears at least in this one instance that there is a strong correlation between 'higher' gold values and higher arsenic values. Through preliminary discussions with the geophysicist it seems that there is a northwest trending Max-Min conductor between 0+25 and 0+50 west on L7+00S. This structure would appear to cross-cut the iron formation. This conductor may be related to the quartz vein and shear on L7 at 0+67W.

TABLE 2

Trench C - Assay Results

Sample #	Width(m)	% Cu	% Pb	% Zn	% Pb + Zn
Pb3413	---	---	0.56	1.10	1.66
Ba3512	220	---	---	0.19	0.19
Ba3513	---	---	0.17	0.56	0.73
Ba3514	---	---	0.48	1.94	2.42

TABLE 3

Trench D - Assay Results

Sample #	Width(m)	% Cu	% Pb	% Zn	% Pb + Zn
Ba3515	---	---	0.48	1.67	2.15
Ba3516	---	---	0.18	0.28	0.46

12.0 CONCLUSIONS

Brecciated lean iron formation-chert units in the Tower Lake region host numerous lead-zinc (± copper) prospects. Some have diamond drill inferred geological reserves in the order 100,000 tons to over 2 million tons. Grades are generally low to moderate with some occurrences containing higher grade pods.

The Tower property hosts several similar lead-zinc occurrences. The Trench A zone is the largest and carries the greatest metal content. More trenching is required to ascertain the surface extent and distribution of the mineralization.

All past exploration on the property has been directed towards either the discovery of magnetite iron deposits or chert breccia-hosted base metal deposits. The gold potential of the property has not been addressed. Thin overburden in most areas and the presence of numerous electromagnetic conductors, some of which may be related to sulphide iron formation suggests that soil geochemistry may be an effective and relatively inexpensive exploration technique to utilize in assessing favourable geological and geophysical features for their gold and base metal potential.

13.0 RECOMMENDATIONS

A two-phase, success-contingent exploration program is proposed.

Phase I

a) Collect closely spaced soil samples along each EM conductor. Geochemically analyze each sample for gold and test for indicator elements by utilizing 30 element ICP techniques

b) Trench the sulphide iron formation located at sample site 3544 and extend the Trench A pit to expose the full width of the mineralization.

Phase II

Phase II is contingent upon favourable results being obtained from the Phase I program.

a) Where appropriate, trench or diamond drill the anomalies and mineralized zones identified by the Phase I program.

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APPENDIX 1

GEOCHEMICAL RESULTS

AC ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: MAY 31 1988
DATE REPORT MAILED: June 3/88.

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp

ASSAYER: C. Leong. D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

UNITED MINERAL PROJECT-10 File # 88-1533R

SAMPLE#	Cu %	Pb %	Zn %
BA 3501	-	1.59	4.81
BA 3502	-	.65	3.05
BA 3503	-	4.23	3.47
BA 3504	-	.93	.15
BA 3505	-	.15	.33
BA 3512	-	-	.19
BA 3513	-	.17	.56
BA 3514	-	.48	1.94
BA 3515	-	.48	1.67
BA 3516	-	.18	.28
BA 3518	-	-	.16
BA 3539	-	-	.20
BA 3541	.10	-	-
BA 3542	-	-	.67
BA 3543	.21	-	.20
BA 3547	-	-	.24
PB 3401	-	3.00	7.08
PB 3403	-	2.04	5.51
PB 3404	-	2.29	6.89
PB 3405	.21	2.43	6.91
PB 3406	-	1.12	.42
PB 3407	-	2.63	6.27
PB 3408	-	1.05	3.71
PB 3409	-	2.53	6.10
PB 3410	-	1.40	.56
PB 3411	-	.13	-
PB 3412	-	-	.12
PB 3413	-	.56	1.10

AC ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: MAY 24 1988
DATE REPORT MAILED: May 27/88.

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: C. Leong. D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

UNITED MINERAL PROJECT-10 File # 88-1533 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
BA 3501	28	15266	37967	1.9	15	1
BA 3502	4	6463	27480	.8	10	2
BA 3503	33	31883	28907	5.7	48	40
BA 3504	40	8871	1491	1.6	7	65
BA 3505	29	1407	3035	.1	7	1
BA 3506	102	36	161	.3	9	1
BA 3507	68	191	440	.3	9	7
BA 3508	290	11	78	.3	13	1
BA 3509	145	19	78	.2	11	1
BA 3510	507	47	72	3.3	4	2
BA 3511	325	59	225	2.1	8	1
BA 3512	137	226	1761	3.3	18	220
BA 3513	90	1631	5089	1.3	4	3
BA 3514	91	4441	16600	1.7	5	11
BA 3515	77	4451	14761	1.4	5	2
BA 3516	246	1685	2608	6.8	8	2
BA 3517	218	69	259	1.4	4	1
BA 3518	41	405	1375	.4	6	1
BA 3519	15	16	43	.2	3	1
BA 3520	133	186	444	1.9	117	11
BA 3521	38	13	72	.2	2	1
BA 3522	825	76	267	.5	79	22
BA 3523	204	11	76	.1	13	2
BA 3524	105	26	74	.3	5	7
BA 3525	526	16	130	.6	15	40
BA 3526	82	22	122	.3	2	1
BA 3527	50	2	15	.1	2	1
BA 3528	2	5	10	.1	2	4
BA 3529	32	7	21	.2	2	2
BA 3530	97	18	33	.4	106	34
BA 3531	31	8	18	.1	87	1
BA 3532	170	45	101	.6	251	42
BA 3533	29	4	12	.3	22	1
BA 3534	23	6	27	.1	39	1
BA 3535	344	33	273	.2	19	2
BA 3536	607	48	177	1.2	196	36
STD C/AU-R	62	40	132	7.3	44	520

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB	
BA 3537	256	39	72	.6	190	38	42
BA 3538	494	65	111	1.5	184	46	59
BA 3539	964	19	2058	3.4	2	15	
BA 3540	414	10	519	1.0	6	3	
BA 3541	1152	182	137	4.0	10	1	
BA 3542	986	566	6804	9.9	100	1	
BA 3543	2221	36	2162	2.0	2	9	
BA 3544	65	155	338	8.8	147	26	
BA 3545	283	5	68	.5	6	2	
BA 3546	35	6	75	.1	4	1	
BA 3547	399	31	2745	3.5	2	10	
PB 3401	342	32243	56834	5.2	24	12	
PB 3402	85	128	242	1.8	7	1	
PB 3403	115	21460	44469	3.6	16	3	
PB 3404	303	24095	53475	4.3	20	4	
PB 3405	2067	25453	54504	5.3	24	2	
PB 3406	139	10860	4128	6.6	8	1	
PB 3407	100	27887	49412	5.5	22	4	
PB 3408	128	9856	29884	4.0	9	3	
PB 3409	127	26313	47709	4.7	25	7	
PB 3410	87	14564	5828	4.4	16	4	
PB 3411	35	1350	811	.6	2	1	
PB 3412	77	635	1241	1.4	2	3	
PB 3413	64	6092	11545	1.9	2	2	
PB 3414	23	16	123	.3	5	1	
PB 3415	32	23	96	.5	8	1	
PB 3416	623	140	282	2.7	2	1	
PB 3417	97	40	47	.7	3	24	
PB 3418	199	14	89	.2	3	1	
PB 3419	111	9	71	.2	2	1	
PB 3420	6	25	27	.1	2	1	
PB 3421	9	68	83	.2	33	9	
PB 3422	35	10	47	.3	2	1	
PB 3423	102	4	94	.3	2	1	
PB 3424	59	10	13	.1	3	1	
PB 3425	71	19	513	.2	33	73	
STD C/AU-R	60	38	137	7.8	42	520	

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
PB 3426	15	13	10	.5	11	2
PB 3427	32	39	45	1.1	6	5
PB 3428	9	3	6	.3	7	1
PB 3429	11	10	37	.2	2	1
PB 3430	74	13	59	.2	17	1
PB 3431	399	14	429	.9	76	2
PB 3432	487	20	92	.2	11	1
PB 3433	128	11	127	.2	53	1
PB 3434	89	71	72	1.2	180	1
STD C/AU-R	61	38	129	6.9	42	490

APPENDIX II

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, BERNHARDT E.K. AUGSTEN, of 214 - 144 West 4th Street, of the City of North Vancouver, British Columbia do hereby certify that:

1. I am currently employed as Senior Exploration Geologist by United Mineral Services Ltd. offices at #1020 - 800 West Pender Street, Vancouver, B.C.

2. I graduated from Carleton University in geology, having obtained my Honours Bachelor of Science in 1985.

3. I have worked in the field of mineral exploration in British Columbia, Manitoba, Ontario and Quebec.

4. The foregoing report is based on:
   (a) A study of all available company and government reports.

   (b) My examination of the property during the period May 10 - 19, 1988.

Bernhardt E.K. Augsten, B.Sc.
Senior Exploration Geologist
UNITED MINERAL SERVICES LTD.

Vancouver, B.C.

W8906.00186

Ministry of Northern Development and Mines

Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

2.12045

Mining

DOC W

41010NE0017 2.12045 CUNNINGHAM

900

Type of Survey(s): GEOLOGICAL

Township or Area: Cunningham Twp.

Claim Holder(s): Grand American Minerals Ltd.

Prospector's Licence No.: T-5121

Address: #1020 - 800 W. Pender St., Vancouver, B.C. V6C 2V6

Survey Company: United Mineral Services Ltd.

Date of Survey (from & to): 10 05 88 (Day Mo. Yr.) | 19 05 88 (Day Mo. Yr.)

Total Miles of line Cut:

Name and Address of Author (of Geo-Technical report): Bernhardt E.K. Augsten #214-144W. 4th. St. North Vancouver, B.C. V7M 1H5

Credits Requested per Each Claim in Columns at right

Special Provisions

For first survey: Enter 40 days. (This includes line cutting)

For each additional survey: using the same grid: Enter 20 days (for each)

	Days per Claim
Geophysical	
- Electromagnetic	
- Magnetometer	
- Radiometric	
- Other	
Geological	20
Geochemical	

Man Days

Complete reverse side and enter total(s) here

	Days per Claim
Geophysical	
- Electromagnetic	
- Magnetometer	
- Radiometric	
- Other	
Geological	
Geochemical	

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MAR 7 1989

MINING LANDS SECTION

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.

	Days per Claim
Electromagnetic	
Magnetometer	
Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

JAN 10 1989

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

Instructions

Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

January 6, 1989

Recorded Holder or Agent (Signature): Bernhardt Augsten

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	1030179	20
	1030180	20
	1030181	20
	1030182	20
	1030183	20
	1030184	20
	1030185	20
	1030186	20
	1030187	20
	1030188	20
	1030189	20
	1030190	20
	1030191	20
	1030192	20
	1030193	20
	1030194	20
	1030195	20

ASSESSMENT FILES OFFICE

APR 10 1989

RECEIVED

RECORDED

JAN 10 1989

Total number of mining claims covered by this report of work: 17

For Office Use Only

Total Days Cr. Recorded: 340

Date Recorded: Jan 10/89

Date Approved as Recorded: March 8/89

Mining Recorder

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying

Bernhardt E.K. Augsten #214-144W.4th St. North Vancouver, B.C. V7M 1H5

Ontario

Ministry of Northern Development and Mines

Geophysical-Geological-Geochemical Technical Data Statement

File _____

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) GEOLOGICAL

Township or Area CUNNINGHAM TWP.

Claim Holder(s) GRAND AMERICAN MINERALS LTD.
#1020-800W. Pender St. Van. B.C.

Survey Company UNITED MINERAL SERVICES LTD.

Author of Report Bernhardt E.K. Augsten

Address of Author #214-144W. 4th St. N.Van. B.C.

Covering Dates of Survey May 10 to May 19
(linecutting to office)

Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
-Electromagnetic _____
-Magnetometer _____
-Radiometric _____
-Other _____
Geological 20
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: January 9,1988 SIGNATURE: Bernhardt Augsten
Author of Report or Agent

Res. Geol. _____ Qualifications on this file.

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

P 1030179
1030180
1030181
1030182
1030183
1030184
1030185
1030186
1030187
1030188
1030189
1030190
1030191
1030192
1030193
1030194
1030195

TOTAL CLAIMS 17

If space insufficient, attach list

OFFICE USE ONLY

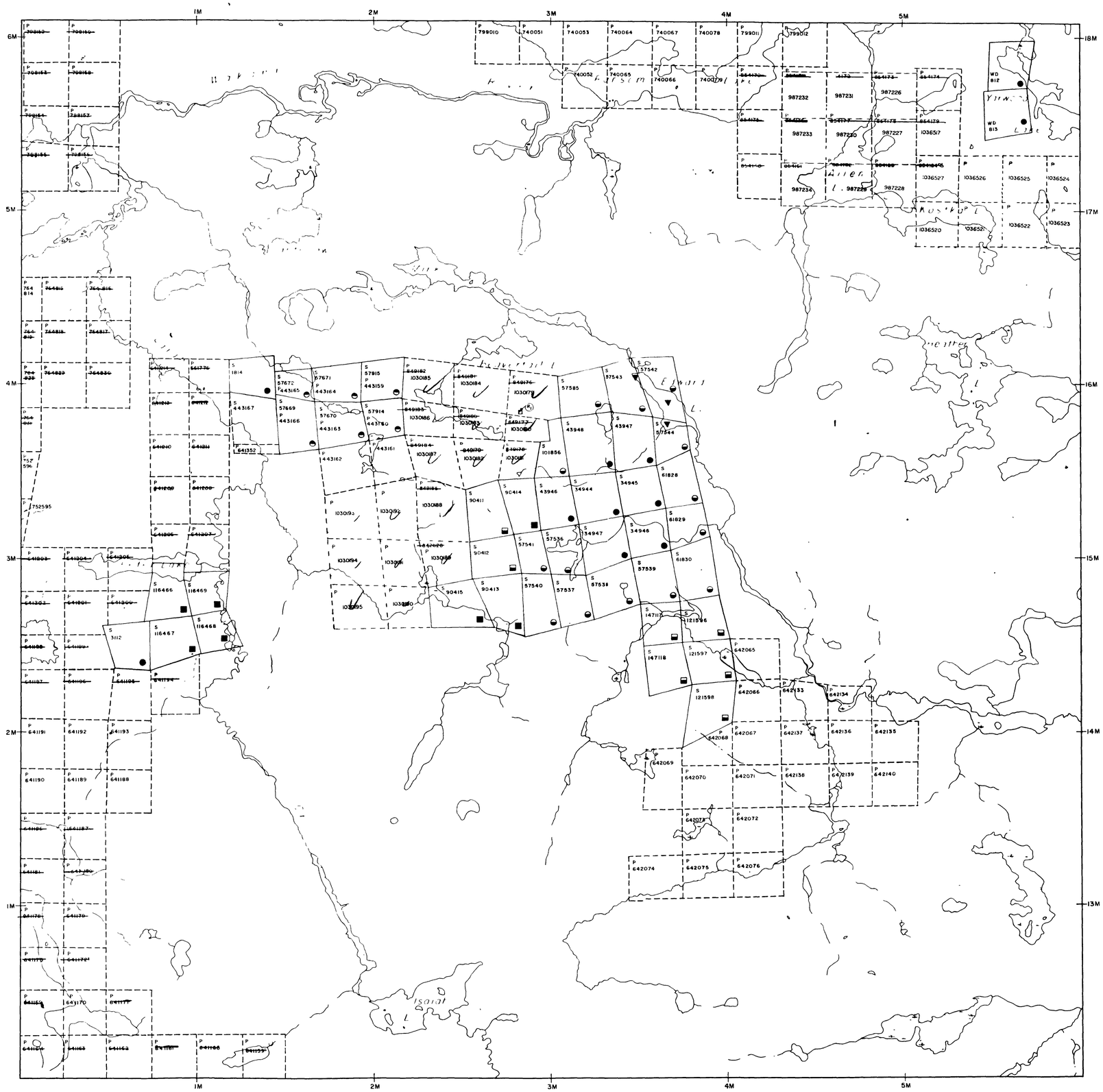
837 (85/12)

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
(R) CROWN RESERVE				

SWAYZE TWP.



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES
  - TOWNSHIPS, BASE LINES ETC
  - LOTS, MINING CLAIMS, PARCELS ETC
- UNSURVEYED LINES
  - LOTS, ETC
  - PARTY 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	Ⓢ

NOTE MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT R.S.O. 1970 CHAP 380 SEC 63 SUBSEC 1

500 Metres — 0 — 1000 Metres

10 Chains — 0 — 10 — 20 — 30 — 40 — 50 — 60 — 70 Chains

500 Feet — 0 — 1000 — 2000 — 3000 — 4000 — 5000 Feet

SCALE 1:20 000

TOWNSHIP

CUNNINGHAM

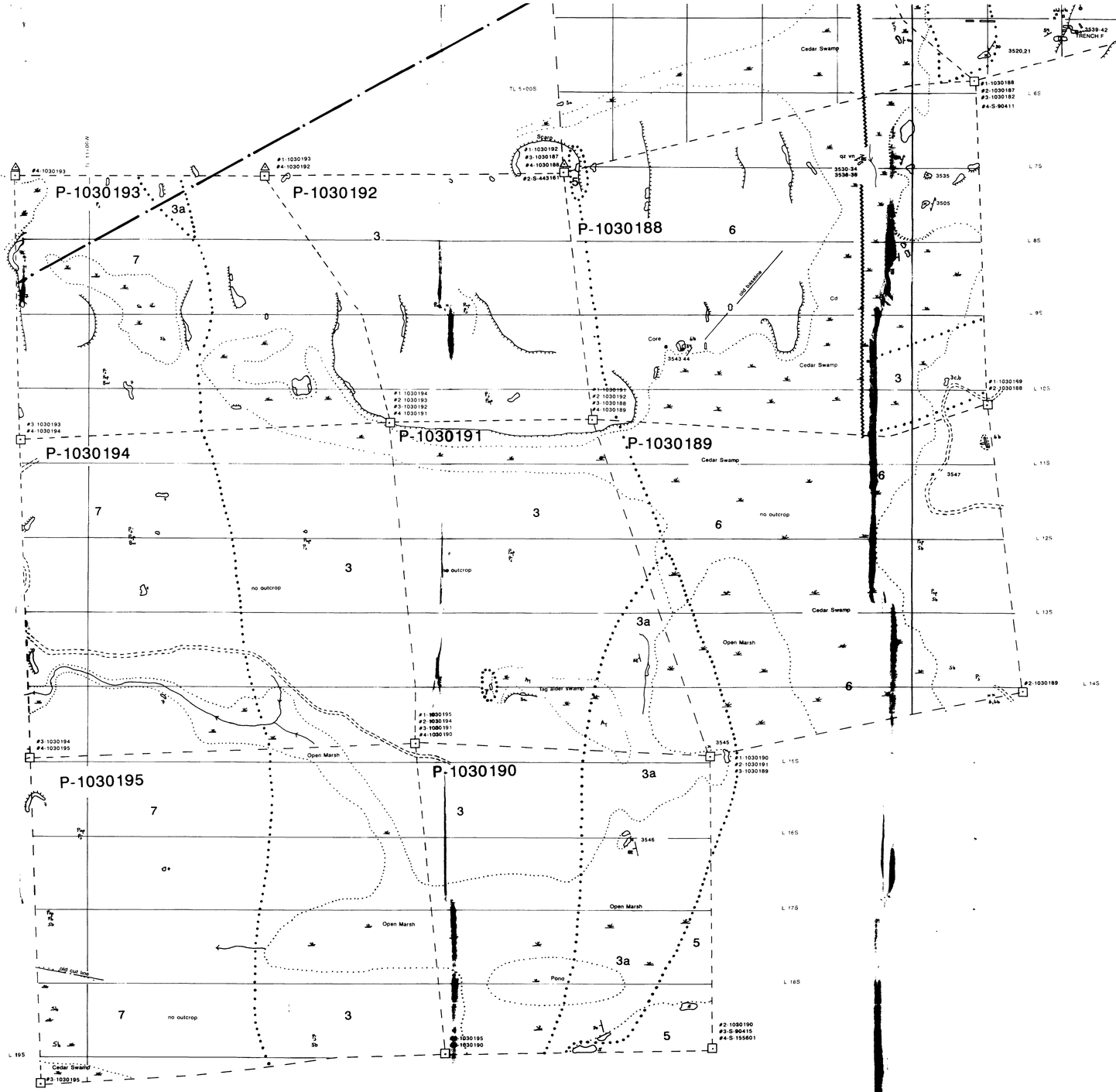
M N R ADMINISTRATIVE DISTRICT
CHAPLEAU
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
SUDBURY Received Sept 15/86

Ontario — Ministry of Natural Resources — Ministry of Northern Development and Mines

Date AUGUST, 1986

Number G-1095

CK-Aggie, Sept 15/86 S.H.



LEGEND

- 3 — Mafic volcanics including massive, variolitic and porphyritic andesite
- 3a — Laminated ash tuff with minor lapilli tuff
- 4 — Felsic metavolcanics including quartz porphyry, feldspar porphyry and quartz-feldspar porphyry
- 5 — Gabbro
- 6 — Chemical sediments including bedded cherts with magnetite laminae, sport breccia and iron formation
- 7 — Felsic intrusives, predominantly quartz monzonite

outcrop
geologic contact known inferred
fault
shearing
bedding
foliation
drill hole
claim post
survey post
claim boundary
trench
old road
old telegraph line
down slope
ridge
swamp
creek
3540 sample number

Tree types

- Poplar
- Sb Black spruce
- Cd Cedar
- White birch
- Pj Jack pine
- Tag alder

GRAND AMERICAN MINERALS LTD.

TOWER PROPERTY

CUNNINGHAM TOWNSHIP PORCUPINE MINING DIVISION

GEOLOGY

2.12045

Scale 1:2500

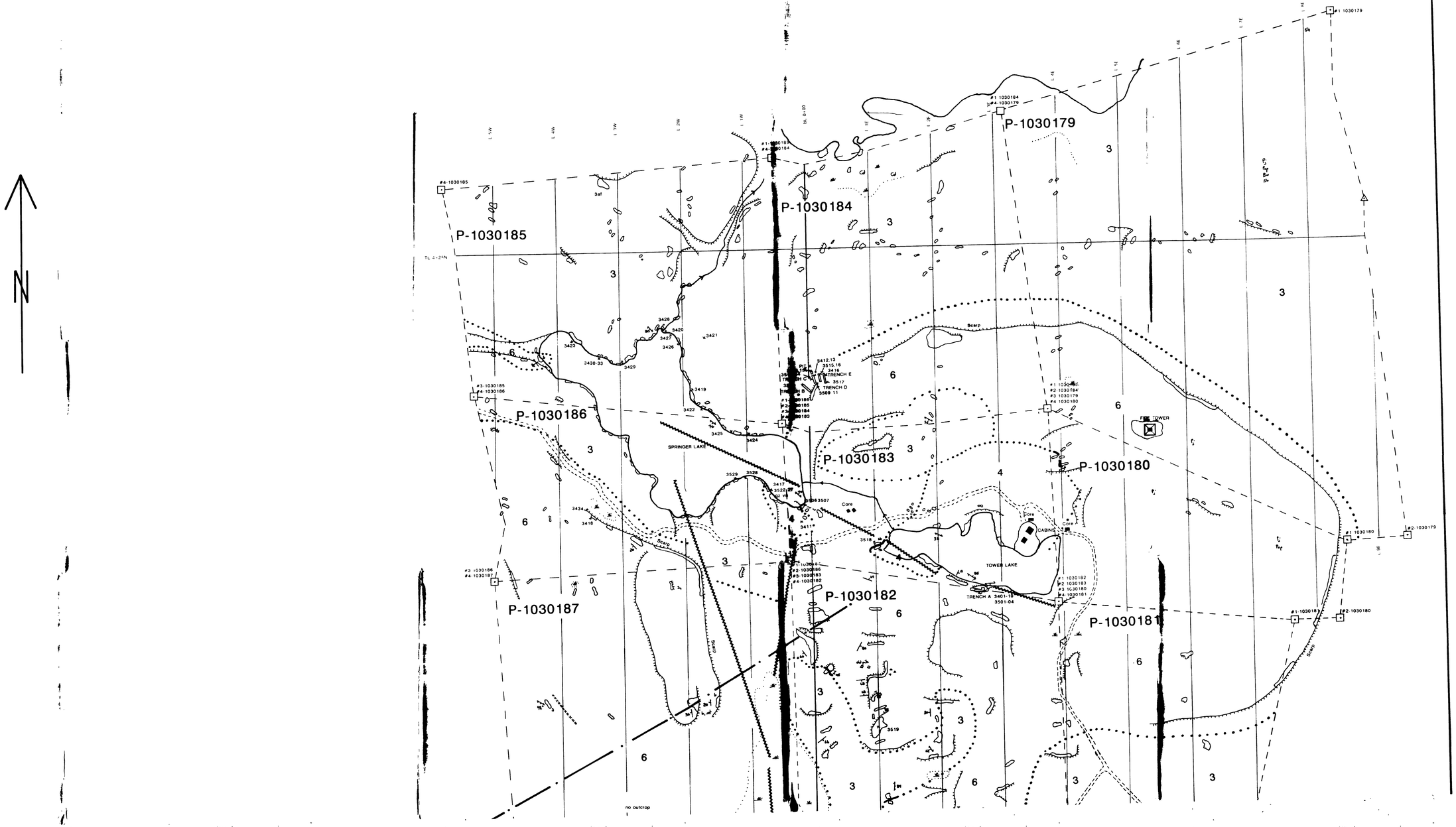
75 50 25 0 Metres 100 200

Mapped by: B.E.K. Augsten and P. Barratt — Date: May 1988

Drawn by: B.E.K. Augsten — Date: December 16,1988

Project No.
Figure No 4

UNITED MINERAL SERVICES LTD.


N
P-1030179
P-1030184
P-1030185
P-1030186
P-1030183
P-1030180
P-1030187
P-1030182
P-1030181
SPRINGER LAKE
TOWER LAKE
FIRE TOWER
CABIN
TRENCH A
TRENCH D
TRENCH E
Scarp
Core
no outcrop