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<u>St. Joe Canada Inc.</u> <u>Report of a</u> <u>Geological Survey on the</u> <u>Allerston Claim Groups in</u> <u>Matheson and Evelyn Townships,</u> <u>Porcupine Mining Division,</u> <u>District of Cochrane,</u> <u>Ontario</u>

## RECEIVED

JUN 2 1983 MINING LANDS SECTION

Toronto,

June 1 , 1983



42A11NE0797 2.5591 EVELYN

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PART B: Map 1: Geological Survey

Map Case

Page

<u>St. Joe Canada Inc.</u> <u>Report of a Geological Survey</u> <u>on the Allerston Claim Groups in</u> <u>Matheson and Evelyn Townships</u>, <u>Procupine Mining Division</u> <u>District of Cochrane</u> Ontario

#### A. Introduction:

The following is a report of a mapping survey completed by St. Joe Canada Inc. between June 3-16, 1982 on part of the Allerston Claim Groups.

#### Property: Description and Location

The area surveyed includes Group One; consisting of twenty-six contiguous mining claims: Nos. P39103 - 10 incl.; P452461 - 64 incl.; P452498 - 500 incl.; P617733 - 36 incl.; P617738, P624600 -01 incl.; P624629 - 30 incl.; P632852 - 53 incl.; and Group Two; comprising nine contiguous claims; Nos. P393738 - 41 incl.; P617737, P618921 - 32 incl.; P628017 - 19 incl. All claims are registered in the name of St. Joe Canada Inc. (Figure 1).

The claims are situated about 25 km northeast of Timmins, Ontario in the District of Cochrane. Group One straddles portions of Matheson and Evelyn Townships. Group Two occupies northeastern Matheson Township about 400m east of Group One. (Figures 1 and 2).

The claims are accessible by vehicle from Timmins, Ontario via an all-weather gravel road which passes between the claim groups. This road connects with a secondary road (No. 610), 6 km south at the small settlement of Dugwal. (Figure 2).

#### B. History

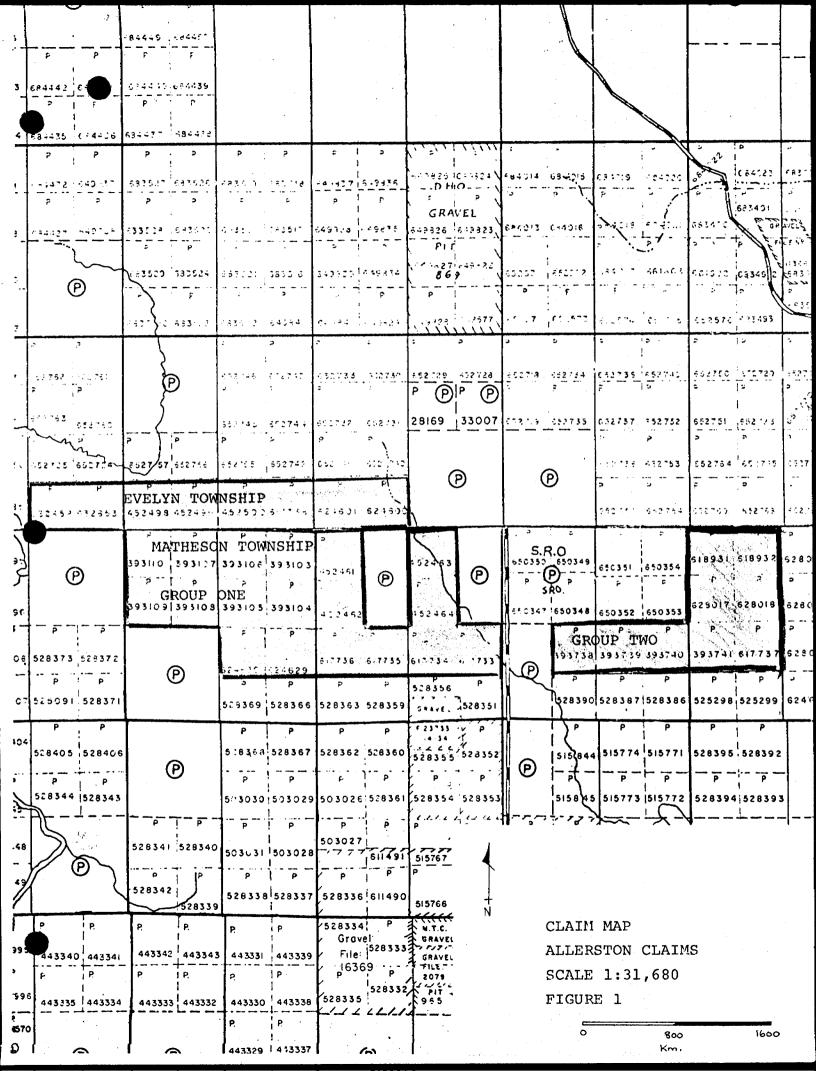
Due to heavy overburden, previous exploration has been directed to geophysical evaluation of the geological environment near a prominent airborne magnetic anomaly trending east-west across Hoyle Twp. and into Matheson Twp. as far east as Lot 6, Concession V, 6.4 km north of Group One.

1952: Dominion Gulf conducted an airborne magnetic survey and carried out a ground magnetic survey on thirty-one claims south of Group One. The magnetic anomaly was interpreted as an anticlinal structure consisting of Keewatin lavas, or as multiple basic intrusives. Overburden was thought to average about 15m over the anomaly.

Prior to 1964: Various airborne E.M. surveys were performed but no data was filed.

1964: Dominion Gulf completed a VLF-EM and fluxgate magnetic survey over the map area. Nine conductive zones with weak magnetic association were located and a detailed geophysical survey was recommended.

1963 - 65: Hollinger Consolidated Gold Mines completed an EM survey on thirty six claims covering the Dominion Gulf ground. Seven conductors were located and three were drill tested totalling 427m. The conductors were explained by graphitic sediments.





65: Keevil Mining Group performed magnetic and EM surveys over fourteen claims in northwestern Matheson and northeastern Hoyle Twp. and located two conductors with no associated magnetic anomalies. Graphitic slate was interpreted as the source. Gravity surveys and two drill holes were recommended, the exact locations were not provided.

1965: Jayco Mines carried out magnetometer and EM surveys over twelve claims in Matheson and Evelyn Townships northeast of Group Two. The survey located weak bedrock conductors under thick overburden.

1966: Hollinger Consolidated carried out diamond drilling 0.4 km south of Group Two on a ground EM target. The conductor was explained by the presence of graphitic slate in the core.

1979: Asarco completed six overburden drill holes located in the southwest and southeast parts of the old Hollinger claims. The overburden averaged about 24m. No analyses were submitted.

1979: Texasgulf drilled eleven overburden holes on the old Hollinger property. The overburden averaged about 27m. No analyses were submitted.

1979: Texasgulf completed five overburden holes immediately south of Group Two, gold values up to 8800 ppb were reported.

1982: 5t. Joe Canada Inc. completed magnetometer, IP and Max-Min geophysical surveys over Groups One and Two.

C. Geology:

Previous overburden drilling suggests that the claims are underlain by carbonaceous metasediments interbedded with altered mafic-felsic volcanics. The two claim groups appear to cover the edge of a sedimentary sequence that has been intruded or is underlain by mafic rocks of komatiitic composition as outlined by a magnetic anomaly (O.D.M. Preliminary Map P698, O.G.S. Map 20017G).

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#### Mapping Survey

The survey was carried out between June 3 - 16, 1982 by:

Kevin W. Leonard 886 Tanager Ave. Burlington, Ontario

Nigel Hulme 168 Aylmer Ave. Ottawa, Ontario

Data from the mapping survey has been plotted on Map 1, located in the back pocket of this report.

Grids were established on both claim groups. Grid lines were turned off separate baselines at 100m intervals and were cut, chained and picketed at 25m intervals. Airphotos (scale 1"-½mile) were used for control. Mapping of the field area was done at a scale of 1:5000.

A thick layer of glacial overburden (15-45m) mantles the bedrock thus no outcrop was found during the survey.

Regional elevations range from 300m to 335m. Local relief is flat, commonly less than 1.5m.

The Group One claims are largely drained by Matheson Creek which flows south through the eastern part of the property. A small meandering stream flowing south, passes just west of the survey area and merges about 6 km downstream with the Porcupine River and eventually runs into Night Hawk Lake. These streams form part of the Porcupine River drainage system.

In general, drainage is poorly established. A large part of the claims are covered with muskeg (sphagnum moss) and to a lesser extent swamp which has developed on Pleistocene lacustrine sand, gravel and clay. In some sections of the claims (south eastern part of Group One and northcentral part of Group Two) impervious clay prohibits drainage and the water table usually lies above the clay layer.

Dominant vegetation on the two claim groups consist of a thick undergrowth of tag alder and aspen with rare mixed stands of hardwood (birch and jackpine) and isolated pockets of spruce and poplar.

The main surficial components in the mapped area in order of decreasing areal importance include 1) wet areas in which small pools of water, hummocky muskeg and dense tag alder are the dominant species; 2) open, wet areas characterized by bladed swamp grass; 3) beaver ponds; 4) relatively open, semidry grassland areas (i.e. old beaver ponds); 5) treed muskeg including dense pockets of tag alder interspersed with spruce and poplar.

#### Conclusions and Recommendations

The Allerston claims cover a favourable geological environment for hosting gold mineralization. Since no outcrop was located, an exploration program using overburden drilling is warranted to evaluate the properties' gold potential.

June | , 1983

Respectfully submitted

Kivin Leonard

Kevin Leonard St. Joe Canada Inc.

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#### CERTIFICATE

I, Kevin Leonard, of the City of Burlington, Province of Ontario, do hereby certify that:

- 1. I reside at 886 Tanager Ave., Burlington, Ontario.
- 2. I have worked as a geologist for the last 5 years.
- 3. I am a graduate of McMaster University with an Honours Degree (1978) in Geology.
- 4. I am a member of the Prospectors and Developers Association, of the Canadian Institute of Mining and Metallurgy, and of the Geological Association of Canada.
- 5. I carried out the geology survey. The linecutting and map preparation were done under my supervision. I have written the report.

Dated at Toronto This 1<sup>st</sup> day of June

.....

,1983

Kevin Leonard

Kevin W. Leonard

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	Geochemical			617738			393740	
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	Geological			393107			618932	
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Geotechnical Report Approval

File 2.5591

June 30/83.

Mining Lands Comments

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1983 06 08

Mr. William L. Good Mining Recorder Ministry of Natural Resources 60 Wilson Avenue Timmins, Ontario P4N 2S7

Dear Sir:

He have received reports and maps for a Geological survey submitted under Special Provisions (credit for Performance and Soverage) on mining claims P393103 et al in the Township of Matheson.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours very truly,

E.F. Anderson Director Land Management Branch

Whitney Block, Room 6450 Queen's Park Toronto, Ontario M7A 1W3 Phone 416/965-1316

A.Barr:efb

cc: St. Joe Canada Inc. 111 Richmond Street West Suite 418 Toronto, Ontario M5H 2G4 2.5591



#### GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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) Geology	
Township or AreaMatheson/Evelyn	MINING CLAIMS TRAVERSED
Claim Holder(s) St. Joe Canada Inc.	List numerically
111 Richmond St. W. #418, Toronto	
Survey Company_St. Joe Canada Inc., Min,Lic #T1109	P632852 P617736
Author of Report Kevin W. Leonard	(prefix) P632853 P617735
Address of Author 886 Tanager Avenue, Burlington	P452498 P617734
Covering Dates of Survey <u>3/6/83 - 16/6/82</u> (linecutting to office)	P452499 P617733
Total Miles of Line Cut 77 km.	P452500 P393738
SPECIAL PROVISIONS DAYS	P617738 P393739
CREDITS REQUESTED Geophysical per claim	P624601 P393740
ENTER 40 days (includes line cutting) for firstElectromagnetic	₽624600 P393741
survey. –Radiometric	P393110 P617737
ENTER 20 days for eachOther additional survey using Geological 20	P393109 P628018
additional survey using Geological <u>20</u> same grid. Geochemical	P393108 P628017
AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)	P393107 P618931
MagnetometerElectromagneticRadiometric (enter days per claim)	P393106 P618932
DATE: 2/24/83 SIGNATURE: Kevin Leonal	P393105
Author of Keport or Agent	P393104
	P393103
Res. Geol Qualifications Previous Surveys	P452461
File No. Type Date Claim Holder	P452462
	P452463
	P452464
	P624629
	P624630
	TOTAL CLAIMS35

**OFFICE USE ONLY** 

### GEOPHYSICAL TECHNICAL DATA

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<u>GROUND SURVEYS</u> – If mo	ore than one survey, specify	y data for each	type of survey
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1	Number of Stations	Number	of Readings	
	Station interval 25m			
	Profile scale			
(	Contour interval			
cal	Instrument			
MAGNETIC	Accuracy - Scale constant			
	Diurnal correction method			
MA	Base Station check-in interval (hours)			
	Base Station location and value			
				······································
Ŋ	Instrument			
ELECTROMAGNETIC	Coil configuration	R		
AG	Coil separation			· · · · · · · · · · · · · · · · · · ·
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TR	Method: 🗆 Fixed transmitter	Shoot back	🗔 In line	🗆 Parallel line
LEC	Frequency	(specify V.L.F. station)		
Ш	Parameters measured			
	Instrument			
	Scale constant			
ΥŢ	Corrections made			
AVITY				
GR	Base station value and location			
	Elevation accuracy			
	Instrument			
	Method 🔲 Time Domain	🗀 F	requency Domain	
	Parameters – On time	F	requency	
M	– Off time			
LΙΛ	— Delay time	·····		
STI	— Integration time			
RESISTIVITY	Power			
R	Electrode array			
	Electrode spacing			
	Type of electrode			

INDUCED POLARIZATION

#### SELF POTENTIAL

Instrument	Range
Survey Method	
Corrections made	
RADIOMETRIC	
Instrument	
Values measured	
Energy windows (levels)	
Height of instrument	Background Count
Size of detector	
Overburden	
(type, depth — inclu	de outcrop map)
OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)	
Type of survey	·····
Instrument	
Accuracy	·····
Parameters measured	
Additional information (for understanding results)	
<u>AIRBORNE SURVEYS</u>	
Type of survey(s)	
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Aircraft used	
Sensor altitude	
Navigation and flight path recovery method	

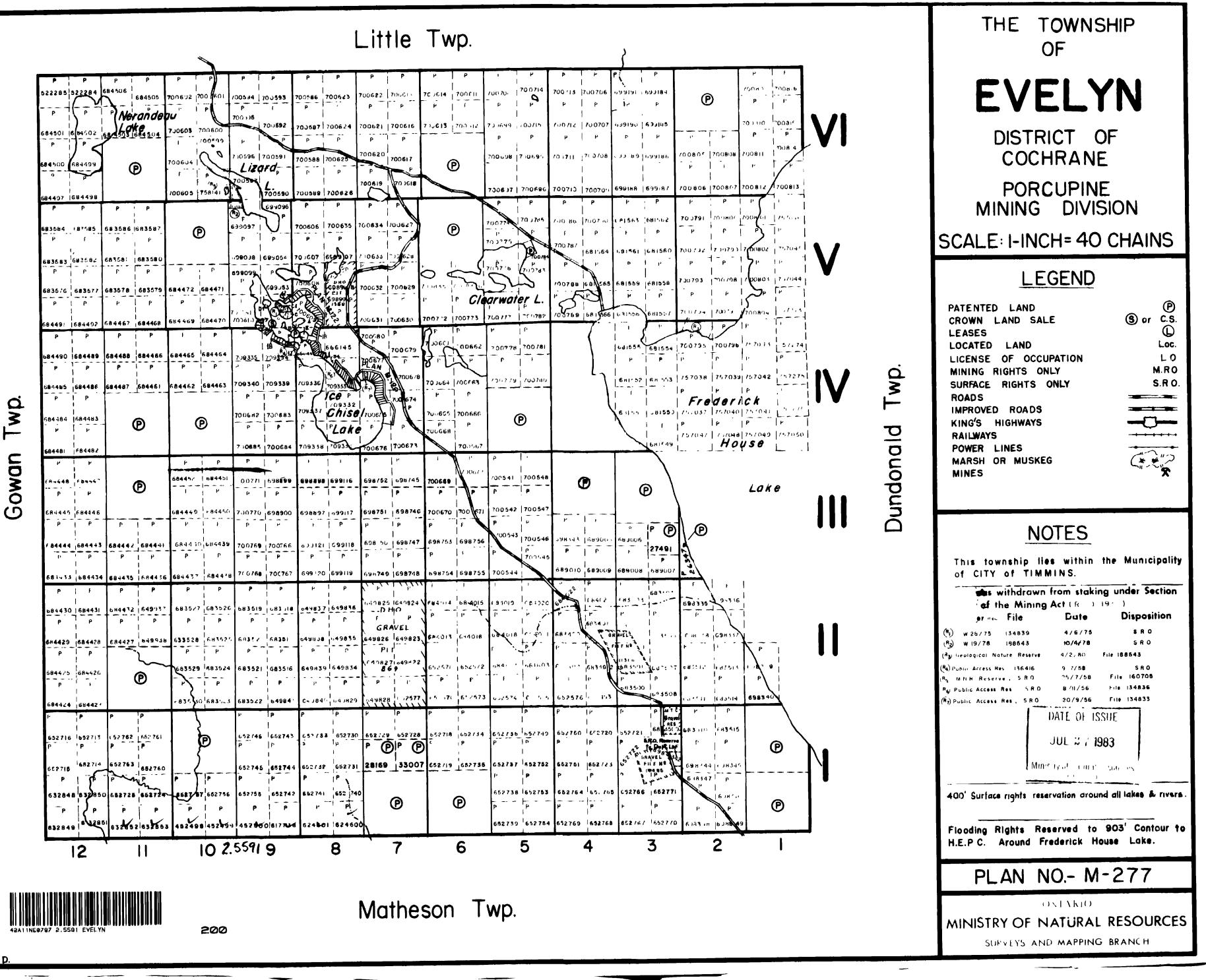
Aircraft altitude	Line Spacing
Miles flown over total area	Over claims only

#### **GEOCHEMICAL SURVEY – PROCEDURE RECORD**

Numbers of claims from which samples taken.\_\_\_\_\_

Total Number of Samples					
Type of Sample(Nature of Material)					
(Nature of Material) Average Sample Weight	p. p. m.				
Method of Collection	p. p. o				
	Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)				
Soil Horizon Sampled	Others				
Horizon Development	Field Analysis (tests)				
Sample Depth	Extraction Method				
Terrain	Analytical Method				
	Reagents Used				
Drainage Development	Field Laboratory Analysis				
Estimated Range of Overburden Thickness	No. (tests)tests)				
-	Extraction Method				
	Analytical Method				
	Reagents Used				
SAMPLE PREPARATION (Includes drying, screening, crushing, ashing)	Commercial Laboratory (tests)				
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or witnessed same during an	nd/or after its completion	h and the ani	nexed report is	true.				
Name and Postal Address of Pe David E Mo	erson Certifying 110y, 221 Pa:	ndora	Crescent	Kitcher	nor			
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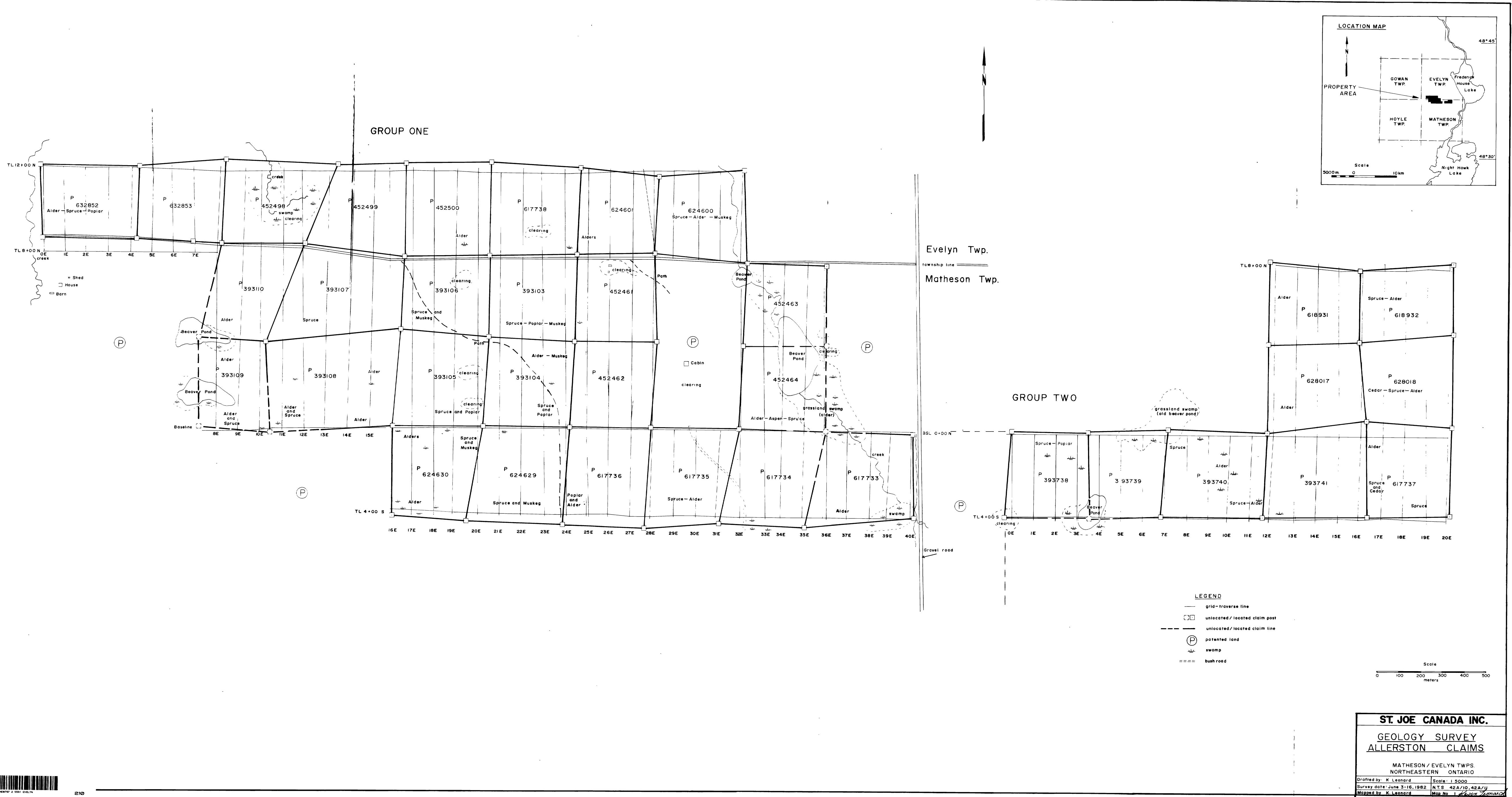


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