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52F05SW0095 2.6305 DOGPAW LAKE

010

R E P O R T

GEOLOGICAL SURVEY

For

FTM RESOURCES INC.

DOGPAW LAKE CLAIMS
DISTRICT OF KENORA, ONTARIO

December 18, 1983

Roy J. Rupert, P. Eng.

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MINING LANDS SECTION



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TABLE OF CONTENTS

1.0 SUMMARY Page 1

2.0 INTRODUCTION Page 3

3.0 PROPERTY LOCATION & ACCESS Page 3

4.0 PROPERTY TITLE Page 4

5.0 TOPOGRAPHY & LOCAL CONDITIONS Page 6

6.0 HISTORY Page 7

7.0 GEOLOGY Page 9

7.1.0 Regional Geology & Mineralisation..... Page 9

7.2.0 General Geology of the FTM Property..... Page 11
 Table 1 - Table of Formations

7.3.0 Petrography Page 13

7.4.0 Structural Geology Page 15

7.5.0 Gold Deposits, Mineralised & Altered Zones Page 17

8.0 GEOPHYSICAL REVIEW Page 19

9.0 CONCLUSIONS Page 21

10.0 RECOMMENDATIONS Page 22

11.0 ESTIMATED COSTS Page 24

12.0 REFERENCES Page 25

13.0 CERTIFICATE Page 26

- Figure FTM 83-1 - Geological Plan
 FTM 83-2 - Regional Geology & Location Plan
 FTM 83-3 - Sample Plan
 FTM 83-4 - Plan of Peninsula Prospect

1.0

SUMMARY

1.1

Twenty-six claims at Dogpaw Lake are located on the north side of the Pipestone-Cameron Fault which apparently controls gold mineralisation in the area.

1.2

Mapping of these claims indicates that they are underlain by an interfingering sequence of both mafic andesite and feldsparphyric dac-andesite flows. The sequence is cut by the Pipestone-Cameron Shear which is over 600 feet wide on one corner of the property, and by a number of other shear zones up to 200 feet wide. These latter shear zones appear to be splays from the Pipestone-Cameron Fault.

1.3

Gold is present in anomalous quantities in some sections of shear zones, especially those containing quartz veins, carbonatised zones, and chalcopyrite mineralisation.

1.4

VLF-EM geophysical surveys completed on this property are inconclusive because of the presence of conductive overburden which masks anomalies caused by shear zones.

1.5.0

It is recommended that:

1.5.1

The entire 26 claims be surveyed using a dual medium frequency vertical loop system with better ability to discriminate between weak vertical bedrock conductive zones and horizontal conductive overburden. The magnetic survey should be extended to the 9 eastern claims. This work should be done in winter.

1.5.2

Detailed prospecting and sampling of all shear zones should be undertaken, including stripping and hand-trenching of exposed zones. This work should be under the control of an experienced

prospector-sampler, and is expected to require a prospector plus one or two helpers for about 3 weeks.

1.5.3 The Peninsula Prospect should be exposed by stripping along its length with power equipment. A barge, bulldozer and backhoe will be required, under the direction of a prospector in summer.

1.6 Estimated cost of the above program is \$37,120.

2.0 INTRODUCTION

2.1 This report on the Geology and Mineral Prospects of the Dogpaw property of FTM Resources Inc. is prepared for David R. Bell Geological Services Inc. pursuant to verbal discussions with David R. Bell and R. Angela Bell in September and pursuant to written instructions provided to the writer on October 15 1983.

2.2 The writer personally supervised and conducted field investigations of the property in the period from October 23 until November 4, including linecutting and geological mapping and sampling of 26 claims. Mapping and sampling were conducted by the writer and his employee, Mr. Kenneth D. Booth. Claim titles and historical aspects were investigated by enquiry at the offices of the Mining Recorder and the Regional Geologist of the Ministry of Natural Resources in Kenora, Ontario.

2.3 The objective of this project was to establish the geological environment in which gold-bearing deposits at Dogpaw Lake occur, and to determine their nature, as a basis for planning further exploration of the claims.

3.0 PROPERTY LOCATION & ACCESS

3.1 The property of FTM Resources Inc. is reached by means of a 2 mile boat trip from Whitefish Bay. Whitefish Bay is approximately 55 miles southeast of Kenora, Ontario, via Highway 17 and 71, as indicated on Figs. FTM 83-2 and FTM 83-1.

3.2 Accomodation, boat rentals, small goods and labour for exploration purposes are locally available at Whitefish Bay Indian Reserve and the nearby hamlet of Sioux Narrows.

Sioux Narrows is a town principally engaged in the fishing and hunting tourist business with distinct in-season and off-season conditions. Kenora is the nearest large town.

- 3.3 Access to the claims for heavy equipment would require use of a winter road or a barge on Dogpaw Lake. At present, no heavy barge is available on Dogpaw or Caviar Lakes, but one could be lifted from Lake of the Woods. For production purposes, construction of 7 to 10 miles of new road would be required.

4.0 PROPERTY TITLE

- 4.1 The property consists of 26 unpatented mining claims. Recording dates and assessment work status are as follows:

<u>Claim Nos.</u>	<u>Recording Date</u>	<u>Assessment Work re- corded per claim</u>	<u>Next Assess- ment due date</u>
K589863-868 incl.	82-03-11	40 Days	84-03-11
K590802-812 incl.	82-12-29	40 Days	84-12-29
K590793-801	82-12-29	Nil	83-12-29

This report and map are expected to provide sufficient assessment credits to extend the next assessment due date on each claim by one year.

- 4.2 Title to the claims is held subject to the usual terms enjoyed by licensees under the Ontario Mining Act and related regulations. Each claim is for mining rights to a nominal area of forty acres. The recorded claim holder is licensed by the Ontario Government to perform exploration work on the claimed area, and if he completes certain minimum quantities

of work prior to each of the first five anniversaries of recording, the claim is perpetuated for an additional year. On completion of the aggregate minimum work within the first five years, the claimant is entitled to apply for a lease of mining rights to any claim, for a fee of one dollar per acre in the first year and 10¢ per acre each year thereafter. The lease is for 21 years, renewable under conditions and circumstances established from time to time. Production of mineral from the lease is subject to mining tax assessments, national processing restrictions, environmental restraints and other controls established by the Mining Act or other legislation. Surface rights required for exploration and mining of a claim or lease are available, subject to compensation for prior private owners, if any, and payment of land taxes.

4.3 The minimum work requirements for retention of mining claims allow the claim holder discretion in selection of appropriate procedures for specific geological conditions, and costs vary accordingly. Under formulae set out in regulations of the Mining Act, and at current costs, work requirements generally cost from as little as \$40 to \$200 per claim in the first year, and typically increase to \$900 to \$3,500 per claim in the fifth year of tenure. In the normal course of exploration programs, selective retention of specific claims in initially large prospecting areas reduces costs in later years when intensive exploration is directed to specific discoveries.

4.4 Title to unpatented claims relates to areas defined by posts located by persons who originally recorded and staked

claims, and is dependent on the proper completion of staking procedures by those persons, including the proper location of the posts.

4.5 Claims are normally 40 acres in size, and the writer found these claims to be adequately marked with posts in the proper locations, with the exception that the 9 claims numbered K590793-801 inclusive are undersized.

4.6 At this time, the writer is advised that three claims staked to partially remedy this deficiency are pending recording. Fig. FTM-83-1 shows these claim locations as reported by Mr. Trudeau, the staker, and shows all other claims as located by this survey.

4.7 One post from 1944 staking was located. Attempts to reconcile this post and sample location plans from the same era with observed topography indicate that there is a long and undistinguished tradition of staking and restaking undersized claims here.

5.0 TOPOGRAPHY AND LOCAL CONDITIONS

5.1 The claims are largely located under the water of Dogpaw Lake and on adjoining shore areas. Relief on the property is about 150 feet, with locally steep slopes. Notwithstanding this locally rugged topography, the regional topography is rather flat, with most lakes at very uniform elevations, and hills rising not more than a few hundred feet above them.

5.2 The land portions of the claims are covered by a relatively thin ground moraine which supports a forest of dense cedar, small balsam and spruce, and some commercial white and red

pine on higher rocky ground. Birch, poplar and some oak are present in better drained areas with adequate soil cover.

5.3 The principle resource exploited in this area is its significant potential as a tourist area, with emphasis on fishing and hunting. Accordingly, exploration work permits are subject to conditions imposed by the Ministry of Natural Resources to protect the aesthetic appeal of the area, particularly near lake shores.

5.4 Water for exploration or mining purposes is available in abundance locally, and suitable disposal basins for mine tailings are also present. Electric power adequate for a small mining operation is available within 4 miles of the claims.

6.0 HISTORY

6.1 Gold was discovered in the Kenora area in the latter part of the nineteenth century, and several mines were developed and operated for short periods then, including at least 3 within 4 or 5 miles of the FTM Resources claims.

6.2 Available records of work done specifically on the present property of FTM Resources date only from 1944. In 1944, Albert Gauthier located several gold bearing zones in the approximate area of claim no K590800. Based on this work the property was briefly optioned to Sylvanite Gold Mines Ltd. who sampled numerous veins and shear zones in February 1945 and subsequently staked additional claims to the north, in the approximate area of present claims nos. K590798, K590799 and K770637 and K770638. The option was relinquished in March 1945. Gold values reported by Sylvanite ranged up

to 1.2 dwt./s.ton (0.06 oz./s.ton).

6.3 In 1945, Albert Gauthier discovered a quartz vein in a persistent shear zone on the peninsula in Dogpaw Lake and sampling of this vein indicated better values. Records of Sylvanite Gold Mines Ltd. and reports by Dr. Thompson, resident geologist for the Ontario Department of Mines at the time, indicate that work consisted of the trenching indicated by current mapping (this report) and 3 short drill holes on this vein. Efforts by Gauthier to re-option these claims were apparently unsuccessful and the claims apparently lapsed by 1947. Gold values up to several oz./s.ton were reported from drill and surface sampling of a quartz vein and surrounding sheared zones.

6.4 Sylvanite continued work on their claims northeast of the present FTM claims in 1945, and trenched the area near 23 North on lines 16E to 24E of the present survey. Records from Sylvanite files indicate that exploratory work included a few very short diamond drill holes at imprecisely defined locations. Gold values up to 1.60 dwt/s.ton (0.08 oz/s.ton) were reported from this work.

6.5 In 1972, the property was restaked and geological and magnetic surveys were conducted by Mr. Chester J. Kuryliw, apparently for his own account. The magnetic surveys are useful in defining diabase dykes. There is no indication in available records, or on the ground, that any recommended detailed sampling was conducted, and the claims lapsed.

6.6

The present claims were staked in 1982, on account of interest generated by the discovery of gold by Nuinsco Resources Ltd. and Lockwood Petroleum Inc. at Cameron Lake, about 10 miles to the southeast along the Pipestone-Cameron Fault System. Subsequent to staking and transfer to FTM Resources Inc., a magnetic survey and an electromagnetic survey was conducted in March 1983 on the ice of Dogpaw Lake, islands and the adjacent peninsula and shorelines. In the summer of 1983, old trenches were partially cleaned and re-sampled by FTM. FTM commissioned the current survey in October 1983.

6.7

Previous government mapping of the area has been conducted at a scale of 1" to 1 mile by E. M. Burwash (1933) and more recently by Davies and Morin (1976). The maps with the latter publication provide a general overview of local lithologies, but have not attempted to define zones of faulting or provide first-hand reports of gold mineralisation or their locations.

7.0 GEOLOGY

7.1.0 Regional Geology and Mineralisation

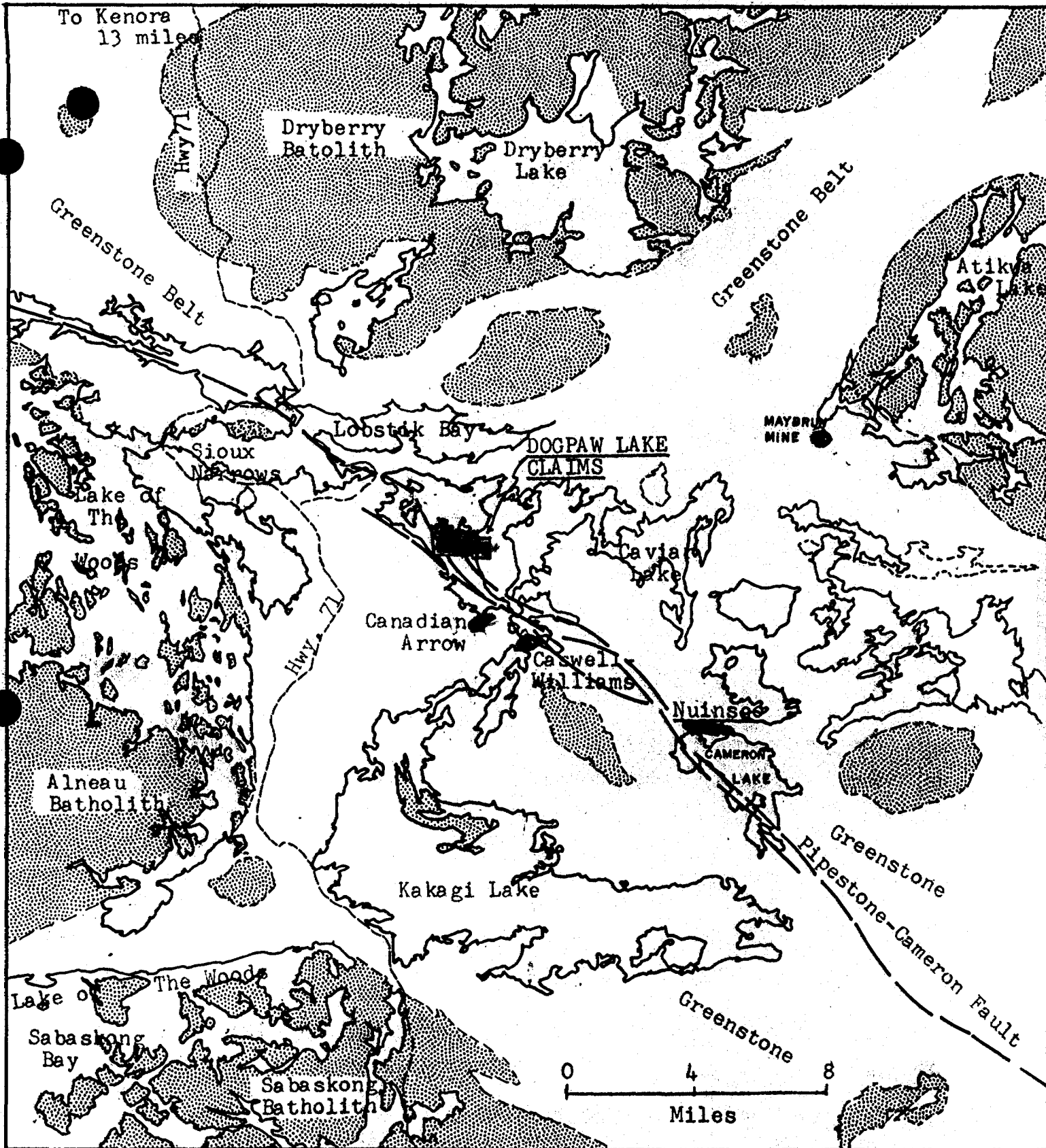
7.1.1

The new FTM Resources claims are located in the Wabigoon Geological Subprovince of the Superior Province of the Canadian Shield. Rocks in this subprovince are principally volcanic strata with subordinate sedimentary units which occur as infolded greenstone belts between granite batholiths. In this subprovince, the greenstone belts and granites display a random orientation, and the east-west elongations characteris-

tic of the Superior Province are only evident near the boundaries of the subprovince.

7.1.2 Within the western part of the Wabigoon Subprovince, gold deposits generally show a spatial association with either or both of two controls: long (+100 miles) faults of regional character along subprovince boundaries and the centres of greenstone belts; or small felsic intrusive stocks.

7.1.3 FTM's Dogpaw Lake claims are located on and north of the Pipestone-Cameron Fault system, one of these major regional faults. The Pipestone-Cameron Fault is located near the centre of a complex greenstone belt. Numerous gold occurrences have been located in or near it, principally in sheared carbonatised and silicified zones. The recent discovery 10 miles to the Southeast at Cameron Lake by Nuinsco and Lockwood Resources is of this type. Other examples (less than 3 miles southeast) include the Caswell-Williams mine at Flint Lake and the Canadian Arrow Deposit at the South end of Dogpaw Lake. The latter two deposits have reserves estimated at 50,000 tons grading 0.28 oz. gold/ton (N. Miner 83-06-23, p. 21) and 99,650 tons grading 0.43 oz. gold/ton (N. Miner 61-05-04) respectively. Highly speculative and somewhat premature estimates of the possible tonnages at the Lockwood-Nuinsco deposit are in the order of one million tons at perhaps 0.15 oz. gold/ton (N. Miner 83-07-14). Fig. FTM 83-2 shows the locations of these mines and regional geological features.



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DOGPAW LAKE CLAIMS.

LOCATION PLAN
Regional Geology.

RJR, 83-12-18

Fig. FTM 83-2

7.2.0

General Geology of the FTM Property

7.2.1

The principal rock types mapped on the claims are a sequence of interfingering mafic to intermediate volcanic strata. Feldsparphyric pale green andesites or dac-andesites predominate in the western part of the claims and islands, and more uniformly textured dark green andesites predominate in the eastern part of the claims. In the vicinity of the peninsula prospect, both types of andesites are present as an interbedded sequence.

7.2.2

Several shear zones varying from a few feet up to hundreds of feet in width are present, as shown on Fig. FTM 83-1.

7.2.3

Pale grey-pink quartz feldspar porphyry is mapped at several locations. These carbonate-rich pyritic rocks are presumed to be intrusive into shear zones in the older andesites.

7.2.4

A set of diabase dykes up to 150 feet wide crosses the claims with a northwesterly strike. These dykes appear to be the youngest consolidated rocks in the area.

7.2.5

Pleistocene deposition in the area consists of a rather thin layer of ground moraine, modified by glaciolacustrine conditions, which prevailed locally in early post-glacial time (Campbell phase). Low areas were below the level of Lake Agassis and hilltops were at or near lake level as glacial rebound raised local ground levels above the 980' a.s.l. outlet of Lake Agassis. Redeposition of silty material washed off higher hills has resulted in present conditions, with clean rocky knobs on upland areas, and clay-rich sediments in lake bottoms.

Dogpaw Lake Claims, FTM Resources Inc.

TABLE OF FORMATIONSCENZOIC

Pleistocene

- Organic Soils, Muskeg
- Glaciolacustrine Deposits, Campbell Phase, Lake Aggassis
 - Sandy clay on lake bottoms
- Ground Moraine
 - Sandy to silty boulder till

-erosional unconformity-

PROTEROZOIC

- Diabase Dykes
 - Magnetite-rich quartz diabase

-intrusive contact-

ARCHEAN

- Quartz Feldspar Porphyry

-intrusive contact-

- Mafic to Intermediate Volcanic Strata

- Feldsparphyic
dac-andesite flows
and pyroclastic rocks

-interfingering-
facies

Andesite flows,
minor related
intrusions

2.6 During the last century, the level of Dogpaw Lake has been raised about 10 feet and controlled by a dam on the Atikwa River at Whitefish Bay. As a result of shoreline erosion, new outcrop is being created by every storm, and the best outcrop in the area is along the Dogpaw Lake shore.

7.3.0 Petrography

7.3.1 The mafic andesite flows which predominate in the eastern part of the area mapped, consist of andesite or basaltic flows. They vary from equigranular medium-grained green or dark green gabbros without visible quartz, to very fine grained dark green chloritic rocks. Observed textures include massive, pillowed and agglomeratic flow top materials. Amygdules of quartz or calcite are common in flow tops. These mafic andesite flows include medium grained massive sections which may be intrusive. Several fine-grained intrusive dykes were observed near Line 8E, 4 + 50N and near 11E, 12 + 50N. In addition, the coarse massive gabbros mapped on the shore near line 20W, 21 North may be intrusive.

7.3.2 The Feldsparphyric dac-andesite flows which predominate in the western part of the area are distinctly lighter in colour and contain feldspar phenocrysts up to 3 mm. across. Weathered surfaces may be white. Massive parts of these flows generally have a very fine grained matrix. Pillows tend to be rounded and small so that top determinations are poor, and flow top breccias or massive tuff breccias are the dominant rock type. In general, the breccias are massive bedded, with only rare examples of bedding evident at outcrop scale, along the islands at the north central part of the area.

Amygdules of calcite are common in pillowed sections, with some quartz amygdules mapped. Near L8W, 4N and L8W, 13N dykes of dark green andesite similar to the mafic andesite flows intrude outcrops of feldsparphyric breccia. Along the west shore of the peninsula, from 4 North to 20N on Lines 20 to 36, flows of both andesite types are interbedded, with flow thicknesses of about 70 feet. These relationships would suggest that the mafic andesites are derived from an eastern source vent, possibly quite close to Dogpaw Lake. The feldsparphyric dac-andesites are presumably derived from a western area, probably outside the area mapped, as indicated by the increasing prevalence of pillowed phases towards the west, and more breccia and tuffaceous phases to the east.

7.3.3

Quartz feldspar porphyry occurs as small dykes or masses up to 20' wide, usually in shear zones. The porphyry is pale greyish pink to pale grey in colour, and typically contains about 10% of rusty spots, presumably zones permeated by rusty carbonate. Fine to very fine cubic pyrite is present in quantities from 1.5% to 5%. Quartz phenocrysts are up to 3 mm. across, with smaller and less distinct feldspar phenocrysts in only some specimens. Like the surrounding sheared volcanics, the porphyry is also usually sheared, but not necessarily as intensely sheared.

7.3.4

Diabase is a massive rock type with a distinctly black colour and magnetic character. It can be distinguished with difficulty from some mafic andesite types. The magnetic content is locally high enough to reverse compass directions. Davies and Morin (1976) note that magnetite content of thin

sections may be as high as 5%. One of the diabase dykes shown on map FTM 83-1 was mapped in the field as medium-grained andesite volcanics, and has been interpreted as diabase on the basis of magnetic surveys by Kuryliw (1973), and by Sutherland (1983). This is the dyke extending from Line 1E on TL 20N to Line 20E, 16N.

7.4.0 Structural Geology

7.4.1 The strata mapped display strikes slightly south of east and steep north dips. Reliable flow top determinations based on grain size and textured sequences are generally north facing, although there are some contradictory determinations from pillows, judged to be less reliable. The exception are top determinations from the island at L12 E, 16 South, where good pillow determinations supported by flow sequences indicate south facing flows. This would indicate a discontinuity or fold between the island and other areas. More regional mapping would be required to reliably confirm and resolve the interpretation of this situation.

7.4.2 However, based on the above observations at 12E, 16S and a pillow observation at 22E on the Base Line, it is suspected that there is a significant offset along the shear zone which extends from 64W, 10S to 12E at the Base Line.

7.4.3 The Pipestone-Cameron Fault crosses the southwest corner of the claims, where it is a zone of intensely sheared schistose rock at least 1500 feet wide. This shear zone contains up to 5% of discontinuous quartz-carbonate lenses up to 6" wide. The sheared rocks vary from chlorite-sericite schists to talcose carbonate-rich schists. Notwith-

standing prior opinions that these outcrops are tuff breccias (Davis & Morin 1976), the writer considers the original rock types to be unrecognizable, and has mapped the rock as schist. From a local and regional perspective, there is a need to map the boundaries of these shear zones on a more regional scale.

7.4.4 Numerous other schist zones are mapped on the claims. These are generally from a few feet to 200 feet wide and tend to be parallel to stratigraphic strikes. Most are in fine grained andesites or along recognisable flow contacts, suggesting that they follow flow-top structures. Carbonate alteration, quartz-carbonate veins and occasional quartz--porphyry dykes are irregularly distributed along these shear zones. The shear zones are not uniform in width and contain numerous lenses or horses of unsheared material. This is particularly evident along the shore of the island at line 56 West, and appears to explain the pattern of sheared and unsheared outcrops mapped at the south ends of lines 20E to 28E.

7.4.5 Many of the shear zones are in fine-grained parts of flows, and may be schistose flow tops.

7.4.6 Regional mapping by Davies & Morin indicates that the diabase dyke consists of segments trending NNW, and other segments trending WNW. The latter segments parallel major fault zones, and may mark shear zones parallel to these major faults.

7.4.7 Outside of the shear zones described above, the volcanic strata are relatively massive and fresh in appearance.

Evidence of intense stretching of pillows and other deformation features noted by earlier authors describing these claims was not noted by this writer. Pillows tend to be so rounded or bun-shaped that tops are difficult to determine, but stretching is not a cause of the problem.

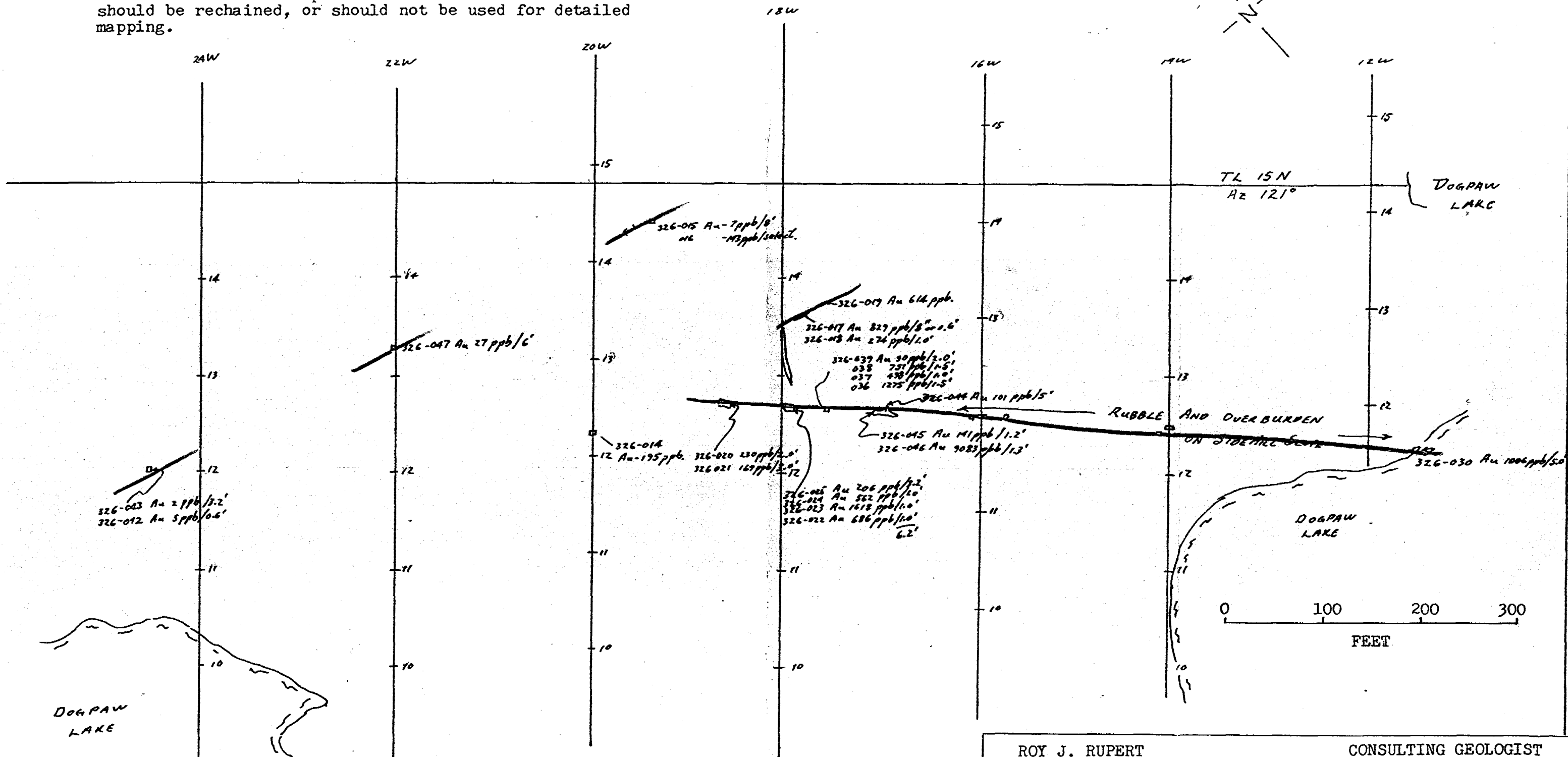
7.5.0 Gold Deposits, Mineralised & Altered Zones

7.5.1 Prior exploration by A. Gauthier and Sylvanite Gold Mines Ltd. in the 1940's has located numerous gold bearing zones, two of which have been extensively trenched; one by A. Gauthier called the Peninsula Showing and one by Sylvanite referred to here as the Base Line Showing. Gauthier located numerous other zones, some of which were relocated and are included in this report.

7.5.2 The Peninsula Prospect extends from Line 22W to the shoreline at Line 12W, 11 + 20N. It consists of dense quartz or quartz carbonate veins up to 3 feet wide in a sheared zone which varies from 10 feet to over 40 feet wide. Gold values occur in the quartz veins and in immediately adjacent sheared wall rocks. The south footwall of the nearly vertical shear zone is mafic andesite, and the north wall is feldsparphyric dac-andesites. In general, gold values are present where the shear zone follows this contact.

The quartz veins contain up to 20% carbonate, as well as minor pyrite and chalcopyrite. The best gold values appear to accompany chalcopyrite. In the trench at 17W, the writer observed dark grey rims on chalcopyrite which were possibly identified as tetrahedrite. Antimony determinations on these samples are not yet at hand. Notwithstanding past reports of

Note: Control line closure errors.
 Lines 12W, 16W, 20W, 24W, and 28W cut from BL 0 in lake.
 TL 15N turned from L24W.
 Lines 14W, 18W, and 22W turned from TL 15N.
 Note errors in intercepts on lines 12W and 16W. These lines
 should be rechaind, or should not be used for detailed
 mapping.



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 DOGPAW LAKE CLAIMS

SAMPLE LOCATION PLAN, PENINSULA PROSPECT

RJR
 Dec. 18, 1983

Figure FTM 83-4

frequent "very fine" visible ^{gold in} carbonatised wall rocks and the quartz veins at this location, sample ^{values} along the sheared zone to the east and west are low. (See Fig. FTM 83-3).

7.5.3 The Gauthier Showings which were originally discovered in 1944, are located somewhere near the area between 4 N and 10N and Lines 4E and 16 East. Locations shown on available sample plans by personnel of Sylvanite Gold Mines Ltd. (Holbrooke, 1945), are not referred to any permanent topographic feature, and the claim corners used as reference appear to have been located without much regard for precision. These zones were not relocated in the course of this survey. The old sample plans indicate a number of steeply dipping veins with north-south strikes. Assay values are generally low, and range up to a high value of 1.20 dwt./s.ton (0.06 oz./s.ton) across a width of 2.0 feet. Thirty one samples from 17 exposures at eleven locations within a 400 foot radius included fourteen trace values, five values of 0.40 dwt./ton, 10 values of 0.80 dwt./ton and three values of 1.20 dwt./ton. The better values are generally recorded in Carbonate Shears or quartz veins, with lower values in wall rocks or shear zones without quartz.

7.5.4 The Base Line Prospect is located at 17 East, 23 + 50 North. Two trenches here expose a zone of bleached carbonatised rock over 30 feet wide. It contains about 2% finely disseminated pyrite, and rather sparse quartz veinlets (about 1%). One trench exposes a single 5 foot wide quartz vein which strikes about North & South, and dips east at about 30°. The quartz vein contains up to 2% chalcopyrite (average about

½%). Samples taken by the writer contained up to 208 ppb. (0.006 oz./s.ton) gold in a representative sample of the carbonatised rock and 114 ppb (0.0036 oz./s.ton) gold in selected pieces of chalcopyrite bearing quartz vein.

The Base Line Showing appears to be part of a zone extending for about 500 feet east and west, with shearing and scattered minor quartz veins or quartz-feldspar porphyry. Other samples along strike gave negligible gold values on analysis.

7.5.5 The shear zones on the island at 6QW, 8 South generally gave low gold values, but one sample of selected pieces of quartz veinlets returned an anomalous value of 43 ppb of gold.

7.5.6 The Pipestone-Cameron shear zone exposed on the south shore of the lake at 55W was sampled. Values were all below 23 ppb. Only a short length of this structure is present in the corner of the claims.

7.5.7 As indicated on Fig. FTM 83-3, there are several small shear zones of the Dogpaw Shear Zone where low but anomalous gold values are present.

8.0 GEOPHYSICAL REVIEW

8.1 VLF-EM and magnetic surveys were conducted for FTM Resources Inc. in March 1983 and reported by Sutherland (1983). Magnetic anomalies were numbered 1 to 9 and EM anomalies were lettered A to M. Comparison of these surveys with geological and topographic data of the geological survey indicates as follows:

8.1.1 Areas with diabase dykes are magnetically anomalous. Anomalies 9 & 3 are probably caused by diabase.

- 1.2 Anomaly 8 is apparently caused by the presence of a coarser phase of gabbroic mafic andesites and by splays from diabase dykes. It does not show good correlation with any specific observed contacts, and remains enigmatic.
- 8.1.3 Anomalies 6 & 7 are most likely caused by uncorrected diurnal variations. They do not correspond to any features observable in well exposed outcrops.
- 8.1.4 Anomalies 1 and 2, and a secondary anomaly parallel to and 200' north of Anomaly 3 are conformable with observed stratigraphic orientation. All three are narrow sharply defined anomalies of low (about 100) amplitude, and they correspond with parts of EM anomalies D, G and F respectively. All three zones are under water and there is no clear indication of their cause. Magnetic interflow sedimentary lenses seem to be the most probable speculative cause.
- 8.1.5 Anomaly no. 5 is close to the Peninsula Prospect and may be the expression of the contact between the mafic and feldspar phyric rocks observed there. Anomaly 4 appears to be its extension. There is no evident EM correlation.
- 8.1.6 Anomalies A, B, C, D, E, F, G, H, I, J, K, L and M consist of a series of EM anomalies, all of which are developed in depressions or lake channels or near shorelines. The most likely cause for every EM anomaly is the presence of glacio-lacustrine clay edges in these areas. Except as discussed in 8.1.4 and 8.1.7, there is no good correlation between these anomalies and other features. These anomalies as interpreted are not necessarily continuous.

While the clay edges causing these anomalies are not of

primary economic interest, the topographic depressions which they indicate may be of some value in geological interpretation.

- 8.1.7 The more intense portions of EM anomalies, such as D on L72W, C on Line 52W, E on L36W and F from L28W to 16W and F from Line 4W to L0 may be indicative of recessive shear zones. The Dogpaw Shear Zone has been interpreted near these anomalies. However, it is evident that associated overburden anomalies make this EM technique rather difficult to use for defining these shear zones. Anomaly A is related to the Pipestone-Cameron Fault system. The data across only a part of this fault indicate a broad and relatively uniform weak conductor.

9.0 Conclusions

- 9.1 VLF EM surveys in this area tend to respond to surficial clay deposits to a degree which masks most bedrock responses. EM methods with better ability to discriminate between vertical and horizontal conductors should be used where appropriate.
- 9.2 The Peninsula Prospect does not respond to VLF-EM surveys, and shows only a doubtful and apparently indirect magnetic response.
- 9.3 The Peninsula Prospect has been intermittently exposed along a length of 1000 feet, with significant gold values at several locations. It warrants more complete exposure and sampling.
- 9.4 Guides to the presence of gold include shear zones with carbonate alternation and quartz-carbonate veins and the presence of chalcopyrite. Regionally, the presence of pyritic zones in sheared zones of the Pipestone-Cameron Fault or

or nearby splay faults is a guide to mineralisation.

- 9.5 Anomalous gold values are reported from samples of shear zones at several localities. Detailed prospecting and sampling of these zones is required to determine if gold is present in commercial quantities.

10.0 RECOMMENDATIONS

- 10.1 It is recommended that the claims of FTM Resources Inc. be thoroughly prospected to locate gold bearing quartz veins. All veins located should be recorded as to location and thoroughly cleared and sampled. This work will require an experienced prospector and helper for a period of about 3 to 4 weeks, after breakup.
- 10.2 It is recommended that the Peninsula Prospect be exposed by machine trenching. A backhoe and a light bulldozer will be required for this work, as well as a barge to transport the equipment. This work should be done after snow is gone, and under the supervision of a prospector. Insofar as possible, the veins should be exposed along their length from L12W to Line 22 West. The object of the trenching is to establish the continuity and structural control of the vein.
- 10.3 It is recommended that an EM survey be conducted over all 29 claims, using a method specifically designed to minimize clay overburden edge effects and to detect relatively weak conductive shear zones. These two objectives are somewhat contradictory, particularly with regard to frequency and separation parameters to be selected. Subject to review by a geophysicist, the writer suggests use of the Crone CEM system in the vertical shootback configuration at frequencies of 1830 and 5010 Hz. This work must be done in winter.

10.4

As part of the EM survey, extension of the present magnetic survey to the 12 eastern claims is recommended.

11.0 ESTIMATED COSTS

Estimated costs of recommendations 10.1 to 10.4 are as follows:

Staff

Prospector @ \$4,000/month	\$4,000	
Helpers - 2 for 15 days @ \$150	\$4,500	
Travel & Maintenance Expenses		
60 days @ \$40	<u>\$2,400</u>	\$10,900

Contract Services

Equipment Hire

Barge Mobilisation & Demobilisation	\$3,000	
Barge Rental - 1 Month	\$ 600	
Bulldozer 8 days @ \$400	\$3,200	
Backhoe 10 days @ \$300 (6 hrs)	<u>\$3,000</u>	\$ 9,800

Assaying 500 @ \$10	<u>\$5,000</u>	\$ 5,000
---------------------	----------------	----------

Geophysical Surveys

-Linecutting 3 claims	\$1,200	
-EM Survey 22 mi. @ \$200	\$4,400	
-Magnetic Survey 7 mi. @ \$140	<u>\$ 980</u>	\$ 6,580

\$32,280

Contingency Allowance 15%		<u>\$ 4,840</u>
---------------------------	--	-----------------

\$37,120

12.0

REFERENCES

Blackburn, C. E.

- 1981: Kenora - Fort Frances; Ontario Geological Survey, Geol. Compilation Series Map 2443, 1" = 4 miles, coloured.

Davies, J. C. and Morin, J. A.

- 1976: Geology of the Cedartree Lake Area, District of Kenora; Ontario Geol. Survey, Geoscience Report 134, 52 p. with Map 2319, 1" = $\frac{1}{2}$ mile, coloured.

Kuryliw, C. J.

- 1973: Report on a Geologic Mapping of Claims 315333 - 315342, Dogpaw Lake Claim Group; Unpublished report, assessment work files of the Kenora Resident Geologist, Ontario Ministry of Natural Resources, accompanied by geological & magnetic survey plans, 1" = 400'.

McClasky, J. A., Holbrooke, G. L. et al

- 1944-1945: Unpublished correspondence, field notes, and field sketches and assay reports regarding sampling and exploration work by personnel of Sylvanite Gold Mines Ltd.; Ontario Ministry Natural Resources, Kenora Resident Geologist files, Kenora, Ontario.

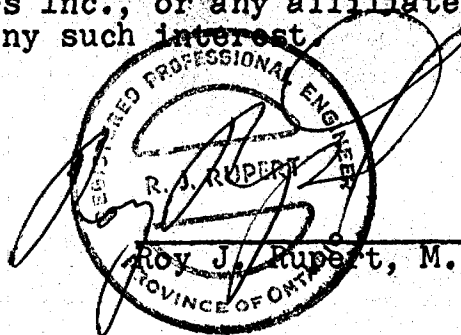
Sutherland, D. B.

- 1983: Report on the Magnetic and VLF-EM Surveys, FTM Resources Inc., Dogpaw Lake Area; Unpublished report, assessment work files, Ontario Ministry of Natural Resources, Toronto and Kenora.

CERTIFICATE

- 13.0 I, Roy J. Rupert, certify that:
- 13.1 I am a consulting geologist, resident at 28 Welcome Avenue, Sault Ste. Marie, Ontario, P6A 5A5.
- 13.2 I am a graduate of Queen's University with the degree of Bachelor of Applied Science (Geological Engineering) in 1963, and a graduate of McGill University with the degree of Master of Applied Science (Mineral Exploration) in 1966.
- 13.3 I am registered as a Professional Engineer with the Association of Professional Engineers of Ontario.
- 13.4 I am a Fellow of the Geological Association of Canada.
- 13.5 I have practised my profession in the field of mineral exploration since graduation in 1963.
- 13.6 This report is based on field mapping of the subject property by myself and employees under my direct supervision in the period from October 23 to November 4, 1983.
- 13.7 Title and historical aspects of this report were confirmed by attendance at the offices of the Mining Recorder and Resident Geologist of Kenora.
- 13.8 I have no direct or indirect interest in the properties or securities of FTM Resources Inc., or any affiliates, and I do not expect to receive any such interest.

Sault Ste. Marie, Ontario
83-12-18



Roy J. Rupert, M.Sc., P. Eng.



Ministry of
Natural
Resources

Ontario

FWM
Report of Work
(Geophysical, Geolo
Geochemical and Ex)



52F055W0095 2.6305 DOGPAW LAKE

July 15th 1983
print. 159-83
mining claims traversed
n this form, attach a list.
redits calculated in the
section may be entered
id. Days Cr." columns.
ed areas below.

Type of Survey(s) **GEOLOGICAL** Township or Area **900 M-2585 Dogpaw Lake Area.**

Claim Holder(s) **FTM RESOURCES INC** Prospector's Licence No. **T-1433**

Address **251 THIRD AVE., SUITE 4, TIMMINS, ONTARIO P4N 7J5**

Survey Company **Roy J. Rupert, Consulting Geologist** Date of Survey (from & to) **25 10 83 21 11 83** Total Miles of line Cut **19.95 miles**

Name and Address of Author (of Geo-Technical report) **Roy J. Rupert, 23 Welcome Ave., Sault Ste. Marie, Ontario P6A 5A5**

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological and linecutting Geochemical	40
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	Days per Claim
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
K	589863		K	590810	
	589864			590811	
	589865			590812	
	589866				
	589867				
	589868				
	590793				
	590794				
	590795				
	590796				
	590797				
	590798				
	590799				
	590800				
	590801				
	590802				
	590803				
	590804				
	590805				
	590806				
	590807				
	590808				
	590809				

RECEIVED

MINING LANDS SECTION

KENORA MINING DIV.
RECEIVED
DEC 8 1983
7 8 9 10 11 12 1 2 3 4 5 6 PM

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

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.

589863 Total number of mining claims covered by this report of work. **26**

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
1040	Dec 8/83	<i>[Signature]</i>
94.579		

Date **Dec. 5, 1983** Recorded Holder or Agent (Signature) **R.A. Bell**

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 **R.A. Bell c/o David R. Bell Geological Services Inc., P.O. Box 1250 Timmins**

Date Certified **Dec 5, 1983** Certified by (Signature) **R.A. Bell**



Ministry of Natural Resources

File _____

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) Geological

Township or Area Dogpaw Lake and Lobstick Bay Areas

Claim Holder(s) FTM Resources Inc.

Survey Company David R. Bell Geological Services Inc.

Author of Report Roy J. Rupert

Address of Author 28 Welcome Ave., Sault Ste. Marie, Ont.

Covering Dates of Survey Linecutting Feb., 1983; Geology
Oct 23/83 to Nov 4, 1983
(linecutting to office)

Total Miles of Line Cut _____

MINING CLAIMS TRAVERSED
List numerically

See Attached List
(prefix) (number)

SPECIAL PROVISIONS
CREDITS REQUESTED

DAYS
per claim

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

ENTER 20 days for each
additional survey using
same grid.

Geophysical
-Electromagnetic _____
-Magnetometer _____
-Radiometric _____
-Other _____
Geological 40
Geochemical _____

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

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

DATE: Jan 20, 1984 SIGNATURE: [Signature]
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
JAN 25 1984
MINING CLAIMS SECTION

TOTAL CLAIMS _____

OFFICE USE ONLY

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____

(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

**INDUCED POLARIZATION
RESISTIVITY**

Instrument _____

Method Time Domain Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

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 - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

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)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

ANALYTICAL METHODS

Values expressed in: per cent
p. p. m.
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, -(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

List of Claims

K589863

K589864

K589865

K589866

K589867

K589868

K590793

K590794

K590795

K590796

K590797

K590798

K590799

K590800

K590801

K590802

K590803

L590804

K590805

K590806

K590807

K590808

K590809

K590810

K590811

K590812

Total Claims 26

26305

ROY J. RUPERT
CONSULTING GEOLOGIST
28 WELCOME AVENUE
SAULT STE. MARIE, ONTARIO
P6A 5A5
PHONE (705) 254-4130

4-05-17

MR. E. F. ANDERSON, Director,
Land Management Branch,
Ontario Ministry of Natural Resources,
Room 6450, Whitney Block,
QUEEN'S PARK, TORONTO, Ontario
M7A 1W3

RECEIVED

MAY 18 1984

MINING LANDS SECTION

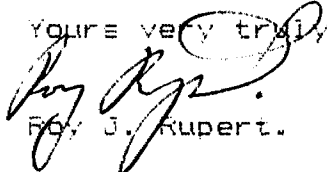
Dear Sir:

RE: Your file 2.6305

Please find enclosed signed copies of 4 maps which were submitted unsigned for assessment credit.

We trust that you will now find this submission in order.

Yours very truly,



Roy J. Rupert.

cc: F. A. Dadson
encs.

RECEIVED	
Land Management Branch	
CIRCULATE	<input type="checkbox"/>
COMMENTS PLEASE	<input type="checkbox"/>
BY	
MAY 18 1984	
S. E. YUNDT	
J. R. MORTON	
J. C. SMITH	
W. L. GOOD	

R. 0513

DAVID R. BELL GEOLOGICAL SERVICES INC.

251 THIRD AVE., SUITE 4
BOX 1250
TIMMINS, ONTARIO
P4N 7J5
(705) 264-4286
TELEX - 067-81638

PUROLATOR

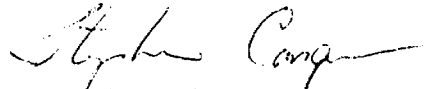
May 14, 1984

Mr. Roy J. Rupert
28 Welcome Avenue
Sault Ste. Marie, Ontario
P6A 5A5

Dear Mr. Rupert:

In regards to our telephone conversation I am enclosing a copy of the Ministry's request and your maps. If you would sign each map and forward to the Land Management Branch it would be greatly appreciated.

Yours truly,



for
Peter A. Dadson
Exploration Manager

PAD/kg

Encl.

cc A. Bell

File - 326 corresp., assessment

RECEIVED

MAY 18 1984

MINING LANDS SECTION

April 17, 1984

Our File: 2.6305

F.T.M. Resources Inc
251 Third Avenue
Suite 4
Timmins, Ontario
P4N 7J5

Attention: R.A. Bell

Dear Sir:

RE: Geological Survey submitted on Mining Claims
K 589863 et al in the Area of Dogpaw Lake

Please have the author of the report sign each copy and return them to this office quoting File 2.6305.

For further information, please contact Mr. F.W. Matthews at (416)965-6918.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-6918

S. Hurst:mc

cc: Mining Recorder
Kenora, Ontario

Encl.



Mining Lands Comments

maps not signed

To: Geophysics

Comments

Approved Wish to see again with corrections Date Signature

To: Geology - Expenditures *Mr. C. Kustra.*

Comments

Approved Wish to see again with corrections Date *Mar 2 / 84* Signature *C. Kustra*

To: Geochemistry

Comments

L.D.

Approved Wish to see again with corrections Date Signature

To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1000000000

M. Anderson Feb 15, 89

Assessed

Approved Reports of Work
sent out

Notice of Intent filed

Approval after Notice of Intent
sent out

Duplicate sent to Resident
Geologist

Duplicate sent to A.F.R.O.

1984 02 07

Your File: 159 - 83
Our File: 2.6305

Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5160
Kenora, Ontario
P9N 3X9

Dear Sir:

We have received reports and maps for a Geological survey submitted under special provisions (credit for Performance and Coverage) on mining claims K 589863 et al in the Area of Dogpaw Lake.

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

Yours very truly,

J. R. Morton
Acting Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

A/ Barr/dg

cc: F. T. M. Resources Inc.
251 Third Avenue
Suite #6
P.O. Box 1250
Timmins, Ontario P4N 7J5

cc: Roy J. Rupert
28 Welcome Avenue
Sault Ste. Marie, Ontario
P6A 5A5

DAVID R. BELL GEOLOGICAL SERVICES INC.

251 THIRD AVE., SUITE 4
BOX 1250
TIMMINS, ONTARIO
P4N 7J5
(705) 264-4286
TELEX - 067-81638

REGISTERED

February 6, 1984

2.63 15

Mr. F. Mathews
Ministry of Natural Resources
Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3

Dear Mr. Mathews:

Re: Report Geological Survey for FTM Resources Inc.,
Dogpaw Lake - Claims K589863 et al

On January 23, 1984 two copies of the above reports were sent to your office. The enclosed maps were not coloured. Enclosed please find the properly coloured maps for evaluation.

Please acknowledge receipt of the above.

Sincerely yours,

R.A. Bell

R.A. Bell
Vice-President

RAB/kg

Encl.

cc Don Esson

File - 326 - geol. report,
claims
corresp.

RECORDED

FEB 7 1984

MINING

DAVID R. BELL GEOLOGICAL SERVICES INC.

251 THIRD AVE., SUITE 14
BOX 1250
TIMMINS, ONTARIO
P4N 7J5
(705) 264-4286

REGISTERED

January 23, 1984

Lands Administration Branch
Mining Lands Section
Ministry of Natural Resources
Room 1617, Whitney Block
Queen's Park
Toronto, Ontario
M7A 1W3

Attention: Mr. Fred Mathews

Dear Sir:

Re: Report; Geological Survey for FTM Resources Inc., Dogpaw
Lake Claims, District of Kenora, Ontario - Claims K589863 et al

I have enclosed two (2) copies of the above report
(authored by Roy Rupert) as per Ministry of Natural Resources
requirements for assessment credits. Would you kindly acknow-
ledge receipt of said reports.

Respectfully submitted,



Stephen Conquer
Regional Geologist

Per: David R. Bell
Geological Services Inc.

SC/kg

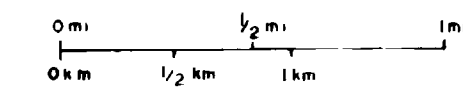
Encl.

cc Don Esson,
R.A. Bell

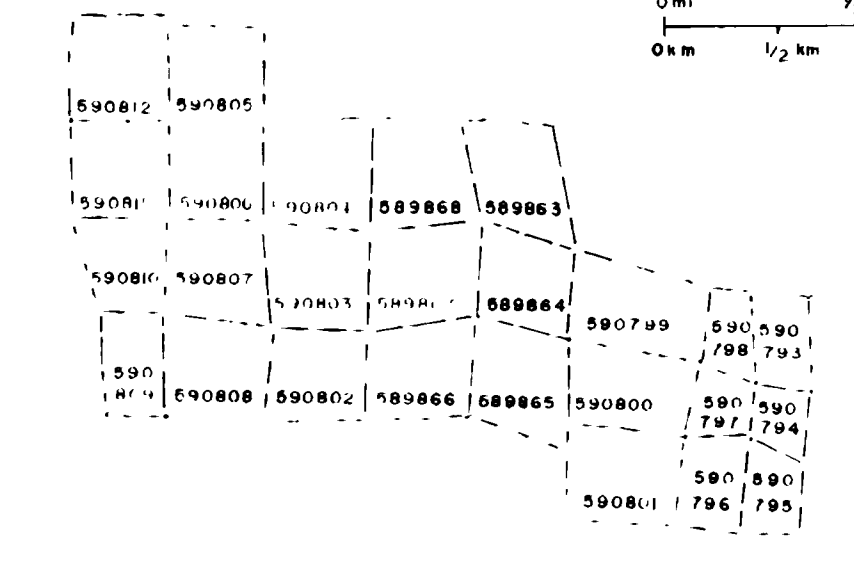
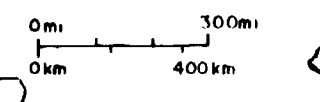
File - 326 - assessment,
corresp.

RECEIVED
JAN 25 1984
MINING LANDS SECTION

SCALE

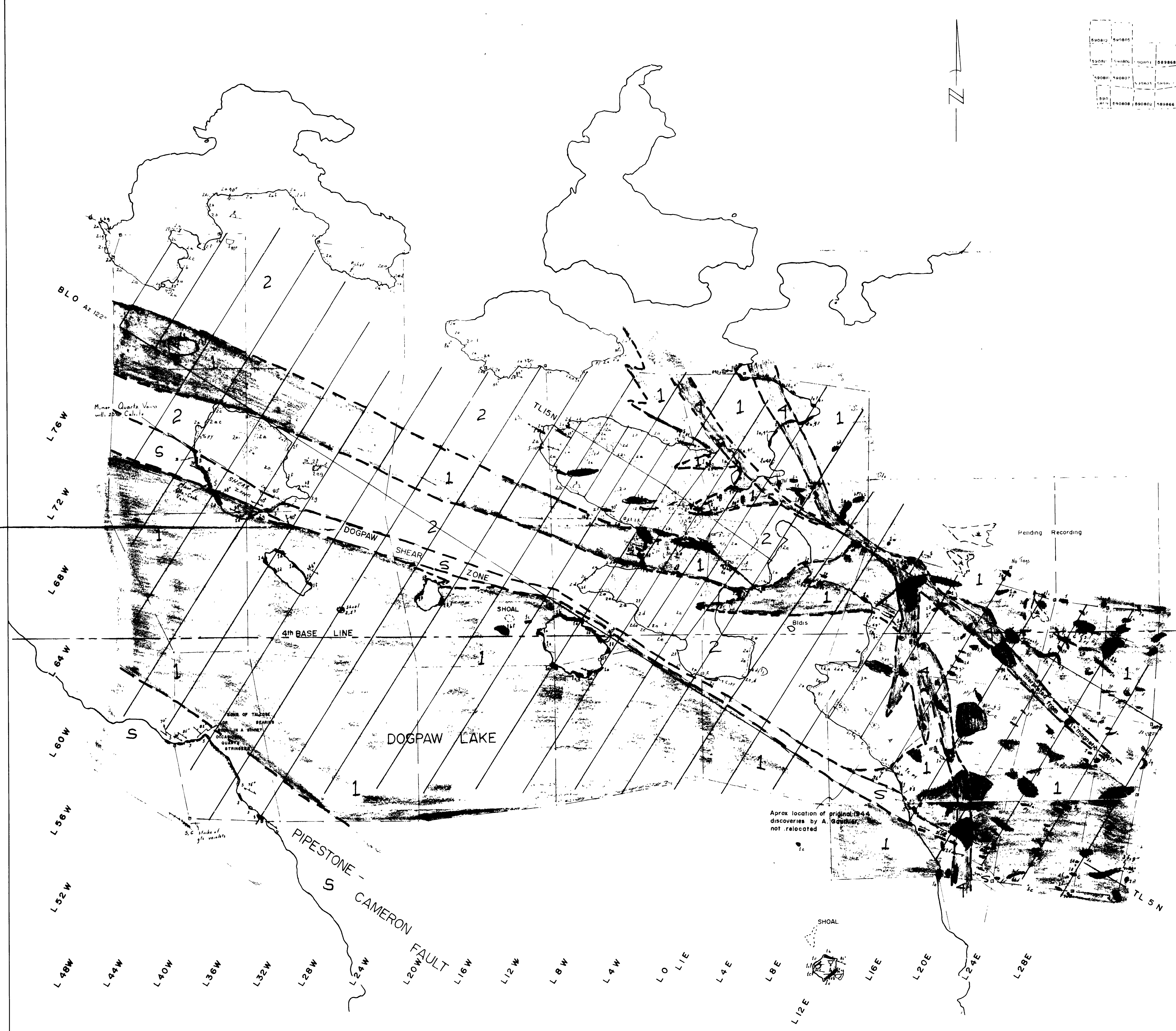


SCALE



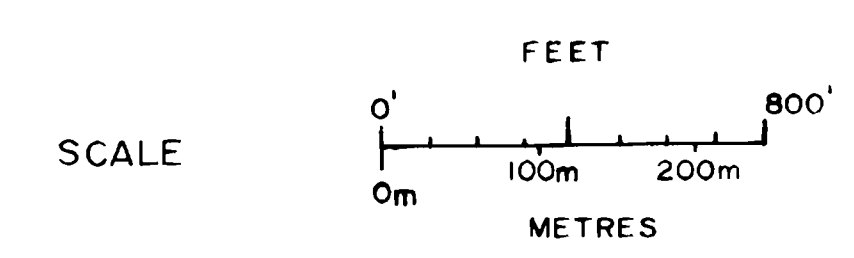
LEGEND

- 4 ■ DIABASE
- 3 [3] QUARTZ-FELDSPAR PORPHYRY
- 2 [2] FELDSPHRYRIC DAC-ANDESITE
- [M] MAFIC ANDESITE
- a) Massive fine to mg
- b) Pillowed
- c) Bun Pillows & Agglomerate
- d) Flow Breccia
- e) Tuff Breccia & Tuff
- f) Amygdular Qtz
- g) Amygdular Calcite
- j) Intrusive Dyke
- S S - Sheared
- Py - Pyritic
- Carb - Carb
- Sil - Silicification
- qv - Quartz Veins



Pending Recording

Pending Recording



- CLAIM POST LOCATED
- CLAIM CORNER, PROJECTED LOCATION. POSTS IN WATER PROJECTED DIRECTLY N,S,E OR W FROM OBSERVED WITNESS POSTS.

Aprox location of original 1944 discoveries by A. Gaudin not relocated

ROY J. RUPERT CONSULTING GEOLOGIST

FTM RESOURCES INC. DOGPAW LAKE CLAIMS GEOLOGICAL PLAN

GEOLOGY BY R.J.R. W.D. BOOTH NOV 1983

