REPORT ON FIELD WORK
TINTINA PROJECT
1970 O.E.X. PROGRAM
(Magundy, Ross River & Fyre Lake)

DYNASTY EXPLORATIONS LIMITED

By: T.J.Adamson Dec. 1970

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REPORT ON FIELD WORK

TINTINA PROJECT 1970 O.E.X. PROGRAM

(Magundy, Ross River and Fyre Lake Areas)

Whitehorse Mining District

Yukon Territory

By:

T. J. ADAMSON, Geologist

DYNASTY EXPLORATIONS LIMITED

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REPORT ON FIELD WORK
TINTINA PROJECT 1970 O.E.X. PROGRAM

INTRODUCTION

Work, under the Tintina Project, in 1970, was originally scheduled for only the Magundy River Area and Fyre Lake Area. However, very heavy snow cover in the Pelly Mts. in May of this year delayed the beginning of the Magundy follow-up program. In the time available before work could begin in the Magundy area, a silt sampling program was started in the relatively low, snow-free, country immediately surrounding the community of Ross River, Y.T. This program was to cover extensions of the favourable stratigraphy (G.S.C. Unit 7) from the Anvil Area southeast along the north side of the Tintina Fault. Work at this time was carried out in the following N.T.S. map areas: 105-K-1, 2; 105-F-15, 16; 105-G-12, 13.

The object of work in the Magundy area (N.T.S. Area 105-K-2, 3, 4; 105-L-1) was to evaluate a number of geochemical and prospecting targets discovered by G. Pearse and K. Dawson during the course of the 1969 Tintina O.E.X. project.

The 1970 Fyre Lake area program was also to follow-up a number of geological and geochemical targets discovered by G. Pearse during the 1969 Tintina O.E.X. program. The Fyre Lake work was conducted on N.T.S. map sheets; 105-G-1, 2, 7, 8, 9 and 105-H-4.

LOCATION AND ACCESS

The Ross River - Magundy River Area is in south-central Yukon, along either side of the Tintina Trench. The Ross area is to the N.E. of the Tintina Fault, the Magundy area is to the southwest of the fault. The Magundy area base camp was on the Robert Campbell Highway (Carmacks - Faro) approximately 75 miles east of Carmacks and 17 miles east of Little Salmon Lake. This camp was supplied, by vehicle, from Faro. The Ross River work was based out of the 'Atlas Explorations' bunkhouse in the village of Ross River. The Fyre Lake area is centred about 80 miles southeast of Ross River, Y.T., and is immediately north of the Tintina Trench. The base camp, at Fyre Lake, was serviced by Beaver aircraft from Ross River. Fuel was trucked from Ross River to Finlayson Lake along the Ross River - Watson Lake road (about 30 miles west of Fyre Lake) and then flown by Beaver from Finlayson Lake to Fyre Lake.

A Bell G3-B2 helicopter, on contract, was used in all three areas for day to day field operations.

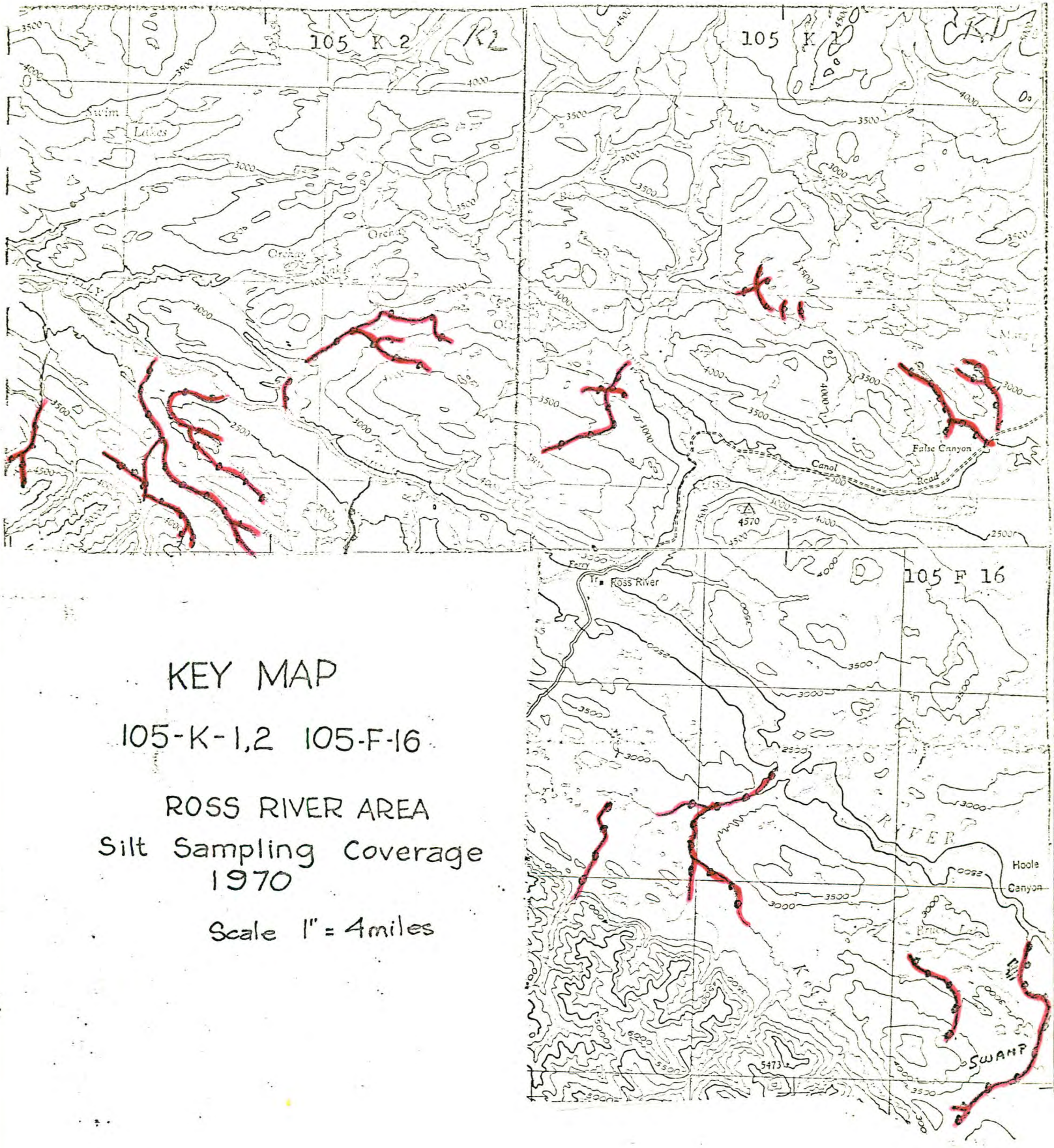
GEOCHEMICAL TECHNIQUE

Silt samples, soil samples and rock samples were collected for geochemical analyses. Most samples were analyzed for copper, lead, zinc and molybdenum. Copper, lead and zinc determinations were made by atomic absorption methods after digestion in hot aqua regia. Molybdenum content was determined colourimetrically by the thiocyanate-stannous chloride method using isopropyl ether for the extraction of the coloured Mo comples. Lower detection limit for all elements sought was 2 ppm.

Geochemical results were plotted on base maps having a scale of 1"= 1 mile. The threshold of anomalous values for each element was determined by visual inspection of histogram plots of the analytical results.

Note: The data from the 1970 Tintina Project work, unless otherwise noted in the text, have been plotted on 1"= 1 mile base maps and filed in the appropriate map folios.

AREA "A" - ROSS RIVER AREA



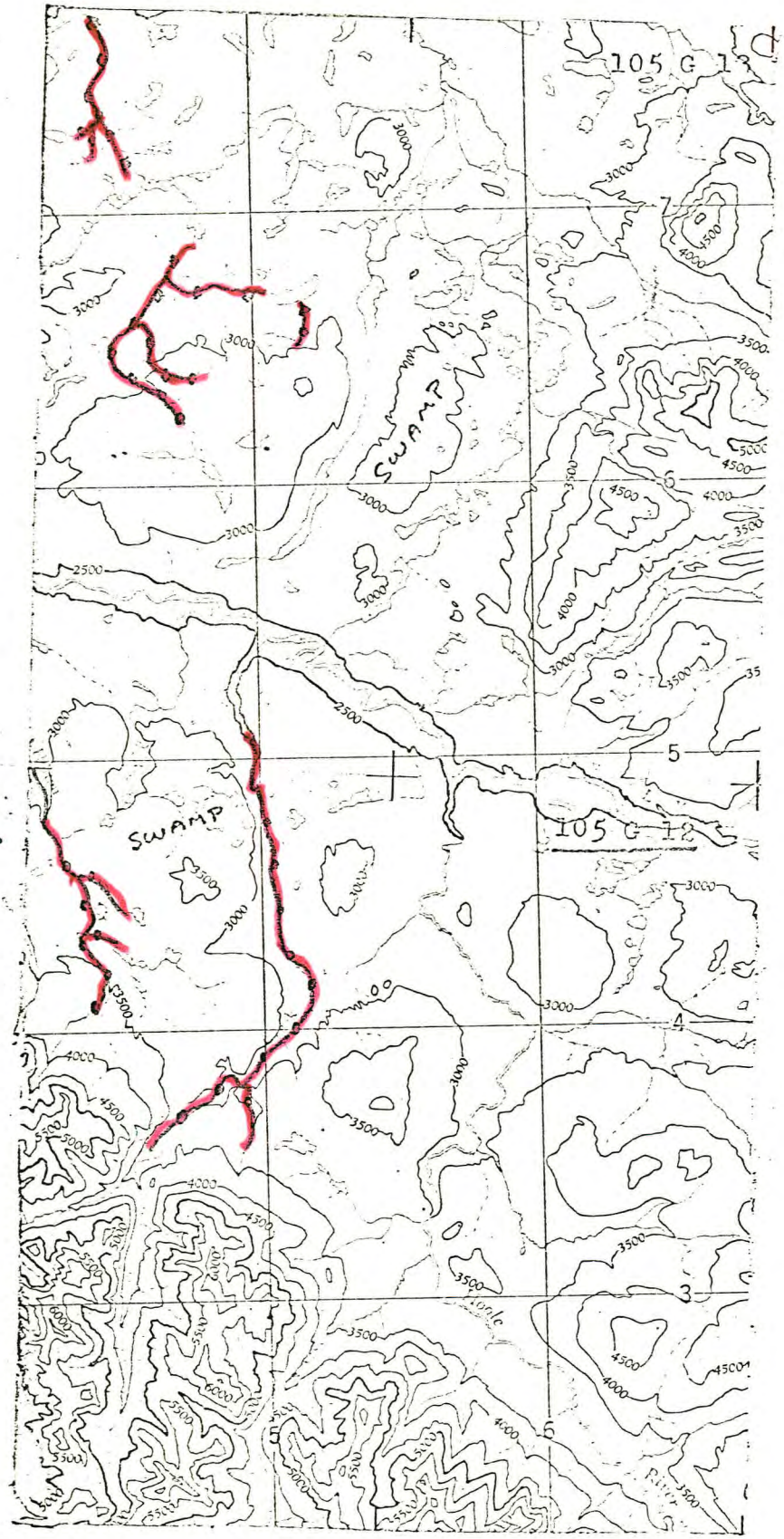
KEY MAP

105-K-1,2 105-F-16

ROSS RIVER AREA

Silt Sampling Coverage 1970

Scale 1" = 4 miles



KEY MAP 105-G-12, 13

Ross River Area ~ Silt Sampling Coverage

1970

Scale 1" = 4 miles

AREA "A" - ROSS RIVER AREA

Geology and Prospecting

Outcrop is very sparse in the area north of the Tintina Fault and southeast of Ross River (105-F-16, 105-G-12,13). There is generally a thick cover of unconsolidated glacial and alluvial deposits. Virtually all the outcrop in the area has been examined and mapped by the G.S.C. Our work in this area confirmed the G.S.C. mapping. The area between Ross River and Orchay Lakes has been intensely prospected in recent years. Most areas of outcrop or near-outcrop in a favourable geologic setting (Anvil Unit) have been dissected by bulldozer work, grids and trenches.

Newmount's Bruce Lake property was examined. There is no outcrop in the vicinity. Some small diameter diamond drill core left at the site contained some very low grade copper mineralization (chalcopyrite) in pyroxenite. There is also some minor pyrrhotite in the core, both disseminated and along fractures. Six closely spaced diamond drill sites were observed on the property.

Newmount's asbestos property between Star Creek and the Hoole River was also examined. There is no outcrop in the vicinity. A number of bulldozer trenches on the property are now caved and it was impossible to determine if they had reached bedrock. A few small, highly sheared, serpentine float boulders, containing non-economic 'slip-fiber' asbestos, were observed at the old campsite.

Two Magundy project follow-up targets near the southwest corner of map sheet 105-K-2 were investigated while working out of the Ross River base camp. The first area (Magundy Area #1) a small tributary of Grew Creek from which an anomalous Cu-Zn

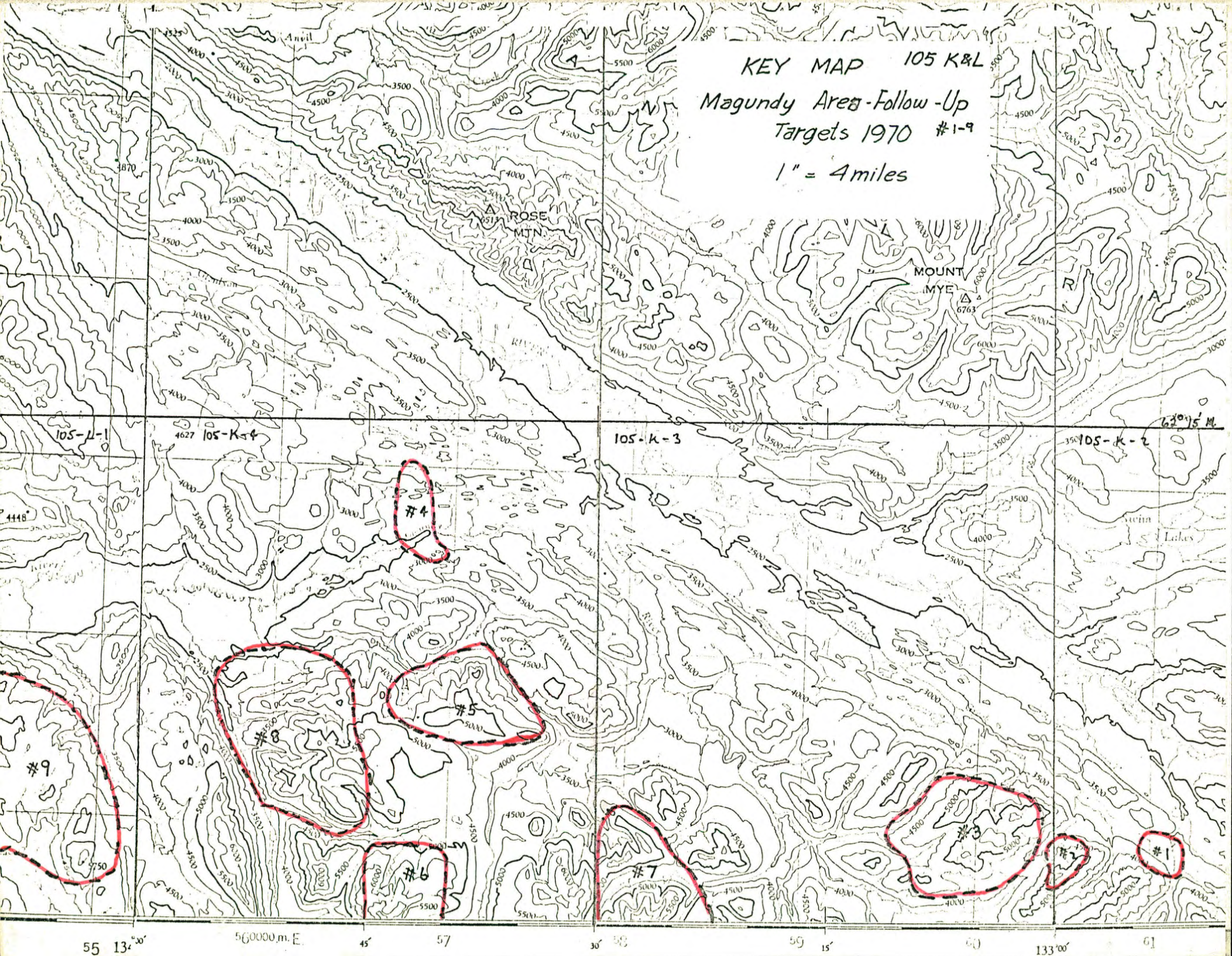
silt result had been obtained in 1969, was carefully prospected. No outcrop could be found in the area of interest. A small (6") float boulder of quartz-calcite vein material found in the area contained sphalerite and very minor chalcopyrite. Soil sample lines were run across the anomalous drainage basin, but only background analytical values were obtained.

The second follow-up area investigated (Magundy Area #2) straddles the contact between map sheets 105-K-2 and 3, near the southern border of the sheets. More detailed silt sampling gave a number of marginally anomalous lead and zinc results. The area is one of relatively abundant outcrop. No sulfide mineralization could be found. Only Cambrian phyllites, limestones, and shales of G.S.C. Unit 2 were observed.

Geochemistry

Approximately 275 silt samples and 100 soil samples were taken in the Ross River area. The soil sample lines run in Magundy follow-up area #1 gave only background results. Silt sampling in area #2 confirmed the original anomalous results. This anomaly could not be explained. The regional silt sampling detected only two areas of marginal interest, both on map sheet 105-K-1. Near the centre of the map sheet a copper value of 138 ppm in silt was obtained from a creek draining a section of Anvil Unit quartzite, limestone and conglomerate, contacting to the north, a large body of Cretaceous granodiorite. At the southeast corner of the map sheet, from a southeast-flowing creek draining into the Ross River, a number of silt samples were obtained that were marginally anomalous - Mo (2-6 ppm). This stream cuts across the contact between Cretaceous granodiorite (upstream) and Mississippian phyllite, in places graphitic. Outcrop is very sparse in the lower half of the creek. No sulfide mineralization was found either in place or as float.

AREA "B" - MAGUNDY RIVER AREA FOLLOW-UP WORK


KEY MAP 105 K&L
Magundy Area - Follow-Up
Targets 1970 #1-9
1" = 4 miles
ROSE MTN.
MOUNT MYE
6763
105-L-1
105-K-4
105-K-3
105-K-2
#1
#2
#3
#4
#5
#6
#7
#8
#9
560000 m. E.
55
57
58
59
60
61

AREA "B" - MAGUNDY RIVER AREA FOLLOW-UP WORK

Magundy area follow-up targets #1 and #2 were investigated while working out of the Ross River base camp and are described above.

Magundy follow-up area #3 was an area of anomalous lead, zinc and molybdenum results obtained from silts samples taken in 1969. No prospecting was done in this area at that time. This year, a number of prospecting traverses were made across the area of interest. No sulfide of economic interest, either in place or as float, could be found. The area investigated is underlain by Cambrian shales, phyllites, limestone and quartzite. These Cambrian rocks contact Cretaceous franite to the north. Very min or arsenopyrite was disseminated in one narrow quartzite unit. Quartz and calcite veinlets cutting across a shale outcrop contained very minor pyrite.

Follow-up area #4 was to cover a 1969 soil sample line with anomalous values in lead, over Devonian-Mississippian greywacke and quartzite, coincident with an anomalous magnetic expression. This season, the area was prospected, and more detailed soil sampling was carried out. Nothing of interest was discovered as a result of this further work. No anomalous lead values were obtained from any of this year's soil sampling.

In follow-up area #5, a limited amount of silt sampling in 1969 resulted in 2 very anomalous lead results, both open in an upstream direction. During 1970, the anomalous basins were prospected and silt sampling was continued upstream from the old anomalous sites. Prospecting in the area failed to discover any sulfide mineralization. The area is underlain by phyllite, slates and minor limestone. The new sampling did not result in any anomalous values. The anomalous values obtained in 1969 could not be repeated.

Area #6, the Lil Mineral Claim Group, was carefully prospected. This is an area of close to 100% bedrock exposure. The area is underlain by biotite schist, quartz biotite schist, grey slate, micaceous quartzite, and very minor skarny crystalline limestone. These rocks have been intruded by a Cretaceous granitic plug. Three small, discontinuous, skarny lenses were discovered, containing sphalerite mineralization. The zones of sulfide mineralization are much too small to be of any economic interest whatsoever.

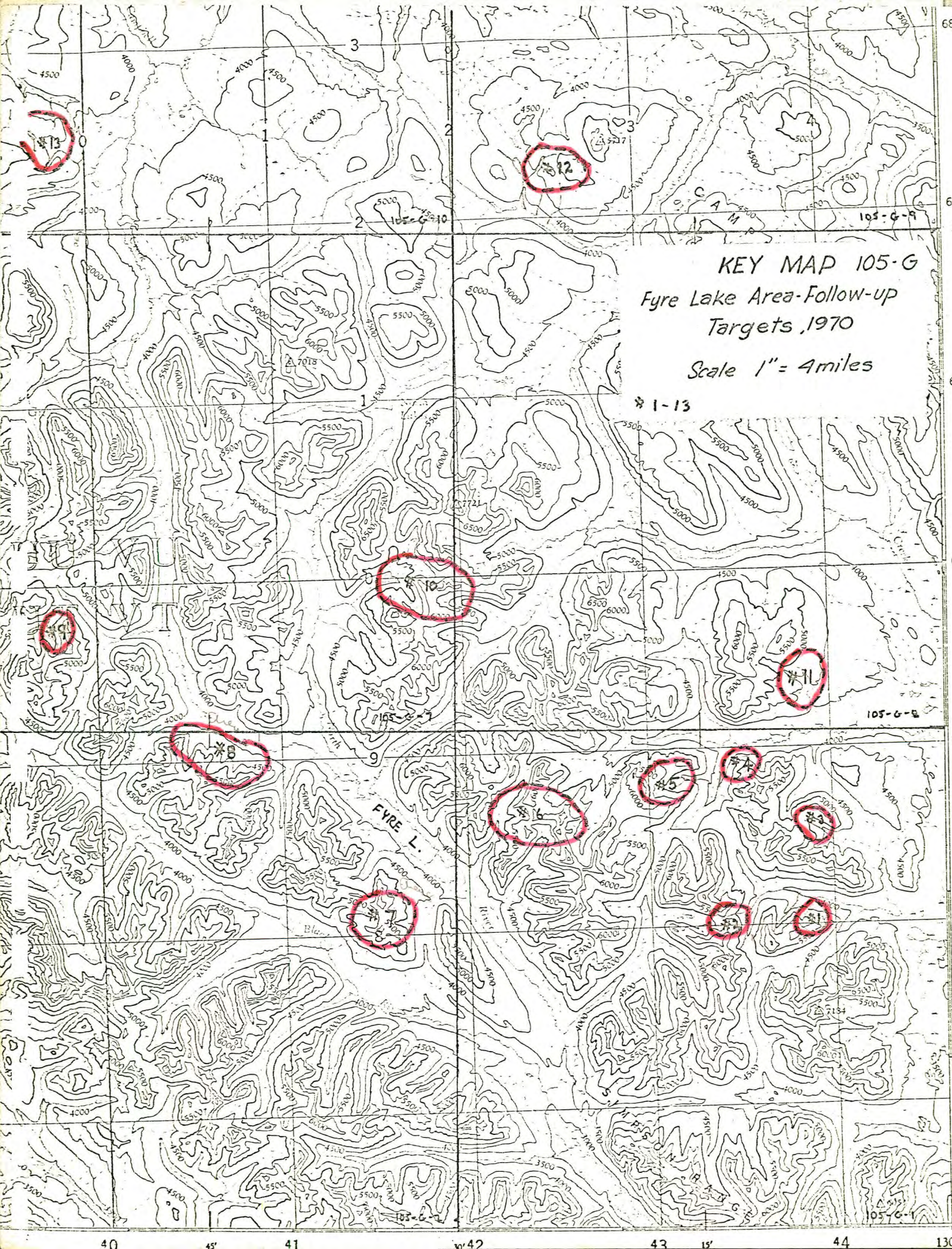
Magundy follow-up area #7 covers an area of Devonian black and brown shales, intruded by a large granitic plug. 1969 silt sampling in this area resulted in some very anomalous molybdenum results. Prospecting, in 1970, in the northern portion of the area failed to discover any explanation for the anomalous Mo results. A number of new silt samples taken in the area gave only background values. The southern part of the area was adequately investigated in 1969 by Bremner and Lishy, as part of the R.T. Project, with negative results.

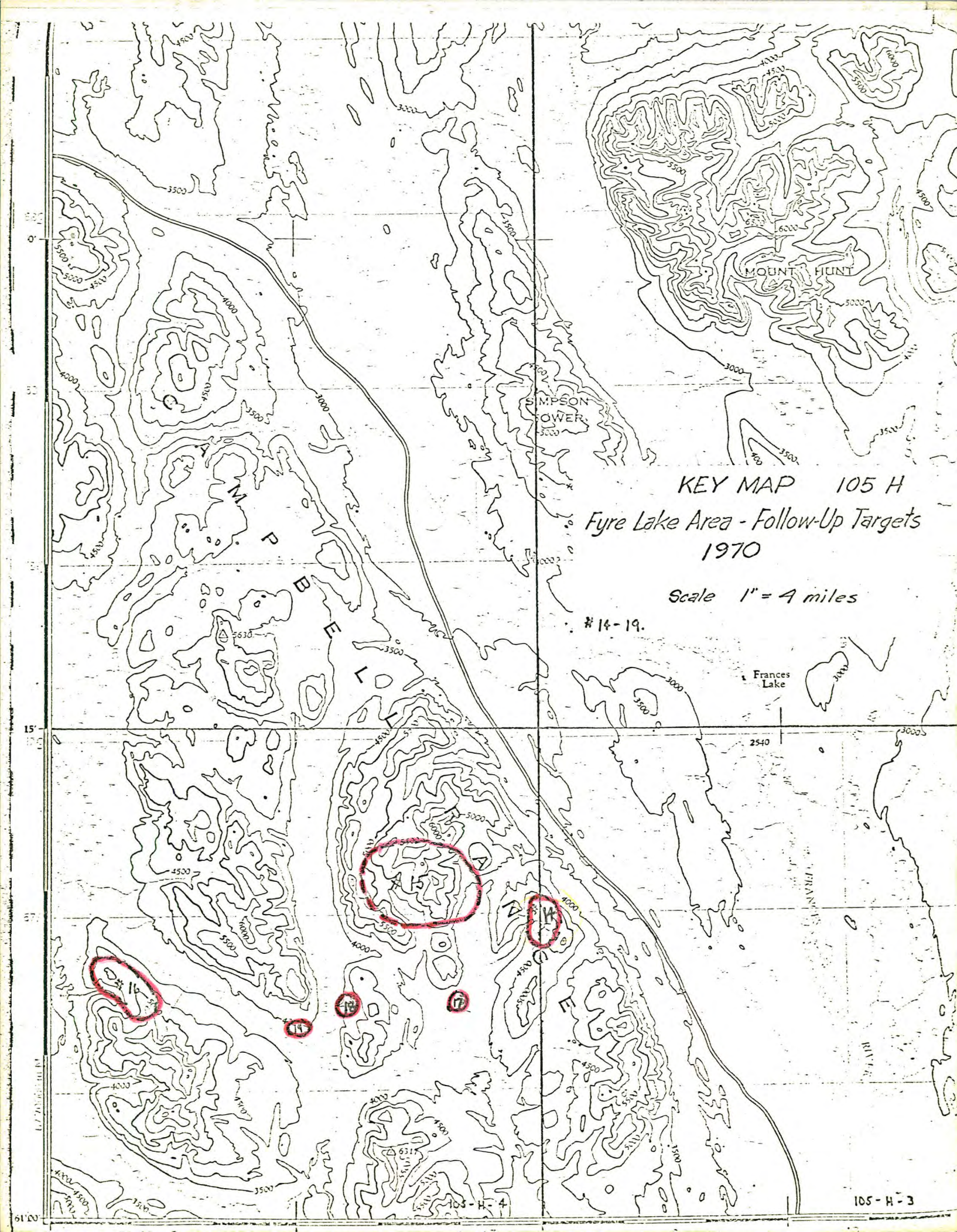
The area of a number of anomalous tungsten values in silts was the object of investigation in the Magundy follow-up area #8. The area of anomalous tungsten values was carefully mapped and prospected. Biotite schist and limestone have been intruded by a number of Cretaceous granodioritic bodies. There is much less limestone in this area than was inferred in the 1969 geological map by Pearse and Dawson. Skarn is developed at a number of sites at limestone-intrusive contacts. Scheelite, molybdenite, galena and sphalerite have been noted in these skarn zones, but in every case, the showings of economic minerals have been much too limited in size to be of any economic interest.

Area #9 was also mapped and prospected in detail. Numerous sulfide and scheelite mineral showings were discovered. None of the showings have any size potential. All are skarny in nature and are restricted to narrow limey stratigraphic units closely adjacent to intrusive contacts.

In addition to the above follow-up work done while working out of the Magundy base camp, some silt sampling was carried out in a small area about 12 miles northwest of Anvil (approximately $62^{\circ}30'N$, $133^{\circ}30'W$). This sampling was to cover an area of G.S.C. Unit 7, in which was located a slight coincident aeromagnetic and electromagnetic response, as reported by J. S. Brock. Gossan zones had also been reported in the area, but could not be found. None of the geochemical results warranted any follow-up.

AREA "C" - FYRE LAKE AREA FOLLOW-UP WORK


KEY MAP 105-G
Fyre Lake Area-Follow-up
Targets, 1970
Scale 1" = 4 miles
1-13
#13
#12
#10
#9
#11
#8
#7
#6
#5
#4
#3
#2
#1
FYRE L.
105-G-10
105-G-9
105-G-8
105-G-7
105-G-2
105-G-1
683
682
681
680
679
678
677
67
61
40
41
42
43
44
130°00'



KEY MAP 105 H

Fyre Lake Area - Follow-Up Targets

1970

Scale 1" = 4 miles

AREA "C" - FYRE LAKE AREA FOLLOW-UP WORK

Fyre Lake follow-up area #1, on may sheet 105-G-1, surrounds a small creek that yielded a silt sample that ran 1000 ppm Cu. No prospecting was done in this drainage basin in 1969. Outcrop is abundant in the area and careful prospecting was carried out during the 1970 program. The area is underlain by quartz-sericite schist, sericite schist and chlorite schist, some of it slightly limey. A number of very small showings of pyrite-chalcopyrite mineralization were found in the highly fractured noses of small recumbent folds in limey chlorite and sericite schists. About one-half mile upstream from the mouth of the anomalous creek, a number of pyrite lenses, up to 1 ft. thick, in very quartzose sericite schist, were discovered. At the creek mouth, a small piece of quartz-galena vein material float was found. No economically interesting mineralization was located. The small sulfide showings that were discovered could explain the geochemical anomalies.

Fyre Lake follow-up area #2 (105-G-1) was outlined by geochemical sampling in the summer of 1969. Initial follow-up work was done in September, 1969, by G. Pearse, but work was terminated before completion because of bad weather. The area was further investigated during 1970. The area is underlain by feldspar augen gneiss and quartz-sericite schist, contacting a pluton of hornblende quartz monzonite to the south. A small body of medium to coarse grained amphibolite is located in the headwaters of the geochemically anomalous creek. Zones in the amphibolite contain abundant pryite and pyrrhotite, and in places, very minor chalcopyrite. These sulfides are probably the source of the large gossan in this area. The quartz monzonite intrusive is unaltered and unmineralized.

Area #3 is also on may sheet 105-G-1. A number of anomalous copper, lead and zinc results were obtained in 1969 in silts from a small southeast flowing creek. No prospecting was done in 1969. An examination this year could not account for the geochemical anomalies. Outcrop is relatively abundant. No sulfide, other than minor pyrite, could be found. Rock types in the area are quartz-sericite schists, quartzite, sericite schist and light grey shale and slate.

Area #4 (105-G-1) is a gossan area that was dsicovered in 1970. The gossan is in the vicinity of a small granitic plug that has intruded quartz-sericite schists. Outcrop is scarce. Soil sample lines were run across the area of interst. No encouraging results were obtained.

In the Fyre Lake area #5 (105-G-1), initial follow-up work was done in September, 1969 by G. Pearse. He found enough minor sulfide mineralization in the area to explain the geochemical anomalies. However, adverse weather conditions prevented him from investigating the intrusive (hornblende quartz monzonite), at the headwaters of the anomalous creek, for porphyry copper-molbydenum potential. This was done in 1970 with no encouraging results. The intrusive is very clean and unaltered. A number of zones of diopside skarn with very minor copper mineralization were discovered at limestone-intrusive contacts.

Area #6, also on 105-G-1, is in the northwest corner of the map sheet. This is an area of copper and copper-lead anomalies in silts, within the intrusive (quartz monzonite to diorite) and in the adjacent metasediments (mainly chlorite schist). A small body of serpentinized peridotite and a number of basic dykes are found within the area. Pearse recommended that the area be prospected with particular attention paid to the

intrusive rocks as potential porphyry copper-molybdenum hosts. This was done during the 1970 field season. The acid intrusives in the area are uniformly clean, unaltered and unmineralized. The ultrabasic rocks in the area contained minor disseminated pyrite, pyrrhotite and,at several localities, very minor chalcopyrite. A number of small quartz veins in the intrusive, very near the sediment contact, in the southern part of the area, contained traces of molbydenite and in places showed slight malachite staining. There is almost 100% outcrop exposure in the area. No mineralization of economic interest was found.

Fyre Lake follow-up area #7 is in the west-central portion of map sheet 105-G-2. A number of silts, anomalous in lead, were collected from creeks draining the contact area between biotite granite and sericite schist. There is heavy pyritization in some schists near the contact. A number of small gossans were noted in the area. No sulfide mineralization of interest was seen. The lead anomalies could not be explained.

A number of drainages in the north-central portion of map sheet 105-G-2 anomalous in copper, constitute Fyre Lake follow-up area #8. The area is underlain by chlorite schists and sericite schists. Pearse thought that the anomalies may be due to replacement mineralization similar to that at the Fyre Lake copper property (DUB claims). The area was carefully prospected and extensive geochemical sampling was carried out. A small showing of pyrite-pyrrhotite-minor chalcopyrite mineralization in a section of highly contorted chlorite and biotite schists was discovered. Nothing of economic interest was indicated.

Area #9 is in the southwest corner of map sheet 105-G-7. Two silt samples anomalous in zinc were collected from adjoining

branches of the headwaters of a small creek. The area is underlain by quartz augen gneiss, quartz schists, and minor sericite and chlorite schists. None of the surrounding areas are gochemically anomalous. During the 1970 program, prospecting and soil sampling in this area gave no favourable results.

Follow-up target #10 is a number of copper-lead-zinc anomalies in silts and soils about 5 miles south of North Lakes. These occur over schists and gneisses bordering a granite stock. The metasediments were adequantely prospected, with negative results, in 1969, but Pearse recommended that the intrusives in the area be examined for porphyry-type mineralization. This was done during the 1970 program. Nothing of economic interest was discovered.

Area #11 is in the southeast corner of map sheet 105-G-8. A number of anomalous silt samples were collected in this area in 1969. The area is underlain by micaceous schists, graphitic schists, quartzite and minor limestone. The quartzite often contains minor disseminated pyrite. The limestone, although generally not containing any sulfides, tends to weather quite rusty. No interesting mineralization was discovered. Much of the area is overburden covered. A soil sample geochemical grid over the area failed to produce any encouraging results.

Followup area #12 is on map sheet 105-G-9. In 1969, a copper anomaly was detected in silts from an area of altered green volcanic rocks. A large transported limonitic gossan was also present in the anomalous creek. The main gossan zone was in an area of black graphitic shales, but appeared to be derived from the volcanics further upstream. A number of soil sample lines detected no significant results. The anomalous creek was re-sampled and again produced very anomalous copper results. A sample of the gossan material was also slightly anomalous in

copper and zinc. The volcanics are mainly overburden covered. In places they contained relatively abundant pyrite. No copper mineralization could be found. It is recommended that a more detailed soil sample grid be established over the possible source area of the gossan material and anomalous silt results.

Area #13, in the southwest corner of 105-G-10, was a low priority target, consisting of a single marginally anomalous copper result in silt from a creek draining a contact area between black graphitic phyllite with intercalated quartzite and a small quartz diorite stock. The contact area is pyritized and minor pyrrhotite was found disseminated in the diorite. The area was carefully prospected and silt sampling was done in all drainages in the area. Nothing of interest was found in the area.

Two copper anomalies occur in the upper reaches of a small creek at the centre of the east boundary of sheet 105-H-4. This is follow-up area #14. The drainage basin of this creek was examined for copper mineralization. Outcrop is abundant. The area is underlain by Mississippian grey and brown shales with minor intercalated chert and quartzite. No significant sulfide mineralization could be found.

Area #15, a train of copper anomalies ranging from 88 to 221 ppm along a south flowing creek east of the centre of map sheet 105-H-4, was investigated. A westerly trending belt if high aeromagnetic response crosses the creek in the vicinity of the highest copper values. Prospecting, silt sampling and soil sampling were carried out. Silt sampling in the creek immediately to the east gave a number of copper anomalies of similar magnitude. Prospecting indicated that the area of interest is underlain by shales and argillite, sometimes graphitic, chlorite and quartz-chlorite schists, and minor quartzite. However, outcrop is not abundant, especially on the lower

slopes. The magnetic anomaly is underlain, in part, by quartz chlorite schist containing minor magnetite. No sulphide could be found in the area other than pyrite in black shales and some schists. A base of slope soil sample line immediately east of the original anomalous creek gave some very anomalous, but random and scattered, copper results. The highest value, 2600 ppm Cu, was coincident with the magnetic anomaly. The copper anomalies could not be explained. The lack of any economic sulfide mineralized float and the possible explanation of the magnetic anomaly as being caused by magnetite-bearing schists are not encouraging. However, the magnitude of some of the copper geochemical values would suggest that possibly more detailed soil sample coverage is warranted.

A number of copper, lead and zinc anomalies in silts, from the west-central portion of map sheet 105-H-4, make up Fyre Lake follow-up area #16. Outcrop is abundant in the area and thorough prospecting was carried out. The area is underlain mainly by moderately dipping white quartzite and grey chert, with minor sections of grey to black shale, limestone and black chert. Three sulfide showings were found in this area, each consisting of pyrrhotite-pyrite-sphalerite-minor galena-chalcopyrite sulfide mineralization in the highly fractured contorted cores of small recumbent minor folds in limestone and limey shale units. None of these showings has any size potential, but they could explain the geochemical anomalies.

Areas #17, #18 and #19 are each small, elliptical, isolated aeromagnetic anomalies in areas of little or no bedrock exposure. All anomalies are generally underlain by Devonian-Mississippian sediments with abundant limestone. A fine to medium grained hornblende quartz monzonite stock intrudes these rocks and adjacent schists and gneisses in the southwest corner of the map sheet and other small bodies of this intrusive may

occur elsewhere in the area. Two soil sample lines, at right angles, were run across each of the magnetic anomalies and all adjacent drainages were silt sampled. All of the results of the above sampling were uniformly low and did not warrant any further work.

CONCLUSIONS AND RECOMMENDATIONS

The 1970 Tintina Project did not discover any mineral deposits of economic significance. However, a number of the areas worked in, as listed below, require some further work before a conclusive evaluation of the area can be made. None of the following areas is considered by the writer to be a first priority exploration target.

Areas requiring further work:

- Ross River Area, 105-K-1 - an anomalous copper result (138ppm), in silt, near the centre of the map sheet. Prospecting, soil and silt sampling should be done in the area.
- Ross River Area, 105-K-1 - Marginally anomalous Mo results in silts from a creek draining a granodiorite stock. The possibility of porphyry-type mineralization in the intrusive should be investigated.
- Fyre Lake Area - Follow-up Area #12, 105-G-9 - A soil sample grid should be established over a zone of altered volcanics in an attempt to locate the source of anomalous copper results in silts and gossan material.
- Fyre Lake Area, Follow-up Area #15, 105-H-4 - The source area of random anomalous copper results in silts and soil in the vicinity of an aeromagnetic anomaly could perhaps be more clearly defined with a more detailed soil sampling coverage of the area.

Respectfully submitted,

T. J. Adamson,

January, 1971.

SELECTED REFERENCES

Pearse, G.H.K, and Dawson, K.M, December 1969, "Tintina Project, 1969 - Magundy River Area - Report on Exploration Activities", Atlas Explorations' report.

Pearse, G.H.K, December, 1969, "Tintina Project - Finlayson Lake Area - Report on Exploration Activities, 1969", Atlas Explorations' report.

Pearse, G.H.K. December, 1969, "Fyre Lake - Report on Follow-up Work, September, 1969", Atlas Explorations' report.


KEY MAP 105-G
Fyre Lake Area-Follow-up
Targets, 1970
Scale 1" = 4miles
#1-13
#12
#10
#11
#8
#5
#6
#4
#3
#2
#1
#7
#9
FYRE L.
105-G-10
105-G-9
105-G-7
105-G-8
105-G-2
105-G-1
CAMP
683
682
681
680
679
678
67
61

KEY MAP 105 H

Fyre Lake Area - Follow-Up Targets

1970

Scale 1" = 4 miles

MAPS TO ACCOMPANY THIS REPORT

TINTINA FIELD WORK OEX, 1970 — 1" = 1 mile

105 F-16	Geochem		
105 F-16	Geology		
105 G-1	Geochem	Cu, Pb, Zn, Mn, Mo, W	Waters Creek
105 G-1	Geochem	TJA	
105 G-1	Geology		
105 G-1	Geology	1" = 1 mile	
105 G-2	Geology	1" = 1 mile, Upper Black River	
105 G-2	Geochem	TJA	
105 G-2	Geochem	Cu, Pb, Zn, Mo, Mn, W	
105 G-2	Geology		5,6
105 G-7	Geology	Grass Lakes	
105 G-7	Geochem		
105 G-8	Geology	Wolverine Lake	
105 G-8	Geochem		
105 G-9	Geochem	McEvoy Lake	
105 G-9	Geology		10,11
105 G-12	Geology	Star Creek	
105 G-12	Geochem	Star Creek	
105 G-13	Geochem	Weasel Lake	
105 G-13	Geology	Weasel Lake	14, 15
105 H-4	Geochem	Tuchitua River	3, 5
105 H-4	Geology	Tuchitua River	
105 K-1	Geochem	Tinas Creek	
105 K-2	Geochem	Swim Lakes	
105 K-2	Geology	Swim Lakes	
105 K-3	Geochem	Buttle Creek	
105 K-3	Geochem	Buttle Creek Cu, P, Zn, Mo	
105 K-4	Geochem	Mount Atherton	
105 K-4	Geochem	Mount Atherton Cu, Pb, Zn, Mo	
105 K-4	Geology	Mount Atherton	
105 L-1	Geochem	Truitt Creek	
105 L-1	Geology	Truitt Creek	