# REPORT

on the

# ELECTROMAGNETIC SURVEY

Bartlett Township - Porcupine Mining Division - Province of Ontario

for

PAYMASTER CONSOLIDATED MINES LIMITED

## SUMMARY

On March 1st and 2nd, a Vertical Loop Electromagnetic Survey was conducted over a portion of the Company's holdings in Bartlett Township, Porcupine Mining Division, Ontario. It encompassed an area some 4800 feet long and approximately 1000 feet wide, lying just east of Boomerang Lake. A road leading to the Fatima Mines property traverses this, and, in part, forms the east boundary of the area surveyed.

Previous to this survey work, a ground magnetometer survey, geological mapping, and diamond drilling (six holes) had been completed in this area.

Geological evidence, interpreted with the magnetic data, reveals an interbedded band of tuffaceous iron formation and agglomerate, about 100 to 300 feet in width, striking almost north-south. Dip of these rocks is very steep, predominantly to the east. The magnetic results strongly suggest that the formation is drag folded and possibly faulted in many places along its strike. Other rocks in the immediate vicinity are diorite, gabbro and syenite. The latter appear to be intrusives,

whereas the diorites are probably medium textured Keewatin lava flows.

The magnetite content of the iron formation rarely exceeds 15% by volume.

The Electromagnetic Survey revealed two anomalous (conductor) zones, roughly paralleling the magnetic anomaly. The strike of the electrical axis of these conductors is shown on the accompanying plan.

The electromagnetic anomalies are generally of weak magnitude, except at four locations, where they are considered good. These locations invariably appear to be along the nose of what is interpreted as drag folding. Previous investigation by diamond drilling did not investigate these areas. Three diamond drill holes cross-sectioned the weaker portion of the conductors and the cores revealed some disseminated pyrite and pyrrhotite mineralization. It is, therefore, concluded that the stronger portions of the E-M anomaly probably represents greater concentration of sulphides about the folded structures. In all probability, sulphide concentrations about such structures would tend to be lenticular.

On line 56 + 00 north, and lying between holes #6 and #3, a good E-M anomaly is present. Hole #6 was collared west of the anomaly, while hole #3 probed under the anomaly at a depth of approximately 300 feet. This anomaly appears near the syenite-iron formation - agglomerate contact. There is a possibility that

hole #3 penetrated beneath the anomalous area.

## CONCLUSIONS AND RECOMMENDATIONS

As the more favorable aspects of the survey results have not been investigated fully by the work done in the past, and because there is a possibility that the better anomalous conditions could represent sulphide mineralization, in concentrations greater than that revealed to date, the following considerations are presented.

It is recommended that three short diamond drill holes be drilled to investigate the anomalous zones. The particulars of these holes are as follows and are shown on the accompanying plan.

| Hole No. | Latitude | Departure | Dip | Bearing | Length |
|---|---|---|---|---|---|
| A | Line 20 + 00 N | 5 + 00 W of B.L. | 50° | West | 300 feet |
| B | Line 36 + 00 N | 2 + 00 E of B.L. | 50° | West | 300 feet |
| C | Line 56 + 00 N | 5 + 00 E of B.L. | 50° | West | 300 feet |

Respectfully submitted,

Michael Zurowski

Toronto, Ontario,
March 26, 1959.

LARRY F. LABOW and ASSOCIATES
per M. Zurowski

In reply to letter of April 6, 1960

April 13, 1960

1 Report on Paymaster Consolidated Mines, Limited McArthur Group 2 property consisting of 23 claims Nos. P-44502 to 44523 inclusive and claim 44564.

2 (a) Reasons for Survey.

These claims were staked in February 1958 after having received a report from Spartan Air Services of the airborne E-M survey of this area. The survey indicated a "3A" conductor on two adjacent flight lines at 2100S and 1000E. and 3900S and 500E. The estimated position of this conductor is shown on the accompanying map No. This plots slightly west of the east iron formation as shown on the ODM map 35h. The Cremac geophysical survey was planned to locate this or other conductors on the property that were likely to contain economic minerals in commercial quantities.

(b) Location and Means of Assess.

The property is located on the south boundary of McArthur township between mile posts 2 and 3. See map No. 1 scale 1"=1320'. The property is located midway between Triple Lake and McArthur Lake, both of which are suitable for aeroplane. The property may be reached by Wick's lumber road 27 miles from the Paymaster property. The old road on the east side of Triple Lake passes within half a mile of the property. There are two old lumber roads from Triple Lake to McArthur Lake that cross the property. They are shown on map 35h. The one along the south boundary of the property is passable with a jeep during the drier part of the summer as far as the old Hewitt property claim T.R.P. 4649. The one across the north central part of the property has been used during the past year by Hydro and for diamond drilling as far as the centre of the property. This old road can be followed with difficulty past this point. This road is so swampy that it is not suitable for wheeled vehicles.

(c) Names and Addresses of Owners of the Property.

Mr Charles E. Cook is holding these claims in trust for Paymaster Consolidated Mines, Limited, South Porcupine, Ontario.

(d) Number of Claims covered by the Survey.

Twelve claims Nos. P-44511 to 44522 were fairly well covered by the geophysical survey. Five others Nos. 44507 to 44510 and 44523 were partially covered

(e) Number of days credit recorded on each claim by reason of Survey.

As the total time credit amounted to 476 days this was divided among between the 17 claims giving 28 days to each claim.

(f) George Carr has been instrument man, foreman, and supervisor for Cremac Surveys Limited since 1953. C. S. Longley is a graduate of Queen's 1932 and have been at Paymaster 24 years with my present position Engineer-Geologist in charge of the combined department. J. P. Sheridan, P.Eng. address is Suite 602, 121 Richmond St. W. Toronto.

(g) The instruments used by Cremac were a Sheridan-Kelp Magniphase Electro-magnetometer E-100 and confirgated [illegible] and the results [illegible]:

and a Sharpe A-2 magnetometer with 20 gammas to a scale division and a range of 16,000 gammas. Sheidan used a Sheidan-Kelp Dual-Frequency magniphase electromagnetic surveying instrument Model 515 with 1" = 80 units or 1" = 20° working on wave length 2400 cps and 800 cps.

C. S. L.

# REPORT

of

Magnetic and Electro-magnetic Survey

conducted by

CREMAC SURVEYS LIMITED

for

PAYMASTER CONSOLIDATED MINES, LIMITED

on claim group in McArthur Township

Nos. P-44502 to 44523 inc. & 44564.

in December 1959

With report of check survey

by

Mr J. P. Sheridan

March 25, 1960.

Report on Paymaster Consolidated Mines, Limited McArthur Group 2 property consisting of 23 claims Nos. P-44502 to 44523 inclusive and claim 44564

(a) Reasons for Survey.

These claims were staked in February 1958 after having received a report from Spartan Air Services of the airborne E-M survey of this area. The survey indicated a "3A" conductor on two adjacent flight lines at 2100S and 1000E and 3900S and 500E. The estimated position of this conductor is shown on the accompanying map. This plots slightly west of the east iron formation as shown on the ODM map 35h. The Cremac geophysical survey was planned to locate this or other conductors on the property that were likely to contain economic minerals in commercial quantities.

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Mr. Charles E. Cook is holding these claims in trust for Paymaster Consolidated Mines, Limited, South Porcupine, Ontario.

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Twelve claims, Nos. P-44511 to 44522, were fairly well covered by the geophysical survey. Five others, Nos. 44507 to 44510 and 44523, were partially covered.

(e) Number of days credit recorded on each claim by reason of Survey.

As the total time credit amounted to 476 days, this was divided between the 17 claims giving 28 days to each claim.

(f) George Carr has been instrument man, foreman, and supervisor for Cremac Surveys Limited since 1953. C. S. Longley is a graduate of Queen's 1932 and has been at Paymaster 24 years with his present position Engineer-Geologist in charge of the combined department. J. P. Sheridan's (P. Eng.) address is Suite 602, 121 Richmond Street W., Toronto.

(g) The instruments used by Cremac were a Sheridan-Kelk Magniphase Electromagnetometer with 1" of scale = 100 units = 30% amplitude or = 25% phase. A Sharpe S-E-100 recording tilt angles in degrees of the resultant field and a Sharpe A-2 magnetometer with 20 gammas to a scale division and a range of 16,000 gammas. Sheridan used a Sheridan-Kelk Dual-Frequency magniphase electromagnetic surveying instrument Model 515 with 1" = 80 units or 1" = 20° working on wave length 2400 cps and 800 cps.

HEAD OFFICE

PAYMASTER CONSOLIDATED MINES, LIMITED
(NO PERSONAL LIABILITY)

SOUTH PORCUPINE, ONTARIO

ADDRESS ALL CORRESPONDENCE TO COMPANY, NOT TO INDIVIDUALS

February 9, 1960

Mr L. K. Walkom,
General Manager,
Paymaster Consolidated Mines, Limited

Dear Sir:-

Following please find report on the Paymaster Group 2 claims in McArthur township lying between mile post 2 and 3 on the south boundary of McArthur township. The group consists of 23 claims Nos. P-44502 to 44523 inclusive and 44564.

Three reconnaissance geological trips were made to look over these claims. On June 10th and 12th, 1958 accompanied by Frank Boychuck I traversed a number of claim lines. On October 15, 1958 accompanied by Reg Lawrance and Gordon Pollard we examined the south edge of the claims. On July 30, 1959 accompanied by Robert Heath I re-examined the iron formation outcrop area 100 feet east of the I.P. 2000'S and 1175'E. taking samples. The sample from the western part of the outcrop estimated as a 30' width assayed 30.7% iron and the leaner eastern 30' assayed 24.2% Fe.

In November 1959 it was decided to do a geophysical survey on the central part of these claims. George Carr of Cremac Surveys Limited arranged to do the survey. From the O.G.S. map 2910 Muskasenda Lake we calculated the strike of the iron formation as S.37° E. and started the base line from Post 1 claim 44520. The line ran between the two zones of iron formation. The eastern band of iron formation seems to be strong chiefly in the outcrop area.

There seems to be an irregularity at 1600S on the base line. One would suspect a basic dyke running southeast from this point. The diamond drill is set up on this line to cross section east and west of the base line. There seems to be a fold in the west iron formation. This iron formation is stronger with 12000+ gamma readings over a length of 4400'. On the ODM map 35h there is a dip indicated of 70° east. The magnetometer readings would support this reading.

An E-M survey located a conductor just east of the base line extending from line 800S to 2000S. A second conductor was located 800 feet east of the base line extending form 1600S to 2400S open at both ends.

With the lines laid out there will be a good opportunity to map the geology this spring.

Signed,
C. S. Longley.
C. S. Longley,
Engineer-Geologist.

Report of the geology of Paymaster Group 2 McArthur Township situated on the south boundary of the township between mile posts 2 and 3. The group includes claims 44502 to 23 inclusive and claim 44564.

The diamond drilling and surface observations indicate that the formations face northeast and dip steeply in that direction. The magnetometer survey indicates that the two bands of iron formation are continuous across the property.

Agglomerate:

The area west of the west band of iron formation seems to be underlain by agglomerate. This statement is based on three observations:

1. This area shows uniformly low magnetometer readings.
2. The outcrops at the cabin on the south boundary of the property and on the south boundary of claim 44517 are agglomerate.
3. D.H. No. 2 cut a hundred feet of agglomerate west of the iron formation at the bottom of the hole.

Iron Formation:

As this area gave high readings 3000 gammas and above on the Lake Muskasenda aeromagnetic map, this iron formation was considered as a possible source of iron ore. The magnetic readings 12,000 and over of the ground magnetometer survey were considered encouraging. A drill hole was laid out to intersect the section of strongest readings. As we needed diamond drill footage for assessment work, this hole was abandoned after 101 feet of boulders. D.H. No. 2 cut considerable iron formation with the best section from 230 to 259' - 29 feet assaying 27.4% iron. It is improbable that the iron formation contains any direct shipping ore. The east band of iron formation contains magnetite stringers up to 2 inches wide. D.H. No. 6 cut iron formation from 275' to 449' on the east band.

Keewatin Lava.

The observation of the Keewatin rocks between the two bands of iron formation is confined to D.H. No. 5 from 18 to 181 feet and short sections of lava in D.H. Nos. 3 and 4. Near the west iron formation and near the east contact of the intrusive, the volcanics are thin andesite flows with uniform massive bases and amygdaloidal, spherulitic or brecciated tops. In D.H. No. 5 from 75 to 100' there is a series of thin flows averaging about five feet thick with east facings. From 18 to 75' there is a variety of rhyolite, rhyolitic agglomerate and acid lava. It is probable that the lava near the intrusive was originally an acid lava but has been altered so that it now resembles andesite.

Several traverses were made east of the east band of iron formation but no outcrops were found in this area.

Basic Intrusives: including Amphibolite and Diorite-Gabbro

Robert Ginn, the resident geologist, suggested that the diorite-gabbro intrusive rocks cut in the diamond drilling were from the same magna with similar composition but intruded at different times consequently showing different degrees of alteration.

Amphibolite:
The most altered rock shows foliation and other alteration with segregation of feathery altered amphibole. The alteration is variable so that it is difficult to separate from the fresh intrusive called diorite-gabbro. Near the west contact there are numerous iron formation inclusions.

Diorite-Gabbro:
This intrusive is marginal between diorite and gabbro judging from the percentage of light and dark minerals. Stubby pyroxene crystals may be seen. As the density was determined on one specimen as 3.0, it is probable that this rock should be classed as a gabbro. The color is medium to light bluish greenish grey.

Other Intrusives:

Diorite:
The amphibolite and diorite-gabbro are cut by narrow fine grained diorite dykes. These are uniform texture and slightly lighter color than the intruded rocks.

Porphyry:
D.H. No. 3 from 600 to 624 feet cut felsitic porphyry of syenite-diorite composition that is fresher than the intruded rocks. This might correlate with the feldspar porphyry of Bartlett Township.

Acid Dykes:
D.H. No. 5 cut light acid felsite dykes from 122.5 to 130 feet and from 163 to 170 feet. These are of granite-syenite composition. This acid rock outcrops on claim 44512 on the iron formation ridge. D.H. No. 6 cut acid rocks from 170' to 239' and 264' to 274'.

Diabase:
A gabbro diabase dyke a hundred feet wide was cut by D.H. Nos. 2 and 3 that contained enough magnetite to be attracted by a magnet. This is of medium greenish grey color with 1/8" crystals. The adjoining rock is much altered by epidote. The dyke strikes N.50° W. and dips 65° west. There is a zone of high magnetic readings suggesting the trend of the dyke.

Economic Summary:

Iron: Sections of iron formation 30 feet wide containing 25 to 30% iron are of doubtful economic value.

Copper: D.H. No. 5 cut a zone of reddish alteration from 323 to 324 feet that contains ¼" pyrite cubes. Some of these cubes have been altered to chalcopyrite. D.H. No. 4 cut between 466 and 468 feet two 4" quartz stringers that contain at least 15% chalcopyrite.

Gold: Some of the quartz stringers in the intrusives are mineralized with fine cube pyrite. The quartz is sometimes two feet wide. Several veins were assayed for gold with negative results.

There is reported to be a schist zone outcropping near the south boundary of McArthur Township that may be on claim 44564 that assays up to $6.00 in gold.

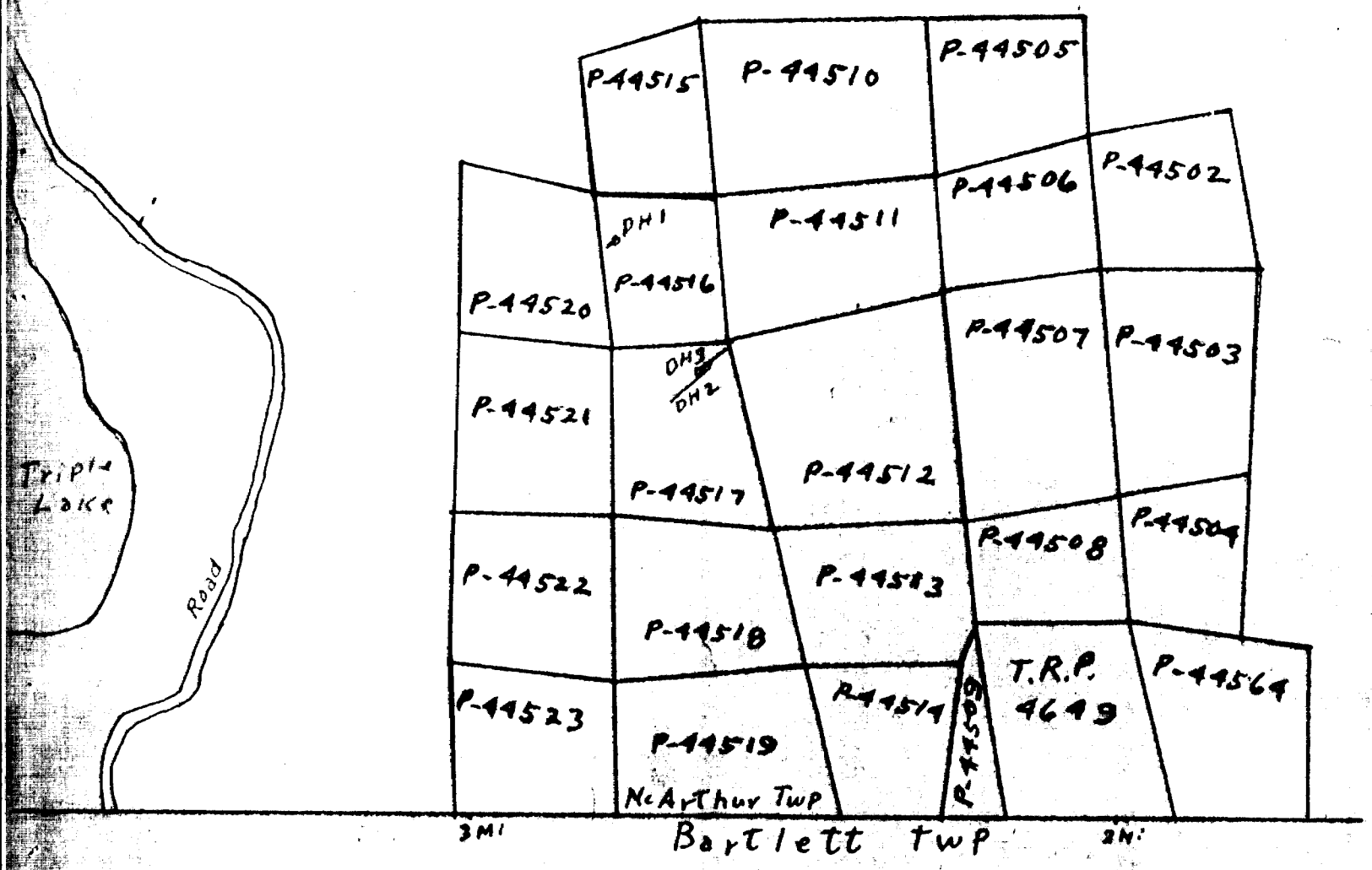
PAYNE STEEL CONSOLIDATED MINES, LIMITED

Group 2,

McArthur Township,

Sketch Map, Scale 1" = 1320'

February 1960.



RESULTS of SURVEY (Copied from report of F. J. Garbutt)

Magnetometer Map

In the western portion of the area the magnetic intensity is quite low. To the east there are at least two bands of high magnetism and with a general strike parallel to the base line.

One distinct band of high magnetics runs from 12+00W. on Line 48S. to 4+00W on line 4N. with apparently a jog or change in strike between Line 32S. and Line 16S. To the east of this main magnetic band there are one or two other magnetic bands having a strike about parallel to the main band.

The continuity and strength of the magnetic bands indicate that they are more probably iron formation rather than basic peridotite or serpentine bands.

Sheridan Magniphase E-M Map. Dec. 22, 1959

The sketch of E-M readings on Line 8S and part of Line 12S is rather meager information on which to base any recommendations.

However, there is a distinct strong conductor on Line 8 and centered on the base line. The amplitude to phase ratio is about 1 which indicates a good conductor. To obtain the depth of the conductor, readings at both 300 and 200 feet spacing would be required. However, the strength of the readings indicates that the conductor is probably shallower than 50'.

The conductor may be of considerable width as the distance between zero points is well over 200' normally obtained with a 200' cable over a vertical conductor. However, it is possible that there are 2 or more conductors or that the conductor has a flat dip.

Sharpe S-E 100 Survey Map Report Jan. 4, 1960 Base Line Conductor.

From the map this conductor extends from Line 8S to Line 20S and lies about 50' to 100' east of the base line. It is a fairly strong conductor. The dip is probably about vertical as neither mag. nor E-M profiles indicate a dip in any one direction. There is no magnetic anomaly connected with the conductor but a weak one could easily be masked by the large anomaly (iron formation) which lies to the west.

The conductor appears strongest on Line 8S but the conductor could end near this line, so it is preferred to put a test hole on Line 16S.

East Conductor

This conductor lies 800' east and parallel to the base line and extends at least from Line 16S to 24S. It is fairly strong and again there is no magnetic anomaly related to the conductor

General Remarks

The conductors are distinct and in spite of the lack of clear magnetic co-relation - they should be tested by drill holes.

Office: EM 3-3933
Res: HU 1-1265

Suite 602
121 Richmond St. W., Toronto

J.P. Sheridan, P.Eng.
Mining Geophysicist

March 28th, 1960

Messers Walkom and Longley,
Paymaster Consolidated Mines, Limited,
South Porcupine, Ontario.

Re: Results of Electromagnetic Survey on Three Reported Anomalous Zones - McArthur and Bartlett Townships Properties - Ontario

Dear Sirs:

On Friday, 25 March, 1960 electromagnetic surveys were carried out over two anomalous zones previously indicated on your McArthur township property and one anomalous zone located on your Bartlett township property. These three anoumalous zones had been indicated and traced by previous electromagnetic surveys and were thought to represent conductors.

Method Employed

Our survey work was carried out with the Sheridan-Kelp Dual Frequency Magniphase employed in the horizontal coil configuration and measuring amplitude and phase on the secondary field at 2400 cps. In anomalous areas measurements of amplitude and phase were also recorded at 800 cps.

In the presentation of the result generally only the high frequency phase is plotted with the low frequency phase plotted in some anomalous areas.

In addition to this horizontal coil survey, a profile over the major conductor in McArthur township was also made using the vertical coil configuration and duplicating a transmitter set-up from the previous survey.

Result of the Survey

Our check work failed to confirm any of the three conductors previously mapped. Moreover the vertical coil profile although duplicating the previous transmitter set-up failed to produce the previously recorded anomalous readings.

Although our survey failed to establish the existence of the previously located conductive zones a major conductor was located on the McArthur Township property approximately 1300 feet east of the base line and 500 feet east of the most easterly conductor previously mapped.

This conductor probably represents a zone of sulphide mineralization probably associated with the known band of iron-formation located in the area.

Conclusions

From the results of this work, it must be concluded that:

A) No conductor exists where previously indicated.

B) The iron-formation located in the area contains heavy sulphide mineralization at least throughout part of its length.

Recommendations

On the basis of our survey it is recommended that:

A) No further drilling be conducted on the previously indicated anomalies.

B) Future work be concentrated on surveying your properties completely with electromagnetic surveys to:

1. Discover and trace any zones of sulphide mineralization not directly associated with the known iron-formations.

2. Map in detail the zones of sulphide mineralization associated with the iron-formation. This work should map changes in conductivity along the zone as well as structural changes such as folding, faulting, etc. It may be possible to indicate zones in the iron-formation where the type of sulphide mineralization changes or where structural conditions indicate the possibility of a change in the sulphide mineralization along the zone.

C) A follow up drilling program be instituted to:

1. Drill all conductors not associated with the zone of iron-formation.

2. Drill the iron-formation zone in areas where the detail mapping has indicated possibly significant structures or where the conductivity determinations have indicated a change in the type of sulphide mineralization. This program will enable each drill hole located on the iron-formation to test a new target.

All of which is respectively submitted,

Signed and stamped by,

J. P. Sheridan, P.Eng.

Certified to be copy of original signed by J. P. Sheridan
Copied by C. S Longley.

Number of Stations Established by Cremac Survey: By E-M - 106
By Mag. - 453.

No. of miles of Line cut: 9½ miles.

Summary and Recommendations

The bands of iron formation are probably too narrow for concentrating iron ore and it is improbable that they contain direct shipping ore.

The Sheridan magniphase E-M survey cunducted by Cremac indicated a conductor at the base line on Line 8S. This was checked by Cremac with a Sharpe S-E 100. This survey also indicated a second conductor 800 feet east of the base line. The base line conductor was drilled on line 16S with negative results. The east conductor was drilled on Line 20S cutting nothing to suggest a conductor.

This drilling was followed by a check survey by Mr J. P. Sheridan with my supervision to be certain we checked the correct locations. A copy of the report on his survey is included to make the records more complete. He read 70 stations.

D. H. No. 6 was drilled across the conductor located by Mr Sheridan on the east iron formation. This hole cut 175 feet of iron formation with some sections running 20% pyrrhotite. The pyrrhotite was cut by fine chalcopyrite stringers. This assayed only 0.01 oz gold, .10% Cu. and .08% Nickel.

The results are discouraging.

April 27, 1960 Signed,

C. S. Longley.

C. S. Longley,
Engineer-Geologist.

P.S.
No. of stations established by Sheridan Survey 70.

Dowsing Survey

J. G. Pollard, Reg Lawrence, and I spent the day October 15, 1958 checking this property with negative results except for the iron in the iron formation.

Note Evelyn M. Panrose in 1931 was appointed by the Government of British Columbia as the official water diviner. She also dowsed for oil and minerals. She writes: "A large number of the Cornish tin mines were discovered by a diviner from Saxony in the time of Queen Elizabeth."

So dowsing has been recognized both in government as well as mining circles.

C. S. L.

Results of Survey (Copied from report by F. J. Garbutt Feb. 26, 1960)

Magnetometer Work

The readings on the mag. work are quite consistent and there are no distinct magnetic bands or zones. Thus no formational trends or strikes of rocks are discernible. The separate sketch (Zenmac Map) does show some magnetic zones with a N-S trend but these lie well to the east of the E-M conductor.

E-M Work

There is only one area of interest indicated by the E-M map. This is a short conductor located between Scott Lake and Boomerang Lake. It occurs on Lines 8N & 12N at 5+50' East of the base line.

The conductor is quite distinct and has been checked from several positions of the transmitter which provide good linkage with the conductor. The conductor is centered at 5+50' east and profiles of readings indicate that dip is probably about vertical. Maximum positive and negative readings are usually 400 feet or more apart which indicate that the conductor zone is broad, or what is more probable, is that it is at fair depth. The conductor is of limited length and occurs only on the two lines. It could best be tested by a hole along Line 8N as it has been checked by transmitter positions both north and south of this line.

There is no magnetic anomaly associated with the conductor.

Recommendations

The one conductor is quite short but distinct and probably warrants testing in spite of the lack of magnetic correlation. The conductor could be caused by graphitic material or non-magnetic sulphides.

If there is geological evidence that indicates that this is a likely area, then the conductor warrants testing. One drill hole will prove or disprove the conductor and is considered the most feasible method of testing.

Summary and Recommendations by C. S. Longley

The conductor was checked on March 25, 1960 by J. P. Sheridan with the report attached. As suggested by Mr Garbutt one hole was drilled west at 50° dip on line 8+00N collaring at 7+50' east. This entered ledge at 83 feet and continued in granite to 430' the end of the hole.

Cosidering the amount of work done and the negative results there is little encouragement to hold these claims.

signed,

C. S. Longley B.A. Queens 1932.
Engineer-Geologist.

# REPORT

of

MAGNETIC and ELECTRO-MAGNETIC SURVEY

conducted by

CREMAC SURVEYS LIMITED

for

PAYMASTER CONSOLIDATED MINES, LIMITED

on claims in Bartlett Township

Nos. P-42924-25-28-29-30-31-33-34-35-38-39-45
P-42950-51-52, 43273, 47333 and 48233.

during February 1960

Report of Magnetic and Electro-magnetic survey conducted by Cremac Surveys Limited for Paymaster Consolidated Mines, Limited on claims in Bartlett Twp. Nos. P-42924-25-28-29-30-31-33-34-37-38-39-45, P-42950-51-52, 43273, 47333, and 48233.

Reasons for the Survey:

Paymaster had held most of these claims for a number of years and had to make a decision if it was worth while to hold them any longer. The airborne E-M survey had shown a few weak conductors near Scott Lakes. A geophysical survey seemed the most satisfactory method of checking the whole group of claims and provide location for diamond drilling.

Location and Means of Access

These claims are located slightly east of the centre of Bartlett Twp. The tote road past Scott Lake to Fatima crosses the southern claims in this group. This road joins Wick's lumber road west of Scott Lake. The junction is 34 miles from Timmins. Fatima uses Scott Lake for aeroplane service.

Owner

Mr Charles E. Cook, South Porcupine holds these claims in trust for Paymaster Consolidated Mines, Limited

Assessment Credit Recorded

There are 12 days credit recorded on each of the following nine claims: P-42937-38-39-45-50-51-52, 43273 and 47333. There was not enough work credit including diamond drilling to hold all the claims so the remainder lapsed on April 9, 1960 except claim P-48233 that was not recorded until after the survey.

Men Conducting Survey

George Carr has been Field Manager for Cremac since 1953.

Mr F. J. Garbutt is Geophysicist for Cremac Surveys Limited.

C. S. Longley has been with Paymaster 24 years with the present position Engineer-Geologist.

Instruments Used

The magnetometer used was an Askania type Wolfson 109 with a range of 16,000 gammas and reading 20 gammas to a scale division. The readings were adjusted to correspond to the Zenmac survey. The electro-magnetic unit used was a Sharpe S-E 100 recording tilt angles of the resultant field in degrees. This unit is operated with 500 watts at 1000 cps with a range of 1300 feet.

Number of Stations Read By E-M- 674. By Mag - 470

Miles Line Chained 15.5

Geological Data

The general geology is shown on O.D.M. map 35h. Zenmac about 1953 presented a geological map for assessment work covering these claims.

Geophysical - Fun 16
Geh 43

59 x 4 = 236 ÷ 19 = 12 days for each of

P 42924-25-28-29-30-31-33-34-35-37-38-39-45
P 42951-32, 43273, 47333

Note: P 42233 covered by survey but claim recorded after survey therefore no credit given.

Sheridan Survey - 1 day credit for P 42950
∴ 13 days credit for P 42950

Office: EM 3-3933
Res: HU 1-1265

Suite 602
121 Richmond St. W., Toronto

J.P. Sheridan, P.Eng.
Mining Geophysicist

March 28th, 1960

Messers Walkom and Longley,
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South Porcupine, Ontario.

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Result of the Survey

Our check work failed to confirm any of the three conductors previously mapped. Moreover the vertical coil profile although duplicating the previous transmitter set-up failed to produce the previously recorded anomalous readings.

Although our survey failed to establish the existence of the previously located conductive zones a major conductor was located on the McArthur Township property approximately 1300 feet east of the base line and 500 feet east of the most easterly conductor previously mapped.

This conductor probably represents a zone of sulphide mineralization probably associated with the known band of iron-formation located in the area.

Conclusions

From the results of this work, it must be concluded that:

A) No conductor exists where previously indicated.

B) The iron-formation located in the area contains heavy sulphide mineralization at least throughout part of its length.

Recommendations

On the basis of our survey it is recommended that:

A) No further drilling be conducted on the previously indicated anomalies.

B) Future work be concentrated on surveying your properties completely with electromagnetic surveys to:

1. Discover and trace any zones of sulphide mineralization not directly associated with the known iron-formations.

2. Map in detail the zones of sulphide mineralization associated with the iron-formation. This work should map changes in conductivity along the zone as well as structural changes such as folding, faulting, etc. It may be possible to indicate zones in the iron-formation where the type of sulphide mineralization changes or where structural conditions indicate the possibility of a change in the sulphide mineralization along the zone.

C) A follow up drilling program be instituted to:

1. Drill all conductors not associated with the zone of iron-formation.

2. Drill the iron-formation zone in areas where the detail mapping has indicated possibility signfficant structures or where the conductivity determinations have indicated a change in the type of sulphide mineralization. This program will enable each drill hole located on the iron-formation to test a new target.

All of which is respectively submitted,

Signed and stamped by,

J. P. Sheridan, P.Eng.

Certified to be copy of original signed by J. P. Sheridan
Copied by C. S. Longley

E-M Check Survey, Bartlett Township Claim P-42950

Property of Paymaster Consolidated Mines, Limited.

By J. P. Sheridan, March 1960

Mr J. P. Sheridan did a check survey on the conductor area on claim P-42950, Bartlett Twp. as outlined by Cremac on March 25, 1960. This was not included in previous reporting but I received a suggestion that you would appreciate having this information. I went along to supervise the survey. We cut and chained ½ mile of new line. He read 35 stations. His report is included.

Signed,

C. S. Longley.

C. S. Longley,

Bartlett Township: Group 1, Electromagnetic Survey by Larry F. Labow and Associates. Claims P-42920 to 23 inc. and P-43269, 70, 72, & 73.

These claims are held by Mr Charles E. Cook in trust for Paymaster Consolidated Mines, Limited.

Paymaster arranged with Larry F. Labow and Associates to do an electromagnetic survey on a small area in Bartlett township. The diamond drilling had given low but tantalizing values in copper. The survey was conducted to check for concentration of mineralization.

Paymaster agreed to provide the chained lines. I arranged with Wilfred Brochu D.D. Co. for Robert Gervais to help me chain the lines on Feb. 25, 26, and 27, 1959. The men conducting the survey wanted reasonable accuracy so we chained the Zenmac base line 3600 east from 1600 to 6400 north and used that line as zero on the east-west lines. Total lines chained was 3.6 miles. The lines were cut by Zenmac several years ago but many pickets were covered with snow or illegible. Many hills were so steep that progress was slow.
Work credit applied for 2 man X 3 days = 6 days X factor 4 = 24 days.

Signed,
C. S. Longley.
C. S. Longley,
Engineer-Geologist.

April 22, 1960

HEAD O

42A03NE0094 63.1027 MCARTHUR

900

PAYMASTER CONSOLID. (NO PERSONAL LIABILITY) MINES LIMITED

63.1027

SOUTH PORCUPINE, ONTARIO

ADDRESS ALL CORRESPONDENCE TO COMPANY, NOT TO INDIVIDUALS

April 20, 1960

Mr R. V. Scott,
Chief, Mining Lands Branch,
Parliament Buildings, Toronto.

Dear Sir:-

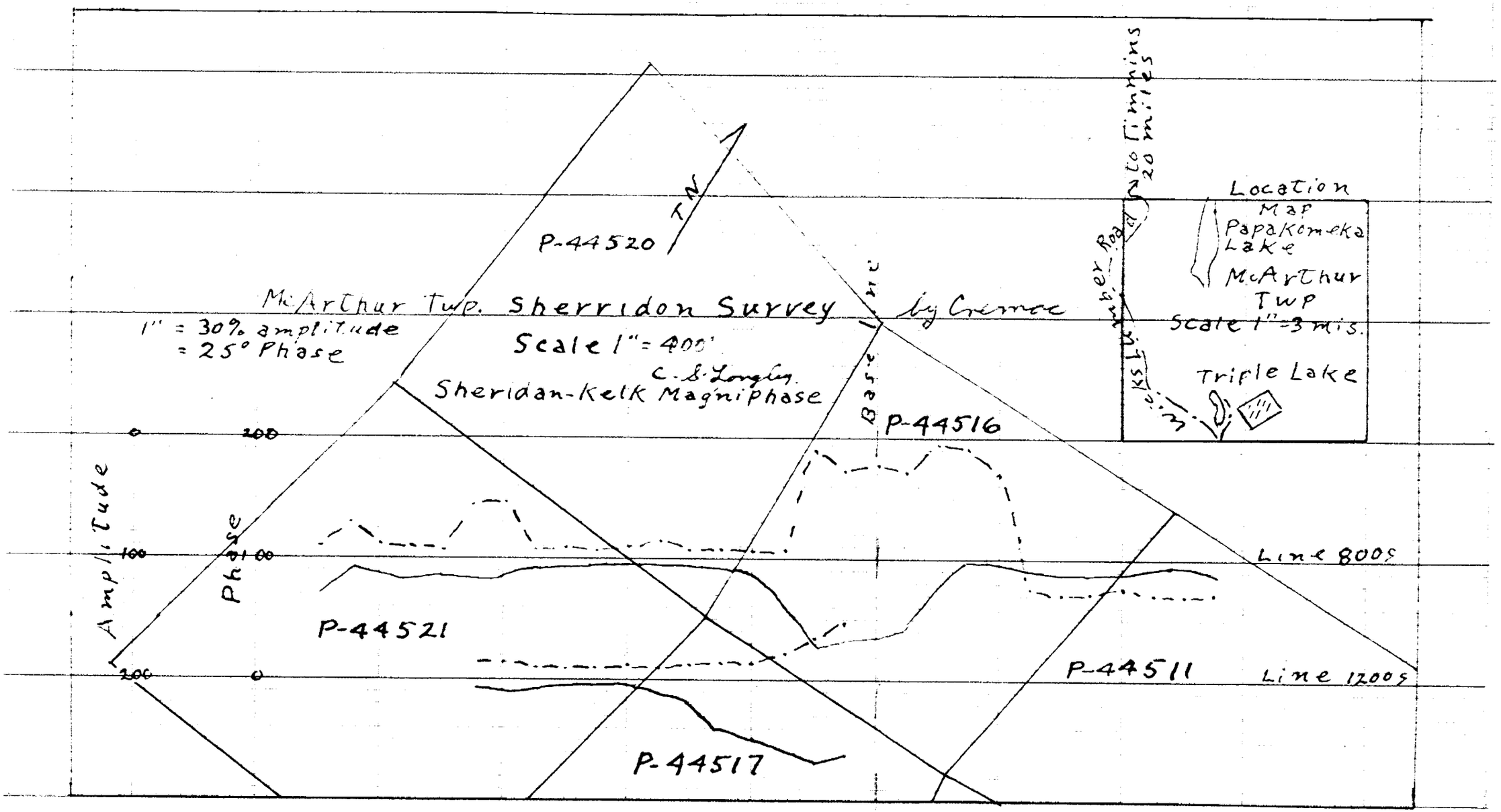
In reply to your letters of March 1st, April 6th, and 14th, 1960 there are a few points that I would like calrified. In my letter of Feb. 10th I included only time not included in breakdown by Carr. The only disagreement that I can see in the letters is an error in the letter of Feb. 10th that had 1959 when it should be 1958. This was corrected in the letter of March 29th. The error that I made was that the time should be included in the report and not in the letter.

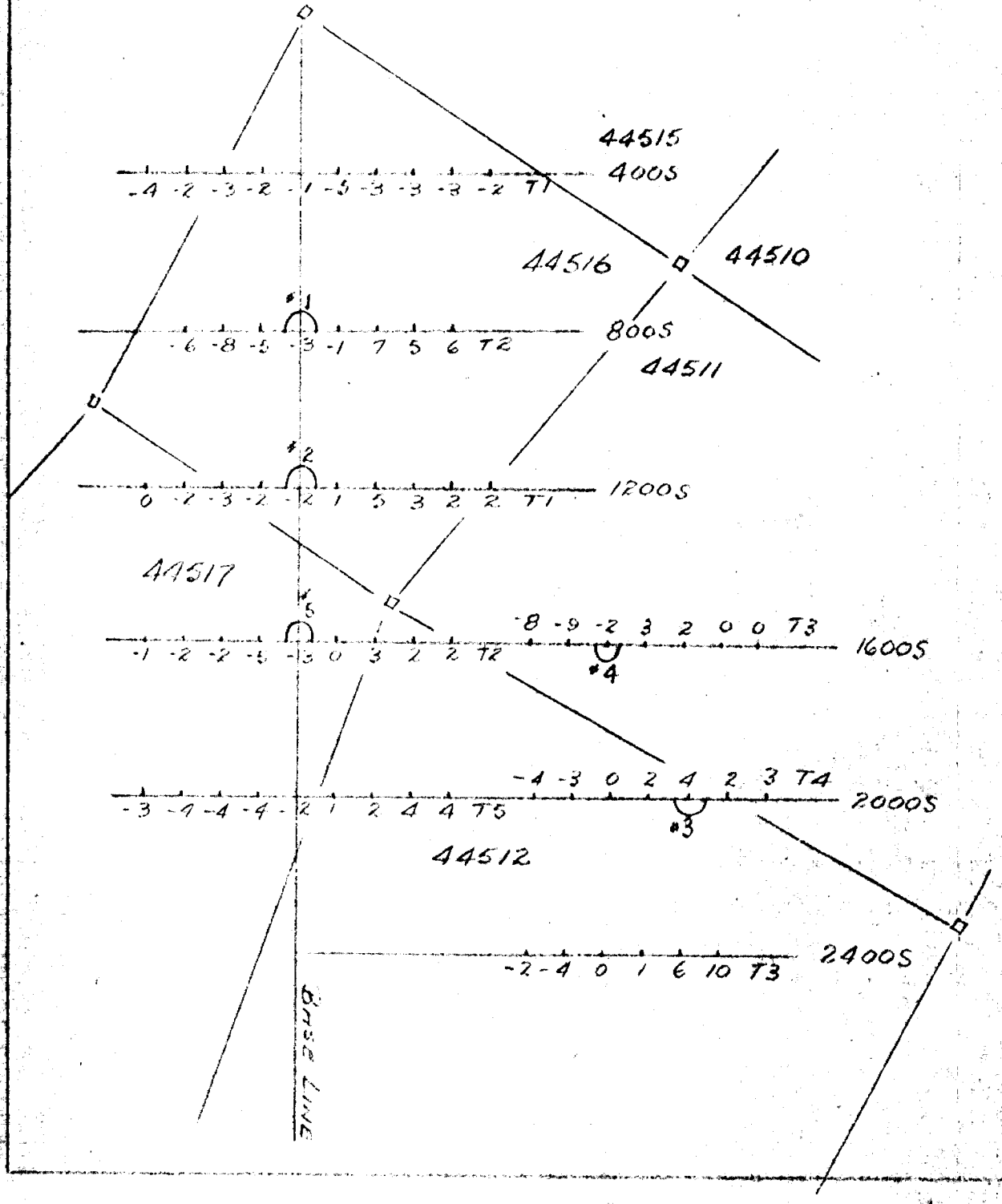
I worked on the survey with George Carr part time and also considered the time spent previously on the claims contribributed to the survey. We at Paymaster appreciate accuracy when it can be obtained at reasonable cost and I am confident that you do too. On June 10, 1958 Frank Boychuck and I found three iron pins that were used in laying out the geophysical survey and checking its accuracy. On July 30, 1959 Robert Heath and I discovered a fourth iron pin P-1 T.R.P. 6687. When line 20S was cut this pin was found to be 1175 east a few feet south of the line and within a few feet of the plotted position of the pin. We also did geological mapping on these trips.

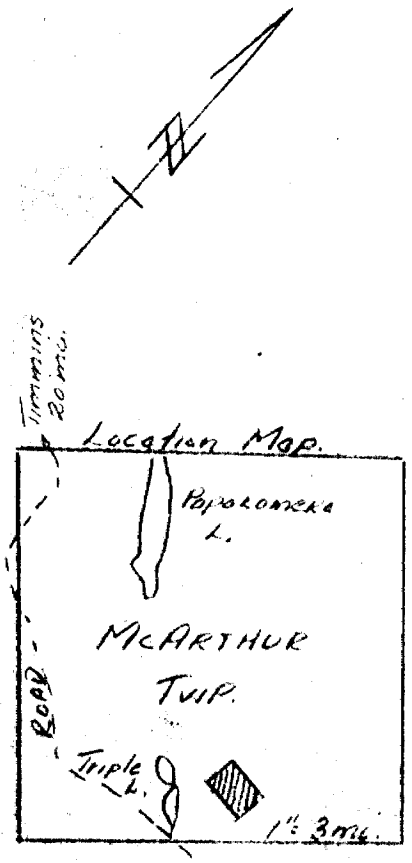
In respect to assessment work it states "Not previously reported". The statement about Frank Boychuck in your letter of April 6th seems to imply if a geologist is entitled to a companion traversing. I talked to Jack Gale, retired claim inspector on this point and he said "A man is crazy to traverse alone". If this is a point in question it should be referred to the recently appointed committee on safety.

In reference to the trip Oct. 15, 1958 by Gordon Pollard, Reg Lawrence and myself we used mineral divining similar to water divining. This is a type of geophysical prospecting. We could find nothing of interest except the iron of the iron formation. Our negative report was not accepted by managment and Paymaster has spent $10,000. to prove the conslusion arrived at in the one day.

Wm Rainboth P.Eng. and I consider the claims in Bartlett as well as this group in McArthur worthless and even suggested dropping the claims without completing these reports for assessment work but were instructed to carry on. We are not greatly concerned with getting every last day's credit but are interested in knowing the rules so as to avoid future bother. There is 1800 feet of diamond drilling in McArthur yet to be recorded. Having met you at the Prospectors' meeting and your personal note I admire you for maintaining a high standard of reporting assessment work. In general you want a report at least loosely bound with an attached envelope for the maps.


McArthur Twp. Sherridon Survey
by Cremac
1" = 30% amplitude
= 25° Phase
Scale 1" = 400'
C. S. Longley
Sheridan-Kelk Magniphase
TN
P-44520
Base Line
P-44516
P-44521
P-44511
P-44517
Line 800S
Line 1200S
Amplitude
Phase
200
100
0
100
200
Location Map
Papakomeka Lake
McArthur Twp
Scale 1" = 3 mis.
Triple Lake
20 miles to Winnipeg
Hwy 6
Paper Road




PAYMASTER CONS. MINES LTD.

EM Survey (Sharpe SE 100)

Transmitter Station - #2

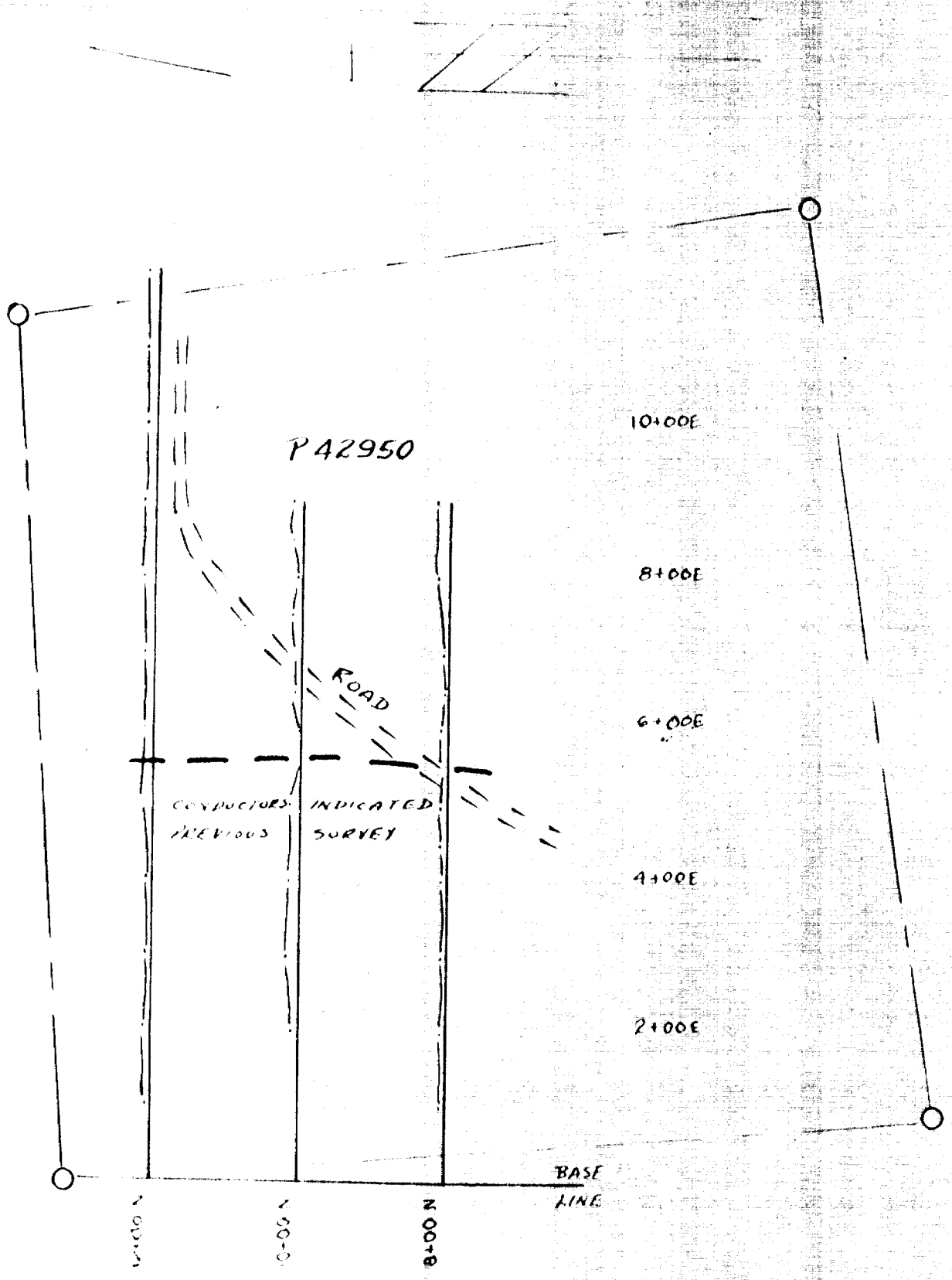
East Tilt + West Tilt -

By

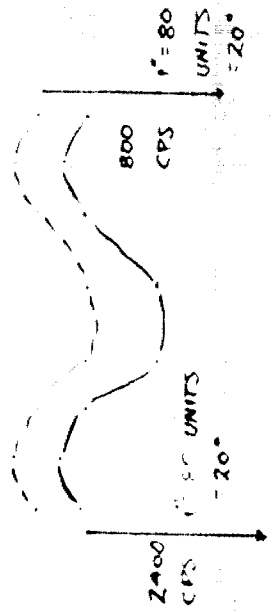
CREMAC SURVEYS LTD.

1" = 400' © C. L. Lumsden

McARTHUR TWP. ONT.




LEGEND




PAYMASTER CONSOLIDATED MINES LTD.

DUAL FREQUENCY MAXIPHASE SURVEY

BARLETT TWP. ONT.

BY: J.P. Sheridan

1"=200' March 1966

Copied from map signed by J.P. Sheridan - C.S. Longley

Letter of April 14th, Group 1, Bartlett.

Nos. 1 to 4 are omissions in Labow's report that I cannot correct.. The report though apparently well organized lacks these details. I am returning the reports to him for completion. This will take a few days. Paymaster has Wm Rainboth P.Eng working full time on outside exploration so should get the reports in shape shortly.
No. 5 I failed to state that Robert Gervais an I did the chaining for the Labow survey on Feb. 25 to 27, 1959. The hills were so steep that we had to pull ourselves up by the bushes making progress slow. These lines were cut by Zenmac in 1952 but many pickets were illegible and covered with snow in the winter. The missunderstanding is due to the fact that George Carr and I separated line cutting and chaining.

Bartlett Group 2 also applying to McArthur.
I have started to compile the report on McArthur in accordance with your letter of April 6,th. I am enclosing page 1. Is my signature satisfactory on the consolidated report or do I need Mr Carr's or even Mr Garbutt's?

Delete C.S.L.

You have two objections to the Location Maps. The inking can be easily corrected. The detail is not so obvious. It could be slightly larger scale and give more accurate property boundaries. Or it could be smaller scale showing 9 townships. I am puzzled.

Mr J.P. Sheridan made a check E-M survey on March 25, 1960 on a small area in Bartlett township as well as over part of the survey of Cremac in McArthur township locating a conductor on the east iron formation that has since been drilled. With my time assisting this survey amount to only 10 days credit for each group. He presented only one copy of the combined report for the two properties and does not actually state the number of stations read. We heve copied the report and map that we can supply if you wish to have your records more complete.

Yours very truly,
C. S. Longley.
C. S. Longley,
Engineer-Geologist.

HEAD OFFICE

# PAYMASTER CONSOLIDATED MINES, LIMITED

(NO PERSONAL LIABILITY)

SOUTH PORCUPINE, ONTARIO

ADDRESS ALL CORRESPONDENCE TO COMPANY, NOT TO INDIVIDUALS

REPLY TO:

March 29, 1960

Mr R. V. Scott,
Department of Mines, Toronto.

Dear Sir:-

Your letter was received concerning the assessment work for McArthur Twp. As we were diamond drilling at the time your letter arrived, I considered that a geological report should cover the information in this drilling as well as the few days spent on the property in the summer. Enclosed in a geological plan in duplicate of the property; Logs of D.H. Nos. 3, 4, & 5; The duplicate logs will be taken to Timmins when this is recorded for assessment work. Vertical section in duplicate; A geological report in duplicate; and the E-M survey maps that you returned I did not realize that each map should be a complete unit.

Since the geological report was written Pat Sheridan checked the property with a Dual Frequency Magniphase Model 515 and located a conductor on lines 16S and 20S at 1200 to 1400 east on the east iron formation. It is proposed to drill at least one 300 foot hole across this conductor.

The above drilling includes 1368 feet of drilling not yet recorded as assessment work. I shall await your confirmation of the work already applied for in order to distribute this work most effectively.

The instruments used were a Sheridan-Kelp Magniphase E-M with 1" = 100 units = 30% amplitude = 25° phase; and a Sharpe A2 180 magnetometer meter with 20 gammas to a scale division and a range of 16,000 gammas. Sharpe SE-100, 500 watts, 3-4 amps Generator; Range 1,300 feet.

The assessment work includes: George Carr, South Porcupine, Supervision, operator, chaining, draughting, making reports; Nov 23 to Dec. 19; & Dec 28 to 31, 1959. 28 days.

Douglas Stevens, Timmins; Line cutting; Nov. 23 to Dec. 17. 22 days.

Wm. Johnson, Timmins, Line cutting & chaining, Nov.23 to Dec.17. 22 dys

Lloyd Gloster, Timmins, Line cutting, chaining, helping on surveys, Dec. 7 to 17 & 28 to 30, 1959. 14 days.

Charles Peterson, Porcupine, Ont. Helping on surveys, Dec 28-30. 3 dys.

David Longley, South Porcupine, Helping on surveys and packing. Dec. 28 to 30, 1959. 3 days.

Frank Boychuck, Timmins. Line cutting and scouting, June 10 & 12, 1958 (not 1959). 2 days.

Gordon Pollard, Elk Lake. Checking for economic minerals. Oct. 15, 1958. 1 day.

Reg Lawrence, Tomstown. Checking for economic minerals. Oct. 15/58 1 dy

Robert Heath, Timmins. Taking samples and scouting. July 30,1959 1 day.

C. S. Longley, South Porcupine. Geological mapping, supervision, line cutting, assisting on geophysical surveys, draughting, making reports. June 8, 10, 12 & 15 & Oct 15, 1958, July 30, Nov 23-26, Dec 7-10, 28, 1959 to Jan. 6, 1960, Feb 8-10, 1960 22 days

Total number of days 119.

George Carr and I both consider that we each spent several days on this work that are not included in these lists. Signed. C. S. Longley

C. S. Longley

42920

42921

42922

42923

43269

43270

43272

43273

Pond

Pond

Road

Road

Road

Base Line

Boomerang Lake

87A

B

B-5

C

D.D.H.#1

D.D.H.#2

## Symbols

- Strong Electromagnetic Conductor
- Weak Electromagnetic Conductor
- Lake Outline
- Road
- 43294 - Claim Number
- Claim Posts - location approximate
- Diamond Drill Hole
- Proposed Diamond Drill Hole
- Transmitter Location

Survey conducted using Sharpe SE-100 E.M. Unit.

Tote Road to Timmins 29 miles

McArthur Twp

Bartlett Twp

Fatima

Scott Lake

Scale 1" = 3 miles

Location Map C.B.L.

Cochrane

Porquis Jct.

Abitibi Lake

Timmins (Porcupine)

Swastika

Englehart

Gogama

ONTARIO QUEBEC

C.N.R.

T.N.O.R.

Scale of Miles

LOCATION MAP

REGISTERED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO

L. E. LABOW

March 26th 1959

# PAYMASTER CONSOLIDATED MINES LTD.

BARTLETT TOWNSHIP — PROVINCE OF ONTARIO

## Plan of Electromagnetic Survey

Date - March 25th, 1959.
Work Performed by - L.E. Labow & Assoc.

Scale — 1" = 200'





63.1027

LEGEND

800 CPS

1" = 80 UNITS = 20°

2400 CPS

CONDUCTOR ON IRON FORMATION

D.D.H.

CONDUCTORS INDICATED BY PREVIOUS SURVEY

P44511

P44516

P44512

P44517

BASE LINE

16E

14E

12E

10E

8E

6E

2E

8+00S

10+00S

12+00S

16+00S

20+00S

PAYMASTER CONSOLIDATED MINES LTD.

DUAL FREQUENCY MAGNIPHASE SURVEY

McARTHUR TWP ONT.

BY: V.P. Sheridan

1" = 200'  March 1960

Copied from map signed by J.P. Sheridan.

C.S. Longley

64 N
60 N
56 N
52 N
48 N
44 N
40 N
36 N
32 N
28 N
24 N
20 N
16 N
12 N
8 N
4 N
0+00
4 S
8 S
12 S

42924
42928
42929
42933
42925
42938
42930
42934
43273
42931
42935
42939
42945
42950
42951
42946
42952
47333
48233
42937

Mickas Lumber Road
10 Timmins 29 miles

Location Map
Sketch Map
1" = 8 miles.

Fatima
Scott Lake
N

POWER LINE
BASE LINE
14-00E BASE LINE

PAYMASTER CONSOLIDATED MINES LTD
BARTLETT TOWNSHIP
SHARPE S-E 100
ELECTRO MAGNETIC SURVEY
Degrees East Tilt + West Tilt -  SCALE 1" = 400'  Transmitter Position 12
by
Cremac Surveys Ltd
C. S. Longley

64 N
60 N
56 N
52 N
48 N
44 N
40 N
36 N
32 N
28 N
24 N
20 N
16 N
12 N
8 N
4 N
0-00
8 S
12 S

42924
42928
48233
47333
42937
42925
42929
42933
42938
42930
42934
42931
42935
42939
42945
42950

BOOMERANG LAKE
POWER LINE
BASE LINE
CABIN
SCOTT LAKE
Wicks Lumber Road 29 miles to Timmins

Location Map
Bartlett Twp
Scale 1" = 3 miles
Fatima
Scott Lake

N

42A03NE0094 63.1027 MCARTHUR

230

# PAYMASTER CONSOLIDATED MINES LTD
## BARTLETT TOWNSHIP
## MAGNETOMETER SURVEY

ASKANIA WOLFSON 109 SCALE 1"= 400' Units: Gammas

Survey by Cremac Surveys Ltd

March 1960

C. S. Longley.

# PAYMASTER CONS. MINES LTD.
# PICKET & CLAIM LINES.
# MCARTHUR TWP.

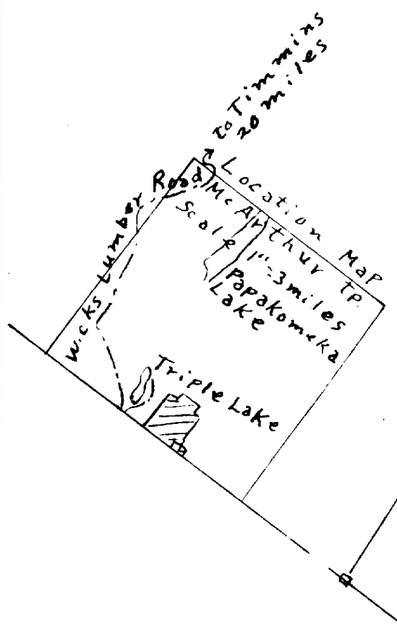
TN

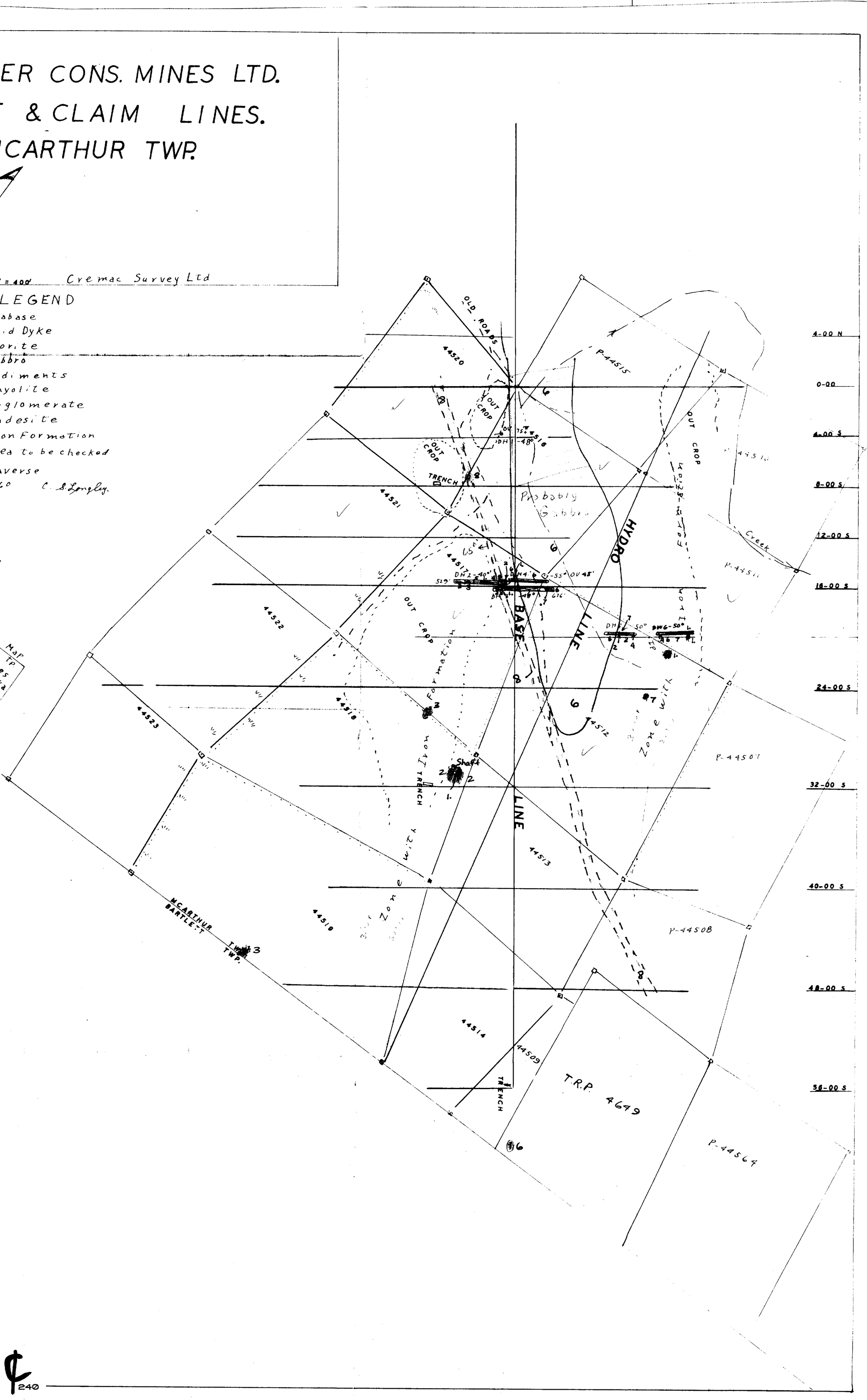
SCALE 1" = 400' Cremac Survey Ltd

LEGEND

- 8 Diabase
- 7 Acid Dyke
- Diorite
- 6 Gabbro
- 5 Sediments
- 4 Rhyolite
- 3 Agglomerate
- 2 Andesite
- 1. Iron Formation
- Out Crop Area to be checked
- ..... Traverse

March 1960 C. S. Longley.



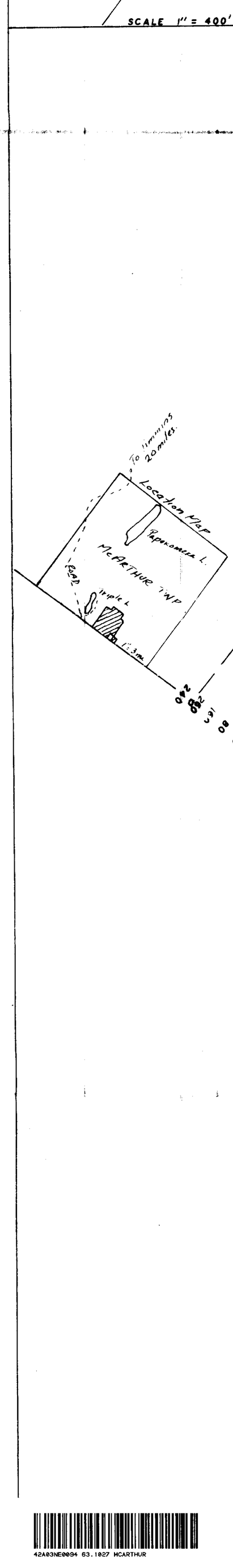



¢240

# PAYMASTER CONS. MINES LTD.
# MAGNETOMETER SURVEY
# MCARTHUR TWP.

Instrument- Askania Wolfson 109
Units - Gammas
By Cremac Surveys Ltd
March 1960 C. S. Longley.

SCALE 1" = 400'



# PAYMASTER CONS. MINES LTD.
# MAGNETOMETER SURVEY
# MCARTHUR TWP.