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# Palston Mining and Development Company Limited



## Prospectus

(a) The full name of the Company is PALSTON MINING AND DEVELOPMENT COMPANY LIMITED. The address of its head office is Suite 1202, 50 King Street West, Toronto, Ontario.

(b) The Company was incorporated under the laws of the Province of Ontario by letters patent dated February 10, 1956.

(c) The name in full, present occupation and home address in full of each of the officers and directors and promoter of the Company are as follows:

### Officers

President.....REUBEN HAROLD PALTROW.....35-56 222nd Street,  
Bayside 61, N.Y., U.S.A.

Vice-President.....CHARLES EDWARD STONE.....42 Peony Road,  
Levittown, N.Y., U.S.A.

Secretary.....JAMES LAWRENCE COWAN JENNER.....6 Hartfield Road,  
Toronto, Ontario, Canada.

Treasurer.....OSCAR ABRAMS.....42 Muirfield Road,  
Rockville Centre, N.Y., U.S.A.

### Directors

REUBEN HAROLD PALTROW.....Attorney-at-Law.....35-56 222nd Street,  
Bayside 61, N.Y., U.S.A.

CHARLES EDWARD STONE.....Geologist.....42 Peony Road,  
Levittown, N.Y., U.S.A.

OSCAR ABRAMS.....Executive.....42 Muirfield Road,  
Rockville Centre, N.Y., U.S.A.

DAVID ABRAMS.....Executive.....4 Marlboro Court,  
Rockville Centre, N.Y., U.S.A.

SEYMOUR BERNARD SHEFTER.....Store Proprietor.....66-70 Fresh Pond Road,  
Brooklyn 27, N.Y., U.S.A.

CHARLES RICHARD LEVA.....Executive.....22-60 79th Street,  
Jackson Heights, N.Y., U.S.A.

JAMES LAWRENCE COWAN JENNER.....Solicitor.....6 Hartfield Road,  
Toronto, Ontario, Canada.

### Promoter

REUBEN HAROLD PALTROW.....Attorney-at-Law.....35-56 222nd Street,  
Bayside 61, N.Y., U.S.A.

(d) Gilbert A. Doe and Company, 67 Yonge Street, Toronto, Ontario, Canada, are the auditors of the Company.

(e) Chartered Trust Company, Toronto, Ontario, Canada, is the registrar and transfer agent for the shares of the Company.

(f) The authorized capital of the Company is \$3,000,000 divided into 3,000,000 shares with a par value of \$1.00 each, of which 986,007 shares have been issued and are outstanding at the date hereof as fully paid and non-assessable.

(g) There are no bonds or debentures of the Company outstanding or proposed to be issued.

(h) Certificates for 675,000 shares are held in escrow by Chartered Trust Company subject to conditions whereby they are to remain in escrow until released therefrom upon the consent of the Ontario Securities Commission and the Board of Directors of the Company, and while remaining in such escrow, to be transferred, assigned or otherwise dealt with only upon the consent of the Ontario Securities Commission.

(i) The following shares of the Company have been sold for cash to date:

No. of Shares Sold	Price Per Share	Total Cash Received
120,000	\$ .10	\$12,000.00
116,000	.25	29,000.00
7	1.00	7.00
<u>236,007</u>		<u>\$41,007.00</u>

No commission was paid or is payable on the sale of any of the aforesaid shares.

(j) No securities other than the shares referred to in paragraph (i) hereof have been sold for cash to date.

(k) No shares have been issued or are to be issued and no cash has been paid or is to be paid by the Company to any promoter as such.

(l) (i) The Company is the recorded owner of 34 unpatented mining claims in the Township of McNish, Sudbury Mining Division of Ontario, numbers S-91913 to S-91927 both inclusive, S-93336 to S-93342 both inclusive, S-93072, S-93073, S-93074, S-94096, S-94097, S-94098, S-94033, S-94034, S-96021 to S-96029 both inclusive;

(ii) All of the above-mentioned claims were purchased on May 26, 1956, from Charles Edward Stone, 42 Peony Road, Levittown, N.Y., U.S.A. for the sum of \$75,000.00 as fully paid and satisfied by the issuance and allotment to the said Charles Edward Stone and his nominees of 750,000 shares in the capital stock of the Company as fully paid at the price of 10¢ per share and the sum of \$6,700.00 cash (paid) being the sum expended theretofore by the said Charles Edward Stone to explore the mining claims;

(iii) So far as is known to the signatories hereto, no persons or companies have received or are to receive a greater than 5% interest in any of the shares or other consideration received or to be received by the above mentioned vendor except as follows:

Victor Henry Millard, Premier Road, West Ferris, Ontario, Canada.  
Norman Saville and Wanda Saville, 1234 Harriet Street, North Bay, Ontario, Canada.  
Reuben Harold Paltrow, 35-56 222nd Street, Bayside 61, N.Y., U.S.A.  
Oscar Abrams, 42 Muirfield Road, Rockville Centre, N.Y., U.S.A.  
David Abrams, 4 Marlboro Court, Rockville Centre, N.Y., U.S.A.

(m) An account of the accessibility, character, extent and condition of any surface and underground exploration and development, the known history of the properties and a description of any work done and improvements made by the present management, is contained in, and reference is hereby expressly made to the reports of Mr. R. H. Pemberton, dated June 19, 1956 and October 17, 1956, all of which reports accompany and form part of this prospectus. Except for a Jeep truck, portable diamond drill, geiger counter, Brunton compass and miscellaneous camping equipment, the Company has no surface or underground plant and equipment.

(n) No securities are covered by option agreements or underwriting agreements nor is it proposed to give any such agreements. The Company proposes to offer its shares through the medium of registered security dealers and to pay such dealers a commission of 15%. The shares of the Company will not be sold at prices which will net the treasury less than 25¢ per share. With the exception of the commission, herein mentioned, all of the proceeds from the sale of any offering will go into the treasury of the Company.

(o) The proceeds of this offering will be used to pay for:

(i) geophysical surveys of the claims including an electromagnetic survey and gravity surveys of the anomalies disclosed by the electromagnetic survey, which surveys have been completed and are reported upon in the report of R. H. Pemberton, dated October 17, 1956, referred to in paragraph (m) hereof;

(ii) restoring approximately three miles of road covered by growth traversing the claims;

(iii) a floating bridge of two and one-half ton capacity and about thirty feet long to be erected across the Sturgeon River;

(iv) a drilling program to test the anomalies disclosed by the geophysical surveys and to consist of not less than 5,000 feet of drilling; and

(v) such further exploration and development as the Board of Directors may determine upon the advice of the Company's technical advisers.

(p) To date the Company has incurred preliminary administrative expenses of \$4,819.76 and preliminary development expenses of \$7,890.92. It is estimated that in the next year the Company will incur administrative expenses of \$15,000.00 and development expenses of \$100,000.00.

(q) No indebtedness is to be created or assumed by the Company, other than commitments in the ordinary course of the Company's business, which is not shown in the balance sheet of the Company as at September 30, 1956, accompanying and forming part of this prospectus.

(r) (i) The following are the particulars with regard to the principal business in which each director and officer of the Company has been engaged during the past three years:

REUBEN HAROLD PALTROW — Attorney-at-Law, partner, Paltrow and Jensen;

CHARLES EDWARD STONE — Geologist, Representative of Smith, Kline & French Laboratories, Philadelphia, Penn., U.S.A., 1953-1955; Geological Consultant, 1955 to present time; presently employed by the Company;

OSCAR ABRAMS — President, D. & O. Construction Corporation, 1953-1956 and President Marba Realty Corporation, 1956;

DAVID ABRAMS — Secretary, D. & O. Construction Corporation, 1953-1956 and Secretary, Marba Realty Corporation, 1956;

SEYMOUR BERNARD SHEFTER — Proprietor of Our Baby Shop;

CHARLES RICHARD LEVA — President, Levco Metal Finishers, Inc;

JAMES LAWRENCE COWAN JENNER — Solicitor, partner, Lang, Michener & Cranston;

(ii) None of the directors or officers, either personally or as a partner in a firm, has ever had any interest, direct or indirect, in any property acquired or to be acquired by the Company, except the following, who received the number of shares set opposite their respective names, being part of the shares issued for the mining claims hereinbefore mentioned:

Reuben Harold Paltrow.....	76,000 shares
Charles Edward Stone.....	76,000 shares
Oscar Abrams.....	76,000 shares
David Abrams.....	76,000 shares
Seymour Bernard Shefter.....	20,000 shares
Charles Richard Leva.....	6,000 shares

(iii) The Company has not paid any remuneration to its directors or to its officers as such since incorporation and does not propose to pay any such remuneration during the current financial year.

(s) No dividends have been paid by the Company.

(t) To the knowledge of the Company, there are no persons who, by reason of beneficial ownership of securities of the Company or any agreement in writing, are in a position to elect or are entitled to elect or cause to be elected a majority of the directors of the Company.

(u) There is no arrangement for the sale of vendor shares. The holders of free vendor shares, however, may sell such shares together with any further vendor shares which may be released from escrow in which event any proceeds derived therefrom will not accrue to the treasury of the Company. There are no other material facts not disclosed in the foregoing.

The foregoing declarations constitute full, true and plain disclosure of all material facts in respect of the offering of securities referred to above as required by Section 38 of The Securities Act (Ontario) and there is no further material information applicable other than in the financial statements or reports where required.

DATED at Toronto, Ontario, the 15th day of October, 1956.

**Directors**

(Signed) R. HAROLD PALTROW

(Signed) C. E. STONE

(Signed) OSCAR ABRAMS

(Signed) DAVID ABRAMS

(Signed) S. B. SHEFTER

(Signed) C. R. LEVA

(Signed) JAMES L. C. JENNER

**Promoter**

(Signed) R. HAROLD PALTROW

**PALSTON MINING AND DEVELOPMENT COMPANY LIMITED**

**Balance Sheet**

As at September 30, 1956

**Assets**

<b>CURRENT</b>		
Cash in bank.....		\$ 20,092.77
<b>FIXED — at cost</b>		
Mining Properties and rights-note.....	\$81,700.00	
Equipment.....	<u>2,900.00</u>	84,600.00
<b>DEFERRED</b>		
Exploration, development and administrative expenses.....		12,710.68
<b>ORGANIZATION EXPENSE.....</b>		
		4,657.00
Note — Mining properties and rights were acquired for 750,000 shares of capital stock of the Company issued at .10 per share, and \$6,700.00 in cash.		
		<u><u>\$122,060.45</u></u>

**Liabilities**

<b>CURRENT</b>		
Accounts payable and accrued.....	\$ 4,584.00	
Advances from shareholders.....	<u>1,469.45</u>	\$ 6,053.45

**Capital and Surplus**

<b>CAPITAL STOCK</b>			
<b>AUTHORIZED:</b>			
3,000,000 shares of \$1.00 par value.....		\$3,000,000.00	
236,007 shares for cash.....	\$236,007.00		
Less: Discount.....	<u>195,000.00</u>	41,007.00	
750,000 shares for mining properties and rights..	750,000.00		
Less: Discount.....	<u>675,000.00</u>	75,000.00	116,007.00
<u>986,007</u>			<u><u>\$122,060.45</u></u>

Approved on behalf of the Board:

(Signed) R. HAROLD PALTROW, Director.

(Signed) JAMES L. C. JENNER, Director.

**Report to the Shareholders**

We have examined the Balance Sheet of Palston Mining and Development Company Limited as at September 30, 1956 and the related Statement of Deferred Exploration, Development and Administrative Expenses for the period from inception of the Company, February 10, 1956 to September 30, 1956.

Our examination included a general review of the accounting procedures and such tests of the accounting records and other supporting evidence as we considered necessary in the circumstances. No provision has been made for depreciation of equipment.

Subject to the above, we report that, in our opinion, the above Balance Sheet and related statement of Deferred Exploration, Development and Administrative Expenses present fairly the financial position of the Company as at September 30, 1956, and the result of operations for the period ended on that date, according to the best of our information and the explanations given to us and as shown by the books of the Company.

Toronto, Ontario.  
November 13, 1956.

GILBERT A. DOE & Co.,  
Chartered Accountants.

**PALSTON MINING AND DEVELOPMENT COMPANY LIMITED**

**Statement of Deferred Exploration, Development and Administrative Expense**

For the period from incorporation of the Company, February 10, 1956  
to September 30, 1956

**Deferred Exploration and Development**

Surface exploration.....	\$2,943.22	
Assaying.....	40.50	
Registration, recordings and licenses.....	68.50	
Wages.....	2,048.44	
Supplies.....	804.80	
Food Supplies.....	469.68	
Transportation, automotive expense, etc.....	<u>1,515.78</u>	\$ 7,890.92

**Deferred Administrative**

Management salary.....	2,248.96	
Stationery and printing.....	43.98	
Telephone, telegraph and accommodation.....	974.32	
Bank charges and exchange.....	52.50	
Legal and audit.....	<u>1,500.00</u>	<u>4,819.76</u>
		<u>\$12,710.68</u>

## REPORT

### Palston Mining and Development Company Limited McNish Township, Ontario

#### Acknowledgement

Some of the information contained in this report has been obtained from Mr. C. Stone, geologist for Palston Mining and Development Company, who accompanied the writer during his investigation of the McNish Township Property.

All exploration on the property was carried out under Mr. Stone's supervision during the months of February to May, 1956.

#### Property and Location

The property of Palston Mining and Development Company consists of thirty-four contiguous mining claims of about 40 acres, each located in the north-west corner of McNish Township and covering parts of lots 9, 10, 11 and 12, Concessions V and VI. At the time of the writer's visit to the property four of the claims had just recently been staked and were not as yet recorded. The other thirty claims are numbered as follows: 91913-27 inclusive; 93072-74 inclusive; 93336-42 inclusive; 94033-34 and 94096-98 inclusive.

These claims are known as the McNish Group of Palston Mining and Development Company.

#### Accessibility

The nearest rail point to the claim group is Chudleigh on the Canadian National Railway Capreol route about 9 miles to the south.

It is conveniently reached by a road which meets the C.N.R. at Glen Afton and which heads due north up to Brightwater Lake, swings west into MacBeth Township and thence south to the Sturgeon River near the northeast corner of the claim group. The group is easily reached by air by plane landings on Ozhway Lake which is straddled by the claim group.

#### History of the Area

First attention was paid to the area by prospector George Waltenbury who staked 42 claims around a nickel-cobalt-copper showing which occurred in the quartzite formations at the northeast end of Beaver Pond. With the financial assistance of a partnership group he undertook extensive exploration and development work and erected a small mining camp, consisting of five buildings which included a stable and a well-developed blacksmith shop. From his first shaft which went down approximately 16 feet he removed a considerable amount of rock and ore. It was reported that Mr. Waltenbury shipped a small amount of ore to the Temiskaming Testing Laboratories in the year 1934-5. The writer was unable to verify this because the Laboratories' records were burned in a fire in 1939 and no records before October 1939 are available.

Elsewhere on the property considerable trenching and shaft sinking was done by Mr. Waltenbury on sulphide-bearing quartz veins which occurred mainly within the greywacke formations.

In 1938-39 Mr. Waltenbury discovered Zinblend-bearing float immediately to the northwest of Ozhway Lake and he proceeded to sink a small shaft through the overburden. Fortunately he was able to locate lead-zinc mineralization in place and removed approximately 5 tons of the mineralized rock to a stockpile. From time to time various amounts of this material were removed for assaying and the results showed extremely high values in lead and zinc as well as appreciable quantities of copper and silver.

About the end of 1939 financial difficulties forced Mr. Waltenbury to abandon all further exploratory efforts in the area.

In 1944 the property was restaked by his son Wilfred, who was drowned shortly after in the nearby Sturgeon River. The claims were allowed to lapse until 1956 when prospecting by Mr. Norman Saville resulted in the staking of 18 claims in January of 1956. These 18 claims were later sold to Mr. C. Stone and during the period from February to May an additional 16 claims were staked, thus bringing the number of claims in the group to 34 in number.

The whole region in the vicinity of Palston Mining and Development Company's claim group has recently experienced tremendous activity due mainly to the great success which Timagami Mining Company has had in locating extremely high-grade copper ore in the Lake Timagami area. Drilling is presently in progress on a 114 claim group located  $1\frac{1}{2}$  miles west of Palston's claim group. Pickel Crow Goldfields is carrying on an exploration programme on a large group  $3\frac{1}{2}$  miles to the east of Palston's group. In Clement Township, 4 miles to the northeast Noranda Mines is also actively engaged in exploration and development work in the vicinity of a fine showing of massive chalcopyrite and pyrrhotite occurring within the sediments.

Besides these companies there are numerous other ones which are at present actively engaged in exploration and development work.

#### Geology of the Area

The geology of McNish Township has been previously described by E. L. Bruce in Vol. XLI. Part IV, 1932, O.D.M. Reports.

The formations underlying the area presently designated as Palston's claim group are believed to belong to the Cobalt Series which were laid down in Upper Huronian times. The rocks in the area, except for a few intrusions of diabase are all sedimentary in origin and are found to be either conglomerates, quartzites, greywackes or argillites. Transitional phases from one type to another are common and in some cases it is extremely difficult, if not impossible, to place such rock facies in any one of the aforementioned categories.

The youngest sedimentary rock appears to be the Gowganda Conglomerate which occurs above the underlying quartzite and greywackes. In some places this conglomerate appears to lie unconformably upon the older rocks and in others it appears conformable. The Gowganda formation contains a large variety of pebbles, among which granite is conspicuous.

The quartzites, argillites and greywackes are older than the Gowganda formation but the stratigraphic relationship between the various sedimentary facies is most difficult to ascertain. Because of the absence of stratification within most of these rocks, it is difficult to obtain a true strike and dip and consequently the structural conditions of the area are difficult to interpret. The writer observed however, that at least two different beds of quartzite occur in the stratigraphic sequence. These two zones are separated by a silicious argillite which in places appears to be conglomeritic in nature. The best exposures of this sequence occur along the west side of Beaver Pond and in the vicinity of the north-east corner of the property.

Immediately north of Ozhway Lake and at the site of the lead-zinc showing there are two rock facies which were not found elsewhere on the property. One is a dark-grey, slaty, argillite which occurs as the hanging-wall formation of the mineralized zone, the other is a cherty conglomerate into which the ore-forming solutions have intruded.

The whole assemblage of sedimentary rocks is folded into gently to mediumly dipping anticlines and synclines whose axes strike generally in a northerly direction. Later diabase dykes are found in some places to have intruded all the older rocks.

Numerous quartz veins were observed cutting through all the formations in the area. Many of these veins were associated with minor amounts of sulphide mineralization. Shearing within the greywacke and argillites as well as occasionally within the conglomerate is quite common. Some of these shear zones are mineralized to a considerable degree and are the most common host for the mineralization found in many of the showings on the property.

Fifteen separate mineralized showings were examined by the writer. Each of these showings was associated with either copper, nickel, cobalt, silver, lead, or zinc mineralization. In many cases a combination of two or three of these elements was found in a single showing.

### Development Work

A large amount of surface work in the form of trenching was carried out by Mr. Stone during the months of February to May 1956. Much of his efforts consisted of cleaning out and enlarging many of the trenches and old shafts previously blasted out by Mr. Waltenbury in the 1930's.

The discovery of many of the showings on the property must, however, be credited to the perseverance and engineering of Mr. Stone who, while working under severe winter conditions, was fortunate enough to discover a number of mineralized occurrences which add much to the economic possibilities of the claim group.

Fifteen separate showings were examined by the writer, the most spectacular of which is No. 8, the showing of high grade lead and zinc containing appreciable quantities of silver and copper as well.

Fifty-nine assays from twenty-three mineralized grab samples forwarded to Dr. D. A. Moddle, Provincial Assayer, have been obtained by the writer. In addition twenty-four assays were run by Bell-White Laboratories on samples forwarded to them previously by Mr. Stone.

For the purpose of simplification the following is a breakdown of the various showings examined.

#### *Showing No. 1*

Mineralization here is associated with a quartz vein 6" wide striking NE through the light-grey quartzite.

A large trench 40 feet long, 6 feet wide and up to 8 feet deep was previously dug to expose this vein. In March 1956 Mr. Stone re-opened the trench and blasted out about 3 tons of fresh rock to expose the zone.

Mineralization consists of massive galena, sphalerite and pyrite. Although massive in character it appears to be restricted to the quartz vein itself as no sulphides could be observed on either side of the vein in the quartzite.

#### *Showing No. 2*

This showing is similar to Showing No. 1 but the mineralization is far less spectacular being only minor chalcopyrite and pyrite and consequently does not appear to warrant further development at this time.

#### *Showing No. 3*

The mineralization in this showing strikes through the quartzite N. 50 degrees E. and dips 50 degrees to the northwest. Mineralization at the surface appears to be restricted to about a 6" width composed of narrow sulphide stringers localized along fracture planes in the quartzite. Sulphide minerals present are massive pyrrhotite, some chalcopyrite, sparse galena and pyrite. The main gangue mineral is a carbonate.

This showing is the site at which Mr. Waltenbury spent most of his efforts. The old shaft he sunk went down approximately 15 feet and apparently showed that the main vein widened somewhat at depth. The old winch and cable he used to haul out the rock can still be seen today. Approximately 30 tons of rock was removed from the shaft. Mr. Waltenbury removed apparently about one ton of ore to the Temiskaming Testing Laboratories for assay in 1934-5. Unfortunately all the company's records of that time were destroyed in a later fire.

A number of grab samples were assayed, the results of which are as follows:

Sample No.	Oz. Au./Ton.	Oz. Ag./Ton	% Co.	% Ni.
7 MCN	Trace	.26	.042	.10
8 MCN	Trace	.18	.030	.06
3 A				.12
3 E		Nil	.04	.07
3 H		Trace	.045	.14
3 J				.10

These results do not show a grade sufficiently high to be mined even if large tonnages were found. However, they do indicate the presence of interesting mineralization which may be connected with higher grade zones at depth or along strike.

#### Showing No. 4

Mineralization here occurs within at least three quartz veins each varying in width from 3 to 6 inches and striking N. 28 degrees E. through greywacke. A 5 foot wide diabase dyke strikes N. 60 degrees W. across the mineralized zone. Ore mineralization is sparse and consists of galena, pyrite, pyrrhotite and chalcopyrite. Both the greywacke and mineralized quartz veins appear to have undergone later disturbance induced by strong N-S shearing.

#### Showing No. 5

Pyrite, pyrrhotite, minor chalcopyrite, argentiferous galena, and sphalerite occur here in a sheared greywacke. Five trenches, one of which is at least 10 feet deep, have exposed this mineralization at various places. The shear zone strikes N. 75 degrees W. and is at least 100 feet wide. Mineralization is associated with quartz veins occurring within the zone and also along the more heavily developed shears. Evidence of intensive movement is shown by much slickenside development within this zone.

Occurrences of phyllite and the presence of well-developed crystals of actinolite indicate that mineralization was at least mesothermal and possibly hypothermal although the presence of galena and sphalerite would tend to rule out the latter.

Grab samples sent in for assays gave the following results:

Sample No.	Oz. Au./Ton.	Oz. Ag./Ton.	% Pb.
5 A	Trace	Trace	
5 B		2.70	3.25

#### Showing No. 6

This showing occurs on the side of a rise, the whole of which is heavily iron-stained. Massive pyrrhotite with sparse chalcopyrite occurs within a greywacke. Olivine appears to be closely associated with the pyrrhotite as well as with well developed pyrite crystals. Mr. Waltenbury blasted out a trench 10 feet wide by 35 feet long but because of the heavy iron-staining along all sides of the trench it was impossible to establish clearly the attitude of the mineralized section.

Assays of two samples from this showing give:

Sample No.	Oz. Au./Ton	Oz. Ag./Ton	% Ni.	% Cu.
6 A	Trace	Trace	Trace	
6 B			.08	.12

#### Showing No. 7

Chalcopyrite occurring as  $\frac{1}{4}$ " blebs in quartz is associated with a series of quartz veins each about 4"-6" wide. The quartz veins occur in stockwork fashion in a greywacke. There is some evidence of cross-faulting and displacement of quartz veins. The main chalcopyrite veins strike approximately N. 20 degrees E. and dip 60 degrees W. The amount of copper mineralization visible in this trench was quite low (usually less than .5% Cu.).

#### Showing No. 8

This showing located in the west-central portion of claim No. 91914 is the most spectacular and interesting occurrence on the property.

Lead, zinc, silver, copper and cadmium metals occur together, visual, mineralization being in the form of massive sphalerite (variety marmatite) galena and chalcopyrite with minor pyrrhotite and pyrite. Silver most probably occurs in the form of argentiferous galena since the silver assay values show a definite percentage relationship to those of the lead values.

No outcrop occurs in the immediate vicinity of the showing.

A large angular erratic boulder containing heavily disseminated to massive zinc-blende, galena, chalcopyrite and pyrrhotite lies on surface about 130 feet SE of the main showing. Mr. Waltenbury put down his first shaft atop a small rise east of Showing No. 8 in the hope of locating the source from which the boulder came. After his first effort failed he moved about 50 feet west and fortunately found it in place. During the past winter Mr. Stone cleaned out this shaft and examined the zone. It was found that mineralization occurred within a cherty pebble conglomerate which was overlain by a dark-grey slaty argillite. These beds strike N. 10 degrees E. and dip 30 degrees E. The total depth of this shaft was 11 feet, 10 feet of it being overburden, the last foot being in bedrock and sulphides. The second shaft was put down about 20 feet west of the first and across what is believed to be the width of the ore zone. This shaft penetrated 17.5 feet of overburden and about .5 feet of ore. A small 2.5 foot slashing was blasted in the north face of the shaft and about 1 ton of mineralized rock was removed from it.

Four attempts were made to test the zone with a packsack drill but because of the thick overburden it was impossible to penetrate it. Besides this a trench was dug about 130 feet west of the showing but because of a rapid inflow of water and caving it had to be abandoned before it reached bedrock.



Mineralization appears to be localized within the cherty pebble conglomerate where it occurs in massive character. Only sparsely disseminated pyrite and pyrrhotite appear to occur in the overlying slaty argillite. This slaty argillite appears to have acted as a barrier to rising ore-bearing solutions and as a result deposition from solution became localized in the underlying cherty member.

The writer has found no intrusive rocks which might have been the source of the mineralization, other than the occurrences of diabase lying NW of the showing. But due to the fact that most of the area contains little outcrop it is entirely possible that a granitic or dioritic intrusive underlies the present topography.

About 3.5 tons of heavily mineralized rock presently lies on a stockpile just south of the shaft. About 200 lbs. were removed previously from the property by Mr. Stone.

The writer picked six random grab samples from the stockpile and submitted them for assay.

These samples average .75% copper, 6.79% lead, 13.5% zinc and 1.37 oz./ton silver as shown in the following table:

Sample No.	% Cu.	% Pb	% Zn	Oz. Ag./Ton
8A	3.88	4.83	6.40	1.55
8B	trace	6.71	14.06	trace
8C	trace	2.03	15.60	1.05
8D	trace	11.86	15.03	2.50
8E	0.64	1.06	8.03	1.10
8F	trace	14.25	22.04	2.03
Average	0.75	6.79	13.53	1.37

In addition one assay was run for cadmium and showed it to contain .005% Cd.

#### Showing No. 9

This is the occurrence of the large erratic which was heavily mineralized. It has no economic significance other than the fact that its discovery led to the finding of Showing No. 8.

#### Showing No. 10

This occurrence consists of chalcopyrite, pyrrhotite and pyrite mineralization within an olivine diabase dike cutting through a quartzite phase of the greywacke. Two grab samples taken from a 10' x 6' trench assayed 0.48% and 0.35% copper respectively. The whole outcrop here is heavily iron-stained and extent of mineralization was not able to be assessed.

#### Showing No. 11

Mineralization here consists of minor chalcopyrite and pyrrhotite occurring across a 4 foot width in the Gowganda conglomerate. The mineralized zone strikes N 35 degrees E and is exposed along the face of a shallow 10' x 10' trench. Sulphides are associated with 1" to 2" wide quartz veins which occur in stockworklike fashion in the conglomerate. A sample of the pyrrhotite was assayed for nickel but showed only a trace nickel. A second sample assayed for copper ran 0.17% Cu.

About 200 feet north of Showing No. 11 there is an interesting 3 foot wide garnetiferous zone lying along the contact between a diabase dyke and a phyllite. This zone strikes north and dips 65 degrees W and has associated with it pyrrhotite and minor chalcopyrite. This mineralized zone is quite probably part of the same zone exposed at Showing No. 11, and indicates that mineralization persists along strike for at least 200 feet. This phyllite moreover would be an extremely fine host to sulphide mineralization and could possibly contain greater concentration or ore-minerals than is exposed here.

#### Showing No. 12

The mineralized zone is exposed along the south side of a 10 foot deep shaft sunk previously by Mr. Waltenbury. Mineralization occurs over about a 12 inch width and occupying the zone between a diabase dyke on the west and sediments on the east. Sulphides are massive pyrrhotite and minor chalcopyrite. The associated rock ~~or gangue~~ is gabbroic in nature and consists of quartz, plagioclase, augite and olivine. The attitude and structure of both the mineralized zone and host rocks is very confusing and it is quite probable that the south face of the shaft shows a cross-sectional view of a major fault since the upper part of the mineralized zone ends abruptly against a highly sheared and deeply weathered chloritic zone. Only one sample was submitted for assay and ran 0.43% copper and a trace nickel.

#### Showing No. 13

Finely disseminated chalcopyrite and pyrrhotite occur associated with quartz veins within the conglomerate. It is impossible to tell at this time the extent of mineralization since it occurs on a small isolated outcrop.

#### Showing No. 14

Trenching here exposed copper-gold mineralization over a 20 foot width in a grey-coloured argillite. The mineralized zone is associated with at least five parallel highly sheared chloritic zones which contain appreciable quantities of copper sulphides and some gold. These shear zones strike N 15 degrees E and dip vertically. The whole zone is deeply weathered and altered to limonitic material. Most of the argillite is agglomeritic in nature consisting of fragments  $\frac{1}{8}$ " to  $\frac{3}{4}$ " in diameter. It is difficult to tell whether it is of sedimentary or volcanic origin since it could easily be either or both.

Four grab samples sent in for assay gave the following returns for copper and gold:—

Sample No.	% Cu.	% Au./Ton
14B	1.69	0.01
14C	0.44	0.01
14E	3.54	0.13
14F	1.59	0.01
Average	1.81	0.04

This showing is particularly interesting. Values are sufficiently high and the host rock is particularly favourable to sulphide mineralization. Moreover the existence of known copper sulphide mineralization at Showing No. 14B shows the mineralization to be persistent along strike and also over a very considerable width.

**Showing No. 14(b)**

This showing lies approximately 55 feet NE of No. 14 and is similar to it. It lies also at least 30 feet east of the projected strike of the known mineralization in Showing No. 14 and strongly suggests that the mineralized zone is at least 50 feet wide.

**Conclusions and Recommendations**

The combination of such marketable metals as gold, silver, lead, zinc, copper and nickel occurring in many cases in strong shear zones and other favourable host rocks is too favourable an indication not to follow up with further work with the object of obtaining more conclusive results.

In order to guide future exploration on the property it is recommended that geophysical surveys be commenced immediately to outline anomalous areas to be tested later by the drill.

Because of the large amount of glacial cover it is recommended that "A" core be used in order to insure necessary core recovery.

Respectfully submitted,

RADAR EXPLORATION COMPANY

per R. H. PEMBERTON.

Approved G. R. JOHNSON.

Toronto, Ontario.

June 19, 1956.

REVISED: November 15, 1956.

I, ROGER HOWELL PEMBERTON, of 224 St. George Street, Toronto, Ontario, DO HEREBY CERTIFY:

1. THAT I am a duly qualified geologist and geophysicist.
2. THAT I obtained my B.Sc. in geology in 1953 from the University of Western Ontario and my M.Sc. in geophysics in 1954 from the University of Wisconsin.
3. THAT I have no direct or indirect interest, nor do I expect to receive any direct or indirect interest in the property or securities of Palston Mining and Development Company Limited.
4. THAT I did, from May 21st to May 25th, 1956, personally examine the property of Palston Mining and Development Company Limited and have based my report upon my observations made at that time.

DATED at Toronto, this 15th day of November, 1956.

R. H. PEMBERTON.

I, GEORGE ROSS JOHNSON, of 23 Sir Williams Lane, Toronto, Ontario, DO HEREBY CERTIFY:

1. THAT I am a duly qualified geophysicist and have been active in this profession for the past ten years.
2. THAT I was graduated from the University of Toronto in 1936.
3. THAT I have no direct or indirect interest, nor do I expect to receive any direct or indirect interest in the property or securities of Palston Mining and Development Company Limited.
4. THAT all work, both geological and geophysical, carried out on Palston Mining and Development Company's property as contained in this report was carried out by my staff under my direct supervision and the results are endorsed by myself.

DATED at Toronto, this 17th day of December, 1956.

G. R. JOHNSON.

**ELECTRO-MAGNETIC SURVEY**  
**PALSTON MINING AND DEVELOPMENT COMPANY LIMITED**  
**McNISH TOWNSHIP, ONTARIO**

**Purpose of Survey**

A ground E.M. survey was conducted over the area to detect electrically-conductive zones. As metallic mineralization was known to occur on the property it was reasonable to expect that some at least of the conductors located by the survey would prove to be due to the presence of metallic conductors rather than the uneconomic occurrence of graphite or ionized solution-filled fault or shear zones.

**Area of Survey**

The survey was conducted over two separate grids, each however being tied in by a common N-S base line. The first area known as the "Beaver Pond" area lies in the northwestern corner of the claim group and covers the ground which contains showings 3, 4, 5 and 6 as described in the writer's previous report. The survey here was conducted over lines 12N to 36N running west of the Base Line.

The second surveyed area is known as the South-East zone and includes Lines 12N to 28S running east from the common Base Line.

**Conduct of Survey**

Stations were read at 100' intervals along east-west lines spaced 200 feet apart. A vertical loop, supplied by an electrical current of 1,200 cycles per second, was used to create the electro-magnetic field. Dip angles were measured by the detecting coil at each station.

**Basis of Electro-Magnetic Method**

The method involves the transmission of an alternating electro-magnetic wave of a given frequency, which permeates the ground in the vicinity of a transmitting coil. This wave or field induces an electric current in any conductor on which it is incident. The flow of an alternating current in a conductor sets up its own, or secondary, radiating electro-magnetic field. These two fields form a resultant whose configuration depends on the following characteristics of the subsurface conductors: (1) size, (2) shape, (3) electrical conductivity, (4) magnetic permeability, and (5) frequency of the transmitted wave. To a lesser extent the resultant is also dependent on material adjacent to conductor, topography, and surface conductivity. The direction of the resultant vector is measured by a small receiving coil tuned to the frequency of the transmitted wave.

**Geology of Area**

As a detailed description of the geology and mineral occurrences of the area was discussed previously in another report by the writer little need be said here.

Suffice it to say that the area covered by the E.M. survey is underlain by Upper Huronian sediments known as the Cobalt Series. The Cobalt Series consists of an assemblage of conglomerates, quartzites, argillites and greywackes locally intruded by later diabasic dykes. The general strike in the area appears to be roughly N-S although 90 degree variations from this are quite common. Most of the known sulphide occurrences appear to be associated with shear zones occurring usually within the greywacke and argillites.

As the grid coordinates of the mineral occurrences and other geological features in the area are unknown by the writer it is impossible in the present dissertation to tie the geophysical results in with the known geology. Obviously a final interpretation to the geophysical results cannot be attained until all known facts are compiled together. Such will be the case, however, in the near future when geological grid map results are in.

**Interpretation**

As was stated previously, the electro-magnetic method is capable of detecting buried conductors. Conductors so located may be caused by a number of geological conditions, namely, (1) graphitic slate, (2) massive bands of metallic sulphides, etc., (3) interlocked grains of sulphides and oxides, and (4) ionized solution-filled fault zones. It is important therefore, from the interpretation standpoint, that as much be known about the geological environment as possible if a proper interpretation is to be given to the results.

Higher frequencies are capable of locating less-conductive zones, indicative of sparse, disseminated mineralization while the lower frequencies are able to locate only the more conductive materials such as massive sulphide deposits. Moreover, as the frequency of the transmitted wave increases, the penetration falls off rapidly. Because of this fact it appears that the optimum frequency range is from 500 to 1,500 cycles.

This survey, utilizing a frequency of 1,200 cycles, should be capable of locating massive sulphide zones as well as the more heavily-enriched disseminated occurrences.

**(a) BEAVER POND AREA**

The E.M. results in this area are shown on the E.M. plan map accompanying this report.

Conductors A, A', and B appear to be the most interesting. Conductor A lies close to two showings which contain minor amounts of lead, silver, copper and nickel. Conductor A' lies on strike with A and was confirmed by later detailing. This conductor is at least 800 feet long and appears to end in the vicinity of Line 26N. A conductor, on strike with A' and crossing line 28N, however, suggests a renewed continuation of the A' conductor.

The B conductor occurs in the area adjacent to a nickel-copper showing and is most probably due to metallic mineralization similar to that found in the showing. The conductors occurring on L 26N at station 18+50W was confirmed in detailing and is possibly the most massive part of the zone. Conductor B' lies of strike with B and is one of the best conductors located in the area.

(b) SOUTH-EAST ZONE.

Two E.M. maps are submitted on this area, one showing the results of the preliminary E.M. survey conducted in the area, the other being the final E.M. map showing the results of both the preliminary and detail E.M. surveys.

The exact nature of the strike of many of the conductive zones in this area is unknown and for this reason the strike directions in many cases are noted as being questionable. The large number of conductors located brings in to play a number of alternative strikes to the zones, the true nature of which can best be solved by subsequent field examination.

Many of the conductors such as L, M, and K appear to strike in a direction parallel to the diabase dykes in the area. Conduction is likely to be, in such cases, along the diabase contacts, arising either from ionized shears or from sparse to heavy mineralization along these contact zones.

Many of the other conductors, however, such as N, I, C, and P strike to the northeast and are most likely caused by metallic mineralization.

The E. M. results suggest also the presence of a conductive fault striking E-W between Lines 16S and 18S but since it is parallel to the lines it is difficult to pinpoint.

At 90+50E and Line 22S conductors appear to change in strike to a SE direction. It may be that conductors, E, G, and H, or E, G and I are actually the same conductive zones and turn in a horseshoe fashion because of a marked deflection in the strike of underlying geology. Structurally it may be that the change in strike of the conductors is caused by either an anticline plunging to the west or a synclinal sedimentary structure plunging to the east.

A third and quite probable explanation for this "nosing" effect of the conductors is the fact that any igneous intrusion intruding into these sediments from a south-south-west direction would likely cause heavy shearing in the sediments in a direction at right angles to the direction of compression or intrusion.

In the northeast survey corner of the area a very definite conductor has been located near a copper-gold showing. Four samples from this averaged 1.81% copper and .04 oz. of gold per ton. This conductor (B) is at least 1600 feet long. No attempt was made to trace its southern extension due to the proximity of the nearby Sturgeon River. Two hundred feet east of this conductor lies another conductive zone (A) which strikes parallel to B and whose north and south extensions have not as yet been traced. Conductor B appears to be the most interesting conductor on the property.

#### Conclusions and Recommendations

The survey reveals a large number of electrical conductors. Many of these conductors are coincident with known base-metal occurrences which were found previously on the property.

Since a large number of similar shows are known to exist, some of which were found to contain interesting quantities of base metals as well as precious metals, it is most likely that many of these conductors are coincident and result from similar type mineralization.

Further work is definitely recommended in the form of surface geological examination followed by test diamond drilling of those conductors known or believed to be due to sulphides.

It is the writer's understanding that Mr. Stone, chief geologist for Palston Mining and Development Company Limited is presently conducting a detailed surface examination of these conductors. Drilling therefore should begin at the conclusion of this survey.

Respectfully submitted,

RADAR EXPLORATION COMPANY

per R. H. PEMBERTON

Approved G. R. JOHNSON

Toronto, Ontario,

October 17, 1956.

REVISED November 15, 1956.

I, ROGER HOWELL PEMBERTON, of 224 St. George Street, Toronto, Ontario, DO HEREBY CERTIFY:

1. THAT I am a duly qualified geologist and geophysicist.
2. THAT I obtained my B.Sc. in geology in 1953 from the University of Western Ontario and my M.Sc. in geophysics in 1954 from the University of Wisconsin.
3. THAT I have no direct or indirect interest, nor do I expect to receive any direct or indirect interest in the property or securities of Palston Mining and Development Company Limited.
4. THAT my report is based on an electromagnetic survey conducted on the property in August and September, 1956 under my supervision.

DATED at Toronto, this 15th day of November 1956.

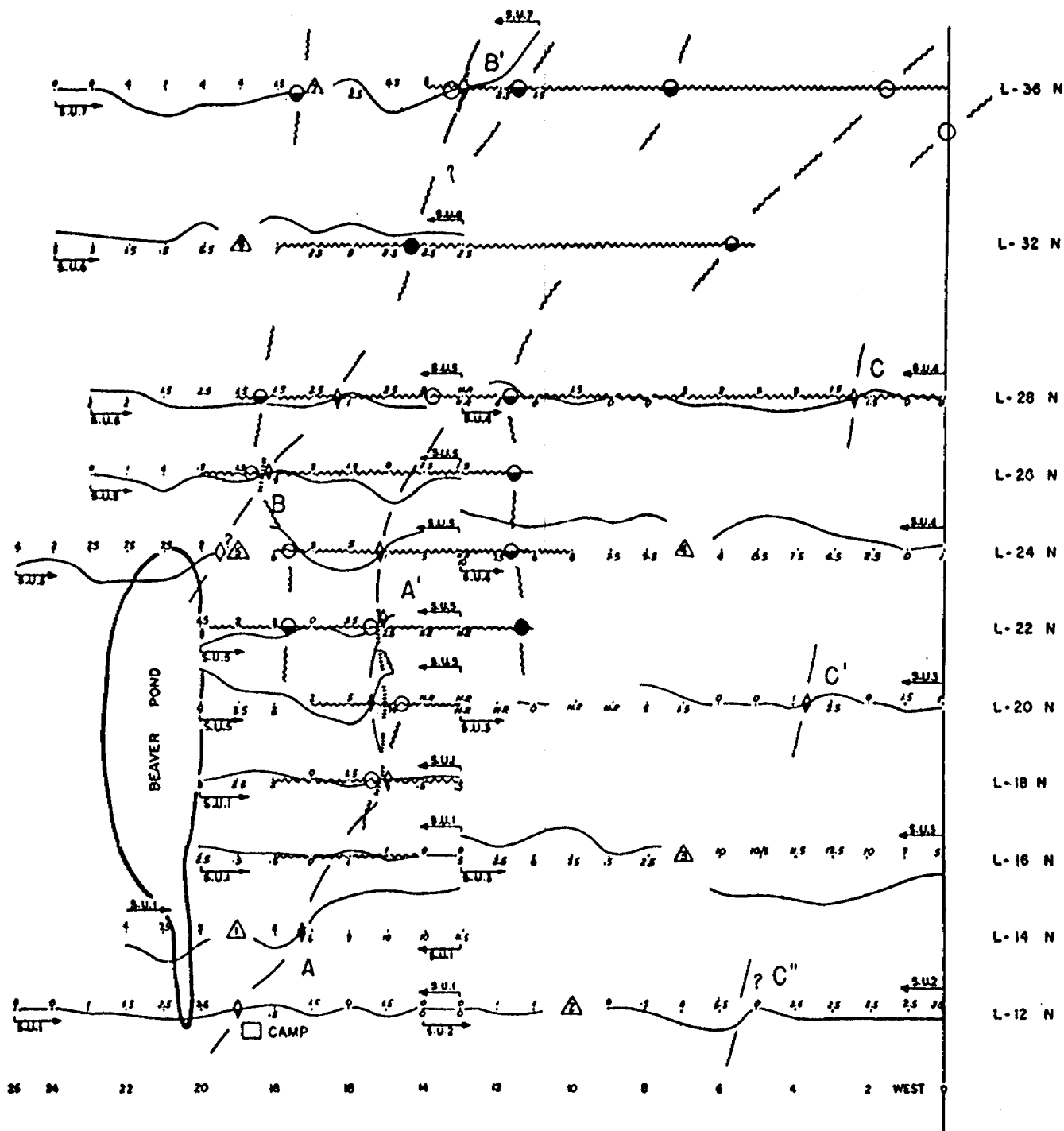
R. H. PEMBERTON.

I, GEORGE ROSS JOHNSON, of 23 Sir Williams Lane, Toronto, Ontario, DO HEREBY CERTIFY

1. THAT I am a duly qualified geophysicist and have been active in this profession for the past ten years.
2. THAT I was graduated from the University of Toronto in 1936.
3. THAT I have no direct or indirect interest, nor do I expect to receive any direct or indirect interest in the property or securities of Palston Mining and Development Company Limited.
4. THAT all work, both geological and geophysical, carried out on Palston Mining and Development Company's property as contained in this report was carried out by my staff under my direct supervision and the results are endorsed by myself.

DATED at Toronto, this 17th day of December, 1956.

G. R. JOHNSON.



**LEGEND**

- TRANSMITTER SET UP 1
- LINES RUN FROM  $\Delta$
- DIP ANGLE PROFILE FROM SET UP 1
- CROSSOVERS INDICATING CONDUCTORS  
 POOR    FAIR    GOOD
- EXTENSION OF CONDUCTIVE ZONES  
 WEST READINGS ABOVE LINE  
 EAST                    BELOW
- LOCATION OF DETAIL E.M. CROSS-OVERS  
 POOR    FAIR    GOOD
- E.M. DETAIL LINES
- CONFIRMED CONDUCTIVE ZONE

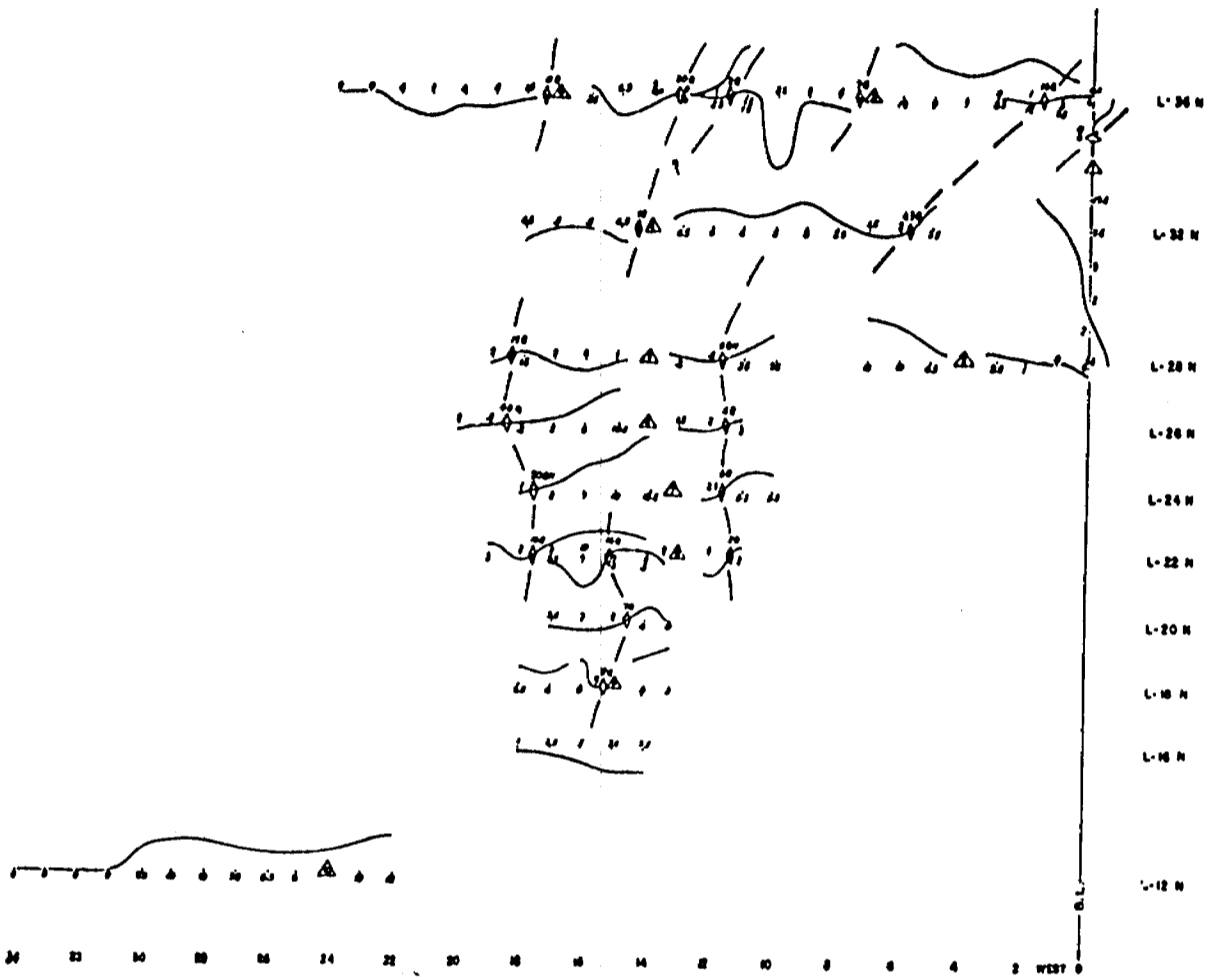


**PALSTON MINING & DEVELOPMENT  
ELECTRO-MAGNETIC SURVEY  
McNISH TWP. ONT.**

SCALE 1 INCH = 400 FEET

DIP ANGLE VERTICAL SCALE 1 INCH = 20°

*R. H. Robertson*  
Oct. 1956

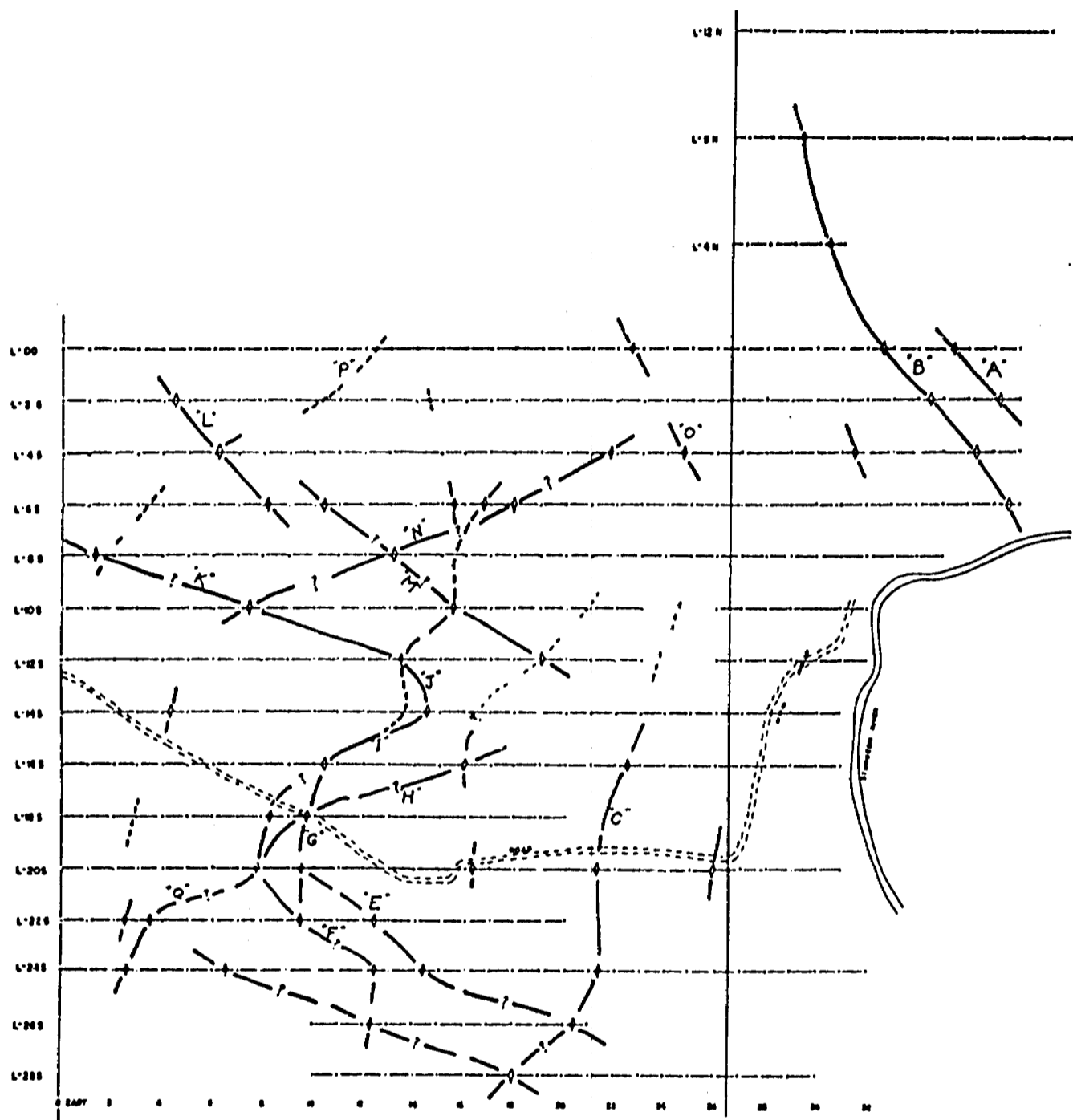


PALSTON MINING & DEVELOPMENT  
 E.M. DETAIL SURVEY  
 McNISH TWP. ONT.  
 SCALE 1 INCH = 500 FEET



*A.H. Cantate*  
 Nov. 1956

SAME LOCATION  
 AS PG 13



**LEGEND**

- CONSIDERED INDICATING CONDUCTIVE ZONE
- BOUNDARY EXTENSION OF CONDUCTIVE ZONE
- - - - - ALTERNATIVE BOUNDARY OF CONDUCTIVE ZONE
- ..... POSSIBLE CONDUCTIVE INDICATED BY REFLECTION POINT ON E.M. PROFILE



**PALSTON MINING & DEVELOPMENT  
ELECTRO MAGNETIC SURVEY  
McNISH TWP. ONT.  
SOUTH-EAST ZONE**

SCALE 1 INCH = 500 FEET

*R.H. [Signature]*  
Number 1178  
2000 1-1-1970