A Geological Report on the Property of

DAVID J. MEUNIER

Loveland Township
Porcupine Mining Division
Ontario

By

R.P. Bowen, P.Eng.

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30 May 1991

M-1991-1

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SUMMARY

This report presents the results of a geological survey over forty seven claims in Loveland Township, Porcupine Mining Division, Ontario. The claims are held by David J. Meunier and Gabriel Sutherland as part of a larger land package in the township. In September of 1990 a report was filed for assessment credit on six claims in the southern part of the township. These claims are included in this report on the enclosed maps though they are not filed for credit in this report.

Two grids cover the property. An old grid cut by Gulf Minerals Canada Limited was brushed out and utilized where necessary. This grid was cut at azimuth 75° with line spacing of 400 feet. A new grid was cut by Meunier and Sutherland at azimuth 66° with line spacing of 100 meters over part of the claims. Traverses were made over the lines and the character of the land was noted and outcrops encountered were mapped. Assessment file data was consulted along with government reports to assist in completing the report.

The claims are underlain by Precambrian age mafic to felsic metavolcanics and all units have been cut by later age north trending diabase dikes. Glacial till and outwash deposits cover all bed rock on the claims and only these deposits were noted. Large glacial erratics are scattered about the claim group.

Mineral potential will have to be assessed by geophysical methods, UTEM electromagnetic method in particular and any anomalies tested by diamond drilling.

INTRODUCTION

Location and Access

The subject claims are located in southeast to southcentral Loveland Township, Porcupine Mining Division and are accessed by a forest access road extending north from the end of Highway 516. Highway 516 extends about 12 miles northwest from Highway 101 leaving Timmins from the west, Figure 1. This road passes claim post 2 of claim 1125785 and passes south to north across the claim group. Where timber operations have occurred, logging access roads traverse a good portion of the property and make access relatively easy. An airstrip is located in the northern part of the property.

Recorded Holder

David J. Meunier, Licence No. M-17157 of 403 Dome Street, South Porcupine, Ontario and Gabriel Sutherland, Licence No. M20971 of Timmins, Ontario.

Submitting Party

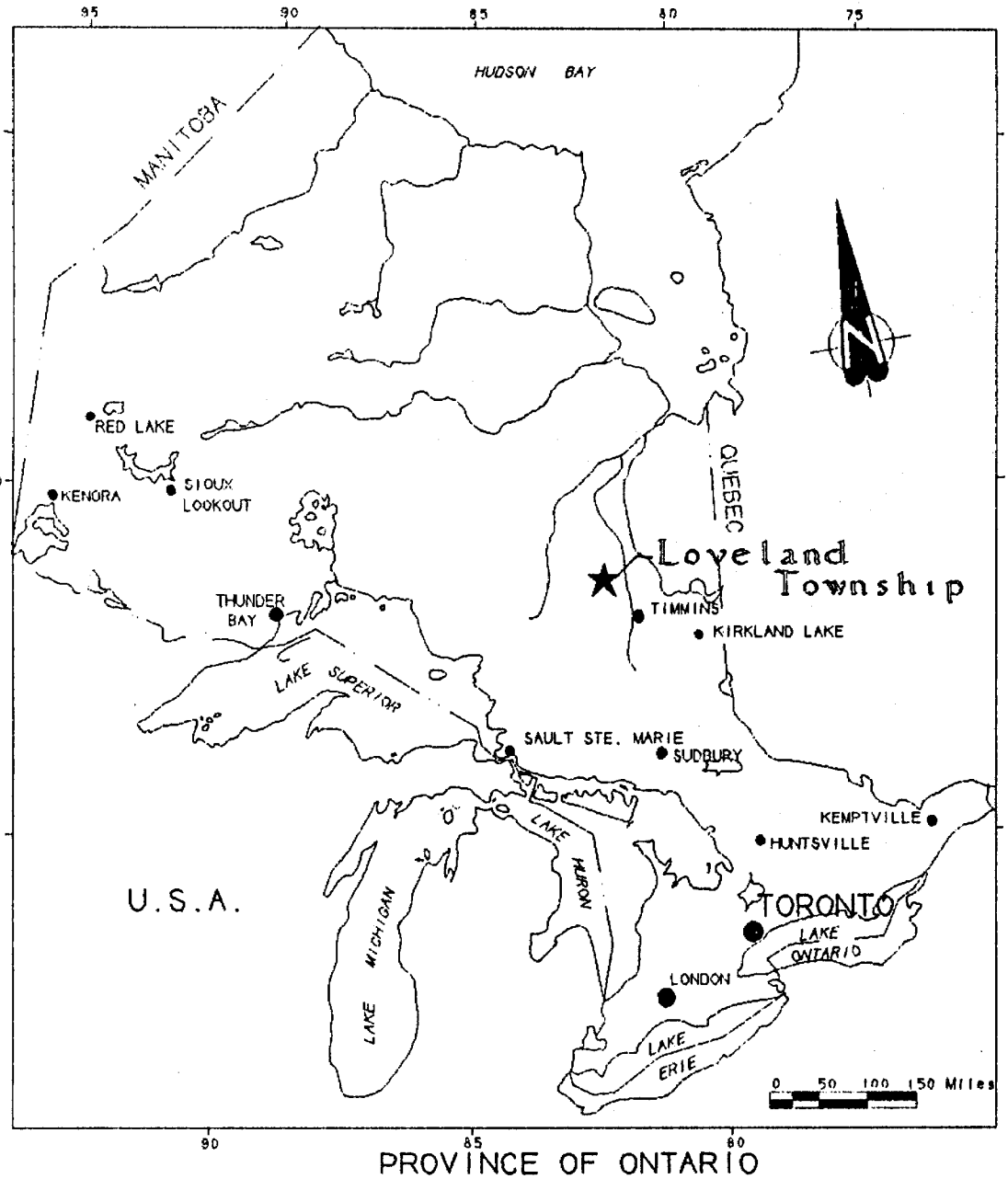
R.P. Bowen Engineering Inc. of South Porcupine, Ontario is the submitting party for this survey.

Claims and Dates of Survey

67 claims were the subject of a geological survey conducted between 1 April 1991 and 30 May 1991. The claims are shown on Figure 2.

The claims are:

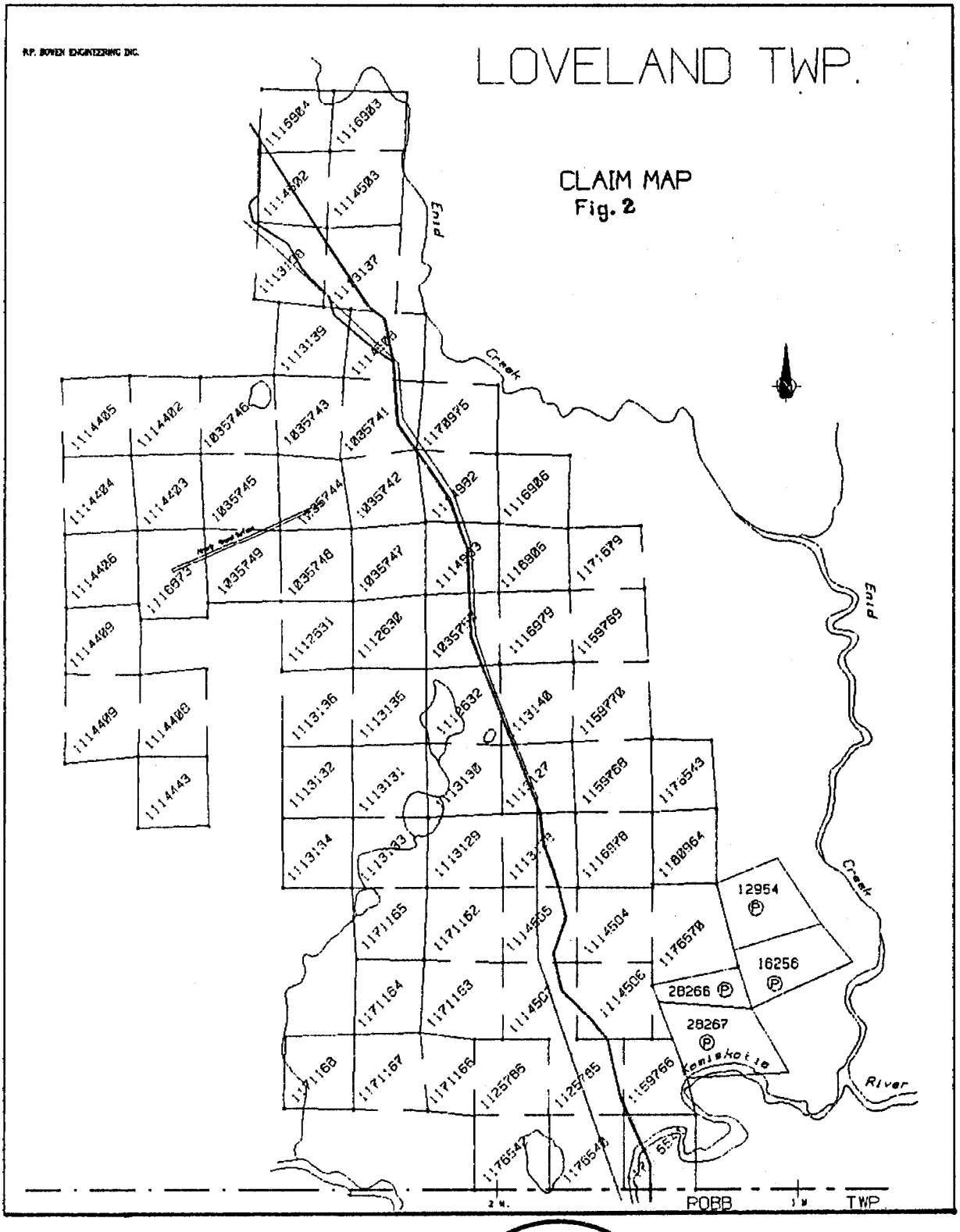
1035741 through 1035750 inclusive
1112630 through 1112632 inclusive
1113127 through 1113140 inclusive
1114402 through 1114409 inclusive
1114443
1114502 through 1114503 inclusive
1114508
1114982 through 1114983 inclusive
1116873
1116903 through 1116906 inclusive
1116978 through 1116979 inclusive
1159766
1159768 through 1159770 inclusive
1170975
1171162 through 1171168 inclusive
1171679
1176540 through 1176543 inclusive
1176570
1180964



PROVINCE OF ONTARIO

REGISTERED PROFESSIONAL ENGINEER
F. P. BOWEN
PROVINCE OF ONTARIO

R.P. BOWEN ENGINEERING INC		
Client: DAVID J. MEUNIER		
Title: REGIONAL LOCATION MAP		
Date: SEP 1990	Scale: 1" = 150 mi	N.T.S. - 42A
Drawn: R.P.B.	File: M-L0001-90	Fig. 1


R.P. BOWEN ENGINEERING INC.
LOVELAND TWP.
CLAIM MAP
Fig. 2
Enid
Creek
Enid
Creek
River
12954 (P)
16256 (P)
28266 (P)
28267 (P)
POBB
TWP


REGISTERED PROFESSIONAL ENGINEER
R. P. BOWEN
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Physiography

The claims are located on relatively flat ground except for several pot holes scattered around the claims that are approximately 10 meters deep. The claims have been clear-cut except for the extreme western claims and those claims close to Enid Creek and several other pot-holes and ponds. Outcrop was discovered on the northeastern claims and overburden was up to 30 meters deep as determined from examining overburden and diamond drilling records. The character of overburden was mostly glacial till and esker derived gravels with lesser outwash sands. Overburden drilling undertaken in previous surveys determined the depth and character of the overburden. The claims are well drained except for the above mentioned pot-hole. Drainage is south into the Kamiskotia River.

Natural Resources

Being that the area has been almost completely clear-cut there is not much in the line of natural resources at present. The clear-cut area has been planted with jack and red pine and in twenty or so years will be ready for harvesting. Smaller logs left behind from the timber operations are presently being cut up by the public for fire wood. The only signs of wildlife besides song birds were bears that were feeding on the blueberries.

Previous Work

The earliest work conducted under government auspices was that done by L.G. Berry in 1944. In 1957 Berry along with S.A. Ferguson specifically mapped Loveland Township. Larger, more regional survey efforts were made by Ginn and Fenwick (1962) and Pyke et al (1972). R.S. Middleton (1974) conducted a complete ground magnetometer survey of Loveland Township and made a geological interpretation of the data. The most recent government effort was the INPUT survey conducted by the Ontario Geological Survey as part of the Timmins release in 1989.

Bombay Explorations (1972) Timmins File T-167

This company conducted ground magnetic and electromagnetic surveys over the southwestern part of the property to the township line. Several shot EM conductors were defined, however, only one right on the township line was tested by diamond drilling.

Cominco Ltd. (1975) Timmins File T-1621

Cominco filed the results of an overburden drilling survey on part of the present property in 1975. The overburden samples were assayed for copper, lead and zinc and the bedrock chips identified as to rock type. Six of the holes filed were drilled on what is now the Meunier property. An airborne magnetometer and electromagnetic survey was also filed by the company over a much larger area. No conductors or significant magnetic responses were noted over the present property.

Falconbridge Nickel Mines Limited (1973-4) Timmins File T-1583

Falconbridge had a claim block covering part of the westernmost claims on the Meunier property. In 1973 and 1974 they conducted a ground magnetometer (Scintrex MF-2) and electromagnetic (McPhar SS15) survey over the property. The diabase dikes were outlined and weak conductors were interpreted to be caused by water along the dike wall-rock contacts. Some detailed follow-up work was recommended, however, there is no evidence that this work was ever done.

Gulf Minerals (1982) Timmins File T-1929

Gulf conducted an overburden drilling survey over most of the claim group and surrounding area to determine the bedrock type. Most of the claims appear to be underlain by felsic metavolcanics with lesser intermediate to mafic metavolcanic units. There is a fairly good correlation between the Gulf drilling and the Middleton geophysical interpretation. Very detailed ground magnetic and Max-Min surveys were conducted but not submitted for assessment credit. Mr. Meunier has these surveys in his possession and a great deal of information has been gleaned from them. Differentiating between mafic and felsic metavolcanic rocks is difficult at overburden depths of 100 feet or more.

Hollinger Mines Limited (1970) Timmins File T-1247

This company conducted a geomagnetic survey over a block of claims along the Robb-Loveland Township boundary in 1970. One diamond drill hole was put down along the Kamiskotia River to a depth of 525 feet. Felsic to intermediate rock types were identified as well as a diabase dike.

MacDonald Mines Ltd. (1964-6) Timmins File T-785

The company had a small claim block in the central part of the claim group. They conducted geological mapping, ground magnetometer and electromagnetic surveys over the property. The magnetics outlined the diabase dikes extremely well, however, it did not provide much other meaningful data. The EM survey indicated a weak conductor and follow-up work was recommended. There is no evidence that this work was done.

Mespi Mines Ltd. (1966) Timmins File T-756

Mespi conducted several large airborne geophysical surveys over the area after the Kidd Creek discovery. Some ground EM follow-up work was conducted and several moderate, though short, conductors were outlined on the present property. No follow-up was done and claims were allowed to lapse. Some short conductors were noted on the property, however, they are best described as subtle, however, deeper penetrating EM methods could help resolve these anomalies.

Mespi Mines Ltd. (1966) Timmins File T-758

This company had a small claim block in the northern part of the property near Enid Creek. An EM survey using a Crone unit utilizing frequencies of 1,800 and 400 Hz with a 300 foot coil separation and readings at every 100 feet was done. Some small anomalies were outlined and follow-up work was recommended with no evidence that it was performed.

David Meunier (1989-90) Timmins File T-3381

Mr. Meunier contracted Lamontagne Geophysics Ltd. to conduct a downhole UTEM probe of Gulf Minerals diamond drill hole R-81-A-3 in 1989. A weak of moderate response was obtained and it was decided to apply for an OPAP grant to deepen this hole. The hole originally ended at 1,424 feet and was deepened to 1,913 feet. Some alteration was noted but no massive sulfides were encountered. In the fall of 1990 a short geological survey was conducted over the southern 6 claims for assessment credit so the claim block could be held. The results of this survey are incorporated into and expanded in this report.

United Macfie Mines Limited (1964) Timmins file T-790

This company held a claim block over ground now covered by the westernmost claims of the present group. A TURAM EM survey was performed by Huntec Limited and five diamond drill holes were drilled, the logs of four are in the assessment files. What was drilled was a diorite-granite contact which appeared as a weak conductor on the TURAM survey.

Windfall Oils and Mines Ltd. (1964) Timmins file T-809

This company held a small block of claims now covered by the subject claim group. A ground magnetometer and electromagnetic survey was conducted. The magnetic surveys highlighted the diabase dikes and the EM survey did define several minor conductors although there was no magnetic correlation. A more detailed survey was recommended with a Ronka unit and an associated soil geochemistry survey. Whether this work was performed is not known.

GENERAL GEOLOGY

Regional Geology

The regional geology underlying the area of Loveland Township is a synformal structure about a southeast trending axis. Felsic to intermediate pyroclastics ranging from breccias to tuffs with lesser flows form the inner portion of the synform with mafic metavolcanic flows on the outer portions of the limbs. The sequence appears to be repeated further out on the limbs. Lesser mafic and felsic hypabbysal intrusives are noted locally. Cherty beds are noted in diamond drill core and mineralization is noted in diamond drilling north and east of the property. metasedimentary rocks were encountered in diamond drilling as well, however, they were a minor percentage. They were often graphitic slates and were often pyritized indicating deposition in a reducing environment. Alteration appears to be mainly chlorite and carbonate with lesser sericite and green mica and sulfides. Minor komatiitic units are indicated by the presence of talc schists. Shearing is described as schistose and other penetrative fabric descriptions. Diabase dikes cut all lithologies.

Property Geology

Most of the property appears to be underlain by a sequence of mafic and felsic metavolcanics with lesser intermediate units. The mafic flows are massive to pillowed in nature. These rocks have been identified in outcrop northeast of the property and from some overburden drilling. Some intermediate metavolcanics appear to be associated with the felsic units and may be a transition between the mafic to felsic sequences. These rocks have been identified from overburden and diamond drilling and in outcrop in the north and east part of the property. The outcrop off the east end of the airstrip (Map 3) shows relatively distinct and well defined contacts with underlying and overlying mafic units. This is not the case with the outcrop on the same map sheet closer to the main forest access road on claims 1036741 and 1114508. The felsic units appear to be intrusive in part or occur as the result of unmixing of lava units. Contacts are very irregular and the foliations are contorted.

The metavolcanic rocks are calc-alkalic to tholeiitic in character as indicated by geochemical plots and they range from rhyolite to basalt.

Table 1 - Table of Lithologic Units on the Meunier Claims

CENOZOIC
QUATERNARY
RECENT
Peat, lake and stream deposits

PLEISTOCENE
Till, sand and gravel

PRECAMBRIAN
EARLY TO MIDDLE PRECAMBRIAN
LATE MAFIC INTRUSIVE ROCKS
Diabase, quartz diabase

INTRUSIVE CONTACT

EARLY PRECAMBRIAN
MAFIC INTRUSIVE ROCK
Gabbro, thick mafic flow

INTRUSIVE CONTACT

METAVOLCANIC ROCKS
FELSIC METAVOLCANIC ROCKS
Massive to porphyritic flows and pyroclastics

INTERMEDIATE METAVOLCANIC ROCKS
Massive to porphyritic flows and pyroclastics

MAFIC METAVOLCANIC ROCKS
Pillowed to massive medium grained mafic lavas, coarser portions may be synvolcanic sills or dikes or thicker flows

Mafic units are composed of chlorite after hornblende and pyroxene and plagiocalse and lesser quartz. The units are dark greenish gray to greenish black and weather greenish gray often with brownish staining where sulfide minerals have oxidized. This is most evident along pillow salvages. Where porphyritic the chlorite and plagiocalse phenocrysts are set in a finer matrix made up of the same minerals and quartz. Plagiocalse, potassic feldspar and quartz with lesser amounts of sericite and chlorite make up the bulk of the intermediate to felsic metavolcanic units. The intermediate units are gray to grayish brown and weather somewhat lighter. Felsic units are white to light gray and weather slightly more dull. Pyrite and magnetite are the primary metallic accessory minerals.

Some coarse grained units were noted in overburden and diamond drilling and were identified as gabbro and diorite although they may be coarse mafic to intermediate flows. Gabbro bodies are known to exist both east and west of the property. The gabbro bodies are largely composed of plagioclase and hornblende. North trending diabase dikes cut all lithologies. These rocks are medium grained and are composed of quartz, hornblende, pyroxene, biotite and ferromagnesian minerals. The diabase is black to dark brown and weathers moderate brown as ferromagnesian and sulfide minerals oxidize.

STRUCTURAL GEOLOGY

The lithology trends southeast across the property and tops face the northeast. Faults have been interpreted from airborne geophysical data, OGS (1988). Structural deformation has not been great as pillows are quite well defined and do not appear to have undergone stretching and gas vesicles along the tops of pillows are not overly flattened. Jointing was noted in all outcrops, however, insufficient measurements were taken to plot a stereonet plot of either joint patters or lineations.

METAMORPHISM

Metamorphic grade is greenschist grade. The metamorphic minerals are predominately chlorite in the mafic units and quartz and sericite in the felsic to intermediate units. Bleached portions were noted in diamond drill core and soda depletion was usually evident at these points.

GEOCHEMISTRY

Thirty two whole rock and trace element analyses were performed on diamond drill core from hole LDM-2-90 drilled as part of an OPAP grant on claim 1114983, Map 2. The analyses were done by Barringer Laboratories using their Lithoprint ICAP method. Oxides of SiO_2, Al_2O_3, Fe_2O_3, MgO, CaO, Na_2O, K_2O, TiO_2, P_2O_5 and LOI were recorded and trace elements Ag, Ba, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sr, V, Zn and Zr. The results of these analyses are recorded as anhydrous values in Appendix A. Iron was reported as total iron Fe_2O_3 and has been recalculated to Fe_2O_3 and FeO with a factor of 0.8998. In addition, the total rock analyses reported by Middleton (1973 & 1974) are also reported as straight weight percents in Appendix B.

All data was entered into a spreadsheet and converted to files for manipulation by Newpet, Clarke (1991).

Figure 4 is a Jensen Cation Plot of all data after Jensen (1976), Figure 5 is an AFM diagram after Irving and Baragar (1971) and Figure 6 is an alkalis-silica plot after Irving and Baragar (1971). Symbols representing various analyses are O for samples from Middleton (1973), □ for samples from Middleton (1974) and ◊ for samples from diamond drill hole LDM-2-90.

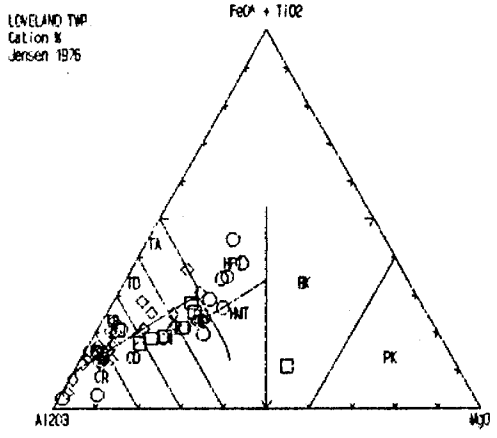

Figure 3 - Jensen Cation Plot from Jensen (1976)

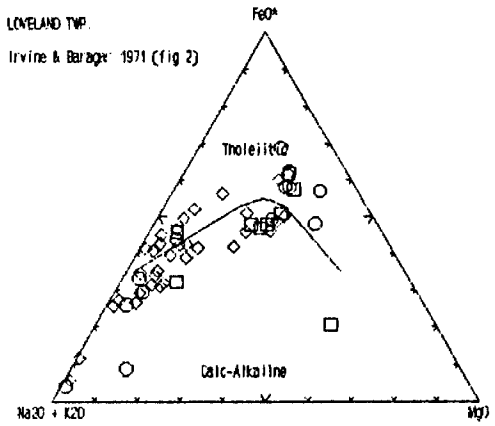

Figure 4 - AFM diagram after Irving and Baragar (1971)

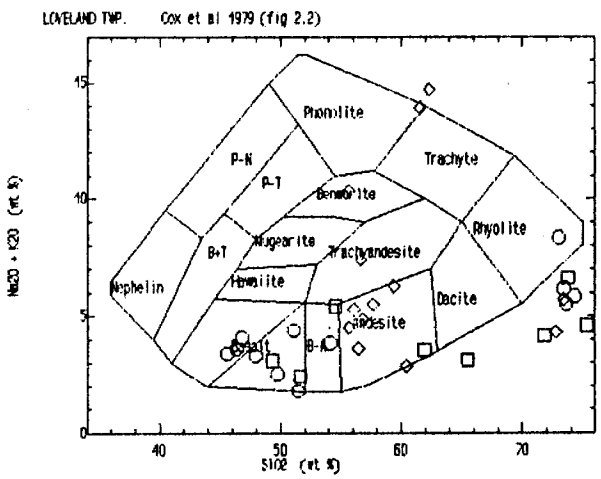

Figure 5 - Alkalies vs silica plot after Cox et al (1979)

As can be seen from the Jensen and AFM plots the units appear to cluster in a linear trend indicating a single volcanic cycle. Those rocks falling outside the trend do so either because they have been altered or are intrusive in nature and may have originated from a different magma chamber. Soda leaching is common.

GEOPHYSICS

Most of the property was covered by ground magnetometer and Max-Min horizontal loop surveys by Gulf Minerals in 1982. This data was not filed for assessment work credit. Mr. Meunier acquired that data from Gulf in 1991 and the author contracted Rayan Exploration Ltd. to reprocess the magnetic data into 25 gamma, 50 gamma and 100 gamma contour plots using Geopak Systems software. The 25 gamma contour data was used in conjunction with Gulf's overburden bedrock chip sample data, diamond drill data and the Meunier diamond drill data to assist in the interpretation of the geology on the property. Whether or not this reprocessed data will find it's way into the assessment files will be predicated on obtaining assessment credit for the reprocessed data. Diabase dikes and faults were most prominent and a considerable amount of information was interpreted from the magnetics about the metavolcanic units. The 25 gamma contour data was much more helpful than the 50 or 100 gamma contour data.

Middleton (1974) prepared a geophysical report for the Ontario Geological Survey. This report consisted of fluxgate magnetic data obtained by compass and chain traverses over unstaked and unsurveyed ground and tying in magnetic surveys that had been submitted for assessment credit. Due to the coarse contour interval used in presenting the data the only reliable data was that of the diabase dike pattern. The same can be said for the 1 inch to 1 mile aeromagnetic data presented on Map 299G by GSC (1956).

In 1987 the OGS contracted Geoterrex to fly the Timmins area with their INPUT and total intensity magnetic system, OGS (1988). These maps are presented on a township by township basis at a 1:20,000 scale on an airphoto mosaic. Diabase dikes and linear faults stand out clearly as do mafic intrusions. Some discrimination of the metavolcanic units can be made and if outcrop coverage is sufficient for field checks a fairly accurate geological map may be prepared. If diabase dike swarms are prevalent the general metavolcanic trend becomes obscured and outcrop control becomes necessary for a proper interpretation. Flightline data from the OGS may be obtained for entry into commercially available computer data manipulation packages for output as shaded , filtered, derivative and shadow maps. These maps, while costly, can provide a considerable amount of data.

It must be remembered however that one still doesn't know the character or identity of the underlying rock units until he visits the field to view and sample the rocks first hand. Where overburden is thick diamond drilling must be resorted to.

It is the author's opinion that the rocks west of the Mattagami River fault as identified by Middleton (1974) represent units lower in the system than those to the east. The reason for this thinking is that the density of diabase dikes increases west of the Mattagami River and that this fact indicates the roots of the diabase feeder system. Further to this gold deposition is epithermal and higher in the system and has been much more prevalent east of the river while base metal deposition is usually more of a meso or telethermal origin and is more common west of the river.

CONCLUSIONS AND RECOMMENDATIONS

This property is covered with a deep mantle of glacial overburden and a comprehensive program of deep penetrating electromagnetic surveys followed up in selected areas with induced polarization/resistivity surveys will be the most cost effective way to map the underlying geology. Any targets should then be tested by diamond drilling.

This property will most likely provide base metal targets although one should be on the alert for gold mineralization.

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1976: A New Cation Plot for Classifying Subalkalic Volcanic Rocks; Ontario Division of Mines, MP 66, 22 p.

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1973: Magnetic Survey of Robb and Jamieson Townships, District of Cochrane; Ontario Division of Mines, GPR1, 56 p. Accompanied by Map 2255, scale 1 inch to ½ mile.

Middleton, R.S.
1974: Magnetic Survey of Loveland and Macdiarmid Townships, District of Cochrane; Ontario Division of Mines, GPR2, 26 p. Accompanied by Map 2288, scale 1 inch to ½ mile.

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Pyke, D.R. et al
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ASSESSMENT WORK FILES

Bombay Explorations (1972) Timmins File T-167

Cominco Ltd. (1975) Timmins File T-1621

Falconbridge Nickel Mines Limited (1973-74) Timmins File T-1583

Gulf Minerals (1982) Timmins File T-1929

Hollinger Mines Limited (1970) Timmins File T-1247

MacDonald Mines Ltd. (1964-66) Timmins File T-785

Mespi Mines Ltd. (1966) Timmins File T-756 & T-758

David J. Meunier (1990) Timmins File T-3381

United Macfie Mines Limited (1964) Timmins File T-790

Windfall Oils and Minerals Ltd. (1964) Timmins File T-809

CERTIFICATION

I, R.P. Bowen, P.Eng., of 142 Eric Crescent, Porcupine, Province of Ontario, certify as follows concerning my report on the Loveland Township, Ontario property of David Meunier and Gabriel Sutherland dated 30 May 1991.

1) I am a member in good standing of:
   a) The Association of Professional Engineers of the Province of Ontario
   b) The Canadian Institute of Mining and Metallurgy
   c) The Society of Mining Engineers of the A.I.M.E.
   d) The American Society of Photogrammetry and Remote Sensing

2) I am a graduate of Michigan Technological University, Houghton, Michigan with a B.S. degree in Geological Engineering obtained in 1970 and a B.S. degree in Engineering Administration obtained in 1971.

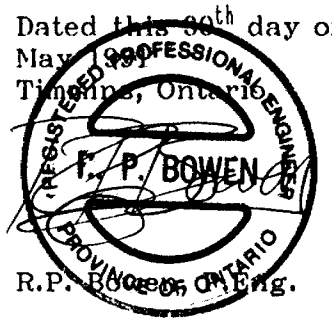
3) I am a graduate of Mc Gill University, Montreal, Quebec with a Diploma in Geological Sciences obtained in 1972 and a M.Sc. (Applied) in Minerals Exploration obtained in 1973.

4) I have been practising my profession in Canada and the United States for the past 23 years.

5) I have no direct interest in the properties, leases, or securities of David Meunier or Gabriel Sutherland nor do I expect to receive any.

6) The attached report is the product of:
   a) Data listed in the references.
   b) Assessment work files - Timmins Resident Geologist's Office and the Toronto Assessment Records Office.
   c) Discussions with colleagues who have worked in the area.
   d) My personal acquaintance with the Timmins geology and other properties in the area, some of which I have examined and worked on for other companies.
   e) Personal visits to the property between 8 July 1990 and 30 May 1991.

Dated this 30th day of May 1991
Timmins, Ontario



R.P. Bowen, P.Eng.

APPENDIX A

Lithoprint ICAP analyses for diamond drill hole LDM-2-90

File Name D:\NEWPET\DATA\LOVE32C.ROC Anhydrous

07-04-1991 17:00:41

Sample	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-11	S-12	S-13	S-14	S-15
Northing	188.5	353	256.7	267.4	288	321.5	343.5	355.5	406.5	449	512.3	574.8	708.7	833.3	861.4
Easting	193.5	356	258.3	273	293	326.5	348.5	360	411.5	454	517.3	579.1	708.5	838.3	866.4
Symbol	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Sym Colour	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rock Type	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE
Anhyd Calc	0.99963	0.99974	0.99956	0.99911	0.99962	0.99921	0.99968	0.99978	0.99369	0.99380	0.99895	0.99895	0.99900	0.99974	0.99967
SiO_2	77.00	78.93	76.48	57.70	76.07	59.40	76.09	62.32	78.47	79.58	56.09	55.69	56.44	79.01	77.61
TiO_2	0.20	0.14	0.12	0.84	0.16	0.87	0.15	0.18	0.15	0.12	0.83	0.84	0.82	0.13	0.13
Al_2O_3	11.29	10.96	11.16	16.90	11.96	16.83	12.03	17.81	11.92	10.56	16.24	16.27	16.16	10.79	10.37
Fe_2O_3	0.37	0.26	0.45	0.88	0.37	0.80	0.33	0.22	0.31	0.21	1.05	1.05	0.99	0.26	0.33
FeO	3.01	2.07	3.65	7.13	2.98	6.43	2.66	1.75	2.47	1.70	8.49	8.48	7.97	2.07	2.70
MgO	0.69	0.19	0.39	3.92	0.29	3.72	0.37	0.13	0.27	0.13	5.80	5.51	5.22	0.57	0.62
CaO	3.47	1.41	2.63	6.97	3.59	5.53	5.62	2.86	1.47	2.26	6.07	7.52	8.62	1.33	4.21
Na_2O	0.82	2.68	3.93	4.72	0.96	4.80	0.60	0.34	0.48	0.36	3.76	4.15	3.10	4.32	0.64
K_2O	3.06	3.35	1.17	0.77	3.61	1.46	2.07	14.37	4.44	5.05	1.53	0.33	0.53	1.51	3.36
P_2O_5	0.07	0.02	0.02	0.16	0.02	0.16	0.07	0.02	0.02	0.02	0.14	0.16	0.17	0.02	0.02
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
LOI	2.10	0.55	0.75	1.20	0.80	1.30	0.75	1.05	1.65	0.75	1.75	1.75	1.50	0.65	2.40
Mg #	26.90	13.00	14.67	46.81	13.58	48.15	18.21	10.77	15.16	10.98	52.28	51.03	51.23	30.61	26.93
Cr	175	340	339	142	228	73	247	90	11	201	146	160	148	266	184
Ni	31	30	30	82	30	51	31	30	31	30	81	91	93	30	31
Co	31	30	30	31	30	31	31	30	31	30	30	30	31	30	31
V	9	5	5	158	5	151	9	27	5	5	171	171	171	5	5
Cu	21	16	93	50	134	19	30	20	24	15	33	54	50	43	40
Pb	81	101	121	62	131	31	123	51	102	80	30	51	41	90	112
Zn	53	345	20	105	77	95	26	26	100	74	78	86	79	53	93
Cd	5.09	5.07	5.02	5.15	5.02	5.13	5.14	5.06	5.10	5.00	5.04	*5.05*	*5.18*	*4.99*	*5.09*

	3.0	3.1	3.0	3.1	3.1	3.0	3.1	3.1	3.0	3.1	3.0	3.0
K		25417	27792	9678	6416	29946	12094	17158	119259	36885	41924	12605
	2736	4230	12532	27385								
Ba		261	747	365	192	577	275	265	1679	847	1006	353
	69	113	311	479								
Sr		37	58	92	149	96	172	172	84	28	133	124
	156	164	48	42								
Zr		315	345	332	144	422	164	422	486	387	322	131
	131	135	310	346								
Ti		1220	815	723	5041	946	5210	924	1061	892	723	4905
	4977	4737	791	785								
Density		2.37	2.33	2.37	2.54	2.37	2.51	2.38	2.35	2.34	2.33	2.57
	2.59	2.59	2.33	2.37								

File Name D:\NEWPET\DATA\LOVE32C.ROC Anhydrous
07-04-1991 17:01:57

Sample	S-16	S-17	S-18	S-19	S-20	S-21	S-22	S-23	S-24	S-25	S-26	S-27	S-28	S-29	S-30
Northing	880.5	913.4	976.8	1019.4	1046.6	1218.1	176	227	232	309	337	360	366.5	369	403
Easting	882.1	918.4	981.7	1024.4	1051.3	1221.8	178	228	234	310	339	362	368	371	405
Symbol	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Sym Colour	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rock Type	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE
Anhyd Calc	0.99974	0.99972	0.99970	0.99967	0.99972	0.99951	0.99974	0.99902	0.99964	0.99886	0.99952	1.00000	0.99896	0.99957	0.99962
SiO_2	77.20	77.49	78.69	78.28	78.64	73.42	77.97	56.85	77.37	60.41	78.61	61.55	55.65	72.78	81.09
TiO_2	0.14	0.14	0.13	0.13	0.13	0.42	0.27	1.12	0.14	1.04	0.12	0.24	0.62	0.22	0.12
Al_2O_3	11.39	11.68	10.92	11.30	11.31	11.17	13.72	16.24	3.16	12.97	10.11	17.76	17.64	11.16	9.23
Fe_2O_3	0.27	0.28	0.32	0.31	0.27	0.50	0.27	0.96	0.35	1.14	0.49	0.10	1.03	0.44	0.38
FeO	2.17	2.30	2.57	2.47	2.21	4.04	2.17	7.72	2.82	9.21	3.92	0.78	8.35	3.53	3.05
MgO	0.61	0.84	0.59	0.60	0.52	1.40	0.79	3.40	0.65	3.93	0.32	0.23	2.28	1.28	0.46
CaO	3.50	2.59	2.08	2.14	1.38	3.27	0.17	8.66	13.65	8.24	1.36	5.37	3.98	6.24	2.17
Na_2O	0.24	0.60	0.81	0.82	3.74	3.97	0.11	3.87	0.54	1.87	4.81	1.10	2.68	1.95	0.32
K_2O	4.46	4.05	3.87	3.95	1.77	1.75	4.50	1.01	1.23	0.99	0.24	12.81	7.66	2.33	3.17
P_2O_5	0.02	0.02	0.02	0.02	0.02	0.07	0.02	0.18	0.08	0.18	0.02	0.07	0.11	0.07	0.02
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.01	100.00	100.00	100.00
LOI	2.35	1.95	1.80	3.50	1.35	2.20	2.15	1.35	7.60	1.30	0.70	3.65	2.00	3.75	1.80
Mg #	31.08	36.98	26.83	27.95	27.53	35.75	36.85	41.40	27.15	40.64	11.60	31.79	30.47	36.69	19.41
Cr	188	173	208	219	206	139	78	200	238	136	311	58	108	112	134
Ni	31	30	30	31	31	30	31	102	111	30	30	31	51	32	31
Co	31	30	30	31	31	30	31	30	44	30	30	31	30	32	31
V	5	5	5	5	5	56	7	191	17	163	5	48	103	20	5
Cu	15	22	9	8	26	84	22	76	329	69	536	6	96	31	75
Pb	71	81	81	84	113	61	31	30	100	30	50	31	41	86	163
Zn	98	71	107	123	54	49	27	1167	699	98	39	28	76	64	44
Cd	5.09	5.08	5.06	5.23	5.14	5.08	5.20	5.08	14.43	5.07	5.01	*5.16*	*5.07*	*5.37*	*5.09*

	3.1	3.0	3.2	3.1							
K		36434	33113	31785	31286	14274	14271	35936	8210	9211	8126	1991
	[illegible]	62692	18006	25890								
Ba		727	713	492	511	268	358	528	148	174	297	50
	1508	1439	691	672								
Sr		36	73	58	62	42	83	8	133	29	131	70
	91	101	65	18								
Zr		376	366	334	356	350	274	353	132	33	193	310
	589	426	311	285								
Ti		821	809	749	749	767	2457	1559	6589	767	62	713
	1409	-	1216	689								
Density		2.35	2.35	2.35	2.35	2.34	2.39	2.34	2.56	2.43	2.58	2.36
	2.36	2.51	2.41	2.35								

File Name D:\NEWPET\DATA\LOVE32C.ROC Anhydrous
07-04-1991 17:03:27

Sample	S-31	S-32
Northing	421	1030
Easting	423	1031
Symbol	14	14
Sym Colour	1	1
Rock Type	CORE	CORE
Anhyd Calc	0.99968	0.99895
SiO_2	77.31	56.66
TiO_2	0.14	0.92
Al_2O_3	11.69	16.74
Fe_2O_3	0.32	1.05
FeO	2.56	8.52
MgO	0.10	1.38
CaO	3.91	7.18
Na_2O	0.34	6.33
K_2O	3.61	1.06
P_2O_5	0.02	0.15
Total	100.00	100.00
LOI	0.80	3.85
Mg #	5.95	20.68
Cr	172	187
Ni	30	97
Co	30	32
V	5	175
Cu	29	378
Pb	81	247
Zn	96	5409
Cd	5.04	13.95
Ag	3.0	3.2
K	29710	9465
Ba	463	223
Sr	139	126
Zr	383	140
Ti	833	6587
Density	2.36	2.54

APPENDIX B

Analyses for OGS Geophysical Reports 1 and 2
by
R.S. Middleton (1973 & 1974)

File Name D:\NEWPET\DATA\RSMGR1.ROC
05-27-1991 12:32:48

Sa[redacted]	68-629	68-664	68-805	68-753	68-789	68-64	68-316	68-351	68-394	68-474
Northing	17648425	17653450	17650250	17657850	17652600	17672650	17657450	17647000	17648200	17655250
Easting	865250	869450	869450	858600	860000	868200	859200	857800	858450	871050
Symbol	3	3	3	3	3	15	3	15	15	15
Sym Colour	1	1	1	1	1	1	1	1	1	1
Rock Type	PILLOW LAV	RHYOLITE-G	RHYOLITE-P	WELDED TUF	CHERTY RHY	GABBRO	BASALT DIK	GABBRO	GABBRO	ANORTHOSIT
SiO_2	51.20	78.00	71.00	73.40	76.80	41.00	45.40	44.20	44.50	49.30
TiO_2	2.38	0.18	0.28	0.39	0.06	0.84	1.16	2.58	1.76	0.29
Al_2O_3	12.90	12.30	12.80	13.10	12.50	15.30	14.20	12.00	12.50	17.50
Fe_2O_3	2.84	-	1.64	1.09	-	2.26	4.06	6.68	3.59	3.35
FeO	10.50	0.33	1.53	3.93	0.67	10.00	11.30	12.90	13.70	5.70
MnO	0.24	0.01	0.09	0.10	0.04	0.23	0.27	0.31	0.27	0.17
MgO	5.70	0.10	0.55	0.81	0.98	5.50	5.81	5.31	6.78	4.77
CaO	4.71	0.90	1.22	1.34	1.10	10.00	9.30	9.30	7.68	11.10
Na_2O	2.69	0.30	0.77	3.45	5.50	2.72	2.90	3.10	3.59	4.04
K_2O	0.95	7.12	7.34	2.05	0.37	0.45	0.24	0.19	0.28	0.19
P_2O_5	0.47	0.02	0.05	0.05	0.01	0.13	0.03	0.35	0.38	0.03
Total	94.58	99.26	97.27	99.71	98.03	88.43	94.67	96.92	95.03	96.44
H_2O	4.43	0.20	0.88	2.30	0.40	4.59	3.09	2.28	2.87	2.22
CO_2	1.37	0.43	0.96	0.40	1.74	7.02	0.50	0.12	0.12	0.18
Mg #	43.76	35.06	24.59	22.72	72.27	44.89	40.91	33.35	41.64	49.38
S	1400.00	100.00	5700.00	700.00	100.00	1100.00	5300.00	1300.00	1000.00	300.00
K	7886	59105	60932	17018	3071	3736	1992	1577	2324	1577
Ti	14268	1079	1679	2338	360	5036	6954	15467	10551	1739
Density	2.64	2.30	2.34	2.38	2.32	2.72	2.72	2.77	2.76	2.60

File Name D:\NEWPET\DATA\RSMGR1.ROC
05-27-1991 12:33:17

Sa[redacted]	5060	69-1491	68-153	69-1549
Northing	17650450	17645450	17648400	17649200
Easting	840800	839000	865800	824200
Symbol	15	15	15	15
Sym Colour	1	1	1	1
Rock Type	ANORTHOSIT	BASALT POR	QUARTZ POR	GRANODIORI
SiO_2	49.80	50.00	71.00	71.60
TiO_2	0.86	0.85	0.27	0.29
Al_2O_3	18.30	14.90	12.40	14.20
Fe_2O_3	1.31	2.85	0.95	1.05
FeO	7.30	8.60	2.07	1.80
MnO	0.16	0.23	0.05	0.08
MgO	6.68	6.67	0.36	0.63
CaO	13.00	11.20	2.83	1.81
Na_2O	2.37	1.44	4.41	4.53
K_2O	0.17	0.28	1.17	1.48
P_2O_5	0.12	0.06	0.03	0.06
Total	100.07	97.08	95.54	97.53
H_2O	1.32	2.27	0.58	0.89
CO_2	0.12	0.32	2.25	0.35
Mg #	58.40	51.56	17.99	29.03
S	1800.00	1200.00	200.00	100.00
K	1411	2324	9713	12286
Ti	5156	5096	1619	1739
Density	2.66	2.67	2.36	2.36

File Name D:\NEWPET\DATA\RSMGR2.ROC
05-27-1991 12:34:10

Sa[redacted]	74-866	70-946	70-52	70-172	70-174	70-179	70-180	70-211	70-350
Northing	1769740	1769700	1769700	1767920	1769040	1768785	1768785	1768600	1768360
Easting	829900	843000	843000	850600	829440	842000	842000	829460	838600
Symbol	15	3	3	3	3	3	3	3	3
Sym Colour	1	1	1	1	1	1	1	1	1
Rock Type	GRANITE-TR	PILLOWED A	ANDESITE-D	PILLOWED A	BASALT	RHYOLITE	ANDESITE	DACITE	RHYOLITE
SiO_2	74.60	11.80	59.50	50.60	47.70	69.30	52.70	65.40	78.00
TiO_2	0.31	0.70	0.65	0.80	1.11	0.36	0.86	0.80	0.36
Al_2O_3	11.80	16.10	15.10	15.70	19.10	11.50	16.20	15.00	10.40
Fe_2O_3	2.76	3.30	6.37	12.00	13.10	4.03	10.80	5.60	4.22
FeO	1.88	4.63	-	-	-	-	-	-	-
MnO	0.07	0.13	0.11	0.19	0.15	0.06	0.15	0.10	0.08
MgO	0.62	4.22	3.12	4.28	5.72	1.50	5.41	2.40	10.20
CaO	2.42	10.80	8.42	13.10	7.96	1.35	6.23	7.95	1.24
Na_2O	3.55	2.49	2.69	2.18	2.33	4.37	2.69	2.41	2.88
K_2O	1.00	0.65	0.72	0.20	0.66	1.83	2.55	0.70	1.62
P_2O_5	0.04	0.13	-	-	-	-	-	-	-
Total	99.05	54.95	96.68	99.05	97.83	94.30	97.59	100.36	109.00
H_2O	1.03	1.55	-	-	-	-	-	-	-
CO_2	0.10	0.10	-	-	-	-	-	-	-
Mg #	20.20	49.74	49.24	41.40	46.37	42.43	49.80	45.91	82.72
Cr	-	80	200	250	150	200	40	300	100
V	15	200	100	200	100	15	150	100	10
S	0.01	0.02	-	-	-	-	-	-	-
K	8301	5396	5977	1660	5479	15191	21168	5811	13448
Ba	400	150	150	-	200	400	-	200	-
Sr	200	100	60	100	100	40	10	150	40
Zr	500	300	100	200	250	500	500	200	400
Ti	1858	4197	3897	4796	6654	2158	5156	4796	2158
Y	100	-	30	30	40	100	-	30	150
Density	2.37	2.89	2.47	2.57	2.57	2.35	2.51	2.44	2.41

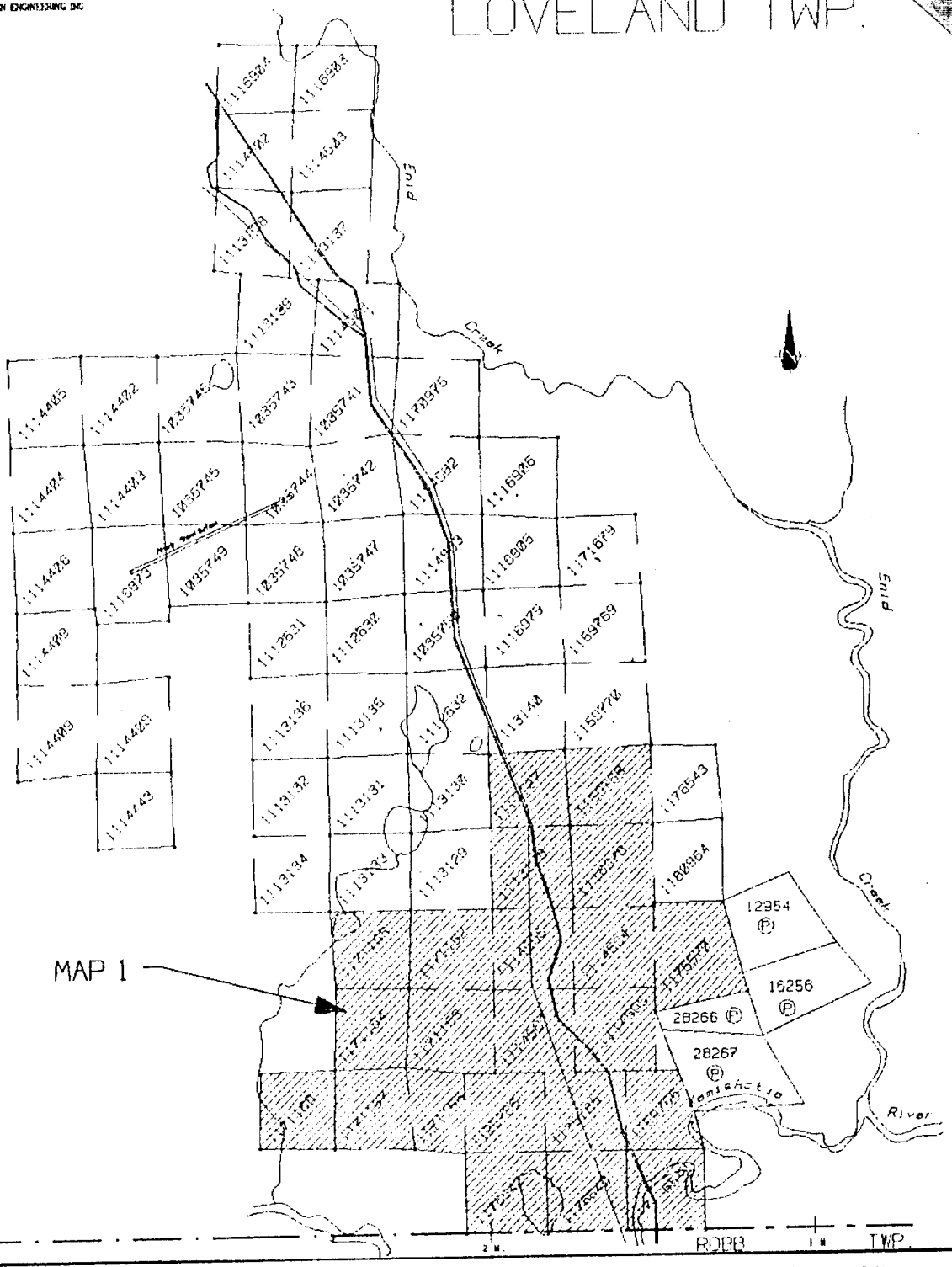
APPENDIX C

Copies of Reports of Work filed 30 May 1991

2.14225

R.P. BOWEN ENGINEERING INC

LOVELAND TWP.



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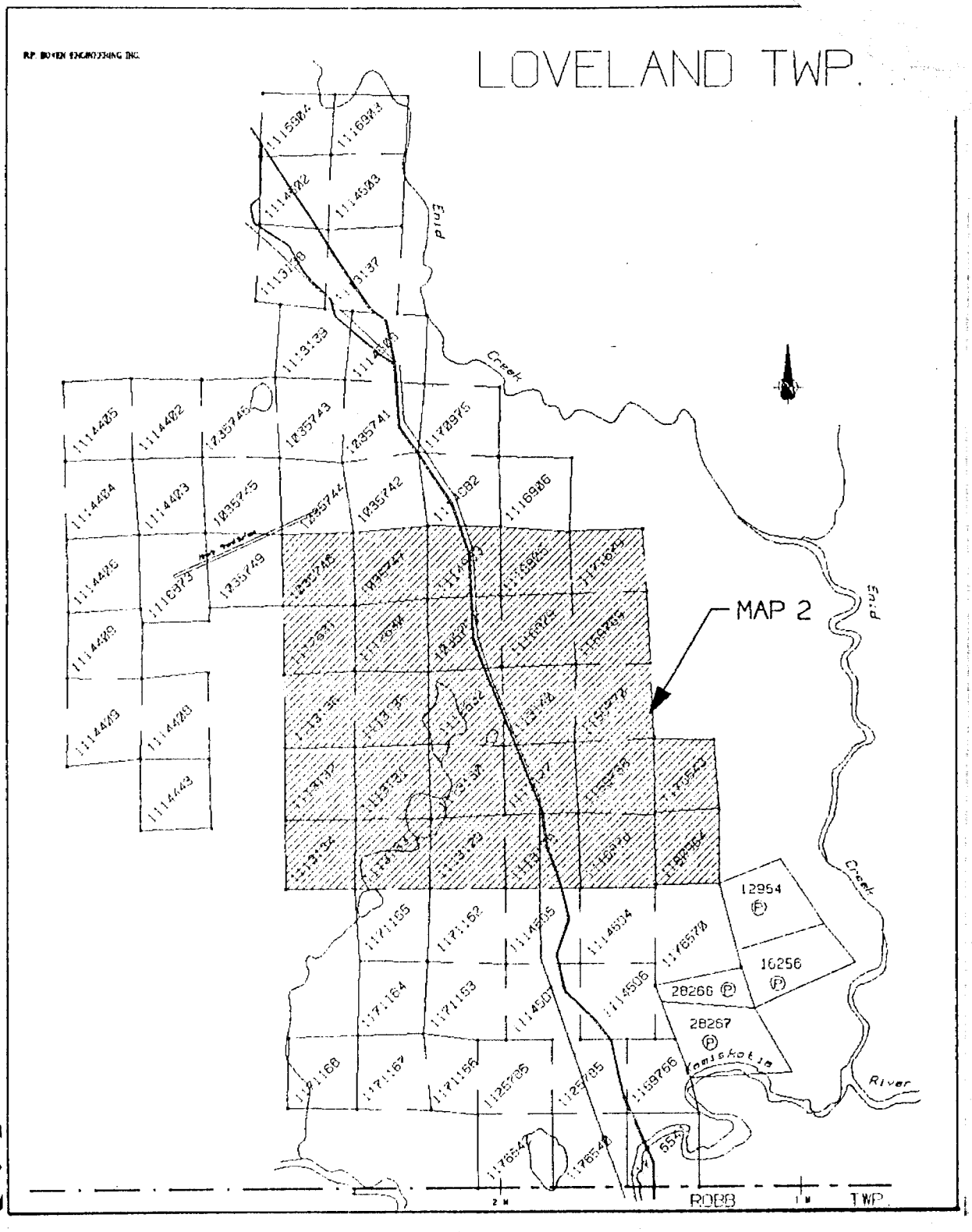
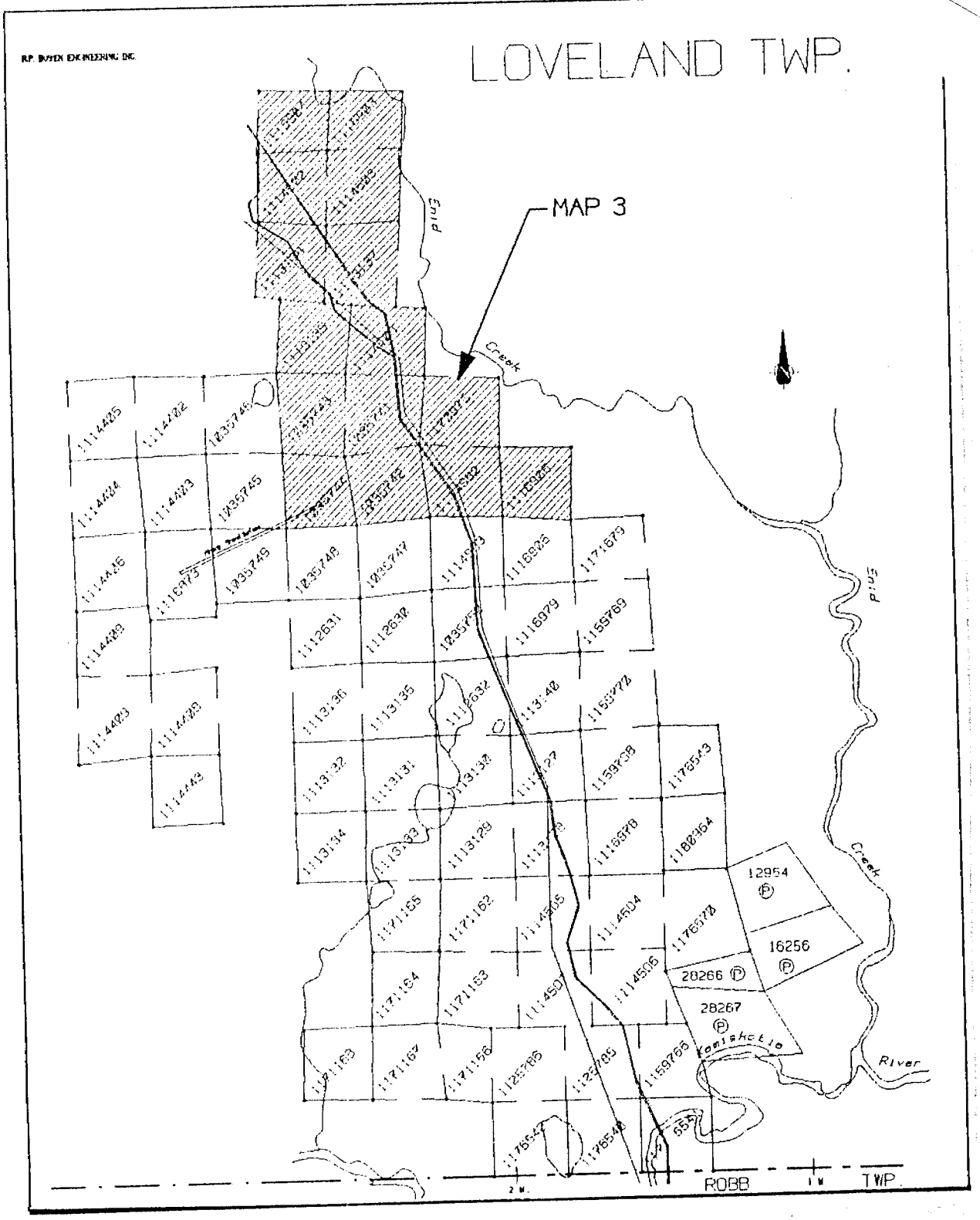


Ministry of Northern Development and Mines

2.14225


R.P. BOWEN ENGINEERING INC.
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River
Kamiskotia
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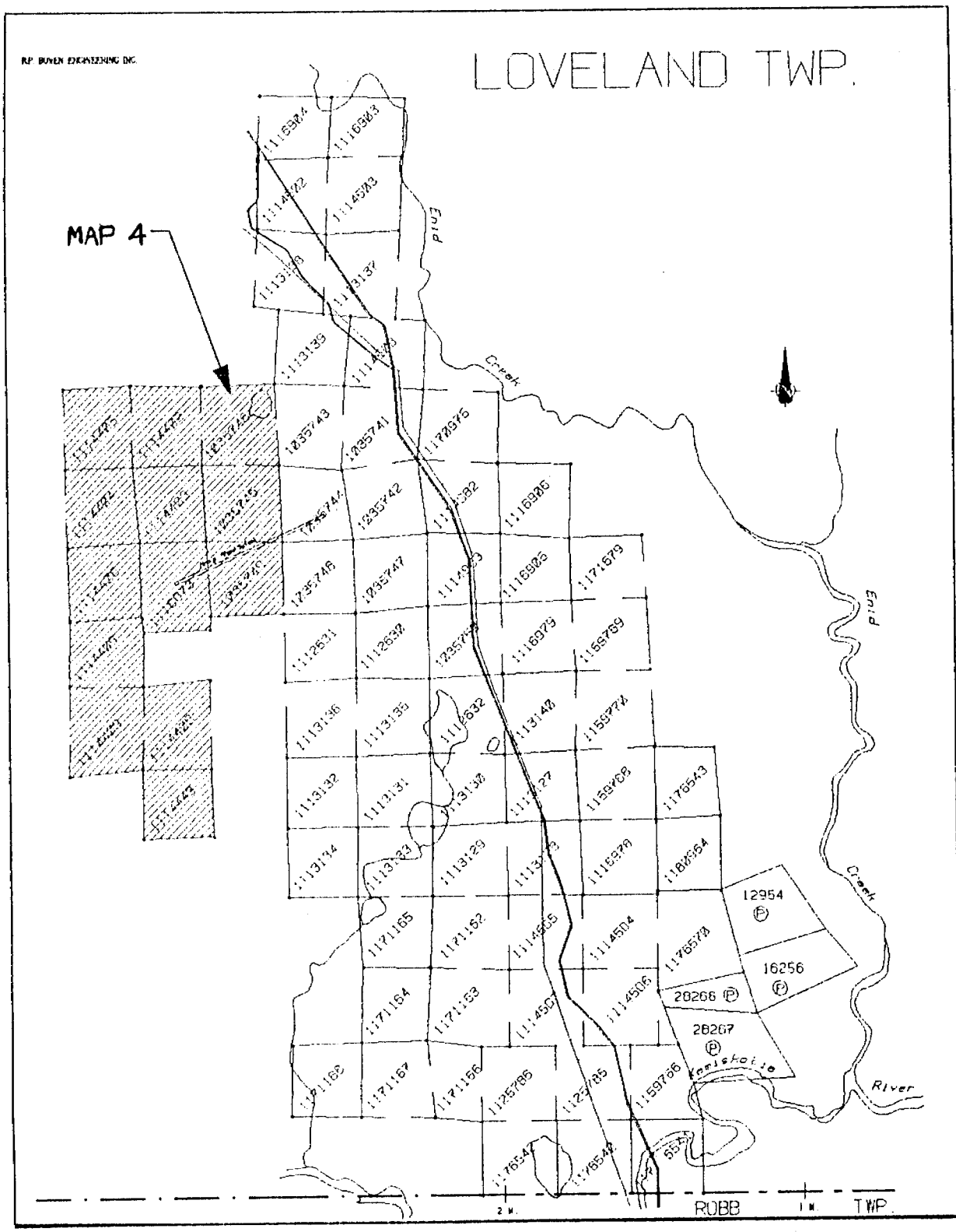
16256
28266
28267
ROBB
TWP.

2.14225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LOVELAND TWP.
MAP 4
Creek
River
12954
16256
28266
28207
Kenichoia
ROBB
TWP.

Ministry of Northern Development and Mines

Ontario

DOCUMENT No. W 9160.0018

42A12NE0781 2.14225 LOVELAND

900

Mining Act

Report of Work
(Geophysical, Geological and Geochemica

Type of Survey(s): Geological	Mining Division: Porcupine	Township or Area: Loveland
Recorded Holder(s): David J. Meunier & Gabriel Sutherland		Prospector's Licence No.: M-17157
Address: 403 Dome St., South Porcupine, ON P0N 1H0		Telephone No.: (705) 235-5426
Survey Company: R.P. Bowen Engineering Inc.	2.14225	
Name and Address of Author (of Geo-Technical Report): R.P. Bowen P.O. Box 5010 PMS, South Porcupine, ON P0N 1H0		Date of Survey (from & to): 01 04 91 (Day Mo. Yr.) 30 05 91 (Day Mo. Yr.)

MINING LANDS SECTION

Credits Requested per Each Claim in Columns at right

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

Total miles flown over claim(s).

Date | Recorded Holder or Agent (Signature)

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number
P	1035741	P	1113131	P	1114407
	1035742		1113132		1114408
	1035743		1113133		1114409
	1035744		1113134		1114443
	1035745		1113135		1114502
	1035746		1113136		1114503
	1035747		1113137		1114508
	1035748		1113138		1114982
	1035749		1113139		1114983
	1035750		1113140		1116873
	1112630		1114402		1116903
	1112631		1114403		1116904
	1112632		1114404		1116905
	1113127		1114405		1116906
	1113128		1114406		1116978
	1113129				
	1113130				

Total number of mining claims covered by this report of work. This page: 47

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in this Report of Work, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: R.P. Bowen as above

Telephone No.: (705) 235-5139 | Date: 29 May 1991 | Certified By (Signature): R.P. Bowen

For Office Use Only

A/

Total Days Cr. Recorded	Date Recorded	Mining Recorder
2680	MAY 30/91	Robert Bailey
	Date Approved as Recorded	Provincial Manager, Mining Lands

"SEE REVISED WORK STATEMENT"

Received Stamp: RECORDED MAY 30 1991

PORCUPINE MINING DIVISION RECEIVED MAY 30 1991

1362 (89/06)

Ministry of Northern Development and Mines

Ontario

Instructions
- Please type or print.
- Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
- If number of mining claims traversed exceeds space on this form, attach a list.
- Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch:

Report of Work

Mining Act (Geophysical, Geological and Geochemical Surveys)

Type of Survey(s)	Mining Division	Township or Area
Geological	Porcupine	Loveland

Recorded Holder(s)	Prospector's Licence No.
David J. Meunier & Gabriel Sutherland 2.14225	M-17157 M-20971
Address	**Telephone No.**
403 Dome St., South Porcupine, ON P0N 1H0	(705) 235-5426
Survey Company	
R.P. Bowen Engineering Inc.	
Name and Address of Author (of Geo-Technical Report)	**Date of Survey (from & to)**
R.P. Bowen, P.O. Box 5010 PMS, South Porcupine, ON P0N 1H0	01 04 91 (Day Mo. Yr.) 30 05 91 (Day Mo. Yr.)

Credits Requested per Each Claim in Columns at right

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

Total miles flown over claim(s).

Date	Recorded Holder or Agent (Signature)

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number
P	1116979	P	1176543		
	1159762		1176570		
	1159768		1180964		
	1159769				
	1159770				
	1170975				
	1171162				
	1171163				
	1171164				
	1171165				
	1171166				
	1171167				
	1171168				
	1171679				
	1176540				
	1176541				
	1176542				

Total number of mining claims covered by this report of work. TOTAL 67

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in this Report of Work, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying
R.P. Bowen as above

	Telephone No.	Date	Certified by (Signature)
	(705) 235-5139	29 May 1991	R.P. Bowen

Received Stamp

RECEIVED
MAY 30 1991

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Provincial Manager, Mining Lands
	"SEE REVISED WORK STATEMENT"	

1362 (89/06)

Ministry of Northern Development and Mines

Ontario

Geophysical-Geological-Geochemical Technical Data Statement

File 2.14225

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geological

Township or Area Loveland

Claim Holder(s) David Meunier & Gabriel Sutherland

Survey Company R.P. Bowen Engineering Inc.

Author of Report R.P. Bowen

Address of Author P.O. Box 5010, PMS, Porcupine, ON

Covering Dates of Survey 1 April 1991 - 30 May 1991 (linecutting to office)

Total Miles of Line Cut About 129 miles

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
—Electromagnetic	
—Magnetometer	
—Radiometric	
—Other	
Geological	40
Geochemical	

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

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

DATE: 30 May 1991 SIGNATURE: R.P. Bowen
Author of Report or Agent

Res. Geol. _____ Qualifications 2.2257

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

1035741 - 1035750 incl.
1112630 - 1112632 incl.
1113127 - 1113140 incl.
1114402 - 1114409 incl.
1114443
1114502 - 1114503 incl.
1114508
1114982 - 1114983 incl.
1116873
1116903 - 1116906 incl.
1116978 - 1116979 incl.
1159766
1159768 - 1159770 incl.
1170975
1171162 - 1171168 incl.
1171679
1176540 - 1176543 incl.
1176570
1180964

TOTAL CLAIMS 67

If space insufficient, attach list

OFFICE USE ONLY

837 (85/12)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

_____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION

RESISTIVITY

Instrument _____

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

ANALYTICAL METHODS

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

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

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

Ministry of Northern Development and Mines

Ontario

Technical Assessment

Work Credits

2.14225

Date: July 25, 1991

Mining Recorder's Report of Work No. W.9160.00185

Recorder

DAvid J. Meunier and Gabriel Sutherland

Township or Area

Loveland

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	P.1035741 to 750 incl
Electromagnetic ____ days	1112630 to 632 incl.
Magnetometer ____ days	1113127 to 140 incl.
Radiometric ____ days	1114402 to 409 incl.
Induced polarization ____ days	1114443
Other ____ days	1114502-503
Section 77 (19) See "Mining Claims Assessed" column	1114508
Geological 35.8 days	1114982-983
Geochemical ____ days	1116873
Man days ☐ Airborne ☐	1116903 to 906 incl.
Special provision ☒ Ground ☐	1116978-979
☒ Credits have been reduced because of partial coverage of claims.	1159766
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	1159768 to 770 incl.
	1170975
	1171162 to 168 incl.
	1171679
	1176540 to 543 incl.
	1176570
	1180964

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 80.

0228 (86/12)

Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Mining Lands Section
159 Cedar Street, 4th Floor
Sudbury, Ontario
P3E 6A5

Toll Free: 1-800-465-3880
Telephone: (705) 670-7264
Fax: (705) 670-7262

Your File: W.9100.0000185
Our File: 2.14225

August 25, 1991

Mining Recorder
Ministry of Northern Development
and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir/Madam:

RE: Notice of Intent dated July 25, 1991 for Geological Survey on mining claims P.1035741 et al. in the Township of Loveland.

The assessment work credits, as listed with the above-mentioned Notice of Intent have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

Ron. C. Gashinski,
Provincial Manager, Mining Lands
Mines & Minerals Division

CDS/jl
Enclosure:

cc: Mr. David J. Meunier
South Porcupine, Ontario

Mr. R.P. Bowen
South Porcupine, Ontario

Assessment Files Office
Toronto, Ontario

Gabriel Sutherland
South Porcupine, Ontario

Resident Geologist
Timmins, Ontario

Thorburn Twp. (M.601)

Byers Twp. (M.265)

Macdiarmid Twp. (M.294)

Robb Twp. (M.309)

4M. 3rd BASE LINE surveyed 3M. in 1905 by O.L.S. A. NIVEN 2M. 1M.

1st MERIDIAN LINE surveyed in 1905 by O.L.S. A. NIVEN

5M 4M. 3M. 2M. 1M. 17M. 16M. 15M. 14M. 13M.

CLM 246

CLM 247

CLM 268

2.14225

Kamiskotia River

Kenogamisis River

THE TOWNSHIP OF

LOVELAND

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C

NOTES

400' Surface Rights Reservation along the shores of all lakes and rivers

This township lies within the Municipality of CITY of TIMMINS.

Rec'd Feb 17/83

PLAN NO. M-293

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Kori K.

LOVELAND TWP.

SCALE BAR

0 500 1000 1/4 1/2 mile

0 100 200 300 400 500 600 700 800 900 1000 meters

BASE LINE 0+0

Gulf grid. azmuth 75°

Meunier grid. azmuth 66°

LEGEND

CENOZOIC

QUATERNARY

PLEISTOCENE & RECENT

Till, varved clay, sand, gravel, boulders, organic debris

PRECAMBRIAN

EARLY TO MIDDLE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

5 Diabase

INTRUSIVE CONTACT

EARLY PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

4 Gabbro or black mafic flow

INTRUSIVE CONTACT

METAVOLCANIC ROCKS

FELSIC METAVOLCANIC ROCKS

3 Massive to foliated lava, porphyritic tuff, tuff, lapilli and volcanic breccia

INTERMEDIATE METAVOLCANIC ROCKS

2 Massive to foliated lava, porphyritic tuff, tuff, lapilli and volcanic breccia

MAFIC METAVOLCANIC ROCKS

1 Massive lava, pillow lava and volcanic breccia

SYMBOLS

- Foliation inclined, vertical
- Joint inclined, vertical
- Pillow, tops from shape and packing
- Fault
- Overburden drill hole
- Geological boundary, interpreted
- G Indicates geophysical interpretation
- Swamp
- Diamond drill hole
- Vegetation boundry
- Outcrop boundry

REGISTERED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO R. P. BOWEN

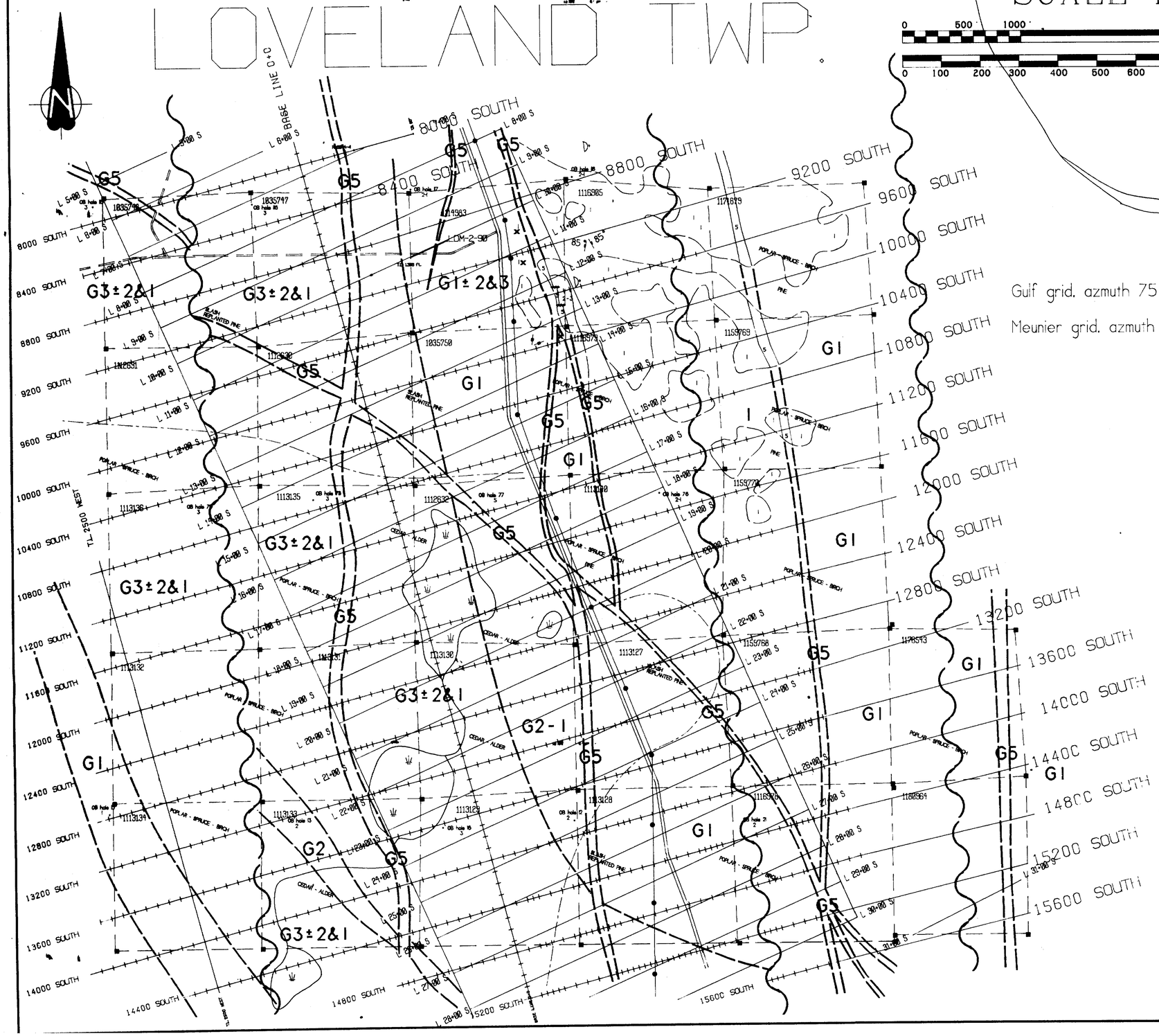
R.P. BOWEN ENGINEERING INC.

Client: DAVID J. MEUNIER

Title: GEOLOGY MAP

DATE: MAY 1991	SCALE: 1:5,000	N.T.S.: 92A
DRAWN BY: RPB	FILE: M-1991-1	FIG. MAP 1

LOVELAND TWP.



SCALE BAR

0 500 1000 1/4 1/2 mile

0 100 200 300 400 500 600 700 800 900 1000 meters

Gulf grid. azmuth 75°

Meunier grid. azmuth 66°

Enid

Cr. 24

LEGEND

CENOZOIC

QUATERNARY

PLEISTOCENE & RECENT

Till, varved clay, sand, gravel, boulders, organic debris

PRECAMBRIAN

EARLY TO MIDDLE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

5 — 5 Diabase

INTRUSIVE CONTACT

EARLY PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

4 — 4 Gabbro or thick mafic flow

INTRUSIVE CONTACT

METAVOLCANIC ROCKS

FELSIC METAVOLCANIC ROCKS

3 — 3 Massive to foliated lava, porphyritic tuff, tuff, lapilli and volcanic breccia

INTERMEDIATE METAVOLCANIC ROCKS

2 — 2 Massive to foliated lava, porphyritic tuff, tuff, lapilli and volcanic breccia

MAFIC METAVOLCANIC ROCKS

1 — 1 Massive lava, pillow lava and volcanic breccia

SYMBOLS

- Foliation inclined, vertical
- Joint inclined, vertical
- Pillow, tops from shape and backing
- Fault
- Overburden drill hole
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- G — Indicates geophysical interpretation
- Swamp
- Diamond drill hole
- Vegetation boundry
- Outcrop boundry

REGISTERED PROFESSIONAL ENGINEER R. P. BOWEN

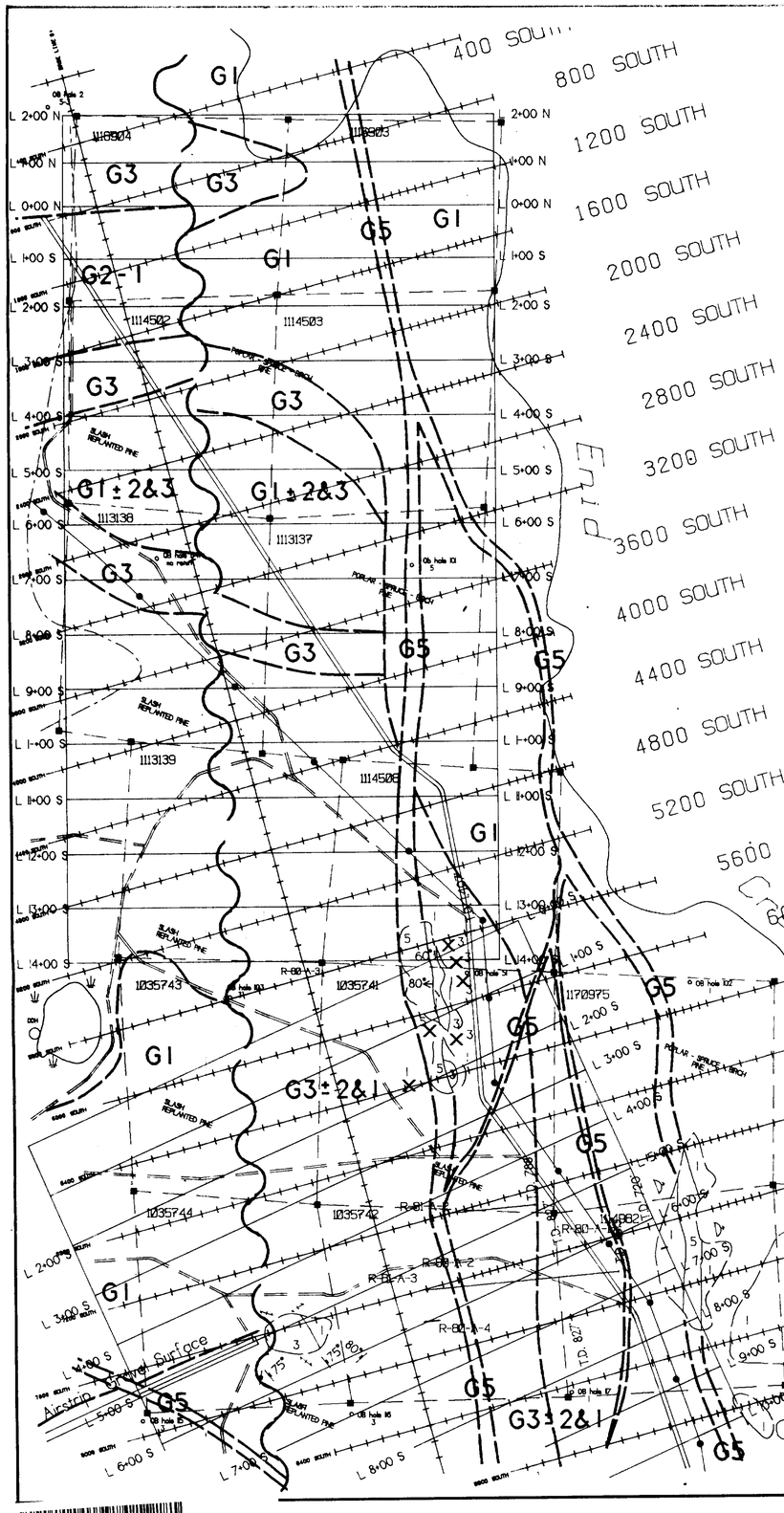
2.14225

R.P. BOWEN ENGINEERING INC.

Client: DAVID J. MEUNIER

Title: GEOLOGY MAP

DATE: MAY 1991	SCALE: 1:5,000	N.T.S.: 92A
DRAWN BY: RPB	FILE: M-1991-1	FIG. MAP 2



LOVELAND TWP.

SCALE BAR

0 500 1000 1/4 1/2 mile

0 100 200 300 400 500 600 700 800 900 1000 meters

Gulf grid. azmuth 75°

Meunier grid. azmuth 66°

LEGEND

CENOZOIC

QUATERNARY

PLEISTOCENE & RECENT

Till, varved clay, sand, gravel, boulders. 0 organic debris

PRECAMBRIAN

EARLY TO MIDDLE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

5 — 5 Diabase

INTRUSIVE CONTACT

EARLY PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

4 — 4 Gabbro or thick mafic flow

INTRUSIVE CONTACT

METAVOLCANIC ROCKS

FELSIC METAVOLCANIC ROCKS

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INTERMEDIATE METAVOLCANIC ROCKS

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- Joint inclined, vertical
- Pillow, tops from shape and packing
- Fault
- Overburden drill hole
- Geological boundary, interpreted
- G — Indicates geophysical interpretation
- Swamp
- Diamond drill hole
- Vegetation boundry
- Overburden boundry

2.14225

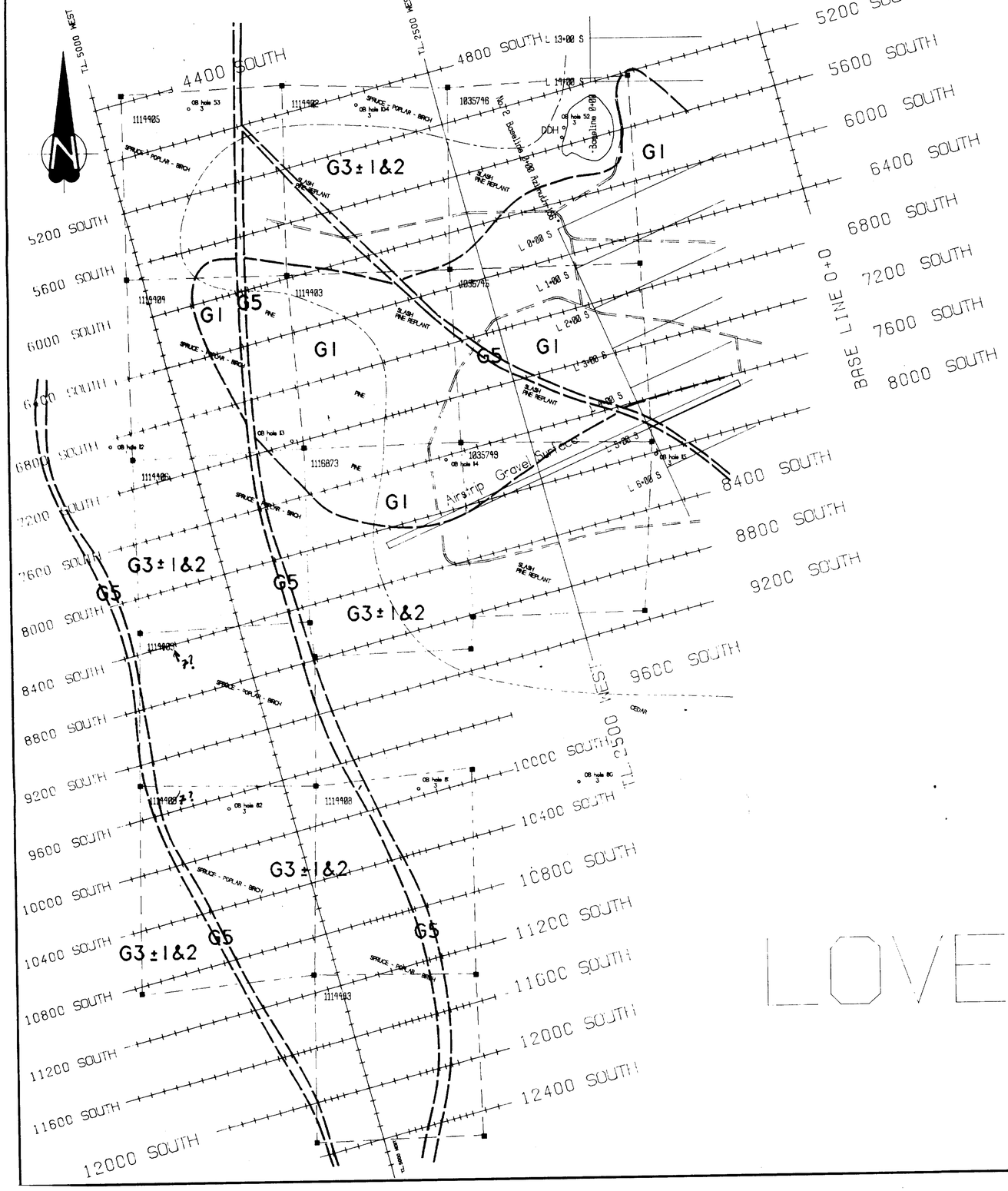
R. P. BOWEN — REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

R.P. BOWEN ENGINEERING INC.

Client: DAVID J. MEUNIER

Title: GEOLOGY MAP

DATE: MAY 1991	SCALE: 1:5,000	N.T.S.: 42A
DRAWN BY: RPB	FILE: M-1991-1	FIG. MAP 3



Gulf grid. azmuth 75°

Meunier grid. azmuth 66°

LEGEND

CENOZOIC

QUATERNARY

PLEISTOCENE & RECENT

Till, varved clay, sand, gravel, boulders, organic debris

PRECAMBRIAN

EARLY TO MIDDLE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

5 Diabase

INTRUSIVE CONTACT

EARLY PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

4 Gabbro or black mafic flow

INTRUSIVE CONTACT

METAVOLCANIC ROCKS

FELSIC METAVOLCANIC ROCKS

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SYMBOLS

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- Joint inclined, vertical
- Pillow, tops from shape and packing
- Fault
- Overburden drill hole
- Geological boundary, interpreted
- G — Indicates geophysical interpretation
- Swamp
- Diamond drill hole
- Vegetation boundry
- Outcrop boundry

REGISTERED PROFESSIONAL ENGINEER R. P. BOWEN PROVINCE OF ONTARIO

LOVELAND TWP.

SCALE BAR

0 500 1000 1/4 1/2 mile

0 100 200 300 400 500 600 700 800 900 1000 meters

R P BOWEN ENGINEERING INC.

Client: DAVID J. MEUNIER

2.14225

Title: GEOLOGY MAP

DATE: MAY 1991	SCALE: 1:5,000	N. T. S. : 42A
DRAWN BY: RPB	FILE: M-1991-1	FIG. MAP 4