

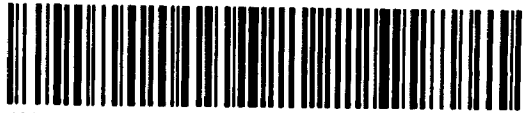
42C12NW0032 63.4392 MOLSON LAKE

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ADDENDUM  
GEOLOGICAL REPORT  
OF THE  
VULCAN-CAULFIELD JOINT VENTURE  
HEMLO AREA  
DISTRICT OF THUNDER BAY, ONTARIO

January 6, 1984  
Timmins, Ontario

By: Stephen Conquer  
Per: David R. Bell  
Geological Services Inc.



42C12NW0032 63.4392 MOLSON LAKE

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TABLE OF CONTENTS

1.	SUMMARY	1
2.	LITHOGEOCHEMISTRY	1
2.1	ANALYTICAL RESULTS	1
3.	INTERPRETATION	3
4.	CONCLUSIONS	3, 4
5.	RECOMMENDATIONS	4
	REFERENCES	
	APPENDIX	

Appendix 1 - Elemental and Whole Rock Analysis

Appendix 2 - Jensen Cation Plot

TABLES

Table 1 - Explanation of Short Forms

## 1. SUMMARY

After completion of the geological report, lithogeochemical results were received for samples collected (during the mapping program) from the Hemlo Area property of the Vulcan-Caulfield Joint Venture. This addendum presents these results.

## 2. LITHOGEOCHEMISTRY

The lithogeochemical (including whole rock) analysis were performed to gain information on the chemical composition of the subalkalic volcanic rocks found on the property. The comparison and examination of the results from these types of analysis, can be used to show alteration or chemical trends that could lead to areas of gold mineralization (Fyon and Crockett, 1983). As well as alteration and chemical trends, the results from this type of survey can be used to assign a specific name to an outcrop, that may be more appropriate than a field derived name (Jensen, 1976). The use of these analytically derived names can be used to trace distinct rock units along strike, as well as differentiate between different units across strike.

### 2.1 ANALYTICAL RESULTS

A total of 13 samples were collected and analyzed for the elements and oxides listed in Appendix A-1. This appendix also states the analytical methods used and the lower detection limit for each, plus the results of the analysis for each sample. Appendix A-2 shows the Jensen Cation Plot for the aforementioned 13 samples plus the corresponding analytically derived rock name.

Table 1 - Explanation of Short Forms used for Analytically Determined Rock Names (as derived by Jensen, 1976)

<u>Short Form</u>	<u>Rock Name</u>
DC	Dacitic Calc-Alkaline
AT	Andesitic Tholeiite
FT	Iron Tholeiite

### 3. INTERPRETATION (See amended geology map 427-83-1)

As derived from analytical results, the mafic volcanic rocks (which were analyzed) are all of the tholeiitic trend. The mafic volcanic unit that cuts the central portion of the property is shown to be composed of high iron tholeiites, while the unit located in the south-west corner of the property shows, as an andesitic tholeiite. While the one small exposure of mafic volcanics on L12E at 13+00S was determined to be a high iron tholeiite. The geochemical differences in these rocks suggests that they may be from different volcanic centers, or at least be derived from the same vent but at different periods during the evolution of the vent.

The intermediate to felsic volcanic rocks, which were mapped as predominantly tuffs, were geochemically shown to be dacitic calc-alkaline in composition. These results show that the samples analyzed, definitely do fall into the intermediate to felsic range, but whether they are tuffaceous in nature or volcanogenic derived sediments, cannot be determined from the work conducted to-date.

The only trend that becomes evident from the lithochemistry is the relatively higher copper content, of the central iron tholeiite unit. This association comes as no surprise, since the relationship between mafic volcanics and higher copper content is expected.

### 4. CONCLUSIONS

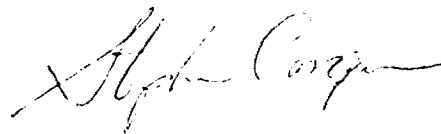
The use of lithochemistry as an exploration tool for the definition of individual rock units, was successful within the limits of bedrock exposure and sampling density. At least two discrete units of mafic

volcanics were outlined, while the term intermediate to felsic used for the remainder of the volcanic rocks, was in part substantiated. Major alteration and/or chemical trends were not outlined with the lithogeochemical technique. One minor, but inconclusive, trend was observed, this being the iron tholeiite/copper association.

5. RECOMMENDATIONS

As a result of the lithogeochemical results, a change in the recommendations, from the initial geology report, is not warranted at this time.

Respectfully submitted,



January 6, 1984  
Timmins, Ontario


By: Stephen Conquer  
Per: David R. Bell Geological Services Inc

CERTIFICATE OF QUALIFICATIONS

I, Stephen W. Conquer hereby certify:

1. that I am a geologist employed by David R. Bell Geological Services Inc., Suite 4, 251 Third Ave., Timmins, Ontario.
2. that I am a graduate of the University of Waterloo, holding a Bachelor of Science degree (1979).
3. that I have been practising my profession as a geologist since 1979.
4. that I do not have nor do I expect to receive either directly or indirectly, any interest in this property or the securities of Vulcan Resources Limited or Caulfield Resources Ltd.

Timmins, Ontario  
October 3, 1983



By: Stephen W. Conquer B.Sc  
Per: David R. Bell Geological Services Inc.

## REFERENCES

Fyon, J. Andy  
Crockett, J.H.  
1983

Gold Exploration in the Timmins  
Area using Field and Litho-  
geochemical characteristics  
of Carbonate Zones; Ontario  
Geological Survey, Study 26,  
56p. Accompanied by 2 charts,  
2 Maps

Jensen, L.S.  
1976

A New Cation Plot for classi-  
fying Subalkalic Volcanic  
Rocks; Ontario Div. of Mines,  
MP 66, 22p.



APPENDIX 1  
Elemental and Whole Rock Analysis

X-RAY ASSAY LABORATORIES LIMITED

1885 LESLIE STREET, DGN MILLS, ONTARIO M3B 3J4

PHONE 416-445-5755

TELEX 06-986947

CERTIFICATE OF ANALYSIS

TO: DAVID BELL GEOLOGICAL SERVICES INC.  
ATTN: P. DADSON  
251-3RD AVENUE, SUITE 6  
TIMMINS, ONTARIO  
P4A 7J5

CUSTOMER NO. 621

DATE SUBMITTED  
19-SEP-83

REPORT 19318

REF. FILE 14951-V4

13 ROCKS

WERE ANALYSED AS FOLLOWS:

	METHOD	DETECTION LIMIT
AU PPB	FADCP	2.000
CO2 %	WET	0.100
WRMAJ %	WR	0.010
CC PPM	DCP	1.000
NI PPM	DCP	1.000
CU PPM	DCP	0.500
ZN PPM	DCP	0.500
WRMIN PPM	WR	10.000
MC PPM	DCP	1.000
AG PPM	DCP	0.500
CD PPM	DCP	1.000
PB PPM	DCP	2.000

X-RAY ASSAY LABORATORIES LIMITED

DATE 19-OCT-83

CERTIFIED BY .....

SAMPLE	AU PPB	CO2 %	CO PPM	NI PPM	CU PPM
427-000-301	<2	0.1	34	24	19.0
427-000-302	<2	0.2	21	22	38.0
427-000-303	<2	0.2	30	35	51.0
427-000-304	<2	0.6	13	25	15.0
427-000-306	<2	0.3	19	53	46.0
427-000-307	<2	0.2	19	55	39.0
427-000-309	<2	0.4	17	53	28.0
427-000-311	2	0.1	16	29	100.
427-000-312	<2	0.3	34	59	190.
427-000-313	<2	0.2	14	23	88.0
427-000-314	<2	0.2	12	18	46.0
427-000-315	<2	0.2	18	31	110.
427-000-319	<2	0.1	9	12	90.0

SAMPLE	ZN PPM	MO PPM	AG PPM	CD PPM	PB PPM
427-000-301	85.0	<1	0.5	2	6
427-000-302	80.0	<1	<0.5	3	6
427-000-303	99.0	1	<0.5	3	6
427-000-304	29.0	<1	<0.5	1	10
427-000-306	100.	<1	0.5	2	14
427-000-307	93.0	1	0.5	2	14
427-000-309	65.0	7	0.5	2	8
427-000-311	350.	2	0.5	3	8
427-000-312	150.	<1	0.5	3	8
427-000-313	41.0	<1	<0.5	2	6
427-000-314	21.0	<1	<0.5	2	8
427-000-315	42.0	3	<0.5	3	6
427-000-319	33.0	<1	<0.5	2	4

X	X	RRRRR	A	LL
XX	XX	RR RR	AAA	LL
XX	XX	RR RR	AA AA	LL
XXX		RR RR	AA AA	LL
XXX		RRRRR	AAAAAAA	LL
XX	XX	RR RR	AA AA	LL
XX	XX	RR RR	AA AA	LLLLLLL
X	X	RR R	AA AA	LLLLLLL

XRF - WHOLE ROCK ANALYSIS

DAVID BELL ANALYTICAL SERVICES INC.  
 4110 E. 100TH  
 TOLSON, IOWA  
 52390-1400  
 562-745

0110-11-11 121  
 14-1-3007102  
 19-SEP-83

THIS REPORT IS THE PROPERTY OF DAVID BELL ANALYTICAL SERVICES INC. IT IS LOANED TO YOU AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

NOTE: I.R.A. SAMPLES INCLUDE ALL ELEMENTS DETERMINED.  
 FOR SUMMATION ELEMENTS ARE CALCULATED AS OXIDES.

SAMPLE	SI02	AL203	CA0	MS0	NA20	K20	FE203	MNO	TIO2	P205	CR203	LOI	SUM
427-000-301	47.6	18.4	5.00	4.77	3.65	2.38	14.2	0.15	1.10	0.12	<0.01	1.08	98.5
427-000-302	51.5	16.0	6.14	4.53	1.90	2.14	14.3	0.26	0.99	0.12	<0.01	1.62	99.5
427-000-303	51.7	16.7	6.40	3.92	2.20	1.06	13.9	0.26	1.10	0.11	<0.01	1.23	98.6
427-000-304	49.3	17.7	10.7	3.10	2.23	0.50	13.7	0.28	0.94	0.15	0.01	0.85	99.5
427-000-306	62.6	15.8	4.51	2.70	3.84	2.66	4.36	0.06	0.43	0.19	0.01	1.85	99.2
427-000-307	66.0	15.5	3.70	2.14	4.36	1.35	3.96	0.05	0.47	0.16	0.01	1.77	99.7
427-000-309	69.6	14.5	3.71	1.61	4.52	1.19	3.13	0.08	0.37	0.17	0.01	0.85	99.9
427-000-311	63.6	16.2	2.68	1.70	5.39	1.19	5.63	0.04	0.53	0.15	<0.01	3.08	100.3
427-000-312	49.6	15.7	7.38	5.27	3.04	0.35	13.4	0.26	1.49	0.12	0.01	1.77	98.4
427-000-313	53.9	14.4	8.12	4.08	2.53	0.53	13.3	0.19	1.37	0.11	0.01	0.62	99.2
427-000-314	52.8	14.4	10.0	4.60	1.57	0.40	12.5	0.23	1.35	0.11	0.01	0.62	98.8
427-000-315	46.5	13.4	8.90	4.19	1.23	0.58	21.5	0.37	1.32	0.09	0.01	1.00	99.1
427-000-319	46.3	16.9	7.85	3.71	3.34	0.24	17.4	0.34	1.65	0.12	0.01	0.54	98.4

SAMPLE	RB	SR	ZR
427-000-301	100	180	90
427-000-302	70	170	70
427-000-303	40	170	50
427-000-304	610	220	80
427-000-306	80	1070	100
427-000-307	30	1530	120
427-000-309	30	900	100
427-000-311	40	320	150
427-000-312	20	150	80
427-000-313	20	120	60
427-000-314	20	150	70
427-000-315	20	10	70
427-000-319	20	100	100

APPENDIX 2  
Jensen Cation Plot





# X-RAY ASSAY LABORATORIES

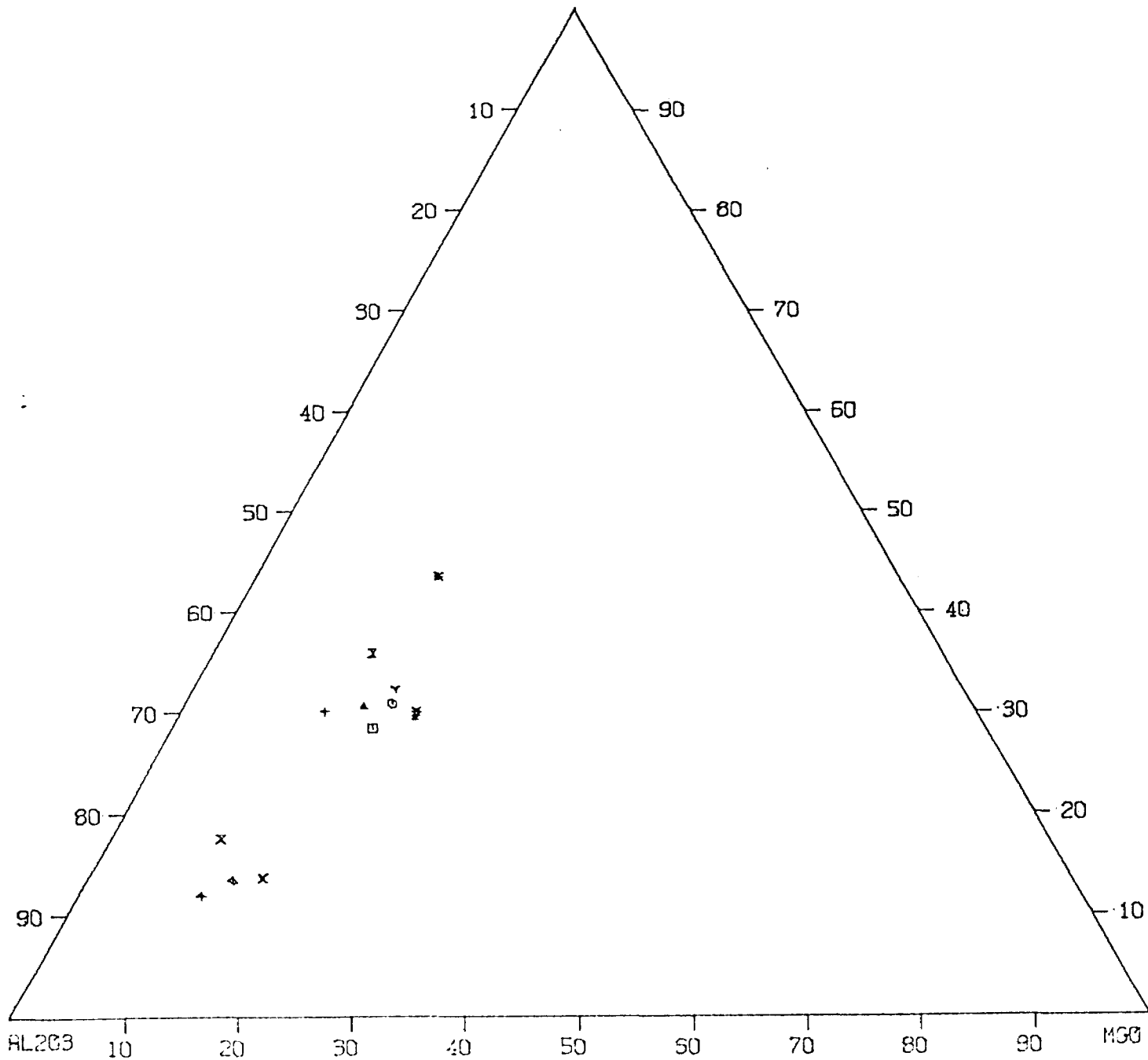
## SYMBOL TABLE

CODE	SYMBOL	CODE	SYMBOL
1	□	14	★
2	○	15	◀
3	▲	16	↔
4	+	17	×
5	x	18	↘
6	◆	19	×
7	+	20	×
8	x	21	+
9	z	22	×
10	γ	23	λ
11	x	24	+
12	*	25	×
13	x	26	<

D.R.BELL GEOLOGICAL SERVICES 14-NOV-83

JENSEN CATION PLOT

FeO+Fe2O3+TiO2



GRAPH 1

DATE 14-NOV-83

SAMPLE	JC	CODE	FE0+FE2O3+T1O2	AL2O3	MGO
27-000	AT	1	28.49	53.75	17.76
27-000	FT	2	30.92	50.76	18.32
427-000-03	AT	3	30.59	53.42	15.99
427-000-04	AT	4	30.12	57.12	12.76
27-000-06	DC	5	13.70	70.86	15.44
427-000-07	DC	6	13.41	73.63	12.96
427-000-09	DC	7	11.88	77.19	10.93
27-000-11	DC	8	17.61	72.66	9.72
27-000-12	FT	9	29.75	49.20	21.06
427-000-13	FT	10	32.30	49.73	17.97
427-000-14	FT	11	30.08	49.06	20.85
27-000-15	FT	12	43.70	40.25	16.05
427-000-19	FT	13	35.96	50.04	14.01



42C12NW0032 63.4392 MOLSON LAKE

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PROGRESS REPORT

on

CAULFIELD RESOURCES INC.

GROUND GEOPHYSICIS (PROTON MAG, RADEM, I.P. SURVEYS)

HEMLO PROPERTY

Thunder Bay Mining Division, Ontario

N.T.S. 42-C-12

L.J. Nelson  
Loydex Resources Inc.  
April 22, 1983

## INTRODUCTION:

The Caulfield property consists of 15 unpatented mining claims in the Molson Lake Area, Thunder Bay Mining Division, Ontario. During December 1982 a Proton Mag and Radem Survey was carried out by M. Verbiski of Loydex Resources Inc. Also in December 1982 and January 1983, Rayan Exploration Ltd. carried out a dipole-dipole induced polarization survey. The January survey was unsuccessful due to lack of electrode contact.

## MAGNETIC SURVEY (GEM-8 PROTON PRECESSION MAGNETOMETER)

Magnetic readings using a GEM-8 Proton Precession Magnetometer were taken every 50 feet along 2.06 miles of grid lines.

## RESULTS of MAGNETIC SURVEY

Readings indicate a weak magnetic anomaly on claim 393029, at the south-west corner of the claim group.

## RADEM SURVEY

Readings were taken every 50 feet along 2.06 miles of grid lines. In contrast to a previous EM16 survey, several interesting conductors were outlined in the area surveyed. The weak conductor from Line 4E-8E at the boundary with Interlake Development Corp. occurs immediately south of a weak magnetic anomaly which also has corresponding geochemical expression. Other Radem conductors occur on Line 24E to 32E near the Interlake boundary and from Line 24E to 32E at 14+50S.

## DIPOLE-DIPOLE INDUCED POLARIZATION SURVEY

A dipole-dipole induced polarization survey carried out by Rayan

Exploration Ltd. in December 1982, was completed over a small portion of the grid, located at the south-east corner of the claim group. In January 1983, a similar survey continuing the December work was initiated. Unfortunately this same survey was unsuccessful due to the difficulties in obtaining electrode contact. This was explained by Rayan Exploration Ltd. in a letter dated March 29, 1983 as due to "Extensive outcrops and very little if any soil cover" — "Electrode contacts were very difficult if not impossible in most areas" — "It was therefore decided that winter I.P. on the grid was not economically or technically feasible". Enclosed is a copy of the letter from Rayan.

SUMMARY:

An associated magnetic, radem and geochemical response does occur on Line 8E at 14+50S. The highest ppm silver values on the property occurs at this location (2.8 ppm Ag). These silver values area also associated with weak ppb gold values (12 ppb Au). In a previous EM survey, a one-line conductor was found on the line to the east (Line 12E at 17S). Further geophysics in this area, especially I.P., is warranted. The rocks in this area are acid volcanics.

Although there is some I.P. data by Rayan Exploration Ltd. on the S.E. portion of the Caulfield ground it is advised, because of the problems encountered in the January survey, that the area in question be re-surveyed (i.e. south half of grid). This amounts to 6.4 miles of grid requiring survey.

Enclosed are bids for the proposed Induced Polarization Survey from:  
Phoenix Geophysics Limited, MPH Consulting Limited, Geoterrex Ltd.  
Estimate of I.P. costs as quoted below, are those figures submitted by Phoenix Geophysics Limited.

ESTIMATE of I.P. COSTS FOR CAULFIELD - USING PHOENIX GEOPHYSICS

8 days of survey (6.4 miles)	at \$495/day	\$ 3,960.00
3 bad weather days	at \$330/day	990.00
2 days travel	at \$330/day	990.00
Camp - 4 men at \$25/day/meals x 13 days		1,300.00
- 4 men at \$25/day/accommodation x 13 days		1,300.00
Truck rental at \$55/day x 14 days		770.00
Mob into area (Helicopter camp into property and ground access)		1,000.00
Demob to Toronto		200.00
Miscellaneous		300.00
Report and maps at \$300/day x 3 days		900.00
Travel expenses		500.00
Sub-total		<u>\$12,210.00</u>
Cost plus 15%		1,830.00
4 days consulting fees	at \$300/day	<u>1,200.00</u>
TOTAL ESTIMATE		<u>\$16,040.00</u>

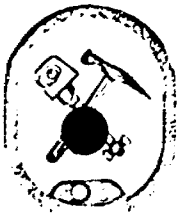


Respectfully Submitted By;  
L.J. Nelson  
Loydex Resources Inc.

CAULFIELD RESOURCES LTD. - EXPENDITURES to APRIL 15, 1983

AFE 002A-83 January 13, 1983	\$28,580.00
AFE 002B-83 January 31, 1983	<u>9,250.00</u>
Total Estimate of Expenditures	\$37,830.00
Actual Expenditures (to April 15, 1983)	\$29,050.00





Rayan Exploration Ltd.  
Contracting & Consulting

March 29, 1983

Caufield Resources Ltd.  
Dakota Energy Corp.  
c/o Loydex Resources

re - I.P. Survey

Dear Sirs;

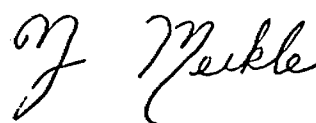
Just a short note explaining the technical difficulties encountered during January on the Caufield and Dakota properties. First, the topography is quite steep with very steep gradients which made traversing on snowshoes, carrying the necessary I.P. equipment very difficult. However, because of the diamond drill schedule we were instructed to at least try to cover the priority areas. We encountered areas with extensive outcrop and very little if any soil cover. Thus, electrode contacts were very difficult if not impossible in most areas.

Quality data can only be obtained if proper electrode contact can be made. All the usual methods such as salting etc. were tried to no avail. We were instructed to try different parts of the grids where the same problems were encountered. Ultimately it was decided that winter I.P. on these two grids was not economically or technically feasible. We moved on to the Inter-lake ground where there was no problem at all due to the flatter terrain and more overburden.

Ordinarily we would have postponed the survey until the Spring after the second day, but as mentioned we were instructed to keep trying at any cost.

● In conclusion, I would point out that the survey should be done in May. It would require a camp on each grid with no helicopter support necessary except for the camp moves. If we can be of assistance to you in this regard please contact us.

Yours truly,

A handwritten signature in cursive script that reads "R.J. Meikle". The letters are fluid and connected, with a prominent loop at the end of the last name.

R.J. Meikle

RJM/jb



# PHOENIX Geophysics Limited

200 YORKLAND BLVD., WILLOWDALE, ONTARIO, CANADA M2J 1R5

TELEPHONE (416) 493-6350  
Telex: 06-986856  
Cable: PHEXCO TORONTO

April 13, 1983

Mr. Lloyd Nelson,  
Lloydex,  
24 Kenden Court,  
Whitby, Ontario.  
L1N 5X7

Dear Mr. Nelson ,

For the next four to five months, Phoenix is offering the mining exploration industry lower IP survey rates due to the depressed mineral exploration market. Enclosed please find brochures describing each of the three IP systems outlined below. The rate guideline is as follows:

## I. Conventional IP Survey

Model IPV-1 Unit, two geophysical technicians and four copies of a final report.

Operating day .....	\$595.00
Standby, bad weather, travel, organization days .....	\$330.00

If no report was required the above operating rate would be \$495.00

## II. Phase IP Survey

Model IPV-2 Unit, two geophysical technicians and four copies of a final report.

Operating day .....	\$675.00
Standby, bad weather, travel, organization days .....	\$330.00

If no report was required the above operating rate would be \$595.00

## III. Spectral IP Survey

Model IPV-3 Unit, two geophysical technicians and computer plots daily in the field.

Operating day .....	\$950.00
Standby, bad weather, travel, organization days .....	\$450.00

Report preparation for spectral IP surveys depends on customer requirements. A final written report could cost as little as \$100.00 more per operating day to as much as \$450.00 more per operating day.

April 13, 1983



In each of the three outlined surveys, requirements of vehicle, one or two helpers, meals and accommodation are not included.

Phoenix also carries out field data inversions at fees as little as \$125.00 per inversion to as much as \$250.00 per inversion, depending on complexity of data and quality of data received from surveys carried out by our competitors. For surveys carried out by Phoenix crews, there is no charge for this service.

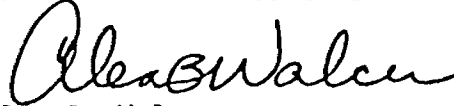
Phoenix also quotes on line mile basis providing information is made available to us with regards to type of terrain, access to grid, distance from nearest accommodation and any known electrode contact conditions i.e., sandy, outcrop, etc.

For most surveys Phoenix charges a fixed mobilization - demobilization rate. For large surveys within Ontario, Quebec and New Brunswick there will be no charge for mobilization - demobilization. Phoenix will mobilize our crews out of Fredericton, New Brunswick for large surveys in the provinces of Nova Scotia and Newfoundland.

Please let us know if we can help you in any way with your geophysical survey needs.

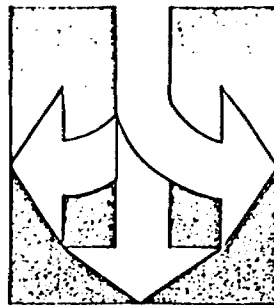
Yours truly,

PHOENIX GEOPHYSICS LIMITED



Alex B. Walcer,  
Ground Survey Manager

ABW:mh  
Encls.



**geoterrex**  
Ltd

2060 WALKLEY RD.,  
OTTAWA, ONT.,  
CANADA K1G 3P5

25 April, 1983

Loydex Resources Inc.  
24 Kenton Court  
Whitby, Ontario

Dear Lloyd,

This letter is in response to our telephone conversation of April 15th concerning a proposed Induced Polarization survey to be conducted on your prospects in the Hemlo Region of Ontario.

We are confident that a Geoterrex crew would be able to produce useful data in the area even though previous attempts by another contractor have proven unsuccessful. In this letter I will outline our plan of attack and indicate the charges involved for a survey of this type.

As we interpret your description of the difficulties encountered previously, the major problem was a high electrode contact resistance with the ground. This would severely limit the current which could be transmitted through the electrodes thereby limiting the measured response at the receiver. As the noise level would not be significantly affected in this situation, the corresponding signal to noise ratio would be very poor.

In order to get useful data in such a situation, two possible approaches are available. One or both can be used depending on the particular circumstances.

The first approach is to increase the transmitted current which can be done by either decreasing the electrode contact resistance or by increasing the power of the transmitter. In the past, Geoterrex has had a great deal of success with the use of an artificial contact medium, in order to improve the contact resistance, in areas where conventional electrodes have failed. This technique was used most recently on a survey in the Coast Range Mountains of B.C. where a large percentage of the survey lines were on scree slopes. Our crew was able to obtain accurate data, meeting all the specifications of the survey, where other contractors had claimed this to be impossible.

In areas where access is difficult the technique described above is preferable to increasing transmitter power. This is primarily due to the fact that the more powerful transmitters and their accompanying motor generators are much heavier and bulkier and therefore much less portable.

A second approach to getting reliable data in noisy areas is to use a receiver specially designed for use in such areas. In this case we would recommend the use of a Huntex M-4 receiver which has infinite stacking capacities, sophisticated noise free electronic components, and noise rejection through certain filters. With this unit, reliable readings can be obtained below 0.1 millivolts compared to an absolute minimum of 0.3 millivolts for the Scintrex IPR-7. The above features allow the M-4 to obtain valid readings in many places where the IPR-7 fails.

For this survey we would plan on using both the Huntex M-4 receiver and the artificial contact medium. With this approach we would anticipate that a 1.5 KW transmitter would provide sufficient power to obtain good readings. The portability of this unit would make it feasible to use the dipole-dipole array on all lines. This would be the ideal method as the dipole-dipole array gives the most detailed information compared with all those arrays commonly used.

If, however, it is found that this method proves ineffectual an alternative plan could be employed. This would involve using a more powerful 4.5KW transmitter and a pole-dipole array instead of the dipole-dipole array. The advantage in this case is that given the same current, the received signal is greater by a factor of about two compared to the dipole-dipole array. The disadvantages to this method are the necessity to put out long lengths of wire and the requirement for a cumbersome 4.5 KW transmitter.

Geoterrex would make every effort to run the survey using a small portable transmitter and the dipole-dipole array due to the much simpler logistics and results. However, if all these efforts proved fruitless a more powerful backup transmitter would be available.

In the event that Geoterrex is awarded the contract we would be able to provide an experienced four man crew throughout the length of the survey. The crew chief would be Mr. Paul Prevedoros, who in his five years with Geoterrex has gained extensive experience in I.P. surveying and interpretation in Australia and North America.

Geoterrex would supply all equipment necessary to run the survey as described above as well as providing room and board and local transportation. After a considerable amount of discussion we feel that the most cost effective manner of handling the logistics would be to stay in a local motel and travel to and from the grid in a multi-wheeled all terrain vehicle. However, as was made clear in our previous discussions, a plan like this

would hinge on obtaining permission to cross other claims. If this was not forthcoming, a helicopter supported camp would be the only solution. In this case Geoterrex could supply the camp but would expect the client to provide the helicopter support.

All the field data would be reduced and hand-plotted on a daily basis in order to monitor data quality and help in planning any extensions or modifications to the survey which may be necessary. Upon completion of the survey, the hand plots would be given to the client, while the data would return to the office where it would be replotted by computer. By using a Huntex M-4 receiver, all data is recorded on cassettes in the field, expediting data transfer to our computer. Because data is recorded on cassettes, considerably more information is recorded than can be conveniently done manually. Thus computer plotted pseudo sections of any of the 10 windows or combinations of them are possible as well as other calculated decay parameters. A sample of our computer plotting format is enclosed. If an interpretation is required it would be done at this stage.

Geoterrex charges for the services described above would be as follows:

	<u>Motel Base</u>	<u>Camp Base</u>
Production	\$1450.00/day	\$1350.00/day
Standby	\$1150.00/day	\$1120.00/day
Mob-Demob	\$3000.00 + Standby	\$3800.00 + Standby

Standby rates would apply in all cases where the Geoterrex crew could not work due to causes beyond their control. This would include inclement weather, lack of access to the grid or excessive noise due to magnetic storms among other things. A standard logistics report is included in the above pricing but if an interpretation report is asked for it would be provided at an additional charge of \$400.00 day. This charge would apply only for time spent preparing the report beyond that which would be required to prepare a standard logistics report.

Geoterrex terms of payment would be as follows. Upon crew mobilization a payment of ten thousand dollars (\$10,000.00) would be due. Upon demobilization, eighty percent (80%) of the total survey charges (less the \$10,000 already paid) would be due with all the remaining charges being due upon final delivery of the data and report.

The following is a total cost estimate for the two different options. The estimated totals are arrived at using the following assumptions.

- i) 36 induced polarization spreads at a production rate of one spread per day. This applies for both options.
- ii) 2 days travelling time from Ottawa to White River  
2 days to set up camp  
1 day to break camp  
2 days travelling from White River to Ottawa
- iii) 3 helicopter trips during camp mobilization  
6 weekly supply flights  
3 trips during camp demobilization

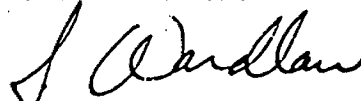
	<u>Motel Option</u>		<u>Camp Option</u>
Production			
36 days @ \$1450/day =	\$52,200	36 days @ 1350 =	48,600
Mob-demob fixed costs	3,000		3,800
Mob-demob standby costs			
4 days @ 1150/day	4,600	7 days @ 1120 =	7,840
Helicopter support	<u>0</u>	12 trips @ 500 =	<u>6,000</u>
Total survey cost	\$ 59,800		\$ 66,240

These estimates would indicate a clear cost advantage to the motel option. This option is even more favourable in the event that problems arise during the survey. Obviously, such problems can be resolved much easier and faster when the crew can be in direct contact by telephone with our head office in Ottawa. We would therefore strongly recommend making every effort to obtain the permission required in order to use the motel option.

I sincerely hope you find this proposal satisfactory as we are most anxious to get this contract.

Yours truly

GEOTERREX LIMITED



Steve Wardlaw  
Assistant Manager Ground Geophysics.

SW:md





April 14, 1983.

Mr. Lloyd Nelson,  
 President,  
 Loydex Resources Inc.,  
 24 Kenton Court,  
 Whitby, Ontario.  
 L1N 5X7

Dear Lloyd:

Further to our telephone conversation of today, the following is to confirm prices on I.P. surveying on the Caulfield and Dakota properties in the Hemlo area. Our prices for approximately 27 miles of frequency I.P. surveying using a 2.5 kw transmitter would be as follows:

Operating Days

4 man crew & equipment	\$ 800/day
Camp	\$ 100/day
Food	\$ 80/day
Truck	\$ <u>50/day</u>

TOTAL: \$1,030/day

Standby Days

(all inclusive) \$ 780/day

These prices reflect the cost of surveying and would include the provision of field plotted profiles.

Formal draughting or computer plotting and an interpretational report would be provided at additional cost. ✓ ?

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Mr. Lloyd Nelson  
April 14, 1983  
Page Two

Additionally, if you require soil sampling we would be pleased to provide you with a daily or fixed rate per sample for this work.

We look forward to being of service to your company.

Regards,

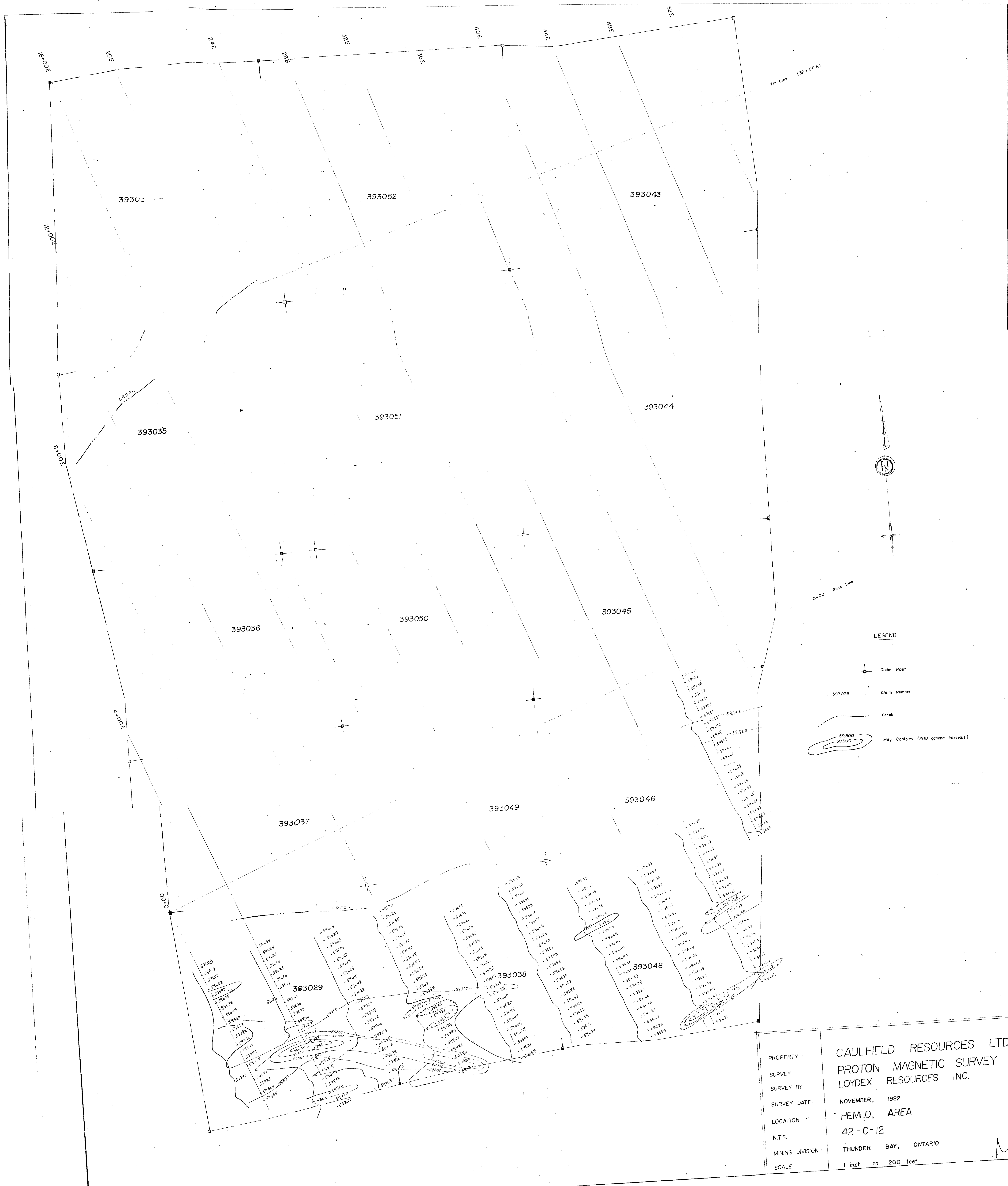
Yours very truly,

MPH CONSULTING LIMITED


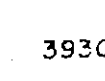

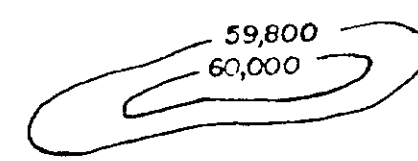
A handwritten signature in cursive script, appearing to read 'P.G. Schoch', written over a horizontal line.

P.G. Schoch, P.Eng.,  
President.

PGS/la  
Encl.

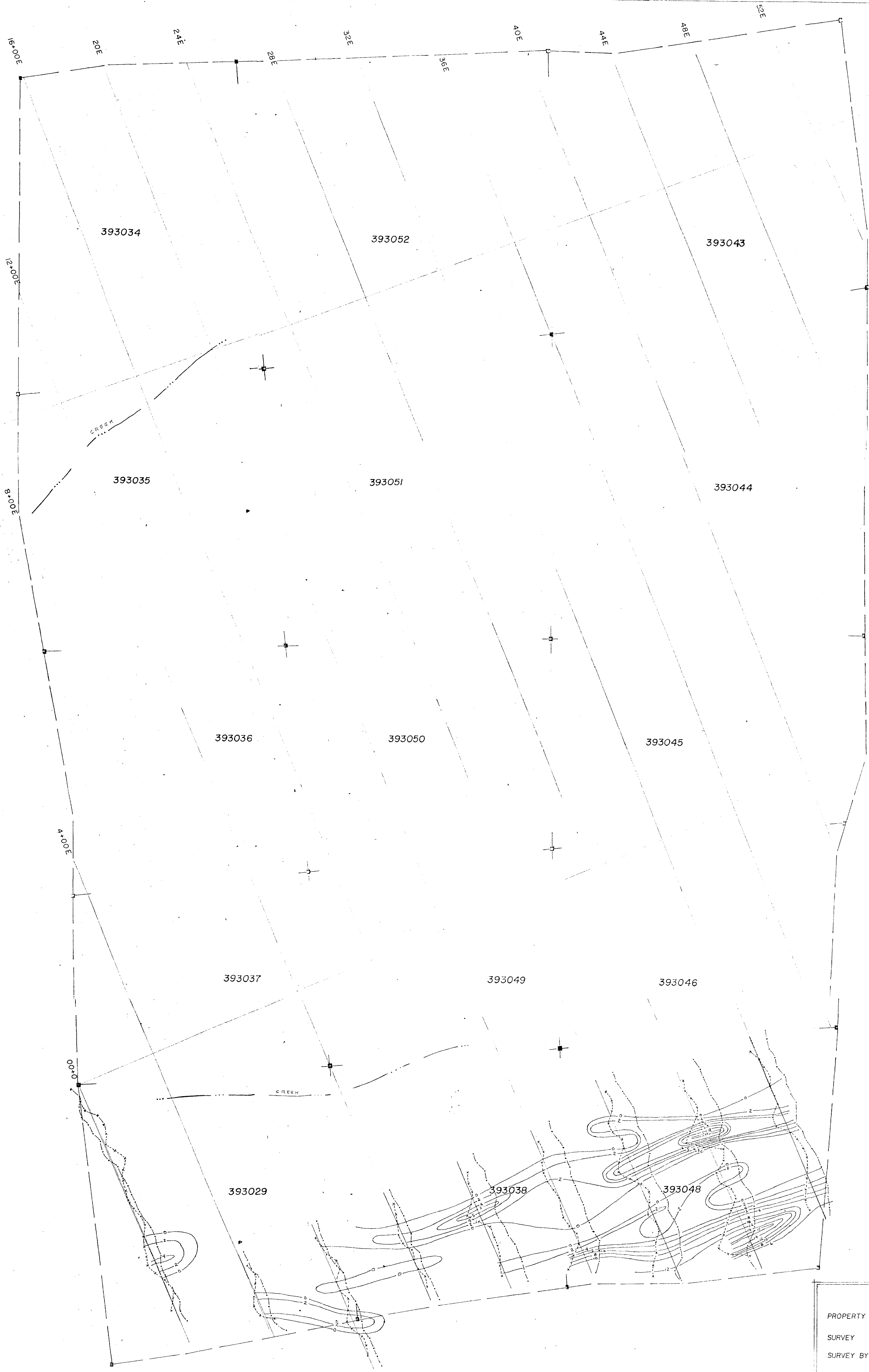


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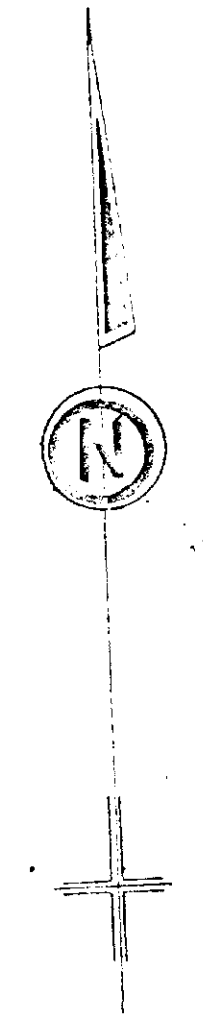
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-  Claim Number
-  Creek
-  Mag Contours (200 gamma intervals)

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SURVEY :	PROTON MAGNETIC SURVEY
SURVEY BY :	LOYDEX RESOURCES INC.
SURVEY DATE :	NOVEMBER, 1982
LOCATION :	HEMLO, AREA
N.T.S. :	42 - C - 12
MINING DIVISION :	THUNDER BAY, ONTARIO
SCALE :	1 inch to 200 feet

*Nelson*

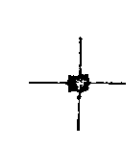
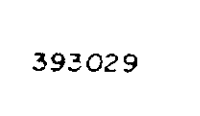


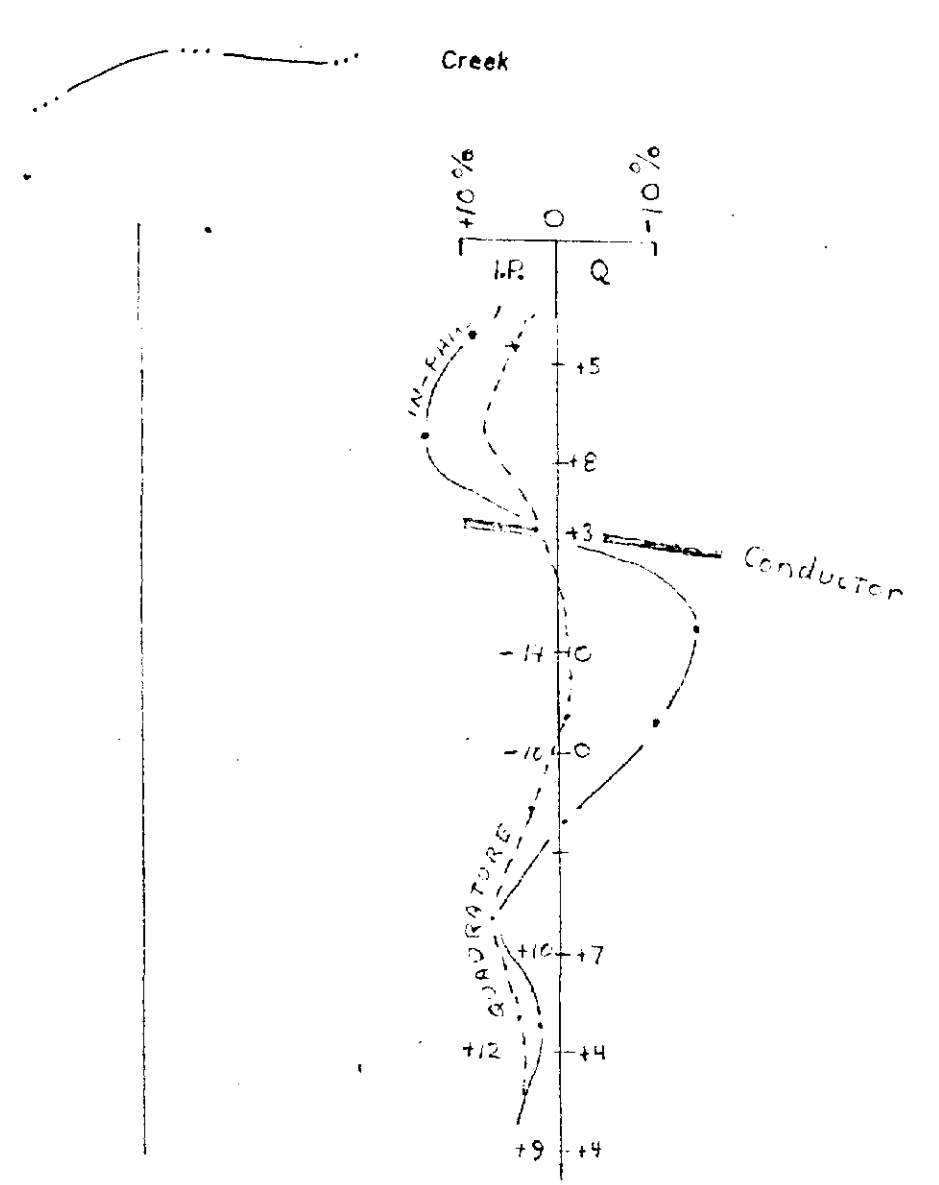
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0+00 Base Line

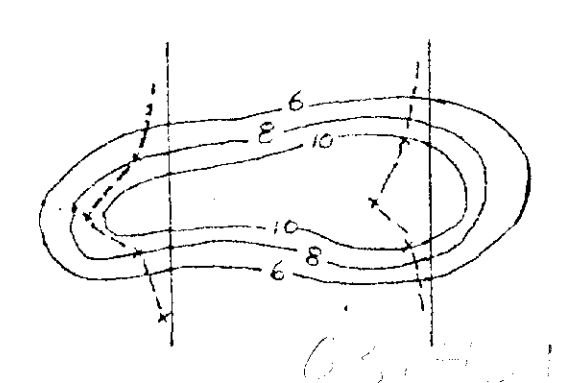
LEGEND

-  Claim Post
-  Claim Number



PROFILE SCALE 1" = 20'  
EM 16 CONDUCTOR

RADEM SURVEY  
ANOMALOUS QUADRATURE CONTOURS



PROPERTY :	CAULFIELD RESOURCES LTD.
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