EXPLORATION PROPOSAL

ON

THE LARDER TOWNSITE, DIAMOND LAKE, WENDIGO PROJECTS

FOR

1990 AND 1991

PREPARED FOR

SUDBURY CONTACT MINES LTD.

Submitted by:

PETER C. HUBACHECK, P.Geol.
(APEGGA)

File: 200-2.1

October 9, 1990

W.A. HUBACHECK CONSULTANTS LTD.

CORPORATE PROFILE

The Company is involved in the exploration of gold properties consisting of 194 claims and 13 leases totalling 8280 acres in the McVittie, Gauthier, McElroy, Mulligan and Rattray Townships of the Larder Lake Mining Division in Northern Ontario. The properties are mainly located proximal to the "Kirkland-Larder Lake Fault Structure", which is generally associated with all the producing and former producing gold mines of the Kirkland Lake gold camp.

CURRENT LAND DISPOSITION

PROPERTY	CLAIMS	LEASES	ACRES
Larder Townsite Option		13	520
Diamond Lake Option	50		2000
Wendigo	144		5760

During May of 1990, the Princeton Gold Mines and Princeton South options were dropped. In June, the Larder Townsite option was terminated after completing the drill program. Currently, maintenance of the Diamond Lake option requires payments of $21,000 per annum with no work commitment.

EXPLORATION PROPOSAL FOR 1990-1991

From 1986 to 1989, exploration efforts have been directed towards follow-up on known auriferous targets along the Larder Lake Break and to identify new targets for drill testing utilizing the extensive data base acquired by Sudbury Contact since 1972 in the Larder Lake Camp.

DIAMOND LAKE AND LARDER TOWNSITE OPTIONS

The Diamond Lake Group straddle part of the Larder Lake Break formerly known as the Beauregard and Olivet properties. Original work consisting of shallow diamond drilling and trenching was carried out by Ventures Ltd in 1939. In early 1988, four widely spaced holes successfully delineated the Larder Lake Fault Structure over a distance of 6000 feet, intersecting 300 foot widths of fuchsite/dolomite alteration at depths up to 500 feet below surface. All drill holes, intersecting the fault zone, have shown enrichment of gold mineralization up to 500 ppb in the pyritized zones.

A 3000 foot drill hole is recommended to test the Larder Lake Break below a vertical depth of 2000 feet east of the Misema River.

In 1989, a reverse circulation and diamond drilling program was initiated to investigate airborne magnetic anomalies and basal till anomalies (re : KLIP Basal Till Study - 1984).

Further evaluation would involve additional airborne surveying to expand the original magnetic survey flown in 1987. Drilling is recommended to test an ultramafic dyke structure trending northerly on the east flank of the Misema River overlain by esker deposits ranging up to 300 feet in depth. Reverse circulation drilling is recommended to verify untested airborne magnetic targets underlying the Misema Esker.

On the Larder Townsite Property, an airborne magnetic anomaly defined during the 1988 survey will require 2,000 of drilling.

WENDIGO PROJECT

During the spring of 1989, 144 claims were staked in Mulligan and Rattray Townships stimulated by reconnaissance lake sediments data (re : GSC Open File 2640) indicating anomalous gold and arsenic values in the Wendigo Lake - Larder River system. The project area covers the northern part of the Cobalt Embayment straddling the Skead Volcanic Complex and the Pontiac Group (re: Jensen and Langford - 1995). Recently released gravity data (re: GSC Forum, P. Keating - 1989) suggest that north/south trending faults may separate these two domains which are overlain by Proterozoic sediments. Gravity data also indicates that the Nipissing intrusive contact on the southern claim boundary may be terminated by an east/west structural feature.

In 1990, an AEM survey is recommended to search for Archean basement structures covered by Huronian sediments. A ground UTEM and gravity survey, in conjunction with fence drilling, will be employed to follow-up the airborne results to determine the potential for gold mineralization.

PROGRAM EXECUTION

The Larder Townsite project was completed during the period of May 1st, 1990 to June 10th, 1990. The Diamond Lake project commenced on May 1st and will terminate on December 31st, 1991. The Wendigo Project commenced on July 1st, 1990, and will be completed on December 31st, 1991.

BIBLIOGRAPHY

KLIP Basal Till Study; OGS Open File R.5506, Fortescue et al.- 1984

Regional Lake Sediment and Water Geochemical Reconnaissance Data; Gogama Area, Ontario; Hornbrook et al. - 1990

Synoptic Mapping of the Kirkland Lake - Larder Lake Areas, District of Timiskaming; OGS MP 126, L.S. Jensen - 1985

Geology and Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake Area; OGS MP 123, Jensen and Langford - 1985

Report on an Airborne Magnetic and VLF-EM Survey in the Larder Lake Area: Hearst, McElroy, Gauthier and McVittie Townships; Terraquest Ltd., C. Barrie - 1987

Logistics and Interpretation Report on a UTEM Survey at the Larder Townsite Property; Lamontagne Geophysics, P. McGowan - 1988

Summary Report on Diamond Lake - Fork Lake Project, Dec. 1989 W.A. Hubacheck Consultants, T. Hughes - 1990

SUDBURY CONTACT BUDGET PROPOSAL FOR 1990-1991

A) DIAMOND LAKE OPTION

Fork Lake Group

Mobilization	4,000
Airborne Geophysics - 800 km x $35/km	28.000
Linecutting - 20 km x $250/km	5,000
RC Drilling - 400 ft x $10/ft	40,000
Diamond Drilling 5000 ft x $25/ft	125,000
Mineral Processing - 40 samples x $400/sample	16,000
Project Geologist - mapping 20 km x $200/km	4,000
- drilling 60 days x $100/day	(6,000)
Field Geologist - mapping 20 km x $200/km	4,000
Drill Technician - drilling 30 days x $100/day	(3,000)
Report Preparation	4,000

Diamond Lake Group

Diamond Drilling - 3000 ft x $25/ft	75,000
Assays - 200 samples x $15/sample	3,000
Project geologist - 30 days x $100/day	(3,000)
Sub Total:	308,000

B) LARDER TOWNSITE OPTION

Diamond Drilling - 1000 ft x $25/ft	25,000
Project geologist - 10 days * x $100/day	(1,000)
Sub Total:	25,000

C) WENDIGO CLAIM GROUP

Mobilization	4,000
Airborne Geophysics 1700 km x $50/km	85,000
Linecutting - 60 km x $250/km	15,000
UTEM Survey - 10 km x $2000/km	20,000
Gravity Survey - 10 km x $2000/km	20,000
Diamond Drilling - 5000 ft x $25/ft	125,000
Assays - 400 samples x $15.00/sample	6,000
Project Geologist - mapping 60 km x $200/km	12,000
- drilling 60 days x $100/day	(6,000)
Field Geologist - mapping 60 km x $200/km	12,000
Drill Technician - drilling 30 days x $100/day	(3,000)
Report Preparation (drafting)	4,000
Sub Total:	303,000

SUDBURY CONTACT BUDGET PROPOSAL FOR 1990-1991 CONT'D

Total Eligible Expenses (A + B + C)	636,000
Daily Individual Allowance = 220 days x $100	(22,000)
Overhead = 5%[636,000 - 22,000]	30,700
Gross Eligible Expenses = Total Exp.+ Overhead	$666,700

SUMMARY REPORT

ON

THE LARDER TOWNSITE, DIAMOND LAKE, WENDIGO PROJECTS

MAY 3, 1990 TO FEBRUARY 15, 1991

PREPARED FOR

SUDBURY CONTACT MINES LTD.

Submitted by:

PETER C. HUBACHECK, P.Geol.
TOBY N.J. HUGHES, B.Sc.
DAVID W. CHRISTIE, B.Sc.

File: 200 - 5.3

February 15, 1991

W.A. HUBACHECK CONSULTANTS LTD.

TABLE OF CONTENTS

SUMMARY

Sudbury Contact Mines Ltd. is involved in the exploration of three properties consisting of 194 claims and 13 leases totalling 8280 acres in the McVittie, Gauthier, McElroy, Mulligan and Rattray Townships.

From May 5th, 1990 to February 15th, 1991, various field tasks including diamond drilling, grid and DDH location surveys, airborne and ground geophysical surveys were conducted on the Larder Townsite, Diamond Lake and Wendigo properties.

Diamond drilling on the Diamond Lake Project has successfully intersected a serpentinized ultramafic dyke extending the strike length approximately 400 metres north of the original discovery hole drilled in 1989. Indicator minerals present suggest the "diatreme", cored in DDH's F1-90-5 and 7, may be kimberlitic in composition.

Reverse circulation drilling and diamond drilling are recommended to define the geometry of the dyke; followed by heavy mineral processing and analyses of the bulk samples in order to assess the diamond potential of the diatreme.

On the Wendigo Project area, a "Questem" airborne survey successfully outlined eight EM zones. A ground UTEM and gravity survey in conjunction with diamond drilling is proposed to follow up the airborne results to determine the potential for precious and base metals in the Archean basement terrain and overlying Huronian cover rocks.

INTRODUCTION

Sudbury Contact Mines Ltd. is involved in the exploration of gold properties consisting of 194 claims and 13 leases totalling 8280 acres in the McVittie, Gauthier, McElroy, Mulligan and Rattray Townships of the Larder Lake Mining Division in Northern Ontario. The properties are primarily located proximal to the "Kirkland-Larder Lake Fault Structure", which is generally associated with all the producing and former producing gold mines of the Kirkland Lake gold camp. (Figure 1)

From 1986 to 1989, exploration efforts have been directed towards follow-up on known auriferous targets along the Larder Lake Break and to identify new targets for drill testing utilizing the extensive data base acquired by Sudbury Contact since 1972 in the Larder Lake Camp.

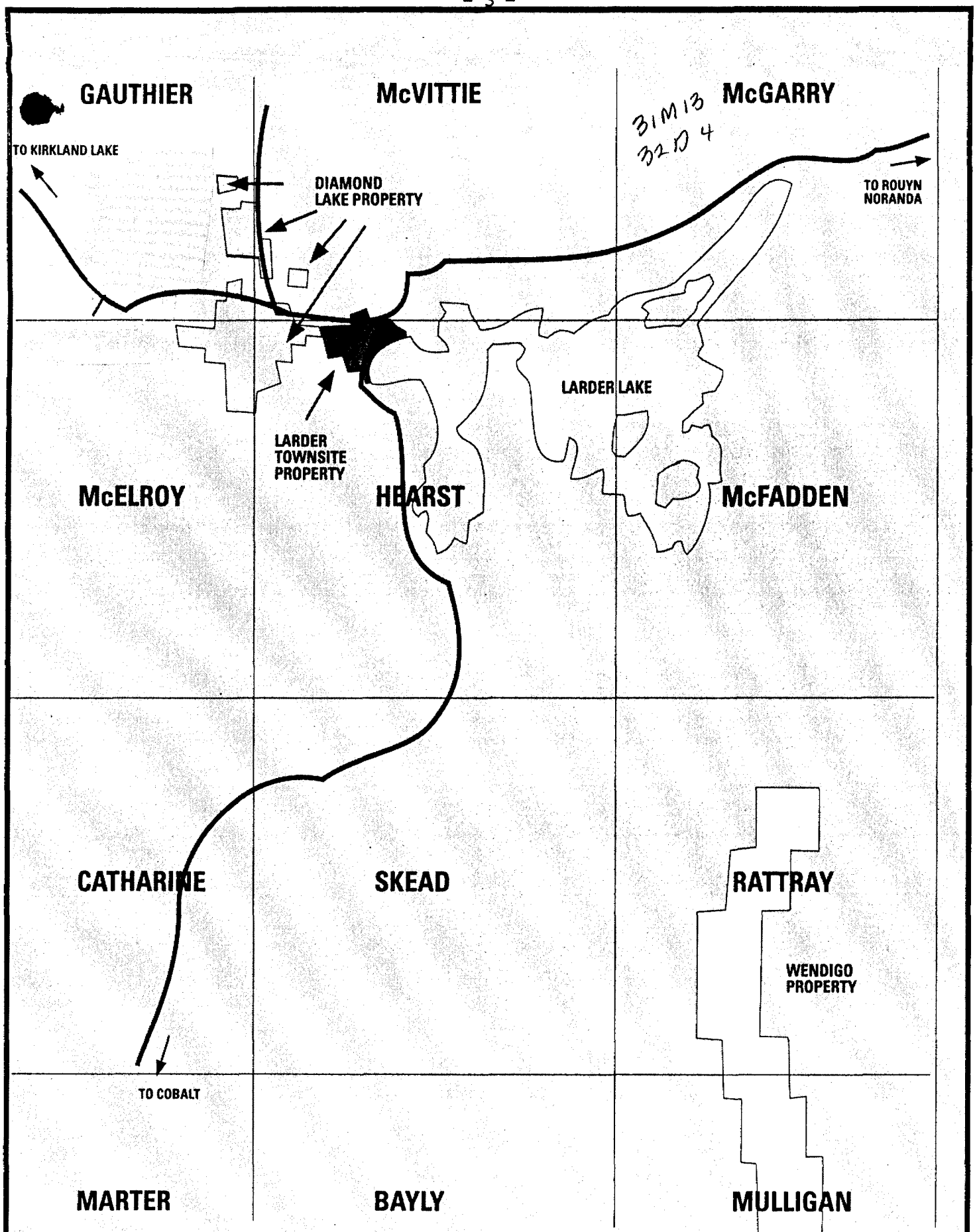
CURRENT LAND DISPOSITION

PROPERTY	CLAIMS	LEASES	ACRES
Larder Townsite Option		13	520
Diamond Lake Option	50		2000
Wendigo	144		5760
		Total:	8280

In June, the Larder Townsite option was terminated after completing the drill program. Currently, maintenance of the Diamond Lake option requires payments of $21,000 per annum with no work commitment.

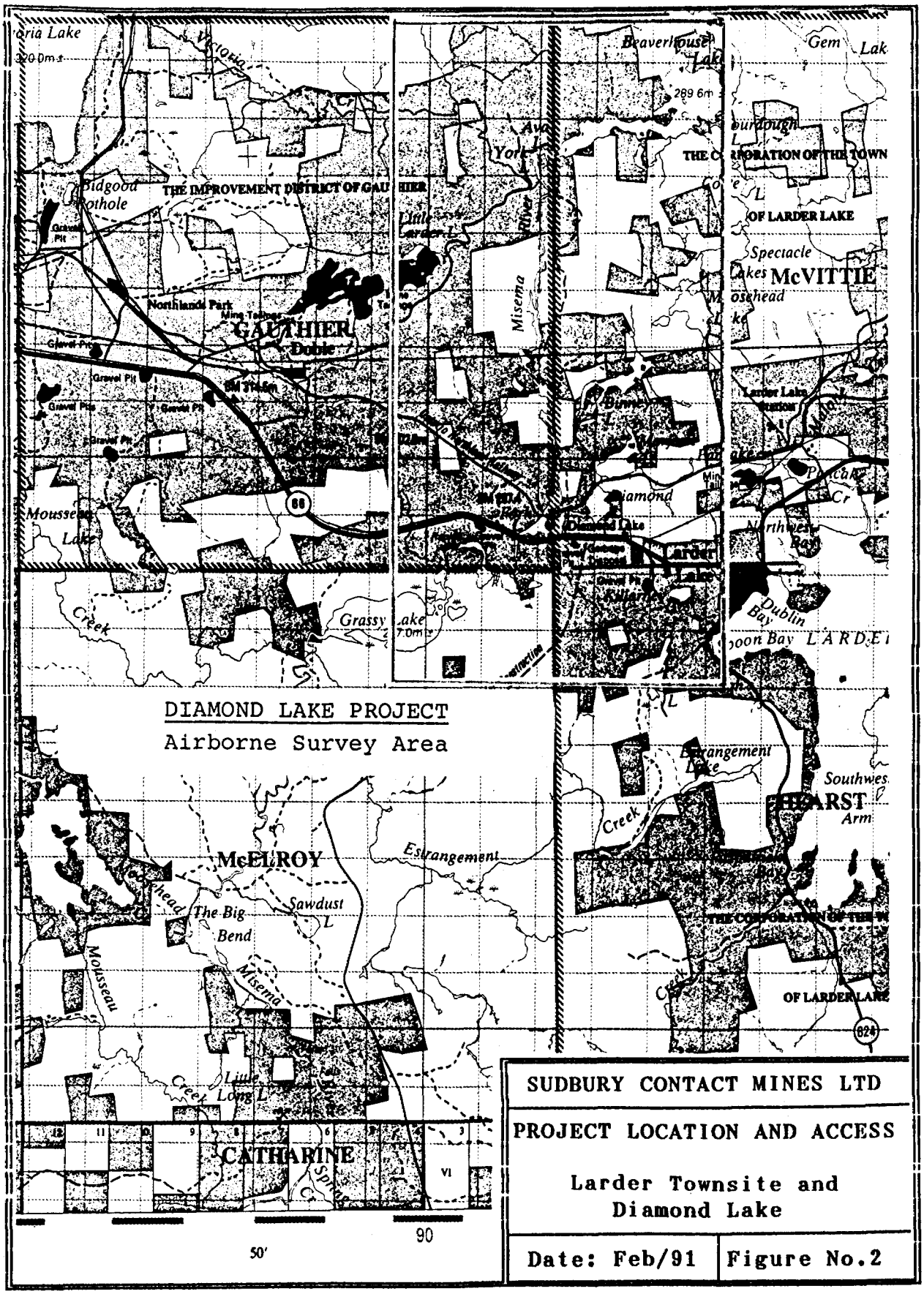
The Larder Townsite project was completed during the period from May 5th, 1990 to June 10th, 1990. The Diamond Lake project commenced on May 5th and terminated on February 15th, 1991. The Wendigo Project commenced on July 1st, 1990, and was completed on February 15th, 1991.

The coordination and implementation of the various technical tasks was conducted by W. A. Hubacheck Consultants Ltd. under the supervision of P. Hubacheck, D. Christie, and T. Hughes.

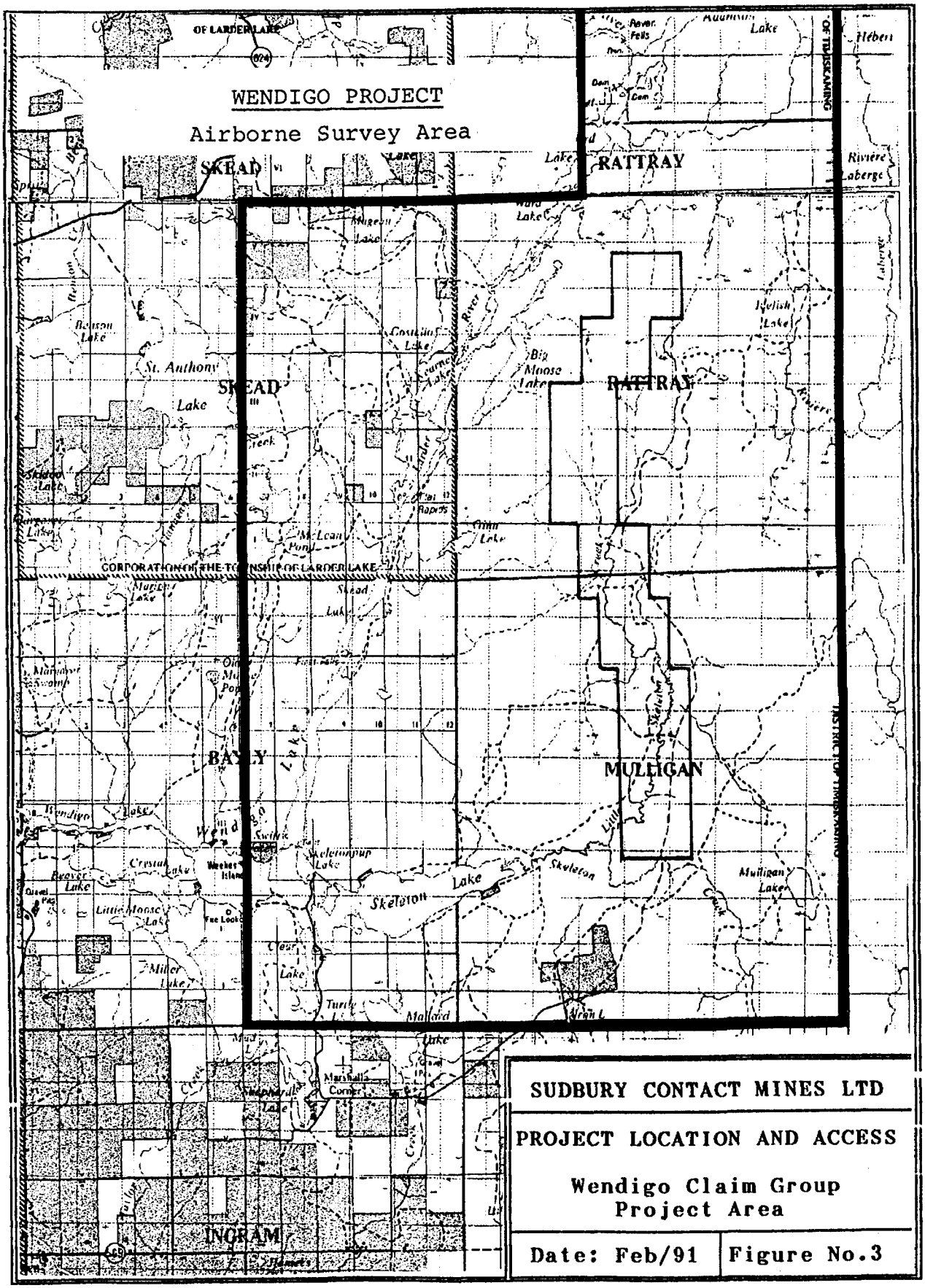


SUDBURY CONTACT PROPERTY POSITION LARDER LAKE AREA

Figure 1



SUDBURY CONTACT MINES LTD	
PROJECT LOCATION AND ACCESS Larder Townsite and Diamond Lake	
Date: Feb/91	Figure No.2



SUDBURY CONTACT MINES LTD	
PROJECT LOCATION AND ACCESS Wendigo Claim Group Project Area	
Date: Feb/91	Figure No.3

PROPERTY AND PROJECT AREA DESCRIPTIONS

a) Larder Townsite Property

The property consists of 13 unpatented mining claims numbered L 387814 to L 387826 inclusive in the northwest part of Hearst Township and extending into McVittie Township, District of Timiskaming. (Figure 2)

All mining assessment work has been completed on the claims and have been taken to lease. The mining rights are owned by R.A. MacGregor, 134 Palace Drive, Sault Ste. Marie, Ontario. The surface rights are owned by the Township of Larder Lake over the major part of the property.

b) Diamond Lake Option

The property consists of 10 unpatented and one patented claim straddling the claim boundaries of Gauthier and McVittie Townships (Figure 2) and are numbered respectively:
L 821910, L 736729 to L 736732 inclusive, L 760496, L 821927, L 821928, L 1014694, L 1045614 and L 19280.

The mining rights of the unpatented claims are owned by Skead Holdings Ltd., P.O. 1110, 28 Ford St. Sault Ste. Marie, and the unpatented claim is owned by Dennis G. Crossman. Sudbury Contact entered into option agreements dated October 31st, 1988 and August 1st, 1989 respectively and all claims are in good standing.

c) Wendigo Claim Group

Sudbury Contact wholly owns 144 unpatented claims in Rattray and Mulligan Townships in the Larder Lake Mining District, recorded on February 27, 1989. Figure 3)

They are listed as follows:
1090168 - 1090178 inclusive
1090180 - 1090192 inclusive
1090203 - 1090251 inclusive
1090253 - 1090276 inclusive
1090278 - 1090285 inclusive
1090298 - 1090321 inclusive
1088460 - 1088464 inclusive
1086250 - 1086259

LOCATION AND ACCESS

a) Larder Townsite Property

The east part of the property and one small subdivision on the most northwesterly claim comprise the Town of Larder Lake and Killarney Heights subdivision.

The western portion of the property is covered by replanted spruce and pine along the entire length of the Misema Esker forming a southeast trending ridge along the southern claim boundary. The property is accessible via Highway 66, the main highway in the area joining Kirkland Lake to Rouyn-Noranda, which runs across the north part of the property. Highway 624, a paved secondary highway which joins Highway 66 at Larder Lake and runs south to Highway 11 south of Englehart passes through the east-central part of the property. (Figure 2)

b) Diamond Lake Property

The claims commonly adjoin the Gauthier/McVittie claim boundary located approximately 2000 feet north of Highway 66 accessible from the Fork Lake access road. Misema River, flanked on the east by a south trending esker ridge is the dominant geographic feature towering the eastern side of the property. The Fork Lake roads accesses the east side of the Misema River which crossed the Ontario Hydro Line two miles north of Highway 66.

The western portion of the property can be accessed from the Little Larder Lake road crossing the Ontario Hydro Line two miles west of claim 821927. (Figure 2)

c) Wendigo Property

The 144 claim group is located in the eastern portion of Mulligan and Rattray Townships, located three miles west of the Ontario/Quebec border. The claims occupy the trellis drainage pattern of the Skeleton Creek watershed flowing into Skeleton and Wendigo Lakes. (Figure 3)

Excellent access is provided via Highways 11, 624 and 569 to Tomstown, then proceeding northeast for seven miles on concession roads to Mallard Lake followed by five miles on a forestry access road which traverses on the east side of Skeleton Creek through the entire length of the claim group.

DIAMOND DRILLING

a) Larder Townsite Project

Previous work on this property was conducted during the winter of 1988 with the completion of seven holes totalling 4034 feet. The target was a linear magnetic gradient anomaly (C. Barrie, 1988, Terraquest survey) thought to be a splay fault of the Larder Lake Break. Three holes successfully tested the gradient anomaly proving that the contrast was caused by a stratigraphic contact between talc/chlorite schists and crystal carbonate type, hematized, feldspathic tuffs of the Larder Lake Group Formation. The remaining four holes failed to penetrate the extensive overburden cover of the Misema Esker.

During May, 1990,Drill HoleLT-90-15, bored to a depth of 996 feet, tested a north/south trending magnetic gradient feature underlying a housing subdivision in Larder Lake. (Map in pocket)

Drilling Results:

The magnetic gradient target was successfully cored and attributed to the occurrence of a thick biotite, hornblende flow sequence intersected from 474.5 feet to 643 feet. This sequence is bounded by extensive intervals of chlorite, k-spar tuff/wackes thought to belong to the upper Larder Lake Group. No economic mineralization was encountered in the drill hole. (Appendix 2 & 3)

b) Diamond Lake Project

In 1989, a reverse circulation and diamond drilling program was initiated to investigate airborne magnetic gradients and basal till anomalies in the vicinity of a linear magnetic gradient contours flanking the east side of the Misema River. (KLIP Basal Till Study-1984).

RC Drill Hole Fl-89-2, located on Claim L12295, successfully penetrated thick esker deposits in excess of 57 metres before entering bedrock.

An "exotic" ultramafic chip sample was returned containing an assemblage of clasts containing phlogopite micas, garnets and magnetic sludge.

In the fall of 1989, a drill hole tested the magnetic gradient feature approximately 75 metres north of RC Fl-89-2 on Claim L19280. Hole Fl-89-4 successfully intersected a six metre section of serpentinized ultramafic dyke possibly of "Kimberlitic origin". The serpentinized chloritic matrix contained phlogopite, olivine and lesser amounts of garnet, magnetite and ilmenite.

In June of 1990, a drill hole Fl-90-5 was collared approximately 300 metres north of Fl-89-4. (Inset Map in pocket)

Drilling Results

After advancing casing 61 metres to bedrock, Drill Hole Fl-90-5 returned a cored interval consisted of a serpentinized ultramafic diatreme breccia to a depth of 169.77 metres. The entire core interval has a homogeneous fabric and texture consisting of: a heterolithic composition containing 65% clasts averaging from 2mm to 4mm with maximum size clasts ranging up to 3cm in diameter. Fifteen per cent of clasts appear to be bleached chloritic tuffs assimilated the dyke wall margins.

A fine grained chloritic matrix (35%) contains globular ilmenite and phlogopite blebs 5%, calcite-rich amygdules 5%-10%, garnets <1%. (Appendix 2 & 3)

DRILL HOLE LOCATION AND GRID SURVEY

During September and October, 1990, a third order theodolite survey was undertaken by W.A. Hubacheck Consultants Ltd., to tie in all drill hole locations and claim lines local to Claims L19280 and L12295.

The origin station employed for this survey was the iron bar located at the No. 4 corner past location of Claim L19280. (Inset map in pocket).

During January and up to February 15th, 1991, a linecutting survey consisting of 28 line kilometres was completed on the Diamond Lake option by Colex Explorations Ltd. A detailed location sketch map will be included in the geophysics report submitted by JVX Limited.

GEOPHYSICS

Magnetic Susceptibility Survey

During September, 1990, a magnetic susceptibility study using the Exploranium KT-5 instrument was employed for field measurement of drill core. All readings were recovered on core with a sensitivity level measured at 1 x 10 - 5 SI units.

The operating procedure adopted for core involved rotating the core 360 degrees with the instrument fixed in static position allowing the scanning mode to record the highest reading during the rotation. Core sample points were selected at five foot intervals and at specific geological contacts. The readings are summarized in Appendix 4.

The objective of the survey focused on determining the relationship between measured magnetic susceptibility of bedrock core samples versus the calculated vertical magnetic gradient from airborne data. In addition, emphasis was placed on correlating the magnetic susceptibility with key geological lithotypes recorded during the core logging procedures. Three Holes, Fl-89-4, Fl-90-5 and Fl-90-6 testing a linear magnetic gradient anomaly, were selected for this study.

A statistical summary of Appendix 4 is listed below:

DDH	LITHOTYPE	AVERAGE MAGNETIC SUSCEPTIBILITY
Fl-89-4	Siltstone/Greywacke	<.1
	Ultramafic Diatreme Black Matrix	10.74
	Sil'f. Chl. Tuff	.13
	Chl, K-spar, Tuff- Trachytic	20.02
Fl-90-5	Ultramafic Diatreme Breccia	3.13
	Ultramafic Diatreme - Black Matrix	6.01
Fl-90-6	Lam. Trachytic Tuff	.12
	Vitrified Trachytic Tuff - Massive	22.33

Observations

The ultramafic diatreme cored in Fl-89-4 displays a high magnetic susceptibility contrasts with the silificied hanging wall and footwall chlorite tuffs ranging from .13 x 10-5 SI (contact zone outside diatreme) to 10.74 x 10-5 SI (within diatreme).

In DDH Dl-90-5, two diatreme phases are present, notably; 1) exotic clast breccia phase - 3.13 x 10-5 SI and 2) black matrix -6.01 x 10-5 SI. Visual observations in core show that higher concentrations of ilmenite and magnetite occur in the black matrix phase.

In Holes Fl-89-4 and Fl-90-6 the highest magnetic susceptibilities are found in the massive chlorite/k-spar trachytes with values averaging 22 x 10-5 SI.

Conclusions

Significant hydrothermal alteration concomitant with the emplacement of the ultramafic diatreme is evident resulting in destruction of the mafic minerals in the wall rocks at the margin of the diatreme. The diatreme appears to be emplaced as a dyke filling a fracture zone evident in Fl-89-4.

The diatreme has a strike length of approximately 600 metres using the .10 gammas/metre gradient contour as a guide. The higher gradient observed in the vicinity of F1-90-5 is probably not due to higher magnetic susceptibilities in the breccia phase, but rather reflects less masking due to overburden in this area. Note that overburden depths increase dramatically from 30 metres in F1-89-4 to 60 metres in F1-90-5.

Airborne Geophysical Surveys

Diamond Lake Project Area

In January, 1991, a fixed wing magnetic VLF Survey was commissioned to fly a six kilometre x 12 kilometre grid area totalling 760 line kilometres of flying.(Figure 2) The aircraft will be fitted with three systems to measure the total magnetic field, VLF electromagnetics and horizontal vector gradiometrics. The survey was designed to supplement a survey with similar specifications flown in 1988, however, the flight line direction differs by 90 degrees.

A contract has been signed with Terraquest of Toronto with airphoto acquisition and aircraft reconfiguration in progress as of February 15, 1991. The aircraft is scheduled for deployment in early May, 1991.

Wendigo Project Area

During the spring of 1989, 144 claims were staked in Mulligan and Rattray Townships stimulated by reconnaissance lake sediments data (GSC Open File 2640) indicating anomalous gold and arsenic values in the Wendigo Lake - Larder River system. The project area covers the northern part of the Cobalt Embayment straddling the Skead Volcanic Complex and the Pontiac Group (Jensen and Langford - 1995). Recently released gravity data (GSC Forum, P. Keating - 1989) suggest that north/south trending faults may separate these two domains which are overlain by Proterozoic sediments. Gravity data also indicates that the Nipissing intrusive contact on the southern claim boundary may be terminated by an east/west structural feature.

In August 1990, an airborne magnetic and electromagnetic Questem survey was designed to search for Archean basement structures and conductive zones covered by Huronian sediments.

In January 1991, additional flying was undertaken to expand the original survey coverage to 1400 line kilometres. (Figure 3)

Survey Results and Recommendations

Numerous conductive anomalies have been identified from the Questor survey results. Eight EM zones were reviewed and classified as follows:

Priority 1) Four zones contain strong EM responses which correlate very well with the magnetic data. These zones are strongly recommended for ground follow-up.

Priority 2) Two zones contain weak EM responses but correlate well with the magnetic data, requiring further ground examination.

Priority 3) Two zones are both located within surficially conductive areas. The responses of the indicated trends for these zones are poor and possibly due to surficial sources. Verification of these features during the geological mapping phase is recommended.

GROUND GEOPHYSICS

Diamond Lake Project

During the period of January 28th, 1991 to February 15th, 1991, 28 kilometres of total field magnetics were completed by JVX Ltd., Toronto. The final report is currently being prepared and will be submitted for assessment work purposes.

CONCLUSIONS AND RECOMMENDATIONS

Larder Townsite Project

No economic mineralization was reported in DDH LT-90-15, hence no further work has been recommended.

Diamond Lake Project

Drill Holes Fl-90-5 and Fl-90-7 have intersected a ultramafic diatreme dyke straddling the claim boundaries of L 19280 and L 12295 buried under the Misema Esker complex. Susceptibility measurements suggest that the dyke structure trends north/south having a strike length of approximately 600 metres.

Heavy mineral analyses are recommended to determine the nature of kimberlite indicates minerals which may be present. Reverse circulation and diamond drilling are recommended to define the geometry of the dyke structure and to return sufficient sample material for mineral processing.

An airborne survey is recommended to outline similar buried targets on a north/south trend straddling the Gauthier/McVittie Township boundary.

Wendigo Project

The "Questem" airborne survey results outlined eight EM zones and of these four are classified as "Priority 1", two are classified as "Priority 2" and two are classified as "Priority 3" (Pearson, M - 1990 - Questor Surveys)

On the basis of these results, 143 additional claims were staked in Rattray and Skead Township.

Ground UTEM and gravity surveys in conjunction with stratigraphic fence drilling will be employed to follow up the airborne results to determine the potential for precious and base metals in the Archean basement terrain and overlying Huronian cover rocks.

REFERENCES

KLIP Basal Till Study; OGS Open File R.5506, Fortescue et al.- 1984

Regional Lake Sediment and Water Geochemical Reconnaissance Data; Gogama Area, Ontario; Hornbrook et al. - 1990

Synoptic Mapping of the Kirkland Lake - Larder Lake Areas, District of Timiskaming; OGS MP 126, L.S. Jensen - 1985

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Summary Report on Diamond Lake - Fork Lake Project, Dec. 1989 W.A. Hubacheck Consultants, T. Hughes - 1990

Interpretation Report: Questem Electromagnetic/Magnetic Survey for Sudbury Contact Mines Ltd.: Questor Surveys Ltd., M. Pearson - Dec. 1990.

CERTIFICATE

I, PETER C. HUBACHECK, of the City of Mississauga in the Province of Ontario, Canada, do hereby certify that:

a) I am an Exploration Geologist residing at 2401 Pyramid Crescent, Mississauga, Ontario, employed by W.A. Hubacheck Consultants Ltd., 141 Adelaide St. West, Suite 603, Toronto, Ontario.

b) I am a graduate of Haileybury School of Mines as Mining Technologist, 1974 and received my Bachelor of Geological Engineering degree from the South Dakota School of Mines and Technology in 1977.

c) I am registered as a "Professional Geologist" with the Association of Professional Engineers, Geologists and Geophysicists of Alberta and the Northwest Territories. I have been practising my profession continuously since graduation.

d) On behalf of our client Sudbury Contact Mines Ltd., W.A. Hubacheck Consultants has initiated and managed several exploration programs in the Larder Lake Mining Division since 1983, and I have personally supervised and conducted field work with D. Christie and T. Hughes over the duration of the projects cited in this report.

e) Currently I am a Member of the CIM National and Toronto Branch, and also registered with the PDA and QPA.

Toronto, Ontario
February 15, 1991

PETER C. HUBACHECK, P. Geol.
APEGGA

CERTIFICATE

I, T.N.J. HUGHES, declare that:

1) I am a B.Sc. (Honours) graduate from The University, Dundee, Scotland, having graduated in July, 1980.

11) I have practised my profession as an exploration geologist, continuously, since graduation.

111) I am a resident of Shillington, N.E. Ontario.

1V) I have based my observations and conclusions based on my studies as a Consultant Geologist, on Sudbury Contact Projects from June, 1986 to January 1991.

V) I have not, nor do I expect to receive any interest in Sudbury Contact Mines Ltd., other than professional fees.

Dated this 15 day
of February, 1991

T.N.J. HUGHES, B.Sc.

CERTIFICATE

I, David W. Christie, of the City of Toronto, in the Province of Ontario, Canada, do hereby certify that:

(1) I am an Exploration Geologist, residing at 555 Sherbourne St., Apt. 1904, Toronto, Ontario, employed by W.A. Hubacheck Consultants Ltd., 141 Adelaide St. West, Suite 603, Toronto, Ont.

(2) I am a graduate of McMaster University and received my Bachelor of Science degree in Geology in 1986, and have been practising my profession as an Exploration Geologist continuously since graduation.

(3) I am a Member of the Canadian Institute of Mining and Metallurgy - National, and Toronto Branch, the Prospectors and Developers Association of Canada, and the Association of Quebec Prospectors.

(4) This report is based on personal examination of the properties since 1986 and supervision and implementation of work carried out on the properties during the period May 3, 1990 - February 15, 1991 on behalf of Sudbury Contact Mines Ltd..

(5) I have no personal interest, either directly or indirectly in the properties or securities of Sudbury Contact Mines Ltd. and do not expect to receive any such interest.

Signed at Toronto, Ontario,
This 15th Day of February, 1991.

DAVID W. CHRISTIE, B.Sc.

APPENDIX 1

SUDBURY CONTACT 1990-1991 EXPENDITURES (OMIP)

During the period May 5, 1990 to February 15, 1991.

A) DIAMOND LAKE PROPERTY

DIAMOND DRILLING		
Drilling 1582 ft x $20.90/ft		33,062.40
Project Geologists 36.25 days X $255.86/day		9,275.00
Secretarial Work 10 days X $200.00		2,000.00
Truck Rental		3,566.75
Gas		699.80
Goniometer Purchase		324.83
Field expenses		700.39
	sub-total:	49,629.17
MAGNETIC SUSCEPTIBILITY PROSPECTING SURVEY		
KT-5 Rental		331.56
Staff Geologists 14 days X $294.42/day		4,121.88
Field Expenses		861.35
	sub-total:	5,314.79
LINECUTTING AND GROUND GEOPHYSICS		
Linecutting 25.91 km X $283.73/km		7,351.35
Surveying 17.75 days X $253.35/day		4,496.88
Magnetic and VLF surveys 25.91 km X $208.28/km		5,396.47
Staff Geologists 12.5 days X $254.40/day		3,180.00
Field Expense		1,333.84
	sub-total:	21,758.54
AIRBORNE GEOPHYSICS		
Amount paid on signing of contract equal to 1/3 of survey to be flown by Terraquest 277.20 km X $43.45/km		12,043.52
Project Geologist 4 days X $300/day		1,200.00
	sub-total:	13,243.52

B) LARDER TOWNSITE PROPERTY

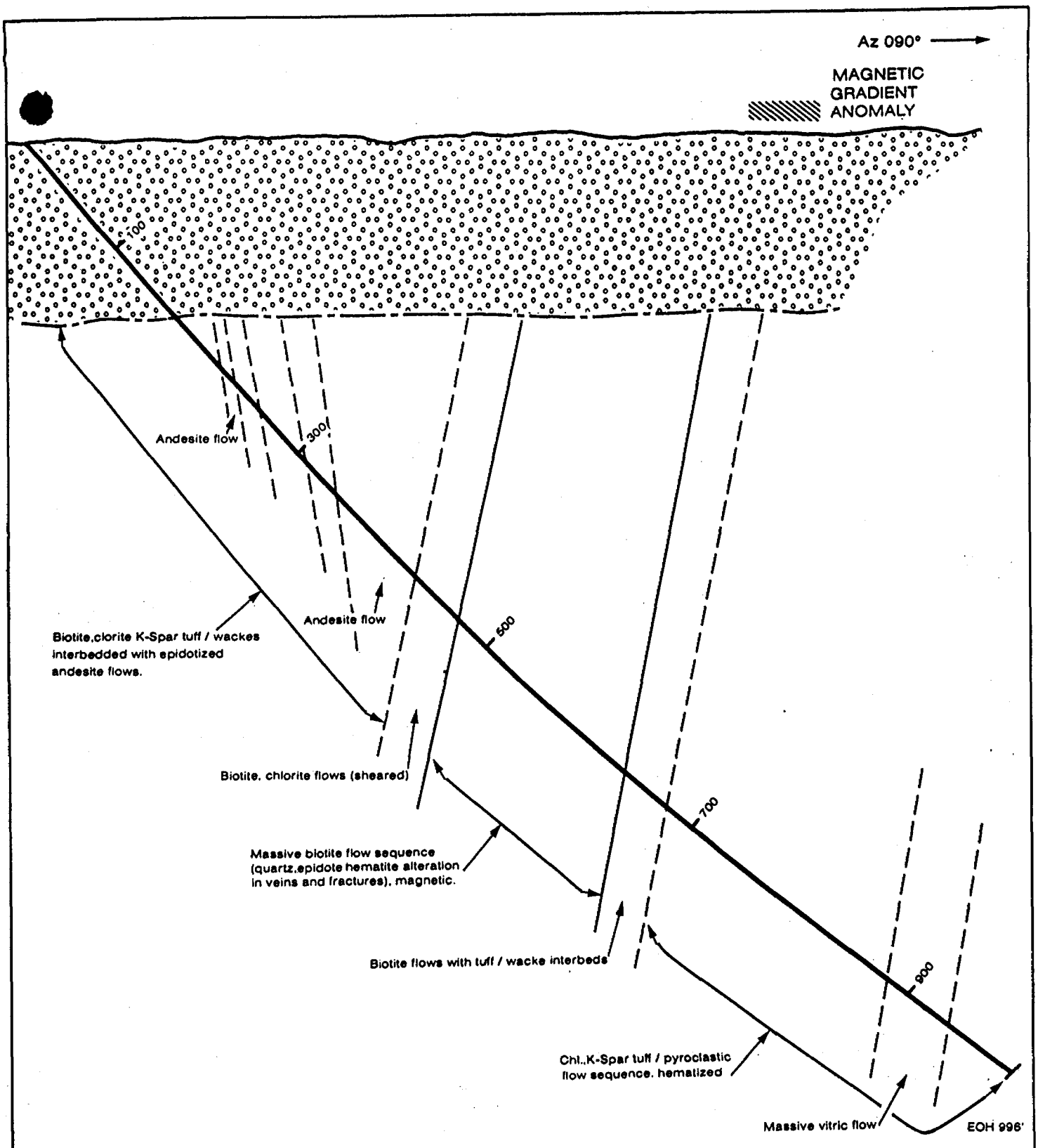
DIAMOND DRILLING		
Drilling 996 ft X $16.81/ft		16,739.30
Assays 9 samples X $11/sample		95.17
Truck Rental		685.80
Staff Geologists 25.5 days X $239.22/day		6,100.00
Secretarial Work 5 days X $200/day		1,000.00
Field Expenses		137.42
	sub-total:	24,757.69

C) WENDIGO PROPERTY

AIRBORNE GEOPHYSICS		
Questor Surveys 1400.02 km X $80.93/km {incl. processing & down days}		113,302.46
Questor Surveys In Depth Interpretation		5,000.00
Staff Geologists 23 1/4/days X $273.13/day		6,350.25
	sub-total:	124,652.71

Total Eligible Expenses(A + B + C)	239,356.42
Overhead = 5%[239,356.42]	11,967.82
Gross Eligible Expenses=total Exp. + Overhead	251,324.24

APPENDIX 2
DIAMOND DRILL SECTIONS



SUDBURY mines, limited CONTACT

LARDER TOWNSITE PROJECT

DIAMOND DRILL SECTION LOOKING NORTH

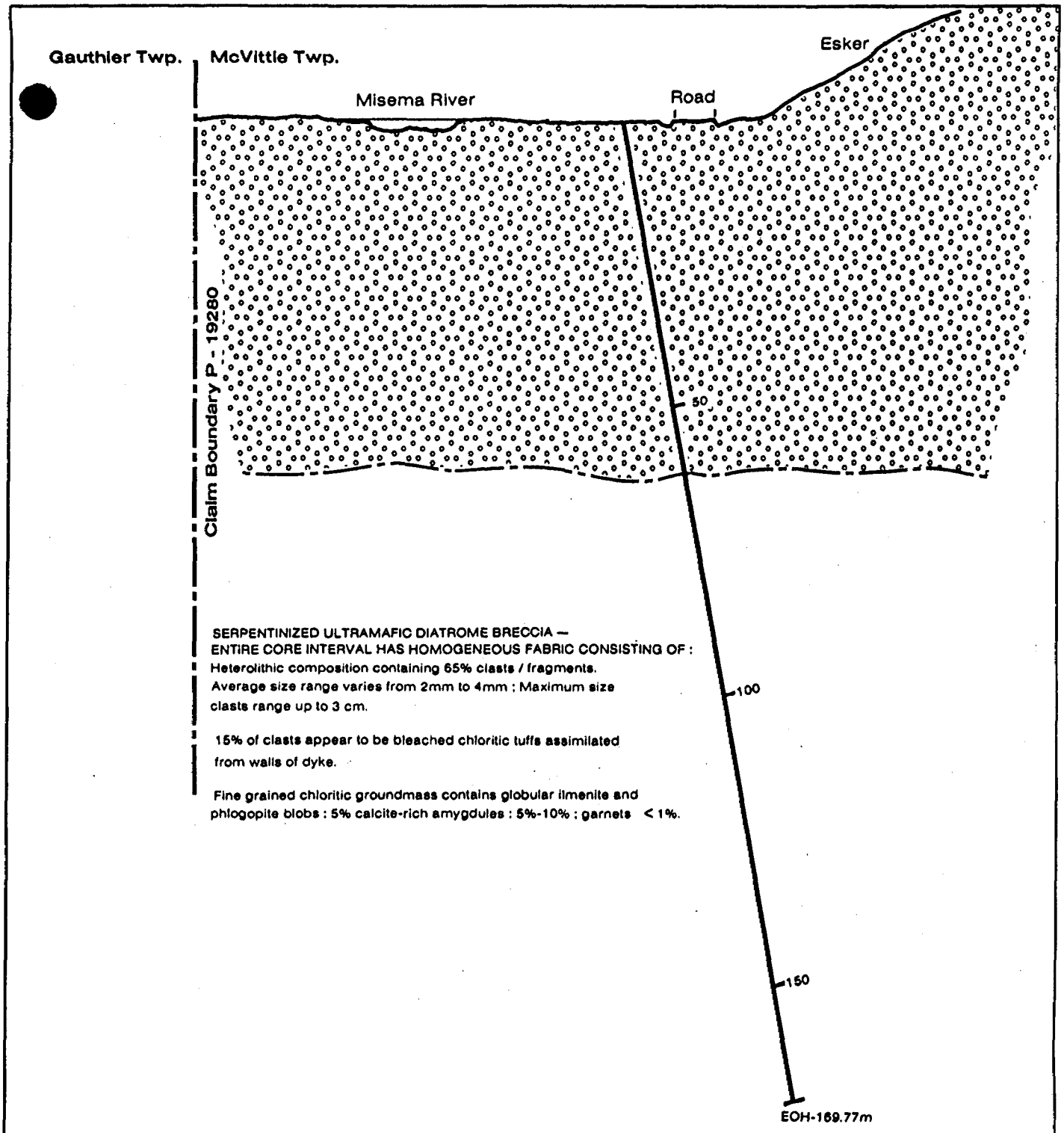
DDH FL - 90 -15

SCALE 0 — 200 FEET

DATE FEBRUARY 15,1991

FIGURE No. 4

W.A.HUBACHECK CONSULTANTS LTD.



SERPENTINIZED ULTRAMAFIC DIATROME BRECCIA —
ENTIRE CORE INTERVAL HAS HOMOGENEOUS FABRIC CONSISTING OF :
Heterolithic composition containing 65% clasts / fragments.
Average size range varies from 2mm to 4mm ; Maximum size clasts range up to 3 cm.

15% of clasts appear to be bleached chloritic tuffs assimilated from walls of dyke.

Fine grained chloritic groundmass contains globular ilmenite and phlogopite blobs : 5% calcite-rich amygdules : 5%-10% ; garnets < 1%.

SUDBURY mines, limited
CONTACT

DIAMOND LAKE PROJECT

DIAMOND DRILL SECTION LOOKING NORTH

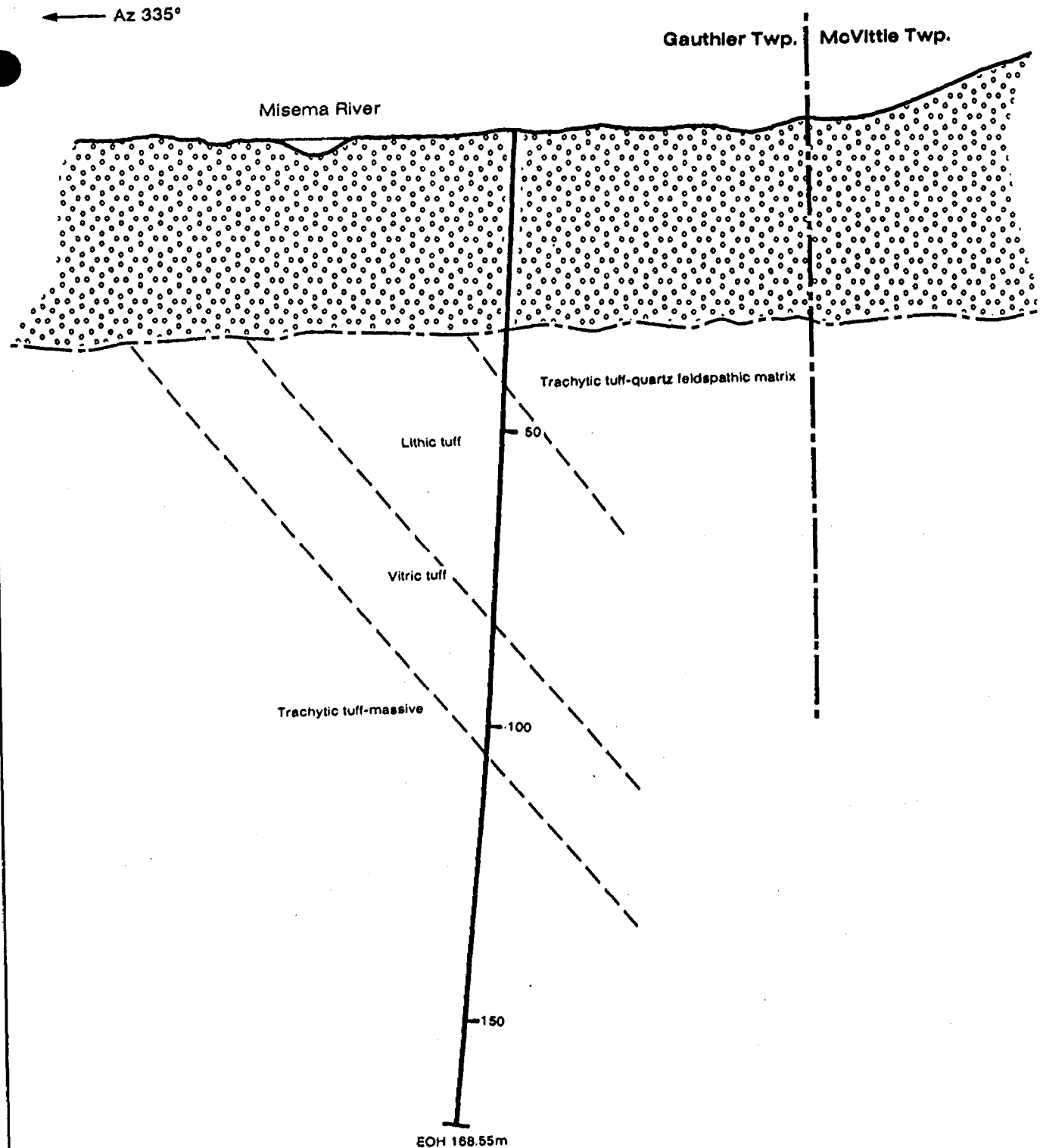
DDH FL - 90 - 5

SCALE
0 — 50
METRES

DATE FEBRUARY 15,1991

FIGURE No. 5

W.A.HUBACHECK CONSULTANTS LTD.



SUDBURY mines, limited CONTACT 6

DIAMOND LAKE PROJECT

DIAMOND DRILL SECTION LOOKING NW

DDH FL - 90 - 6

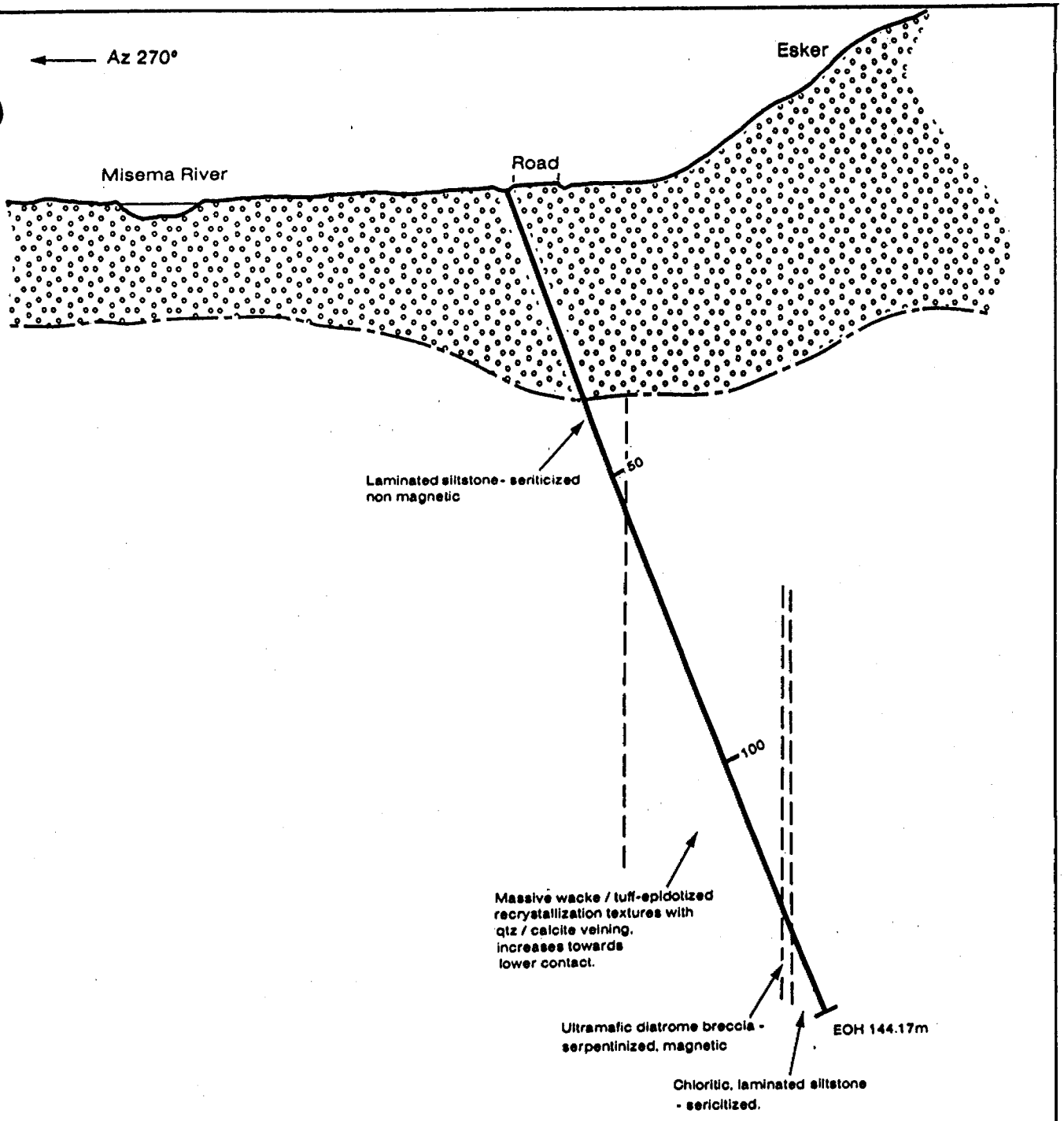
SCALE

0 50

METRES

DATE FEBRUARY 15,1991 FIGURE No. 6

W.A.HUBACHECK CONSULTANTS LTD.



SUDBURY mines, limited
CONTACT 6

DIAMOND LAKE PROJECT

DIAMOND DRILL SECTION LOOKING NORTH

DDH FL - 90 - 7

SCALE
0 — 50
METRES

DATE FEBRUARY 15,1991

FIGURE No. 7

W.A.HUBACHECK CONSULTANTS LTD.

APPENDIX 3

DIAMOND DRILL LOGS AND ASSAYS

DDH LT-90-15

DDH FL-90-5

DDH FL-90-6

DDH FL-90-7

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

PROPERTY	LARDER TOWNSITE	NTS	CORE SIZE	NQ	
COMMENCED	14.5.90	DISTRICT	LARDER LAKE M.D.	CONTRACTOR	BARRON
COMPLETED	25.5.90.	TWP./LAT LONG	HEARST	DATE LOGGED	15.5.90....
OBJECTIVE	Test N-S mag high	CLAIM		LOGGED BY	TNJH
		CO-ORDINATES	18+95S/35+60E	DDH COMMENTS	Water from sm. stream,
			Larder Townsite Grid		60ft casing left in hole. (Blastedx2).

SURVEY DEPTH	DIP	AZIMUTH
336	-47	-
781	-39	90
996	-37	103

Hole No. LT 90-15
COLLAR AZIMUTH 090
COLLAR DIP -50
ELEVATION
LENGTH 996ft.

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS Au
0	180		Casing							
180	217		Interpalated tuff Bi,Chl. Wackes +	50:50 Intermediate & Mafic-U-mafic wackes. Former are m+ wide beds of grey to dirty grey-brown, qz-fel+ bte, tr ace talc, tr. magnetite, tr. chlorite minerlaized, tr. calcareous, f-g., lepidoblastic wackes. Moderately to poorly sorted. Contains 2% thread cte-qz. tr. py. Contacts are irregular & abrupt. Latter are grey to dk. grey, biotitic, weakly chloritic, f-g., with trace magnetism. Are finely Fe-cte speckled, & likely U-mafic derived. Contains 3% thread to cm wide Weakly Fe-calcite-qz threads & veins, commonly at 0-30 to CA. Texturally, lepidoblastic to crudely lineate.						
217	231.3		Chl.Ep-flow top breccia	217-231.3 Grey to greenish grey, fine grained, w 5-6% irregular qz-epidote+haematite & associated fracturing/brecciation. Possibly a flow top/selvedge/margin of a mafic-u-mafic flow. Non-magnetic. Overall, 2% fine speckled py or as rare mm-banded & recrystallized grains.	3324	217	221	4.0		3
					3325	231	236	5.0		3
231.3	260		Chl,f'spar tuff/wacke (hem)	245.7-260 15% matrix supported mm randomly oriented feldspar & minor qz grains, (with some sub-tabular in habit), within a f-g qz-fel-chl decussate matrix also hosting detrital bte. Probably an epiclastic dacite ash deposited within a distal wacke.						

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP. /LAT. LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. LT 90-15

COLLAR AZIMUTH

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
				CAL 35, but crude. Weakly stringer chloritic.					tr py	
260	306.8		Chl.K-spar tuff/wacke (hem)	277.5-306.8 Similar to 245.7-260. C. 15% mm diameter, randomly oriented, sub-idioblastic, matrix supported, weakly haematitic fel blasts within a weakly chloritic dacitic lithic fragmental/ distal wacke. C. 3% lithic fragments derived from a mafic source. 5% bte fragments suggesting source may also include an u-mafic.						
306.8	344		Chl.K-spar tuff/wacke (hem)	306.8-344 Pale green grey, grey to green-grey, relatively f-g, weakly haematitic with trace fine diss to stringer cte, + ½% thread or vuggy cte-qz. U-mafic-mafic distal wacke. Non-magnetic. Contains mm scattered matrix supported fel grains, + 3% cm diameter rip-up mafic clasts, especially from 335-340 ft. More chloritic, with flattened feldspathic mm wide clasts below 335ft. 3% stringer cte+qz. Clasts are well sorted, av mm diameter. Texturally, decussate.					Tr-1/8 py	
344	431		Andesitic flow (epidotized)	344-431 90% composed of grey-green, f-g, variably weakly mag-netic weakly thread cte-epidote+haematite+qz mineralized, (with associated bleaching), andesite-basalt flow(s). Threads @ 75, 30 to CA. V. weakly chloritic. Partially recrystallied. Contains dm sections of grey, f-g, locally qz-fel mm blastic dacitic distal wacke. Flows contain intraformational mm-cm fragments. Contacts with sediments are abrupt, often @ 35 or less to CA.					1/8 py	

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP /LAT LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. LT 90-15

COLLAR AZIMUTH

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	% REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS Au
				346-354. Appears to represent a flow top. Contains cm-dm wide weakly fractured to brecciated, weakly carbonatized &/or chloritic andesite flows with dm wide, weakly haematitic f-g distal wackes.						
				354-386 Dm-½m wide bands of 346-354 lithotypes; both locally banded & sheared on a weak intensity. Wacke banding due to qz variation, suggestive of cyclic deposition. CAB 40-50, av 48. Still contains intraformational clasts. Possibly a calc-silicate unit. (V. similar to Capella drill core calc-silicates...). Abrupt contacts. Wkly fractured. Texturally similar to cinter on a crude scale.					1/8 py	
				Flows are distinctly magnetic below 401ft, being slightly darker, more biotitic/u-mafic over dm -½m sections, weakly sheared, & throughout, finely cte sprinkled. Possibly 2-4% fine leucoxene.. I.e. flow is a weak mafic-u-mafic differentiate.						
431	474.5		Biotite, chlorite flow (sheared)	431-444.6 Weakly magnetic, grey to grey-green, locally silicic, f-g to nr. aphanitic +epidotic or qz-epidote-haematitic veined, with associated sm scale bleaching. A mafic flow sequence. Contains mm-dm biotitic detrital distal wacke beds as interflow material.					"	
				441.1-441.8 A non-magnetic biotitic-blastic fine grained debris flow. Possibly autoclastic part of an u-mafic flow differentiate within mafic flow itself. It also contains intraformational essential rounded mm clasts which are biotite-rich.	3319	431	439.6	8.6		7

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

				SURVEY DEPTH	DIP	AZIMUTH	
	NTS	CORE SIZE					**Hole No.** LT 90-15
PROPERTY	DISTRICT	CONTRACTOR					COLLAR AZIMUTH 4 of 7
COMMENCED	TWP. /LAT. LONG	DATE LOGGED					COLLAR DIP
COMPLETED	CLAIM	LOGGED BY					ELEVATION
OBJECTIVE	CO-ORDINATES	DDH COMMENTS					LENGTH

FOOTAGE FROM	FOOTAGE TO	% REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS Au
				Also contains rip-up clasts of the more massive mafic flow.	3320	4448	452.3	7.5		14
				444.6-457.1 Pale grey. Abrupt upper contact of 32 to CA. A silicified, weakly sheared to wavy streaked/lineated, weakly brecciated flow top. with moderate silicification & minor, associated epidote-+haematite. Often sheared @ 55 to 75 to CA. Still contains relict rip-up					¼ py	
				representing a flow margin or autoclastic fragmentation + dm wide dacite distal wacke beds, but, in all cases, assimilation by silicification has masked outlines/contacts/sub-units.						
				457.1-474.5 Relatively massive weakly magnetic, locally paler grey on a dm scale & due to sporadic qz-epidote-haematitie incursion. Tr cte in matrix. Decussate, f-g. Locally, streaked/sheared by these same fluids.					tr py	
474.5	643		massive biotite flow sequence (qtz. ep. hem alt'n & fracturing	474.5-541 90% + composed of weakly, erratically chloritic amphibolitic, tr. calcareous, relatively massive, f-g, non to tr./ weakly magnetic, mafic flow. Contains dm-½m wide biotitic wacke beds with 25-40 to CA contacts. Mr 'slumping'noted, especially within the more sheared sections which are themselves characterized by moderate, erratic qz-epidote±haematite alteration +fracturing.	3321	4745	480.5	6.0		14
					3322	488	493	5.0	¼ py	Nil
					3323	510.5	515.5	5.0		7

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP. /LAT LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. LT 90-15

COLLAR AZIMUTH

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	% REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY:(colour,grain size,texture,minerals,alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS Au
				541-643 Mafic flow, with 5-6% ?-u-mafic component. Streaked to sheared, finely & crudely cm-banded; weakly silicic. tr magnetism. Grey to grey-green, f-g, with c. 6% epidote-haematite-qz-cte theads/stringers & associated bleaching +1-2% disseminated py or as mm-near cm wide bands. (Recrystallized). Latter are weakly calcareous. CAB/shearing attitude 60-70. Carbonate is predominantly calcareous with only a v. small Fe-component. Section contains 2-3% mm-cm rip-up intraformational clasts.	3323	543.9	548.5	4.6		10
643	682.9		Biotite flows/tuff/ wacke interbeds (magnetic)	643-682.9 As previous section, but with 20% cm-m wide distal mafic-u-mafic debris beds, containing abundant decussate xls OR aligned @ 50-58 to CA. Predomantly amphibolitic-qz-feldsapthic, + tr. opaques. Lepidoblastic texture, f-g. 80% of section is sheared to crudely qz-cte+epidotic altered on a moderate to intense scale, cross-cut by qz-cte-haematite veining. This overprints a f-g ~~nera~~ massive magnetic mafic flow. Late qz-cte veins often @ 70 to CA. Py often concentrated within more chloritic & qz-epidotoc sections. Texturally, a marbling effect, rather than pervasive, though latter occurs on a local scale.					tr py	
682.9	882		tuff/wacke pyroclastic flows (hem)	682.9-882 Non-magnetic, grey, f-g, mafic volcanic derived distal wackes, which are intermediate in composition. A fel-qz-wk. chl matrix, (lepidoblastic), supporting 8-10% sub-rounded, weakly						

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP./LAT LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. LT 90-15

COLLAR AZIMUTH 6 of 7

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY:(colour,grain size,texture,minerals,alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
				haematite-rimmed fel blasts, which may also possess qz cores. (Devitrified). Locally, bte lineate @ 45-55 to CA. Minor chlorite S-planes noted. Less than 1% thread cte+qz.					tr py	
				Grades over several m., below c. 725ft into a predomiantly biotitic, lepidoblastic to lineate to decussate, f-g, non-magnetic trace carbonatized &/or haematized u-mafic derived distal wacke. Contains c. 3-4% fine to 1mm diameter fel+qz grains as epiclasts randomly oriented within matrix, + 4% pink-grey, haematitic &/or Na/K altered distal dacitic ash beds. Contacts abrupt, c. 70 to CA. Contains 3-4% dm+ wide qz-Na/K altered, near aphanitic veins, often at 0-20 to CA. (Nil sulphides), + 1-2% interflow-? or chloritic mud units. Entire section hosts scattered mm-cm wide lithic sheared blasts. (Essential). 817.5-836 Fault zone Blocky, fractured, RQD nil. Fractures at 2x40-45 + 1x70-75 to CA +1x 0-15 to CA. ½% thread cte-qz.						
				Gradational Lower contact over several dm.						
882	954.9		chlorite feldspar tuff - massive pyroclastic flow	882-954.9 Finer grained, more massive, with 3% cm to thread qz-K-feldspar +cte @ 20-25 to CA. Often grey-green, weakly silicic. Non-magnetic. Contains scattered to clustered, abundant, f-g., xenoblastic, weakly haematitic, qz-fel shards/pyroclasts which are well sorted, matrix to self supported by a mafic-intermediate matrix of qz-chl-fel. Contains 2-3% interbedded chloritic						

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP /LAT LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. DDH LT-90-15

COLLAR AZIMUTH 7 of 7

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY:(colour,grain size,texture,minerals,alteration etc)
				Trace, fine, clastic py noted. Lowest 1.3m is more chloritic, weakly to trace magnetic, weakly sheared &/or qz-cte veined.
954.9	996		Feldspar, biotite pyroclastic tuff	954.9-996 Distal intermediate pyroclastic. Grey to dirty pink-grey, f-m-g., non-magnetic. Contains abundant, near self-supported, sub-rounded to sub-idioblastic mm diameter qz-cored fel xls randomly oriented within a fel-qz ±haematitic & weakly lithic chl fragmenttal matrix. Probably, a distal ash fall. No bedding noted. Matrix also hosts abundant detrital bte & 3-4% mafic-derived mm-cm clasts + 3-5% cm-dm wide interbedded u-mafic wacke, being bte rich & decussate in texture, & more lineate, (bte) dacitic pyroclastic/epiclastic units. ½% thread qz-cte @ 70 to CA.
				EOH 996 ft.

SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
				tr py	

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Established 1928

Assaying - Consulting - Representation

Geochemical Analysis Certificate

0W-0785-RG1

Company: **SUDBURY CONTACT MINES LTD.**

Project: DDH LT 90-15

Attn:

Date: JUN-14-90

Copy 1. c/o W.A. HUBACHECK CONSULTANTS LTD.
2. SUITE 603,141 ADELAIDE ST.W. TORONTO
3. M5H 3L5 FAX TO 416-364-5384

We hereby certify the following Geochemical Analysis of 9 CORE samples submitted JUN-11-90 by T. HUGHES.

Sample Number	Au ppb	Au check ppb
3319	7	
3320	14	14
3321	14	
3322	Nil	
3323	10	
3324	3	
3325	3	7
3326	7	
3327	10	

Certified by G. Lebel

G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

PROPERTY Diamond Lake
NTS
CORE SIZE NQ
COMMENCED 1.6.90.
DISTRICT LARDER LAKE
CONTRACTOR BARRON
COMPLETED 5.6.90.
TWP./LAT LONG McVittie
DATE LOGGED 4.6.90....
CLAIM P-19280
LOGGED BY TNJH
OBJECTIVE Test N extension of Airborne magnetic anomaly
CO-ORDINATES 355m along rd from FL 89-4, & 10m due W.
DDH COMMENTS Hole capped.

SURVEY DEPTH	DIP	AZIMUTH
94.8	-80½	106
165.0	-80½	112?mag?

Hole No. FL 90-5
COLLAR AZIMUTH 090
COLLAR DIP -80
ELEVATION
LENGTH 169.77m

FOOTAGE FROM	FOOTAGE TO	% REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration etc.)
0	60.96		Casing	Sand and gravel (Esker channel)
			Serpentinized ultramafic diatreme breccia	Entire section represents a hypabyssal, possibly weakly tuffisitic, low intensity diatreme facies with a v. small segregation phase component. Entire section contains an exotic assemblage comprising crystalline phases of a juvenile highly volatile fluid phase which has significantly 'overprinted'/recrystallized an earlier intrusive phase of', possible kimberlitic origin. 6% sub-rounded to sub-angular av. 3cm diameter white to near sub-vitreous to pale blue-green rimmed/concentric crystallized calcite rich late -crystallizing fluid, similar to large amygdules. 5% Archaean/country rock distal weakly chloritic intermediate wackes. 2% gabbro/diabase & possibly recrystallized u-mafics. Up to 65% of section comprises mm-cm fragments, but the vast majority has undergone significant alteration & assimilation. The majority of fragments may comprise altered earlier phases of kimberlite origin To 91.44m, grey-green to green, relatively soft, exhibiting strong to extreme alteration to a serpentine+chlorite+calcite-opaques assemblage, though still clearly retaining obvious cm+ diameter fragments as described above. Non-magnetite to, locally v. weakly magnetite. Probably 5-6% opaques only.

SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

				SURVEY DEPTH	DIP	AZIMUTH		
	NTS	CORE SIZE					Hole No.	Fl. 90-5
PROPERTY	DISTRICT	CONTRACTOR					COLLAR AZIMUTH	
COMMENCED	TWP. /LAT. LONG	DATE LOGGED					COLLAR DIP	
COMPLETED	CLAIM	LOGGED BY					ELEVATION	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS					LENGTH	

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS

The upper section represents a highly volatile phase of a "kimberlite" intrusion? possibly as a result of late stage degassing or from assimilation of upper crustal material.

The lower section is similarly v. weak in magnetism, is brown-grey to grey, fine to medium grained, & contains 5-6% opaques. It contains slightly fewer volatile/juvenile fluid phase crystalline blasts, 5% mm-cm diameter phlogopite 6% calcite rich 'amygdules', 1% pyrope-all lying within a matrix hosting c. 8% fewer fragments of parental 'kimberlite' & rare, 2% overall bands or clasts of segregationary, mm globular 'kimberlite'. The matrix is predominantly composed of less altered serpentine, opaques, phlogopite & v. rare ?diopside. The upper section appears to host 3-5% of the latter.

Both sections contain abundant accessory & cognate clasts of av 3mm diameter, max 4cm. All core has undergone variable alteration to a serpentine-chl-cte assemblage but is most pronounced in the upper section.

79.86-87.48 Soft. blocky, near ground out, RQD 45-50
96-110.95-same, RQD 55%, 133.81-139.29-RQD10%. 160.63-169.77 RQD 12%. Lowest 2½m is quite competent, RQD 65%

EOH 169.77m

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

PROPERTY FORK LAKE	NTS	CORE SIZE NQ	
COMMENCED 6.6.90.	DISTRICT LARDER LAKE	CONTRACTOR BARRON	
COMPLETED 8.6.90.	TWP /LAT LONG McVittie	DATE LOGGED 7.6.90...	
OBJECTIVE Test spot mag high	CLAIM L.821928	LOGGED BY TNJH	
	CO-ORDINATES 465m along rd North of DDH F1-5	DDH COMMENTS Hole capped. Mag high not determined... [80m due W. Old bush rd off main route located c. 30m S, accessing drill]	

SURVEY DEPTH	DIP	AZIMUTH
38.1	-85	335
102.7	-83½	325
152.7	-83½	320

Hole No. FL 90-6

COLLAR AZIMUTH -

COLLAR DIP -90

ELEVATION

LENGTH 168.55m

FOOTAGE FROM	FOOTAGE TO	% REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY:(colour,grain size,texture,minerals,alteration etc)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	ASSAYS % SUL
0	33.53		Casing						
33.53	38.74		Trachytic Tuff k-spar rich matrix tic	Grey to grey green, fine to medium grained, non-magnetic. Lineated. Dacitic in composition. Contains ragged/stringer to blastic qz & feldspar grains, & few percent mm lithic fragments, now weakly chloritic. Grains are matrix supported, lying within a variably qz & feldspar rich fine grained matrix. Grains are generally sub-rounded, well sorted. Uniform throughout section, being suggestive of reworking or at least quite distal deposition. CAL 30-32. Contains ½-1% discontinuous qz-feldspar veins.					Tr. py
38.74	45.48		"	Paler grey, more massive, with accessory mm-lithic fragments (rarely reaching 2cm diameter). Non-magnetic, fine grained, with 5-6% mm diameter, well sorted qz & feldspar grains & 3% discontinuous qz stringers often at 70-80 to CA. Crudely bedded, with coarser fragments up to 2mm dimeter present. Well sorted. Contains few percent mafic lithic fragments scattered throughout section. Appears to be cyclically deposited, CAB 35, with some weak slumping observed. Thus a turbiditic deposit. Very rare 80-85 & 20 to CA qz+chlorite veins noted & on a mm-cm scale. Gradational, dm wide contacts.					Nil py

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

				SURVEY DEPTH	DIP	AZIMUTH	
	NTS	CORE SIZE					Hole No. FL 90-6
PROPERTY	DISTRICT	CONTRACTOR					COLLAR AZIMUTH
COMMENCED	TWP /LAT LONG	DATE LOGGED					COLLAR DIP
COMPLETED	CLAIM	LOGGED BY					ELEVATION
OBJECTIVE	CO-ORDINATES	DDH COMMENTS					LENGTH

FOOTAGE FROM	FOOTAGE TO	% REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY:(colour,grain size,texture,minerals,alteration etc.)	SAMPLE SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
45.48	52.12		Lithic Tuff fn. gr. -5% clasts k-spar rich	Similar to first unit, being grey, relatively massive, fine-grained, with 0-10 to CA stringer/thread anastomozing, darker grey silica rich 'bands', +5-6% scattered lithic mafic fragments. Non-magnetic. Contains 2% brecciated/fractured sub-vitreous & white broken qz veins of mm-cm diameter. Contains 1-1½% cmplus diameter lithic fragments of dacite-mafic composition, possibly partially tuffaceous in origin.					Nil py	
52.12	60.05		"	Slightly paler but texturally similar to preceeding unit, & slightly more massive. Crudely lineate to decussate, massive on a coarse scale. Often lepidoblastic. Contains 5% sub-mm mafic fragments & rare, ½-¼% qz-Fe-calcite veining with associated brittle fracturing at 70, 60 & 30-20 to CA. Overall, variably qz+feldspathic.					tr py	
60.05	73.88		"	As 45.48-52.12						
73.88	78.03		"	As 38.74-45.48, with c. 3% white QV at 55-65-70 & 0-15 to CA-all cut by brown to sub-vitreous qz tension infill.						
78.03	82.66		"	As 45.48-52.12						

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP /LAT LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. FL 90-6

COLLAR AZIMUTH

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
82.66	98.07		Vitric Tuff chloritic, m. gr. k-spar rich	Non-magnetic. fine to (medium)-grained, grey to greenish-grey. Qtz-feldspathic, & weakly chloritc, with c. 2% opaques. Textur-]ally weakly aligned fragments & mm randomly oriented chl-str-ingers exhibiting an overall alignment of 40-52 to CA. A qz-feldspathic matrix supports abundant, av 4mm daimeter sub-al-igne dacite fragments of ?-ash pyroclastic origin. (Essentially a monomict assemblage). Matrix is darker, slightly more sili-ceous & supports 5% chlorite stringers, 3% qz-Fe-calcite threads or ptygmatic veinlets at 60 & 20 to CA. Lower contact marked by an increase in strain regime-at 60 to CA.					Nil py	
98.07	103.42		Vitric Tuff F.Grained well sorted	Grey-green, fine grained, non-magnetic. CAL defined by strai-ned qz & subordinate feldspar & few % chl grains. Well sorted, sub-rounded grains, possibly ?-reworked, with boud ined qz veins & associated strain shadows. Probably a continuation of precee-ding unit, but with a rapid decrease in clast size & percentage. Contains at both contacts, 5% mm-cm brittle fractured qz-cte veining cut by tension infill brown-sub-vitreous qz. Latter are at right angles to CAL.					tr py	

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

				SURVEY DEPTH	DIP	AZIMUTH	
	NTS	CORE SIZE					**Hole No.** Fl 90-6
PROPERTY	DISTRICT	CONTRACTOR					COLLAR AZIMUTH
COMMENCED	TWP /LAT LONG	DATE LOGGED					COLLAR DIP
COMPLETED	CLAIM	LOGGED BY					ELEVATION
OBJECTIVE	CO-ORDINATES	DDH COMMENTS					LENGTH

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
103.42	168.55		Trachytic tuff massive chloritic qtz/k-spar rich matrix	Very uniform, texturally, & lithologically. Non-magnetic, quite massive on a crude scale, but lepidoblastic to decussate. Grain size averages less than 1mm diameter. Quartz+feldspathic with 4-5% weakly chloritic mafics, (?-ex lithic fragments). Some v. rare chl or qz-cte threads at av. 30 to CA. (2% overall, 7 at 2x30 o & 80 to CA). Overall, abundant mm diameter weakly chloritic mafic fragments randomly oriented within a v. weakly haematitic qz & subordinate feldspar rich matrix. Qtz & fel grains are dominant, forming 85% of matrix. Fine -medium grain size for qz.					Nil	
				E.O.H. 168.55 m.						

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

PROPERTY	FORK LAKE	NTS	
COMMENCED	9.6.90.	DISTRICT	LARDER LAKE
COMPLETED	11.6.90.	TWP./LAT LONG.	McVittie
OBJECTIVE	test airborne magnetic anomaly	CLAIM	19280
		CO-ORDINATES	100m S along rd. from FL 90-5
		CORE SIZE	NQ
		CONTRACTOR	BARRON
		DATE LOGGED	10.6.90....
		LOGGED BY	TNJH
		DDH COMMENTS	Hole capped

SURVEY DEPTH	DIP	AZIMUTH
94.8	-69	108
139	-67	110

Hole No. FL 90-7

COLLAR AZIMUTH 090

COLLAR DIP - 70

ELEVATION

LENGTH 144.17m

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
0	36.58		Casing	Sand and gravel (Esker channel)						
36.58	54.92		Siltstone (sericitized)	Grey to pale grey or pale green grey. Fine grained, non-magnetic. Bedded on a fine scale & throughout unit. Locally, wavy/slumped & at 0-20 to CA. Way up not determinable. Fractures at 25-30 & 75 to CA. Contains 2% thread qz-calcite ±rare mm-cm diameter qz-cte-haematite± limonite. Blocky below 49.98m, RQD 10% UNit appears to have been altered by qz-cte-?_sericite mineralizing fluids & overprinted by a late qz-cte vein set. Sericite appears as v. fine flecks in proximity to some vein sets. Matrix is locally, v. weakly & erratically chloritic. (1-2% overall). Lower contact missing, due to blocky core. Probably disconformable/ truncated.					NIl	
54.92	125.2		Wacke/tuff (epidotized) massive	Weakly to moderately magnetic, fine grained, medium to dark grey to weakly green &/or reddish-brown grey. Lepidoblastic to decussate, superficially massive, with 2% thread qz-cte veins, especially below 109m, at 0-20, (x2), 40°& 70°-75° to CA. H 5½-6½. Contains 3-4% mm-cm diameter wacke clasts. Texturally resembles a fine grained version of a poorly crystalline diabase or a fine to medium grained peridotite. Locally, a more maculose texture, NOT sub-ophitic. Overall, uniform throughout, med. sand size.					tr py	

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP /LAT LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. Fl 90-7

COLLAR AZIMUTH

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	% REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)
				Quartzose, with subordinate feldspar. Textures suggests partial thermal alteration by ?-diatreme.
				Veining cut by a late set of vuggy cte±qz.
				Lower contact is abrupt, incipiently brecciated, weakly magnetic with fracture infill by chl & ?-biotite with anastomozing low angle threads at 0-20 to CA. Unit contains 2% epidote alteration
			&	associated weak recrystallization which produces a more 'clot-like' texture over mm-cm widths. Paler ?-chilled below 114.6m.
				being harder with tr. to nil magnetism.
125.2	127.06		Serpentinized ultramafic diatreme breccia	Hypabyssal-segregation type. Non-magnetic, fine to rarely, medium grained, brown grey to dk. grey. Characterized by abundant sub-vitreous mm diam. globules of ?-serpentine±qz±chl. & 2-4% mm diameter sub-idioblastic phlogopite. & 2% white irregular cte'spherules', -all representing late stage volatiles. Locally globules are banded with abrupt margins, suggesting intrusion by a later volatile phase. UNit contains 1% pale dirty pyrope & 5% wall rock comprising sub-rounded to sub-angular silt/wacke & ?-gabbro/diabase. Fragments are of mm diameter only with v. rare cm + clasts. Matrix is dk. grey, with 4-5% opaques & comprises

SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
				tr py	

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

				SURVEY DEPTH	DIP	AZIMUTH	
	NTS	CORE SIZE					Hole No. Fl 90-7
PROPERTY	DISTRICT	CONTRACTOR					COLLAR AZIMUTH
COMMENCED	TWP /LAT LONG	DATE LOGGED					COLLAR DIP
COMPLETED	CLAIM	LOGGED BY					ELEVATION
OBJECTIVE	CO-ORDINATES	DDH COMMENTS					LENGTH

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour,grain size,texture,minerals,alteration etc)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
				groundmass of serpentine +chlorite +cte & v. minor phlogopite. (non-magnetic). Below 127.86, v. soft, serpentinized carbonatized to a large extent. Grey-green, with abundant wall rock, (silt/wacke), & serpentine+chl.+qz mm-cm sub-rounded fragments randomly oriented within serpentine matrix. Possibly 2-3% diopside crystals present. Nil pyrope observed. C. 3% opaques. Represents a highly altered diatreme at it's contact with the wallrock, with a possible late stage fluidisation having altered a v. narrow ultramafic dyke . Relatively abrupt Lower contact, at 52° to CA.						
127.86	144.17		Chloritic laminated siltstone (sericitized)	Lies entirely within a fault zone. RQD 2-3% Extremely soft. Recovery, c. 85%. Sheared, locally brecciated, qz-chl +weakly sericitic siltstone, suggesting reactivation along the FZ. Unit is fine grained, vaguely lineated to well lamellar or banded, locally slumped. Upper half,to 135.94 is often sericite-thread-lamellar to stringer/slumped & within a weakly silicic silt assemblage possessing ½% disseminated py. especially in proximity to 3% qz+cte veins. Below 144.17m., more silty, s.s.,with few percent mm-cm wide crudely cherty beds, though these may represent recrystallization products due to the extreme, pervasive hot						

DIAMOND DRILL LOG

AGNICO-EAGLE MINES LIMITED

	NTS	CORE SIZE	
PROPERTY	DISTRICT	CONTRACTOR	
COMMENCED	TWP /LAT LONG	DATE LOGGED	
COMPLETED	CLAIM	LOGGED BY	
OBJECTIVE	CO-ORDINATES	DDH COMMENTS	

SURVEY DEPTH	DIP	AZIMUTH

Hole No. Fl 90-7

COLLAR AZIMUTH

COLLAR DIP

ELEVATION

LENGTH

FOOTAGE FROM	FOOTAGE TO	%REC RQD	LITHOTYPE	DESCRIPTION GEOLOGY (colour, grain size, texture, minerals, alteration etc.)	SAMPLE No	SAMPLE FROM	SAMPLE TO	SAMPLE TOTAL	SAMPLE % SUL	ASSAYS
				fluidized alteration. Assemblage has altered to one comprising in order of abundance, chlorite-qz-+cte & subordinate sericite.					¼ py	
				EOH 144.17m.						

APPENDIX 4

MAGNETIC SUSCEPTIBILITY MEASUREMENTS

DDH FL-89-4

CORE POINT (Ft)	READING x 10-5 SI	LITHOTYPE
0-168		Casing
168	.20	Siltstone
178	0	"
185	0	"
195	.03	"
205	0	"
215	0	Laminated Greywacke/tuff
225	0	"
235	0	"
245	.18	"
255	0	"
265	0	"
275	.02	"
285	0	"
295	0	"
305	.2	"
315	.04	"
325	0	"
335	.22	"
345	.03	"
398	.13	Sil'f bleached Chl. Tuff-Brecciated
402	.23	"
404	.15	Contact Zone - Ultramafic Dyke/ Chl. Tuff
406	.16	"
413.5	2.05	Ultramafic Diatreme - Black Matrix, F. Gr.
414	18.7	"
415	24.5	"
419	9.48	"
419.5	12.5	"
422	16.3	Angular, Exotic Clasts 5-10%
432	11.7	"
433.5	1.55	"
435	1.15	"
436	14.2	Hornfelsed Contact Zone
437.5	5.96	"

439	.18	Sil'f,Bleached Chl. Schist-brecciated
440	.02	"
441	.08	"
444	.24	"
446	.13	"
453	.14	"
455	.24	Chlorite Schist - Serpentinized
465	.16	"
475	0	"
485	0	"
495	.15	"
505	.15	"
515	0	"
525	.26	"
535	0	"
545	0	"
555	.24	"
565	21.5	Hematized, Chl. K-spar Tuff - Massive
585	22.0	"
595	26.0	"
605	30.0	"
615	28.0	"
625	10.0	"
635	12.0	"
645	15.0	"
655	15.0	"
665	17.1	"
675	26.0	"
682 - EOH	25.0	"

DDH FL-90-5

Core Point	Reading	Lithotype
0-202		Casing
202	9.54	Serpentinized Ultramafic
207	5.36	Diatreme Breccia - 65% Clasts
212	2.74	"
217	.30	"
222	7.91	"
227	3.09	"
237	4.64	"
242	.80	"
247	4.71	"
252	9.82	Fn. Gr. Black Matrix
257	6.84	"
267	.21	"
277	2.43	"
282	8.80	"
285	7.97	"
297	3.83	Diatreme Breccia - 65% Clasts
305	5.24	"
312	3.80	"
317	2.32	"
327	2.68	"
337	3.26	"
347	.07	"
357	2.83	"
367	3.62	"
377	2.56	"
387	.77	"
392	3.58	"
402	4.03	"
407	3.26	"
417	3.24	"
422	.62	"
427	.91	"
432	3.09	"
436	.10	"
447	6.32	"
457	2.80	"
467	3.51	"
477	1.49	"
487	2.40	"
497	3.38	"
507	2.15	"
517	2.23	"

527	2.18	"
537	2.07	"
547	3.33	"
557 - EOH	4.5	"

FL -90-6

Core Point	Reading (x10-5 SI)	Lithotype
0-120		Casing
120	.10	Trachytic Tuff - Qtz/K-Spar Matrix
126	.01	Laminated
136	.10	"
146	.10	"
156	.24	"
166	.10	"
176	.19	"
186	26.0	Trachytic Tuff - Massive Chl. Shards 5%
196	30.0	"
206	26.7	"
216	31.2	"
226	27.4	"
236	21.4	"
246	24.0	"
256	21.4	"
266	27.4	Vitric Tuff - Chloritic Matrix
276	28.0	qtz/k-spar veining
286	22.6	"
296	16.1	"
306	16.0	"
316	15.9	"
326	30.3	"
336	29.4	"
346	28.4	Trachytic Tuff - Massive
356	21.3	"
366	25.3	"
376	0	"
386	0	"

A LOGISTICAL REPORT ON VLF-EM AND MAGNETIC SURVEYS ON THE DIAMOND LAKE GRIDS AND THE LARDER TOWNSITE EXTENSION WEST GRID, LARDER LAKE NE ONTARIO

On behalf of:

Sudbury Contact Mines Ltd.
2302, 401 Bay Street
P.O. Box 102
Toronto, Ontario
M5H 2Y4

c/o

W.A. Hubacheck Consultants Ltd.
141 Adelaide St. West
Suite 603
Toronto, Ontario
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Attention: Mr. David W. Christie
Telephone: (416) 364-2895
Fax: (416) 364-5384

By:

JVX Limited
60 West Wilmot St, Unit #22
Richmond Hill, Ontario
L4B 1M6

Contact: Blaine Webster
Telephone: (416) 731-0972
Fax: (416) 731-9312

JVX Ref: 9103
March 28, 1991

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A LOGISTICAL REPORT ON VLF-EM AND MAGNETIC SURVEYS ON THE DIAMOND LAKE GRIDS AND THE LARDER TOWNSITE EXTENSION WEST GRID LARDER LAKE, NE ONTARIO

On behalf of

SUDBURY CONTACT MINES LTD.

1. INTRODUCTION

From February 3rd to February 10th, 1991, VLF-EM and Magnetic surveys were carried out by JVX Limited on behalf of Sudbury Contact Mines Ltd. (2302, 401 Bay Street, P.O. Box 102, Toronto, Ontario, M5H 2Y4) care of W.A. Hubacheck Consultants Ltd. (141 Adelaide St. West, Suite 603, Toronto, Ontario, M5H 3L5) on the Diamond Lake grids and the Larder Townsite Extension West grid; Larder Lake, NE Ontario.

JVX provided a geophysical technician, geophysical instrumentation, computer hardware and software, and all necessary accessories required to carry out the survey in a professional manner. Approximately 25.7 line-kilometres of VLF-EM and total field magnetometer coverage was achieved with readings taken at 25-metre and 100-foot station intervals.

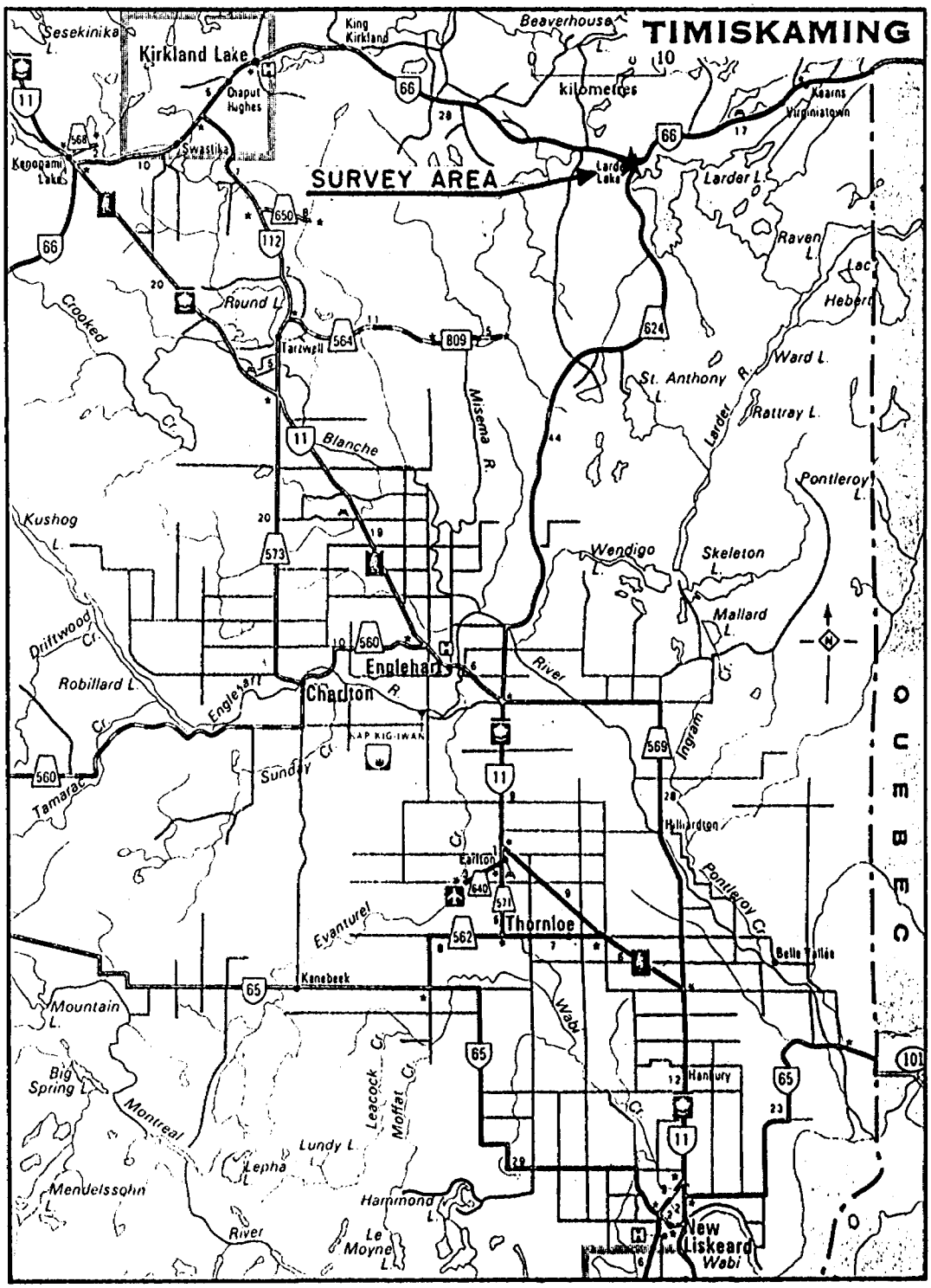
Contour and Profile maps of the edited data were produced by JVX. Fraser filtering was applied to the VLF data and plotted as contour maps. A 2nd derivative contour map was generated for the Diamond Lake grid 1 to enhance weak anomalies with relatively shallow sources.

2. SURVEY LOCATION

The grids are located near Larder Lake, Ontario just off Hwy #66. Figure 1 shows the location of the survey areas with respect to nearby population centres at a scale of 1:500,000. The areas may be found on topographic map NTS 32 D/4

3. SURVEY GRIDS AND COVERAGE

A total of approximately 25.7 line-kilometres of Magnetic/VLF-EM coverage was completed over three separate grids - Diamond Lake grids 1 and 2, and Larder Townsite Extension West grid. Magnetics and VLF-EM coverage are detailed in Table 1. A list of claims covered is given in Table 2 and shown in Figure 2.



LOCATION MAP

SUDBURY CONTACT MINES LTD.

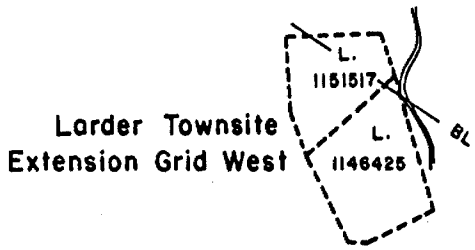
LARDER LAKE AREA
NORTHERN ONTARIO

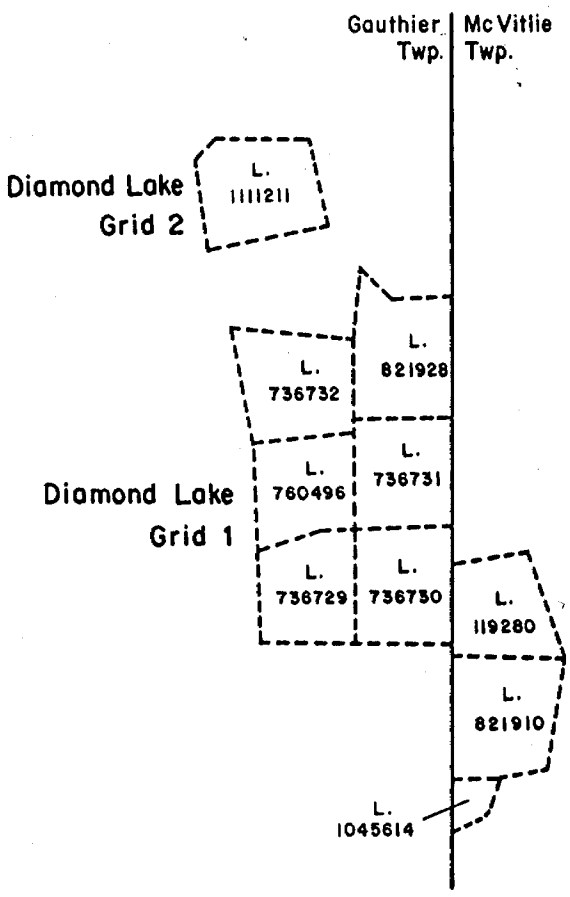
GROUND GEOPHYSICAL SURVEY

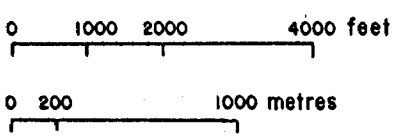
Scale : 1 : 500,000

Survey by JVX Ltd.

Figure 1







CLAIM MAP

SUDBURY CONTACT MINES LTD.

LARDER LAKE AREA
NORTHERN ONTARIO

GROUND GEOPHYSICAL SURVEY

Scale : 1"= 40 chains

Survey by JVX Ltd.

Figure 2

JVX

TABLE 1
MAG/VLF-EM PRODUCTION SUMMARY

Diamond Lake, Grid 1
25-metre stations
VLF transmitter - Annapolis 21.4 kHz

Line	From	To	Length
600S	BL	100E	100 m
500S	BL	535E	535 m
400S	BL	500E	500 m
300S	BL	475E	475 m
200S	BL	475E	475 m
100S	BL	450E	450 m
0	775W	525E	1300 m
100N	800W	500E	1300 m
200N	800W	450E	1250 m
300N	825W	410E	1235 m
400N	850W	325E	1175 m
500N	850W	BL	850 m
600N	925W	BL	925 m
700N	875W	BL	875 m
800N	900W	BL	900 m
900N	875W	BL	875 m
1000N	900W	BL	900 m
1100N	925W	BL	925 m
1200N	925W	BL	925 m
1300N	1025W	BL	1025 m
1400N	450W	BL	450 m
BL	675S	1450N	2125 m
		SUBTOTAL	19570 m

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Table 1 continued...

Diamond Lake, Grid 2
25-metre stations
VLF transmitter - Annapolis 21.4 kHz

Line	From	To	Length
1700N	25W	500E	525 m
1800N	50W	550E	600 m
1900N	75W	500E	575 m
2000N (No VLF)	75W	475E	550 m
BL (TL1025W)	1300N	2000N	700 m
		SUBTOTAL	2950 m

Larder Townsite, Extension Grid West
100-foot stations
VLF transmitter - Annapolis 21.4 kHz
VLF transmitter - Cutler 24.0 kHz

Line	From	To	Length
1200W (Annap.)	1000S	BL	1000 ft
800W (Annap.)	1342S	BL	1342 ft
400W (Annap.)	1600S	200N	1800 ft
0 (Cutler)	1835S	BL	1835 ft
400E (Cutler)	1985S	BL	1985 ft
800E (Cutler)	1650S	700S	950 ft
BL	1200W	400E	1600 ft
		SUBTOTAL	10512 ft (or 3200 m)

TOTAL SURVEY COVERAGE 25720 metres

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TABLE 2
List of Claims

Grid	Claim #
Diamond Lake Grid 1	L736732
Diamond Lake Grid 1	L736731
Diamond Lake Grid 1	L736730
Diamond Lake Grid 1	L736729
Diamond Lake Grid 1	L821928
Diamond Lake Grid 1	L821910
Diamond Lake Grid 1	L760496
Diamond Lake Grid 1	L119280
Diamond Lake Grid 1	L1045614
Diamond Lake Grid 2	L1111211
Larder Townsite Extension Grid West	L1151517
Larder Townsite Extension Grid West	L1146425

4. PERSONNEL

Mr. Steve Bortnick - Geophysical Technician. Mr. Bortnick operated the Scintrex IGS-2/MP-4 magnetometer and VLF-EM systems. He was responsible for data quality and the day to day operation and direction of the surveys.

Mr. Joe Mihelcic - Geophysicist. Mr. Mihelcic prepared this report.

5. SURVEY METHODS AND FIELD PROCEDURES

5.1 Magnetic

The magnetic method consists of measuring the magnetic field of the earth as influenced by rock formations having different magnetic properties and configurations. The measured field is the vector sum of primary, induced and remanent magnetic effects. Thus, there are three factors, excluding geometric factors which determine the magnetic field. These are the strength of the earth's magnetic field, the magnetic susceptibilities of the rocks present and their remanent magnetism.

JVX

The earth's magnetic field is similar in form to that of a bar magnet. The flux lines of the geomagnetic field are vertical at the north and south magnetic poles where the strength is approximately 60,000 nT (or gammas). In the equatorial region, the field is horizontal and its strength is approximately 30,000 nT. The primary geomagnetic field is, for the purposes of normal mineral exploration surveys, constant in space and time. Magnetic field measurements may, however, vary considerably due to short term external magnetic influences. The magnitude of these variations is unpredictable. In the case of sudden magnetic storms, it may reach several hundred nT over a few minutes. It may be necessary therefore, to take continuous readings of the geomagnetic field with a base station magnetometer while the magnetic survey is done.

The intensity of magnetization induced in rocks by the geomagnetic field F is given by:

$$I = kH$$

where:

I is the intensity of magnetisation
k is the volume magnetic susceptibility
H is the magnetic field field intensity

The susceptibilities of rocks are determined primarily by their magnetite content since it is strongly magnetic and widely distributed. The remanent magnetization of rocks depends both on their composition and their previous history. Whereas the induced magnetization is nearly always parallel to the direction of the geomagnetic field, the natural remanent magnetization may bear no relation to the present direction and intensity of the earth's field. The remanent magnetization is related to the direction of the earth's field at the time the rocks were last magnetized. Interpretation of most magnetometer surveys is normally done by assuming no remanent magnetic component.

Since the distribution of magnetic minerals (magnetite, pyrrhotite) will, in general, vary with different rock types, the magnetic method is often used to aid in geologic mapping. In gold exploration, the magnetic survey is of particular importance because it may map areas of structural complexity, carbonatization, and silicification.

5.2 VLF-EM

The Very Low Frequency (VLF) Electromagnetic Method measures variations in the components of the electromagnetic fields set up by communication stations operating in the 15 kHz to 30 kHz frequency range. These stations, located around the world, generate signals for the purposes of navigation and communication with submarines.

In far field, above uniform earth, the groundwave of the vertically polarized VLF radiowave has three field components:

1) a radial, horizontal electrical field,
2) a vertical electrical field, and
3) a tangential, horizontal magnetic field.

When these three fields meet conductive bodies in the ground, eddy currents are induced causing secondary fields to radiate outwards from these conductors. Measuring these secondary fields on the surface gives some idea of the geological make-up of the target body.

6. GEOPHYSICAL INSTRUMENTATION

JVX supplied the following geophysical instruments and accessories.

6.1 Magnetometer/VLF-EM

One Scintrex IGS-2 system which included a Proton Precession Magnetometer and VLF receiver, plus an MP-4 base station for automatic diurnal corrections.

Specification sheets for the Scintrex geophysical instrumentation are appended to this report.

6.2 Data Processing System

a) An IBM-compatible portable microcomputer.
b) Processing software including communications and plotting programs.
c) An Epson dot matrix printer.
d) Consumable items such as tractor feed paper for the printer and floppy diskettes.

7. DATA PROCESSING and PRESENTATION

To allow for the computer processing of the data, the raw data stored internally in the IGS-2/MP-4 units were transferred at the end of each survey day to floppy diskette by the in-field microcomputer and appropriate communications software.

An archive edited data file was created in the field from the raw data file by the operator removing repeat or unacceptable readings and correcting any errors such as station or line numbers. The concisely labelled and edited data were then output to a printer as line profiles.

At the completion of the survey JVX generated contoured plan maps of the total field magnetic data and profile plots of the VLF data. Fraser Filter maps were also plotted for the Diamond Lake (grid 1) and Larder Townsite Extension West grids. These maps are presented in Appendix B as the following Plates:

JVX

Plate 1: Contour Total Field Magnetic Survey, Diamond Lake Grid 1, Scale 1:2500.

Plate 2: Profile VLF 21.4 kHz, Diamond Lake Grid 1, Scale 1:2500.

Plate 3: Contour VLF Fraser Filter, Diamond Lake Grid 1, Scale 1:2500.

Plate 4: Contour 2nd Derivative Total Field Magnetics, Diamond Lake Grid 1, Scale 1:2500.

Plate 5: Contour Total Field Magnetic Survey, Diamond Lake Grid 2, Scale 1:2500.
Plate 5: Profile VLF 21.4 kHz, Diamond Lake Grid 2, Scale 1:2500.

Plate 6: Contour Total Field Magnetic Survey, Larder Townsite, Extension Grid West, Scale 1"=200'.
Plate 6: Profile VLF 21.4 kHz/24.0 kHz, Larder Townsite, Extension Grid West, Scale 1"=200'.
Plate 6: Contour VLF Fraser Filter, Larder Townsite, Extension Grid West, Scale 1"=200'.

The 2nd Derivative Total Field Magnetics data (Plate 4) was generated using a Geopak computer program called PFLT (ver 1.5). A filter operator which displayed the averaged power spectrum of the Total Field data was applied. Information from this graph was used to apply a Hanning Roll Off operation to the original data. This operation works as a low pass filter to remove high frequency "spikes" or noisy data.

A further filter operation applied reduced the filtered data to the magnetic poles. This operation removed the effects of magnetic inclination on anomaly shape by transforming the data set to the magnetic pole and thus positioning the magnetic anomalies over their source. The magnetic inclination was taken to be 78 degrees for these grids. The 2nd derivative operator was then applied in the north-south direction since the contoured total field map seemed to show an east-west trend to some structures.

8. SUMMARY:

During February 1991 VLF-EM and Magnetic surveys were carried out by JVX Limited on behalf of Sudbury Contact Mines Ltd. c/o W.A. Hubacheck Consultants Ltd. on the Diamond Lake grids and the Larder Townsite Extension West grid; Larder Lake, NE Ontario.

Approximately 25.7 line-kilometres of Magnetic/VLF-EM coverage was obtained with VLF transmitter stations located at Cutler and Annapolis, USA. Mag/VLF readings were nominally taken at 25-metre and 100-foot station intervals. Magnetic contour maps were produced for the three grids along with a 2nd derivative magnetics contour map for the Diamond Lake grid 1. VLF profile maps were generated along with Fraser Filter contour maps.

JVX

The digital data from these surveys have been archived by JVX. The copy of all the data will be held by JVX on behalf of Sudbury Contact Mines Ltd. to a period of not less than five years. Sudbury Contact Mines Ltd. may at any time within this period request copies of the data.

If there are any questions with regard to the survey please do not hesitate to call the undersigned at JVX Limited.

Respectfully submitted,

JVX Limited

Joe Mihelcic

Joe Mihelcic, B.Sc.
Geophysicist

Blaine Webster, B.Sc.
President

APPENDIX A
Instrument Specification Sheets

SCINTREX IGS

Integrated Portable Geophysical System

Scintrex has used low power consumption microprocessors and high density memory chips to create the IGS Integrated Portable Geophysical System; instrumentation which will change the way you do ground geophysics.

Here are the main benefits which you will derive from the IGS family of instrumentation:

1. Depending on your choice of optional sensors you can make one, two or all of: magnetic, VLF and electromagnetic measurements. Thus, you may optimize the IGS system for different geophysical conditions and production requirements.

2. You will save time and money in the acquisition, processing and presentation of ground geophysical survey data.

3. You will achieve an improvement in the quality of data through enhanced reading resolution, an increase in the number of different parameters measured and/or a higher density of observations. Further, errors which occur in manual transcription and calculation will be eliminated.

4. Your operator will appreciate the simplicity of operation achieved through automation.

5. Since add-on sensors are relatively less expensive, your investment in a range of IGS instrumentation may be much less than it would be with a number of different instruments, each dedicated to a different measurement.

The Scintrex IGS-2/MP-4/VLF-4/EM-4 permits one operator to efficiently measure magnetic, VLF and EM fields and to record data in computer compatible solid-state memory.

System Options and Accessories

SCINTREX

222 Snidercroft Road
Concord Ontario Canada
L4K 1B5

Telephone: (416) 669-2280
Cable: Geoscint Toronto
Telex: 06-964570

A. Console and Power Supply

A-1 IGS-2 System Control Console with 16K RAM memory and manual. Note that no battery pack is included so that one of items A-2, A-3 or A-4 should be selected unless the IGS is to be run from an external 12 V DC power source. The battery packs are interchangeable by the user.

A-2 Non-rechargeable Battery Pack includes battery holder and 10 disposable 'C' cell batteries. Used in normal portable operation unless temperatures are below -20°C in which case the Rechargeable Battery Pack and Charger should be chosen.

A-3 Rechargeable Battery Pack and Charger includes battery holder, 6 rechargeable non-magnetic batteries, charger and one spare cap for the battery charging plug. This is the best battery pack for portable total field and gradiometer magnetics since the non-magnetic property of these batteries ensures a minimum of noise. Also used for light duty (slow cycling) magnetic base station applications and in cold weather where disposable batteries lose power.

A-4 Heavy Duty Rechargeable Battery Pack includes heavy duty rechargeable batteries installed in a console with a built-in charger. Useful for rapid cycling base station or mobile applications.

A-5 Low Temperature Battery Extender Kit designed so that battery pack can be worn inside coat in cold weather conditions. Kit includes bottom cover for console, console to battery pack interconnecting cable, cover for battery pack and waist belt.

B. Memory Expansion Options

B-1 IGS Memory Expansion I. An additional 16K RAM is added to the existing memory board for a system total of 32K RAM.

B-2 IGS Memory Expansion II. A further 16K RAM is added to the existing memory board for a system total of 48K RAM.

B-3 IGS Memory Expansion III. An additional board is required on which memory can be added in up to six 16K RAM groups. Not available with all sensor options.

B-4 Further Memory Expansion. Memory expansion to a system total of 192K RAM is feasible for some applications.

C. Accessories

C-1 RS-232 Cable and Adaptors. Includes a special RS-232 data transfer cable and two IGS-2 to RS-232 cable adaptors. Used for communicating between the IGS-2 and peripheral devices such as a digital printer, microcomputer, cassette recorder, modem or a second IGS-2 (or MP-3 Proton Magnetometer) for diurnal corrections.

C-2 Minor Spare Parts Kit consisting of two keyboard diaphragms and two 2A quick acting fuses.

C-3 Display Heater Option. Required to heat the LCD display on the IGS-2 Console for operation at temperatures below -20°C.

C-4 Digital Printer for use with 110 V AC power supply and with X-on/X-off interfacing for use with IGS-2, MP-3 or VLF-3 instruments, one box of paper, ribbon and manual. Note that the RS-232 Cable and Adaptor are required.

C-5 Conversion of Digital Printer for use with 220 V AC power supply.

D. MP-4 Proton Magnetometer Sensor Option

D-1 MP-4 Magnetometer Signal Processing Board and Magnetometer Program EPROM for mounting in IGS-2 Control Console, manual.

D-2 Portable Total Field Sensor Option including sensor for total field measurements, sensor staff, two sensor cable assemblies, backpack sensor harness, spare non-magnetic sensor clamp screw.

D-3 Base Station Sensor Option, including 50 m sensor cable assembly, sensor for total field measurements, sensor tripod, external power cable, analog chart recorder cable and spare non-magnetic sensor clamp screw.

D-4 Gradiometer Sensor Option including second sensor cables, two 0.5 m staff extenders to complement Portable Sensor Option and spare non-magnetic sensor clamp screw.

D-5 Spare section for Portable Total Field Sensor Staff (0.5 m length).

E. VLF-4 VLF Electromagnetic Sensor Option

E-1 Two VLF-4 Signal Processing Boards and VLF program EPROM for mounting inside IGS-2 System Control Console, dual coil VLF-magnetic field sensor with level compensator, sensor-console interconnecting cable, harness and support for back mounting of sensor, manual.

E-2 VLF EM Primary Field Drift Correction Option consisting of two program EPROMS which replace the standard VLF program EPROMS in each of the portable and base station VLF units.

E-3 VLF Electric Field Sensor Option for VLF resistivity measurements. Includes two capacitive electrodes with integral preamplifiers and 5 m of cable. Longer cable lengths on request.

F. EM-4 Genie/Horizontal Loop Electromagnetic Sensor Option

F-1 Two EM-4 Signal Processing Boards for mounting either inside IGS-2 System Control Console or the EM-4 Genie/Horizontal Loop Expansion Module, one program EPROM for mounting inside IGS-2, one receive coil, one interconnecting cable, manual.

F-2 EM-4 Tiltmeter/Intercom Module. Permits Horizontal Loop measurements to be made with magnetics but without VLF.

F-3 EM-4 Genie/Horizontal Loop Expansion Module. Permits Horizontal Loop measurements to be made with both magnetics and VLF.

F-4 Genie/Horizontal Loop Portable Electromagnetic Transmitter complete with heavy duty battery pack, battery charger, manual.

F-5 TM-2 Tiltmeter/Intercom Module used with TM-2 when Horizontal Loop measurements are to be made.

F-6 Transmitter-Receiver Interconnecting Cables for Horizontal Loop measurements are made to order, in any lengths up to 300m.

G. Carrying Cases

A variety of carrying cases are available to suit different combinations of console and sensor options.

APPENDIX B
Plates

Plate 1: Contour Total Field Magnetic Survey, Diamond Lake Grid 1, Scale 1:2500.

Plate 2: Profile VLF 21.4 kHz, Diamond Lake Grid 1, Scale 1:2500.

Plate 3: Contour VLF Fraser Filter, Diamond Lake Grid 1, Scale 1:2500.

Plate 4: Contour 2nd Derivative Total Field Magnetics, Diamond Lake Grid 1, Scale 1:2500.

Plate 5: Contour Total Field Magnetic Survey, Diamond Lake Grid 2, Scale 1:2500.

Plate 5: Profile VLF 21.4 kHz, Diamond Lake Grid 2, Scale 1:2500.

Plate 6: Contour Total Field Magnetic Survey, Larder Townsite, Extension Grid West, Scale 1"=200'.

Plate 6: Profile VLF 21.4 kHz/24.0 kHz, Larder Townsite, Extension Grid West, Scale 1"=200'.

Plate 6: Contour VLF Fraser Filter, Larder Townsite, Extension Grid West, Scale 1"=200'.

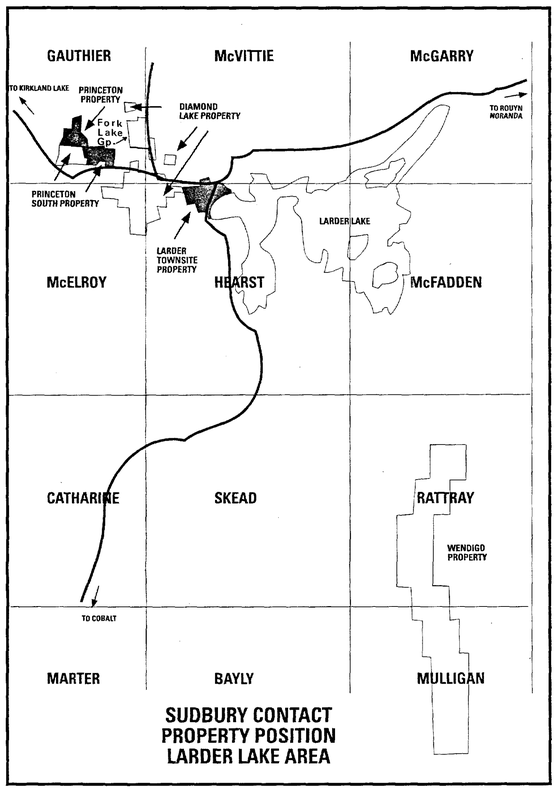
900

OMIP 90-136

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

2.19-229 (W.9180.00274) QUESTOR INTERPRETATION REPORT

LARDER LAKE PROPERTIES



SUDBURY CONTACT
PROPERTY POSITION
LARDER LAKE AREA

DIAMOND LAKE/LARDER TOWNSITE PROJECT AREA

WENDIGO PROJECT AREA

Province of Quebec

Pontiac Group 12

PROTEROZOIC

11 Cobalt Group

ARCHEAN

10 Alcalic to Subalcalic Intrusive Rocks

9 Trondhjemitic Intrusive Rocks (Round Lake Batholith)

12 Pontiac Group meta-sediments

8 Temiskaming Group

8a Sedimentary Rocks

8b Alkalic Volcanic Rocks

7 Gauthier Volcanics

6 Kinojevis Group

5 Larder Lake Group

5a Ultramafic and Mafic Volcanic Rocks

5b Intermediate and Felsic Volcanics rocks

5c Sedimentary Rocks

5d Pyroclastic Tuffs, Lamprophyres, debris Flows

4 Skead Group

3 Catherine Group

2 Wabewawa Group

1 Pacaud Tuff

Bedding, bedding (with tops)

Lava flow tops

Schistosity

gneissosity

Syncline

Anticline

Geological Boundaries

Stratigraphic Contacts

Fault

Major fault zones

Roads and Highways

Mines

Towns

PREVIOUS DRILLING

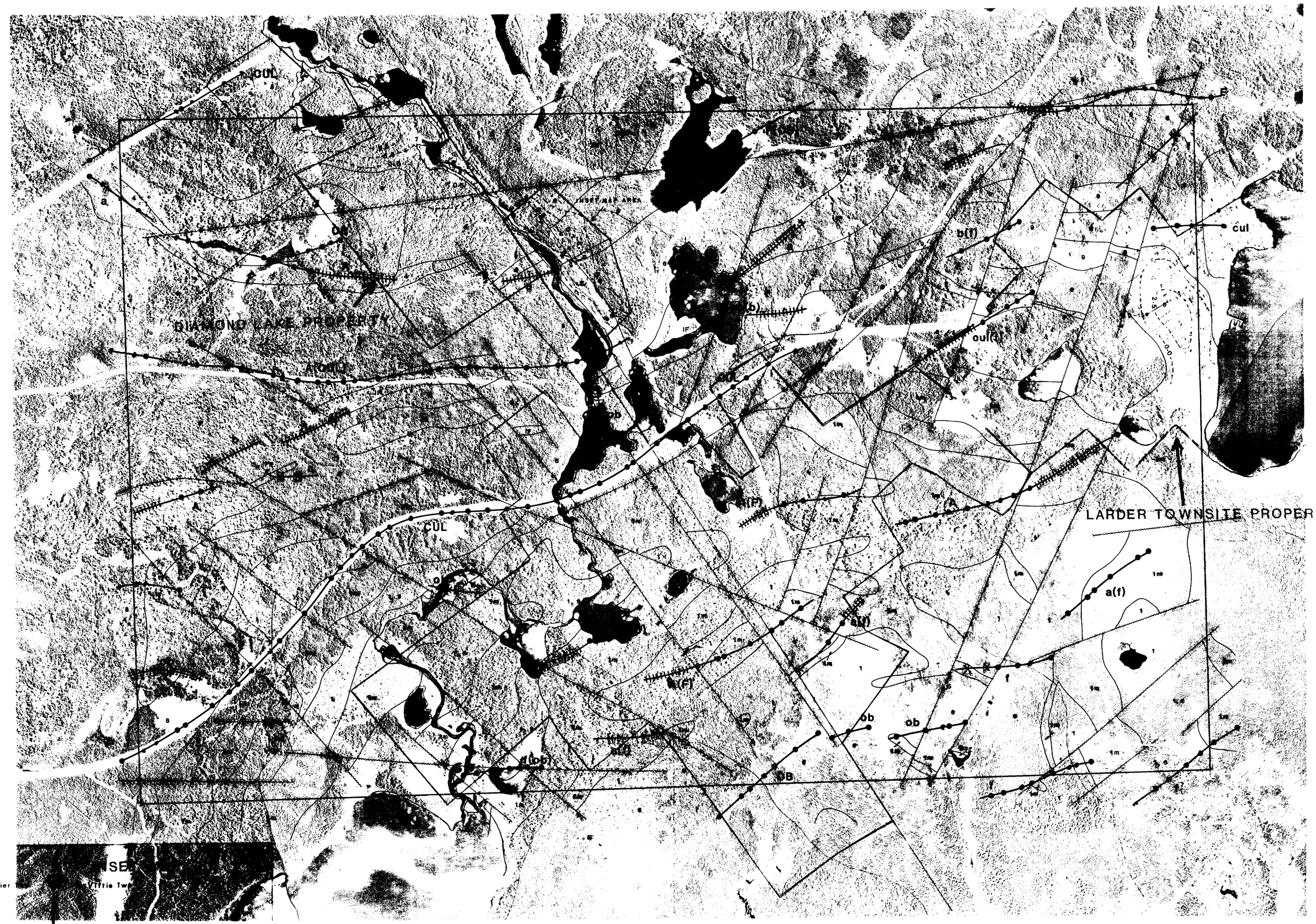
SUDBURY mines, limited CONTACT

SCALE

0 1 2 3 4 5

KILOMETRES

Stratigraphy of the Kirkland Lake area (after L.S.Jensen)



1:5 0 0

VLF Transmitter
NAA Cutler, 24.0 kHz
Azimuth 107

LITHOLOGY

- 9 Trachytic Flows, Vitric Tuffs
- 8 Mafic Intrusives
- 6 Clastic Metasediments
- 4 Alkalic Metavolcanics
- 1m Magnetic Unit Within 1 Talc Chlorite Schist
- 1 Mafic to Ultramafic Metavolcanics
- IF Iron Formation

LEGEND

Terrain Clearance ..... 100 meters
Line Spacing ..... 100 meters

INTERPRETATION

- Contact
- Fault
- Property Boundary

VLF-EM Conductor Axes

- normal quadrature
- reverse quadrature
- total field only

See text for classification of VLF-EM conductor axes

SUDBURY CONTACT MINES LTD.
LARDER TOWNSITE & DIAMOND LAKE PROPERTIES
DIAMOND DRILL HOLE LOCATION MAP

INTERPRETATION

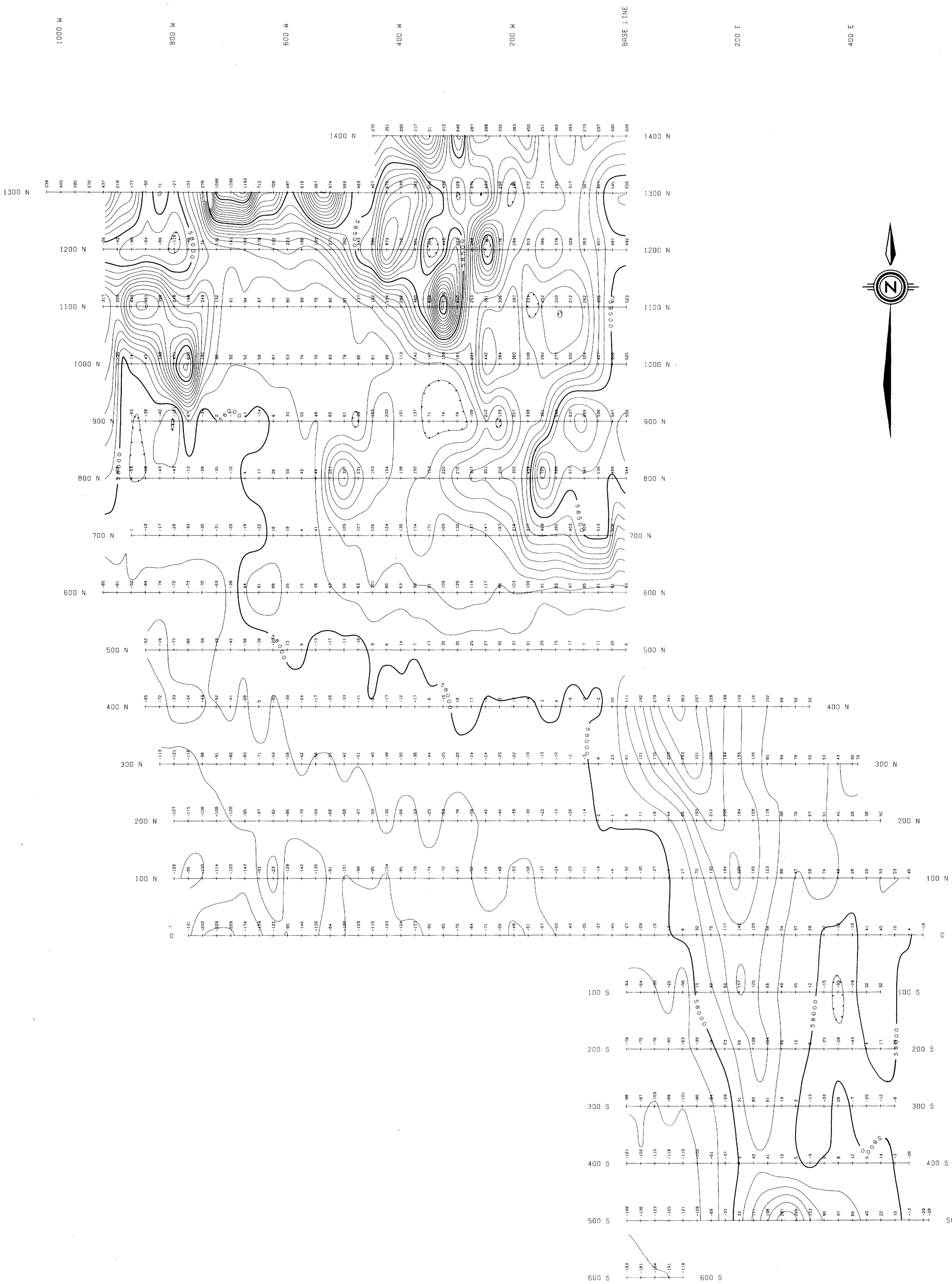
Geology modified by: P. Hubacheck

LARDER LAKE WEST
ONTARIO

NTS NO. 32D/4 DRAWING NO. A-731 1-4
SCALE 1:10,000 DATE December 1987

TERRAQUEST LTD.

63.6155



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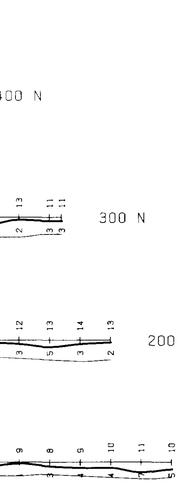
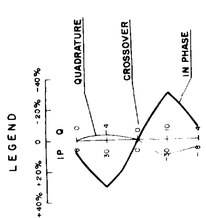
SUDBURY CONTACT MINES LTD		
TOTAL FIELD MAGNETIC SURVEY CONTOUR INTERVAL : 50 & 500 GAMMAS POSTED BASE VALUE: 58,000 GAMMAS SCINTREX IGS-2 / MP-4		
Scale : 1:2500		
SURVEY BY JVX LTD. FEBRUARY, 1991	DIAMOND LAKE GRID 1	PLATE 1

1000 W | 800 W | 600 W | 400 W | 200 W | BASE LINE | 200 E | 400 E

1400 N
1300 N
1200 N
1100 N
1000 N
900 N
800 N
700 N
600 N
500 N
400 N
300 N
200 N
100 N
0

100 S
200 S
300 S
400 S
500 S
600 S





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SUDBURY CONTACT MINES LTD		
VLF 21·4 kHz STATION : Annapolis, USA SCINTREX IGS-2/VLF - 4		
Scale : 1 : 2 500		
SURVEY BY JVX LTD. FEBRUARY, 1991	DIAMOND LAKE GRID 1	PLATE 2

800 W | 600 W | 400 W | 200 W | BASE LINE | 200 E | 400 E

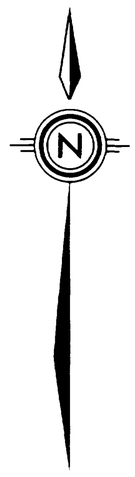
1400 N
1300 N
1200 N
1100 N
1000 N
900 N
800 N
700 N
600 N
500 N
400 N
300 N
200 N
100 N
0
100 S
200 S
300 S
400 S
500 S
600 S

63.655

SUDBURY CONTACT MINES LTD		
VLF FRASER FILTER – 24.8 kHz VLF STATION: Annapolis, USA CONTOUR INTERVAL 5% SCINTREX IGS-2/VLF-4		
Scale : 1: 2500		
SURVEY BY JVX LTD. FEBRUARY, 1991	DIAMOND LAKE GRID 1	PLATE 3

1000 W | 800 W | 600 W | 400 W | 200 W | BASE LINE | 200 E | 400 E

1400 N
1300 N
1200 N
1100 N
1000 N
900 N
800 N
700 N
600 N
500 N
400 N
300 N
200 N
100 N
0
100 S
200 S
300 S
400 S
500 S
600 S



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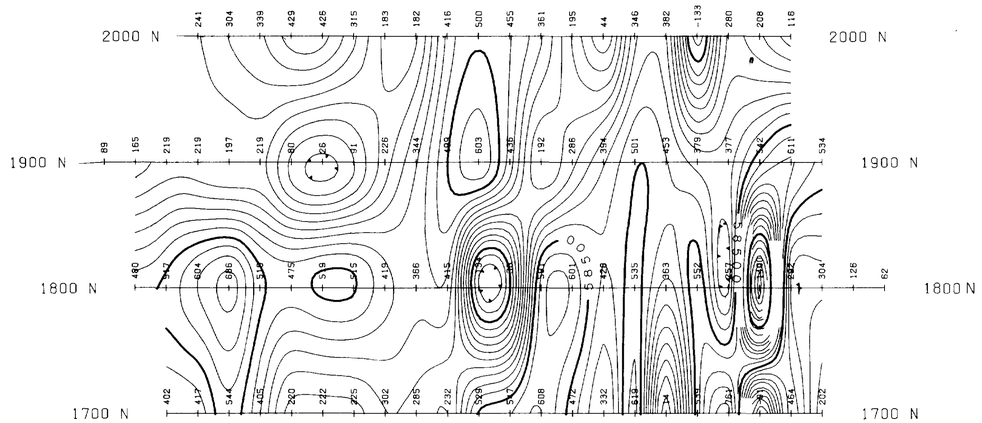
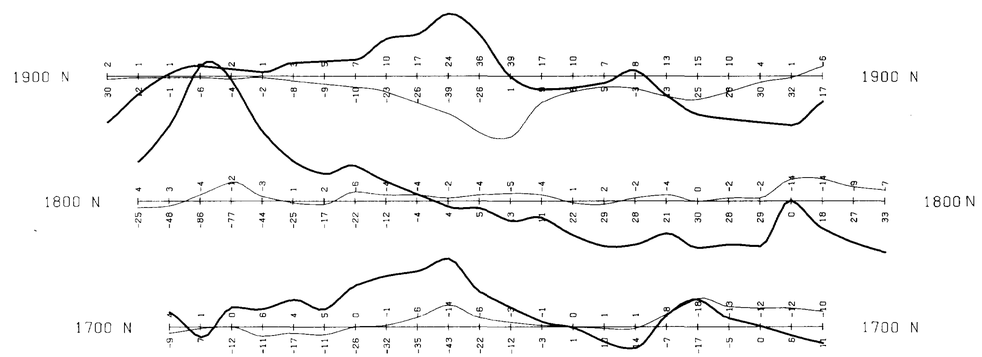
SUDBURY CONTACT MINES LTD		
2nd DERIVATIVE TOTAL FIELD MAGNETIC CONTOURS CONTOUR INTERVAL: 25 & 250 UNITS SCINTREX IGS-2/ MP-4		
Scale : 1:2500		
SURVEY BY JVX LTD. FEBRUARY, 1991	DIAMOND LAKE GRID 1	PLATE 4

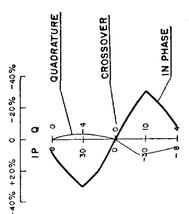
TOTAL FIELD MAGNETIC SURVEY



CONTOUR INTERVAL : 50 GAMMAS
POSTED BASE VALUE : 58,000 GAMMAS
INSTRUMENT : SCINTREX IGS-2 / MP-4

VLF SURVEY





VLF STATION : Annapolis, USA

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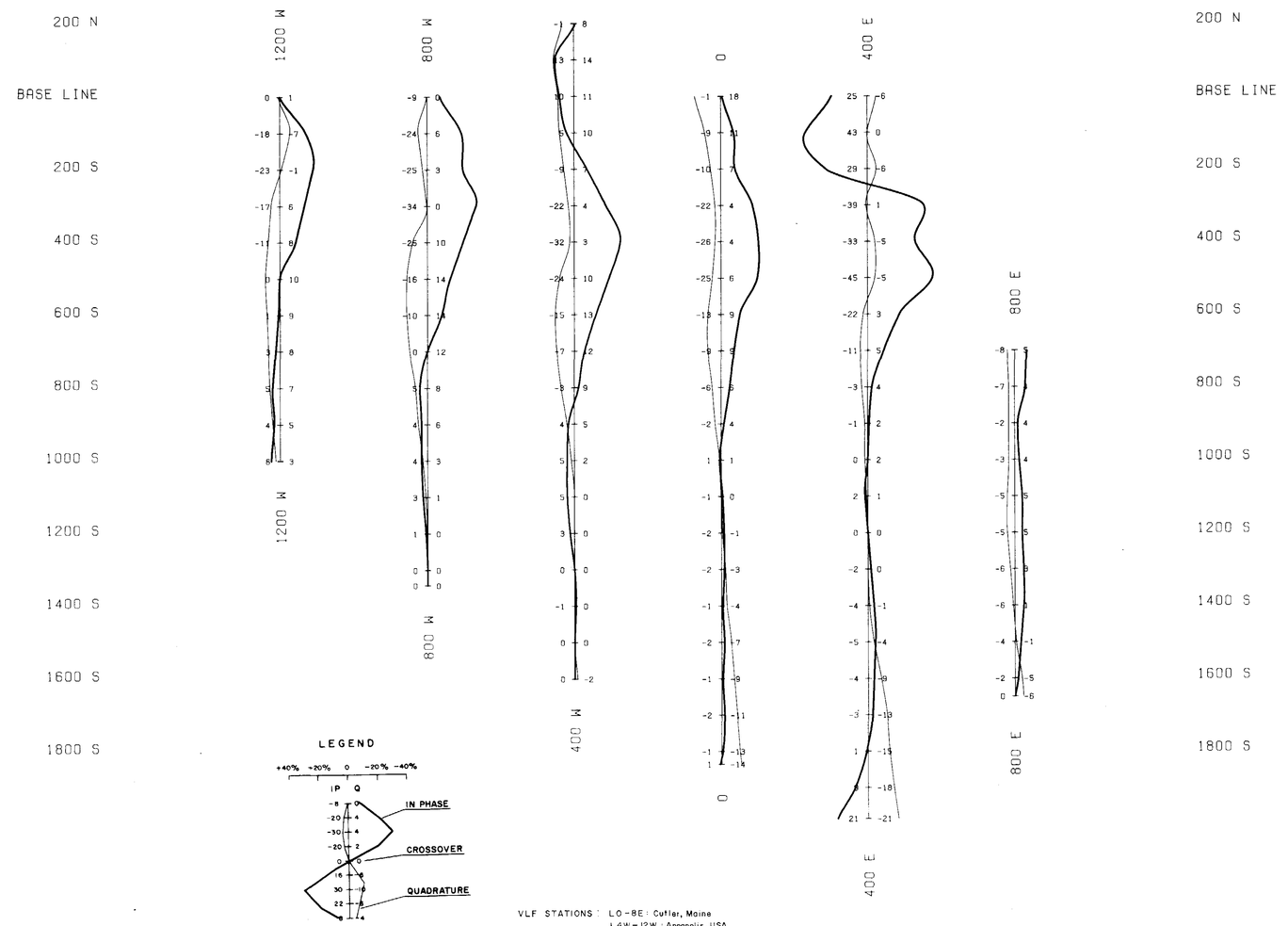
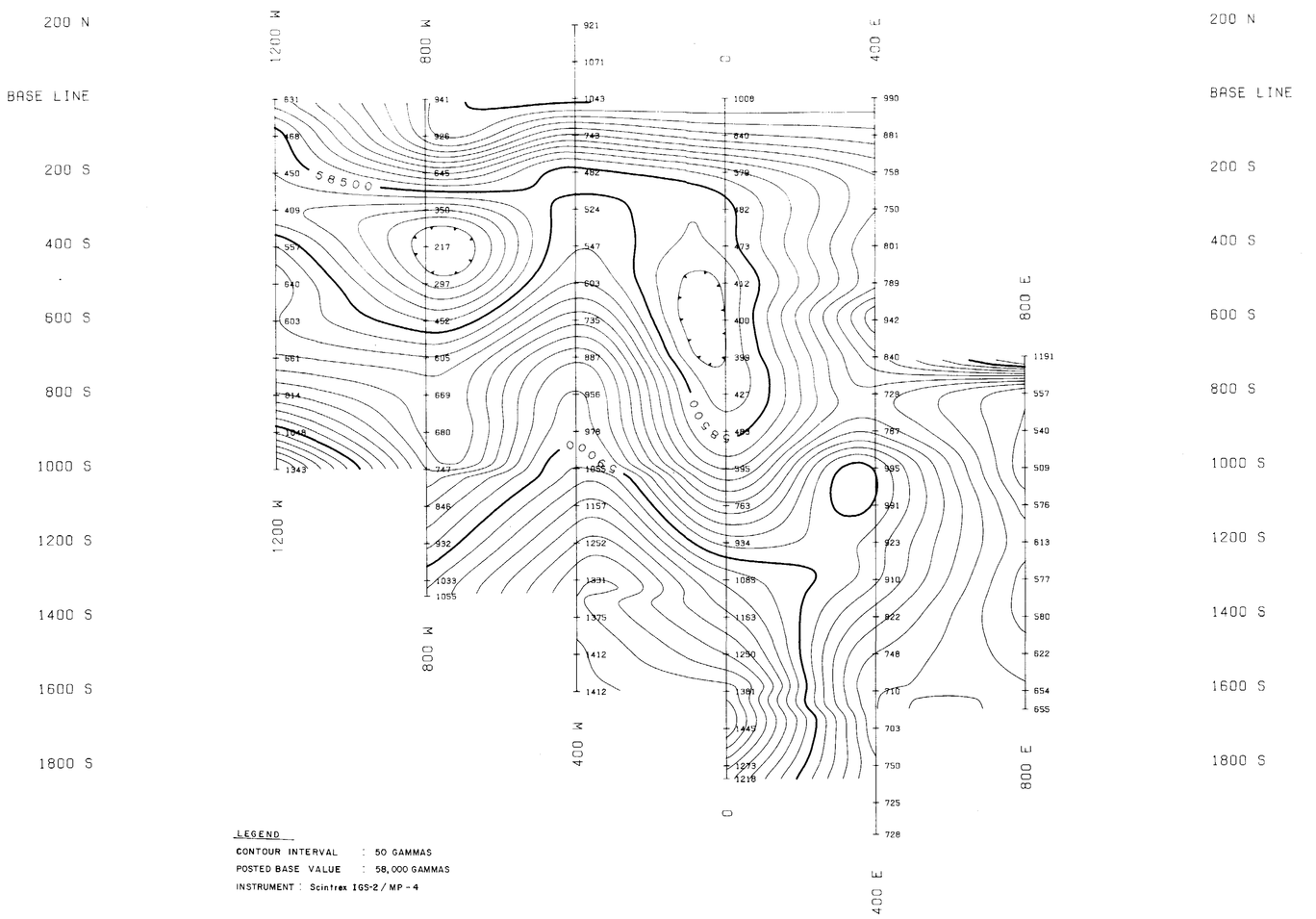
SUDBURY CONTACT MINES LTD		
GROUND GEOPHYSICAL SURVEY		
Scale : 1: 2500		
SURVEY BY JVX LTD. FEBRUARY, 1991	DIAMOND LAKE GRID 2	PLATE 5

VLF SURVEY

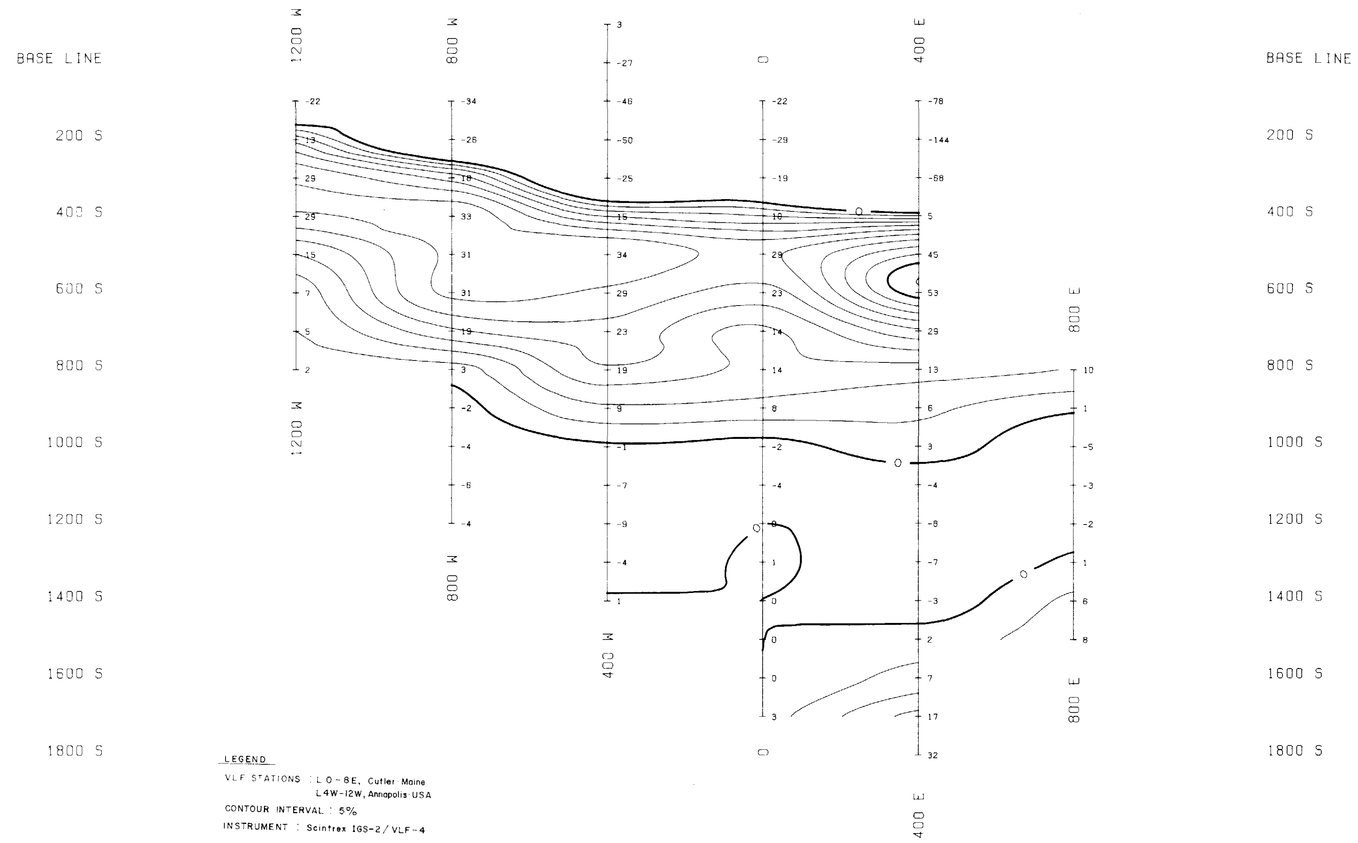


TOTAL FIELD MAGNETIC SURVEY



LEGEND
CONTOUR INTERVAL : 50 GAMMAS
POSTED BASE VALUE : 58,000 GAMMAS
INSTRUMENT : Scintrex IGS-2 / MP-4

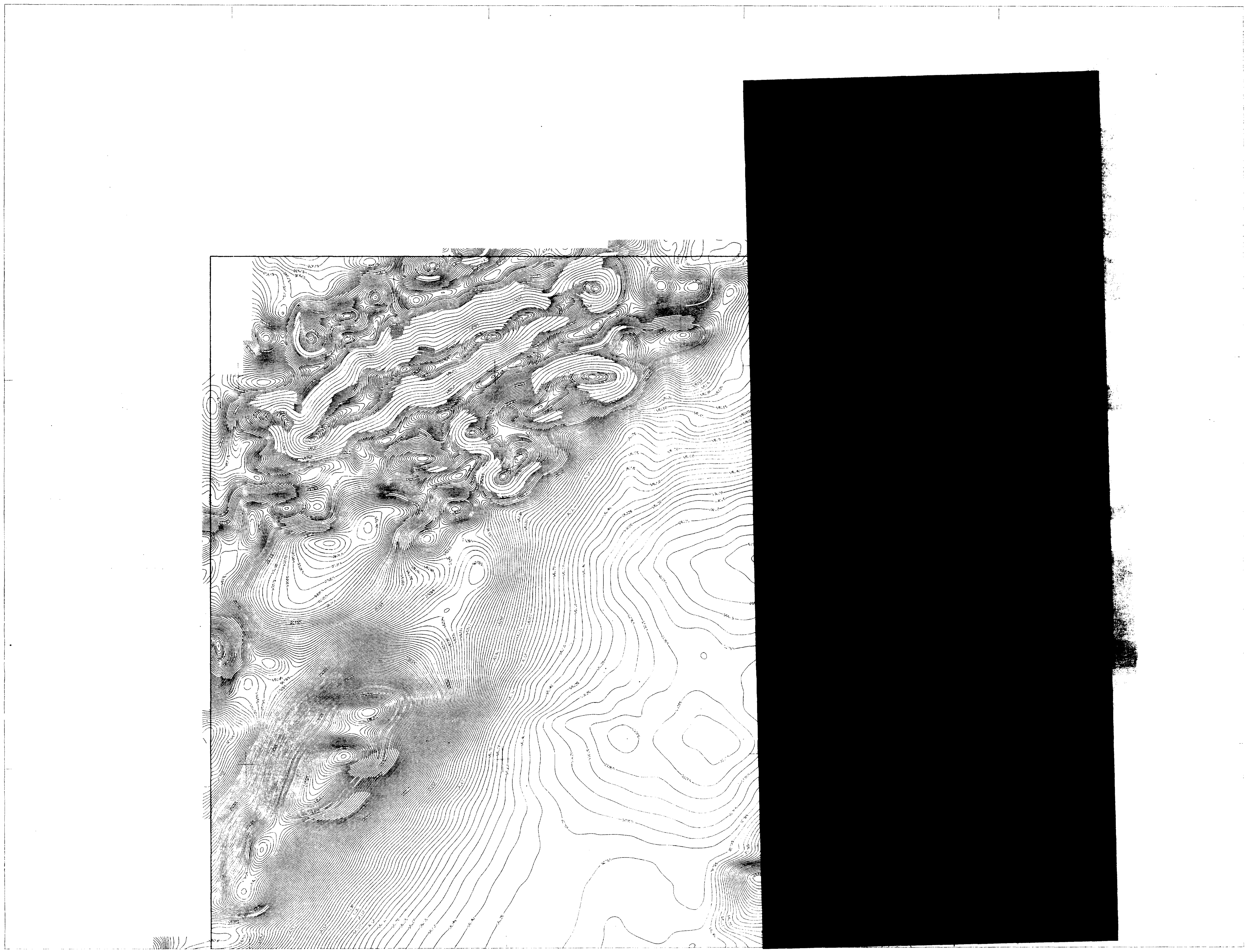
VLF FRASER FILTER



LEGEND
VLF STATIONS : L0-8E, Cutler Maine
L4W-12W, Annapolis USA
CONTOUR INTERVAL : 5%
INSTRUMENT : Scintrex IGS-2 / VLF-4

63-6155

SUDBURY CONTACT MINES LTD		
GROUND GEOPHYSICAL SURVEY		
Scale : 1" = 200'		
SURVEY BY JVX LTD FEBRUARY, 1991	LARDER TOWNSITE EXTENSION GRID WEST	PLATE 6



TOTAL FIELD MAGNETIC CONTOUR MAP

DATA PROCESSING

REGIONAL FIELD	IGRF MODEL 1995 REMOVED
GRID CELL SIZE	100 metres
CONTOUR INTERVAL	5 nanoTeslas
PARALLAX CORRECTION	1.25 fiducials
BASE VALUE ADDED	59400 nanoTeslas

AIRCRAFT

C-GSFG SHORTS SKYVAN

ELECTROMAGNETIC SYSTEM

QUESTEM Time Domain Electromagnetic System

PULSE WIDTH	2.0 msec
REPETITION RATE	150 pulses/sec
RECEIVER COIL	Horizontal Axis
NUMBER OF CHANNELS	12

DATA ACQUISITION

PICODAS P1000 DIGITAL ACQUISITION

RMS GR33 ANALOGUE RECORDER

35mm CAMERA, INTERVALOMETER AND FIDUCIAL SYSTEM

FLIGHT LINE SPACING

TRAVERSE LINES	200 metres
TIE LINES	app. 5000 metres

FLIGHT LINE DIRECTION

TRAVERSE LINES	090 – 270 degrees
TIE LINES	000 – 180 degrees

SURVEY HEIGHT

122 metres MEAN TERRAIN CLEARANCE

NAVIGATION

VISUAL FROM PLANNED FLIGHT STRIPS

FLIGHT PATH RECOVERY

ONTO U.T.M. CONTROLLED PHOTOGRAPHS

HUBACHECK AIRBORNE GEOPHYSICAL SURVEY

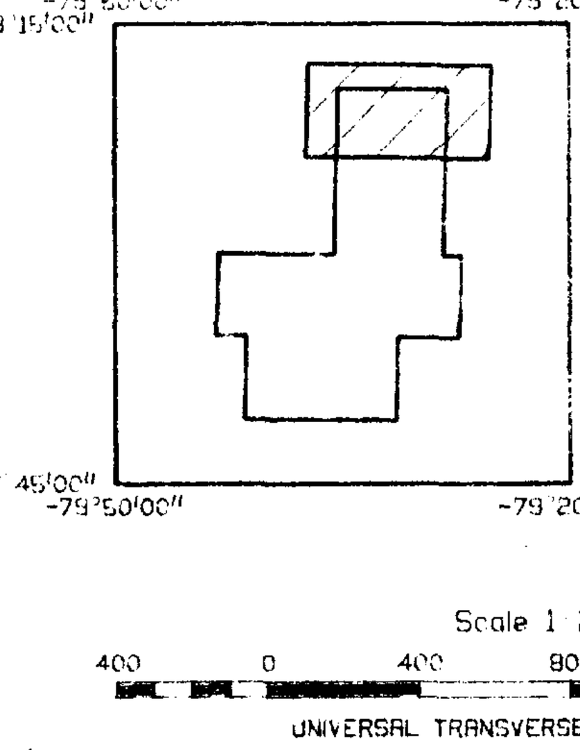
SUDBURY CONTACT MINES LTD.

Surveyed and compiled by QUESTOR SURVEYS LIMITED

August 1990 – March 1991

LOCATION DIAGRAM

SHEET 1 OF 5



GRID NORTH

TRUE NORTH

MAGNETIC NORTH

North point relationships are shown for the centre of the map. Magnetic north is true for 1990

GRID/MAGNETIC ANGLE	-11°12'54"
GRID CONVERGENCE	-1°6'7.16"
SECULAR VARIATION	0°3'37" west per year

Scale 1:20 000

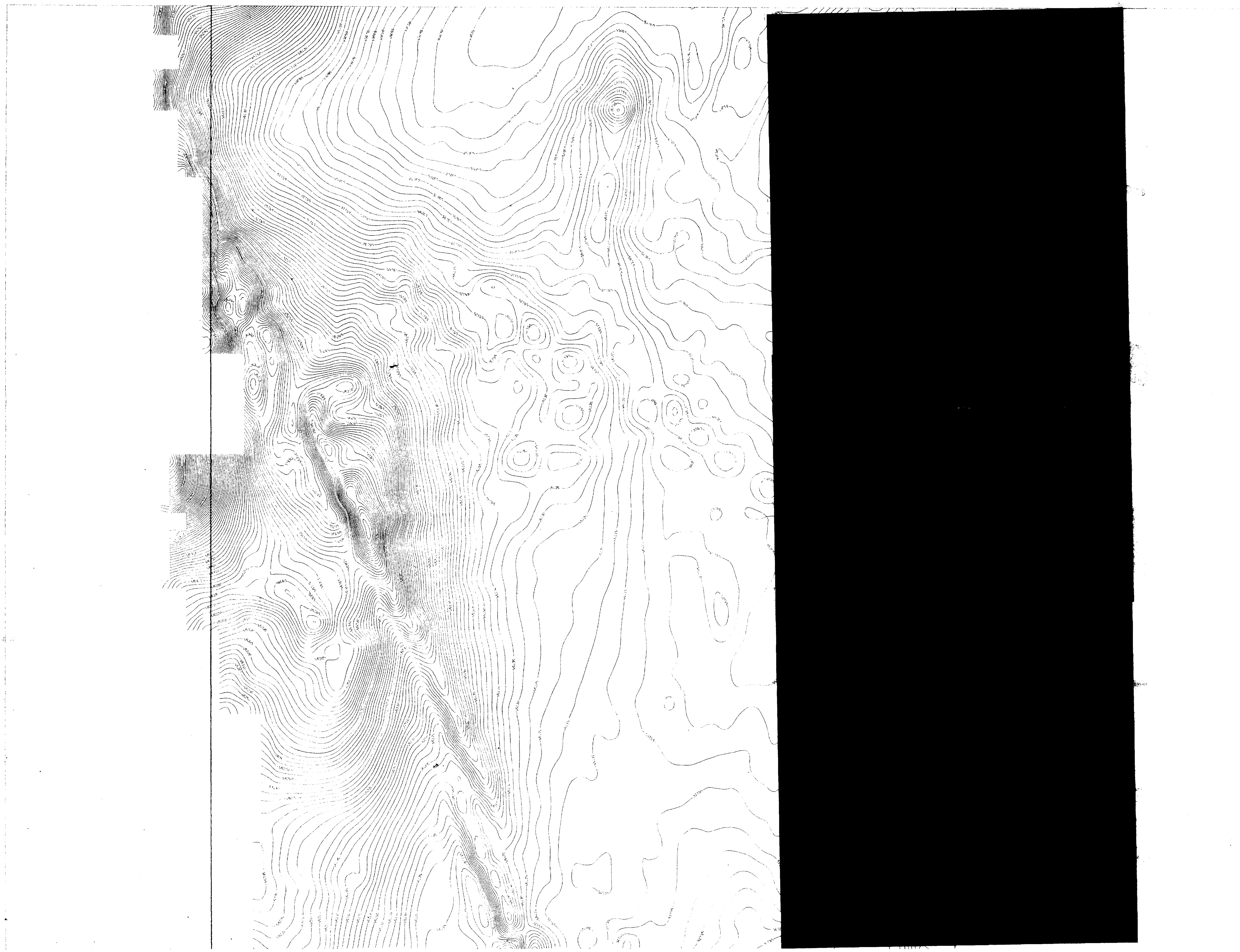
400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

63.6155

63.6155 MCVITTIE

280



AIRCRAFT

ELECTROMAGNETIC SYSTEM

REPETITION RATE
RECEIVER COIL Horizontal Axis
NUMBER OF CHANNELS

DATA ACQUISITION

FLIGHT LINE SPACING

FLIGHT LINE DIRECTION
TRAVERSE LINES 090 - 270 degrees
TIE LINES 000 - 180 degrees

SURVEY HEIGHT
120 metres - MEAN TERRAIN CLEARANCE

NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS

FLIGHT PATH RECOVERY

AIRBORNE GEOPHYSICAL SURVEY

SUDBURY CONTACT MINES LTD

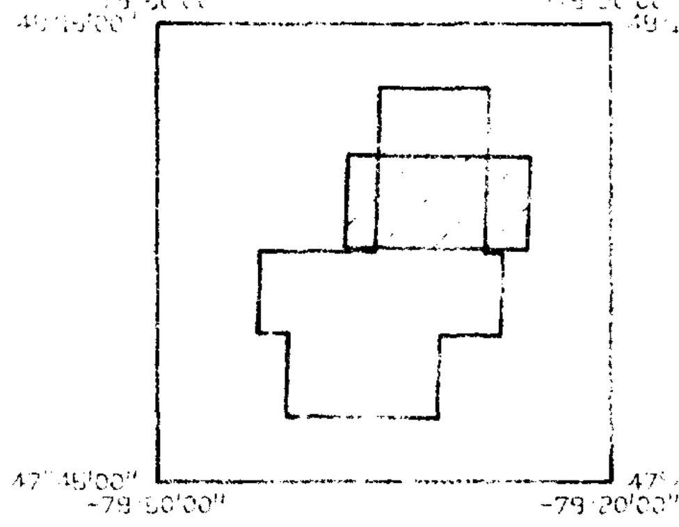
TOTAL FIELD MAGNETIC CONTOUR MAP

DATA PROCESSING

REGIONAL FIELD	IGRF MODEL 1995 REMOVED
GRID CELL SIZE	100 metres
CONTOUR INTERVAL	5 nanoTeslas
PARALLAX CORRECTION	1.25 fiducials
BASE VALUE ADDED	59400 nanoTeslas

LOCATION DIAGRAM

SHEET 2 OF 5



GRID NORTH

TRUE NORTH

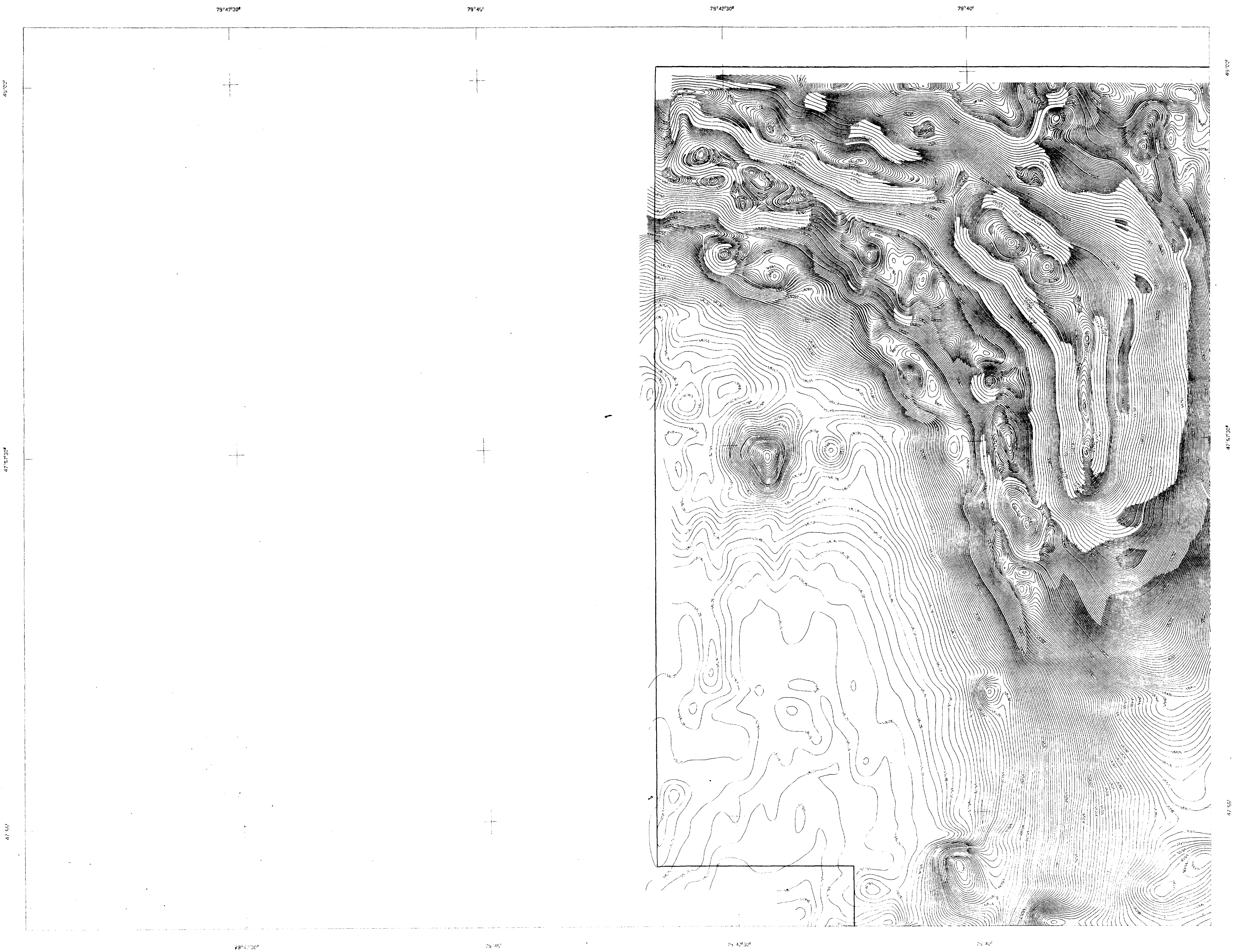
MAGNETIC NORTH

Scale 1: 20 000

-400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

63.6155



TOTAL FIELD MAGNETIC CONTOUR MAP

DATA PROCESSING

REGIONAL FIELD	IGRF MODEL 1985 REMOVED
GRID CELL SIZE	100 metres
CONTOUR INTERVAL	5 nanoTeslas
PARALLAX CORRECTION	1.25 fiducials
BASE VALUE ADDED	58400 nanoTeslas

HUBACHECK

AIRBORNE GEOPHYSICAL SURVEY

SUDBURY CONTACT MINES LTD.

Surveyed and compiled by QUESTOR SURVEYS LIMITED
August 1990 – March 1991
Job No 90063

AIRCRAFT
C-GDRC SHORTS SKYVAN

ELECTROMAGNETIC SYSTEM
QUESTEM Time Domain Electromagnetic System

PULSE WIDTH	2.0 msec
REPETITION RATE	180 pulses/sec
RECEIVER COIL	Horizontal Axis
NUMBER OF CHANNELS	12

DATA ACQUISITION
PICODAS P1002 DIGITAL ACQUISITION
RMS GR33 ANALOGUE RECORDER
GEOCAM 35mm CAMERA, INTERVALOMETER AND FIDUCIAL SYSTEM

FLIGHT LINE SPACING

TRAVERSE LINES	200 metres
TIE LINES	app 5000 metres

FLIGHT LINE DIRECTION

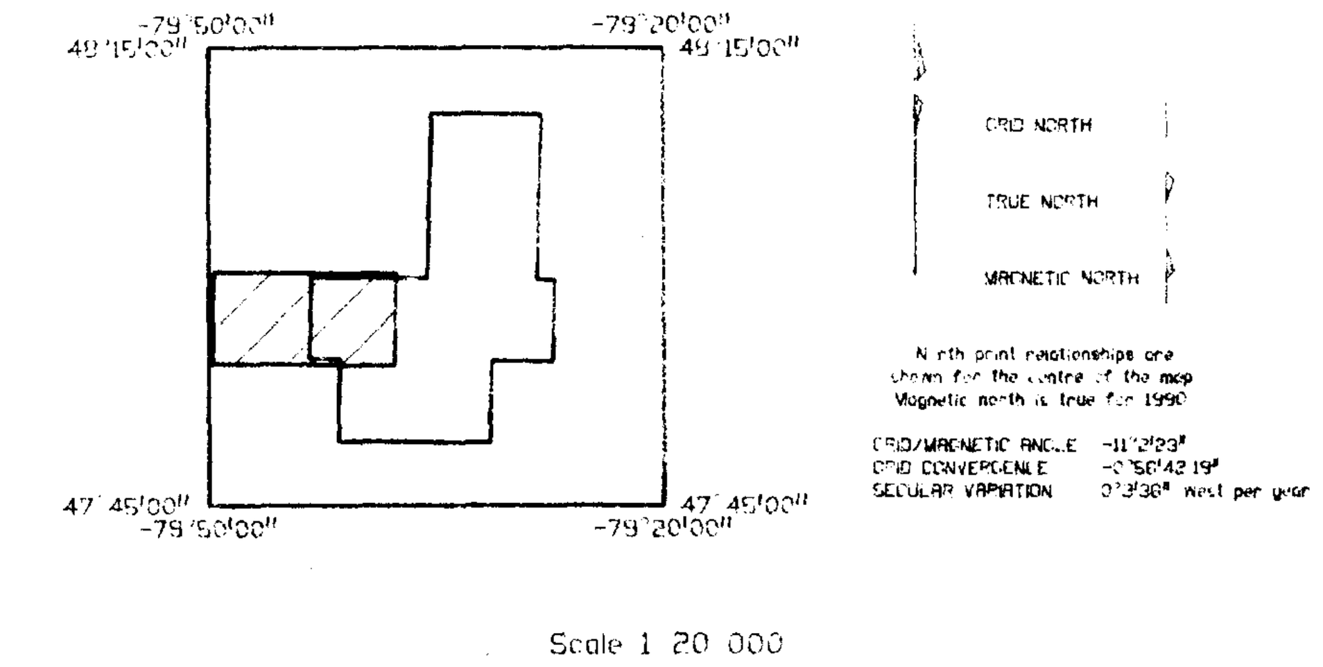
TRAVERSE LINES	090 – 270 degrees
TIE LINES	000 – 180 degrees

SURVEY HEIGHT
120 metres – MEAN TERRAIN CLEARANCE

NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS

FLIGHT PATH RECOVERY
ONTO U.T.M. CONTROLLED PHOTOGRAPHS

LOCATION DIAGRAM
SHEET 3 OF 5



GRID NORTH
TRUE NORTH
MAGNETIC NORTH

North point relationships are shown for the centre of the map
Magnetic north is true for 1990

GRID/MAGNETIC ANGLE	-11°2'23"
GRID CONVERGENCE	-0°56'42.19"
SECULAR VARIATION	0°3'30" west per year

Scale 1 20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

63.6155

79°37'30"
79°35'
79°32'30"
79°30'
79°27'30"
47°55'
47°57'30"

[redacted]

AIRCRAFT
ELECTROMAGNETIC SYSTEM
DATA ACQUISITION
FLIGHT LINE SPACING
FLIGHT LINE DIRECTION
SURVEY HEIGHT
NAVIGATION
FLIGHT PATH RECOVERY

HUBACHECK
AIRBORNE GEOPHYSICAL SURVEY
SUDBURY CONTACT MINES LTD.

TOTAL FIELD MAGNETIC CONTOUR MAP

DATA PROCESSING

REGIONAL FIELD	IGRF MODEL 1985 REMOVED
GRID CELL SIZE	100 metres
CONTOUR INTERVAL	5 nanoTeslas
PARALLAX CORRECTION	1.2% Cowbuck
DATUM VALUE ADDED	59400 nanoTeslas

LOCATION DIAGRAM
SHEET 4 OF 5

-79°50'00"
47°15'00"
-79°20'00"
47°45'00"

LONG NORTH
TRUE NORTH
MAGNETIC NORTH

North point orientations are shown for the centre of the area
Magnetic north is true for 1990

TRUE/MAGNETIC ANGLE	-11°57'
GRID CONVERGENCE	-1°57'12"
DECLINATION VARIATION	0°12'27" west per year

Scale 1 20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

79°40'

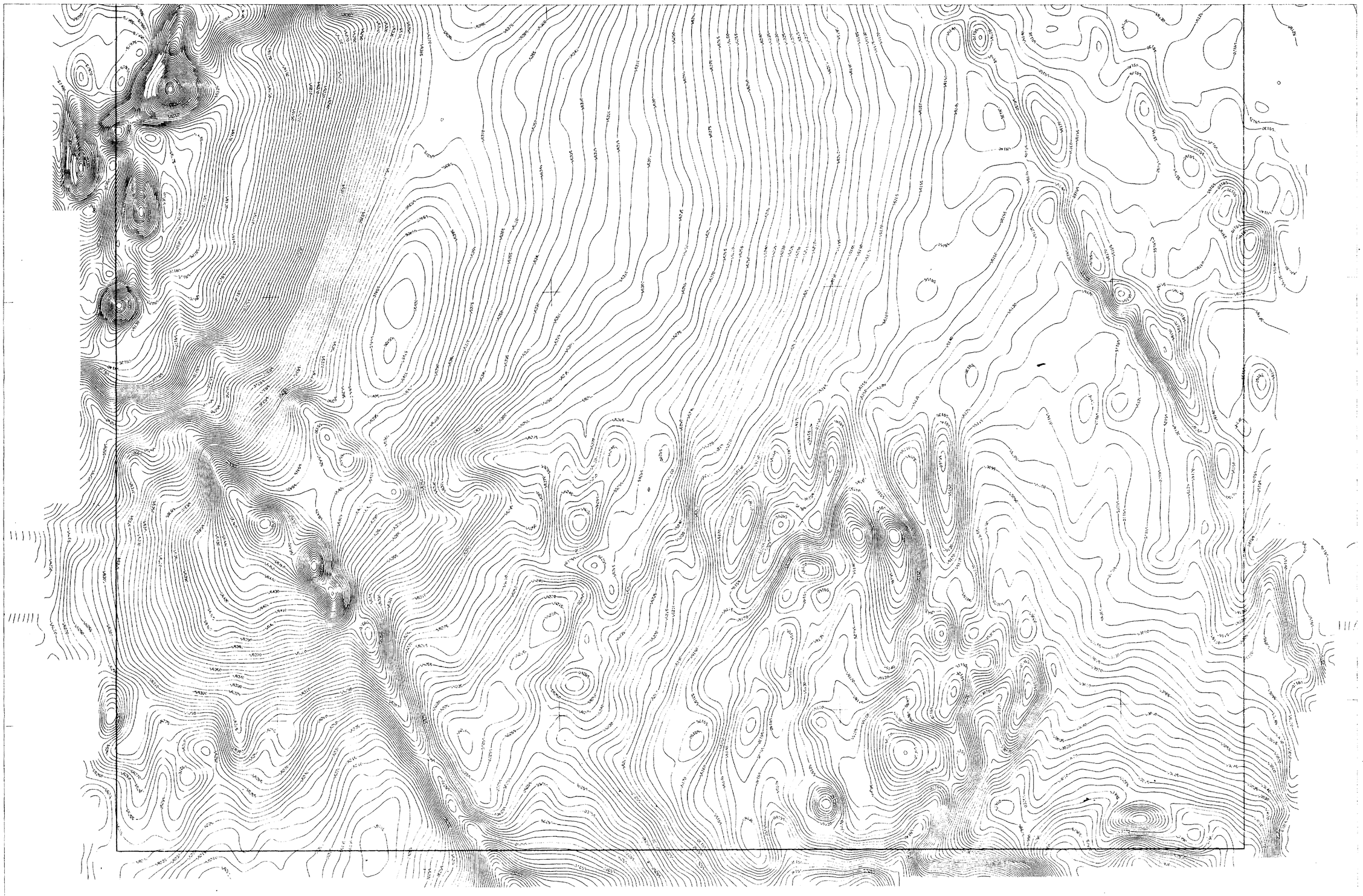
79°37'30"

79°35'

79°32'30"

47°52'30"

47°50'



79°40'

79°37'30"

79°35'

79°32'30"

AIRCRAFT
CESSNA CARGO MASTER
ELECTROMAGNETIC SYSTEM
QUESTEM Time Domain Electromagnetic System
PULSE WIDTH 2.0 msec
REPETITION RATE 150 pulses/sec
RECEIVER COIL horizontal axis
NUMBER OF CHANNELS 10
DATA ACQUISITION
PICODAS P1000 DIGITAL ACQUISITION
RMS GR33 ANALOGUE RECORDER
LEICOMM 35mm CAMERA, WEEN ALNASTER AND FOCOTAL SYSTEM
FLIGHT LINE SPACING
TRAVERSE LINES 200 metres
TIE LINES app. 5000 metres
FLIGHT LINE DIRECTION
TRAVERSE LINES 090 - 270 degrees
TIE LINES 000 - 180 degrees
SURVEY HEIGHT
120 metres MEAN TERRAIN CLEARANCE
NAVIGATION
VISUAL FROM PLANNED FLIGHT LINES
FLIGHT PATH RECOVERY
UNTO S.P.M. CONTROLLED PHOTOGRAPHS

HUBACHECK

AIRBORNE GEOPHYSICAL SURVEY

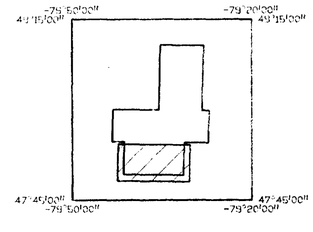
SUDBURY CONTACT MINES LTD.

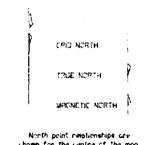
Surveyed and compiled by GUESTOR SURVEYS LIMITED
August 1990 - March 1991
Job No. 900853

TOTAL FIELD MAGNETIC CONTOUR MAP

DATA PROCESSING
REGIONAL FIELD IGRF MODEL 1985 REMOVED
GRID CELL SIZE 100 metres
CONTOUR INTERVAL 5 nanoTeslas
PARALLAX CORRECTION 1.25 fiducials
DATUM VALUE ADDED 59400 nanoTeslas

LOCATION DIAGRAM
SHEET 5 OF 5





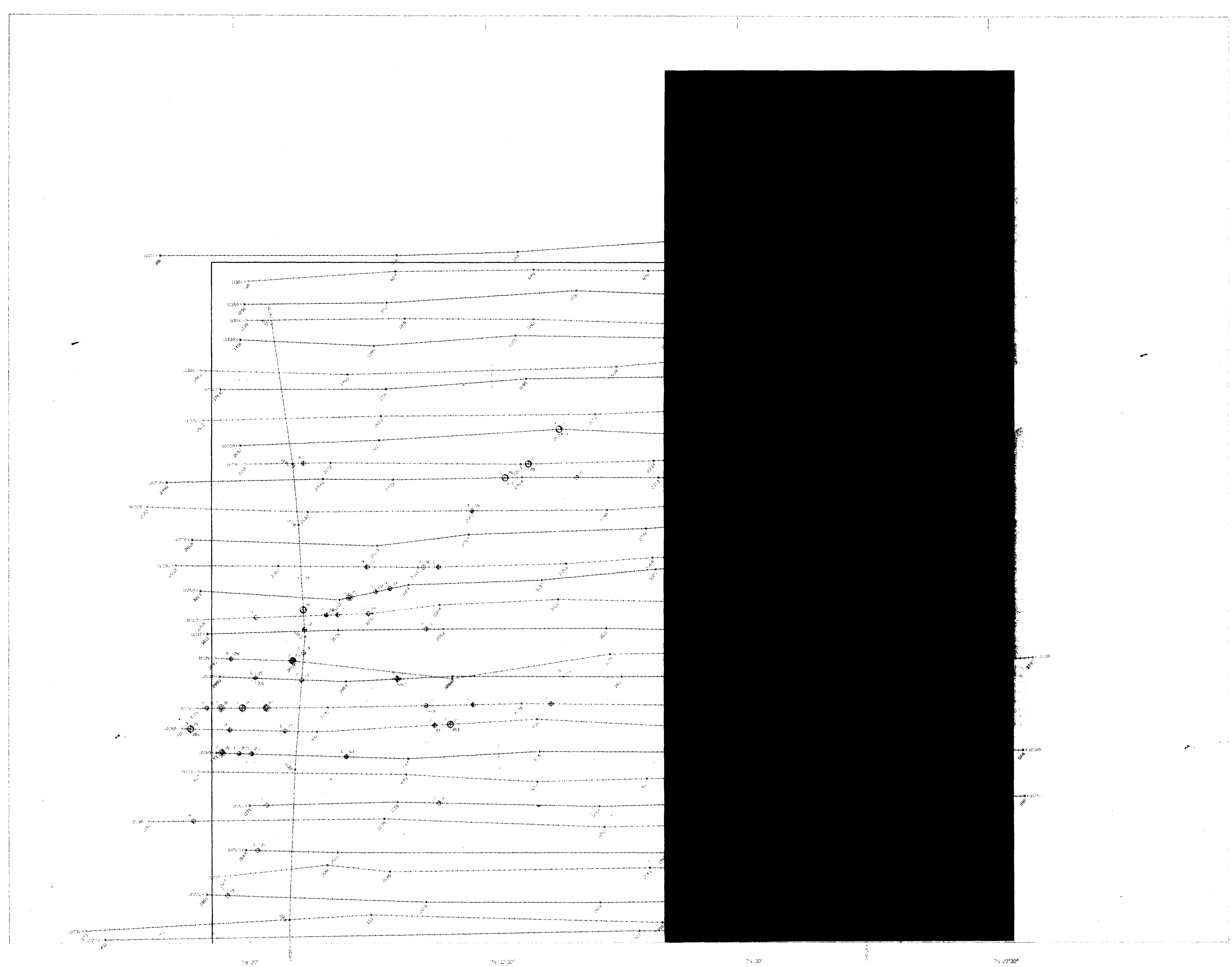
North point relationships are shown for the centre of the map
Magnetic north is true for 1990

GRID/MAGNETIC ANGLE -11°09'
GRID CONVERGENCE -1°50.1'
SECULAR VARIATION 0°39.2' west per year

Scale 1 : 20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID



[redacted]

AIRCRAFT
ELECTROMAGNETIC SYSTEM
QUESTEM Time Domain Electromagnetic System
PULSE WIDTH
REPETITION RATE
RECEIVER COIL
NUMBER OF CHANNELS 12
DATA ACQUISITION
RMS GR33 ANALOGUE RECORDER
GEOCAM 35mm CAMERA, INTERVALOMETER AND FIDUCIAL SYSTEM
FLIGHT LINE SPACING
TRAVERSE LINES 200 metres
TIE LINES app. 5000 metres
FLIGHT LINE DIRECTION
TRAVERSE LINES 090 - 270 degrees
TIE LINES 000 - 180 degrees
SURVEY HEIGHT
120 metres - MEAN TERRAIN CLEARANCE
NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS
FLIGHT PATH RECOVERY
ONTO U.T.M. CONTROLLED PHOTOGRAPHS

HUBACHECK
AIRBORNE GEOPHYSICAL SURVEY
SUDBURY CONTACT MINES LTD.

Surveyed and compiled by QUESTOR SURVEYS LIMITED
August - November 1990

EM ANOMALY MAP

LEGEND

Cultural Response

Anomaly Letter — Apparent Conductivity Width (siemens)

Poorly Defined Response — Channel 4 Amplitude (ppm)

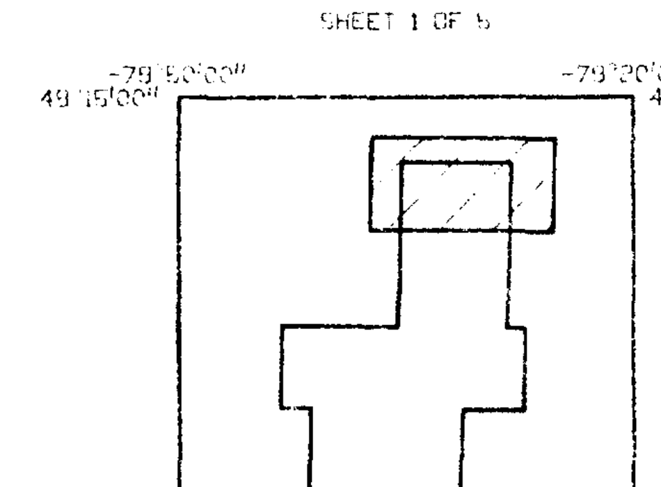
F 9
213

Associated Magnetic Response 165

INPUT PEAK RESPONSE SYMBOLS

SURFICIAL	UP-DIP	BEDROCK	
			1 channel
			2 channel
			3 channel
			4 channel
			5 channel
			6 channel
			7 channel
			8 channel
			9 channel
			10 channel
			11 channel
			12 channel

LOCATION DIAGRAM
SHEET 1 OF 5



GRID NORTH
TRUE NORTH
MAGNETIC NORTH

North point relationships are shown for the centre of the map. Magnetic north is true for 1990.

GRID/MAGNETIC ANGLE -11°12'54"
GRID CONVERGENCE -1°6'7.16"
SECULAR VARIATION 0°3'37" West per year

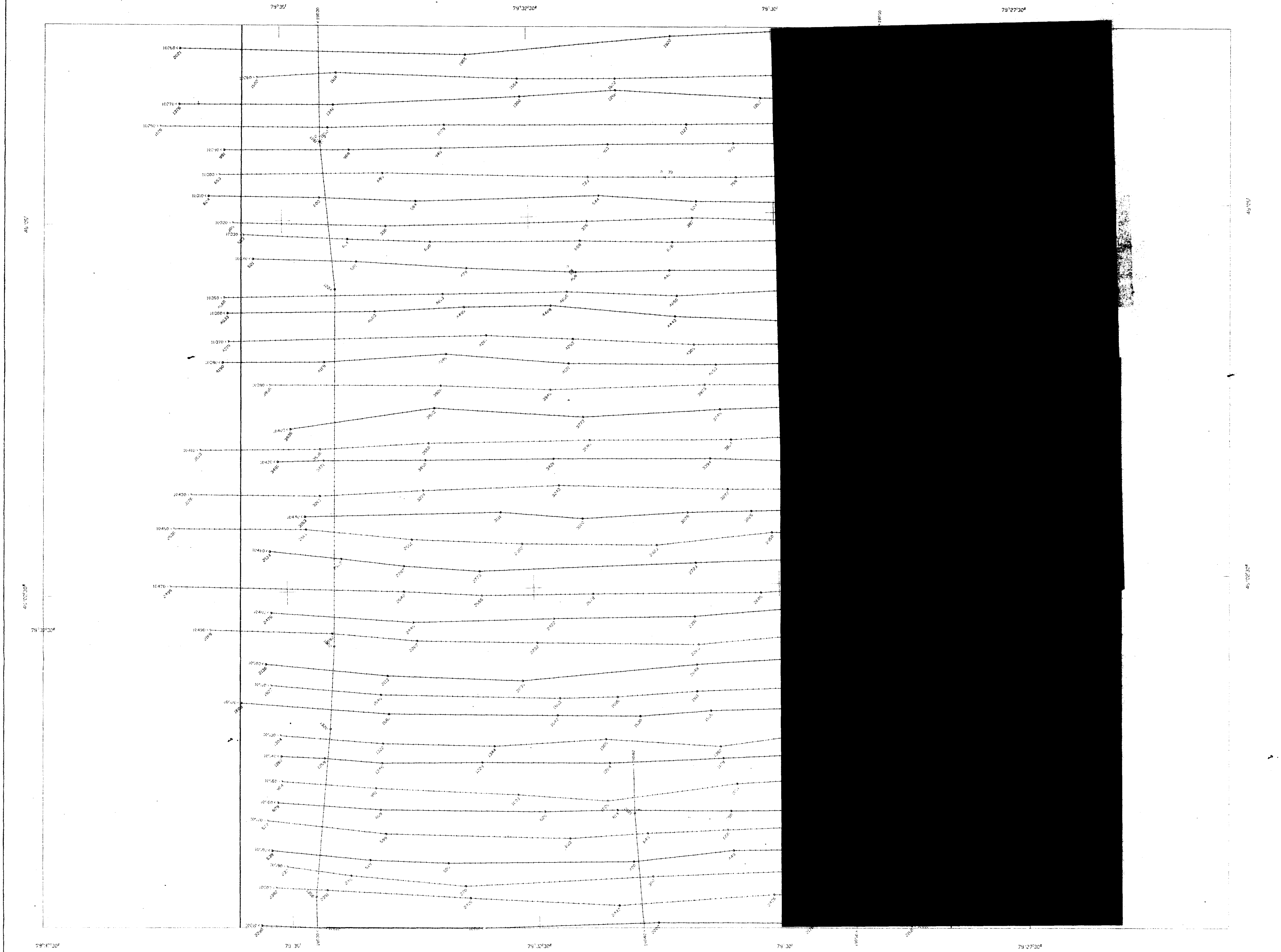
Scale 1:20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

63.6155

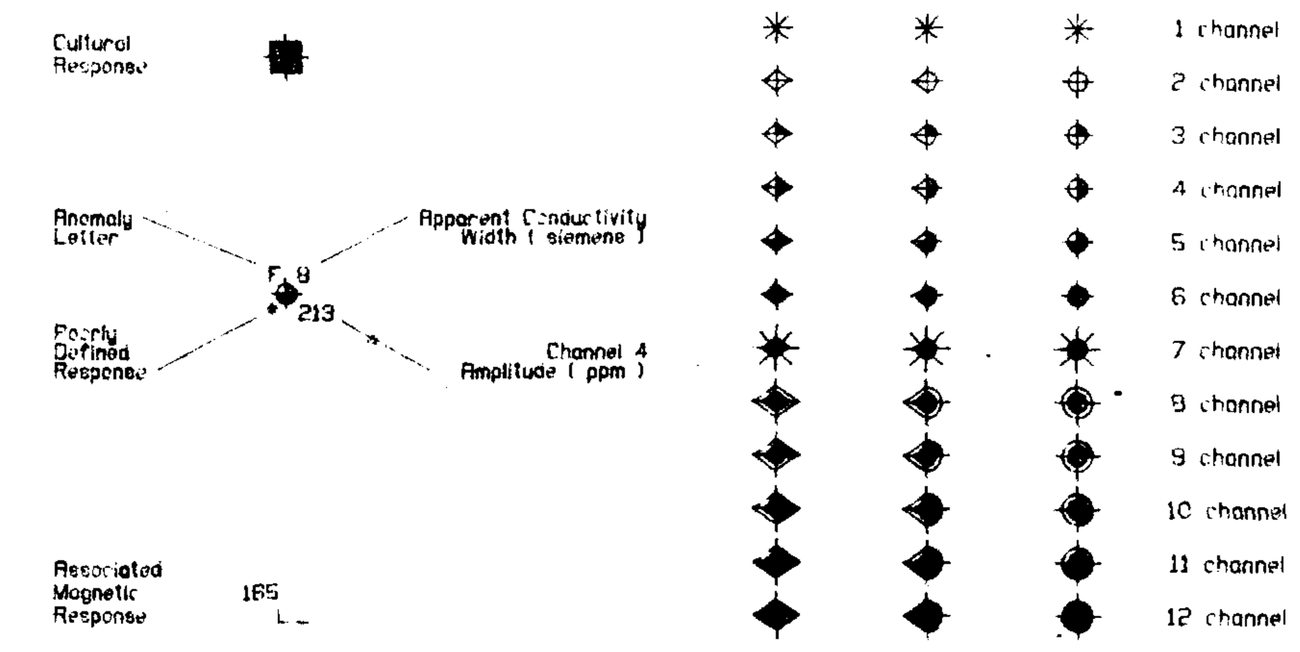
330



EM ANOMALY MAP

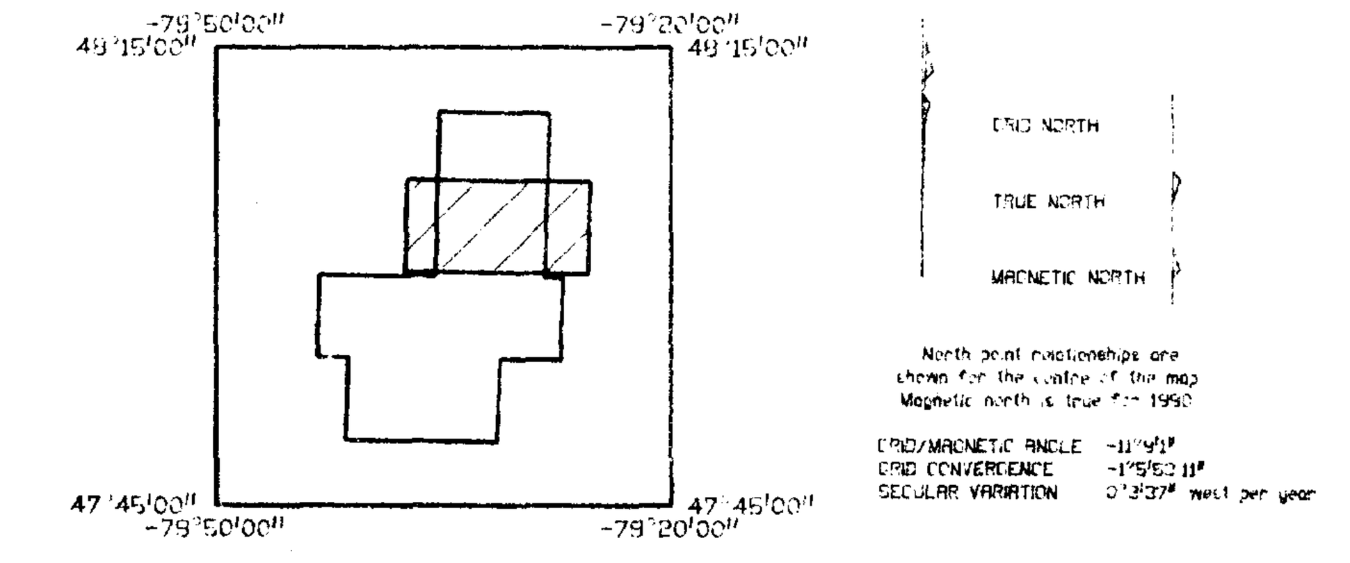
LEGEND

INPUT PEAK RESPONSE SYMBOLS



LOCATION DIAGRAM

SHEET 2 OF 5



North point relationships are shown for the centre of the map. Magnetic north is true for 1990

GRID/MAGNETIC ANGLE -11°9'1"
GRID CONVERGENCE -1°5'50.11"
SECULAR VARIATION 0°3'37" west per year

Scale 1:20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

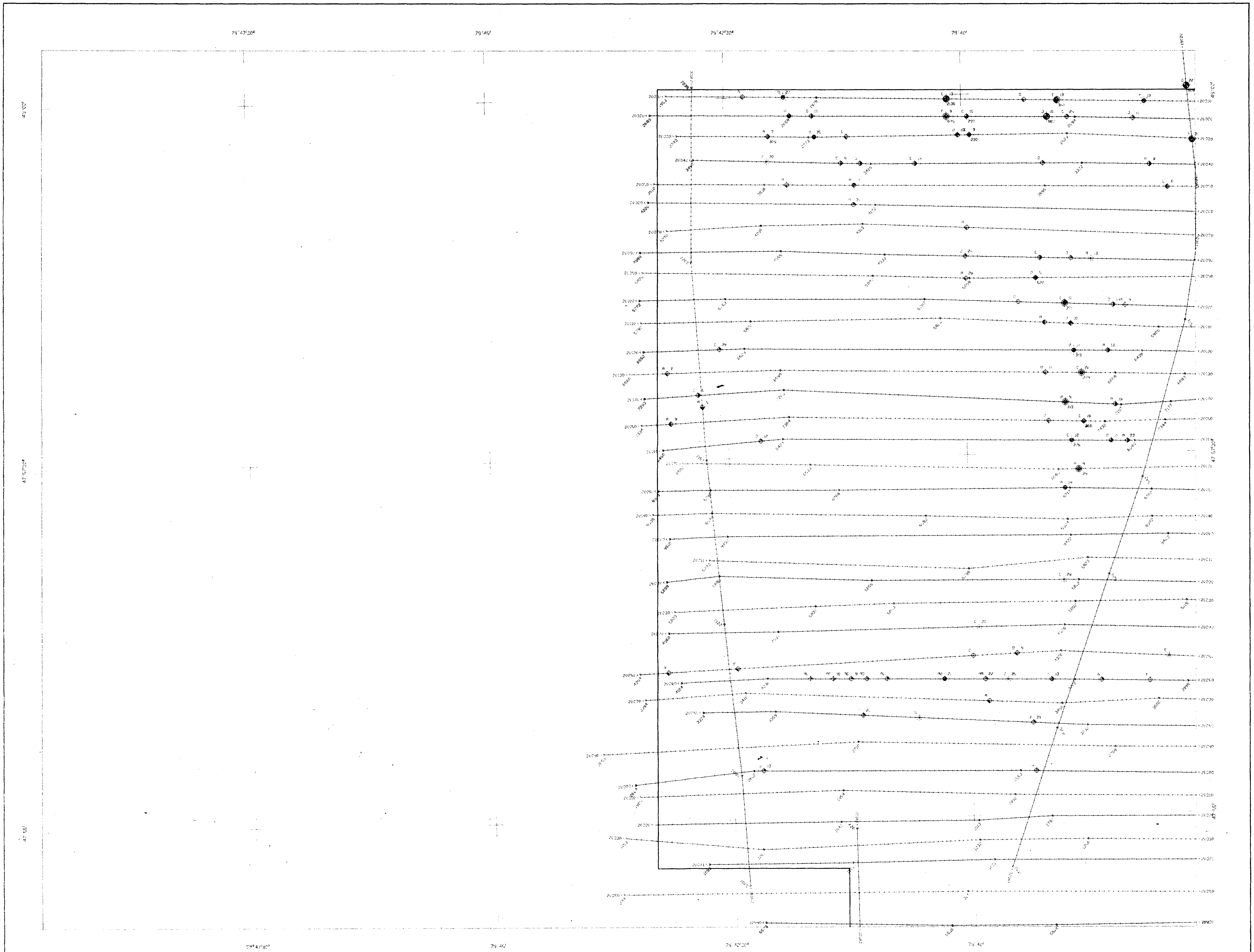
HUBACHECK
AIRBORNE GEOPHYSICAL SURVEY
SUDBURY CONTACT MINES LTD.

Surveyed and compiled by QUESTOR SURVEYS LIMITED
August 1990 - March 1991
Job No. 90082

AIRCRAFT
C-FDRG SHORTS SKYVAN
ELECTROMAGNETIC SYSTEM
QUESTEM Time Domain Electromagnetic System
PULSE WIDTH 2.0 msec
REPETITION RATE 190 pulses/sec
RECEIVER COIL Horizontal Axis
NUMBER OF CHANNELS 12
DATA ACQUISITION
PICODAS P1020 DIGITAL ACQUISITION
RMS GR33 ANALOGUE RECORDER
GEOCAM 35mm CAMERA, INTERVALOMETER AND FIDUCIAL SYSTEM
FLIGHT LINE SPACING
TRAVERSE LINES 200 metres
TIE LINES app. 5000 metres
FLIGHT LINE DIRECTION
TRAVERSE LINES 090 - 270 degrees
TIE LINES 000 - 180 degrees
SURVEY HEIGHT
122 metres - MEAN TERRAIN CLEARANCE
NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS
FLIGHT PATH RECOVERY
ONTO U.T.M. CONTROLLED PHOTOGRAPHS

340

63 6155



EM ANOMALY MAP

LEGEND

INPUT PEAK RESPONSE SYMBOLS

SURFICIAL	UP-DIP	BEDROCK	
			1 channel
			2 channel
			3 channel
			4 channel
			5 channel
			6 channel
			7 channel
			8 channel
			9 channel
			10 channel
			11 channel
			12 channel

Cultural Response

Anomaly Letter

Apparent Conductivity Width (siemens)

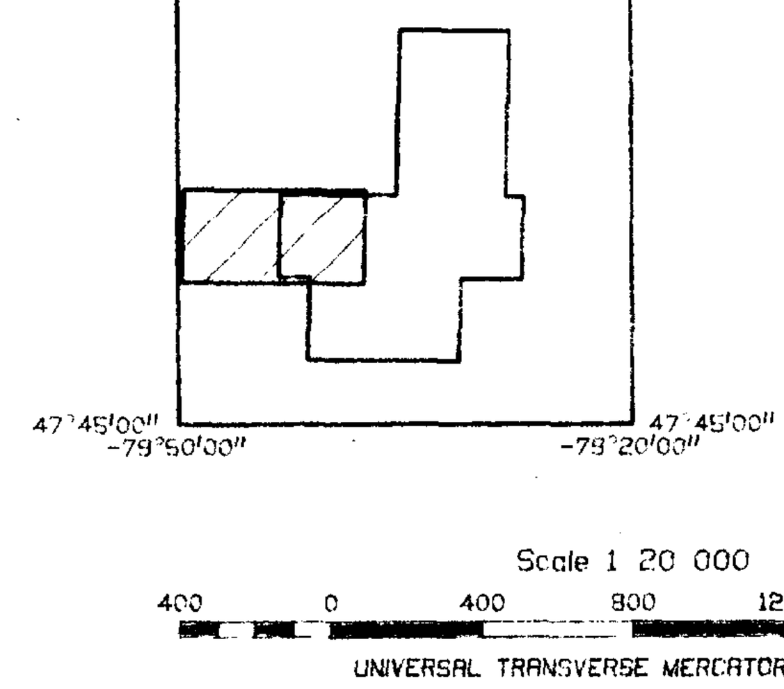
Poorly Defined Response

Channel 4 Amplitude (ppm)

Associated Magnetic Response

LOCATION DIAGRAM

SHEET 3 OF 5



GRID NORTH

TRUE NORTH

MAGNETIC NORTH

North point relationships are shown for the centre of the map
Magnetic north is true for 1990

CRID/MAGNETIC ANGLE -11°2'23"
CRID CONVERGENCE -0°56'42.19"
SECULAR VARIATION 0°3'38" west per year

AIRCRAFT
C-GDRG SHORTS SKYVAN

ELECTROMAGNETIC SYSTEM
QUESTEM Time Domain Electromagnetic System
PULSE WIDTH 2.0 msec
REPETITION RATE 180 pulses/sec
RECEIVER COIL Horizontal Axis
NUMBER OF CHANNELS 12

DATA ACQUISITION
PICODAS P1000 DIGITAL ACQUISITION
RMS CR33 ANALOGUE RECORDER
GEOCAM 35mm CAMERA, INTERVALOMETER AND FIDUCIAL SYSTEM

FLIGHT LINE SPACING
TRAVERSE LINES 200 metres
TIE LINES app. 5000 metres

FLIGHT LINE DIRECTION
TRAVERSE LINES 090 - 270 degrees
TIE LINES 000 - 180 degrees

SURVEY HEIGHT
122 metres MEAN TERRAIN CLEARANCE

NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS

FLIGHT PATH RECOVERY
ONTO U.T.M. CONTROLLED PHOTOGRAPHS

HUBACHECK
AIRBORNE GEOPHYSICAL SURVEY
SUDBURY CONTACT MINES LTD.

Surveyed and compiled by QUESTOR SURVEYS LIMITED
August 1990 - March 1991
Job No. 90060

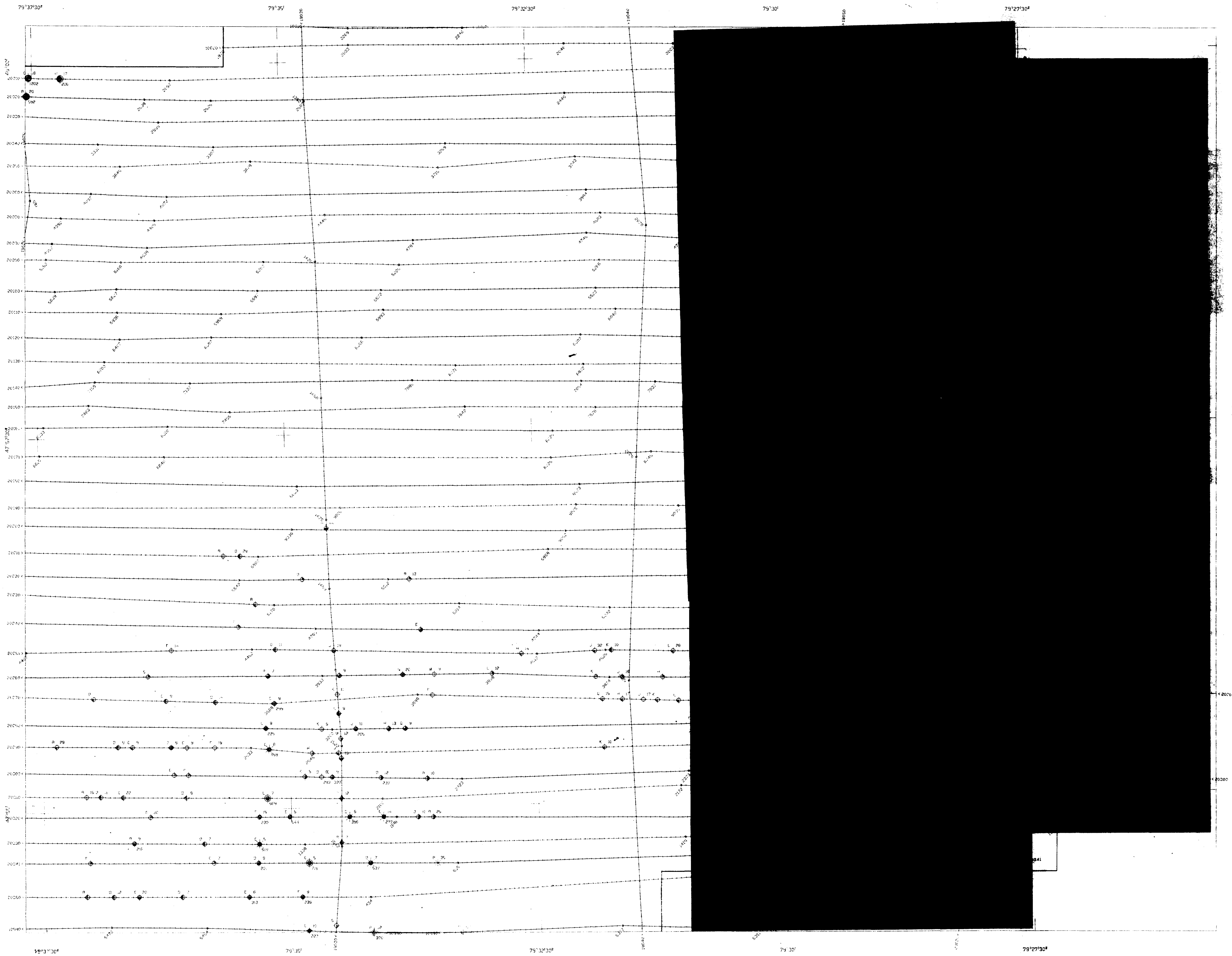
Scale 1 20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

63.6155

350



[redacted]

EM ANOMALY MAP

HUBACHECK
AIRBORNE GEOPHYSICAL SURVEY
SUDBURY CONTACT MINES LTD.

Surveyed and compiled by QUESTOR SURVEYS LIMITED
August 1990 – March 1991
Job No. 90002

AIRCRAFT
C-GDRG SHORTS SKYVAN

ELECTROMAGNETIC SYSTEM
QUESTEM Time Domain Electromagnetic System

PULSE WIDTH	2.0 msec
REPETITION RATE	390 pulses/sec
RECEIVER COIL	Horizontal Axis
NUMBER OF CHANNELS	12

DATA ACQUISITION
PICODAS P1000 DIGITAL ACQUISITION
RMS GR33 ANALOGUE RECORDER
GEOCAM 35mm CAMERA, INTERVALOMETER AND FIDUCIAL SYSTEM

FLIGHT LINE SPACING

TRAVERSE LINES	300 metres
TIE LINES	app. 5000 metres

FLIGHT LINE DIRECTION

TRAVERSE LINES	090 – 270 degrees
TIE LINES	000 – 180 degrees

SURVEY HEIGHT
122 metres MEAN TERRAIN CLEARANCE

NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS

FLIGHT PATH RECOVERY
ONTO U.T.M. CONTROLLED PHOTOGRAPHS

LEGEND

Cultural Response

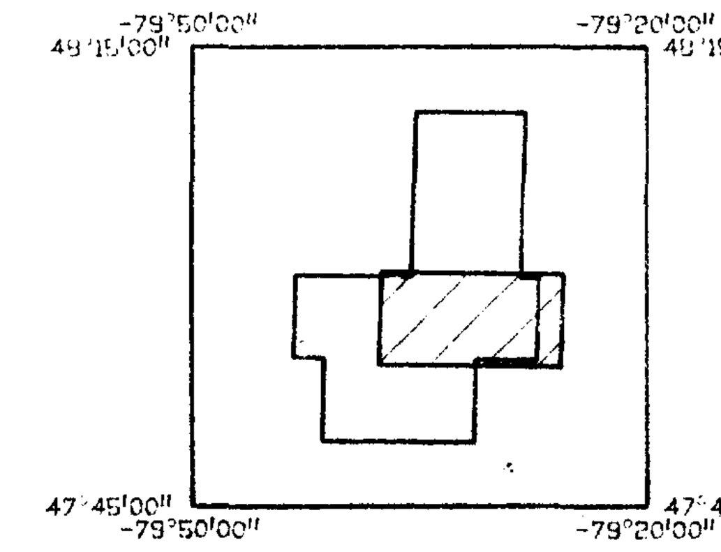
Anomaly Letter — F, 9 — Apparent Conductivity Width (siemens)
Poorly Defined Response — 213 — Channel 4 Amplitude (ppm)

Associated Magnetic Response 165

INPUT PEAK RESPONSE SYMBOLS

SURFICIAL	UP-DIP	BEDROCK	
			1 channel
			2 channel
			3 channel
			4 channel
			5 channel
			6 channel
			7 channel
			8 channel
			9 channel
			10 channel
			11 channel
			12 channel

LOCATION DIAGRAM
SHEET 4 OF 5



GRID NORTH
TRUE NORTH
MAGNETIC NORTH

North point relationships are shown for the centre of the map. Magnetic north is true for 1990

GRID/MAGNETIC ANGLE	-11°5'11"
GRID CONVERGENCE	-1°5'39.12"
SECULAR VARIATION	0°2'37" west per year

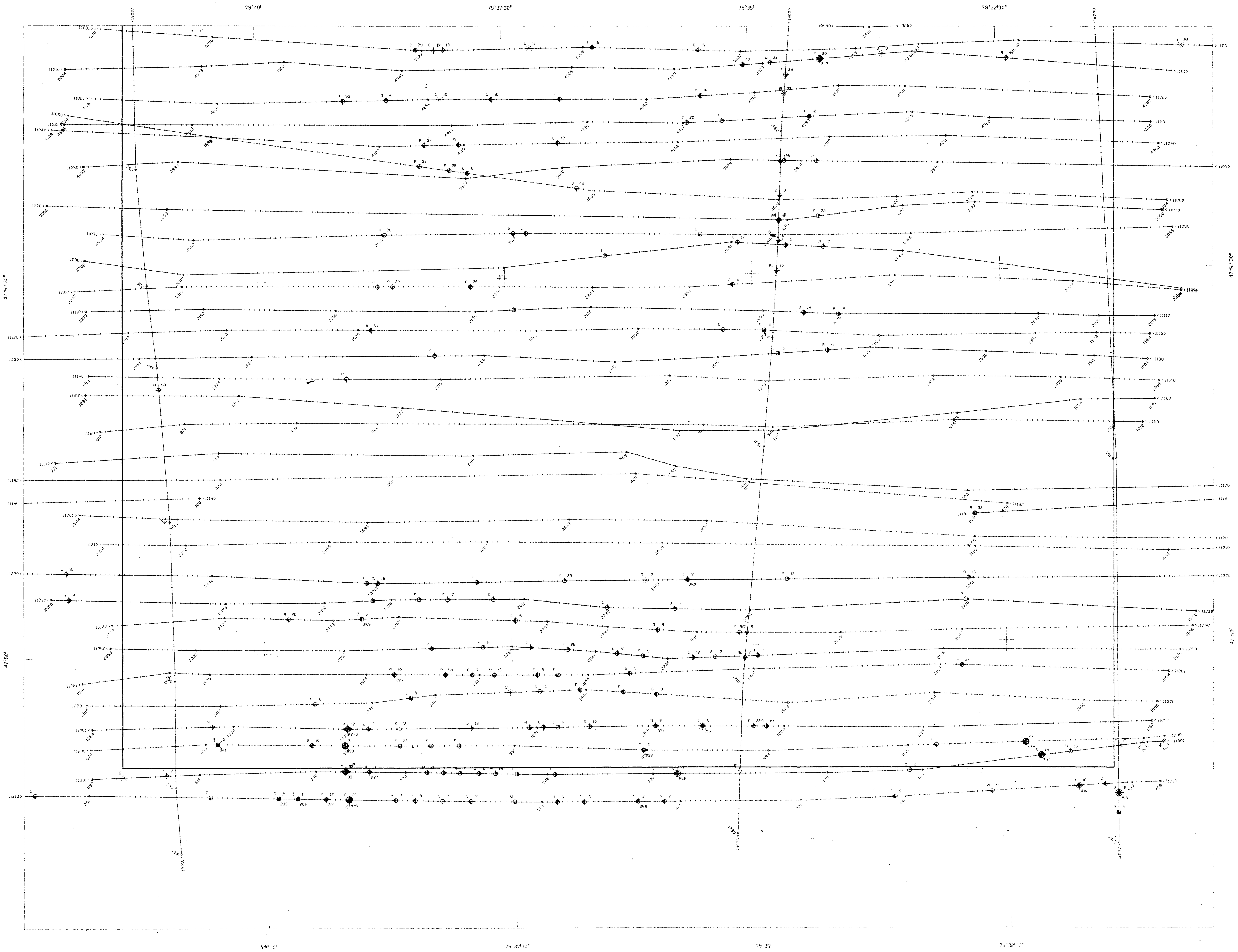
Scale 1 20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

360

63.6155



EM ANOMALY MAP

LEGEND

INPUT PEAK RESPONSE SYMBOLS

SURFICIAL	UP-DIP	BEDROCK	
			1 channel
			2 channel
			3 channel
			4 channel
			5 channel
			6 channel
			7 channel
			8 channel
			9 channel
			10 channel
			11 channel
			12 channel

Cultural Response

Anomaly Letter — F 9 — Apparent Conductivity Width (siemens)

Poorly Defined Response — 213 — Channel 4 Amplitude (ppm)

Associated Magnetic Response 165

AIRCRAFT
C-GDRG SHORTS SKYVAN

ELECTROMAGNETIC SYSTEM
QUESTEM Time Domain Electromagnetic System
PULSE WIDTH 2.0 msec
REPETITION RATE 180 pulses/sec
RECEIVER COIL Horizontal Axis
NUMBER OF CHANNELS 12

DATA ACQUISITION
PICODAS P1000 DIGITAL ACQUISITION
RMS GR33 ANALOGUE RECORDER
GEOCAM 35mm CAMERA, INTERVALOMETER AND FIDUCIAL SYSTEM

FLIGHT LINE SPACING
TRAVERSE LINES 300 metres
TIE LINES app. 5000 metres

FLIGHT LINE DIRECTION
TRAVERSE LINES 090 - 270 degrees
TIE LINES 000 - 180 degrees

SURVEY HEIGHT
122 metres - MEAN TERRAIN CLEARANCE

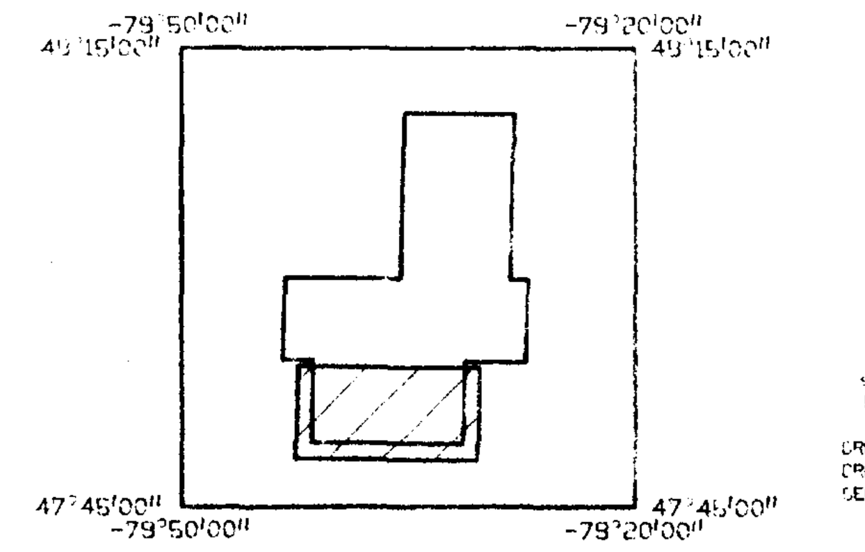
NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS

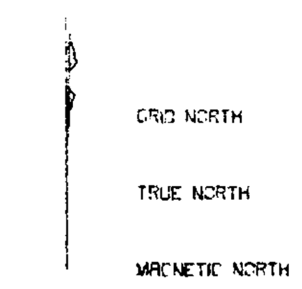
FLIGHT PATH RECOVERY
ONTO U.T.M. CONTROLLED PHOTOGRAPHS

HUBACHECK
AIRBORNE GEOPHYSICAL SURVEY
SUDBURY CONTACT MINES LTD.

Surveyed and compiled by QUESTOR SURVEYS LIMITED
August 1990 - March 1991
Job No. 90-2-2

LOCATION DIAGRAM
SHEET 5 OF 5





North point relationships are shown for the centre of the map
Magnetic north is true for 1990

GRID/MAGNETIC ANGLE -11°0'19"
GRID CONVERGENCE -1°2'0.10"
SECULAR VARIATION 0°3'37" west per year

Scale 1:20 000

400 0 400 800 1200 1600 2000 metres

UNIVERSAL TRANSVERSE MERCATOR MAP GRID

63.6155

32D04NW0056 63.6155 MCVITTIE

370