



31L07NW0001 2 16603 MATTAWAN

010

**Area #1 MATTAWAN TWP. GARNET STUDY**

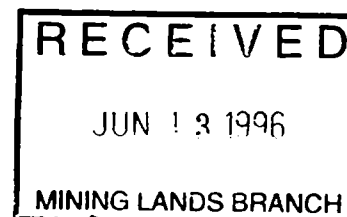
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31L07NW0001 2 16603 MATTAWAN

010C



**2.16603**

*Qual. # 2.10828*

## INTRODUCTION

To delineate the contacts of an ultramafic body partially covered by overburden and to discriminate between the olivine rich core and the garnetiferous aureole surrounding it a gradient magnetometer and a VLF survey was conducted over this study area.

## LOCATION & ACCESS

The area of this study is shown on the index map 1-1. This area is located in Mattawan twp along highway 533 about 15 kilometers northwest of the town of Mattawa. The area is located in the Cobalt Resident Geologist's District

## DESCRIPTION OF ACTIVITIES

On May 7, a visit to the site was made to examine the possible southward extension of this ultramafic body along the high power transmission lines.

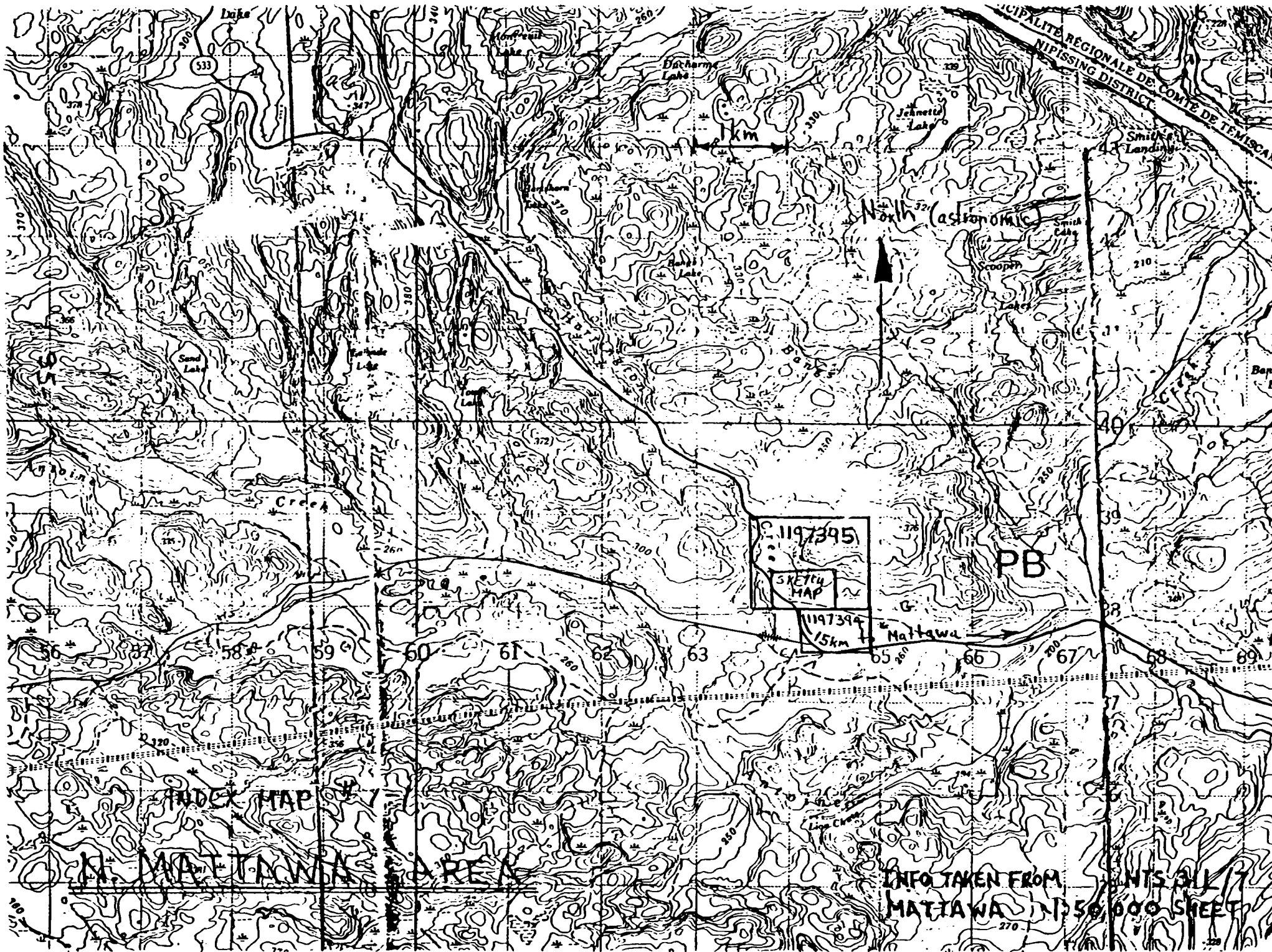
Samples of the surrounding garnetiferous aureole were collected and thin sections cut which were then sent to J. A Stoness for petrographic examination in May. A meeting was later held with the J. A. Stoness to discuss the results.

On October 13 two linecutters were set up for cutting of the baseline which was completed as confirmed by my inspection on October 17.

On October 27, 28 and 31 Joe Kowal blazed and flagged the cross lines at 25 meter intervals. *TOTAL DISTANCE 8,975m*

On December 21, 1994 Dan Patrie, and his assistant Scott Whalen, on behalf of Norwin Geological Limited, performed a gradient magnetometer and VLF survey on this site. *TOTALING 469 READINGS @ 25m STATIONS FOR A TOTAL DISTANCE OF 10,925m*

*→ 1,950m long*



MUNICIPALITE REGIONALE DE COMTE DE TEMISCAMING  
MUNICIPALITE REGIONALE DE COMTE DE TEMISCAMING DISTRICT

1 km



1197395  
SKETCH MAP  
1197394  
15 km

PB

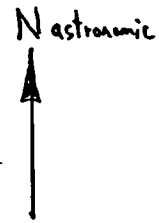
Mattawa

INDEX MAP

N. MATTAWA AREA

INFO TAKEN FROM PLANTS 3117  
MATTAWA N:50,000 SHEET

SKETCH MAP 1-2  
OF AREA #1



HUMMOCKY  
TERRAIN

CONTACT?

SMOOTH  
EVEN SL RECESSIVE  
TERRAIN

CONTOURED FELDSPATHIC QZ GNEISS  
WITH OCCASIONAL MINOR BANDS OF GARNET GNEISS  
AND NARROW 1-4" WIDE PECHLITE NEAR CONTACT.

DIOPSIDE GARNET  
GNEISS?

FELDSPATHIC GNEISS

AREA OF GREEN  
DIOPSIDE GARNET  
GNEISS  
PINNACLED SIZED GARNETS  
NEAR CONTACTS.

NO O/C

AREA OF  
BLACK OLIVINE  
GARNET AMPHIBOLITE

VER-LINE  
GARNET  
CLUSTERS

LOW  
WITH NO  
O/C

DIOPSIDE GARNET GNEISS

OP-M

OLIVINE  
PERIDOTITE

ROGGED  
TERRAIN

SAMPLE  
MP

APM

SAMPLE  
MO

LEVEL

SANDY  
GRAVEL

NO O/C

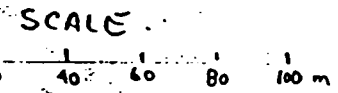
LEVEL

SANDY  
GRAVEL

NO O/C

HWY 533

CLAIM  
1197395  
CP4 of CLAIM  
1197394



FELDSPATHIC  
QZ GNEISS

4-11

150p  
27



## **GEOLOGICAL OBSERVATIONS**

The results of J. A. Stoness's examination concludes that the garnetiferous aureole rock is a metamorphosed eclogite.

The results of the gradient magnetometer survey clearly shows the magnetic anomaly associated with magnetite in the dunitic core and gives the arcuate configuration of this body from line 900 to line 1200 and gives the apparent foliation of the surrounding gneiss. The magnetic lows within this body may indicate alteration of the magnetite. Interpretation of the eclogite boundaries will require further field observations. To the south in the area of the sand plain the magnetic field loses its strength and may indicate a termination of the ultramafic or alternatively a significant depth of sand.

The VLF survey conducted indicates a potential conductor along line 1000 which may also be due to a conductive interface along the boundary of the ultramafic body. The VLF contours also effectively outline the arcuate form of this body. Another crossover on line 1200 near the baseline may be due to graphite found near the contact of the surrounding gneiss. Again as with the Gradient Magnetometer survey there is a variation under the area of the sand plain. In this particular survey though, it may be that the trend of the formations bends to a east-west direction.

## **CONCLUSION**

Both the gradient magnetometer survey and the VLF survey indicate the general form of this ultramafic body and outline the general trend of the surrounding gneisses.

Further field observations and perhaps trenching would be required to delineate the contacts with the surrounding eclogitic aureole.

An intriguing conductor lies along the western nose of this ultramafic body and would be an interesting drill target.

A beepmat survey should be conducted over the ultramafic body and samples taken for evaluating the PGE potential of this site.

**APPENDIX 1**  
**Magnetometer Data**

-25	401.6	.03	0.0	9:43:34	88	-2.2
25	375.7	.03	0.0	9:44:29	88	-2.2
50	371.0	.03	0.0	9:45:19	88	-2.7
75	356.9	.04	0.0	9:45:55	88	-0.5
100	343.2	.04	0.0	9:46:32	88	-1.3
125	340.6	.04	0.0	9:47:05	88	-3.4
150	342.7	.04	0.0	9:47:47	88	-2.1
175	354.0	.04	0.0	9:48:23	88	-2.0
200	372.3	.03	0.0	9:48:51	88	0.4

Line	600	Date	21	DEC	94	#47			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT		
0	159.2	.04	0.0	9:54:27	88		-2.5		
-25	273.4	.04	0.0	9:56:07	88		1.3		
-50	334.3	.04	0.0	9:57:05	88		-2.6		
-75	426.0	.04	0.0	9:57:38	88		-1.0		
-100	691.2	.03	0.0	9:58:55	88		5.1		
-125	734.5	.04	0.0	9:59:35	88		5.5		
-150	709.8	.04	0.0	10:00:16	88		-1.0		
-175	674.1	.04	0.0	10:01:14	88		2.9		
-200	629.3	.04	0.0	10:01:56	88		3.0		
-225	572.9	.04	0.0	10:02:39	88		2.7		
-250	526.0	.04	0.0	10:03:12	88		0.1		
-275	470.4	.04	0.0	10:03:55	88		-0.8		
-300	424.4	.04	0.0	10:04:37	88		2.3		
-325	394.8	.04	0.0	10:05:13	88		1.7		
-350	358.9	.04	0.0	10:05:51	88		3.9		
-375	308.0	.04	0.0	10:06:25	88		-1.2		
-400	286.5	.04	0.0	10:06:59	88		2.3		
-425	264.8	.04	0.0	10:07:43	88		2.7		
-450	264.0	.04	0.0	10:08:27	88		3.1		
-475	240.7	.04	0.0	10:09:07	88		-2.3		
-500	237.3	.04	0.0	10:10:13	88		5.8		
-525	219.8	.04	0.0	10:10:57	88		2.5		
-550	225.8	.04	0.0	10:11:28	88		4.9		

*Line	400	Date	21	DEC	94	#70			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT		
-450	286.9	.04	0.0	10:17:17	88		2.7		

Line	800	Date	21	DEC	94	#71			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT		
-350	423.6	.04	0.0	10:33:55	88		-4.7		
-325	493.3	.04	0.0	10:34:56	88		-5.2		
-300	609.8	.03	0.0	10:35:38	88		-2.9		
-275	724.5	.04	0.0	10:36:18	88		-3.1		
-250	920.7	.04	0.0	10:37:07	88		-4.6		
-225	1186.4	.04	0.0	10:37:44	88		0.0		
-200	1635.3	.03	0.0	10:38:25	88		13.5		
-175	1808.4	.03	0.0	10:39:09	88	66	16.5		
-150	1583.8	.03	0.0	10:39:51	88		3.1		
-125	377.7	.05	0.0	10:40:39	88		-31.3		
-100	94.2	.04	0.0	10:42:24	88	55	-19.2		
-75	-100.5	.05	0.0	10:43:24	88		-12.2		
-50	-209.5	.04	0.0	10:44:15	88		-12.5		
-25	-171.2	.04	0.0	10:45:08	88		-8.0		
0	-305.2	.05	0.0	10:46:08	88		-9.0		

Line	1000	Date	21	DEC	94	#86			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT		
0	-194.6	.05	0.0	10:52:40	88		-8.3		
-25	-497.7	.06	0.0	10:54:00	88		-57.2		
-50	-493.7	.05	0.0	10:54:37	88		-32.3		
-75	-266.4	.04	0.0	10:55:16	88		-5.5		
-100	148.9	.06	0.0	10:55:47	88		-66.7		
-125	1403.7	.04	0.0	10:56:18	88		64.7		

-150	621.1	.08	0.0	10:56:49	88		-211.7
-175	2939.0	.10	0.0	10:57:28	88		-226.4
-200	550.6	1.0	0.0	10:58:00	78	66	-349.3
-225	5013.3	1.5	0.0	10:58:44	78	88	393.8
-250	3848.8	7.4	0.0	10:59:37	78	55	2461.5
-275	1461.5	.05	0.0	11:00:21	88	66	43.1
-300	1180.2	.05	0.0	11:01:13	88	55	-79.2
-325	1591.5	.03	0.0	11:01:53	88		14.7
-350	1719.8	.03	0.0	11:02:34	88	65	-80.7
-375	1823.4	.03	0.0	11:03:17	88	66	26.3
-400	1927.5	.04	0.0	11:03:53	88		33.0
-425	1661.2	.04	0.0	11:04:30	88		17.6
-450	1502.0	.04	0.0	11:05:04	88		14.4
-475	1369.4	.04	0.0	11:05:34	88		16.1
-500	1078.8	.04	0.0	11:06:10	88	55	8.8
-525	806.9	.04	0.0	11:06:47	88		2.6
-550	656.0	.04	0.0	11:07:22	88		2.7
-575	558.2	.04	0.0	11:07:50	88		5.0

Line 1200	Date 21	DEC 94	#110				
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT
-575	-358.7	.05	0.0	11:15:16	88		-7.1
-550	-382.8	.06	0.0	11:15:59	88		-15.5
-525	-226.6	.05	0.0	11:16:41	88		-13.3
-500	86.9	.04	0.0	11:17:28	88		13.8
-475	272.0	.05	0.0	11:18:08	88		22.2
-450	0.7	.04	0.0	11:19:00	88		0.0
-425	-368.0	.04	0.0	11:19:42	88		-24.7
-400	-219.6	.04	0.0	11:20:25	88		-4.2
-375	-353.9	.05	0.0	11:21:01	88		-16.7
-350	-504.7	.05	0.0	11:21:37	88		-19.1
-325	-503.3	.04	0.0	11:22:14	88		6.3
-300	-200.9	.04	0.0	11:22:59	88		5.8
-275	-1151.8	.08	0.0	11:23:42	88		-98.3
-250	-643.3	.05	0.0	11:24:29	88		-20.6
-225	-822.0	.05	0.0	11:25:52	88		-34.0
-200	-443.4	.05	0.0	11:26:54	88		43.4
-175	129.9	.04	0.0	11:27:53	88		-22.0
-150	-689.4	.05	0.0	11:28:52	88		-41.3
-125	-647.2	.05	0.0	11:29:45	88		-20.3
-100	-601.9	.04	0.0	11:30:39	88		-18.1
-75	-524.1	.04	0.0	11:31:30	88		-23.4
-50	54.4	.04	0.0	11:32:28	88		54.9
-25	-211.4	.04	0.0	11:33:36	88		2.8
0	-255.4	.05	0.0	11:34:32	88		1.5

Line 1400	Date 21	DEC 94	#134				
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT
0	-229.2	.04	0.0	11:39:57	88		-10.2
-25	42.5	.04	0.0	11:40:52	88		7.3
-50	93.1	.04	0.0	11:41:26	88		2.6
-75	87.2	.05	0.0	11:41:59	88		15.5
-100	34.8	.04	0.0	11:42:33	88		-7.3
-125	157.3	.04	0.0	11:43:10	88		-2.7
-150	447.4	.03	0.0	11:43:48	88		3.6
-175	959.0	.03	0.0	11:44:22	88		17.8
-200	1372.8	.04	0.0	11:44:56	88		37.8
-225	816.3	.04	0.0	11:45:35	88		-17.0
-250	383.1	.04	0.0	11:46:17	88		-4.5
-275	210.5	.04	0.0	11:47:05	88		11.5
-300	146.7	.04	0.0	11:47:50	88		7.3
-325	95.0	.04	0.0	11:48:40	88		15.1
-350	254.8	.05	0.0	11:49:18	88		106.1
-375	-70.7	.04	0.0	11:49:52	88		-2.5
-400	-74.0	.04	0.0	11:50:26	88		5.5
-425	-137.5	.04	0.0	11:51:25	88		12.5



-450 -176.4 .04 0.0 11:51:56 88 7.7

Line 1800	Date 21	DEC 94	#153			
POSITION	FIELD	ERR	DRIFT	TIME	DS CULT	GRADIENT
-525	-14.0	.05	0.0	11:59:26 88		18.3
-500	-146.2	.05	0.0	12:00:20 88		-25.4
-475	742.2	.07	0.0	12:01:07 88		151.1
-450	-437.5	.05	0.0	12:01:55 88		-34.8
-425	-321.3	.05	0.0	12:02:44 88		-9.4
-400	-166.6	.05	0.0	12:03:37 88		21.7
-375	-304.8	.05	0.0	12:04:34 88		14.0
-350	-260.6	.04	0.0	12:05:31 88		14.6
-325	-292.5	.04	0.0	12:06:23 88		1.0
-300	-316.5	.04	0.0	12:08:20 88		-6.4
-275	-337.6	.04	0.0	12:09:16 88		2.6
-250	-380.1	.05	0.0	12:10:15 88		-1.5
-225	-332.7	.04	0.0	12:11:08 88		-19.9
-200	-151.3	.04	0.0	12:12:19 88		-3.1
-175	-221.3	.05	0.0	12:13:13 88		-21.7
-150	-47.5	.05	0.0	12:14:14 88		40.9
-125	-185.8	.05	0.0	12:15:20 88		-11.3
-100	-131.8	.05	0.0	12:16:15 88		17.8
-75	-229.8	.05	0.0	12:17:00 88		-8.5
-50	5.6	.05	0.0	12:17:48 88		19.8
-25	-15.1	.06	0.0	12:18:35 88		52.0
0	-210.0	.05	0.0	12:19:28 88		16.9

Line 1800	Date 21	DEC 94	#175			
POSITION	FIELD	ERR	DRIFT	TIME	DS CULT	GRADIENT
0	-297.6	.05	0.0	12:35:40 88		5.1
-25	-337.0	.05	0.0	12:37:20 88		16.2
-50	-354.5	.05	0.0	12:38:07 88		-26.6
-75	-361.7	.05	0.0	12:38:51 88		-20.9
-100	-290.7	.04	0.0	12:39:42 88		1.5
-125	-597.4	.05	0.0	12:41:36 88		-44.7
-150	-389.2	.05	0.0	12:42:24 88		-10.1
-175	-414.5	.05	0.0	12:43:30 88		-2.7

EOF

0775  
4

OMNI-PLUS Tie-line MAG/VLF V12L Ser #18081  
TOTAL FIELD DATA (uncorrected)  
& GRADIENT

Reference field: 58180.0  
Datum subtracted: 57500.0 Date 21 DEC 94  
Operator: 5005  
Records: 282  
Bat: 16.4 Volt Lithium: 3.48 Volt  
Last time update: 11/23 8:57:00  
Start of print: 12/21 15:07:29

Line	0	Date	21 DEC 94	#1				
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT	
#1	-1130.3	.00	0.0	9:03:44	88	86		

Line	100	Date	21 DEC 94	#2				
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT	
100	107.4	.07	0.0	9:12:26	88		10.1	
75	99.9	.07	0.0	9:13:20	88		6.6	
50	84.7	.06	0.0	9:14:03	88		6.6	
25	88.8	.06	0.0	9:14:45	88		5.4	
0	106.4	.07	0.0	9:15:32	88		9.3	
-25	113.2	.07	0.0	9:16:20	88		6.7	
-50	138.3	.07	0.0	9:16:59	88		8.7	
-75	203.1	.07	0.0	9:17:41	88		12.1	
-100	189.0	.07	0.0	9:18:27	88		3.6	

Line	300	Date	21 DEC 94	#11				
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT	
-350	250.0	.07	0.0	9:22:57	88		1.1	
-325	198.5	.07	0.0	9:24:43	88		5.4	
-300	214.0	.07	0.0	9:25:30	88		1.3	
-275	255.9	.07	0.0	9:26:07	88		4.9	
-250	253.3	.07	0.0	9:27:14	88		7.4	
-225	255.0	.07	0.0	9:27:59	88		5.6	
-200	265.8	.07	0.0	9:28:35	88		3.1	
-175	295.3	.07	0.0	9:29:19	88		8.6	
-150	294.1	.07	0.0	9:30:00	88		9.8	
-125	274.6	.07	0.0	9:30:39	88		6.7	
-100	281.8	.07	0.0	9:31:34	88		8.1	
-75	325.2	.07	0.0	9:32:27	88		9.1	
-50	325.7	.07	0.0	9:33:05	88		12.8	
-25	343.6	.07	0.0	9:33:54	88		11.3	
0	307.1	.07	0.0	9:34:36	88		6.9	
25	315.2	.07	0.0	9:35:32	88		7.6	
50	288.7	.07	0.0	9:36:15	88		4.0	
75	321.5	.07	0.0	9:36:50	88		8.2	
100	330.3	.07	0.0	9:37:28	88		8.6	
125	313.2	.07	0.0	9:38:05	88		4.5	
150	322.2	.07	0.0	9:38:45	88		4.0	
175	338.2	.06	0.0	9:39:23	88		4.8	
200	371.0	.07	0.0	9:40:05	88		5.9	
225	404.9	.08	0.0	9:41:00	88		10.3	
250	429.0	.07	0.0	9:41:42	88		8.0	

Line	500	Date	21 DEC 94	#36			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT
250	275.0	.08	0.0	9:55:32	88		3.8
225	295.1	.07	0.0	9:57:53	88		8.4
200	226.8	.07	0.0	9:58:56	88		5.1
175	275.4	.07	0.0	10:00:15	88		10.0
150	278.9	.07	0.0	10:00:55	88		11.0
125	256.0	.07	0.0	10:01:28	88		7.1
100	273.0	.07	0.0	10:02:08	88		7.0
75	307.2	.07	0.0	10:02:51	88		11.3
50	325.3	.08	0.0	10:03:33	88		8.9
25	386.4	.07	0.0	10:04:11	88		10.5
0	456.3	.07	0.0	10:10:43	88		6.9
-25	508.6	.06	0.0	10:11:59	88		9.8
-50	513.8	.07	0.0	10:12:43	88		7.1
-75	496.2	.07	0.0	10:13:26	88		3.1
-100	514.3	.06	0.0	10:14:59	88		5.2
-125	490.1	.06	0.0	10:15:36	88		2.2
-150	493.1	.08	0.0	10:16:17	88		3.8
-175	482.1	.07	0.0	10:17:04	88		4.1
-200	447.1	.08	0.0	10:17:42	88		7.5
-225	415.6	.07	0.0	10:18:17	88		3.2
-250	382.6	.08	0.0	10:18:52	88		2.2
-275	363.6	.07	0.0	10:19:30	88		1.7
-300	349.2	.07	0.0	10:20:08	88		2.6
-325	329.2	.08	0.0	10:20:43	88		5.4
-350	324.5	.07	0.0	10:21:24	88		1.4
-375	316.1	.07	0.0	10:21:58	88		3.9
-400	292.2	.08	0.0	10:22:27	88		1.8
-425	281.9	.07	0.0	10:22:59	88		1.5
-450	267.3	.07	0.0	10:23:35	88		6.1
-475	183.4	.07	0.0	10:24:11	88		-16.8
-500	261.4	.07	0.0	10:24:48	88		2.0
-525	258.6	.08	0.0	10:25:25	88		5.2
-550	261.8	.07	0.0	10:25:59	88		7.3
-575	253.6	.07	0.0	10:26:31	88		5.1
-600	236.4	.07	0.0	10:27:00	88		1.8

Line	700	Date	21 DEC 94	#71			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT
-500	243.4	.08	0.0	10:31:51	88		1.7
-475	251.8	.07	0.0	10:33:10	88		6.7
-450	268.7	.07	0.0	10:33:58	88		0.2
-425	288.8	.07	0.0	10:34:44	88		4.3
-400	333.3	.07	0.0	10:35:22	88		6.9
-375	376.4	.07	0.0	10:35:57	88		3.2
-350	415.3	.07	0.0	10:36:41	88		0.4
-325	472.2	.08	0.0	10:37:17	88		2.0
-300	549.7	.08	0.0	10:37:55	88		4.0
-275	636.1	.06	0.0	10:38:39	88		9.4
-250	735.1	.07	0.0	10:39:21	88		8.8
-225	869.6	.07	0.0	10:40:03	88		10.8
-200	1029.8	.08	0.0	10:40:43	88		16.1
-175	1202.4	.08	0.0	10:41:19	88		17.1
-150	1310.9	.08	0.0	10:41:58	88		21.2
-125	1317.6	.08	0.0	10:42:33	88		21.1
-100	1164.1	.08	0.0	10:43:14	88		17.3
-75	767.4	.07	0.0	10:43:49	88		12.1
-50	204.5	.05	0.0	10:44:37	88		-9.2
-25	-21.3	.07	0.0	10:45:11	88		-7.8
0	-2.9	.07	0.0	10:45:58	88		5.0

Line	900	Date	21 DEC 94	#82			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT
0	-431.9	.05	0.0	10:50:41	88		-41.2

-25	-400.8	.05	0.0	10:52:08	88		-8.2
-50	-328.5	.06	0.0	10:52:47	88		-2.7
-75	-409.9	.04	0.0	10:53:46	88		-23.1
-100	-417.6	.04	0.0	10:54:25	88		-37.3
-125	446.5	.08	0.0	10:55:07	88		-162.1
-150	4918.4	.26	0.0	10:55:53	68	88	456.6
-175	1434.3	.06	0.0	10:57:32	88	55	-41.9
-200	1715.0	.09	0.0	10:58:40	88		-20.9
-225	1671.2	.09	0.0	10:59:22	88	66	13.1
-250	2395.6	.04	0.0	11:00:00	88	56	-1.4
-275	2066.3	.08	0.0	11:00:53	88		0.3
-300	1666.5	.07	0.0	11:01:26	88		10.8
-325	1370.9	.07	0.0	11:01:58	88		3.3
-350	1207.0	.08	0.0	11:02:29	88	55	4.8
-375	1086.6	.08	0.0	11:03:20	88		6.6
-400	879.4	.07	0.0	11:06:19	88		-5.2

Line 1100	Date 21	DEC 94	#109				
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT
-550	401.1	.06	0.0	11:12:22	88		1.9
-525	544.6	.07	0.0	11:13:31	88		7.9
-500	630.6	.06	0.0	11:14:25	88		11.2
-475	597.2	.07	0.0	11:15:07	88		6.2
-450	599.3	.07	0.0	11:15:45	88		15.5
-425	300.5	.06	0.0	11:16:20	88		-14.5
-400	660.7	.08	0.0	11:17:00	88		-6.7
-375	817.9	.08	0.0	11:17:45	88		16.8
-350	838.0	.07	0.0	11:18:26	88		-15.8
-325	1155.7	.07	0.0	11:19:21	88		64.9
-300	1370.0	.40	0.0	11:20:29	88		-264.5
-275	3937.6	3.4	0.0	11:21:22	48	85	1020.0
-250	-89.3	.21	0.0	11:22:13	68	50	-477.2
-225	1402.1	.51	0.0	11:22:52	78		-331.1
-200	-3944.1	7.9	0.0	11:24:39	68		-1770.0
-175	63.2	.04	0.0	11:25:20	88		-104.9
-150	323.5	.08	0.0	11:26:20	88		-134.8
-125	807.2	.07	0.0	11:27:07	88		52.8
-100	-524.1	.04	0.0	11:27:49	88		-35.2
-75	-610.9	.07	0.0	11:28:27	88		-16.1
-50	-677.3	.05	0.0	11:29:06	88		-32.7
-25	-406.5	.07	0.0	11:29:55	88		-12.4
0	-287.9	.06	0.0	11:30:35	88		17.5

Line 1300	Date 21	DEC 94	#132				
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT	GRADIENT
0	-155.6	.06	0.0	11:36:04	88		-4.4
-25	-163.6	.06	0.0	11:38:03	88		-8.1
-50	-14.6	.07	0.0	11:38:50	88		-9.7
-75	147.8	.08	0.0	11:39:32	88		29.1
-100	163.0	.07	0.0	11:40:14	88		-2.1
-125	153.0	.07	0.0	11:40:59	88		15.4
-150	3.8	.07	0.0	11:41:42	88		-8.5
-175	-223.5	.08	0.0	11:42:29	88		-19.2
-200	-334.9	.05	0.0	11:43:27	88		8.6
-225	-339.9	.06	0.0	11:44:31	88		12.4
-250	3.0	.07	0.0	11:45:28	88		-52.7
-275	-511.8	.05	0.0	11:46:22	88		-40.2
-300	-429.7	.07	0.0	11:47:28	88		5.8
-325	-464.4	.05	0.0	11:48:16	88		-3.2
-350	-485.8	.05	0.0	11:48:59	88		-9.4
-375	-482.4	.05	0.0	11:49:40	88		-9.7
-400	-322.6	.06	0.0	11:50:17	88		8.9
-425	-406.6	.05	0.0	11:51:28	88		-3.7
-450	-307.0	.06	0.0	11:52:01	88		3.2
-475	-275.0	.06	0.0	11:53:18	88		7.4
-500	-283.2	.06	0.0	11:53:44	88		-2.5

-525 -279.7 .06 0.0 11:54:33 88 -5.3

Line 1500	Date 21	DEC 94	#154			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT GRADIENT
-550	-44.9	.06	0.0	12:06:30	88	1.1
-525	-35.1	.07	0.0	12:07:57	88	15.6
-500	-19.5	.06	0.0	12:09:04	88	-8.6
-475	30.0	.06	0.0	12:09:53	88	-9.8
-450	259.8	.08	0.0	12:11:04	88	27.0
-425	48.1	.06	0.0	12:12:58	88	-77.2
-400	175.8	.07	0.0	12:14:00	88	-6.6
-375	653.6	.08	0.0	12:15:33	88	37.2
-350	583.0	.06	0.0	12:16:19	88	44.2
-325	118.7	.04	0.0	12:17:08	88	-40.1
-300	429.9	.11	0.0	12:18:12	88	170.1
-275	47.3	.06	0.0	12:19:00	88	-97.3
-250	257.7	.08	0.0	12:19:47	88	19.0
-225	-307.5	.04	0.0	12:20:24	88	-35.2
-200	-485.9	.05	0.0	12:21:14	88	-33.2
-175	-433.5	.07	0.0	12:22:07	88	-20.0
-150	-350.4	.06	0.0	12:23:15	88	-9.5
-125	-221.8	.06	0.0	12:24:10	88	-4.2
-100	-136.3	.06	0.0	12:24:55	88	17.7
-75	-281.2	.06	0.0	12:25:40	88	-2.5
-50	-146.9	.06	0.0	12:26:07	88	11.4
-25	-121.2	.06	0.0	12:27:06	88	17.1
0	-210.0	.06	0.0	12:27:53	88	-12.1

Line 1700	Date 21	DEC 94	#177			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT GRADIENT
0	-331.9	.06	0.0	12:32:44	88	-0.4
-25	-329.2	.06	0.0	12:33:57	88	9.8
-50	-312.8	.05	0.0	12:34:38	88	10.3
-75	-343.1	.06	0.0	12:35:24	88	14.0
-100	-409.0	.06	0.0	12:36:20	88	4.2
-125	-356.8	.06	0.0	12:38:10	88	3.3
-150	-395.9	.06	0.0	12:41:23	88	-1.3
-175	-301.1	.07	0.0	12:42:56	88	38.1
-200	-333.1	.06	0.0	12:44:27	88	-56.0
-225	-301.8	.07	0.0	12:45:14	88	27.4
-250	-376.8	.05	0.0	12:45:58	88	-10.1
-275	-377.7	.05	0.0	12:47:13	88	-17.9
-300	-408.3	.06	0.0	12:48:09	88	-5.6
-325	-200.1	.06	0.0	12:49:09	88	15.4
-350	-228.8	.06	0.0	12:49:39	88	-14.1
-375	-231.6	.07	0.0	12:50:24	88	-18.3
-400	-217.5	.06	0.0	12:51:20	88	-1.2

Line 1900	Date 21	DEC 94	#194			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT GRADIENT
-225	-294.9	.06	0.0	13:03:15	88	15.8
-200	-422.4	.05	0.0	13:04:09	88	-5.3
-175	-435.5	.05	0.0	13:04:59	88	1.2
-150	-452.3	.05	0.0	13:06:20	88	-16.4
-125	-391.8	.06	0.0	13:07:08	88	3.1
-100	-323.9	.05	0.0	13:07:47	88	4.2
-75	-408.8	.05	0.0	13:08:28	88	-9.2
-50	-337.3	.06	0.0	13:09:14	88	-9.2
-25	-349.3	.06	0.0	13:10:06	88	-5.3
0	-415.5	.05	0.0	13:10:53	88	-10.3

Line 1925	Date 21	DEC 94	#204			
POSITION	FIELD	ERR	DRIFT	TIME	DS	CULT GRADIENT
1925	-302.2	.06	0.0	13:13:17	88	-3.9
1900	-287.8	.05	0.0	13:14:41	88	15.7
1875	-414.4	.06	0.0	13:15:21	88	-10.4

1850	-249.3	.06	0.0	13:15:58	88	66.5
1825	-194.6	.07	0.0	13:16:40	88	23.6
1800	-195.8	.07	0.0	13:17:19	88	26.0
1775	-286.8	.06	0.0	13:18:24	88	5.1
1750	-346.2	.06	0.0	13:19:12	88	10.6
1725	-326.6	.06	0.0	13:20:01	88	0.0
1700	-283.1	.06	0.0	13:20:45	88	-1.7
1675	-324.6	.06	0.0	13:21:24	88	0.3
1650	-318.7	.06	0.0	13:22:03	88	-3.1
1625	-338.6	.06	0.0	13:22:40	88	-3.7
1600	-308.2	.06	0.0	13:23:40	88	1.2
1575	-220.1	.06	0.0	13:24:39	88	8.0
1550	-179.4	.06	0.0	13:25:22	88	7.5
1525	-229.4	.06	0.0	13:26:03	88	-3.2
1500	-126.0	.07	0.0	13:26:41	88	18.4
1475	-202.6	.06	0.0	13:27:18	88	-13.4
1450	-166.2	.06	0.0	13:28:01	88	10.4
1425	-192.6	.06	0.0	13:28:41	88	-0.5
1400	-136.6	.07	0.0	13:29:17	88	28.3
1375	-222.5	.06	0.0	13:30:25	88	-11.0
1350	-202.9	.06	0.0	13:30:57	88	-14.6
1325	-75.1	.06	0.0	13:31:52	88	6.0
1300	-67.7	.07	0.0	13:32:51	88	12.3
1275	-159.4	.06	0.0	13:33:59	88	-4.9
1250	-143.1	.06	0.0	13:34:44	88	-15.2
1225	-100.3	.06	0.0	13:35:24	88	-6.0
1200	-238.1	.06	0.0	13:36:06	88	-7.3
1175	-258.5	.06	0.0	13:36:43	88	1.8
1150	-130.5	.07	0.0	13:37:29	88	-18.6
1125	-275.8	.06	0.0	13:38:08	88	5.3
1100	-147.8	.05	0.0	13:38:54	88	57.5
1075	-275.6	.06	0.0	13:39:38	88	25.6
1050	-308.8	.06	0.0	13:40:19	88	-13.2
1025	-298.4	.06	0.0	13:41:01	88	-2.2
1000	-150.5	.06	0.0	13:41:37	88	4.6
975	-162.4	.06	0.0	13:42:14	88	13.8
950	222.0	.09	0.0	13:42:52	88	125.7
925	-30.0	.07	0.0	13:43:35	88	-44.7
900	-95.8	.06	0.0	13:44:45	88	-14.6
875	-429.0	.04	0.0	13:45:36	88	-35.3
850	-382.9	.05	0.0	13:46:33	88	-9.3
825	-390.3	.05	0.0	13:47:11	88	-15.4
800	-287.7	.05	0.0	13:47:52	88	9.6
775	-279.7	.06	0.0	13:48:41	88	-7.4
750	-167.7	.06	0.0	13:49:22	88	-10.5
725	-133.8	.06	0.0	13:50:19	88	-9.4
700	-76.2	.06	0.0	13:51:40	88	3.6
675	2.6	.06	0.0	13:52:41	88	7.5
650	4.2	.07	0.0	13:53:19	88	-2.9
625	42.1	.07	0.0	13:53:50	88	-4.1
600	107.3	.07	0.0	13:54:23	88	-0.6
575	171.6	.07	0.0	13:54:58	88	-2.4
550	258.8	.07	0.0	13:55:33	88	4.9
525	325.3	.07	0.0	13:56:13	88	6.1
500	405.4	.07	0.0	13:56:54	88	6.1
475	460.4	.07	0.0	13:57:28	88	9.6
450	481.3	.08	0.0	13:58:03	88	8.7
425	469.6	.07	0.0	13:58:40	88	9.4
400	427.8	.07	0.0	13:59:12	88	5.9
375	403.2	.07	0.0	13:59:52	88	7.6
350	347.3	.07	0.0	14:00:38	88	4.2
325	323.5	.07	0.0	14:01:15	88	4.3
300	300.7	.07	0.0	14:01:50	88	9.2
275	309.8	.07	0.0	14:02:30	88	-10.2
250	265.5	.07	0.0	14:03:36	88	2.7
225	225.6	.07	0.0	14:04:10	88	-3.3

200	190.6	.07	0.0	14:04:52	88	8.9
175	158.1	.07	0.0	14:05:25	88	1.3
150	127.2	.07	0.0	14:06:32	88	-0.3
125	110.3	.07	0.0	14:07:09	88	3.2
100	112.7	.06	0.0	14:07:43	88	4.3
75	108.5	.06	0.0	14:08:19	88	4.4
50	117.1	.07	0.0	14:08:55	88	4.3
25	89.2	.06	0.0	14:09:29	88	5.1
0	85.3	.06	0.0	14:10:04	88	2.5
0 -25	77.0	.06	0.0	14:10:40	88	8.3

EOF

**APPENDIX 2**

**VLf Data**



Mr. Smith

OMNIPOLUS Tie-line MAB/VLF vial Ser #18000  
 VLF TOTAL FIELD DATA (uncorrected)  
 Date 21 DEC 94  
 Operator: 5005  
 Records: 182  
 Bat: 16.5 Volt Lithium: 3.50 Volt  
 Last time update: 11/30 10:30:00  
 Start of print: 12/21 14:57:55

23

Line	0	Date 21 DEC 94	24.0	#1					
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
#1	-73.2	-3.1	3302.	-7.0	9:02:41	99	0.0		
#2	-72.3	-0.1	3304.	-7.0	9:05:40	99	0.0		

Line	200	Date 21 DEC 94	24.0	#3					
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
200	10.4	-4.0	40.71	0.1	9:12:44	49	-26.0		
150	15.3	-5.0	39.66	0.6	9:15:17	39	-32.9		
125	13.2	-5.5	37.95	7.8	9:16:57	39	-33.0		
102	11.5	-7.0	36.51	0.5	9:17:32	37	-39.3	-3.0	
75	8.0	-7.5	36.29	4.5	9:18:01	49	-33.2	-5.4	-4.2
50	3.7	-8.5	36.14	2.1	9:18:37	49	-38.5	-7.7	-6.6
25	1.1	-6.4	35.90	0.9	9:18:10	39	-30.1	-8.3	-8.0
0	-3.3	-9.2	36.88	-1.9	9:19:50	45	-41.5	-7.9	-8.1
-25	-5.1	-8.0	35.69	-2.9	9:20:32	49	-44.6	-7.5	-7.7
-50	-4.9	-7.1	41.34	-2.8	9:21:11	41	-40.4	-4.4	-6.0
-75	-3.2	-6.5	41.42	-1.8	9:21:52	37	-39.9	0.2	-2.1
-100	0.2	-4.7	40.83	0.1	9:22:12				
-125	3.5	-1.3	42.95	2.0	9:23:02	39	-45.9	6.7	5.3
-150	5.3	-0.5	43.42	3.0	9:23:34	29	-50.2	6.1	2.7
-175	4.0	-0.2	42.86	2.3	9:24:07	29	-49.6	3.2	4.9
-200	4.1	-1.6	42.83	2.3	9:24:48	49	-40.7	-0.4	1.4
-225	10.2	0.4	44.00	9.6	9:25:42	49	-26.4	6.0	3.1

Line	400	Date 21 DEC 94	24.0	#20					
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
-475	-1.9	4.8	37.06	-1.1	9:31:01	49	-35.8		
-450	-7.7	-3.4	36.83	-4.4	9:32:53	49	-46.8		
-425	-8.7	-4.2	36.57	-4.9	9:33:32	49	-45.5		
-400	-10.4	-5.8	36.04	-5.9	9:34:07	49	-46.1	5.3	
-375	-11.4	-7.9	36.91	-6.5	9:34:48	49	-46.8	3.1	4.2
-350	-10.8	-9.1	35.39	-6.1	9:35:32	49	-48.4	1.8	2.4
-325	-9.6	-10.0	34.42	-5.5	9:35:14	49	-48.9	0.3	0.5
-300	-7.4	-10.4	33.47	-4.2	9:36:54	49	-53.6	-2.9	-1.9
-275	-3.8	-9.3	32.91	-2.2	9:37:27	49	-51.5	-2.2	-4.1
-250	-0.9	-10.0	33.28	-0.5	9:38:05	49	-46.2	-7.0	-6.1
-225	0.8	-9.6	32.85	0.4	9:38:46	45	-43.3	-6.3	-6.7
-200	3.6	-9.0	32.91	2.0	9:39:18	45	-43.7	-5.1	-2.7
-175	7.0	-7.0	36.14	4.0	9:39:54	24	-42.3	-6.4	-5.0
-150	10.6	-6.6	34.29	6.0	9:40:26	44	-44.5	-7.9	-7.2
-125	13.0	-4.5	35.85	7.4	9:41:01	49	-40.9	-7.1	-7.5
-100	16.8	-2.7	37.21	9.5	9:41:34	59	-48.3		-6.9
-75	19.2	-0.2	37.31	10.9	9:42:20	43	-36.6	-7.0	-6.6
-50	21.2	1.6	38.20	12.0	9:42:54	43	-38.4	-6.0	-6.5
-25	27.8	3.7	42.42	12.8	9:43:34	54	-36.2	-4.4	-5.2
0	22.0	4.5	43.94	12.4	9:44:29	53	-41.6	#	

75	8.4	3.9	51.15	4.8	9:45:55	54	-39.2	10.6	5.0
100	0.1	4.3	51.99	0.0	9:46:32	38	-38.6	17.4	14.0
125	-10.2	4.0	51.66	-3.0	9:47:05	49	-44.9	17.2	17.3
150	-10.2	6.7	46.64	-5.8	9:47:47	59	-42.3	13.6	15.4
175	-12.5	6.1	46.94	-7.1	9:48:23	49	-45.5	9.9	11.7
200	-13.3	6.6	47.75	-7.5	9:48:51	49	-45.5	5.8	7.2

Line 600	Date 21 DEC 94	24.0	#47						
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
0	-15.8	5.2	49.39	-9.0	9:54:27	49	-59.4		
-25	-12.5	4.2	51.06	-7.1	9:56:07	44	-44.2		
-50	-9.8	3.6	51.98	-5.6	9:57:05	44	-39.0		
-75	-4.7	2.5	53.03	-2.7	9:57:38	46	-34.0	7.8	
-100	10.0	-2.2	51.33	5.7	9:58:55	49	-40.0	15.7	11.7
-125	15.6	-7.2	50.17	8.9	9:59:35	29	-46.0	22.9	19.3
-150	18.2	-9.7	47.78	10.3	10:00:16	49	-44.5	16.2	19.5
-175	18.0	-10.3	45.61	10.2	10:01:14	59	-46.8	5.9	11.0
-200	18.3	-10.8	44.08	10.3	10:01:56	49	-47.7	1.3	3.6
-225	18.4	-11.2	41.87	10.4	10:02:39	49	-50.5	0.2	0.7
-250	17.3	-11.4	40.86	9.8	10:03:12	59	-50.3	-0.3	-0.1
-275	14.5	-12.0	39.20	8.2	10:03:55	49	-44.4	-2.7	-1.5
-300	11.2	-11.7	38.62	6.4	10:04:37	49	-43.6	-5.6	-4.2
-325	8.3	-11.5	38.19	4.7	10:05:13	49	-49.4	-6.9	-6.3
-350	5.1	-11.4	37.82	2.9	10:05:51	49	-47.2	-7.0	-7.0
-375	1.7	-10.8	38.60	0.9	10:06:25	39	-53.0	7.3	-7.3
-400	0.0	-10.8	38.63	0.3	10:06:59	45	-45.2	-6.4	-6.5
-425	0.0	-9.0	39.81	0.0	10:07:42	39	-48.0	-3.5	-3.7
-450	-0.2	-7.9	39.59	-0.1	10:08:27	37	-38.9	-1.3	-2.4
-475	0.0	-6.7	41.04	0.0	10:09:07	45	-41.0	-2.4	-2.6
-500	6.3	-0.9	43.54	3.8	10:10:13	49	-46.7	3.7	1.6
-525	8.5	0.2	42.73	4.9	10:10:57	49	-45.2	8.5	6.1
-550	8.0	0.0	41.99	4.6	10:11:28	59	-48.8	5.9	7.2

Line 400	Date 21 DEC 94	24.0	#70						
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
-400	1.1	2.0	44.38	-4.7	10:17:17	49	-35.5		

Line 300	Date 21 DEC 94	24.0	#51							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
-350	14.0	-10.9	45.24	8.4	10:33:53	59	-80.8			
-325	14.0	-12.0	44.04	7.9	10:34:56	44	-34.9			
-300	12.9	-12.9	44.40	7.3	10:35:38	54	-41.0			
-275	12.3	-12.6	46.57	7.0	10:36:18	59	-45.4	0.0		
-250	14.0	-11.3	46.61	7.9	10:37:03	49	-46.5	0.3	1.1	
-225	15.9	-8.3	47.83	9.0	10:37:44	34	-42.1	-2.6	-1.2	
-200	11.6	-5.0	50.67	6.7	10:38:25	44	-34.4	-0.8	-1.7	
-175	3.8	-2.0	50.45	2.1	10:39:09	66	47	-27.9	8.1	3.6
-150	1.0	5.3	51.33	0.5	10:39:51	29	-25.4	13.1	10.6	
-125	-2.6	12.8	53.64	-1.5	10:40:39	59	-35.0	9.8	11.4	
-100	-2.9	16.1	53.42	-1.6	10:42:24	55	59	-37.9	5.7	7.7
-75	-5.7	14.7	52.81	-3.2	10:43:24	49	-37.0	3.8	4.7	
-50	-9.4	14.1	51.50	-5.3	10:44:15	49	-39.5	5.4	4.6	
-25	-15.0	10.3	50.08	-8.5	10:45:08	49	-35.2	9.0	7.2	
0	-16.8	11.3	45.63	-9.5	10:46:08	59	-32.2	9.5	9.2	

Line 1000	Date 21 DEC 94	24.0	#86						
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
0	13.0	19.4	50.49	2.2	10:52:40	49	-47.0		
-25	-3.4	16.8	47.87	-1.9	10:54:00	47	-38.7		
-50	-6.7	12.8	46.20	-5.0	10:54:37	46	-39.0		
-75	-12.9	9.6	50.90	-7.3	10:55:16	44	-38.6	-12.6	
-100	-13.8	10.0	54.77	-7.8	10:55:47	45	-30.4	-8.2	-10.4
-125	-12.3	9.9	58.92	-7.0	10:56:18	45	-28.7	-2.5	-5.4
-150	-7.6	3.0	60.88	-4.3	10:56:49	46	-29.4	3.8	0.6
-175	-4.7	-0.5	60.82	-2.7	10:57:20	46	-29.4	3.8	0.6

-200	20.6	8.1	74.72	11.6	10:58:07	66	49	-34.5	28.2	14.0
-225	47.4	17.1	65.02	23.6	10:58:44	66	59	-28.7	40.9	32.0
-250	56.4	16.9	54.11	29.4	10:59:37	55	59	-47.4	45.8	44.8
-275	50.0	10.3	47.90	26.5	11:00:21	66	49	-40.0	10.0	...
-300	41.6	5.5	45.39	22.6	11:01:13	55	59	-51.7	-5.6	6.7
-325	29.2	7.7	45.77	16.3	11:01:53		49	-46.5	-17.0	-11.3
-350	21.3	9.4	45.74	12.6	11:02:34	66	49	-47.3	-20.2	-11.0
-375	16.1	8.5	46.07	9.1	11:03:17	66	49	-47.7	-17.8	-19.3
-400	11.9	7.3	47.39	6.8	11:03:53		59	-45.7	-12.4	-15.1
-425	10.3	6.5	49.14	5.9	11:04:30		49	-48.0	-8.4	-10.4
-450	8.5	5.0	50.62	4.8	11:05:04		59	-57.8	-5.2	-6.8
-475	7.9	4.3	52.14	4.5	11:05:34		49	-51.9	-3.4	-4.3
-500	9.2	4.2	53.65	5.2	11:06:10	55	39	-49.2	-1.0	-2.2
-525	11.2	3.8	54.12	6.4	11:06:47		49	-51.2	2.3	0.6
-550	12.0	3.5	53.25	6.8	11:07:22		49	-50.0	3.5	2.9
-575	12.9	3.1	53.15	7.3	11:07:50		49	-53.2	2.5	3.0

Line 1200	Date 21 DEC 94	24.0	#110							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
-575	-6.9	6.1	43.20	-3.9	11:15:16	39	-47.5			
-550	-4.1	6.8	47.42	-2.3	11:15:59	49	-57.3			
-525	-0.2	7.6	47.65	-0.1	11:16:41	59	-48.7			
-500	2.0	7.8	48.64	1.1	11:17:28	59	-45.0	-7.2		
-475	5.1	7.5	47.93	2.9	11:18:06	55	-40.9	-6.4	-0.6	
-450	7.7	7.2	49.28	4.4	11:19:00	44	-38.9	-6.3	-6.4	
-425	10.1	6.6	50.46	5.8	11:19:42	44	-41.8	-6.2	-3.7	
-400	13.9	6.3	52.25	7.9	11:20:25	44	-44.3	-6.4	-6.3	
-375	17.9	5.3	48.23	7.9	11:21:01	33	-40.8	-5.6	-2.0	
-350	14.6	5.2	56.55	8.3	11:21:37	34	-42.5	-2.5	-4.1	
-325	12.8	5.0	59.13	7.3	11:22:14	49	-44.7	0.2	-1.2	
-300	15.1	5.5	61.31	6.6	11:22:59	34	-44.7	6.3	0.2	
-275	7.3	4.3	64.78	4.2	11:23:42	44	-42.5	2.8	1.5	
-250	2.5	5.4	63.94	1.4	11:24:29	46	-35.6	10.3	6.5	
-225	-4.4	3.3	65.76	-2.5	11:25:52	49	-62.0	13.9	12.1	
-200	-6.1	8.3	61.98	-4.6	11:26:54	59	-39.4	12.7	13.3	
-175	-15.3	4.5	64.91	-8.7	11:27:53	59	-34.0	16.2	12.4	
-150	-26.2	1.0	61.53	-14.6	11:28:52	49	-28.0	16.2	14.2	
-125	-32.4	5.3	59.45	-17.5	11:29:40	39	-37.6	19.2	17.7	
-100	-30.4	4.6	52.46	-16.9	11:30:39	59	-36.1	11.5	16.3	
-75	12.3	151.3	0.84	7.0	11:31:30	38	-30.9	-22.6	-5.6	
-50	38.8	-138.2	0.87	21.2	11:32:28	40	-19.6	-63.0	-42.8	
-25	-23.4	5.0	28.15	-14.2	11:33:26	49	-49.1	-10.7	-40.0	
0	-23.5	7.0	43.39	-13.2	11:34:32	49	-49.6	55.6	19.3	

Line 1400	Date 21 DEC 94	24.0	#134							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
0	-16.0	6.0	45.27	-9.1	11:39:57	33	-43.5			
-25	-16.2	6.6	45.80	-9.2	11:40:52	44	-42.2			
-50	-17.8	7.1	46.65	-10.1	11:41:26	44	-35.4			
-75	-18.8	7.2	47.35	-10.6	11:41:59	33	-41.1	-2.4		
-100	-19.4	6.3	46.72	-10.9	11:42:33	34	-38.5	-2.2	-2.3	
-125	-20.3	4.4	50.21	-11.4	11:43:10	54	-34.8	-1.6	-1.9	
-150	-18.9	4.6	54.39	-10.7	11:43:48	54	-27.0	-0.6	-1.1	
-175	-9.6	10.3	56.33	-5.5	11:44:22	48	-34.6	6.1	2.7	
-200	-6.6	13.1	54.02	-3.7	11:44:56	49	-33.7	12.9	9.5	
-225	-8.0	12.5	52.68	-4.5	11:45:35	46	-32.5	8.0	10.4	
-250	-6.6	10.3	54.00	-4.9	11:46:17	44	-40.1	-0.2	3.9	
-275	-2.7	12.7	53.71	-1.5	11:47:05	48	-40.1	1.8	0.8	
-300	-2.3	13.3	53.89	-1.3	11:47:50	49	-34.2	6.6	4.2	
-325	-4.5	10.7	53.60	-2.6	11:48:40	47	-38.1	2.5	4.2	
-350	-2.5	11.1	54.08	-1.4	11:49:18	59	-31.4	-1.2	0.6	
-375	-3.1	9.7	53.79	-1.7	11:49:52	49	-34.3	0.8	-0.2	
-400	-6.8	8.8	53.86	-3.9	11:50:26	48	-39.5	-1.0	-0.4	
-425	-5.0	5.7	55.00	-2.9	11:51:25	37	-38.6	-3.7	-2.7	
-450	-5.6	4.3	57.29	-3.2	11:51:56	46	-38.1	-0.5	-2.1	

LINE	DATE	TIME	DIR	4-FRA	5-FRA				
	DEC 94	24.0	#100						
POSITION	1/F	GUARD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
-525	-7.9	9.4	57.28	-4.5	11:59:28	59	-47.1		
-500	-7.2	9.0	56.76	-4.1	12:00:20	59	-35.9		
-475	-10.0	8.5	60.28	-5.7	12:01:07	59	-32.1		
-450	-25.1	-3.8	56.46	-14.1	12:01:55	59	-33.3	11.2	
-425	-24.0	-1.3	52.79	-13.4	12:02:44	59	-17.0		17.4
-400	-22.2	0.7	51.55	-12.5	12:03:37	59	-41.7	6.1	11.9
-375	-16.0	2.3	52.68	-10.2	12:04:34	49	-43.1	-4.8	0.2
-350	-22.7	-0.1	51.75	-12.8	12:05:31	49	-40.6	-2.9	-3.9
-325	-21.3	1.7	49.84	-12.0	12:06:23	59	-35.6	2.1	-0.4
-300	-20.4	2.7	47.81	-11.5	12:08:20	39	-31.5	0.5	1.3
-275	-17.8	5.1	48.15	-10.1	12:09:16	49	-30.6	-3.2	-1.4
-250	-15.1	8.1	49.67	-8.6	12:10:15	59	-25.5	-4.8	-4.0
-225	-25.2	-0.2	49.21	-14.1	12:11:08	59	-36.0	1.1	-1.9
-200	-23.2	1.8	45.38	-13.0	12:12:19	59	-32.9	8.4	4.7
-175	-20.9	3.8	44.77	-11.8	12:13:13	59	-35.5	2.1	5.2
-150	-18.3	5.5	44.02	-10.4	12:14:14	59	-35.6	-4.9	-1.4
-125	-15.7	6.7	43.11	-8.9	12:15:20	49	-25.2	-5.5	-5.2
-100	-13.2	7.6	42.58	-7.5	12:16:15	59	-39.6	-5.8	-5.7
-75	-12.5	8.0	42.94	-7.1	12:17:00	69	-33.5	-4.7	-5.3
-50	-10.8	8.1	42.69	-6.2	12:17:48	49	-35.0	-3.1	-3.9
-25	-9.2	8.8	42.39	-5.2	12:18:35	59	-32.7	-3.2	-3.2
0	-6.5	9.3	42.25	-3.7	12:19:28	49	-30.4	-4.4	-3.8

LINE	DATE	TIME	DIR	4-FRA	5-FRA				
	DEC 94	24.0	#175						
POSITION	1/F	GUARD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
0	6.0	6.7	44.80	3.0	12:33:40	49	-30.6		
-25	6.9	6.7	44.67	5.0	12:37:20	49	-26.4		
-50	7.4	6.4	44.03	7.0	12:35:07	49	-23.0		
-75	5.5	5.4	44.01	3.1	12:38:51	69	-16.8	-3.2	
-100	4.9	5.6	44.87	2.8	12:39:42	59	-14.8	-3.3	-3.3
-125	8.6	8.9	45.73	4.9	12:41:36	59	-19.2	0.4	-1.5
-150	8.3	11.9	44.03	4.7	12:42:24	49	-33.0	3.7	2.0
-175	5.5	8.8	44.48	3.1	12:43:39	49	-57.9	0.1	1.9

ECF

Cont'd

Page

OMNI-PLUS Tie-line MAB/VLF VIEL Ser #18001  
 VLF TOTAL FIELD DATA (uncorrected)  
 Date 21 DEC 94  
 Operator: S005  
 Records: 282  
 Bat: 16.4 Volt Lithium: 3.48 Volt  
 Last time update: 11/23 8:57:00  
 Start of print: 12/21 15:03:15

Line	0	Date	21 DEC 94	24.0	#1							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT	S	DIR	4-FRA	5-FRA		
#1	-89.7	-0.1	3449.	-7.0	9:03:44	86	99	0.0	!			

Line	100	Date	21 DEC 94	24.0	#2							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT	S	DIR	4-FRA	5-FRA		
100	9.9	-1.1	43.03	5.6	9:12:26	59		-45.3				
75	9.7	-1.8	42.94	5.5	9:13:20	59		-55.5				
50	11.7	-5.0	42.27	6.8	9:14:03	49		-30.2				
25	12.8	-3.8	42.14	7.3	9:14:45	39		-40.7	2.8			
0	15.3	-2.9	41.48	8.7	9:15:32	29		-33.5	3.9	3.3		
-25	16.5	-1.2	40.77	10.4	9:16:20	49		-40.9	5.2	4.5		
-50	20.8	-0.1	39.78	11.6	9:16:59	29		-41.2	6.0	5.6		
-75	20.9	8.0	39.60	11.8	9:17:41	59		-53.8	4.3	5.1		
-100	22.2	9.5	37.39	12.5	9:18:27	49		-51.4	2.3	3.3		

Line	300	Date	21 DEC 94	24.0	#11							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT	S	DIR	4-FRA	5-FRA		
-350	-7.6	-1.9	43.93	-4.3	9:22:57	39		-47.0				
-325	-15.1	-4.8	43.40	-8.5	9:24:43	59		-61.9				
-300	-20.6	-7.4	41.59	-11.6	9:25:30	49		-40.4				
-275	-21.1	-8.7	38.35	-11.9	9:26:07	49		-41.0	10.7			
-250	-19.7	-7.3	36.31	-11.1	9:27:14	39		-41.0	2.9	6.8		
-225	-17.2	-9.5	36.36	-9.7	9:27:59	59		-45.6	-2.7	0.1		
-200	-14.8	-10.8	35.67	-8.4	9:28:35	39		-48.6	-4.9	-3.8		
-175	-12.9	-12.0	35.01	-7.3	9:29:19	49		-55.1	-5.1	-5.0		
-150	-11.4	-12.3	34.04	-6.5	9:30:00	59		-47.7	-4.3	-4.7		
-125	-7.6	-12.4	34.01	-4.3	9:30:39	49		-48.4	-4.9	-4.6		
-100	-4.3	-12.3	32.59	-2.5	9:31:34	49		-45.0	-7.0	-6.0		
-75	-1.4	-9.8	33.15	-0.8	9:32:27	69		-58.3	-7.5	-7.3		
-50	1.9	-8.1	32.04	1.0	9:33:05	37		-41.6	-7.0	-7.3		
-25	5.1	-7.2	33.02	2.9	9:33:54	39		-43.3	-7.2	-7.1		
0	8.8	-5.2	33.41	5.0	9:34:36	45		-39.6	-7.7	-7.5		
25	10.6	-3.3	34.79	6.0	9:35:32	50		-37.7	-7.1	-7.4		
50	14.1	-2.8	35.89	8.0	9:36:15	35		-39.5	-6.1	-6.6		
75	15.1	-1.1	38.17	8.5	9:36:50	34		-34.7	-5.5	-5.8		
100	14.1	0.0	40.30	8.0	9:37:28	40		-33.2	-6.0	-4.0		
125	13.4	0.7	42.65	7.6	9:38:05	45		-34.7	0.9	-0.8		
150	10.7	1.8	45.32	6.1	9:38:45	45		-34.6	2.8	1.0		
175	5.8	2.8	47.20	3.3	9:39:23	49		-29.5	6.2	4.5		
200	1.0	3.9	46.44	0.6	9:40:03	39		-32.0	9.8	6.0		
225	-4.2	3.5	46.82	-2.4	9:41:00	49		-45.4	11.2	10.5		
250	-7.0	7.2	44.63	-4.0	9:41:42	59		-38.8	10.3	10.7		

Line	500	Date	21 DEC 94	24.0	#36							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT	S	DIR	4-FRA	5-FRA		
250	-11.4	13.3	27.91	-6.5	9:55:32	59		-68.9				

240  
 120  
 100

200	-15.9	8.8	41.21	-9.0	9:58:56	59	-57.9		
175	-13.4	9.0	42.41	-7.6	10:00:15	45	-40.0	-3.7	
150	-13.0	8.9	45.45	-7.4	10:00:55	49	-45.9	0.4	-1.7
125	-13.0	10.0	46.90	-7.4	10:01:28	49	-57.6	1.8	1.1
100	-11.8	8.5	46.90	-6.7	10:02:08	54	-41.2	0.9	1.3
75	-10.3	6.7	46.93	-5.8	10:02:51	15	-33.0	2.3	1.2
50	-9.4	4.9	53.16	-5.3	10:03:33	46	-33.2	3.0	2.6
25	-3.1	4.1	58.94	-1.7	10:04:11	49	-49.8	5.5	4.2
0	-10.6	1.9	105.4	-6.0	10:10:43	32	-10.0	3.4	4.4
-25	5.1	2.0	69.15	2.9	10:11:59	52	-24.1	3.9	3.6
-50	16.0	4.3	61.07	9.1	10:12:43	52	-29.3	19.7	11.8
-75	19.1	0.6	52.81	10.8	10:13:26	29	-33.4	23.0	21.3
-100	6.0	1.1	54.33	3.4	10:14:59	42	-21.3	2.2	12.6
-125	13.4	-1.3	46.62	7.6	10:15:36	32	-27.7	-0.9	-3.4
-150	17.4	0.4	42.40	9.9	10:16:17	32	-32.5	3.3	-2.8
-175	20.1	-3.6	40.42	11.3	10:17:04	42	-35.3	10.2	6.7
-200	18.4	-5.8	37.68	10.4	10:17:42	34	-39.5	4.2	7.2
-225	13.7	-8.7	37.20	7.8	10:18:17	29	-29.0	-3.0	0.6
-250	7.8	-11.3	36.76	4.5	10:18:52	39	-42.0	-9.4	-6.2
-275	5.1	-11.2	38.04	2.9	10:19:30	29	-42.9	-10.2	-10.1
-300	0.9	-10.7	37.56	0.5	10:20:08	49	-36.3	-8.9	-9.9
-325	-3.9	-9.9	38.83	-2.2	10:20:43	29	-34.1	-9.1	-3.0
-350	-3.4	-6.2	39.96	-1.9	10:21:24	39	-35.7	-7.5	-8.3
-375	-4.0	-5.8	40.94	-2.3	10:21:52	39	-36.7	-2.5	-5.0
-400	-3.3	-4.6	41.58	-1.9	10:22:27	39	-37.9	-0.1	-1.3
-425	-2.1	-3.5	42.15	-1.2	10:22:59	29	-36.0	1.1	0.5
-450	-1.1	-2.5	42.44	-0.6	10:23:35	39	-38.5	2.4	1.7
-475	1.1	-1.7	43.29	1.1	10:24:11	49	-33.0	3.6	3.0
-500	7.8	1.7	43.65	4.5	10:24:48	49	-42.3	7.4	5.5
-525	10.8	3.9	43.71	5.6	10:25:25	40	-45.3	10.0	6.7
-550	10.2	4.3	40.61	5.8	10:25:59	39	-39.1	6.2	8.1
-575	10.7	5.0	38.98	6.1	10:26:31	49	-38.7	1.4	3.6
-600	10.3	5.5	38.05	5.8	10:27:00	59	-29.6	0.1	0.7

Line 700	Date 21 DEC 94	24.0	#71						
POSITION	1/F	QUAD	1.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
-500	-3.6	-11.3	41.82	-2.0	10:31:51	39	-60.3		
-475	-4.9	-12.3	40.24	-2.8	10:33:10	39	-34.7		
-450	-2.5	-12.9	38.85	-1.4	10:33:58	39	-28.7		
-425	1.6	-12.5	39.36	0.9	10:34:44	29	-45.2	-4.3	
-400	5.4	-11.9	38.40	3.0	10:35:22	39	-37.5	-8.1	-6.2
-375	8.2	-11.7	39.25	4.7	10:35:57	29	-37.6	-8.2	-8.2
-350	8.2	-12.0	40.90	4.7	10:36:41	39	-33.7	-5.5	-6.9
-325	6.3	-12.6	41.72	4.7	10:37:17	39	-33.7	-1.7	-3.6
-300	10.9	-12.8	42.86	6.2	10:37:55	29	-36.5	-1.5	-1.6
-275	10.1	-12.6	43.87	5.8	10:38:39	36	-39.5	-2.6	-2.1
-250	10.6	-11.7	44.89	6.0	10:39:21	55	-40.5	-0.9	-1.6
-225	11.3	-10.9	46.60	6.4	10:40:03	46	-35.8	-0.4	-0.7
-200	11.0	-8.5	47.95	6.2	10:40:43	45	-41.0	-0.8	-0.6
-175	8.6	-5.1	50.26	4.9	10:41:19	29	-32.3	1.3	0.2
-150	2.6	-1.9	52.13	1.4	10:41:58	49	-39.4	6.3	3.8
-125	-3.1	2.7	52.21	-1.7	10:42:33	49	-26.8	11.4	8.8
-100	-6.8	7.8	51.77	-3.9	10:43:14	49	-25.0	11.9	11.6
-75	-9.8	12.9	51.07	-5.6	10:43:49	59	-39.2	9.2	10.5
-50	-13.0	14.3	50.44	-7.4	10:44:37	39	-36.0	7.4	8.3
-25	-15.9	14.9	49.06	-9.0	10:45:11	29	-39.4	6.9	7.1
0	-17.7	15.1	47.40	-10.0	10:45:58	39	-32.2	0.0	6.4

Line 900	Date 21 DEC 94	24.0	#92						
POSITION	1/F	QUAD	1.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA
0	-5.6	13.4	44.19	-3.2	10:50:41	49	-33.3		
-25	-9.5	11.1	46.79	-5.4	10:52:08	29	-34.0		
-50	-10.2	11.3	49.46	-5.8	10:52:47	36	-33.1		
-75	-9.1	11.0	53.55	-5.1	10:53:46	46	-36.3	-2.3	
-100	-6.1	13.5	55.52	-3.5	10:54:25	49	-28.0	2.6	0.1

-125	10.3	10.3	58.24	12.3	10:57:07	49	-24.8	3.1	3.6	
-150	11.7	11.7	63.84	1.0	10:58:53	50	49	-15.8	7.3	6.2
-175	22.6	15.3	66.34	12.7	10:57:32	55	59	-26.8	19.5	13.4
-200	41.9	9.5	54.22	22.7	10:58:40		39	-33.2	36.7	28.1
-225	36.2	-1.0	47.41	19.9	10:59:22	66	39	-25.6	28.9	32.8
-250	31.5	0.8	45.48	17.5	11:00:00	56	49	-29.7	2.0	15.4
-275	29.2	-0.3	43.92	16.2	11:00:53		49	-39.8	-8.9	-3.5
-300	25.7	-4.0	43.35	14.4	11:01:26		39	-46.4	-6.8	-7.9
-325	21.8	-7.0	44.25	12.3	11:01:58		39	-39.1	-7.0	-6.9
-350	18.5	-6.0	47.21	10.4	11:02:29	55	39	-48.1	-7.9	-7.5
-375	17.3	-6.7	48.03	9.8	11:03:20		39	-52.2	-6.5	-7.2
-400	17.8	-7.4	49.72	10.1	11:06:19		39	-45.5	-2.8	-4.7

Line 1100	Date 21 DEC 94	24.0	#109							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
-550	-9.3	5.9	46.16	-5.3	11:12:22	49	-45.4			
-525	-6.7	6.3	46.44	-3.8	11:13:31	39	-42.8			
-500	-4.1	6.3	46.41	-2.3	11:14:25	49	-49.9			
-475	-1.1	5.3	47.61	-0.6	11:15:07	29	-52.9	-6.2		
-450	-2.2	5.7	46.57	-1.3	11:15:45	29	-42.9	-4.2	-5.2	
-425	-3.3	2.5	47.38	-1.8	11:16:20	49	-43.3	0.2	-2.0	
-400	1.1	-1.3	48.28	0.7	11:17:00	29	-44.3	-0.8	-0.3	
-375	4.3	4.0	50.55	2.4	11:17:45	49	-48.2	-6.2	-3.5	
-350	7.1	3.2	53.84	4.1	11:18:26	39	-47.6	-7.6	-6.9	
-325	9.1	1.9	57.52	5.2	11:19:21	49	-50.3	-6.2	-6.9	
-300	7.3	4.6	61.00	4.1	11:20:29	49	-54.7	-2.8	-4.5	
-275	8.8	2.3	64.05	1.6	11:21:22	85	29	-41.3	3.1	3.1
-250	-3.1	2.5	65.11	-1.8	11:22:13	55	39	-47.7	9.5	6.5
-225	-6.0	-2.0	63.87	-3.4	11:22:52	39	-45.4	10.9	10.2	
-200	-14.3	-3.0	70.10	-8.1	11:24:39	49	-35.6	11.3	11.3	
-175	-31.9	-8.2	55.01	-17.7	11:25:20	49	-22.9	20.6	15.8	
-150	-22.6	11.7	59.51	-15.9	11:26:20	59	-42.1	22.1	21.3	
-125	-25.7	10.3	55.33	-14.4	11:27:07	29	-30.8	4.5	13.3	
-100	-23.6	9.4	53.80	-13.3	11:27:49	49	-28.2	-0.9	-0.7	
-75	-16.3	13.0	57.79	-9.2	11:28:27	39	-33.3	-7.8	-6.9	
-50	-29.0	5.3	56.27	-16.1	11:29:06	39	-27.8	-1.4	-8.1	
-25	-33.2	6.0	2.16	-13.3	11:29:55	43	-30.7	11.9	4.7	
0	-34.8	3.5	1.80	-19.2	11:30:35	59	-37.9	13.2	12.0	

Line 1300	Date 21 DEC 94	24.0	#132							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
0	-7.9	7.9	44.37	-4.5	11:38:04	55	-41.5			
-25	-8.5	13.6	47.16	-4.8	11:38:03	39	-45.0			
-50	-8.9	12.7	45.27	-5.1	11:38:50	46	-41.3			
-75	-10.6	10.6	46.27	-6.0	11:39:32	49	-23.0	-1.8		
-100	-12.0	9.7	47.86	-6.8	11:40:14	45	-32.8	-2.9	-2.4	
-125	-7.8	13.0	49.05	-4.5	11:40:59	69	-9.4	-0.2	-1.6	
-150	-12.4	10.8	49.18	-7.0	11:41:42	46	-29.2	1.3	0.5	
-175	-17.1	8.8	52.47	-9.7	11:42:29	39	-47.1	-5.4	-2.1	
-200	-18.6	5.8	53.25	-10.5	11:43:27	54	-41.0	-8.7	-7.1	
-225	-14.7	4.5	57.14	-8.3	11:44:31	45	-35.5	-2.1	-5.4	
-250	-11.9	5.0	58.27	-6.8	11:45:28	46	-39.2	5.1	1.5	
-275	-12.5	3.1	59.49	-7.1	11:46:22	46	-35.0	4.9	5.0	
-300	-8.7	5.1	61.49	-4.9	11:47:28	47	-36.6	3.1	4.0	
-325	-5.0	5.0	60.38	-2.8	11:48:16	29	-21.5	6.2	4.6	
-350	-1.7	6.7	59.01	-0.9	11:48:59	49	-35.8	8.3	7.2	
-375	-2.9	3.9	60.13	-1.6	11:49:40	39	-36.4	5.2	6.7	
-400	6.2	7.2	63.89	3.5	11:50:17	49	-44.3	5.6	5.4	
-425	11.8	9.7	58.39	6.7	11:51:28	29	-42.9	12.7	9.1	
-450	13.1	8.9	53.00	7.5	11:52:01	29	-36.9	12.2	12.4	
-475	9.6	9.1	51.88	5.5	11:53:18	39	-50.0	2.7	7.4	
-500	8.6	7.0	48.51	4.9	11:53:44	29	-25.9	-3.7	-0.5	
-525	7.5	5.6	47.17	4.3	11:54:33	49	-39.1	-3.7	-3.7	

Line 1500	Date 21 DEC 94	24.0	#154							
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	

-500	-14.7	5.0	53.23	-8.3	12:08:30	49	-22.3		
-525	-14.2	2.9	52.26	-1.0	12:07:57	49	-21.1		
-500	-9.8	10.9	51.55	-5.6	12:09:04	39	-29.4		
-475	-8.7	11.8	51.49	-4.9	12:09:53	59	-37.2	-5.8	
-450	-4.8	15.7	51.59	-2.7	12:11:04	59	-40.7	-6.0	-5.9
-425	-1.9	17.3	53.45	-1.1	12:12:58	39	-40.4	-6.7	-6.4
-400	-2.9	16.4	56.37	-1.7	12:14:00	39	-31.7	-4.8	-5.8
-375	-8.6	13.0	54.10	-4.9	12:15:33	49	-39.6	2.6	-1.0
-350	-7.1	13.6	53.99	-4.0	12:16:19	49	-37.1	6.1	4.4
-325	-5.3	14.2	56.71	-3.0	12:17:08	39	-35.0	0.4	3.2
-300	-13.6	9.8	53.65	-7.7	12:18:12	59	-41.5	1.8	1.1
-275	-14.4	10.6	51.99	-8.1	12:19:00	49	-35.3	8.8	5.3
-250	-14.0	11.6	51.57	-8.0	12:19:47	59	-39.0	5.4	7.1
-225	-16.2	8.4	53.13	-9.2	12:20:24	49	-31.8	1.4	3.4
-200	-27.5	1.1	52.41	-15.3	12:21:14	59	-30.2	8.4	4.9
-175	-28.3	1.2	47.84	-15.8	12:22:07	39	-34.0	13.9	11.1
-150	-26.8	4.3	46.14	-15.0	12:23:15	49	-40.5	6.3	10.1
-125	-23.9	3.3	46.66	-13.4	12:24:10	49	-45.0	-2.7	1.8
-100	-23.0	4.2	45.72	-12.9	12:24:55	49	-44.6	-4.5	-3.6
-75	-20.9	8.9	43.65	-11.8	12:25:40	49	-31.4	-3.7	-4.1
-50	-19.8	8.6	42.90	-11.1	12:26:27	49	-40.5	-3.4	-3.6
-25	-15.5	8.0	43.42	-11.0	12:27:06	49	-34.5	-2.6	-3.0
0	-16.4	5.6	42.89	-9.3	12:27:53	59	-48.1	-2.6	-2.6

Line	1700	Date	21 DEC 94	24.0	#177					
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
0	10.3	12.1	43.56	5.9	12:32:44	59	-40.6			
-25	7.8	11.3	42.32	4.4	12:33:57	49	-35.3			
-50	6.0	10.1	42.35	3.4	12:34:36	39	-30.3			
-75	4.7	9.4	41.57	2.6	12:35:24	59	-31.5	-4.3		
-100	3.6	8.8	41.61	1.3	12:36:20	29	-28.8	-3.7	-4.0	
-125	0.8	8.2	41.48	0.4	12:38:10	39	-25.5	-4.1	-3.9	
-150	-1.7	7.6	41.15	-1.0	12:41:23	39	-29.6	-4.7	-4.4	
-175	-2.4	8.5	43.03	-1.3	12:42:56	29	-52.6	-4.2	-4.5	
-200	-4.2	7.3	42.94	-2.4	12:44:27	49	-48.3	-3.1	-3.7	
-225	-6.6	4.5	42.25	-3.7	12:45:14	39	-15.4	-3.8	-3.5	
-250	-10.1	2.8	44.00	-5.7	12:45:56	29	-33.7	-5.7	-4.8	
-275	-10.4	1.0	48.25	-5.9	12:47:13	59	-21.9	-5.5	-5.6	
-300	-1.0	10.0	43.65	-0.6	12:48:05	49	-37.3	2.5	-1.3	
-325	-1.3	8.6	45.14	-0.7	12:49:09	59	-27.9	10.3	6.6	
-350	-4.8	7.0	43.06	-2.7	12:49:39	39	-22.4	3.1	6.7	
-375	-8.2	5.4	45.28	-4.6	12:50:24	29	-22.7	-6.0	-1.5	
-400	-11.4	3.7	46.21	-6.5	12:51:20	29	-39.5	-7.7	-6.9	

Line	1900	Date	21 DEC 94	24.0	#194					
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
-225	-1.9	3.6	43.88	-1.0	13:03:15	49	-40.8			
-200	-2.2	3.3	43.74	-1.2	13:04:09	49	-31.7			
-175	-2.9	3.3	43.48	-1.7	13:04:59	59	-32.0			
-150	0.6	3.8	42.59	0.3	13:06:20	29	-35.5	-0.6		
-125	0.6	4.7	42.68	0.5	13:07:08	26	-36.4	-3.7	-2.3	
-100	2.4	5.4	43.76	1.4	13:07:47	49	-33.7	-3.3	-3.5	
-75	2.7	5.1	43.22	1.5	13:08:28	39	-24.4	-2.1	-2.7	
-50	3.5	5.6	43.54	2.0	13:09:14	59	-29.0	-1.6	-1.9	
-25	4.7	5.4	43.72	2.5	13:10:00	39	-31.6	-1.7	-1.7	
0	5.7	4.4	43.95	3.2	13:10:53	45	-42.7	-2.3	-2.0	

Line	0	Date	21 DEC 94	24.0	#204					
POSITION	I/P	QUAD	T.FLD	TILT	TIME	CULT S	DIR	4-FRA	5-FRA	
1525	14.3	1.1	45.00	8.1	13:13:17	49	48.2			
1900	12.9	2.2	45.01	7.3	13:14:41	49	56.8			
1875	11.6	1.7	44.93	6.6	13:15:21	49	53.0			
1850	11.4	1.1	44.89	6.5	13:15:58	39	45.8	-2.3		
1825	10.9	2.2	44.49	6.2	13:16:40	49	47.4	-1.2	-1.3	
1800	8.6	2.5	44.00	4.9	13:17:19	49	51.6	-2.0	-1.6	
1775	7.7	2.6	43.90	4.4	13:18:24	49	53.4	-3.4	-3.7	



1700	6.8	3.4	43.35	2.7	13:19:12	29	31.5	-1.5	0.2
1700	6.7	3.1	43.90	2.8	13:20:01	39	55.5	-2.6	-2.3
1700	6.7	6.8	43.28	3.8	13:20:45	49	37.7	-1.5	-2.2
1675	1.7	7.4	43.34	5.1	13:21:24	59	44.4	2.4	0.4
1650	6.8	7.0	42.72	3.9	13:22:03	39	45.7	2.4	2.4
1625	4.9	6.2	41.89	2.8	13:22:40	39	44.4	-2.2	0.1
1600	0.7	6.3	41.12	0.4	13:23:40	39	56.9	-5.8	-4.0
1575	0.2	5.6	41.29	0.1	13:24:39	49	45.4	-6.2	-6.0
1550	-1.6	5.7	40.67	-0.9	13:25:22	49	47.7	-4.0	-5.1
1525	-4.1	4.7	41.19	-2.3	13:26:03	49	47.1	-3.7	-3.9
1500	-8.3	4.3	41.47	-4.7	13:26:41	49	52.1	-6.2	-5.0
1475	-10.0	3.4	41.48	-5.7	13:27:18	29	53.2	-7.2	-6.7
1450	-10.4	4.5	42.20	-5.9	13:28:01	49	48.1	-4.6	-5.9
1425	-13.1	4.6	42.28	-7.4	13:28:41	59	48.7	-2.9	-3.8
1400	-16.5	3.8	42.41	-9.3	13:29:17	49	50.9	-5.1	-4.0
1375	-17.3	4.0	43.89	-9.8	13:30:25	39	49.5	-5.8	-5.5
1350	-17.4	2.6	42.88	-5.8	13:30:57	34	41.7	-2.9	-4.4
1325	-10.3	3.3	42.42	-5.9	13:31:52	44	42.3	3.4	0.2
1300	-8.6	2.4	43.03	-4.9	13:32:51	49	50.7	8.8	6.1
1275	-10.1	1.5	41.67	-5.8	13:33:59	34	40.2	5.0	6.9
1250	-12.5	1.6	43.45	-7.1	13:34:44	59	58.4	-2.1	1.4
1225	-10.5	3.7	44.10	-6.0	13:35:24	49	47.5	-2.4	-2.3
1200	-13.2	4.4	43.41	-7.5	13:36:06	39	47.9	-0.6	-1.5
1175	-14.5	4.4	43.90	-8.2	13:36:43	59	49.3	-2.6	-1.6
1150	-17.1	2.7	44.45	-9.7	13:37:29	49	48.5	-4.4	-3.5
1125	-15.4	0.1	43.18	-11.5	13:38:08	43	40.8	-5.5	-5.0
1100	-23.2	-0.7	46.83	-13.0	13:38:54	28	48.0	-6.6	-6.1
1075	-24.0	-3.3	45.74	-13.5	13:39:38	43	37.9	-5.3	-6.0
1050	-22.3	-3.1	50.08	-12.5	13:40:19	43	36.1	-1.5	-3.4
1025	-18.0	0.0	53.02	-10.1	13:41:01	23	35.9	3.9	1.2
1000	2.0	10.1	55.02	1.4	13:41:37	27	43.4	17.3	10.6
975	0.3	16.1	47.06	0.2	13:42:14	49	38.8	24.2	20.7
950	-3.0	14.3	44.38	-1.7	13:42:52	48	40.1	7.2	15.7
925	-3.6	8.5	45.15	-2.0	13:43:35	39	46.5	-0.3	0.0
900	-7.8	10.0	43.10	-4.4	13:44:45	47	32.1	-4.9	-5.1
875	-6.8	8.3	43.35	-5.0	13:45:30	58	35.0	-5.7	-5.3
850	-10.6	7.5	44.16	-6.0	13:46:33	55	42.1	-4.0	-3.2
825	-5.8	6.2	46.25	-5.0	13:47:11	49	49.5	-1.6	-3.1
800	-10.4	6.3	44.68	-5.9	13:47:52	44	40.6	0.1	-0.5
775	-12.5	5.4	45.25	-7.1	13:48:41	35	42.2	-2.0	-1.0
750	-10.6	4.7	47.97	-6.2	13:49:22	49	46.4	-2.4	-2.2
725	-10.0	5.9	46.97	-5.7	13:50:19	49	47.2	1.1	-0.7
700	-11.1	6.3	47.95	-6.3	13:51:40	49	50.3	1.3	1.2
675	-10.6	7.6	47.94	-6.0	13:52:41	39	45.3	-0.4	0.4
650	-14.9	5.8	46.84	-8.5	13:53:19	34	42.2	-2.5	-1.5
625	-16.3	3.9	47.30	-9.2	13:53:50	44	43.2	-5.4	-4.0
600	-16.0	3.5	49.68	-9.1	13:54:23	49	46.0	-3.8	-4.6
575	-16.7	2.3	49.33	-9.4	13:54:58	34	35.1	-0.8	-2.3
550	-15.2	1.3	52.53	-8.6	13:55:33	49	48.6	0.3	-0.3
525	-11.3	0.9	53.66	-6.4	13:56:13	44	41.6	3.5	1.9
500	-5.2	0.8	56.61	-3.0	13:56:54	36	42.7	8.6	6.0
475	4.7	1.0	57.90	2.7	13:57:28	39	41.1	14.7	11.6
450	14.4	-1.1	58.53	8.2	13:58:03	39	45.5	20.3	17.5
425	24.8	-1.2	54.24	13.9	13:58:40	29	42.0	22.4	21.3
400	32.4	-1.2	49.98	17.9	13:59:12	39	44.9	20.9	21.6
375	31.3	-2.3	45.34	17.3	13:59:52	39	48.9	13.1	17.0
350	27.7	-6.0	42.27	15.5	14:00:38	29	48.4	1.0	7.0
325	23.9	-7.9	40.23	13.4	14:01:15	39	51.0	-6.3	-2.7
300	24.3	-5.3	36.03	11.6	14:01:50	49	52.9	-7.0	-7.1
275	16.1	-11.0	36.63	9.1	14:02:30	29	50.0	-8.2	-8.0
250	12.0	-11.2	37.82	6.8	14:03:35	55	33.2	-0.1	-2.7
225	6.4	-12.4	37.54	4.8	14:04:10	39	49.6	-9.1	-9.1
200	2.4	-13.3	36.04	1.3	14:04:52	39	52.7	-9.2	-9.2
175	-2.8	-13.3	39.83	-1.6	14:05:25	49	52.5	-11.3	-10.9
150	-3.7	-12.3	43.57	-2.1	14:06:32	49	46.6	-9.8	-10.9
125	2.0	-8.0	44.38	1.7	14:07:05	49	41.5	-0.1	-5.0

**APPENDIX 3**  
**PETROGRAPHIC REPORT**

J.A. Stoness  
1455 Holland Road  
Sudbury, Ontario  
P3A 3R7  
705-560-3268

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**PETROGRAPHIC REPORT ON SLIDES GAB, MO, and MP**

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## SLIDE: GAB

### Mineralogy:

- 49% subhedral plagioclase, 4 to 10mm
- 5% anhedral plagioclase, 0.5mm (equant)
- 15% anhedral magnetite, 2 to 5mm
- 10% sub-to euhedral garnet, 0.1 to 0.2mm
- 8% anhedral biotite, 0.2 to 0.5 mm
- 5% anhedral quartz, ~0.5 mm
- 3% anhedral hornblende, ~0.2mm
- 4% subhedral diopside, 0.05 to 0.2mm
- <1% eu-to subhedral apatite, 1 to 2mm
- <1% anhedral nepheline, 0.2mm

### Description:

- Large tabular, irregular magnetite crystals (1-5mm) mantled biotite+hornblende, that are in turn mantled by sub- to euhedral garnet. Plagioclase occurs interstitially.
- 3mm porphyroblasts of biotite with garnet mantle.
- Local clusters of diopside (short prismatic fabric).
- Sericite alteration occurs along cracks and imperfections in the plagioclase crystals. Plagioclase crystals occur as strained crystal remnants. Plagioclase often contains biotite and muscovite inclusions. An extinction angle of 10 to 18° indicates An<sub>30</sub>. Plagioclase remnants have irregular crystal surfaces. Intense reaction along crystal faces produces a very irregular grain boundaries.
- Interlaced ilmenite (?) occurs in relict diopside grains (<1%)

### Classification: Gabbro, Granulite Facies Metamorphism

Unstable, high temperature and pressure mineral assemblage. Plagioclase reacts with Fe-Mg mineral, to produce the resulting assemblage. This indicates that these rocks have been exposed high pressure metamorphic conditions and the precursor Fe-Mg mineral and plagioclase reacted to produce a more stable metamorphic assemblage.

PLATE 1.

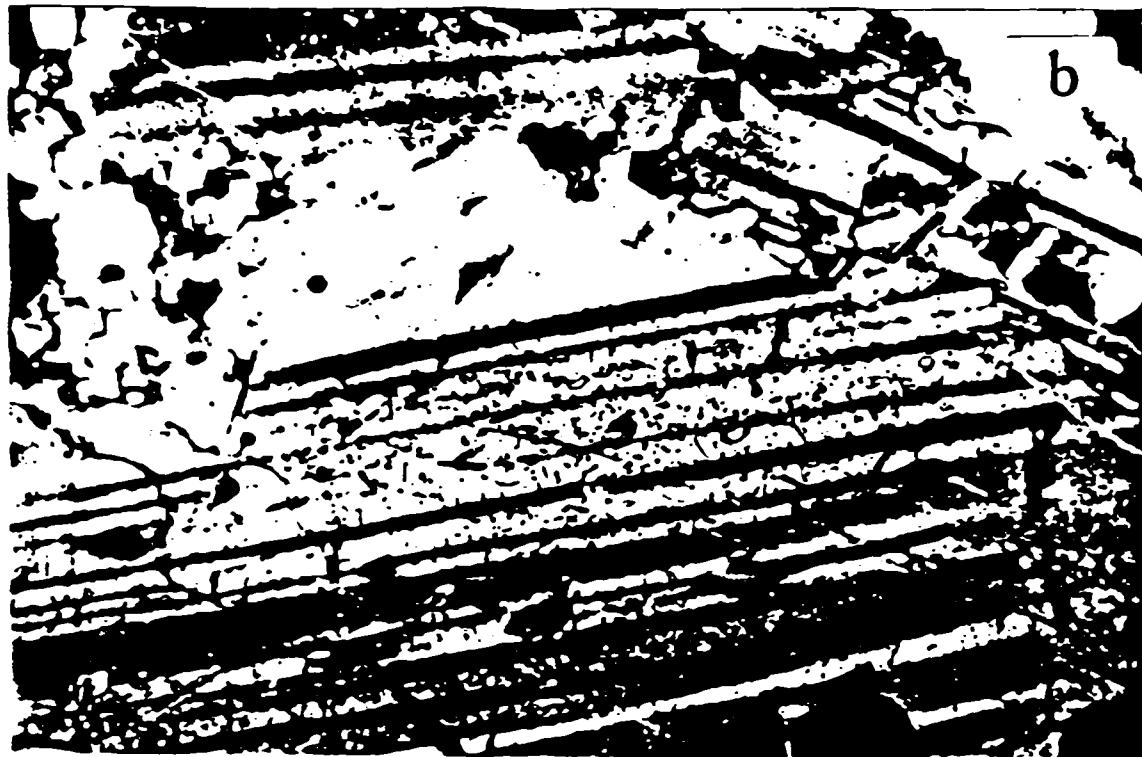
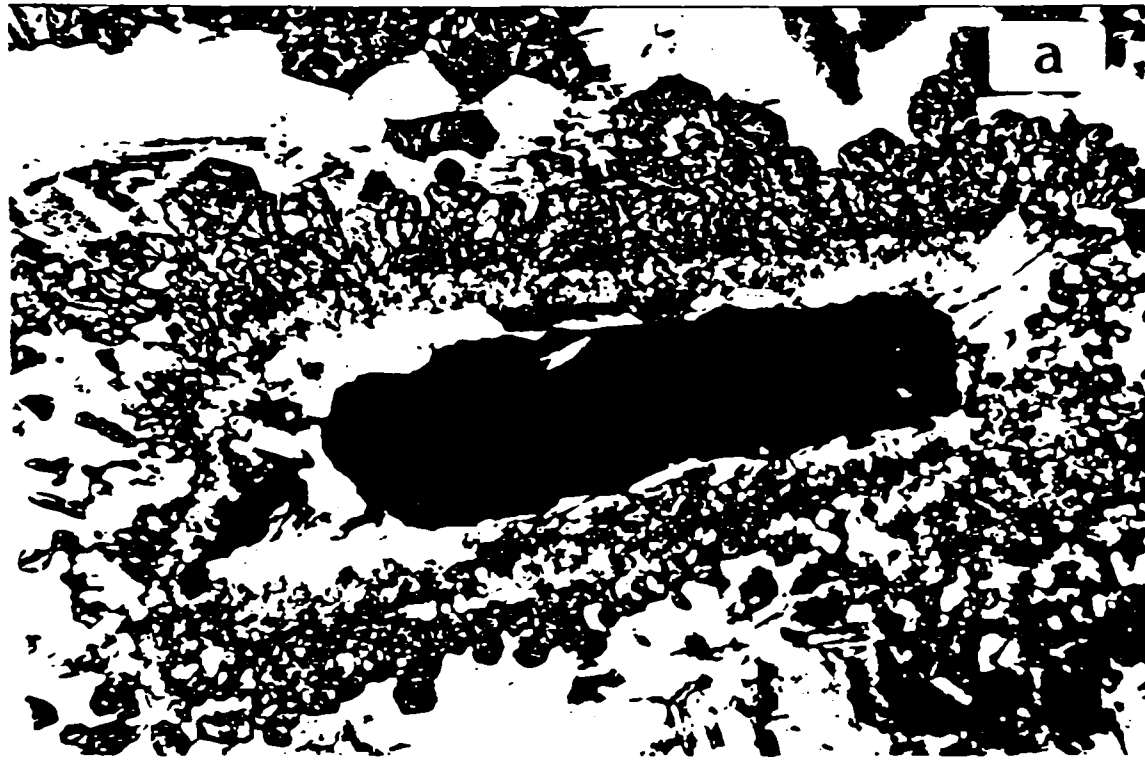
**Plate 1: GAB**

**a) Magnetite porphyroblast mantled by biotite, in turn mantled by garnet. Crossed polars.**

**Field of view is 2.9mm**

**b) Plagioclase crystal with biotite and muscovite inclusions; note the irregular crystal boundary. Crossed polar. Field of view is 2.9mm.**

Plate 1.



**SLIDE: MO**

*"outer aureole around peridotite body"*

Mineralogy:

34% sub- to anhedral garnet, 0.5 to 2mm

24% (myrmekitic) augite, 0.5 to 4mm

14% anhedral plagioclase, 1 to 5mm

10% anhedral plagioclase, 0.05 to 0.5mm

5% anhedral magnetite, 0.05 to 1mm

5% anhedral hornblende, 0.5 to 2.5mm

5% sub- to anhedral biotite, 0.05 to 1mm

3 to 5% anhedral quartz, 0.05 to 0.5mm

Description:

- Augite (precursor Omphacite ?) occurs as several mm's of optically homogenous myrmekitic light green material with interstitial plagioclase (within homogenous augite material); in turn, interstitial to mm-sized plagioclase.

- Hornblende ± biotite often mantles magnetite porphyroblasts, and is interstitial to large garnet crystals.

- Often large garnet crystals contain small anhedral magnetite crystals (0.5 to 0.1mm)

Classification: probable Eclogite, Granulite Facies Metamorphism

Overall, myrmekitic texture of augite (precursor omphacite) indicates it was very unstable.

Omphacite reacts to produce augite+plagioclase, and plagioclase reacts with precursor Fe-Mg mineral (omphacite) to produce the above high pressure metamorphic assemblage.



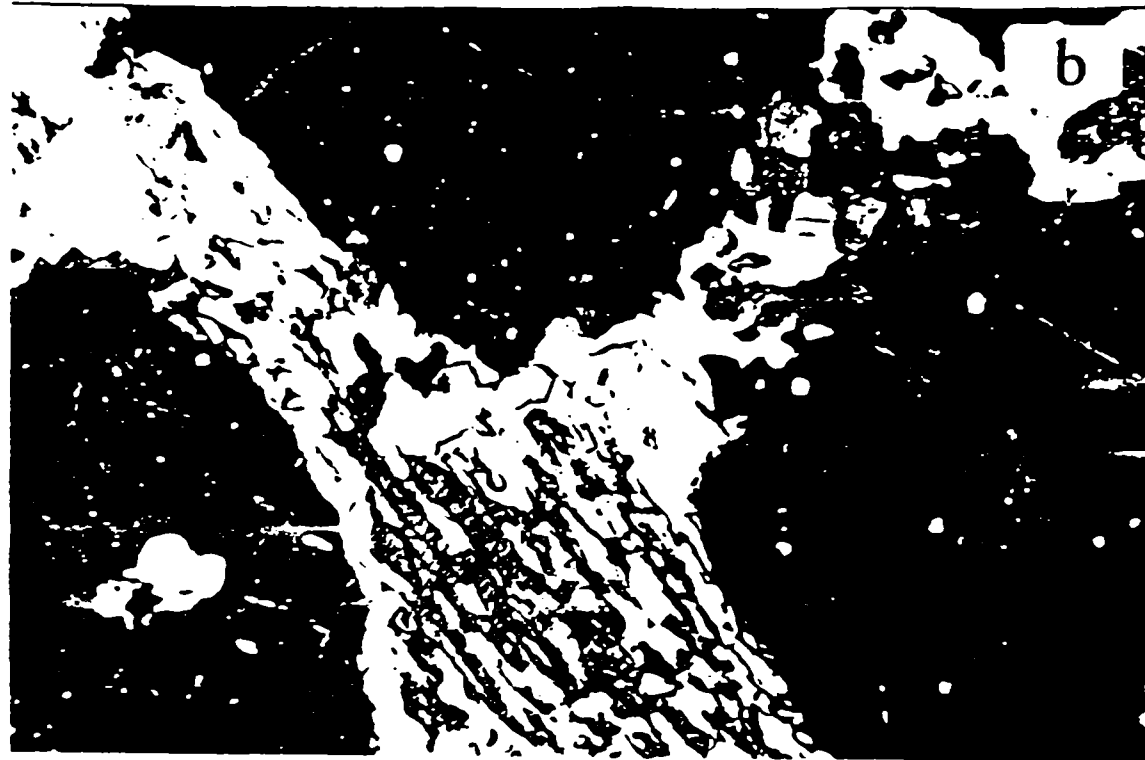
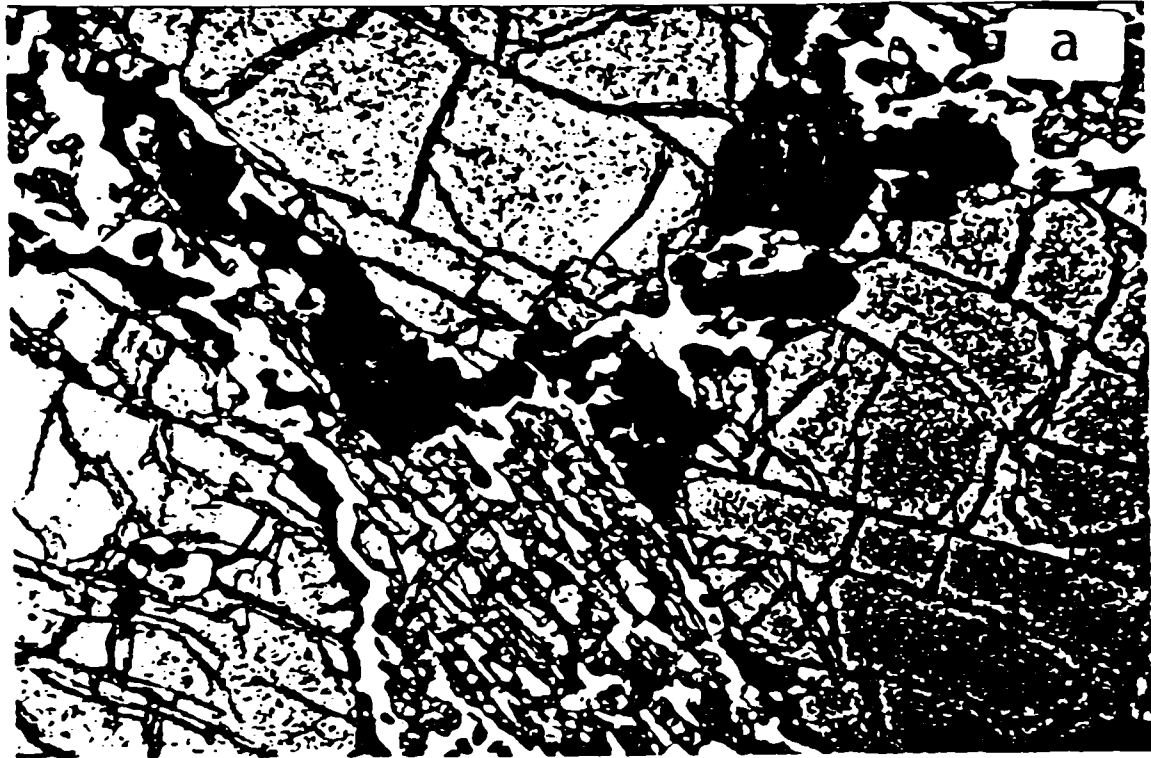
PLATE 2.

**Plate 2: MO**

**a) Garnet crystals (light pinkish-brown) with interstitial myrmekitic pyroxene (precursor omphacite, now augite), hornblende porphyroblasts with magnetite core. Plane polarized light. Field of view is 2.9mm.**

**b) Under crossed polars.**

Plate 2.



## SLIDE: MP

### Mineralogy:

- 48% eu- to subhedral olivine, 0.05 to 0.1mm
- 15% anhedral biotite, 0.05mm
- 10% an- to subhedral garnet, 0.05 to 0.1mm
- 9% anhedral quartz, 0.05 to 0.1mm
- 9% anhedral magnetite, 0.5 to 2mm
- 6% anhedral orthopyroxene (corona on olivine), 0.05mm
- 2% iddingsite, 0.2 to 0.5mm
- <1% very fine grained ilmenite (?)

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[40% relict plagioclase ~2 to 5mm (now quartz+garnet+20% inclusions)]

### Description:

- Granoblastic olivine (biaxial +,  $2V \sim 90^\circ$ ), probably forsterite, with interstitial relict plagioclase. Olivine crystals have an orthopyroxene (probably enstatite) corona.
- Some relict olivine crystals are cored by magnetite and mantled by ~0.5mm biotite.
- Plagioclase remnants are mantled by garnet crystals. Green, high relief, tabular spinel inclusions concentrate parallel to relict twins or occur pervasively to produce a peppered appearance.
- Many irregular patches (<1%) of very fine grained ilmenite (?) interlaced needles.
- Bright yellow iddingsite (?) frequently occurs between individual olivine crystals or in association with biotite that mantles magnetite (low pressure alteration of olivine, very late process).

### Classification: Troctolite, Granulite Facies Metamorphism

These rocks have undergone a high pressure metamorphism, where precursor Fe-Mg mineral and plagioclase reacted to produce a more stable metamorphic assemblage.

**PLATE 3.**

**Plate 3: MP**

**a) Olivine crystals (clear, high relief) mantled by orthopyroxene. Relict olivine: magnetite mantled by biotite. Plagioclase has been highly reacted (or consumed) during high pressure metamorphism. Plane polarized light. Field of view is 2.9mm.**

**b) Under crossed polars. Olivine shows upper second order interference colors. The bottom left shows relict plagioclase with abundant green spinel inclusions.**

**c) Relict plagioclase crystal with very irregular crystal boundaries. The greenish color is due to abundant green spinel inclusions. The relict plagioclase often has a greater concentration along relict twins, as seen here. Plane polarized light. Field of view is 2.9mm**

**d) Above slide area at 10 times power. Field of view is 1.43mm.**

Plate 3.

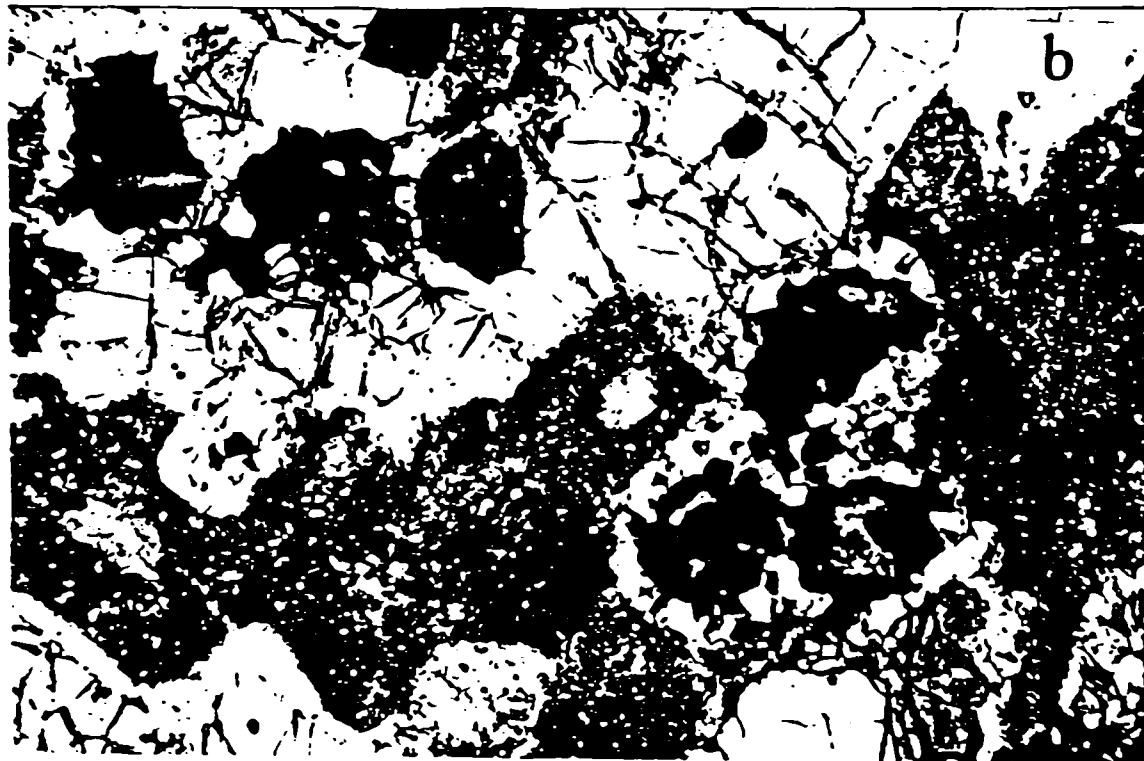
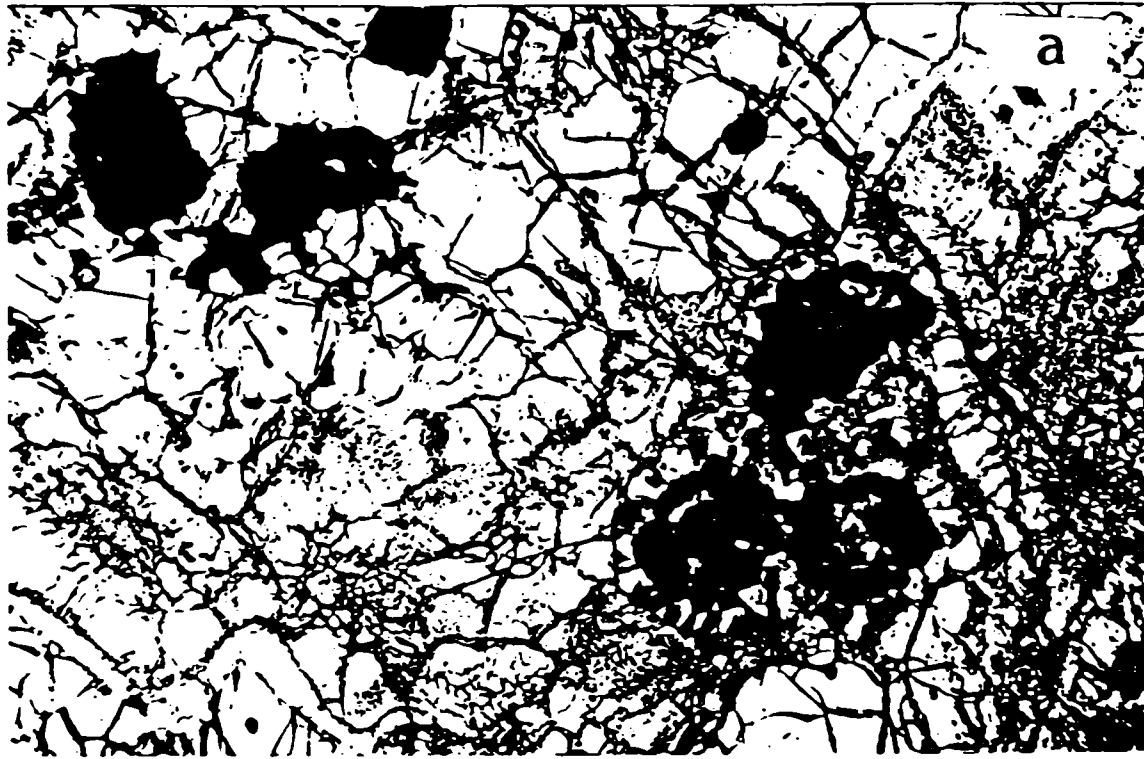
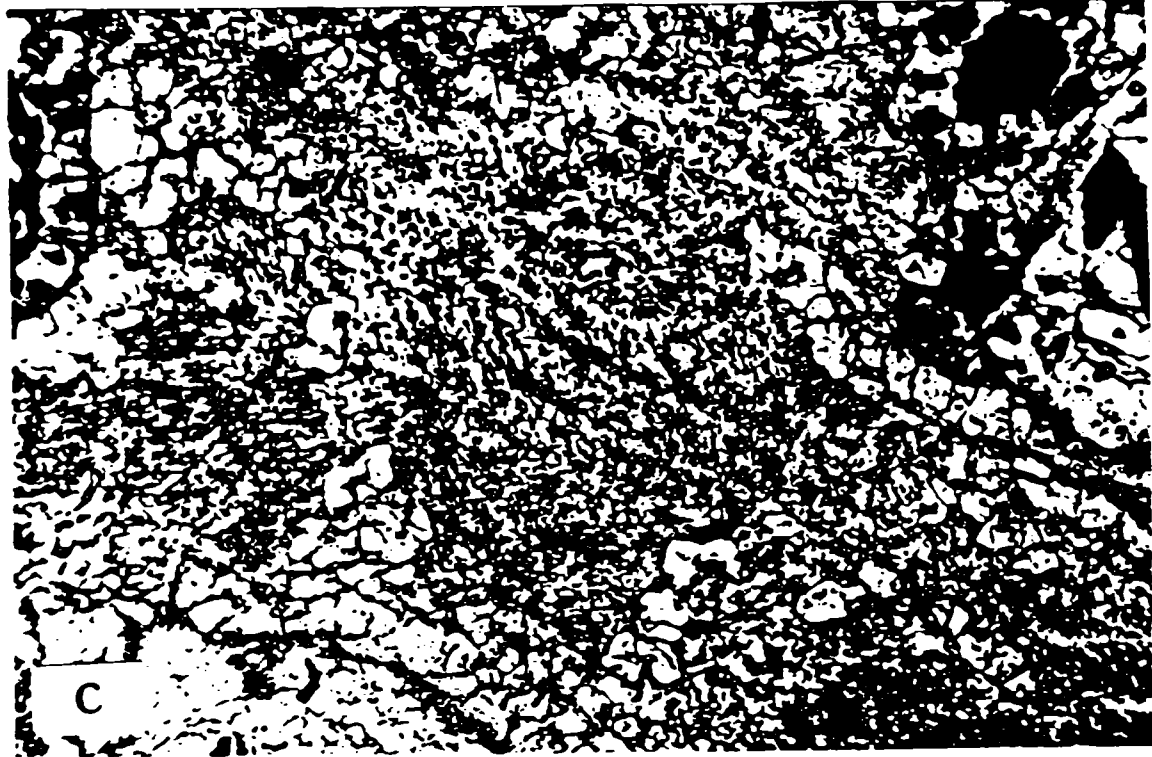


Plate 3.







Ministry of  
Northern Development  
and Mines

Ontario

# Report of Work Conducted After Recording Claim

Transaction Number  
**W9670-8111**

Mining

Personal information collected on this form is obtained under the authority of this collection should be directed to the Provincial Manager, Mining Lands Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.



31L07NW0001 2.16603 MATTAWAN

900

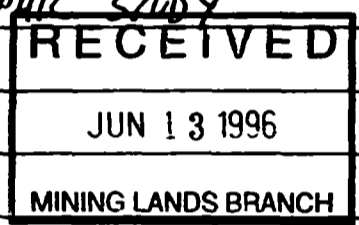
- Instructions:
- Please type or print and submit in duplicate.
  - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
  - A separate copy of this form must be completed for each Work Group.
  - Technical reports and maps must accompany this form in duplicate.
  - A sketch, showing the claims the work is assigned to, must accompany this form.

**2.16603**

Recorded Holder(s) <b>ROBERT G. KOMARECHKA</b>		Client No. <b>153168</b>
Address <b>#1 537 HAIG ST</b>		Telephone No. <b>(705) 673-0873</b>
Mining Division <b>SUDBURY</b>	Township/Area <b>MATTAWAN</b>	M or G Plan No.
Dates Work Performed From: <b>MAY 24, 1994</b>		To: <b>DEC 23, 1994</b>

Work Performed (Check One Work Group Only)

Work Group	Type
Geotechnical Survey	<b>GEOPHYSICAL SURVEY ; PETROGRAPHIC STUDY</b>
Physical Work, including Drilling	
Rehabilitation	
Other Authorized Work	
Assays	
Assignment from Reserve	



Total Assessment Work Claimed on the Attached Statement of Costs \$ **5,045.00**

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
<b>JOE KOWAL (BLAZING LINES)</b>	<b>23 DOWNING ST SUDBURY ONTARIO P3B 3E7</b>
<b>ROGER PELLERIN (LINECUTTING BASSUNG)</b>	<b>Box 67 WARREN ONTARIO P0H 2N0</b>
<b>NORWIN GEOLOGICAL (VLF MAG)</b>	<b>560 NOTRE DAME AVENUE SUDBURY ONTARIO P3C 5L2</b>
<b>J.A. STONESS (PETROGRAPHIC REPORT)</b>	<b>1455 HOLLAND RD SUDBURY ONTARIO P3A 3R7</b>

(attach a schedule if necessary) **R. KOMARECHKA (GEOLOGIST, AUTHOR) #1 537 HAIG ST SUDBURY ONT. P3C 1E2**

Certification of Beneficial Interest \* See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date <b>MAY 7, 1996</b>	Recorded Holder or Agent (Signature) <i>[Signature]</i>
--	----------------------------	--

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.		
Name and Address of Person Certifying <b>ROBERT GERALD KOMARECHKA</b>		
Telephone No. <b>(705) 673-0873</b>	Date <b>MAY 7, 1996</b>	Certified By (Signature) <i>[Signature]</i>

For Office Use Only

Total Value Cr. Recorded <b>3,5045.00</b>	Date Recorded <b>MAY 8 1996</b>	Mining Recorder <i>[Signature]</i>	Received Stamp <b>SUDBURY MINING DIV. RECEIVED</b> <b>MAY 5 1996</b> A.M. 7 8 9 10 11 12 1 2 3 4 5 P.M.
	Deemed Approval Date <b>AUGUST 6 1996</b>	Date Approved <b>1</b>	
Date Notice for Amendments Sent			

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units
	\$1197395	6
	\$1197394	2
<b>Total Number of Claims</b>		<b>2</b>

Value of Assessment Work Done on the Claim	Value Applied to the Claim	
3045.00	3445.00	
2000.00	1600.00	
<b>Total Value Work Done</b>		<b>5045.00</b>
<b>Total Value Work Applied</b>		<b>5045.00</b>

Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date	
0	0	
400.00	0	
<b>Total Assigned From</b>		<b>400.00</b>
<b>Total Reserve</b>		<b>0</b>

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

- Credits are to be cut back starting with the claim listed last, working backwards.
- Credits are to be cut back equally over all claims contained in this report of work.
- Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

**Note 1:** Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc to the mining claims.

**Note 2:** If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed

Signature \_\_\_\_\_



Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des mines

**Statement of Costs  
for Assessment Credit**

**État des coûts aux fins  
du crédit d'évaluation**

Mining Act/Loi sur les mines

Transaction No./N° de transaction

W 96 76 00104

**2.16603**

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4<sup>e</sup> étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

**1. Direct Costs/Coûts directs**

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain	1,000.00	1,000.00
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type LINE CUTTING 10.93 km	1,250.00	
	GEOPHYS. VLF & MAG	1,605.00	
	PETROGRAPHIC REPORT	115.00	2,960.00
Supplies Used Fournitures utilisées	Type AIR PHOTOS	85.00	
	MAPS	14.00	
	TOPFIL	30.00	
			244.00
Equipment Rental Location de matériel	Type		
<b>Total Direct Costs Total des coûts directs</b>		<b>4,204.00</b>	

**2. Indirect Costs/Coûts indirects**

\*\* Note: When claiming Rehabilitation work Indirect costs are not allowable as assessment work.  
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type 4WD 1575 km @ 60/km	945.00	
<b>RECEIVED</b>			
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Food and Lodging Nourriture et hébergement	MEALS & ROOM FOR 3 PEOPLE	145.33	145.33
Mobilization and Demobilization Mobilisation et démobilisation			
<b>Sub Total of Indirect Costs Total partiel des coûts indirects</b>			<b>1090.33</b>
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			840.80
<b>Total Value of Assessment Credit (Total of Direct and Allowable indirect costs)</b>		<b>Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)</b>	<b>5044.80</b>

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

**Filing Discounts**

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	x 0.50 =

**Remises pour dépôt**

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Evaluation totale demandée
	x 0.50 =

**Certification Verifying Statement of Costs**

I hereby certify:  
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as \_\_\_\_\_ I am authorized  
(Recorded Holder, Agent, Position in Company)

to make this certification

**Attestation de l'état des coûts**

J'atteste par la présente :  
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de \_\_\_\_\_ je suis autorisé  
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Geoscience Approvals Office  
933 Ramsey Lake Road  
6th Floor  
Sudbury, Ontario  
P3E 6B5

Telephone: (705) 670-5853  
Fax: (705) 670-5863

August 01, 1996

Our File: 2.16603  
Transaction #: W9670.00104

Mining Recorder  
Ministry of Northern Development & Mines  
933 Ramsey Lake Road, 3rd Floor  
Sudbury, Ontario  
P3E 6B5

Dear Mr. Denomme:

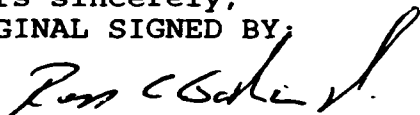
**SUBJECT: APPROVAL OF ASSESSMENT WORK CREDIT ON MINING LAND, CLAIM(S)  
1197395 & 1197394 IN MATTAWAN TOWNSHIP (AREA)**

Assessment work credit has been approved as outlined on the Declaration of Assessment Work Form accompanying this submission. The credit has been approved under Section 14, Geophysical (MAG, VLF), and Section 18 (Microscopic Studies), of the Assessment Work Regulation.

**The approval date is July 31, 1996.** Please indicate this approval on the claim record.

If you have any questions regarding this correspondence, please contact Steven Beneteau at (705) 670-5855.

Yours sincerely,  
ORIGINAL SIGNED BY:



Ron C. Gashinski  
Senior Manager,  
Mining Lands Section  
Mines and Minerals Division

 SBB/jf

cc: Resident Geologist  
Cobalt, Ontario

 Assessment Files Library  
Sudbury, Ontario

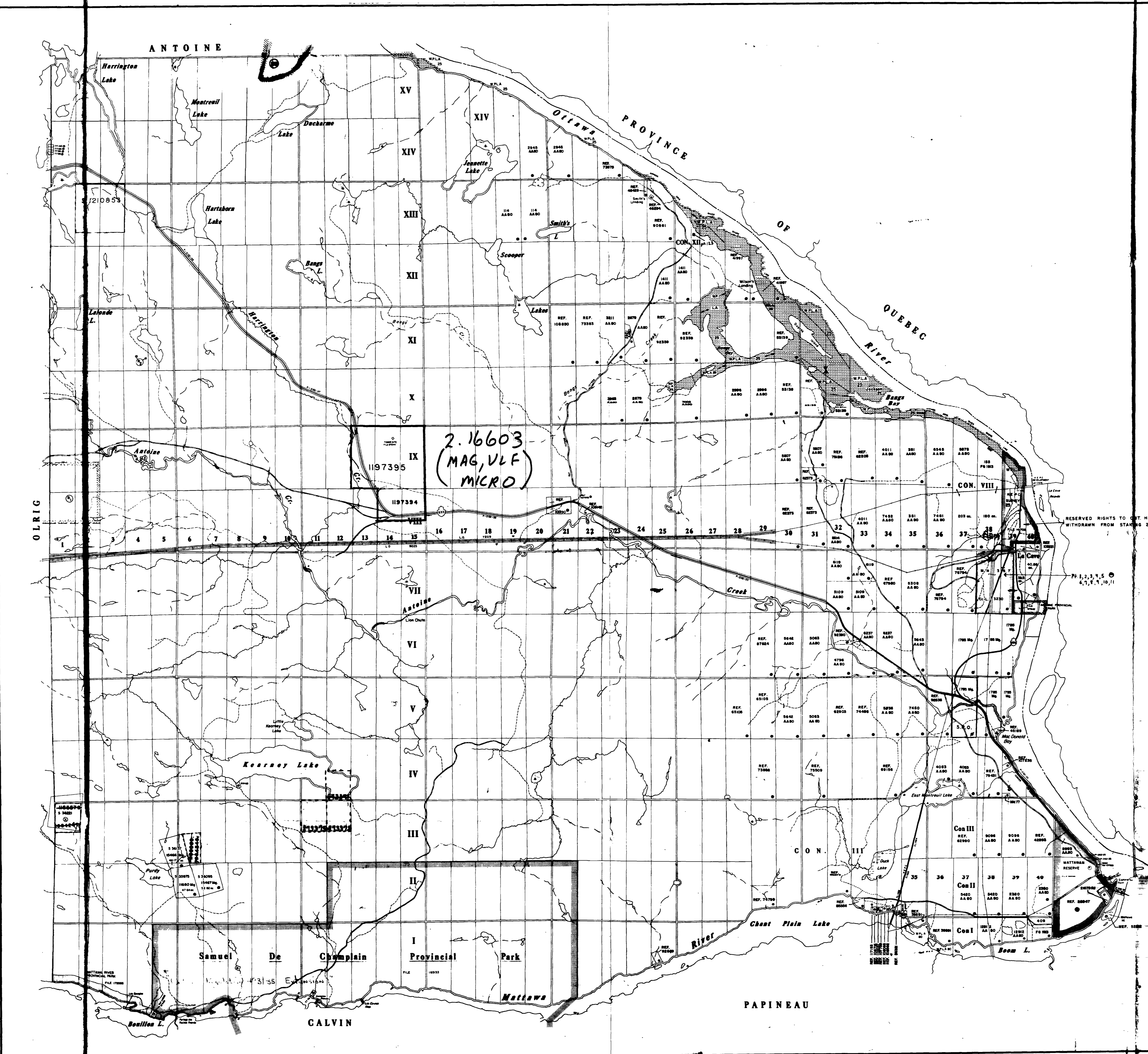
**REFERENCES**

**AREAS WITHDRAWN FROM DISPOSITION**

M.R.O. - MINING RIGHTS ONLY  
 S.R.O. - SURFACE RIGHTS ONLY  
 M.V.E. - MINING AND SURFACE RIGHTS

Order No. Date Disposition Fee  
 SEC 34/90 4/2/91 15/4/91 M.S. 57378  
 CPWA RESERVE  
 WITHDRAWAL W-8-97/88 02/08/88 M.S. 8 18880

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDS, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.



**REFERENCES**

**DATE OF ISSUE:**  
 JUN 11 1996  
 SUDBURY  
 MINING RECORDS OFFICE

**LEGEND**

HIGHWAY AND ROUTE No. [Symbol]  
 OTHER ROADS [Symbol]  
 TRAILS [Symbol]  
 SURVEYED LINES: TOWNSHIP, BASE LINES, ETC. [Symbol]  
 LOTS, MINING CLAIMS, PARCELS, ETC. [Symbol]  
 UNSURVEYED LINES: [Symbol]  
 LOT LINES [Symbol]  
 PARCEL BOUNDARY [Symbol]  
 MINING CLAIMS ETC. [Symbol]  
 RAILWAY AND RIGHT OF WAY [Symbol]  
 UTILITY LINES [Symbol]  
 NON-PERENNIAL STREAM [Symbol]  
 FLOODING OR FLOODING RIGHTS [Symbol]  
 SUBDIVISION OR COMPOSITE PLAN [Symbol]  
 RESERVATIONS [Symbol]  
 ORIGINAL SHORELINE [Symbol]  
 MARSH OR MUSKOS [Symbol]  
 MINES [Symbol]  
 TRAVERSE MONUMENT [Symbol]

**DISPOSITION OF CROWN LANDS**

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	○
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	○
LEASE SURFACE & MINING RIGHTS	○
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	○
LICENCE OF OCCUPATION	○
ORDER-IN-COUNCIL	○
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 4, 1910, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 306, SEC. 81, SUBSEC. 1.

**SCALE: 1 INCH = 40 CHAINS**

FEET 0 1000 2000 4000 8000  
 METRES 0 1000 2000 4000  
 ACRES 40 16  
 HECTARES 16

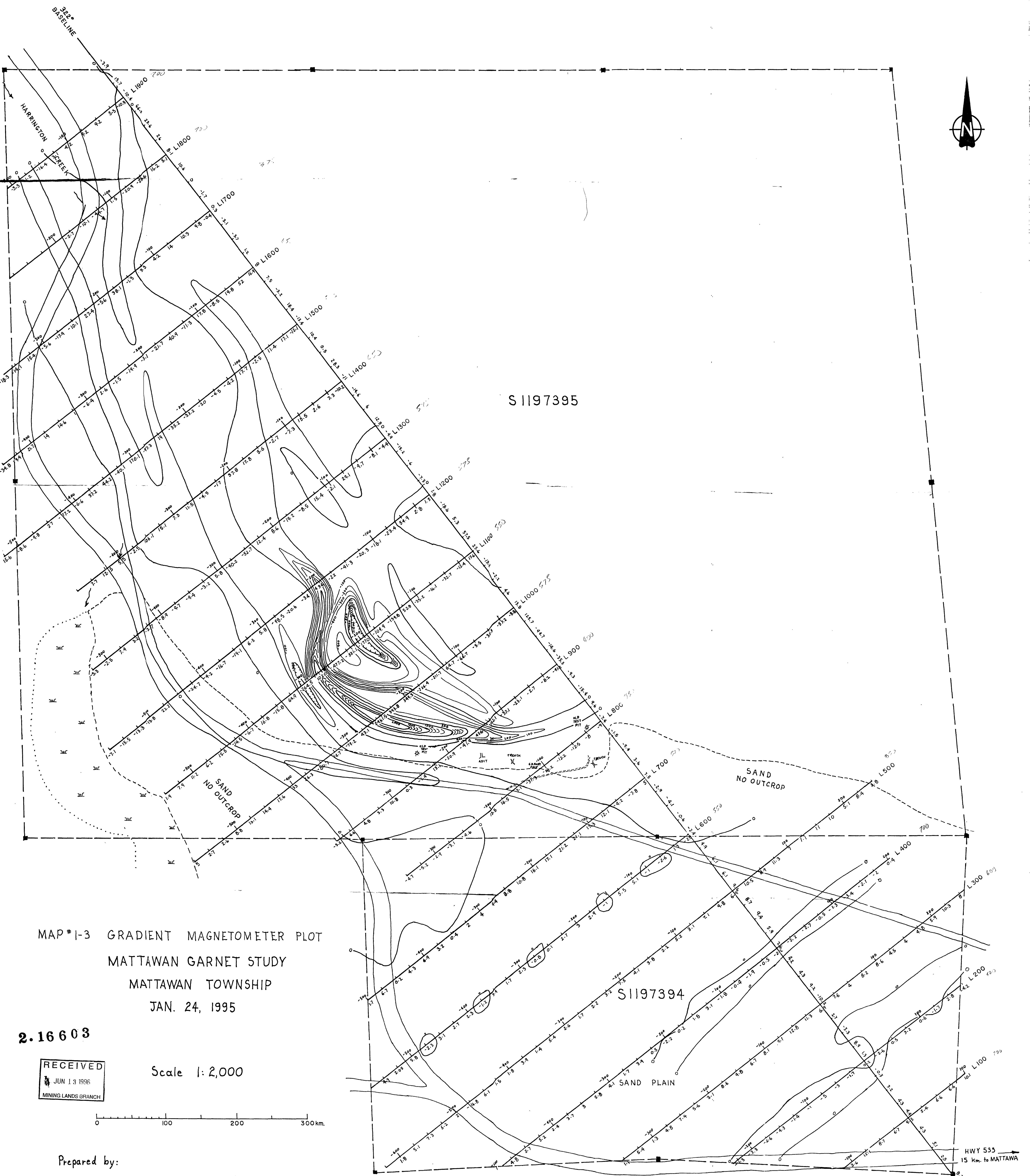
**TOWNSHIP**  
**MATTAWAN**  
 M.N.R. ADMINISTRATIVE DISTRICT  
**NORTH BAY**  
 MINING DIVISION  
**SUDBURY**  
 LAND TITLES / REGISTRY DIVISION  
**NISSISSING**

Ministry of Natural Resources  
 Land Management Branch  
 Ontario

Date: OCTOBER 1994 Number: **G-1633**

2.16603

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 MINING LANDS BRANCH

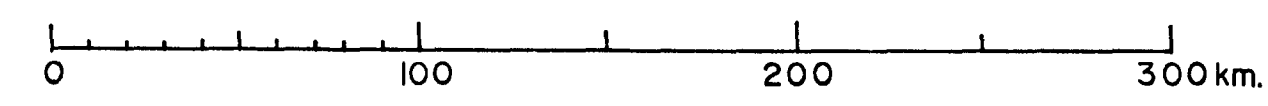


MAP #1-3 GRADIENT MAGNETOMETER PLOT  
 MATTAWAN GARNET STUDY  
 MATTAWAN TOWNSHIP  
 JAN. 24, 1995

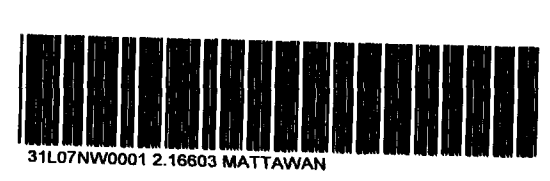
2.16603

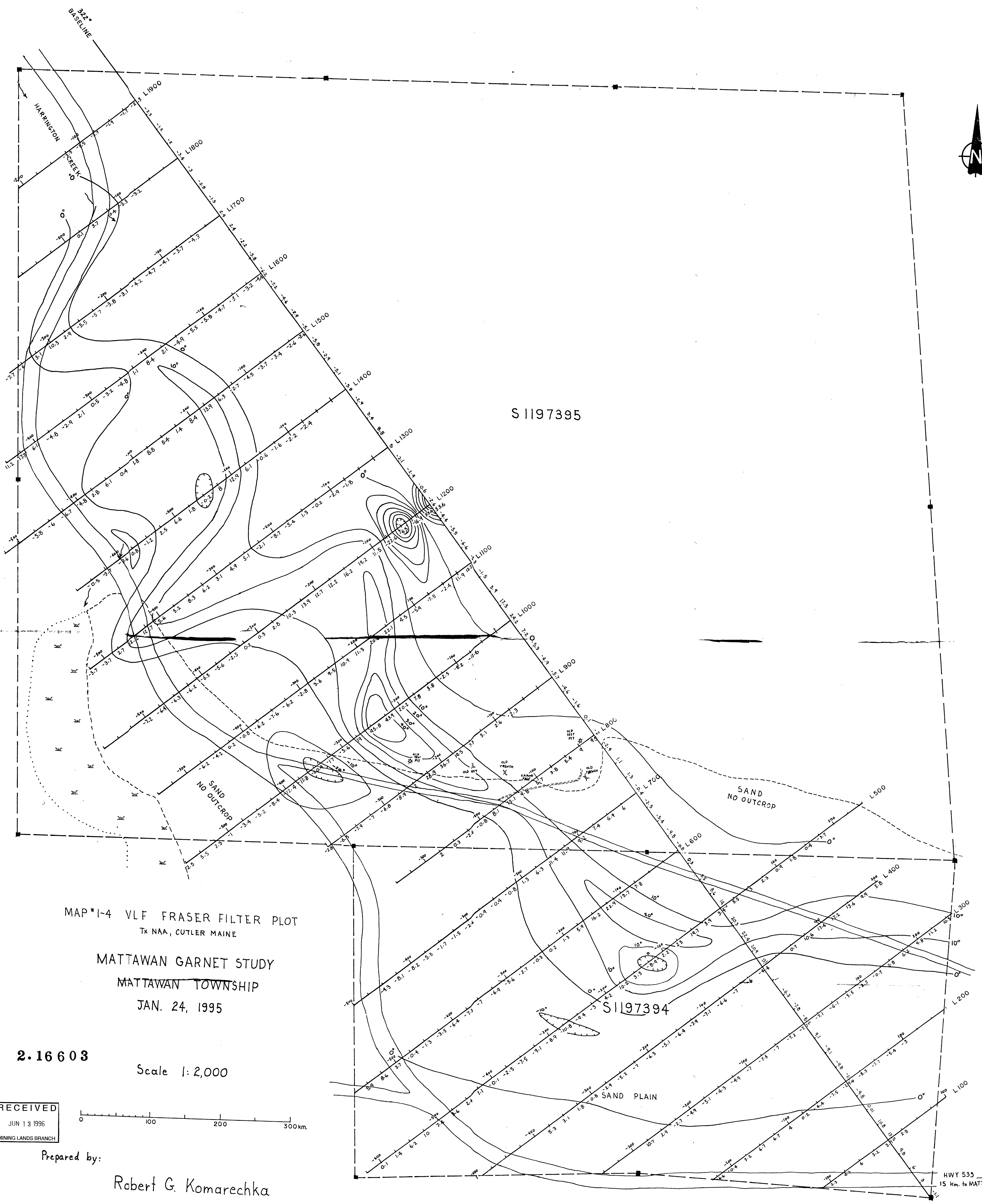
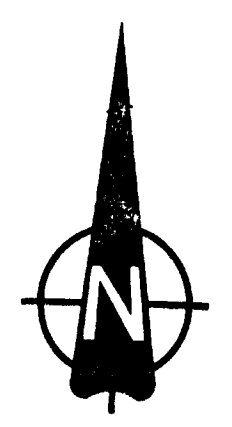
RECEIVED  
 JUN 13 1996  
 MINING LANDS BRANCH

Scale 1:2,000



Prepared by:  
 Robert G. Komarechka





MAP #1-4 VLF FRASER FILTER PLOT  
TX NAA, CUTLER MAINE

MATTAWAN GARNET STUDY  
MATTAWAN TOWNSHIP  
JAN. 24, 1995

2.16603

Scale 1:2,000

RECEIVED  
JUN 13 1996  
MINING LANDS BRANCH

Prepared by:

Robert G. Komarechka

HWY 535  
15 Km. to MATTAWA

