MAR 19970007: MASUMEKA-TROYMIN

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19970007

ASSESSMENT REPORT

KENNECOTT CANADA EXPLORATION INC.

TROYMIN CLAIM BLOCK

GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL

AND DRILLING REPORT

DATES WORK PERFORMED
MARCH 1995 TO JUNE 1997

HINTON AREA

N.T.S. 83F/12,13
83E/16
83L/1

Latitude 53° 31' N to 54°07' N
Longitude 117°32' W to 118°09' W

Kennecott Canada Exploration Inc.
354 - 200 Granville Street
Vancouver, BC
V6C 1S4

Prepared by: Susan Ball

September 1997

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1.0 SUMMARY

The Troymin claims consist of ten Metallic Mineral Exploration Permits comprising 86 236 hectares north of Hinton. Mineral grains indicative of possible diamond-bearing kimberlites have been recovered from stream sediment samples on the property. Exploration work has been conducted by operator Kennecott Canada Exploration Inc. from January 1997 until present. Prior to that, Montello Resources was operator. Work filed in this report includes ground geophysical surveys, heavy mineral sampling and processing, and diamond drilling.

In 1996, geophysical ground surveys were conducted over airborne geophysical anomalies on the property. During the autumn and winter of 1996-1997, several of these anomalies were tested with diamond drilling. To date, no kimberlitic bodies have been identified on the Troymin claim block.

2.0 INTRODUCTION

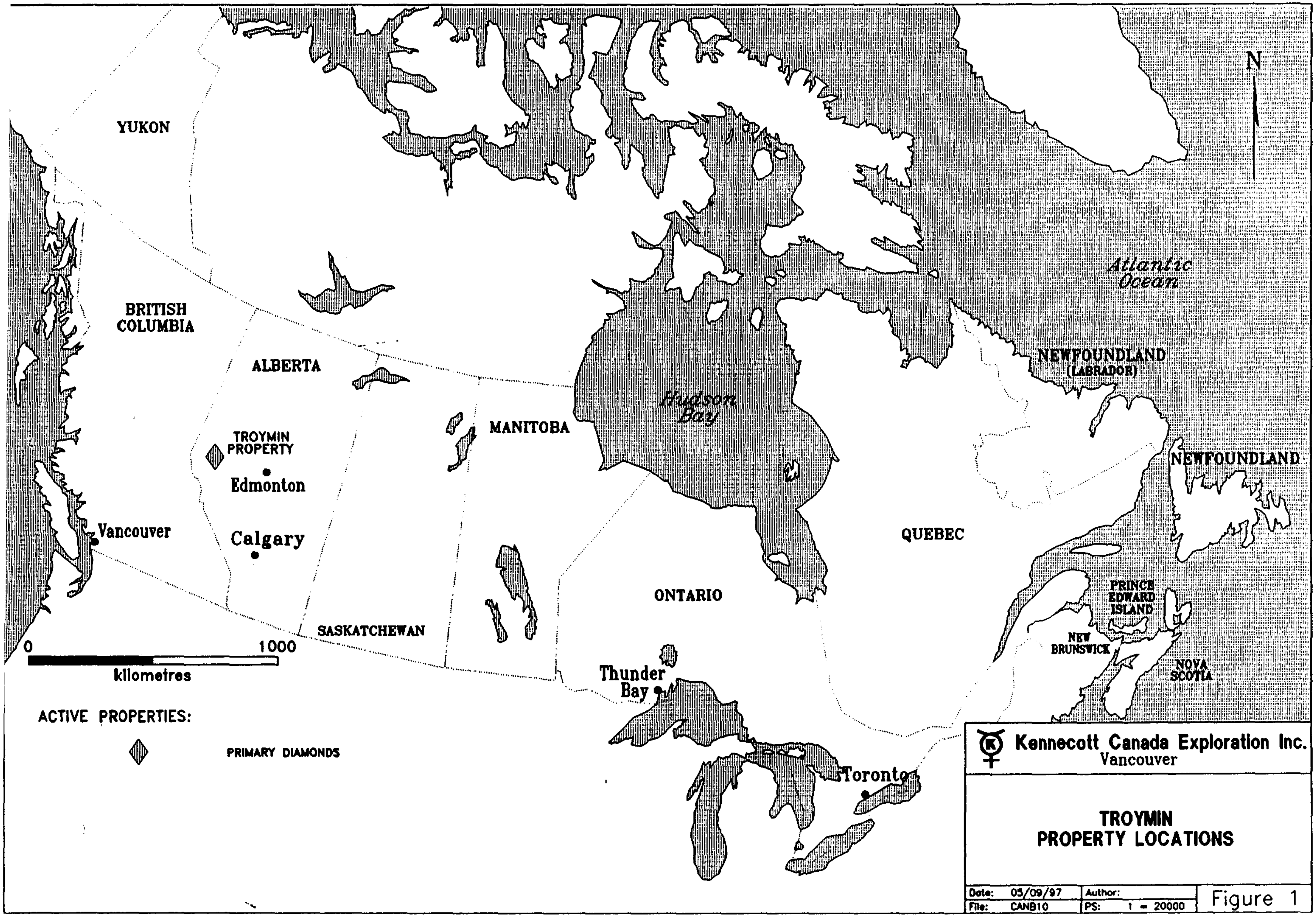
The Troymin ground is situated in a geological setting conducive to the occurrence of diamondiferous deposits. Alberta is underlain by large areas of Precambrian crust that may have acted as 'cool roots' allowing for diamond-bearing source rocks to remain stable in the mantle beneath Alberta.

Mineral grains indicative of a kimberlite source have been identified in the claim area, suggesting a possible local source. Work to date has focused on extensive stream sediment sampling, indicator work, airborne and ground geophysics, and diamond drilling.

3.0 LOCATION AND ACCESS

The Troymin claims are located between latitudes 53°31'N and 54°07'N and longitudes 117°32'W and 118°09'W on the 1:50,000 NTS sheets 83F/12, 83F/13, 83L/1, and 83E/16 (Figure 1). The property is approximately 15 km north of Hinton, Alberta.

From 1995 to 1997, exploration activities were conducted out of Hinton. Access to Hinton is 275 km by Highway 16, west from Edmonton. The property is easily accessed via existing Weldwood logging roads, and locally via oil and gas company roads. Seismic lines provide good all-terrain-vehicle (ATV) access in summer and snowmobile access during the winter months.


YUKON
BRITISH COLUMBIA
ALBERTA
MANITOBA
SASKATCHEWAN
ONTARIO
QUEBEC
NEWFOUNDLAND (LABRADOR)
NEWFOUNDLAND
PRINCE EDWARD ISLAND
NEW BRUNSWICK
NOVA SCOTIA
Hudson Bay
Atlantic Ocean
N
TROYMIN PROPERTY
Edmonton
Calgary
Vancouver
Thunder Bay
Toronto
0
1000
kilometres
ACTIVE PROPERTIES:
PRIMARY DIAMONDS
Kennecott Canada Exploration Inc.
Vancouver
TROYMIN
PROPERTY LOCATIONS
Date: 05/09/97
File: CANB10
Author:
PS: 1 = 20000
Figure 1

4.0 PHYSIOGRAPHY AND CLIMATE

The Troymin property lies on the Alberta Plateau within the physiographic region known as the southern Canadian Interior Plains, and borders on the eastern margin of the Rocky Mountain Foothills. The mid-boreal forest covers the property, interspersed with bogs in local lowlands.

The Athabaska River Valley lies to the south of the property, dividing the Alberta Plateau (to the north) from the Alberta Plain to the south. The Alberta Plateau is characterized flat tablelands and benchlands which are separated by wide valleys running from southwest (in the Rocky Mountains) to northeast. Landforms, relief and drainage have been influenced by the effects of several periods of glaciation and by post-glacial fluvial processes. The topographic relief is low to moderate ranging from about 1100 meters in river valleys to 1450 meters on the uplands. River valleys are commonly narrowly incised. The main drainage pattern is to the northeast, perpendicular to the trend of the Rocky Mountains. Water levels vary greatly with the season, from high during spring melt to very low or occasionally dry at the end of summer.

Quaternary and Tertiary sections outcrop locally, mainly along stream cut banks and road cuts. The till blanket varies from centimeters up to ten's of meters thickness.

The climate from late October to early April is generally cold with significant snowfall, although Chinook conditions can occur throughout the winter months. Temperatures range from a high of approximately 30°C in summer to minimums which fall below -30°C in winter. Daylight varies from eight hours in winter to 18 hours in summer.

The local fauna consists of elk, moose, deer, caribou, black and grizzly bears, wolves, and small mammals. Many of the larger streams and lakes contain fish and support bird life.

5.0 PROPERTY DEFINITION

The Troymin Property consists of ten Metallic and Industrial Minerals Permits covering a land base of 86 236.00 hectares (Figure 2). Claims, with anniversary dates are presented in Table 1.

Table 1 - Troymin Claims

TROYMIN CLAIM BLOCK		
Claim	**Hectares**	**Anniversary Date**
9393030652	8576.00	June 17, 1997
9393030653	9216.00	June 17, 1997
9393030654	8576.00	June 17, 1997
9393030655	9216.00	June 17, 1997
9393030657	9216.00	June 17, 1997
9393030658	8311.00	June 17, 1997
9393030660	8293.00	June 17, 1997
9393030663	8960.00	June 17, 1997
9393030665	7680.00	June 17, 1997
9393030667	8192.00	June 17, 1997

6.0 PREVIOUS WORK

The area covered by the Troymin claims received relatively little attention from mining companies or government agencies prior to 1993. Since this time, reconnaissance exploration for diamond indicators has been ongoing.

The following is a brief summary of those workers who have studied and/or mapped parts of the region:

Gilmour, W.R., 1995. Report on the Hinton Property, Alberta. Prepared by Discovery Consultants for Montello Resources Ltd.

Langenberg, C.W. and Skupinski, A.,1996. AGS Open File 1996-09. The Provenance of Diamond Indicator Minerals in the Bedrock of the Hinton Area, Alberta Foothills.

Roed, M.A., 1968. Surficial Geology of the Edson-Hinton Area, Alberta. University of Alberta Doctoral Thesis.

Roed, M.A., 1970. Surficial Geology of Edson, NTS 83F. Alberta Research Council.

7.0 REGIONAL GLACIATION

During the Pleistocene period Alberta was subjected multiple times to glaciation both by the Continental ice sheets and by Cordilleran-Rocky Mountain glaciers. In general, the glaciers advanced over Alberta from (1)the northeast or north which is commonly referred to as the Laurentide source, and (2) the west, which includes both Cordilleran and Rocky Mountain sources. The flow of both the Cordilleran (originating in the interior of British Columbia and bringing material from west of the Rocky Mountain Trench) and the Rocky Mountain (originating in the Rocky Mountains and flowing eastward onto the plains) glaciers was influenced within the mountains by the presence of valleys and low passes between valleys. Those valley glaciers which reached the Foothills and Plains spread out to form piedmont glaciers until they were deflected southward by intersection with the Laurentide glaciers. Figure 3 shows the ice-flow directions indicated by the surface features in Alberta (Dufresne et al. 1994).

The majority of the eastward glacial advances came from Rocky Mountain sources. Ice from Cordilleran glacial centers flowed over and east of the Rocky Mountains only on a few occasions. The most recent Cordilleran event was the valley glacier that flowed out of the Athabaska valley and was deflected southeastward, becoming confluent with the Laurentide glacial ice. This flow of mixed Cordilleran and Laurentide ice along the eastern margin of the Foothills formed the Athabaska Valley erratics train and Foothills erratics train (Roed 1975).

Local topographic highs (Tablelands) such as Obed Mountain, north of Hinton contain preglacial sands and gravels deposited from sources to the west, the result of drainage from the mountains across the plains prior to continental glaciation.

The surficial materials of the Troymin block consist dominantly of the Marlboro Till and the younger Obed Till, both having a Cordilleran source (Roed, 1965). Colluvium occurs mainly on some of the steeper slopes and is largely derived from glacial till, although some may be derived from preglacial gravel and weathered bedrock.

8.0 REGIONAL GEOLOGY AND TECTONIC HISTORY

The Troymin property is situated in west-central Alberta on the North American Craton near its western boundary immediately east of the Cordillera. The craton is overlain by sedimentary rocks of Paleozoic through Cenozoic age. Cretaceous and Tertiary strata are known from

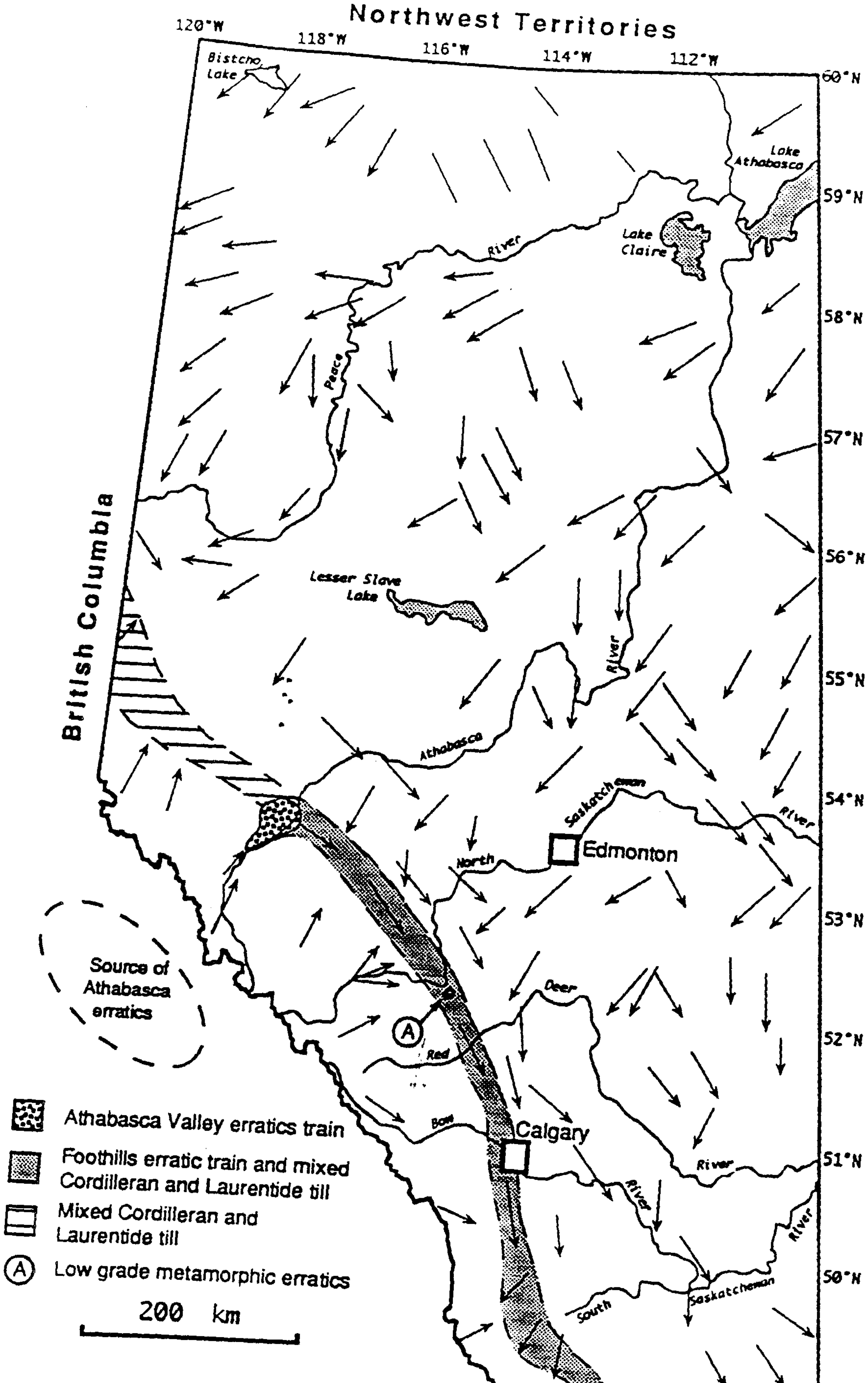


Figure 3. Glacial flow directions.

outcrop in the Hinton region. The entire Upper Cretaceous-lower Tertiary sequence of strata above the Upper Cretaceous Alberta Group is nonmarine in the central Alberta Foothills. The top of the sequence is erosional so that the thickness varies greatly from one area to another. The maximum estimated thickness is over 3600 m (Jerzykiewicz 1980).

The late Cretaceous - Tertiary bedrock formations of central Alberta form the uppermost portion of a thick succession of clastic rocks ranging in age from Jurassic to Tertiary, which were deposited in a gently subsiding basin flanking highlands situated to the south and west of the present day Rocky Mountains. Lithologies include sandstone with subordinate conglomerate, siltstone, mudstone, and coal. Bentonite and tuff beds, making up a small portion of the total section, are important marker beds in some areas. Layers of bentonite clay or clay-shale are associated with some coal seams. Episodic tectonic uplifts in the highlands to the west provided the source for these sediments which accumulated in the basin to the east.

9.0 PROPERTY GEOLOGY

Paleocene strata of the Paskapoo Formation comprise all known surficial bedrock occurrences on the Troymin property. The Paskapoo consists of at least 1500 m of thick alluvial sandstone and mudstones above the uppermost coal seam of the Coalspur Formation. The High Divide Ridge Conglomerate forms part of the Paskapoo Formation and is stratigraphically about 1000 m above the base of the Paskapoo.

Surficial bedrock occurrences on the property are rare. The sandstone, siltstone, and mudstone of the Paskapoo Formation are weakly cemented by clay and calcite. The upper sequences of the Paskapoo are extensively weathered.

The Paskapoo Formation bedrock is in turn underlain by late Cretaceous, Brazeau Formation bedrock, which is generally similar in gross lithology and virtually indistinguishable macroscopically from the Paskapoo Formation.

10.0 DIAMOND EXPLORATION PROGRAM TO DATE

Exploration work carried out between 1993 and 1995 is summarized as follows:

Fall 1993 Stream sediment sampling to check for diamond indicator minerals conducted by New Claymore Resources

May - July, 1994 Dighem airborne magnetic survey. 21, 500 line-km flown

Summer 1994 Stream sediment sampling to check for diamond indicator minerals conducted by Montello Resources

11.0 DIAMOND EXPLORATION WORK PROGRAM 1995 to 1997

The diamond exploration program on the Troymin claims consists of three main branches: ground geophysics, heavy mineral sampling and diamond drilling.

Ten ground magnetic surveys were conducted for a total of 65.05 line kilometers. Of these, four anomalies were selected for diamond drilling.

In total, 83 stream sediment samples were collected on the property during the program. From these samples, select grains were sent for microprobe analysis.

Four anomalies were chosen for diamond drilling. No kimberlite was intersected from drilling these targets.

12.0 GEOPHYSICAL PROGRAM

The entire assessment area has been covered by a Dighem airborne magnetic survey, completed during 1994. The survey was flown at 40 meters terrain clearance with a line spacing of 200 meters. Individual airborne anomalies consist of a discreet magnetic signature, either high or low. These signatures are typically less than one kilometer in diameter. Kimberlites are rarely known to occur in outcrop. Each selected anomaly was ground checked to determine if the airborne target could be explained in outcrop or by cultural effects such as drill steel.

GROUND MAGNETIC SURVEY

Ground magnetic follow up surveys of selected airborne anomalies were done in 1996. Targets from the airborne survey are identified by the prefix "MT" or "NC", and by a number (e.g. MT-19).

Ten ground magnetometer surveys were completed by Quantec Consultants Inc. . These surveys were conducted over land grids. See Appendix III for Quantec logistical report.

Table 2: Summary and Interpretation of Ground Magnetometer Surveys

MT6 427450E 5979850N 150m diameter 25nT magnetic high
Signature interpreted as unlikely to be kimberlitic.

MT7 428750E 5978000N 150m diameter 10nT magnetic high
An elongate signature interpreted as unlikely to be kimberlitic.

MT8	429250E	5977100N	75m diameter	10nT magnetic high
	A continuation of elongate signature seen in MT7.			
MT12	429900E	5972600N	250m diameter	25nT magnetic high
	Interpreted as possibly kimberlitic.			
MT19	434650E	5966500N	200m diameter	15nT magnetic high
	Interpreted as possibly kimberlitic.			
MT22	436850E	5960350N	150m diameter	25nT magnetic low
	Drill steel was revealed to be the source of the anomaly.			
MT24	433900E	5958900N	150m diameter	10nT magnetic high
	Interpreted as possibly kimberlitic.			
MT25	435600E	5954100N	100m diameter	15nT magnetic high
	A number of 'spotty' highs interpreted as unlikely to be kimberlitic.			
MT28	441800E	5958500N	100m diameter	20nT magnetic high
	Interpreted as possibly kimberlitic.			
NC21	434400E	5976500N	200m diameter	10nT magnetic high
	Interpreted as possibly kimberlitic.			

MAX-MIN SURVEY

Four grids (MT19, MT24, MT28 and NC21) were surveyed using the Max-Min EM system. All grids were surveyed using a 100 m coil separation and frequencies of 1760, 3520, 7040, and 14080 Hz. MT19 had 880 Hz data collected on some lines as well. Survey parameters and methodology are described in a logistics report provided by Quantec Consultants Inc., and found in Appendix III.

Generally, the survey was unsuccessful in delineating large (circular) conductive features indicative of kimberlite pipes, although numerous locally conductive features do exist. Large conductive bodies have an expected negative response, with the in-phase (IP) and quadrature (Q) responses tracking one another. In areas of clean data, but with the IP and Q channels of opposite sign, a variably conductive layered earth can be interpreted. Many of the IP profiles presented in Appendix III have large, one station, positive noise spikes; note that these are the result of incomplete terrain corrections or improper field procedures (i.e. incorrect Tx-Rx coil separation) and are not "real" anomalies.

A limited interpretation is provided in table form after each grid. The table identifies all localized anomalies and qualifies the responses as:

Poor	$Q \geq IP$
Moderate	$Q \approx IP$
Good	$Q \leq IP$

It also shows which anomalies correlate with the major magnetic anomaly on the grid. The width of the anomalies can be calculated by subtracting 100 from the zero-crossover width of the anomaly for each frequency. In general, the conductors are narrow (< 5m) and do not necessarily correlate with the magnetic anomaly.

Table 3: Summary and Interpretation of Max-Min Surveys

MT19

frequency (Hz)	Anom. Centre / description	quality	magnetic anom.
880	300N, 50E 100N, 150E	Poor Poor	No No
1760	350N, 25W 250N,125W 200N,150W 150N,150W	Poor Poor Moderate Poor	Northern edge Yes Western edge Southern edge
3520	350N, 25W 300N, 50E 250N, 125W 250N, 0 200N, 150W 150N,150W	Poor Good Poor Good – questionable Poor Poor	Northern edge No Yes Western edge Southern edge
7040	400N, 50E 300N, 50E 200N, 150W 150N, 150N	Poor Good – layered earth? Good Poor	No No Western edge Southern edge
14080	Noisy – near surface response.		

MT24

Frequency (Hz)	Anom. Centre / description	quality	magnetic anom.
1760	No discrete anomalies. Layered earth response.		
3520	Layered earth response. Localised dip in response between L200N and L350N.	Poor	Yes
7040	As above with increasing amplitude.	Poor – moderate	Yes
14080	As above with increasing amplitude.	Good	Yes

MT28

Frequency (Hz)	Anom. Centre / description	quality	magnetic anom.
1760	1200N 250W 1150N, 250W 1100N, 225W	Poor Poor Moderate	No Small 2 nT low Small 2 nT low
3520	1200N 250W 1150N, 250W 1100N, 225W 1050, 200W	Moderate – good Moderate Good Moderate	No Small 2 nT low Small 2 nT low No
7040	Conductive trough running NS along centre of grid.	Moderate – good	
14080	As above.	Good	

NC21

Frequency (Hz)	Anom. Centre / description	quality	magnetic anom.
1760	200N, 100W (expanded amp. scale)	Moderate	?
3520	As above. Anomalous zone running EW at 200N along all lines.	Moderate	EM anomaly crosses through mag anomaly.
7040	As above.	Moderate – good	As above.
14080	Noisy – near surface response.		

13.0 HEAVY MINERAL SAMPLING PROGRAM

A regional stream sediment sampling program carried out in 1996 resulted in the collection of 83 samples on and adjacent to the Troymin block.

The sampling program was conducted from June to October, 1996 using a combination of 4x4 truck and ATV support. Crews of two people evaluated and sampled preselected sites. Where a particular site was deemed unsuitable, crews scouted streams for an alternate site and/or ruled out poor sites as suitable for sampling. Heavy mineral trap sites such as gravel bars or plunge pools were chosen as the best medium from which to obtain samples most likely to contain indicator grains.

Samples were coarse sieved on site in order to retain the -2mm size fraction. An approximately 12 kg sample was sieved using water from its parent stream. Samples were double bagged and excess water poured off. A silt sample was taken from each site.

Samples were stored for up to three months. Twenty-two of these samples were sent to Loring Laboratories in Calgary, AB for processing. Twenty-five were submitted to Saskatchewan Research Council in Saskatoon, SK for caustic fusion analysis. The remainder were sent to Rio Tinto's lab in Perth, Australia.

13.1 Heavy Mineral Sample Processing

During 1996 and 1997, sample processing took place both at Rio Tinto's heavy mineral laboratory in Perth, Australia and at Loring Laboratories Ltd. in Calgary, Alberta.

At Rio Tinto's Perth laboratory, the steps in processing stream sediments for heavy minerals are as follows:

1. De-sliming
2. Splitting into non-magnetic and magnetic fractions on a rare earth magnetic separator
3. Heavy liquid (SG 2.8) separation of quartz from the non-magnetic fraction
4. Removal of background light heavy minerals (e.g. amphiboles) by heavy liquid (SG 3.25) from magnetic fraction
5. The magnetic fraction was further processed using other methods to separate kimberlitic indicator minerals from other background minerals, such as crustal garnet and ilmenite
6. The resultant concentrates were examined grain by grain under a binocular microscope by trained observers and any indicator or potential indicator minerals were removed from the sample
7. Leica S440 scanning electron microscope used to distinguish pyrope from grossular garnets and to estimate quantity of magnesium and chrome present in ilmenite

Loring Laboratories methodology is outlined in the flow chart in Appendix VII.

13.2 Heavy Mineral Concentrate Microscope Examination

Microscopic examination ("picking") of the heavy mineral concentrates was conducted by Rio Tinto staff trained to recognize kimberlitic indicator minerals. Picking was done from December 1996 to June 1997 at the Rio Tinto Lab in Perth, Australia. Select grains are collected, vialed, and catalogued.

Picked grains from microscopy are studied in detail under a scanning microscope and those with the most merit are selected, described in detail, then submitted for electron microprobe analysis. Major oxide chemistry is then studied to determine the affinity of the probed mineral grain.

Samples submitted to Loring Laboratories were picked and anomalous samples were forwarded to Kennecott's heavy mineral laboratory in Thunder Bay, Ontario. All grain cards were reviewed by Kennecott mineral pickers, then possible kimberlitic minerals were selected by a Kennecott geologist and submitted to R.L. Barnett Geological Consulting Inc. of London, Ontario for electron microprobe analysis. The analysis were returned from R.L. Barnett on March 24, 1997 (Appendix VI).

13.3 Discussion of Heavy Mineral Sample Results

Of 83 stream sediment samples collected during summer of 1996, heavy minerals with possible kimberlitic affinity were recovered from 51 samples. Mineral grains were selected from these samples for electron microprobe analysis. Grains selected from those samples submitted to Loring Laboratories were submitted to R.L. Barnett Geological Consulting Inc. of London, Ontario. Bob Barnett operates a JEOL 750 five-spectrometer electron microprobe using well tested mineral standards to analyze minerals.

The objective of stream sediment sampling is to locate kimberlite bodies that may occur upstream from heavy mineral trap sites within streams. Kennecott collects and analyses all kimberlitic xenocrysts that occur in stream sediment heavy mineral concentrates, and uses a BASIC program called Min-id, written by Malcolm Gent, a researcher with Saskatchewan Energy and Mines, to differentiate kimberlitic from non-kimberlitic heavy minerals. A suite of popular X-Y mineral plots are used to further study various kimberlitic minerals.

14.0 EXPLORATION DRILLING

14.1 Target Definition

In December of 1996, two magnetic highs (MT24 and MT22) were chosen to drill. No kimberlite was intercepted during this program.
In the 1997 exploration drilling program, three magnetic highs (MT-19, MT-24, MT-28) were chosen as targets for drilling. No kimberlite was intercepted in these holes.

14.2 Logistics and Drilling Results

In October 1996, Aggressive Diamond Drilling Ltd. of Kamloops, BC was contracted to carry out diamond drilling utilizing a Longyear Super 38 drill. Two holes were completed, MT24-1 and MT22-1, under the supervision of Montello Resources. A total of 137 meters of NQ core were drilled. The core was not logged.

Drilling commenced with Kennecott as operator on January 18th and continued through to February 12th, 1997. A total of 870 meters of NQ core were drilled in five holes. None of the holes intercepted kimberlite. Drill logs are presented in Appendix X.

Table 4: Summary of Drill Holes

Hole #	Easting	Northing	Azimuth	Angle	Total Depth	Kimberlite Interval From	To
MT19-1	434650	5966500	NA	-90	167.03	NA	NA
MT19-2	434650	5966500	133	-50	224.6	NA	NA
MT22-1	436850	5960350	NA	-90	37.5	NA	NA
MT24-1	433900	5958900	NA	-90	99.97	NA	NA
MT24-2	433900	5958900	205	-50	189.28	NA	NA
MT28-1	441800	5958500	NA	-90	113.39	NA	NA
MT28-2	441800	5958500	269	-50	175.87	NA	NA

14.3 Procedures

Drill holes were established with reference to the ground geophysical grids. All data points relating to the anomaly could be located with respect to grid pickets. Grid coordinates rather than UTM coordinates were used.
During the 1997 drill program, upon completion of each hole, all core was driven from the drill

site to the Kennecott warehouse in Hinton where it was logged, then stored.

15.0 CONCLUSIONS AND RECOMMENDATIONS

Exploration on the Troymin ground has not led to the discovery of any kimberlites.

16.0 BIBLIOGRAPHY

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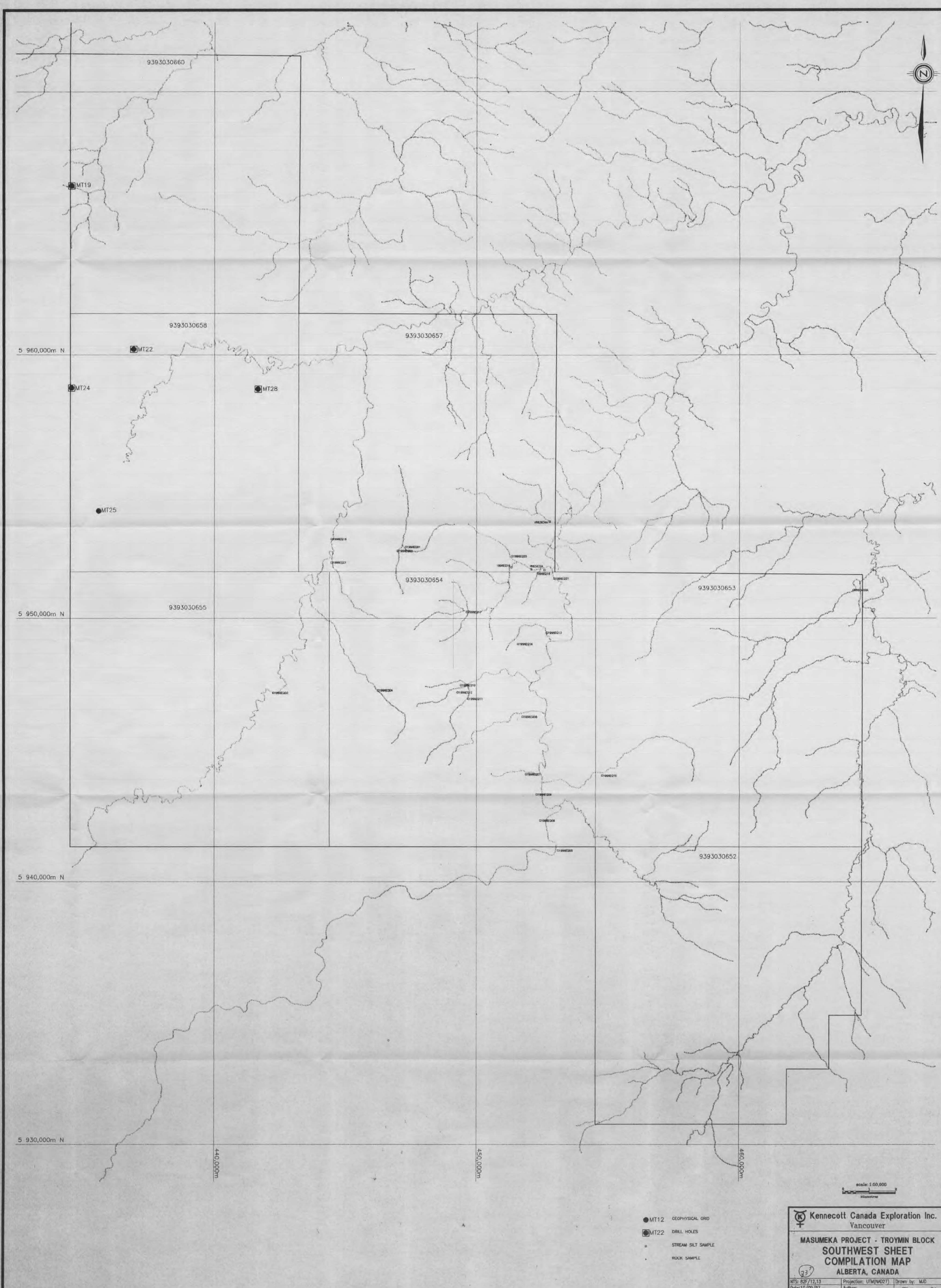

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APPENDIX I

PROJECT PERSONNEL AND

DAYS WORKED

PROJECT PERSONNEL AND WORK DATA

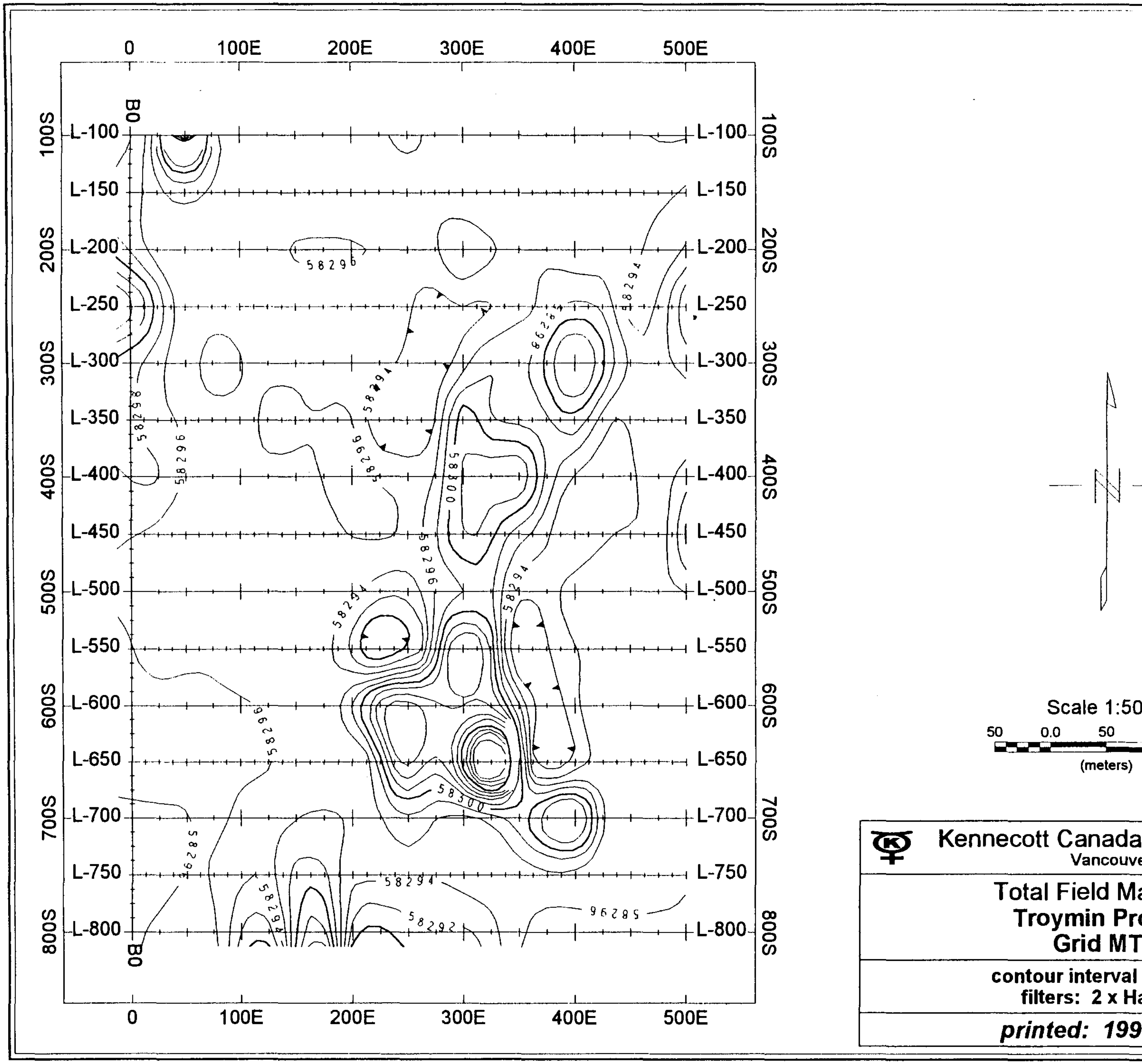
The following personnel were engaged in the exploration of the Troymin claim block while Kennecott was operator. Each individual worked on a number of properties being actively explored by Kennecott Canada Exploration Inc. The number of days worked directly on the Troymin claim block and period during which the days were worked is indicated. The business address of all personnel is Suite 354 - 200 Granville Street, Vancouver, BC, V6C 1S4.

PERSONNEL	DAYS WORKED	PERIOD WORKED
Allen, W.	34	January - March 1997
Ball, S.	39	January - March 1997
Dinning, R.	18	January - February 1997
Kelsch, D.	4	January 1997
van Egmond, R.	1	January 1997

Between March 1995 and January 1, 1997, active exploration on the Troymin block was conducted by personnel employed by Montello Resources Ltd. of 1473-595 Burrard Street, Vancouver, BC.

APPENDIX II

GROUND MAGNETIC AND MAX-MIN SURVEY FIGURES

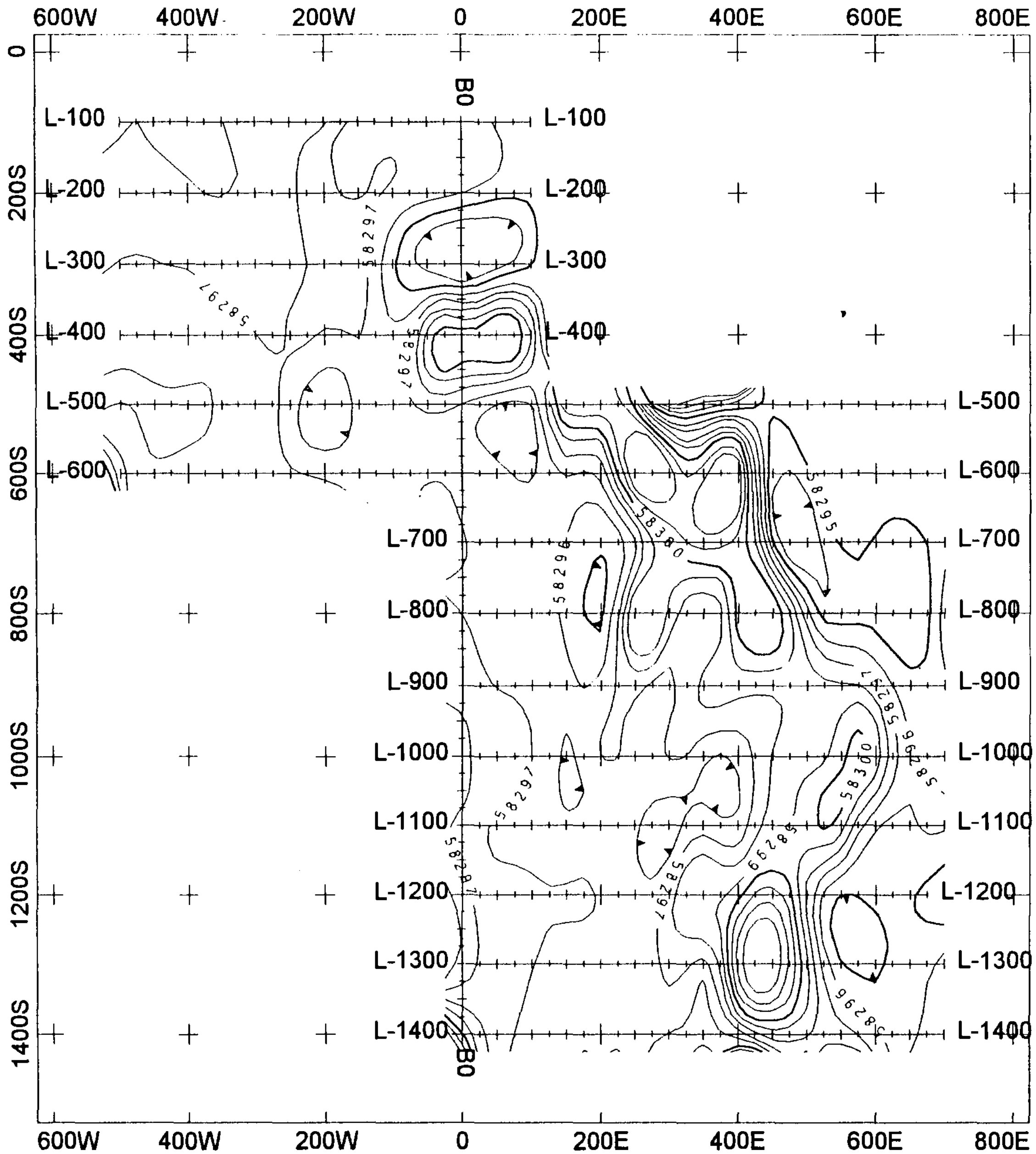


Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid MT06

contour interval = 2, 10 nT
filters: 2 x Hanning

printed: 1997/09/10



Scale 1:10000

100 0.0 100 200 300 400

(meters)

Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grids MT07 & MT08

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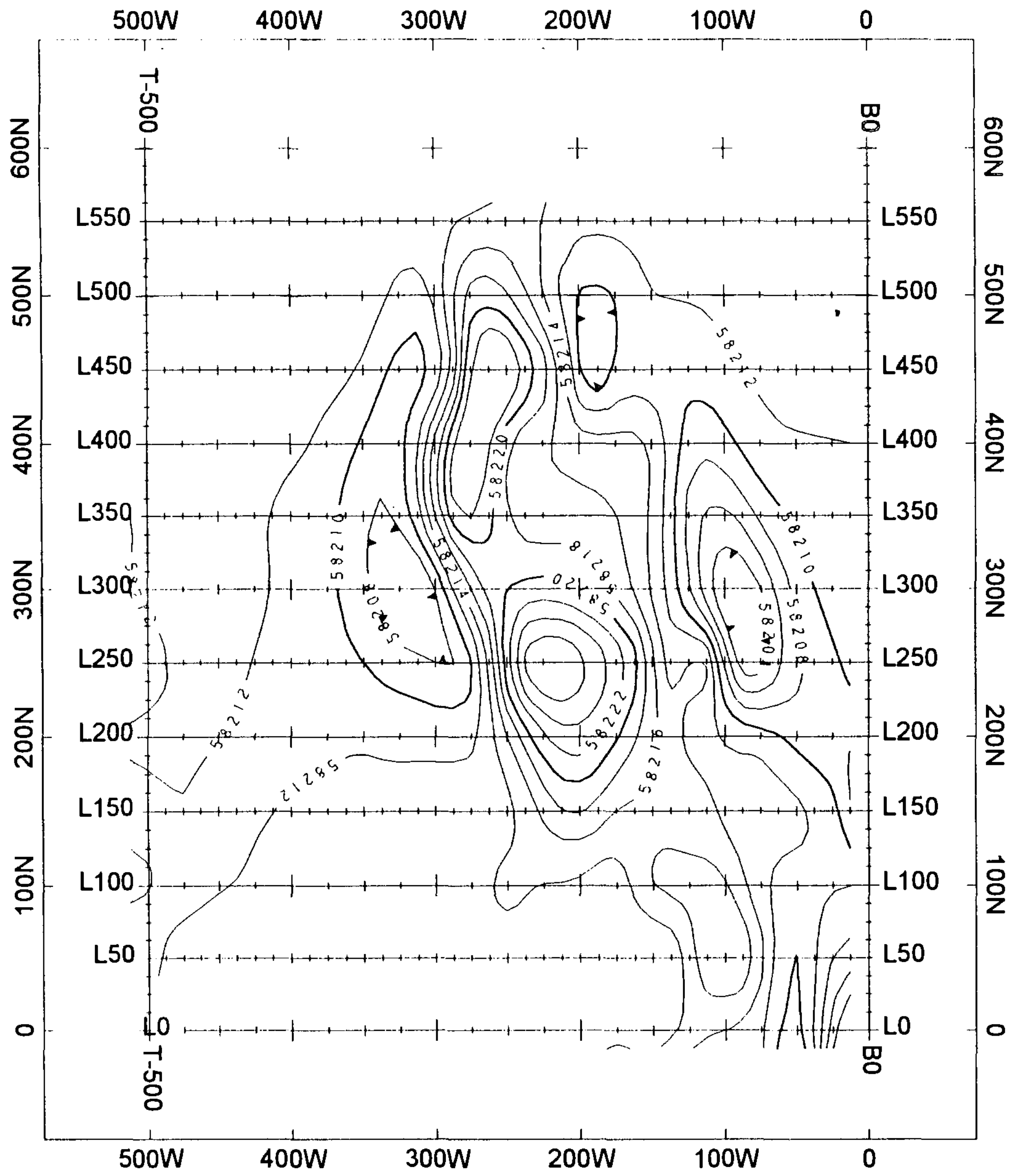
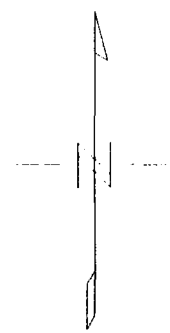
filters: 2 x Hanning

printed: 1997/09/10





Scale 1:5000

50 0.0 50 100 150

(meters)

Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid MT12

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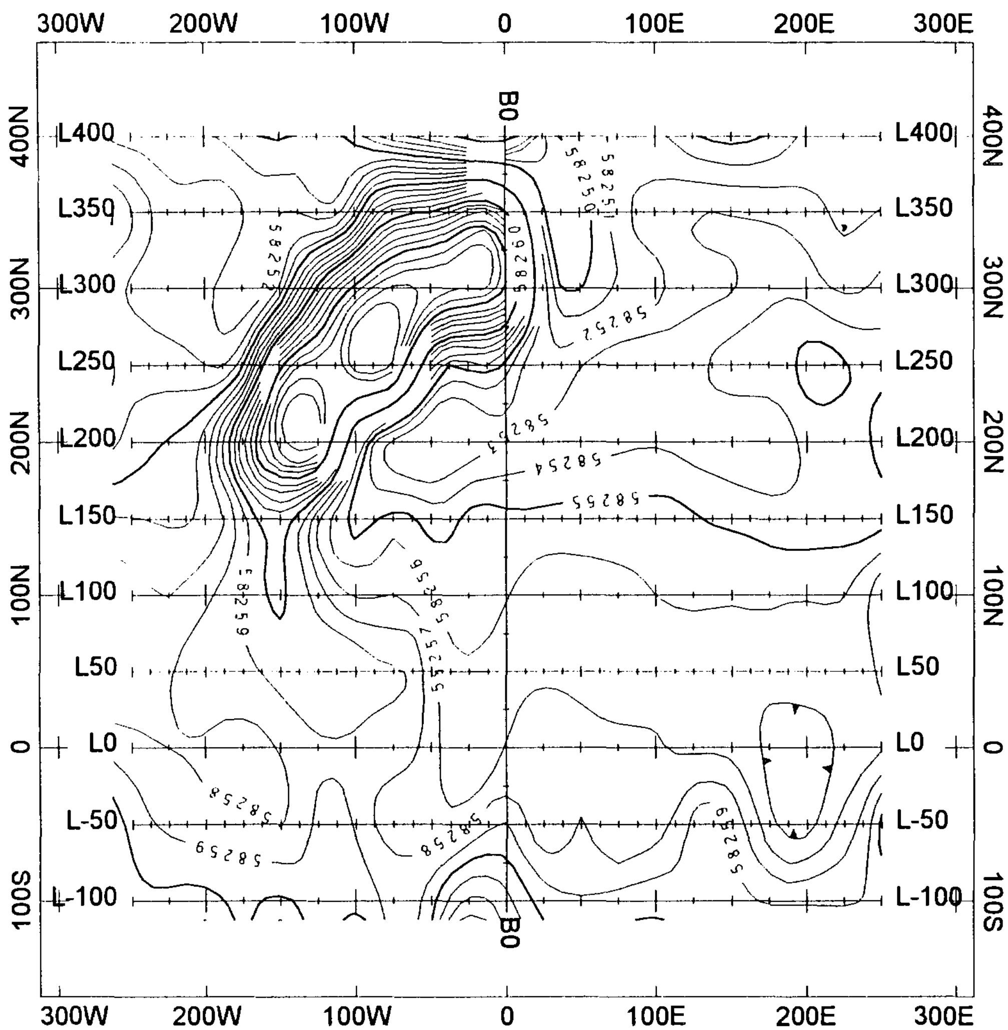
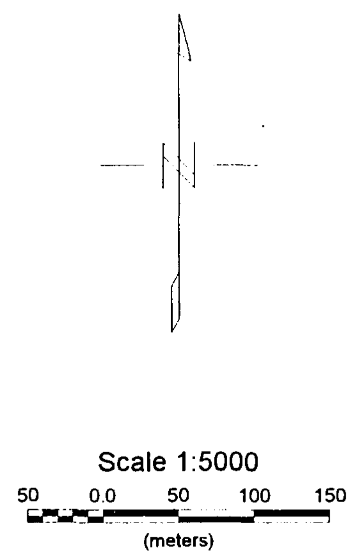


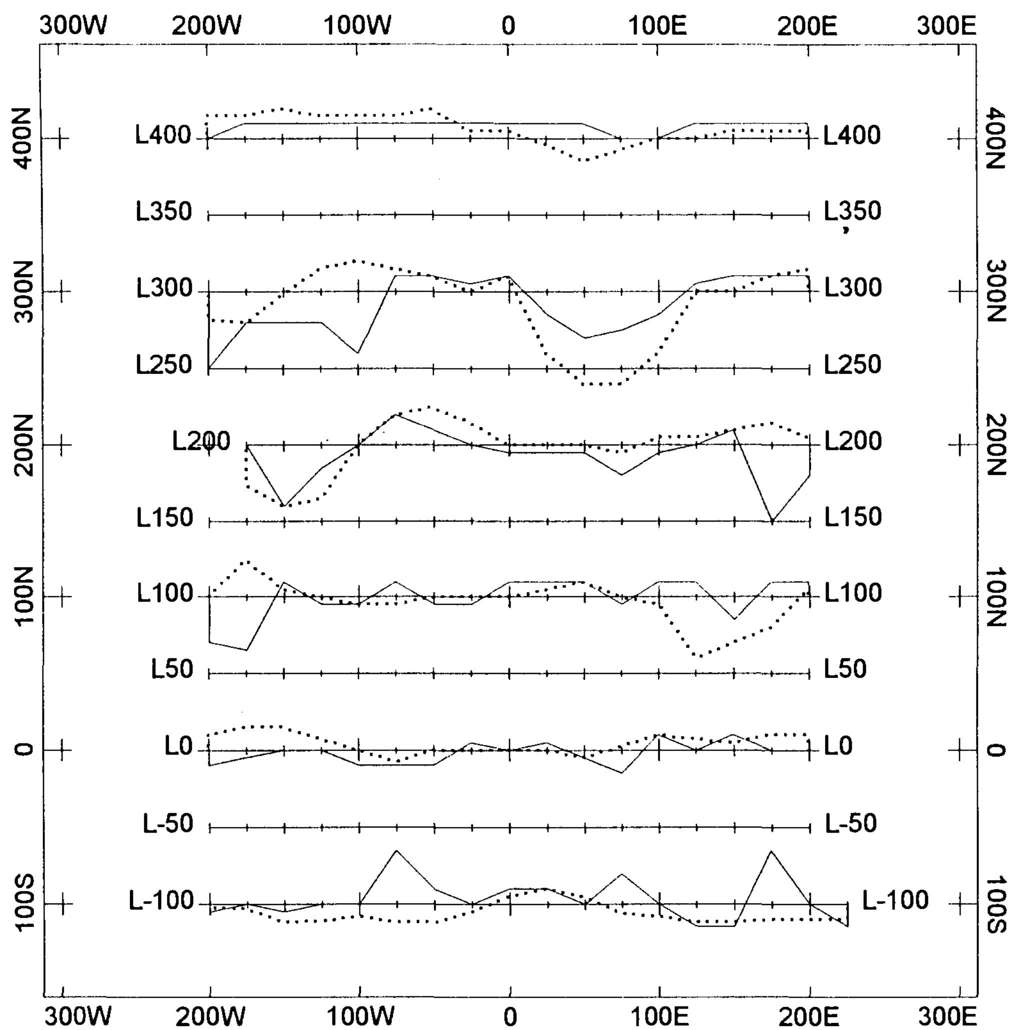


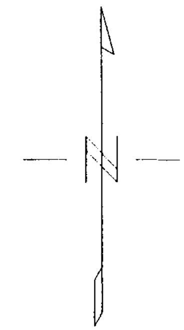
Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid MT19

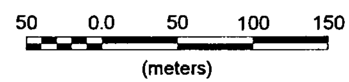
contour interval = 1, 5 nT
filters: 2 x Hanning

printed: 1997/09/10





Scale 1:5000

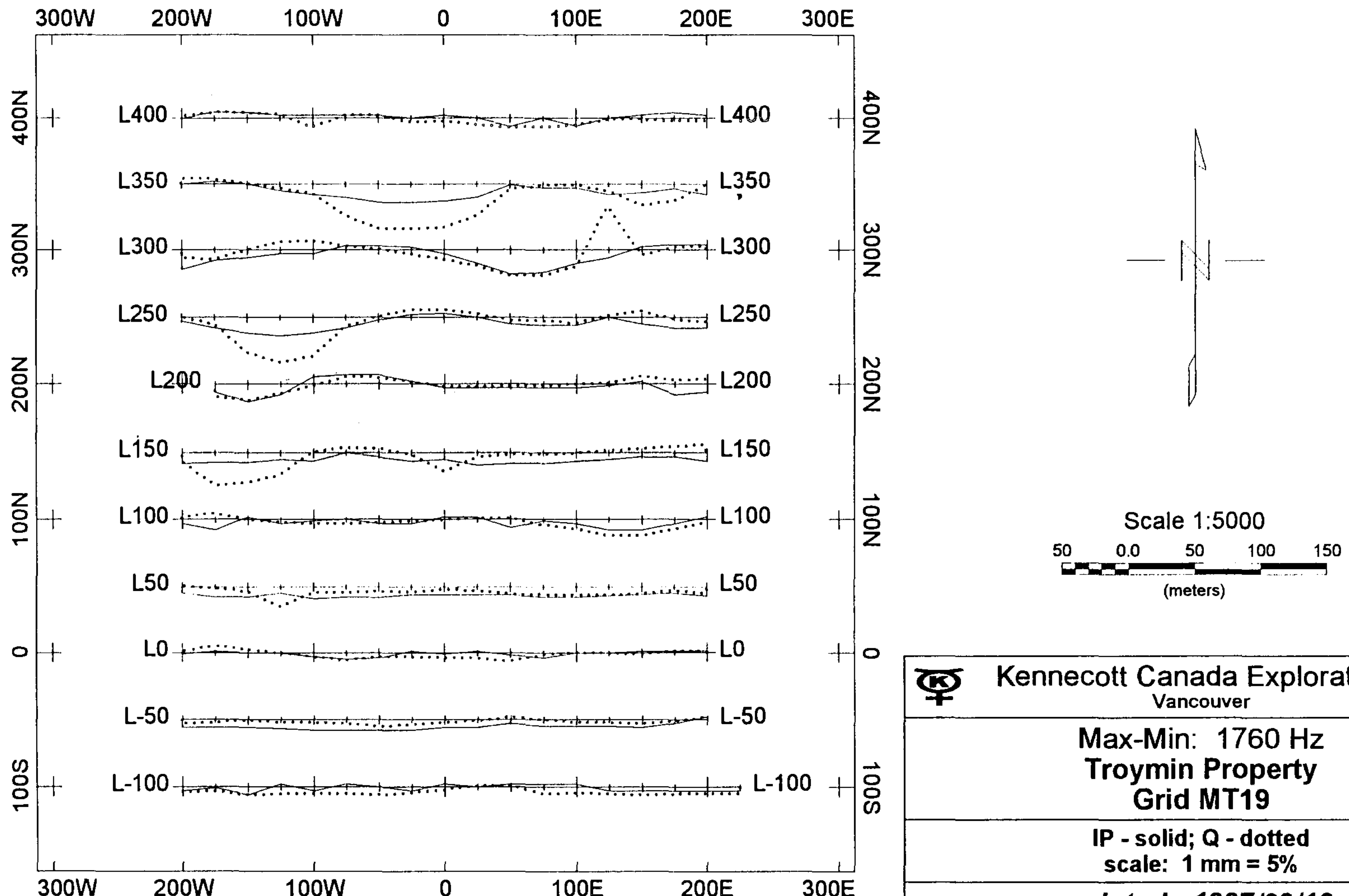


Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 880 Hz
Troymin Property
Grid MT19

IP - solid; Q - dotted
scale: 1 mm = 1%

printed: 1997/09/10

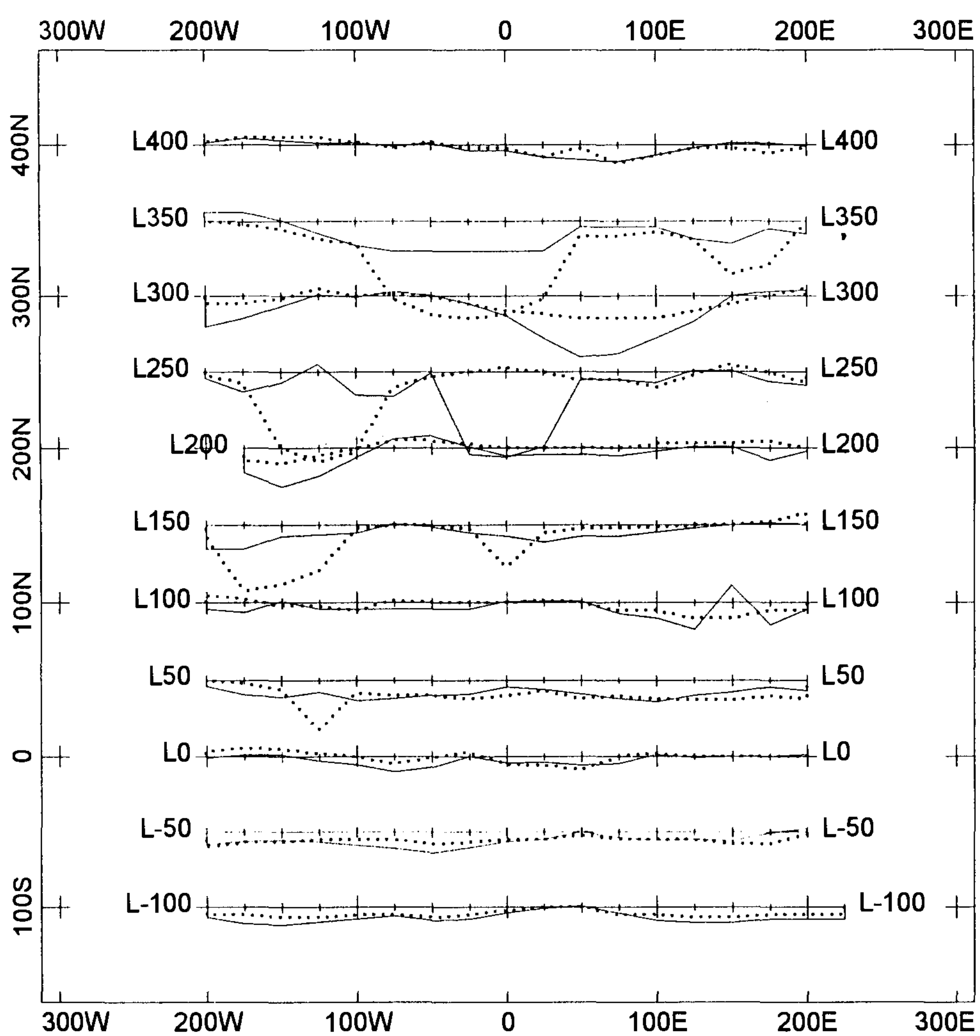


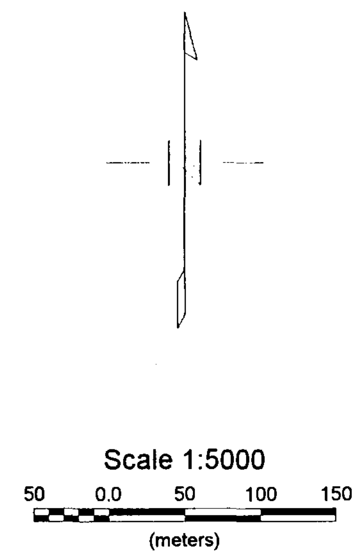
Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 1760 Hz
Troymin Property
Grid MT19

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10



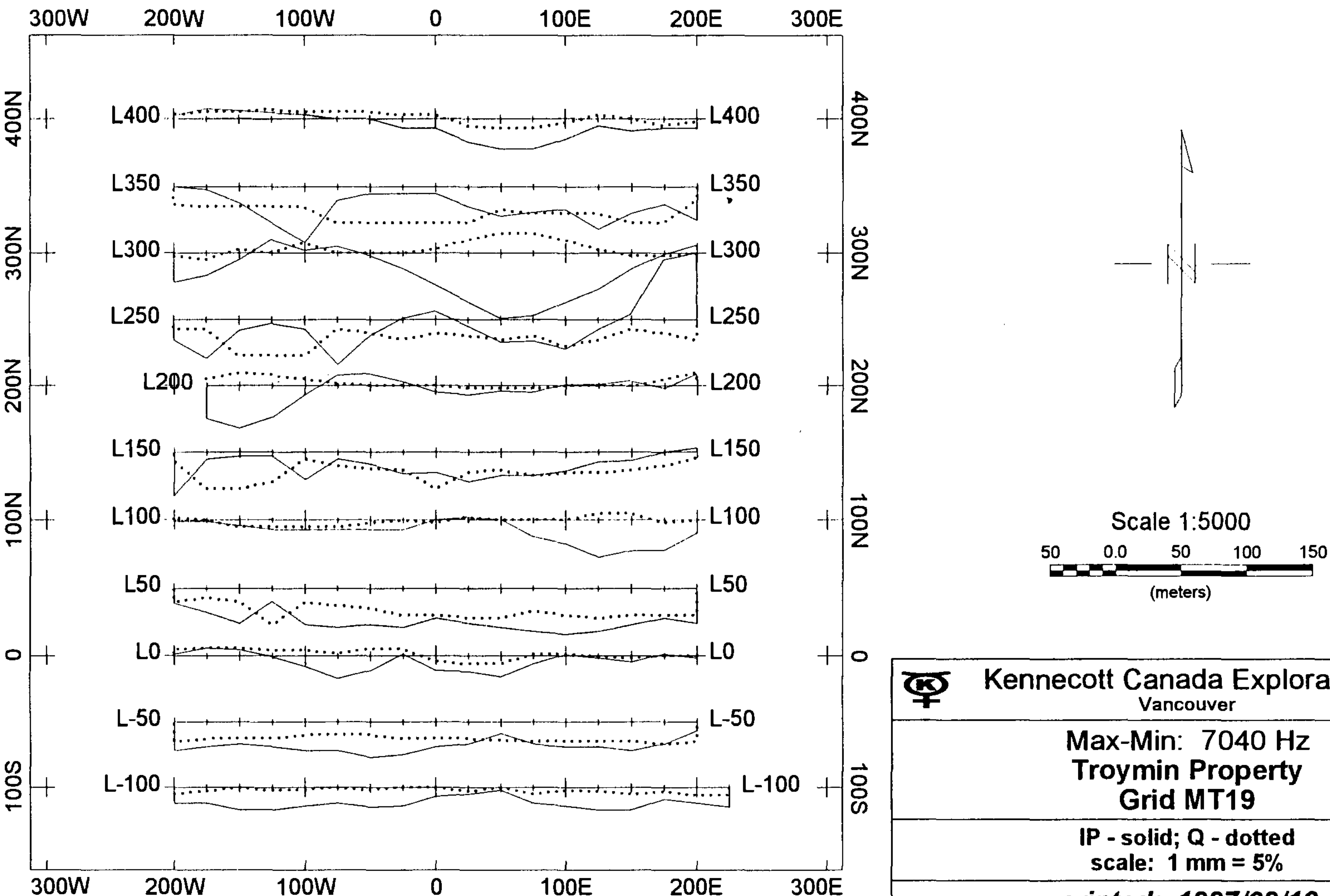


Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 3520 Hz
Troymin Property
Grid MT19

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10

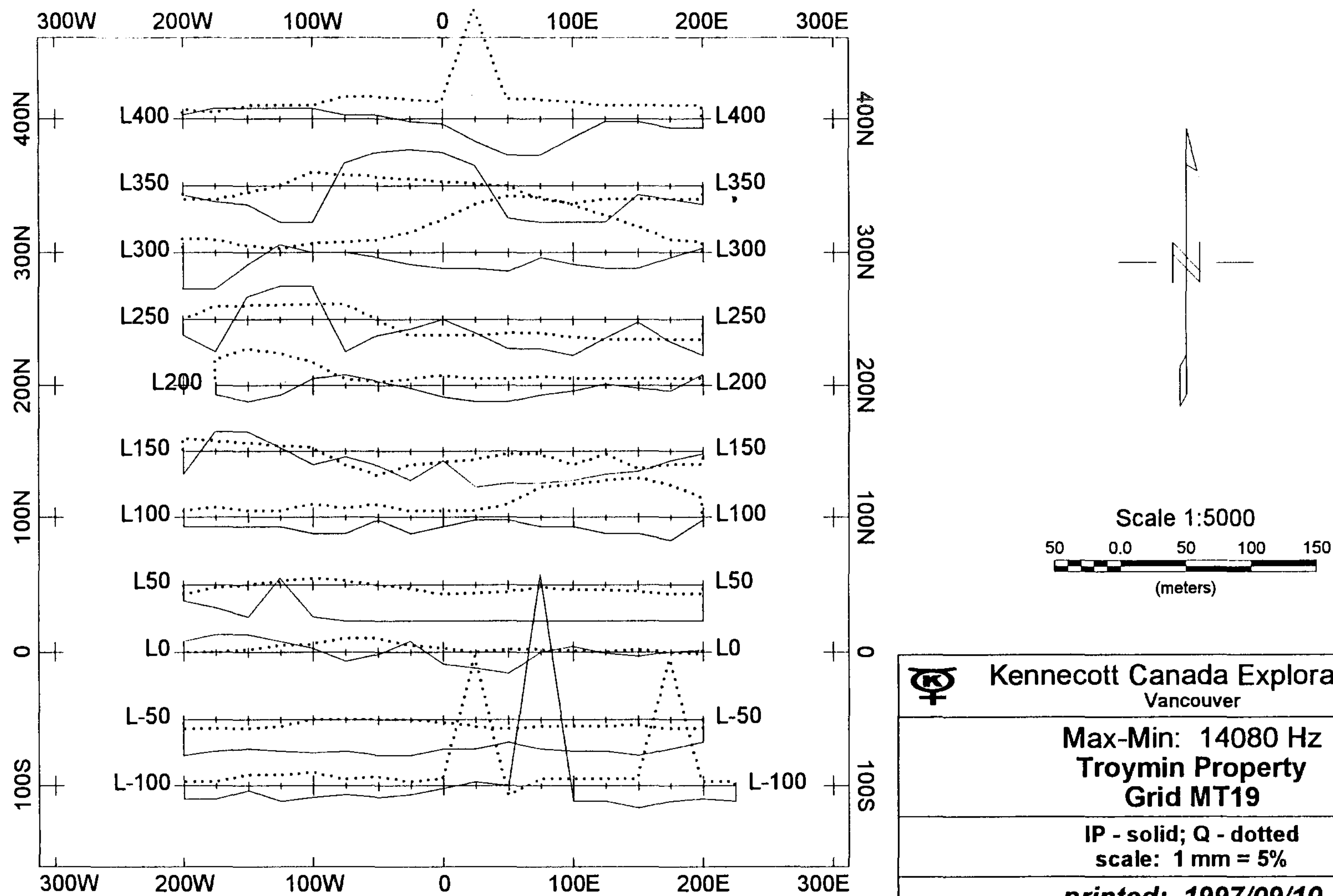


Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 7040 Hz
Troymin Property
Grid MT19

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10

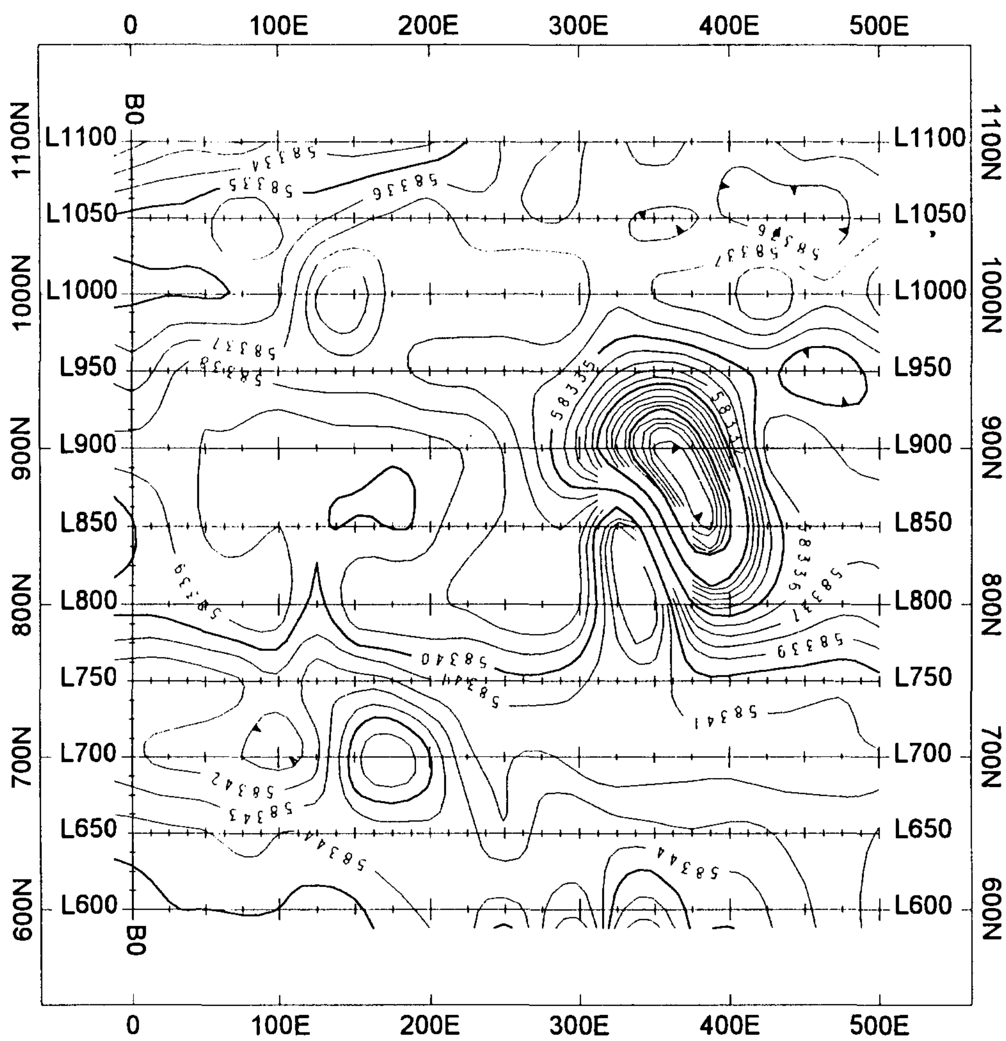


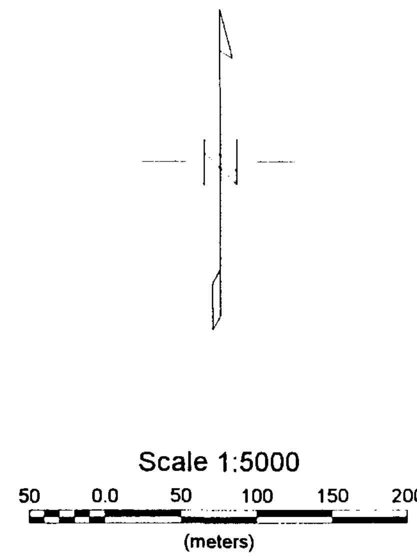
Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 14080 Hz
Troymin Property
Grid MT19

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10



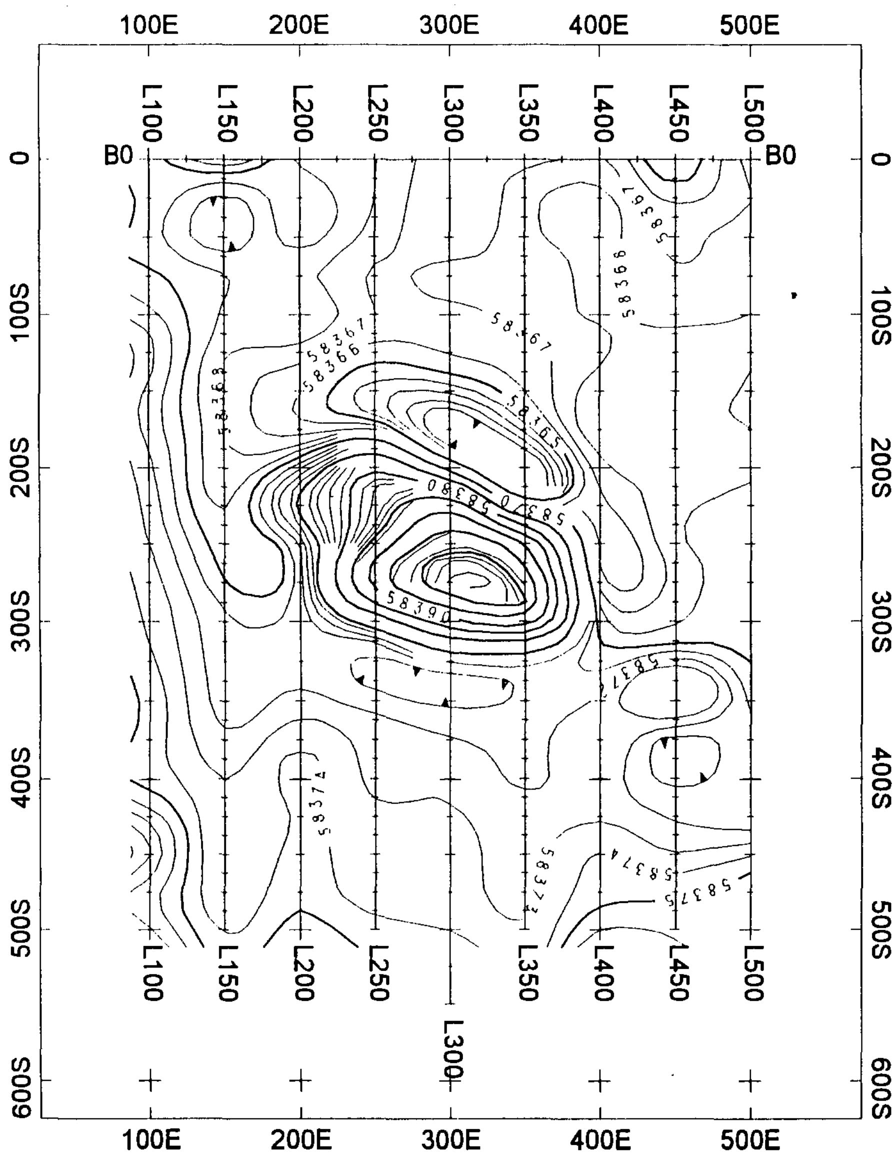


Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid MT22

contour interval = 1, 5 nT
filters: 2 x Hanning

printed: 1997/09/10



Scale 1:5000

50 0.0 50 100 150

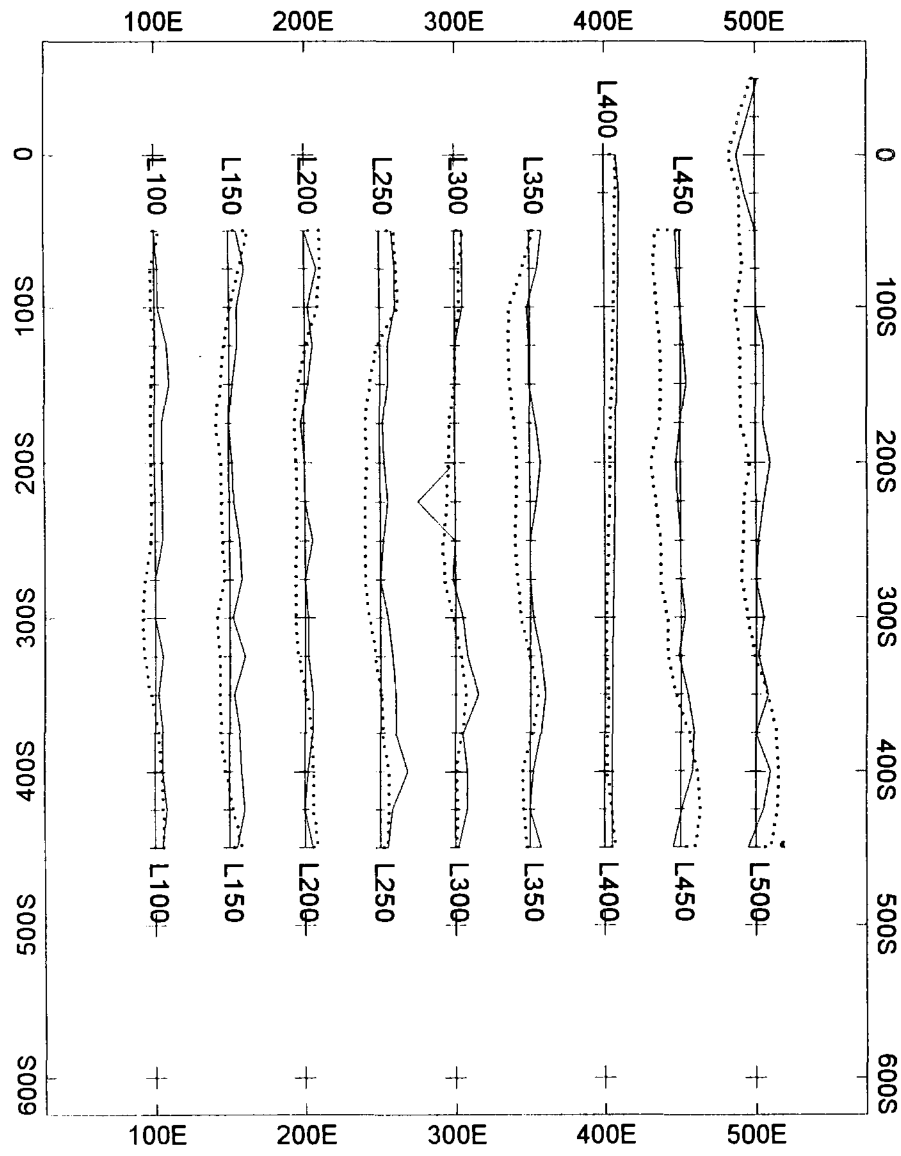
(meters)

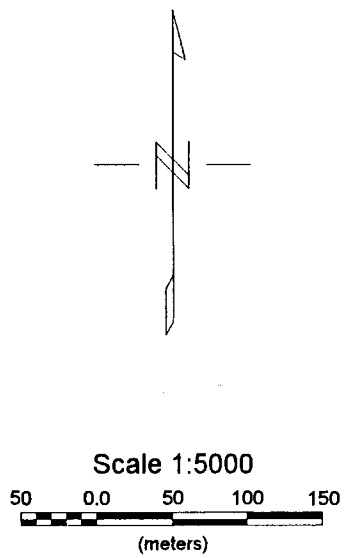
Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid MT24

contour interval = 1, 5 nT
filters: 2 x Hanning

printed: 1997/09/10



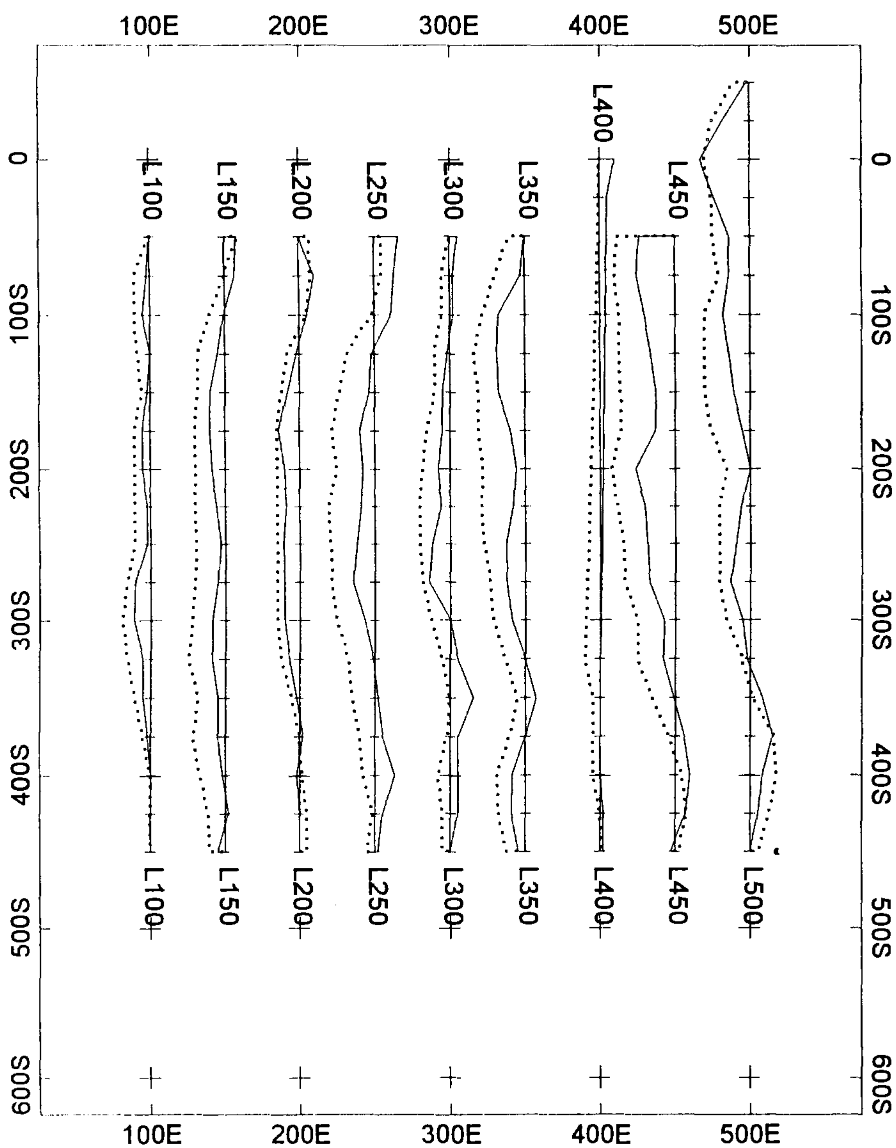


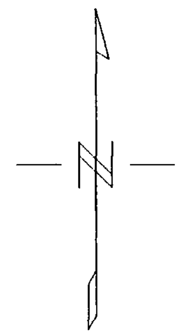
Kennecott Canada Exploration Inc.
Vancouver

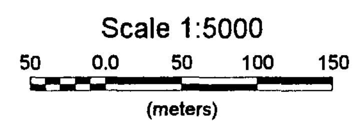
Max-Min: 1760 Hz
Troymin Property
Grid MT24

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10





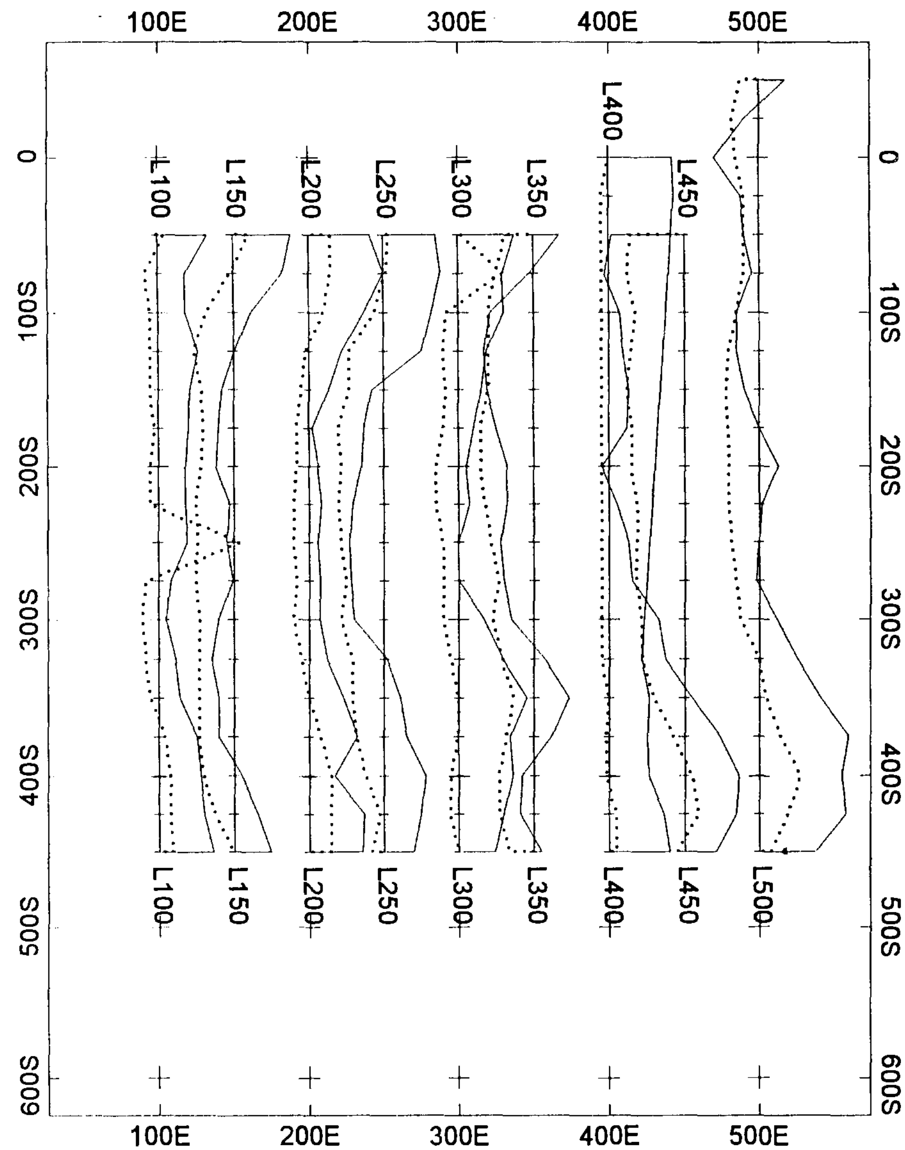


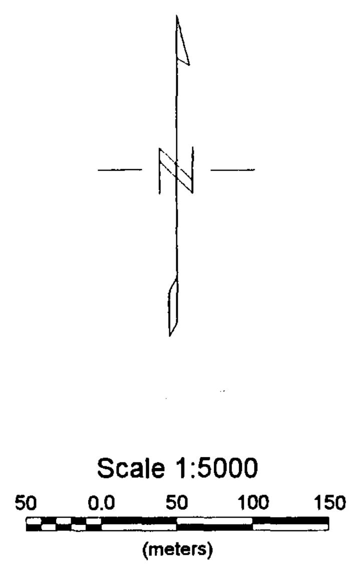
Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 3520 Hz
Troymin Property
Grid MT24

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10



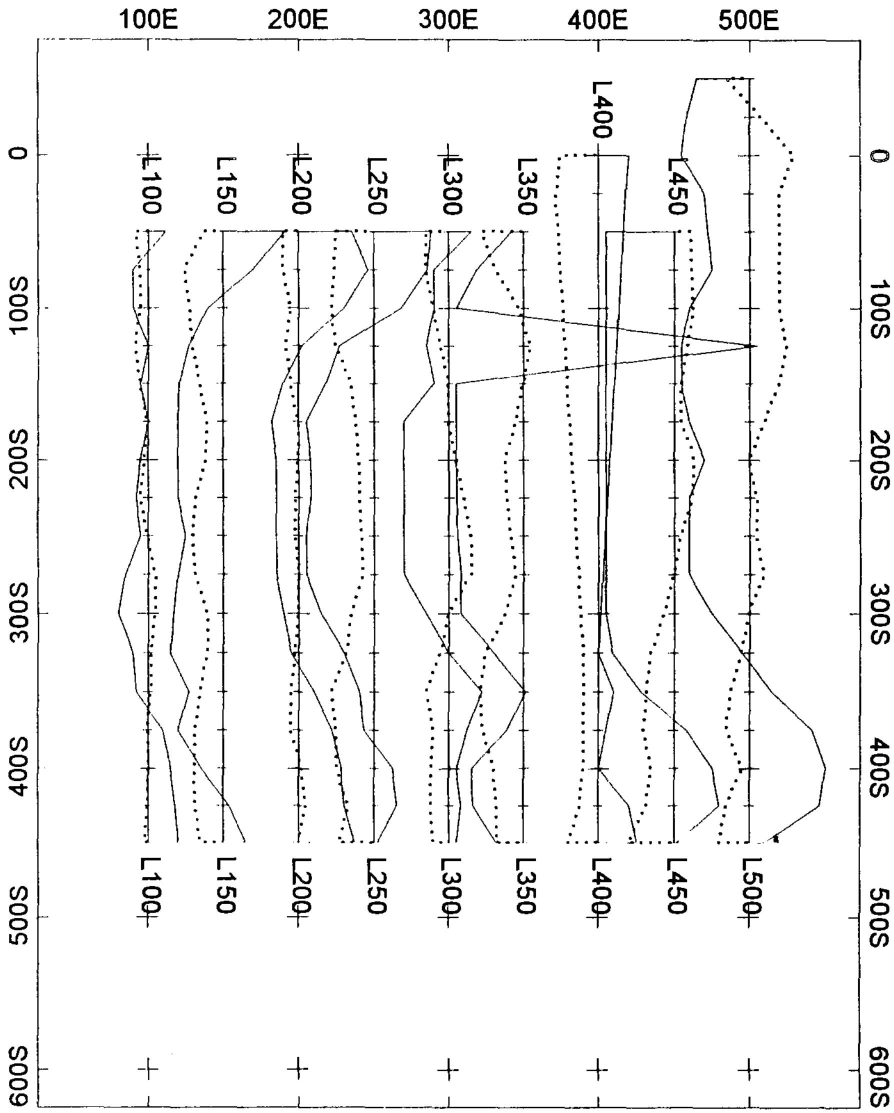


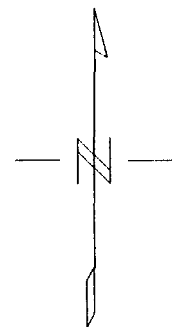
Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 7040 Hz
Troymin Property
Grid MT24

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10





Scale 1:5000

50 0.0 50 100 150

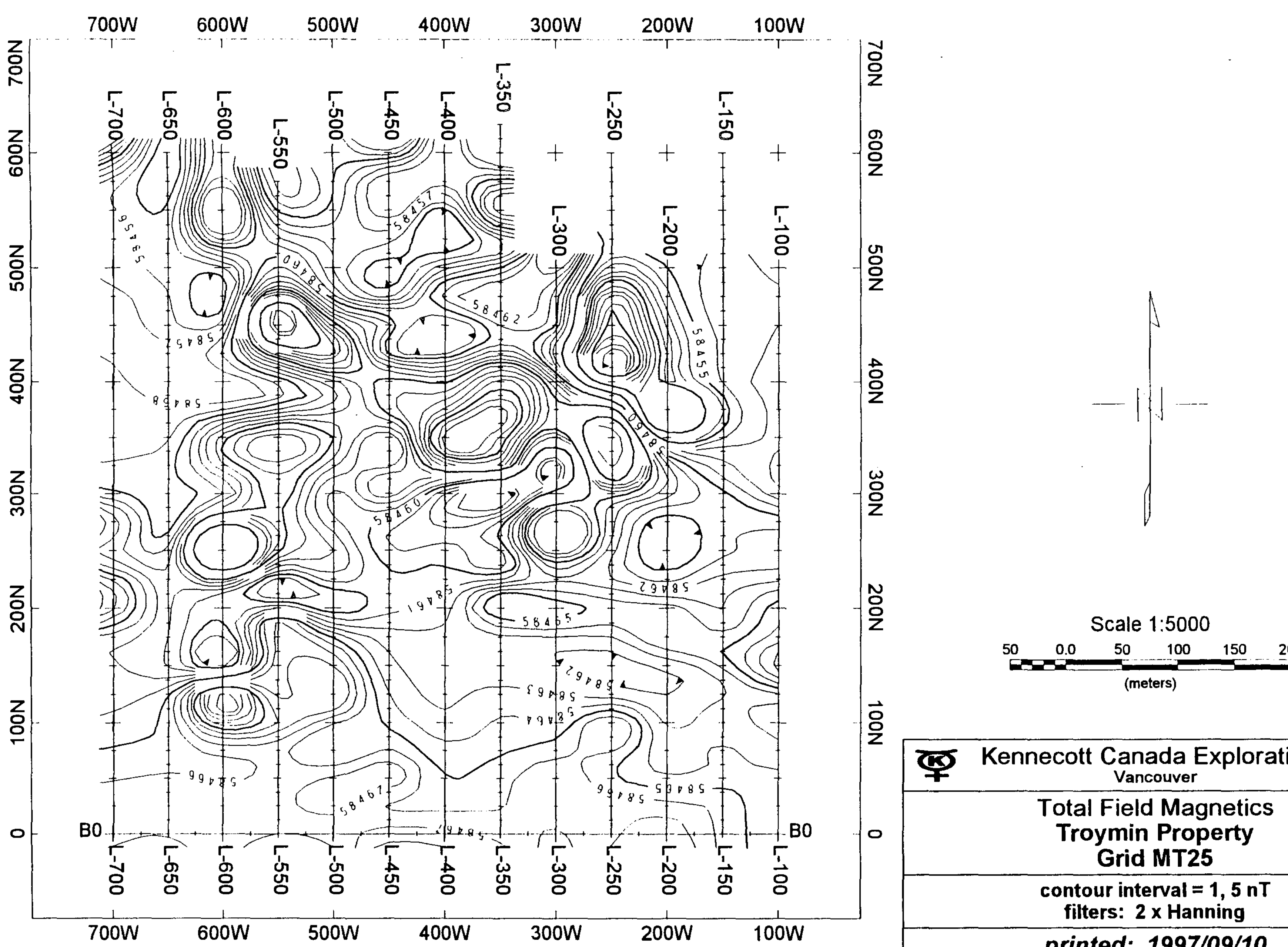
(meters)

Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 14080 Hz
Troymin Property
Grid MT24

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10

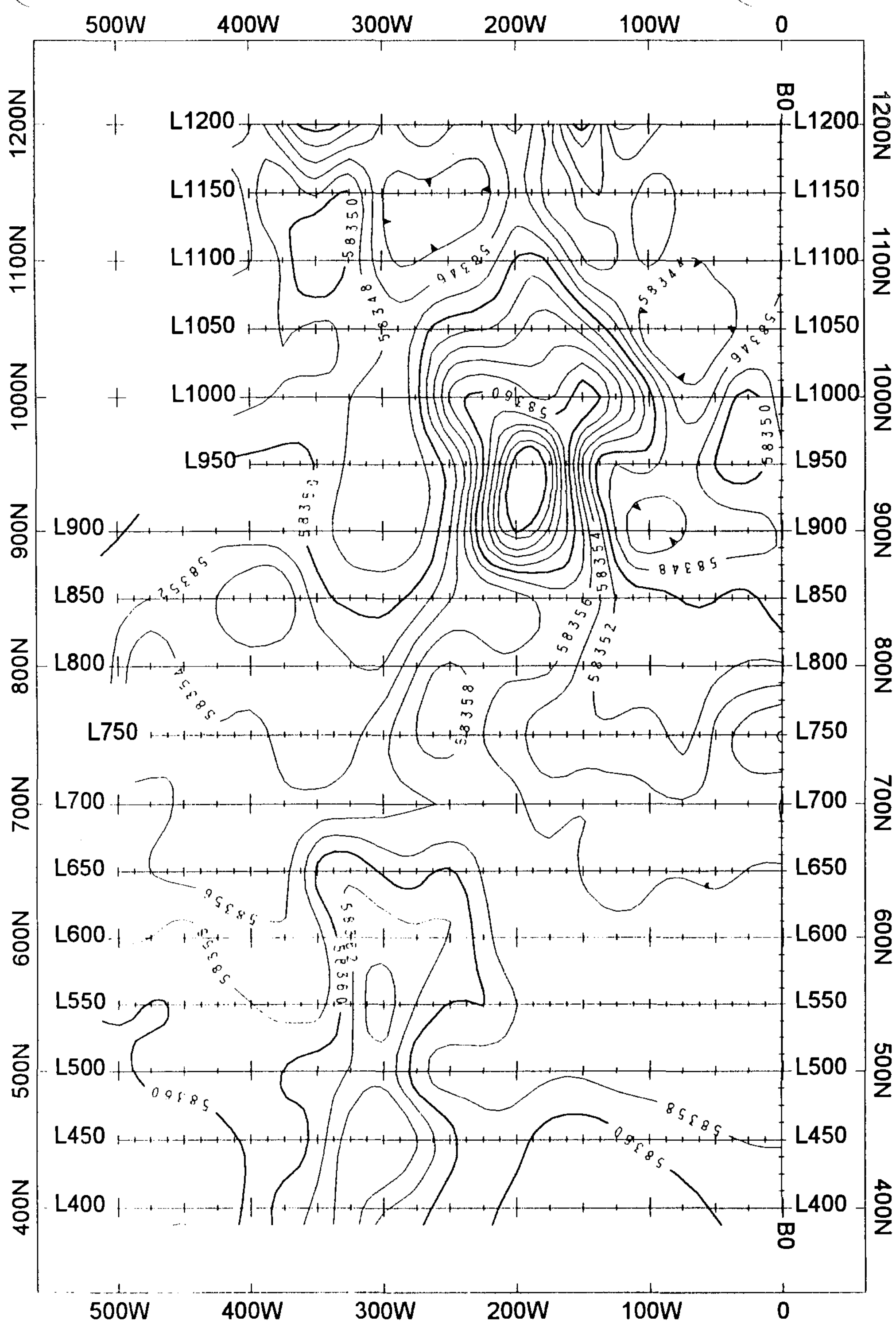


Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid MT25

contour interval = 1, 5 nT
filters: 2 x Hanning

printed: 1997/09/10



Scale 1:5000

50 0.0 50 100 150

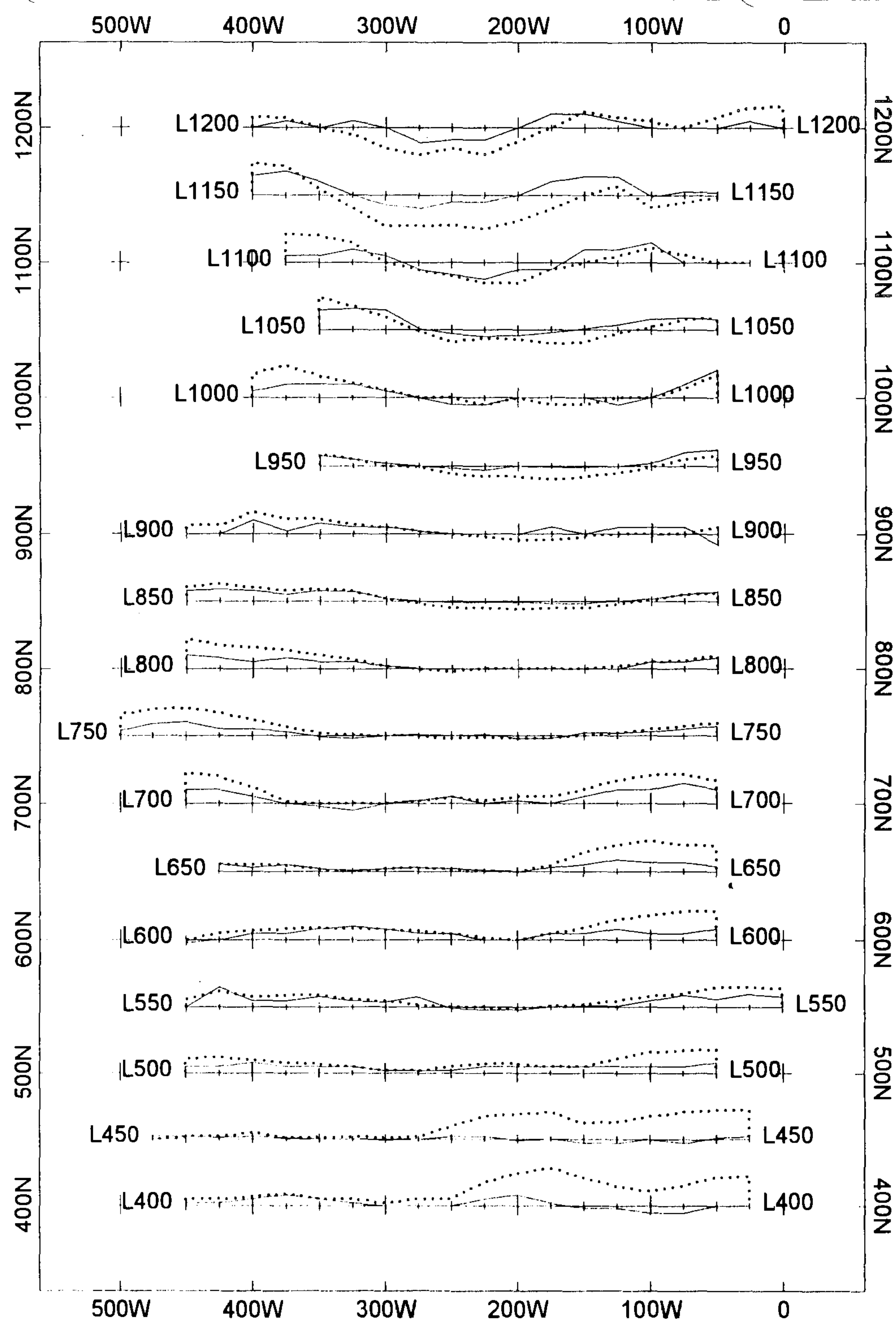
(meters)

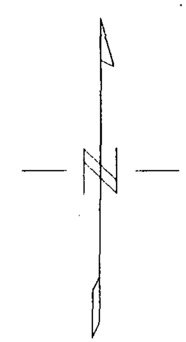
Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid MT28

contour interval = 2, 10 nT
filters: 2 x Hanning

printed: 1997/09/10





Scale 1:5000

50 0.0 50 100 150

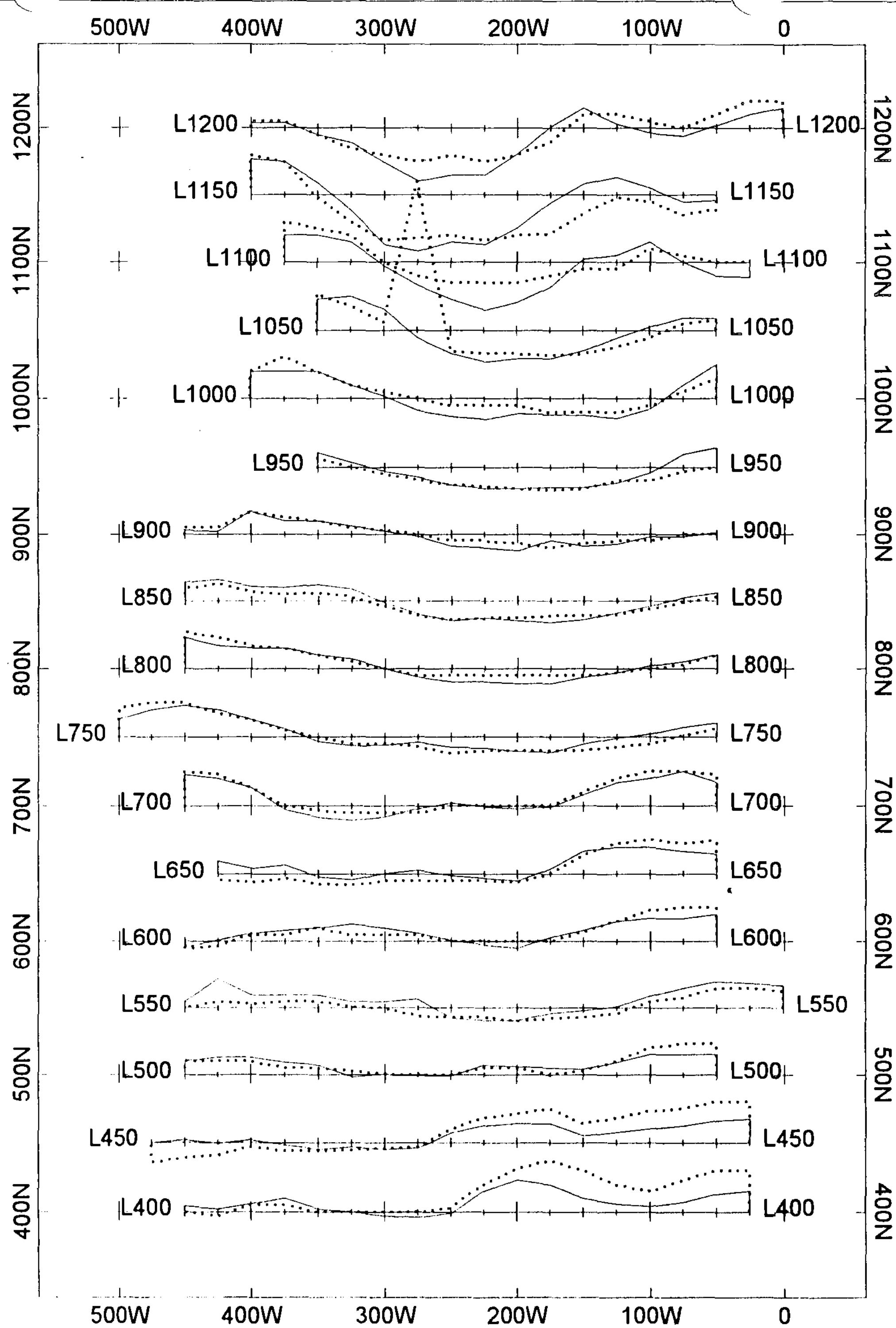
(meters)

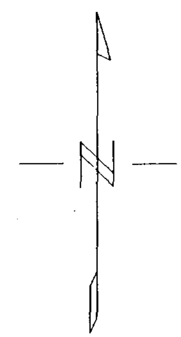
Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 1760 Hz
Troymin Property
Grid MT28

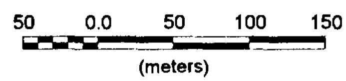
IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10





Scale 1:5000

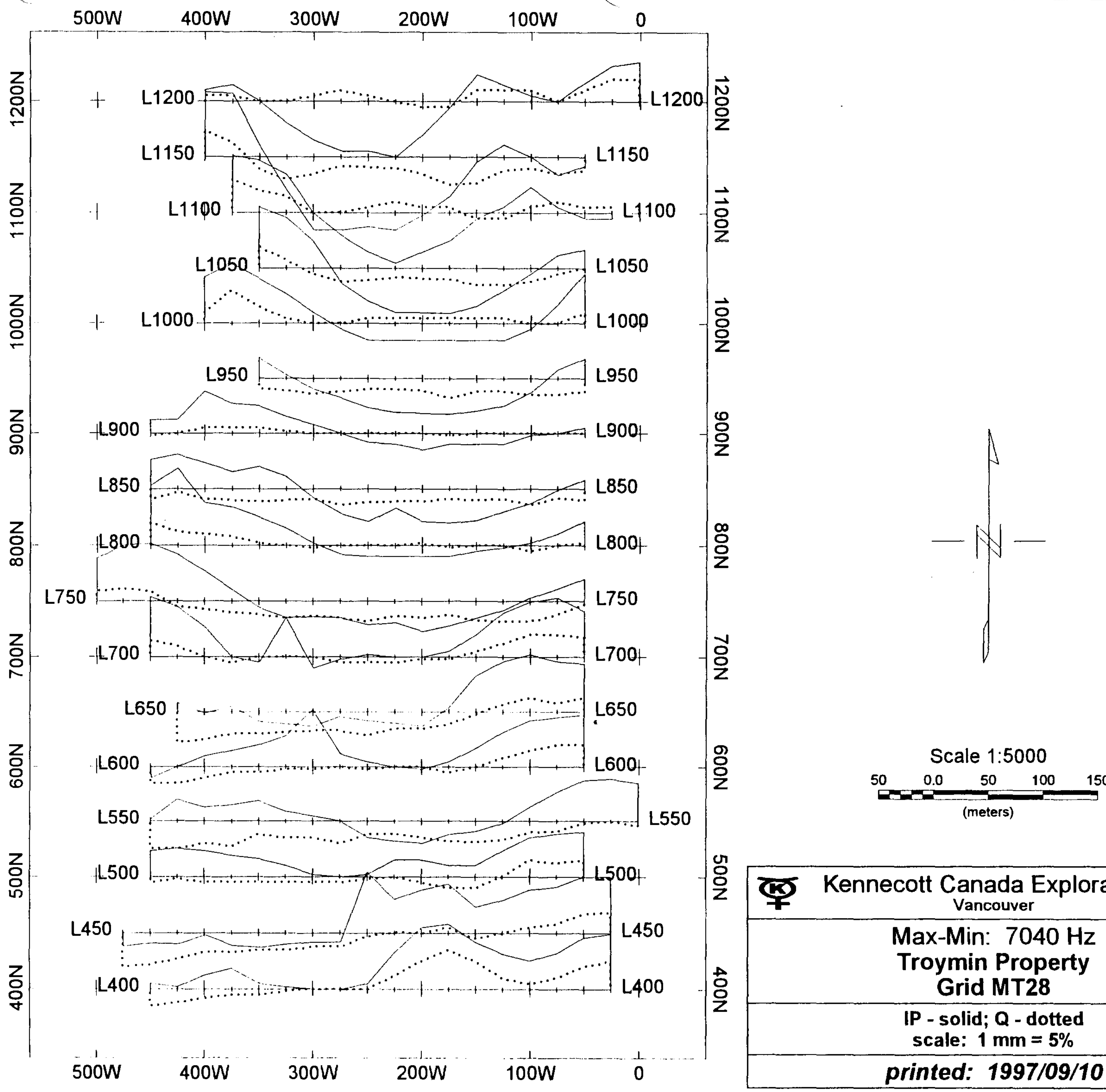


Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 3520 Hz
Troymin Property
Grid MT28

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10

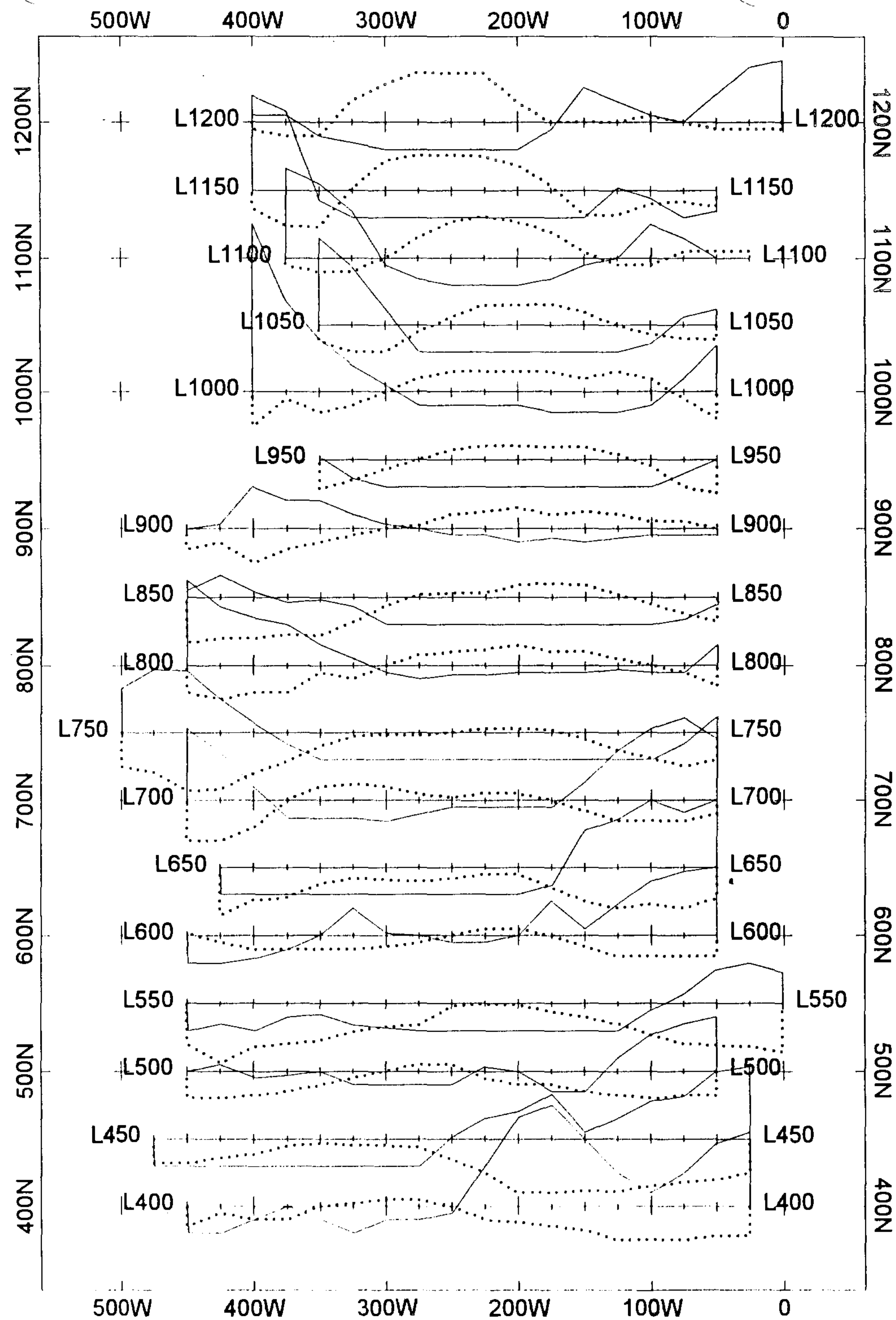


Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 7040 Hz
Troymin Property
Grid MT28

IP - solid; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10



Scale 1:5000

50 0.0 50 100 150

(meters)

Kennecott Canada Exploration Inc.

Vancouver

Max-Min: 14080 Hz

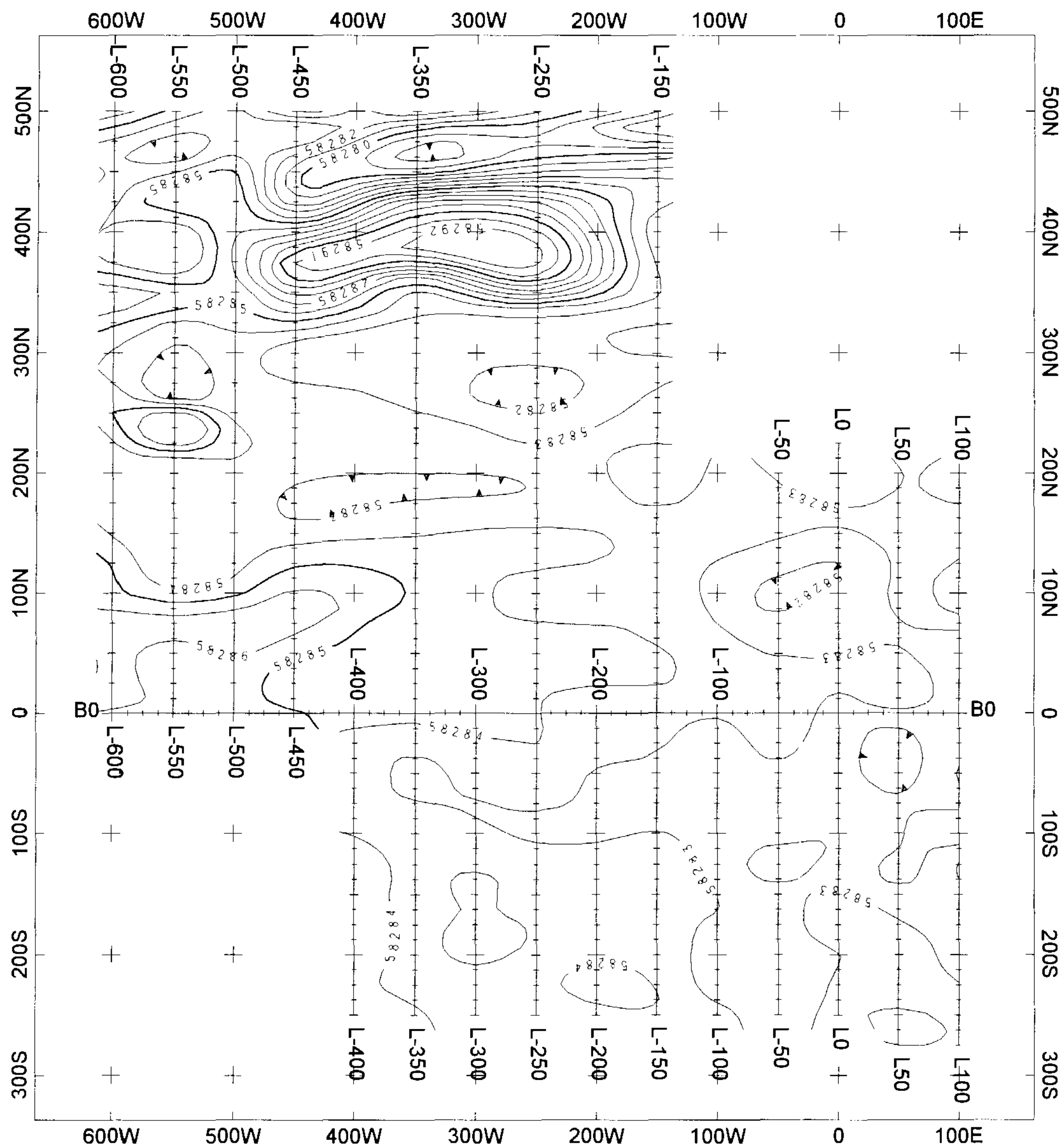
Troymin Property

Grid MT28

IP - solid; Q - dotted

scale: 1 mm = 5%

printed: 1997/09/10



Scale 1:5000

50 0.0 50 100 150 200

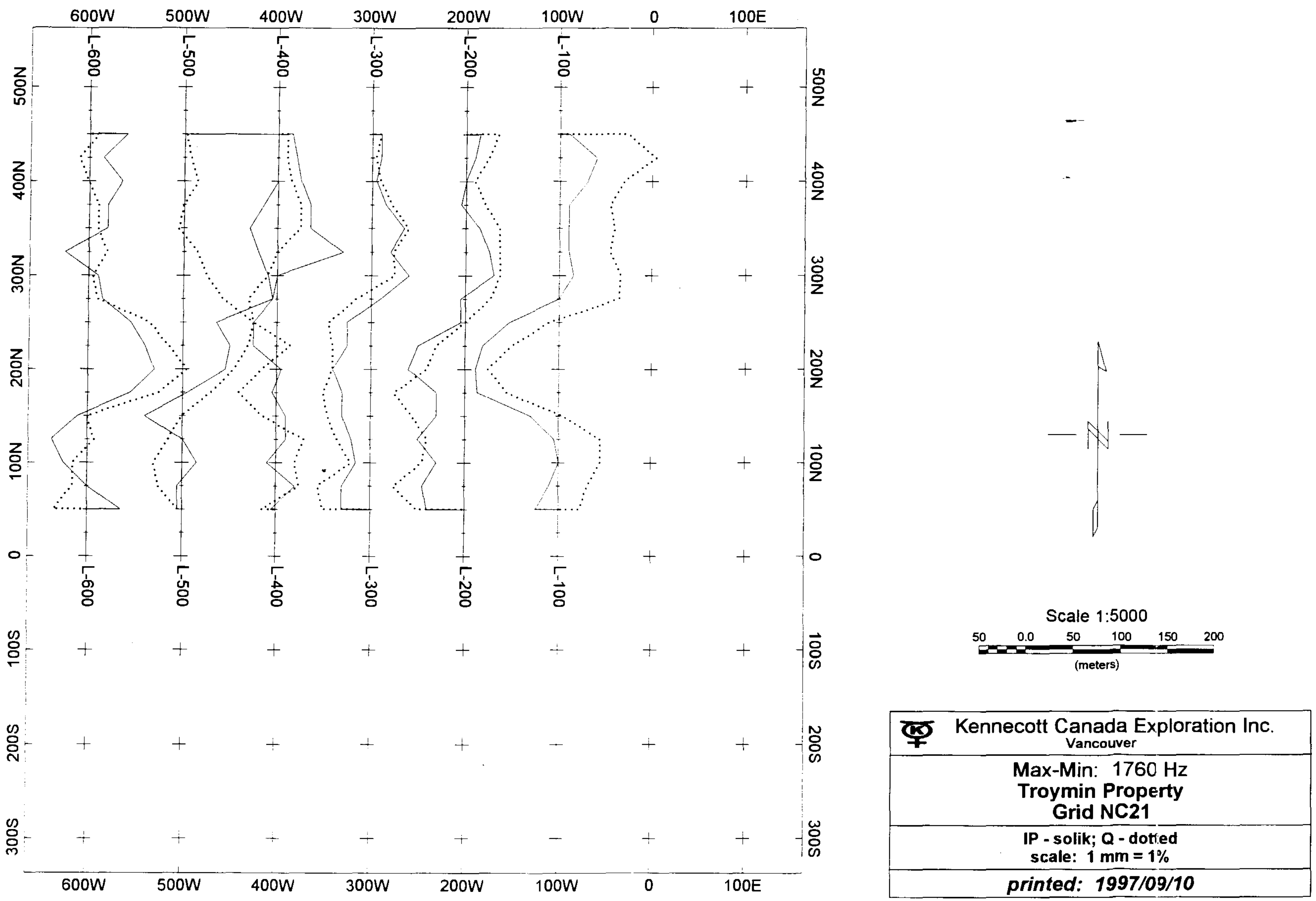
(meters)

Kennecott Canada Exploration Inc.
Vancouver

Total Field Magnetics
Troymin Property
Grid NC21

contour interval = 1, 5 nT
filters: 2 x Hanning

printed: 1997/09/10

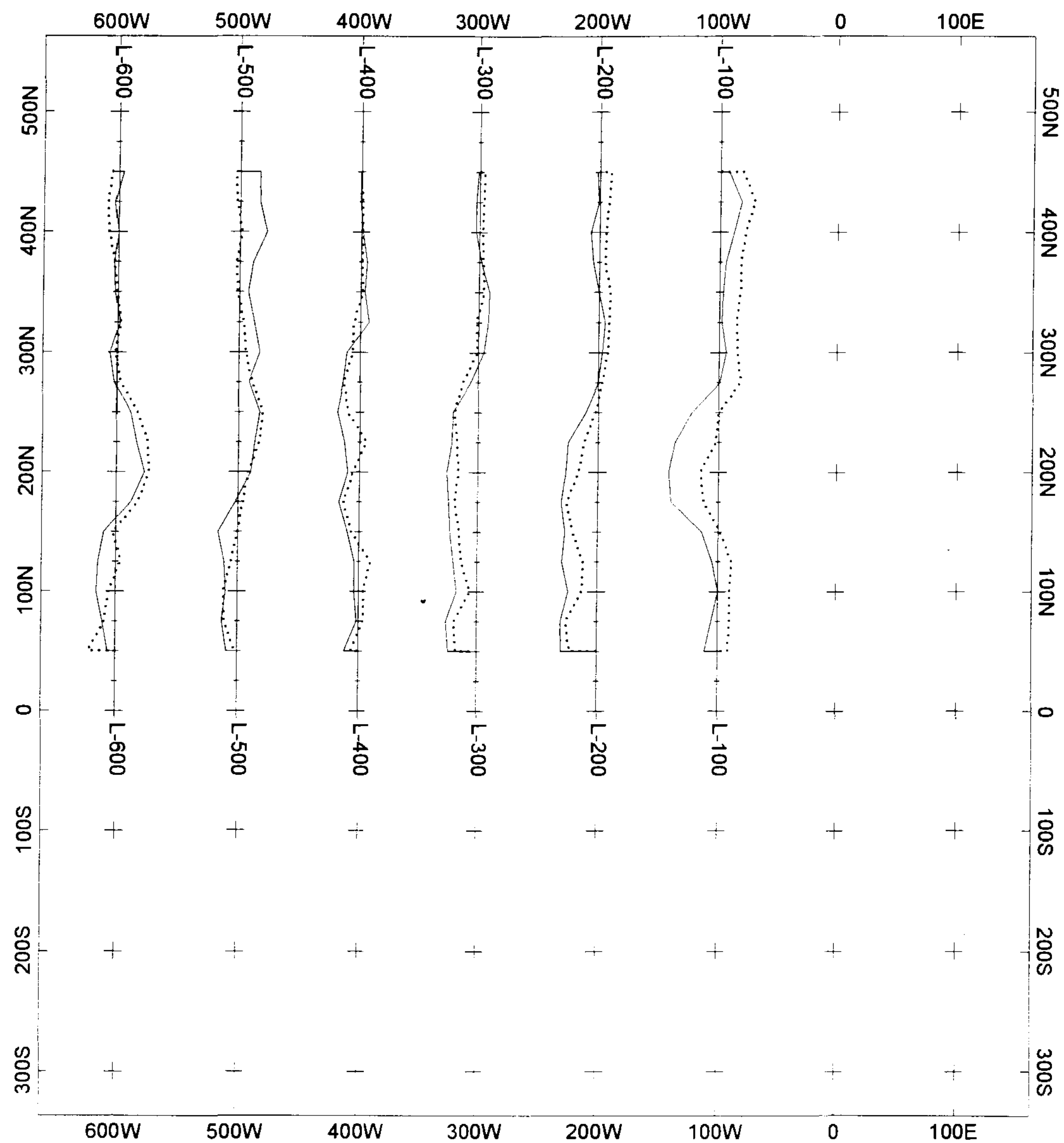


Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 1760 Hz
Troymin Property
Grid NC21

IP - solik; Q - dotted
scale: 1 mm = 1%

printed: 1997/09/10



Scale 1:5000

50 0.0 50 100 150 200

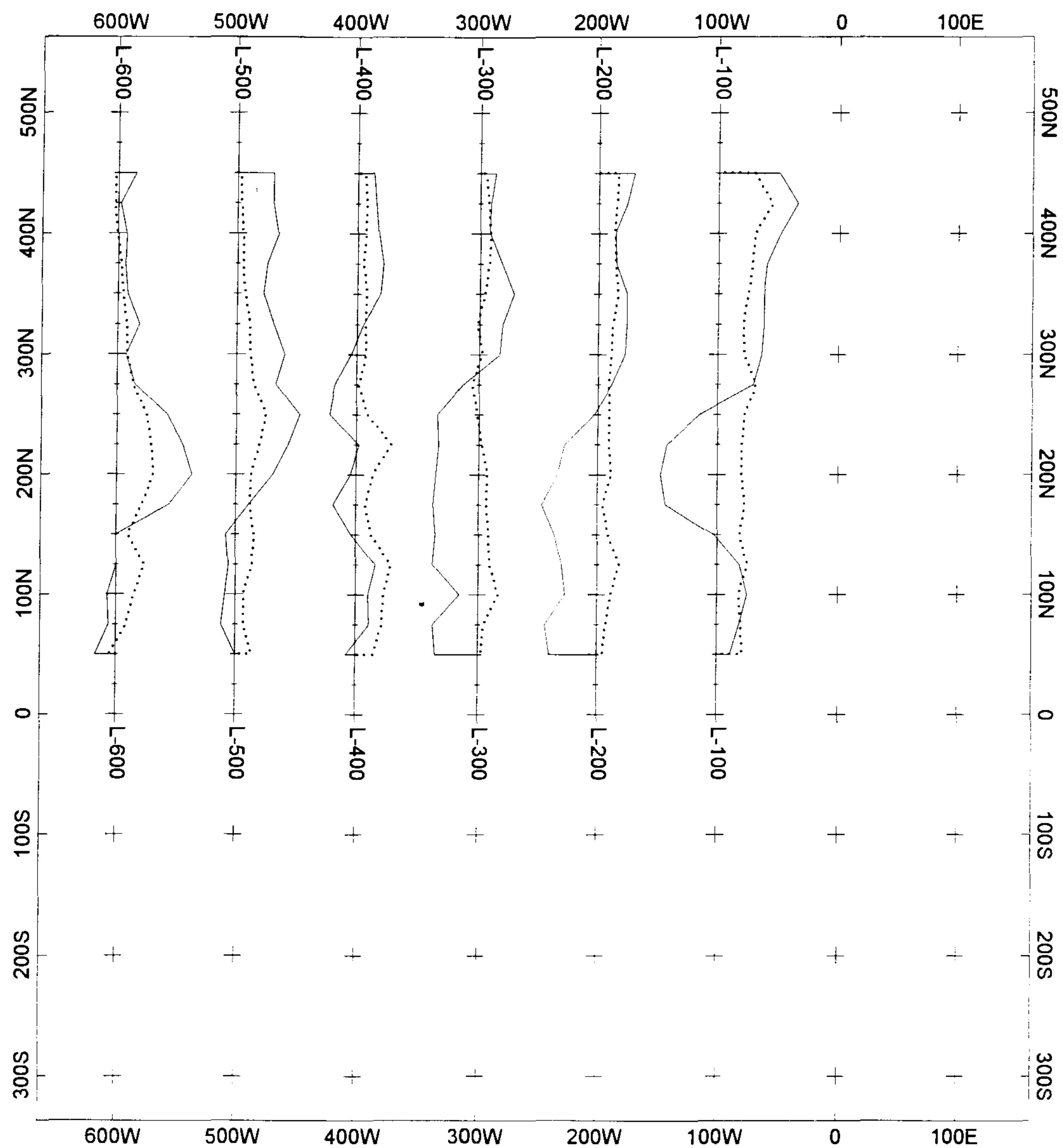
(meters)

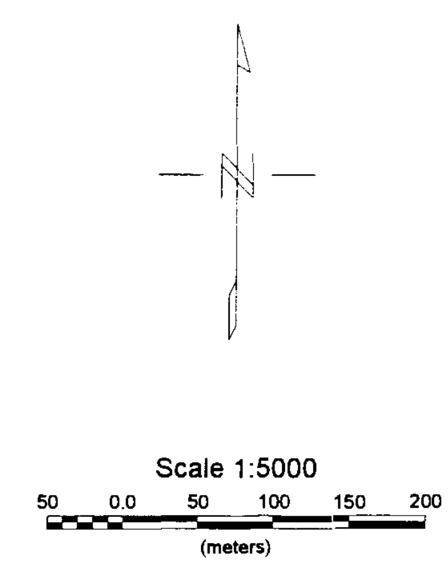
Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 3520 Hz
Troymin Property
Grid NC21

IP - solik; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10



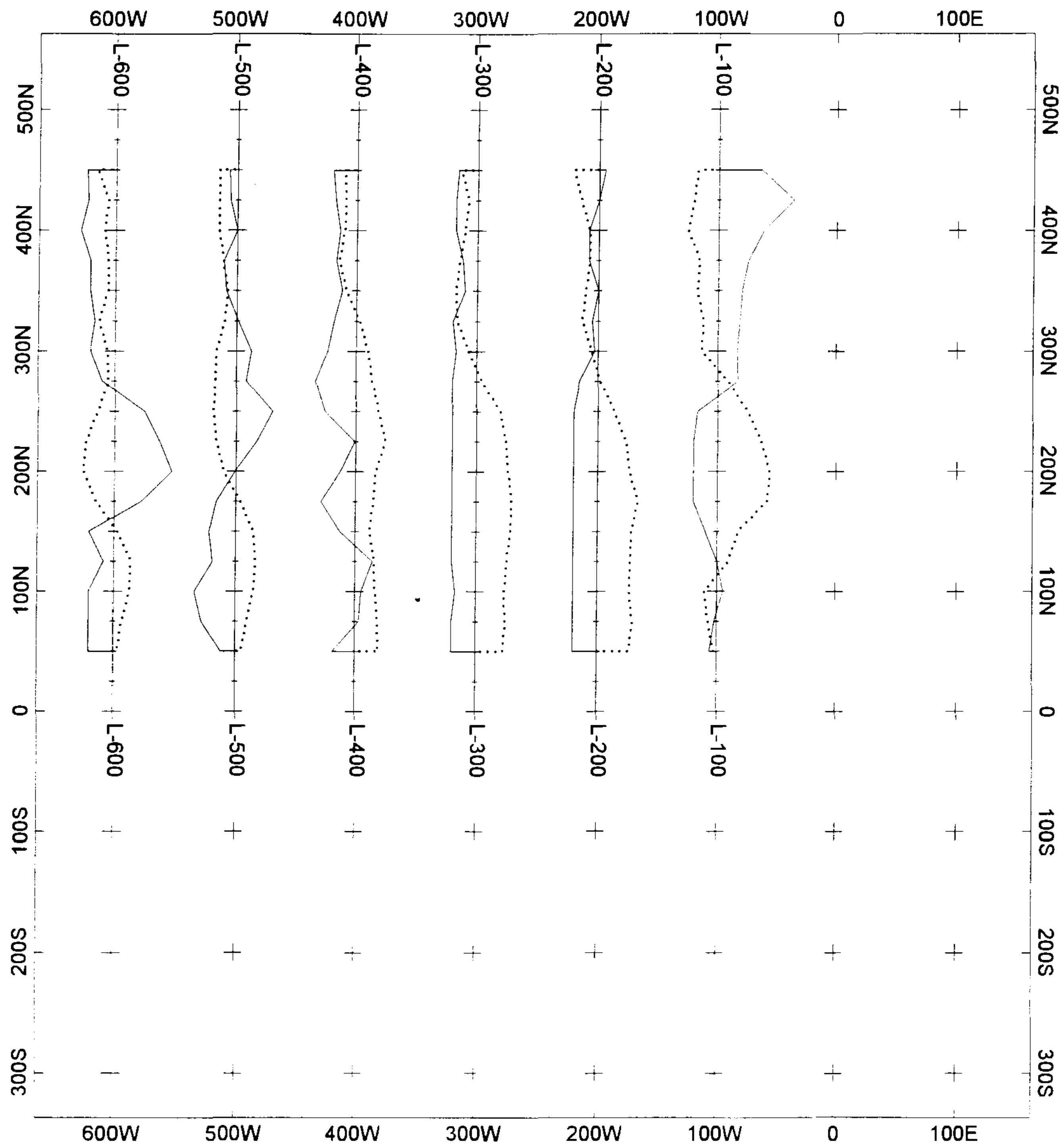


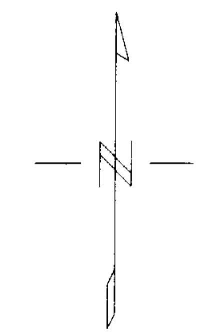
Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 7040 Hz
Troymin Property
Grid NC21

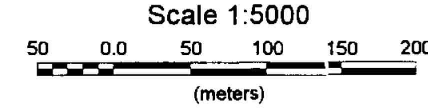
IP - solik; Q - dotted
scale: 1 mm = 5%

printed: 1997/03/10





Scale 1:5000



Kennecott Canada Exploration Inc.
Vancouver

Max-Min: 14080 Hz
Troymin Property
Grid NC21

IP - solik; Q - dotted
scale: 1 mm = 5%

printed: 1997/09/10

APPENDIX III

QUANTEC REPORT ON GROUND GEOPHYSICS

Quantec Consulting Inc.
P O Box 580. 101 King Street
Porcupine. ON P0N 1C0
Phone (705) 235-2166
Fax (705) 235-2255

Quantec Consulting Inc.

Geophysical Survey Summary Interpretation Report

Regarding the GROUND MAGNETIC and HORIZONTAL LOOP ELECTROMAGNETIC SURVEYS over the HINTON PROJECT, AB on behalf of MONTELLO RESOURCES LIMITED, Vancouver, BC

J.M. Legault
C. Williston
May, 1997.
Porcupine, ON
QCI C345/350

Quantec

1. INTRODUCTION

- **QCI Project No.:** Phase I: C345
  Phase II: C350
- **Client Name:** MONTELLO RESOURCES LIMITED
- **Client Address:** Suite 1473, 3 Bental Centre
  Barard St.
  Vancouver, BC
  V7X 1C4
- **Project Name:** Hinton
- **Grid Names:** Area 1 (Southern Grids):
  MT-12, MT-19, MT-22, MT24, MT-25, MT-28
  Area 2 (Northern Grids):
  MT-6, MT-7, MT-8, NC-21
- **Survey Periods:** Phase I: June 17TH, 1996 - July 18TH, 1996
  Phase II: August 23RD, 1996 - September 20TH
- **Survey Types:** 1) Total Field Ground Magnetic
  2) Horizontal Loop Electromagnetic (HLEM)
- **Client Representatives:** P. Power, D. Tomelin
- **Objectives:**

1. Exploration objectives:
   a) detect the diatreme intrusives,
   b) map the lateral extent and geometry of these bodies.
   c) identify and confirm the sources of the airborne anomalies and categorize them as probable bedrock, surficial, cultural etc.,
   d) map lithology, structure and alteration associated with deep crustal structure, depth to bedrock and glacio-fluvial deposits.

2. Geophysical objectives:
   a) provide ground follow-up to airborne geophysical survey targets (Phase I), and to provide additional survey detail (Phase II),
   b) target anomalous magnetic features potentially associated with magnetite rich ultramafic intrusives and coincident anomalous bedrock conductivity potentially associated with altered ultramafic material,
   c) define the lateral and vertical extents of the targets which will be diagnostic of diatremes,
   d) distinguish between bedrock, surficial, and cultural anomalies to prioritize drilling on zones displaying highest potential as diatreme targets.

2. GENERAL SURVEY DETAILS

2.1 LOCATION

- **Townships:** see Table I
- **Province:** Alberta
- **Country:** Canada
- **Nearest Settlement:** Muskeg River, AB
- **NTS Map References:** 83E/16, 83F/13

GRID	Grid Coordinates / UTM Coordinates	TOWNSHIP	RANGE	SECTION
MT-6	BL0E, L100S / 427,200mE , 5,980,200mN	57	1	32
MT-7 / MT-8	BL0E, L100S / 429,000mE , 5,978,300mN	57/ 57	1 / 1	28 / 22
MT-12	BL0E, L0N / 430,200mE, 5,972,300mN	57	1	3
MT-19	BL0E, L0N / 434,650mE, 5,966,400mN	56	27	18
MT-22	BL0E, L1100N / 436,600mE, 5,960,600mN	55	27	32
MT-24	L100E, BL0N / 433,700mE, 5,959,200mN	55	1	25
MT-25	L100W, BL0N / 435,900mE , 5,953,900mN	55	27	7
MT-28	BL0E, L700N / 442,000mE, 5,958,700mN	55	27	25
NC-21	L100W, BL0N / 434,600mE, 5,976,300mN	57	1, 27	13, 18

Table I: Hinton Project Grid Locations.

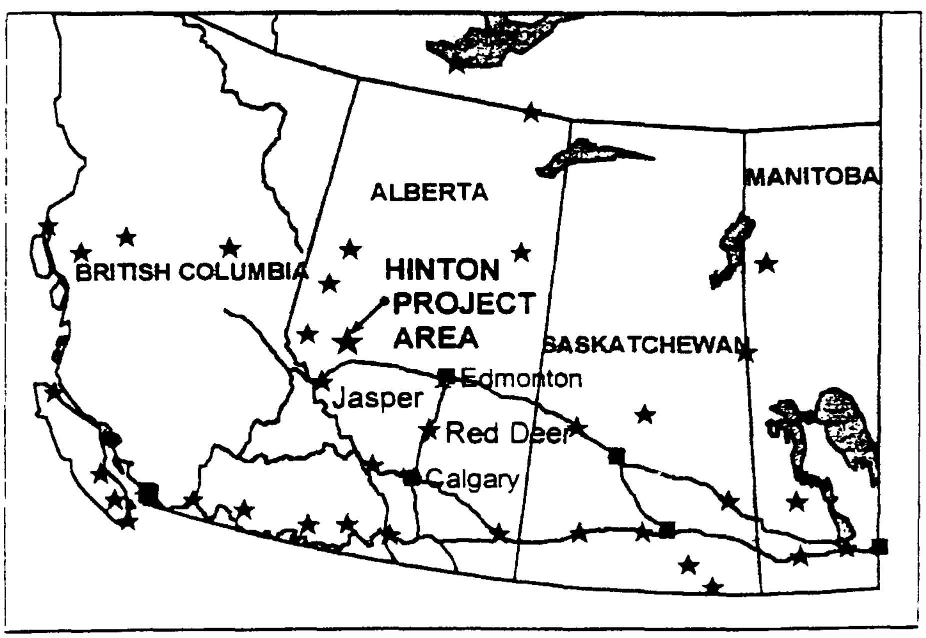


Figure 1: Hinton Project General Survey Location.

2.2 ACCESS

- **Base of Operations:** Area 1 camp: between MT-19 and MT-22
  Area 2 camp: Huckleberry Tower
- **Distance by Land to Properties:** 5-30km
- **Nearest Highway:** Yellowhead Hwy. (Hwy. 16)
- **Mode of Access to Property:** 4x4 truck
- **Mode of Access to Lines:** all terrain ATV

2.3 SURVEY GRIDS

- **Coordinate Reference System:** Local exploration grids (non-UTM referenced)
- **Line Directions:** 1) East-West (N-090°) = MT-6. MT-7, MT-8. MT-12, MT-19, MT-22. MT-28
  2) North-South (N-000°) = NC-21, MT-25. MT-24
- **Line Separation:** Phase I: 100m
  Phase II: 50m
- **Station Interval:** Phase I: 25m
  Phase II: 12.5m
- **Base and Tie Line Locations:** see Table II
- **Survey Lines Established by:** Quantec Consulting Inc.
- **Method of Chaining:** Linear. Metric

- Line-cutting:

GRID	PHASE	LINE	LINE SEPARATION	LINE LENGTH	START-END	LENGTH (m)
MT-6	I&II	L800S-L100S	50m	500	BL0E-500E	7500
-	I	BL0E	N/A	700	800S-100S	700
MT-7/8	I	L400S-L100S	100m	600	500W-100E	2400
		L600S-L500S	100m	1200	500W-700E	2400
-	-	BL0E	N/A	500	1400S-100S	1300
-	-	L700S-L1400S	100m	700	BL0E-700E	1400
-	-	L1200S	100m	700	BL0E-675E	675
-	-	L1100S-L700S	100m	700	BL0E-700E	3500
MT-12	I&II	L0N-L600N	50m	500	TL500W-BL0E	6500
-	I	BL0W. TL500W	N/A	600	0N-600N	1200
MT-19	I&II	L100S-L400N	50m	500	250W-250E	5500
-	-	BL0E	N/A	500	100S-400N	500
MT-22	I&II	L600N-L1100N	50m	500	BL0E-500E	5500
-	I	BL0E	N/A	500	600N-1100N	500
MT-24	I&II	L100E-L500E	50m	500	BL0N-500S	4500
-	I	BL0N	N/A	400	100E-500E	400
MT-25	I	L700W-L400W	100m	600	BL0N-600N	2400
-	-	L300W-L100W	100m	500	BL0N-500N	1500
-	-	BL0N	N/A	600	700W-100W	600
-	II	L650W-150W	100m	600	BL0N-600N	3600
MT-28	I&II	L400N-L900N	50m	500	500W-BL0E	5500
-	-	L950N-L1200N	50m	400	400W-BL0E	2400
-	I	BL0E	N/A	800	400N-1200N	800
NC-21	I	L600W-L100W	100m	500	BL0N-500N	3000
-	-	BL0N	N/A	500	600W-100W	500
-	II	L400W-L100W	100m	250	250S-BL0N	1000
-	-	L550W-L450W	100m	500	BL0N-500N	1000
-	-	L350W-L150W	100m	750	250S-500N	2250
-	-	L50W-0E	50m	450	250S-200N	900
-	-	L50E-L100E	50m	475	275S-200N	950
-	-	BL0N	N/A	200	100W-100E	200
TEST	I	L111W	N/A	3000	BL0N-3000N	3000
TOTAL						74075

Table II: Hinton Project Line-cutting.

3. SURVEY WORK

3.1 GENERALITIES

- **Survey Dates:** Phase I: June 23RD - July 20TH, 1996; Phase II: Aug 29TH - Sept 17TH, 1996
- **Survey Period:** Phase I: 34 days; Phase II: 29 days
- **Survey Days (read time):** Magnetics: 16.5 days; HLEM: 23 days
- **Total Survey Coverage:** Magnetics: 78km; HLEM: 63km
- **Total Grids Surveyed:** 10
- **Arial Survey Coverage:** Magnetics: Approximately 8.8km^2; HLEM: Approximately 7.9 km^2

3.2 SPECIFICATIONS

3.2.1 MAGNETICS

- **Method:** Diurnal Drift Corrected
- **Technique:** Profiling Earth's Total Magnetic Field
- **Line Separation:** Phase I: 100m; Phase II: 50m
- **Sampling Interval:** Phase I: 25m; Phase II: 12.5m
- **Magnetic Datum:** 59 300nT
- **Data Output Units:** nanoTeslas
- **Position of Base Station:** camp based
- **Base Station Sampling:** Phase I: 15 sec/cycle; Phase II: 3 sec/cycle

3.2.2 Electromagnetics

- **Method:** Frequency Domain moving horizontal loop EM
- **Technique:** Multi-frequency In-Phase and Quadrature profiling
- **Coil Configuration:** Horizontal co-planar
- **Coil Separation:** 100m (2 lines on MT-19 were tested using 50m)
- **Frequencies Surveyed:** 880Hz (MT-19, MT-22 during Phase I only)
  1760Hz, 3520Hz, 7040Hz, 14080Hz
- **Tilt Corrections:** none applied due to flat terrain
- **Line Separation:** Phase I: 100m
  Phase II: 50m
- **Sampling Interval:** 25m

3.3 Personnel

- **Supervisor:** Sherwood Coulson, Porcupine, ON
- **Field Project Managers:** Derrick Hall, Kilsyth, ON (Phase I)
  Daniel M. Thai, Saskatoon, SK (Phase II)
- **Geophysical Technicians:** Tyler Raleigh, Oakville, ON (Phase I)
  Brad Polson, Notre Dame Du Nord, QC (Phase I)
  Mark Sigouin, North Bay, ON (Phase I&II)
  Wayne Polson, Notre Dame du Nord, QC (Phase I&II)
- **Geophysical Assistants:** Tyson St-Denis, Temiskaming, ON (Phase I&II)
  Kurt Russell, Sudbury, ON (Phase II)
  Jason King, Notre-Dame du Nord, QC (Phase II)
- **Data Processing:** Christine Williston, South Porcupine, ON
- **Interpretation:** Jean Legault, Timmins, ON

3.4 INSTRUMENTATION

3.4.1 MAGNETICS

- **Magnetometers:** Phase I: Scintrex/EDA OMNI-IV Proton Precession
  Phase II: GEM GSM-19 Proton Precession

3.4.2 HLEM

- **Receiver-Transmitter:** Apex-Parametrics Max-Min I-9
- **Receiver-Transmitter Separations:** 50, 100m
- **System Frequencies:** 880, 1760, 3520, 7040, 14080 Hz

3.5 MEASUREMENT ACCURACY AND REPEATABILITY

- **Instrument Accuracy:** Magnetics = ± 0.1nT
  HLEM = ± 1% (± 5% coarse range)
- **Survey Accuracy:** Magnetics = ± 1%
  HLEM = ± 1% (± 5% coarse range)
- **Baseline Repeatability:** Magnetics: ±2 nT
  Max-Min: base/tie lines not surveyed

3.6 DATA PRESENTATION

- **Maps**

Type:	Compilation Interpretation Plans	Contoured Total Magnetic Field Plans	Posted HLEM Profile (%IP, %OP) Plans
# of Maps:	9	9	38
Map Scale:	1:5000	1:5000	1:5000
Gridding Method:	random	random	N/A
Grid Cell Size:	6-10m	6-10m	N/A
Frequencies:			880Hz, 1760Hz, 3520Hz, 7040Hz, 14080Hz
Post Processing (Leveling):		• 2D FFT Decorrugation (MT-12) • Base Level adjustment (all other grids)	Profile base-level adjustment

Table III: Map Specifications for Hinton Project.

- **Digital Magnetic Data:** Daily raw files and processed data (Geosoft .XYZ format) on 3.5" HD (1.44 Mbytes) diskette(s)

a) raw data files according to acquisition date (DDMMYYk.mag), where DDMMYY are the day, month and year and k represents either B (base), or C (diurnal corrected)

Scintrex/EDA Omni IV format (refer to manual)
GSM-19 format (refer to manual)

b) processed XYZ ASCII data file, according to grid (mt12lev.xyz lev=leveled)

Column 1: EW or line or station position (m)
Column 2: NS station or line position (m)
Column 3: Station position (m)
Column 4: Total magnetic field - diurnal-corrected (nanoTeslas)

- **Digital HLEM Data:** Geosoft ASCII .XYZ format on 3.5" HD (1.44 Mbytes) diskette(s)

a) raw data files, according to grid (mt12mm.raw)

Column 1: EW line or station position (m)
Column 2: NS station or line position (m)
Column 3: In-Phase value in % of 880 Hz frequency (MT-19, MT-22 grids only)
Column 4: Out of Phase value in % of 880 Hz frequency (MT-19, MT-22 grids only)
Column 5: In-Phase value in % of 1760 Hz frequency
Column 6: Out of Phase value in % of 1760 Hz frequency
Column 7: In-Phase value in % of 3520 Hz frequency
Column 8: Out of Phase value in % of 3520 Hz frequency
Column 9: In-Phase value in % of 7040 Hz frequency
Column 10: Out of Phase value in % of 7040 Hz frequency
Column 11: In-Phase value in % of 14080 Hz frequency
Column 12: Out of Phase value in % of 14080 Hz frequency

b) leveled[1] data file, according to grid (mt12mmc.xyz c=base level corrected)

same as a)

[1] Profile base levels have been adjusted/removed for presentation purposes. The value of the base level shifts were applied on a grid to grid and frequency to frequency basis.

4. RESULTS AND SUMMARY INTERPRETATION

4.1 OVERVIEW

The ground total field magnetic (TFM) and horizontal loop EM (HLEM) surveys over the **Hinton Project** were designed to both provide ground follow-up to airborne geophysical anomalies relating to potential kimberlitic intrusive pipes. as well as to further characterize the shape and size. using magnetics. and their conductivity. using EM - according to physical characteristics established in exploration for similar targets. such as in the **Lac de Gras Area** of NWT (Geonex Aerodat. LDGA Case History, 1993). The geophysical target model is generally given by circular to elliptical shaped magnetic high anomaly, caused by magnetite-rich composition in the ultramafic material. Accompanying the magnetic anomalies are possible ground conductivity anomalies, either a) directly related, as coincident features which outline the kimberlites. due to overburden depressions stemming from the erosion of and/or possibly even the presence of clay-rich refractory intrusive material, or b) indirectly, as closely associated fault-fracture structures. which control the emplacement of the mantle-tapping peridotites and lamprophyres, and are more conductive because they form graben-like overburden depressions and are also water-rich, porous bedrock structures.. The present study serves to provide a final summary of the ground geophysical results. including the electromagnetics. in relation to subsequent follow-up and limited diamond drilling which have been undertaken on the property.

Recapping the exploration sequence over the **Hinton Project**, the present geophysical program over the nine (9) grids was undertaken in two phases. The initial phase. in June-July. 1996. consisted of line cutting and reconnaissance TFM/HLEM coverage over all grids using a coarse 100m line-interval and 25m station spacing. After reviewing the results (see - Appendix B: J. Jansen. Kennecott, pers. comm . 23/08/96). a second survey phase, in August-September, 1996, concentrated on eight of the nine survey grids. using detailed 50m line-spacings and 12.5m stations. In September. 1996, drill-targets were identified on two grids, MT-22 & MT-24, based on preliminary magnetics results alone (see Appendix B: ST Coulson. QCI. pers. comm.. 24/09/96). Subsequent DDH-testing at MT-24, using a vertical 330ft drill-hole, revealed sedimentary sandstone, greywacke and coal seams (D. Tomelin, MTR, pers. comm.. 10/96) - however. while failing to detect either ultramafic/kimberlitic materials, the drilling did explain the magnetic source. Also, ground proofing of a suspected cultural magnetic anomaly at MT-22 in fact revealed a reclaimed oil & gas drill-pad at the site (IBID). Soon after. in early October. 1996, a summary interpretation of ground magnetic results over all grid areas, included prioritized DDH-targets (see Appendix B: JM Legault. QCI, pers. comm., 8/10/96). The extent and results of subsequent exploration are presently unknown to the authors.

4.2 GEOPHYSICAL RESULTS AND INTERPRETATION

The geophysical interpretation of anomalies in the **Hinton** ground magnetic and horizontal-loop EM results consists of both qualitative anomaly identification from profile and plan map data. as well as more quantitative analyses, in the case of the HLEM data. For the ground magnetics, individual anomalies have been "picked" from the profiles, then correlated into magnetic axes. from line-to-line, and then classified according to their relative strength (Major, Minor) - these results have been tabled in Appendix G1 and transferred onto the interpretation plan maps shown in Appendix I. Also identified on these plans are the outlines of the strongest/most prominent magnetic anomalies which identifies the potential boundaries of the key kimberlitic and lamprophyric intrusive targets. The EM interpretation is more quantitative. by first identifying the position of conductive zones observed in multi-frequency profiles (Appendix I) and then, for those exhibiting coincident magnetic responses, both their conductivity-thickness and depth-of-burial have also been calculated using forward model solutions for vertically-dipping tabular conductors(ref. Telford et al.. 1976 - see Appendix G2). Finally, those anomalies retaining the greatest interest are described in the following table. on a grid by grid basis, according to their probable geologic source and in their relation the target model.

4.2.1 First Priority Targets

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
MT6	400S 650S	300E-350E 250E+325E	Concordant but Offset and Crosscutting Conductive Zone (s) above Magnetic High (s) σtAVG = 0.2 mhos/m @ 1760Hz 0.4 mhos/m @ 3540Hz 0.5 mhos/m @ 7040Hz	1.5 2	• TFM: Narrow. NS elongate (50-75m EW x >500m NS), arcuate or sinuous NS/NNE/NNW trending, discontinuous &/or fault-offset or. more likely partly multiple zoned (1-2) moderate (40-60nT) magnetic body (ies) which extends across east-center of grid area - indicates airborne anomaly successfully recovered in ground survey. Resembles MT19 response, but longer and not truncated, and also more NS linears also present. Sharp negative lobes to east and west indicate shallow buried and subvertical dip. Suggests either multiple small, NS-deformed bodies more likely linear/dyke-like features. • HLEM: Grid area hosts several long (200-600m), narrow (25-75m wide), NNW and NNE trending, variably conductive (0.1-1.9 mhos/m) HLEM zones, which subparallel but are offset, discordant and cross-cut the magnetic lineaments - indicates conductivity is likely unrelated to potential intrusive. Well-correlated but east-offset to primary conductor possibly also indicative of shallow west dip to controlling fault-fracture structure zone hosting intrusives (?). Separate source-type also indicated in conductor's larger depth of burial (40-60m) vs. contrasts subcropping magnetic feature - decreasing conductivity-thickness with depth (σt @ high *f* > σt @ low *f*) also consistent with narrow, dipping, clay-altered fault. • **Possibly multiple smaller NS-deformed/aligned kimberlitic bodies &/or subvertical NS lamprophyric dykes, w/o weathered caps, which are structurally controlled and hosted within a more regional, graben-like NNW-NNW fault-fracture systems. Recommend at least two high priority DDH targets with east-dipping angled drill-hole, through center of magnetic bodies and into fault.**
MT12	250N	225W	No HLEM Coverage over Magnetic High but No Coincidence/Correlation over Weak Mag. Highs to South	1.5	• TFM: Large, NS-elongate (400m NS x 100-150m EW), G-shaped, grid NS to NNW-trending, moderate (30nT), multiple zoned (1-2) magnetic body centred in grid area - indicates airborne anomaly successfully recovered in ground survey and represents most distinctive Mag. high in Hinton surveys. Multi-zoned nature indicates either mafic layering in kimberlitic intrusive or multiple NS lamprophyric dykes. Strong negative lobes on east and west sides indicate body is shallow buried and upright (consistent with dyke) or possibly funnel-shaped (consistent with kimberlite pipe). Broad (200m wide) EW band of magnetic low through center of grid likely associated with deeper, trough-like overburden feature. (continued)

Table IV: First Priority Targets at Hinton Project.

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
MT12 (cont.)					• HLEM: No EM coverage over key magnetic feature - limited to 4 lines (150m NS x 400m EW) in far-southern portion of grid area due to presence of nearby river, and lack of follow-up. No HLEM conductors directly coincide or correlate with weaker, thinner south-extension of key magnetic feature - but distorted nature of profiles suggest possible EW-oriented/profile-paralleling conductive zones, as per OB feature in Mag. data. • **Possibly a large, layered kimberlite or wide, subvertical NS lamprophyric dykes - possibly w/o weathered cap and w/o NS structural fault-control. Recommend high priority DDH target with east-dipping angled DDH, through center of magnetic body. Additional EM along EW or NS lines also possibly required to resolve structural control &/or weathered cap.**
MT19	200N	150W	Shorter, Thinner, Discontinuous but Coincident Conductive Zone Above Magnetic High σt_{AVG} = 0.3 mhos/m @ 1760Hz 0.4 mhos/m @ 3540Hz 0.2 mhos/m @ 7040Hz	1.5	• Arcuate/curved, grid NE changing to NS-trending (from N to S), mod-weak (20-35nT), kidney-shaped, NS elongate (25-75m EW x 300m NS), possibly buried magnetic body centred in north-western grid area - indicates airborne anomaly successfully recovered in ground survey. Magnetic feature is dyke-like - pinching/narrowing to south but truncated to north. Suggests either cigar-shaped kimberlitic intrusive or NE-lamprophyric dyke. N-to-S regional increase likely related to thinning overburden to South. • Magnetic feature correlated to similar arcuate/curved, grid NS to NE-trending, thin/variable width-body (25-125m width), weakly conductive (≈ 0.1-1.1 mhos/m) HLEM zone, which closely follows the magnetic high - suggests conductivity is possibly related to potential intrusive, or more likely to controlling fault-structure. Shorter, adjacent conductors parallel main EM/Mag linear, and sometimes also partially host weaker Mag. lineaments. Depth of burial between 10-60m and conductivity-thickness slightly more conductive with depth (σt @ high $f \leq \sigma t$ @ low f) - indicates either weakly layered graben-like overburden, or more likely a major fault-fracture zone, with moderate increase in clay-alteration or water in deeper structure. • **Possibly a structurally-deformed kimberlite or, more likely, a wide, subvertical NS-NE lamprophyric dyke ± weathered cap, which is structurally controlled along a more, narrow NNW + NNE fault-fracture systems. Recommend high priority target with west-dipping angled DDH, through center of magnetic body and fault structure.**

Table IV (continued): First Priority Targets at Hinton Project.

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
MT28	900N 450N	200W 300W	Longer but Well-Correlated and Coincident Conductive Zone (s) Above Magnetic High (s) σt_{AVG} = 0.5 mhos/m @ 1760Hz 0.3 mhos/m @ 3540Hz 0.1 mhos/m @ 7040Hz	1 1.5	• TFM Multiple. subparalleling, grid NNW to NNE-trending, moderate (25-40nT), irregular-shaped, short to medium length and NS elongate (50-75m EW x 100-250m NS), multiple zoned (2-3) magnetic body which mainly cross-cut through center of grid area - indicates airborne anomaly successfully recovered in ground survey. Northernmost of two strongest anomalies is irregular, but more elliptical/kimberlitic-shaped; southern anomaly is multiple but more linear/dyke-like, i.e. lamprophyre. N-to-S regional likely related to thinning OB to South. • HLEM: Central magnetic lineaments coincide with prominent sinuous, NNE-trending, strike extensive (>800m NS), wide-body or flat-lying (25-150m width), weakly conductive (≈ 0.1-0.9 mhos/m) HLEM zone - indicates conductivity is possibly related to potential intrusive or, more likely, to controlling fault-fracture structures. Conductor bifurcates to south, along with more multiple magnetic bodies/dykes, into 2 separate thinner, NE and NNW trending conductors. Depth of burial between 10-40m and conductivity-thickness increases with depth (σt @ high f < σt @ low f) - indicates either layered graben-like overburden, or more likely a major fault-fracture zone, with increase clay-alteration or water in deeper structure. **Possibly multiple smaller kimberlitic bodies &/or subvertical NS lamprophyric dykes, ± weathered cap, which are structurally controlled and hosted within a more regional, graben-like NNW fault-fracture system. Recommend at least two high priority DDH targets (northern = kimberlite / southern = lamprophyre) with east-dipping angled drill-hole, through center of magnetic bodies and fault zone.**

Table IV (continued): First Priority Targets at Hinton Project.

4.2.2 Second Priority Targets

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
MT7-8	600S 1300S	400E 425E	Concordant but Offset and Crosscutting Conductive Zone (s) near Magnetic Highs	2 2	• TFM: Grid hosts multiple, but very weak (10-20nT) narrow, NS elongate (50-75m EW x 200m to +900 m NS), linear NS trending, NS-continuous magnetic bodies which extend across much of grid area - indicates airborne anomaly possibly not recovered in ground surveys (?). Resembles MT6-MT28 responses, but longer, more continuous and also more NS linears also present - except weaker. Sharp negative lobes to east and west indicate shallow buried and subvertical dip. Suggests either multiple very small, NS-deformed bodies more likely swarm of minor linear/dyke-like features. (continued)

Table V: Second Priority Targets at Hinton Project.

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
MT7-8 (cont.)			σt_{AVG} = 0.8 mhos/m @ 1760Hz 0.5 mhos/m @ 3540Hz 0.5 mhos/m @ 7040Hz		• <u>HLEM:</u> Grid area hosts several variable length but mainly long (200-600m), variable width (25-100m wide), NS, NNW and NNE trending, variably conductive (0.1-1.9 mhos/m) HLEM zones, which subparallel but are offset, discordant and cross-cut the magnetic lineaments - indicates conductivity is likely unrelated to potential intrusives. Offsets may also indicate shallow dips to controlling fault-fracture structure zone hosting intrusives (?). Shallow depth of burial (10-30m). Conductivity-thickness increases with depth (σt @ high f > σt @ low f) suggests either layered, graben-like overburden features, or more likely due to increased clay-alteration + water within porous fault systems. **Possibly multiple small, NS-deformed/aligned kimberlitic bodies or more likely subvertical NS lamprophyric dykes, w/o weathered caps, which are structurally controlled and hosted within a more regional, graben-like NNW-NNW fault-fracture systems. Despite weak magnetite content in bodies, we recommend at least two high second priority DDH targets with east-dipping angled drill-hole, through center of magnetic bodies and into fault structures.**
MT24	300E	275S	Longer, Cross-cutting and Partly Offset Conductive Zone Above Magnetic High σt_{AVG} = 1.4 mhos/m @ 1760Hz 1.2 mhos/m @ 3540Hz 0.4 mhos/m @ 7040Hz	2	• <u>TFM:</u> Grid ESE-trending, moderate (40nT), irregular-shaped, EW elongate (200m EW x 100m NS), multiple zoned (2-3) magnetic body centred in grid area - indicates airborne anomaly successfully recovered in ground survey. Zoned nature indicates either mafic layering in kimberlitic intrusive or multiple EW lamprophyric dykes. N-to-S regional gradient likely associated with thinner OB to South. • <u>HLEM:</u> Magnetic feature partially crosscut by longer, more strike extensive (>400m EW), discordant grid ENE-trending, wide-body (75-175m width) or flat-lying, mod-weakly conductive (≈ 0.5-1.4 mhos/m) zone, which is offset 50m north of magnetic high - indicates conductivity is likely unrelated to potential intrusive (also suggests shallow south dip to fault?). Conductor bifurcates east of magnetic body into 2 separate, thinner, NE and ESE trending conductors. Depth of burial between 10-60m and conductivity-thickness increases with depth (σt @ high f < σt @ low f) - indicates either layered graben-like OB, or likely a major fault-fracture zone, with increased clay/water at depth. • **Despite DDH-results, Mag anomaly remains unexplained - possibly 2 or more subvertical EW lamprophyric dykes, w/o weathered cap, which are structurally controlled within a more regional, graben-like NE/ESE fault-fracture system. Recommend high 2^{ND} priority DDH target with north-dipping angled DDH, through center of magnetic body and into fault.**

<u>Table V (continued): Second Priority Targets at Hinton Project.</u>

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
MT25	350W	375N	Shorter. More Discontinuous. Weak, but Sometimes Coincident Conductive Zones above the Magnetic Highs σt_{AVG} = 0.3 mhos/m @ 1760Hz 0.2 mhos/m @ 3540Hz 0.3 mhos/m @ 7040Hz	2	• TFM: Multiple/swarm-like, short-medium length (50-350m), variably oriented (EW, ESE, ENE), but mod-strong (30-70nT), narrow/dyke-like (<50m wide), magnetic bodies extend across most of grid area, but greatest concentration are centred in grid area - indicates airborne anomaly, though multiple, was successfully recovered in ground survey. Most prominent magnetic feature in center of grid area is formed by 2-3 multiple, closely spaced EW-ESE-oriented magnetic features, including a >350m long sinuous zone - likely shallow buried and vertical dip. Suggests either multiple small, EW-elongate/deformed, possible kimberlitic intrusives or more likely dyke-like, possible lamprophyric intrusive swarm. N-to-S regional increase likely related to thinning overburden to South. • HLEM: Grid area hosts multiple, short (50-150m long), narrow (≈25m wide), east-westerly oriented and very weakly conductive (≈ 0.1-0.6 mhos/m) HLEM zones, which appear randomly-scattered but occasionally, partially-coincide with the magnetic highs - suggests conductivity is likely unrelated to intrusives, and possibly OB-related or more likely to portions of controlling fault-structures. Conductivity-thickness nearly constant with depth (σt @ high f ≈ σt @ low f) but depth of burial primarily in 40-60m range, i.e. conductive zone is buried - explaining lack of variation in conductance. Contrasts with shallower Mag. depths also confirms conductivity unrelated to weathered cap - rather to moderate clay-alteration or water in deeper structures. • **Possibly a series of small, aligned, structurally-deformed kimberlite or, more likely, subvertical EW-ESE lamprophyric dykes w/o weathered caps, which are structurally controlled along a narrow, poorly-conductive, EW fault-fracture systems. Recommend second priority target with north-dipping angled DDH, through center of magnetic body (possibly 2-3 dykes) and weakly conductive fault structure.**
NC21	L300W L500W	375N 075N	Longer and Sometimes Coincident Conductive Zones above the Magnetic Highs	2 2	TFM: Multiple/swarm-like, short-medium length (100-400m), variably oriented (EW, ESE, ENE), moderate (20-40nT), narrow/dyke-like (50-75m wide), magnetic bodies extend through north and central grid area - indicates airborne anomaly, though multiple, was successfully recovered in ground survey. Most prominent magnetic feature in north-center of grid area is formed by 1-2 multiple, closely spaced EW-oriented magnetic features, including a >350m long sinuous zone - likely shallow buried and vertical dip. Also a series of weaker, thinner, shorter Mag-linears in grid-center coincide with broad conductive features. Suggests either multiple small, EW-elongate/deformed, possible kimberlitic intrusives or more likely dyke-like, possible lamprophyric intrusive swarm (continued).

Table V (continued): Second Priority Targets at Hinton Project.

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
NC21 (cont.)			σt_{AVG} = 0.1 mhos/m @ 1760Hz 0.2 mhos/m @ 3540Hz 0.8 mhos/m @ 7040Hz		• HLEM: Grid area hosts multiple, short (50-150m long), moderate to wide-body (50-250m wide), east-westerly oriented and generally weakly conductive (≈ 0.2 mhos/m) HLEM zones, which are broader but correlate with magnetic highs through the central part of the grid area but not elsewhere - suggests conductivity is likely unrelated to intrusives (i.e. not a weathered cap), and possibly OB-related or more likely to portions of controlling fault-structures. Conductivity-thickness quickly decreases with depth (σt @ high f > σt @ low f) which is also consistent with graben-like OB layer in center and to narrow fault-like zones to north. • **Possibly a series of small, aligned, structurally-deformed kimberlite or, more likely, subvertical EW-ESE lamprophyric dykes w/o weathered caps, which are structurally controlled along narrow, poorly-conductive, EW fault-fracture systems. Through the center, the broad EM feature possibly represents a structurally controlled OB graben. Recommend at least two second priority target with north-dipping angled DDH, through center of magnetic body (possibly 2-3 dykes) and weakly conductive fault structure.**

Table V (continued): Second Priority Targets at Hinton Project.

4.2.3 Third Priority Targets

GRID	LINE	STATION	ELECTROMAG ASSOCIATION	PRIORITY	COMMENTS
MT22	850N	350E	Slightly Longer, Broader but Coincident Conductor Above Magnetic High σt_{AVG} = 0.2 mhos/m @ 1760Hz 0.4 mhos/m @ 3540Hz 0.9 mhos/m @ 7040Hz	3	• TFM: Grid NE trending, strong (1600nT), circular shaped, but short-strike length (75m EW x 50m NS) magnetic high centred in grid area - represents strongest response recorded at Hinton and indicates airborne anomaly successfully recovered in ground survey. Strong negative lobes surrounding high indicates either subcropping nature and/or magnetic remanence. Narrow width and intense magnetism suggests either large concentration of magnetite (unlikely) or man-made metallic structure, i.e. DDH drill casing. N to S regional likely related to OB thinning to South. • HLEM: Mag. feature is centred within slightly broader/longer (200m NS), discordant grid NW trending, wide-body (50-200m width) or flat-lying, weakly conductive (0.2-1.4 mhos) zone. Another longer (>200m strike), paralleling, discordant NW-trending conductor cross-cuts NE tip of magnetic feature - indicates conductivity likely unrelated to potential intrusive. Depth of burial between 10-60m and conductivity-thickness decreases with depth (σt @ high f > σt @ low f) - suggests zone is either thin, near-surface layer (i.e. OB and/or weathered upper kimberlite) or conductor rapidly pinches at depth (i.e. angled drill-casing). (continued) • **Although possibly a circular, layered kimberlite, with negative remanent magnetism and weathered cap ± OB depression (as per model), anomalies most likely represent man-made metallic culture, i.e. buried drill-casing, with coincident conductive zone relating to bentonite/drill-mud accumulation near platform. Third priority target due to suspicious nature, and recommend ground proof for possible culture - however, if negative remanence also fits with geology, propose DDH target with vertical hole through center of magnetic body & flat-lying conductor.**

Table VI: Third Priority Targets at Hinton Project.

5. CONCLUSION AND RECOMMENDATIONS

The ground magnetic and electromagnetic results at **Hinton** identify magnetic susceptibility and ground conductivity signatures relating to the subsurface geology, including possible lithologic discrimination fault-fracture structures, geochemical alteration and, most importantly, concentrations of magnetite potentially associated with pipe-like kimberlitic and also dyke-like lamprophyric intrusives. In response to the geologic objectives, four (**4**) high priority targets have been identified, which host significant size, favourable geometry and geoelectric characteristics relating to the target model - comprising at least one (1) large and 1 smaller (1), circular/elliptical, pipe-like magnetic anomalies (**MT12, MT28**) - potentially kimberlites) and two-four (2-4) cigar-shaped, dyke-like bodies (**MT6, MT19, MT28** - potentially lamprophyres) In addition to these highest priority targets, four (**4**) other 2[ND] priority axes (**MT7-8, MT24, MT25, NC21**) have also been identified which share similar characteristics, but whose smaller size or, narrower width or lower magnetic susceptibility results in a relatively lower priority - for the most part, these are more dyke-like and possibly represent mafic intrusive swarms. Finally, at least one anomaly is ascribed to man-made metallic structure (**MT22**). It is worthwhile noting, however, that the multiple nature of all these magnetic anomalies suggests either widespread mafic-layering within kimberlitic bodies or possibly separate, dyke-like sources, as indicated in preliminary drilling. On the other hand, although the HLEM surveys failed to detect circular conductivity anomalies coincident with the key magnetic features and associated with possible bedrock depressions or clay-rich refractory material, most magnetic anomalies are closely associated with linear conductive zones, which suggest a possible widespread structural-control of the intrusives along regional fault-fracture systems.

We recommend that these results be combined with existing geoscientific information prior to follow-up We also recommend that future surveys proceed immediately using detailed 50mx6.25m grids for the ground magnetic work - rather than the two-tiered exploration phase used in the present study - as the relatively large survey-mob-demob costs has been shown to far outweigh the initial cost-saving, due to the small size of survey areas. The merging of multiple phase data has also proven troublesome, due to the low anomaly thresholds observed at **Hinton** - for the same reason, we would argue against the use of the currently popular "walking-Mag" continuous profiling technique, which despite its higher-resolution, suffers from inherently poor signal to noise. Horizontal loop EM has also proved useful in delimiting zones of conductivity relating to fault-fracture structures - however, consideration should be given to either reducing the number of frequencies measured (1-3), thereby simplifying the EM interpretation, or expanding its use as a subsurface imaging tool, requiring a broader band of HLEM frequencies. Finally, additional inverse-modeling of the magnetic and HLEM results may improve the visual presentation of the results, but would likely not improve the DDH-targeting or prioritization.

RESPECTFULLY SUBMITTED

QUANTEC CONSULTING INC.

[redacted]

JM Legault, P.Eng.
Senior Geophysicist

[redacted]

C. Williston
Geophysicist

Porcupine, ON
May, 1997

APPENDIX A

STATEMENT OF QUALIFICATIONS:

I Christine Williston, hereby declare that:

1. I am a processing geophysicist with residence in South Porcupine, Ontario and am presently employed in this capacity with Quantec Consulting Inc. of Porcupine, Ontario.

2. I am a graduate of York University, North York, ON, in 1994, with an Honours Bachelor of Science Degree in Earth and Atmospheric Science.

3. I have practiced my profession in Canada since graduation.

4. I have no interest nor do I expect to receive any interest, direct or indirect, in the properties or securities of **Montello Resources Ltd.**

5. The maps created in this report accurately represent the information given to me at the time of the preparation of this report.

Porcupine, Ontario
March, 1997

[redacted]

Christine Williston, B.Sc.
Processing Geophysicist
Quantec Consulting
Technical Services

APPENDIX A

STATEMENT OF QUALIFICATIONS:

I, Jean M. Legault, hereby declare that:

1. I am a consulting geophysicist with residence in Timmins, Ontario and am presently employed in this capacity with Quantec Consulting Inc. of Porcupine, Ontario.
2. I am a graduate of Queen's University, Kingston, Ontario, in 1982, with a Bachelor's Degree with Honours, in geological engineering.
3. I am a member of the Ordre des Ingenieurs du Quebec, and am licensed to practice engineering in the province of Quebec, Canada.
4. I have practiced my profession continuously since graduation.
5. I am a member of the Society of Exploration Geophysicists, the Porcupine Prospectors and Developers Association and the Northwest Mining Association.
6. I have no interest nor do I expect to receive any interest, direct or indirect, in the properties or securities of **Montello Resources Ltd.**
7. The statements made by me in this report represent my best opinion and judgment based on the information available to me at the time of the writing of this report.

March 1997

[redacted]

Jean M. Legault
Chief Geophysicist
Quantec Consulting Inc.
Technical Services

APPENDIX IV

LIST OF HEAVY MINERAL SAMPLES

SAMPLE	EASTING	NORTHING
1996 EQ1	447050	5952600
1996 EQ2	447350	5952600
1996 EQ3	442250	5947200
1996 EQ4	446200	5947350
1996 EQ5	453000	5941250
1996 EQ6	452225	5943400
1996 EQ7	451875	5944200
1996 EQ8	451700	5946400
1996 EQ9	452375	5942400
1996 EQ10	449450	5947650
1996 EQ11	449700	5947200
1996 EQ12	449300	5947350
1996 EQ13	452650	5949600
1996 EQ14	451475	5947925
1996 EQ15	454850	5944150
1996 EQ16	444550	5953150
1996 EQ17	449850	5950300
1996 EQ18	452750	5952000
1996 EQ19	451350	5952000
1996 EQ20	451300	5952400
1996 EQ21	452900	5951600
1996 EQ21*	444500	5952150
VR63632A	452047	5952099
VR63634A	452788	5953775
VR63652A	464350	5951075
BR96044	407950	5993350
BR96045	409500	6001650
BR96046	415200	6001075
BR96047	412750	6001225
BR96048	421750	5988650
BR96049	424600	5990800
BR96050	425625	5990800
BR96051	419500	5985250
BR96052	415250	5980725
BR96053	409425	5974800
BR96054	407925	5978500
BR96055	411875	5978900
BR96056	417775	5981300
BR96057	402950	5973100
BR96058	415525	5989025
BR96059	415875	5989500
BR96060	418050	5983000
BR96061	420350	5985600
BR96062	423000	5987300
BR96063	424025	5988000
BR96064	422225	5986600
BR96065	420925	5989000
BR96066	413200	5979100
BR96067	428350	5995225
BR96068	430150	5987025
BR96069	428050	5984025

BR96070	430175	5991250
BR96072	423300	5995250
BR96073	419300	5991500
BR96074	411725	5996900
BR96075	431150	5985000
BR96076	426950	5995400
BR96079	428275	5992050
DW1	434675	5960300
DW2	434800	5958375
DW3	436325	5960500
DW4	437950	5958950
DW5	437700	5959750
DW6	429825	5973025
DW7	430250	5972175
DW8	437450	5969700
DW9	435750	5966825
DW10	435675	5967950
DW11	434875	5955175
DW12	435375	5954800
DW13	436400	5955750
DW14	434400	5962600
DW15	445700	5959300
DW16	442800	5959300
DW17	442525	5959500
DW18	428000	5977500
DW19	431000	5980300
DW20	428500	5979500
DW21	430400	5978750
DW22	435100	5976700
DW23	429825	5975400
DW24	429050	5974000
DW25	422000	5976700

APPENDIX V

MICROSCOPE EXAMINATION RESULTS

CRA Exploration Pty. Limited
Incorporated in New South Wales ACN 000 057125
37 Belmont Avenue, Belmont 6104, Western Australia

Telephone (09) 2709 222
Direct (09) 2709 313
FAX (09) 2709 223
Direct FAX (09) 2709 225

MINERAL LABORATORY

MEMO TO: B. Doyle

COPY TO: K. Kivi
H. Lucas

FROM: J. Syms

DATE: 21 February, 1997

Wear on Chromites - DPO 52294

The following comments are my observations concerning the wear on the chromites from the VR samples. Except for a group of six samples that were looked at together, no attempt has been made to compare samples with each other.

You mentioned in your FAX that Kevin will be taking note of the wear features when selecting the grains for probing. As Kevin will be doing this, I don't think it is necessary that I describe them also. Therefore, I will not continue to describe the wear on them unless you would particularly like me to.

Sample Number	Comments
VR63632A	Chromites - Octahedra - some only half an octahedron with chipped vertices, edges rounded. About half of the grains anhedral to irregular (possibly fragments). Surfaces showing some conchoidal fracture, have a rough surface possibly the result of chipping and scratching. Over all some evidence of fracturing, abrasion and chipping can be seen but they look like they have been smoothed off since the wear occurred. Some fractured edges still fresh and sharp.

[redacted]
Joyce Syms
Senior Mineralogist

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

Date: Jan 29, 1997
File: 38684-D
Client : MONTELLO RESOURCES

SUMMARY OF POTENTIAL INDICATORS PICKED

Sample	Garnet	CPX	Ilmenite	Chromite	Olivine	Diamond	Total Grains	Remarks
96-EQ-01	36	0	18	149	6	1	210	diamond?
96-EQ-02	57	0	38	289	22	1	407	diamond?
96-EQ-03	11	1	33	156	20	0	221	
96-EQ-05	126	4	92	227	54	0	503	
96-EQ-06	26	3	27	118	44	0	218	
96-EQ-07	7	0	9	13	18	0	47	
96-EQ-08	13	1	16	15	38	0	83	
96-EQ-09	12	4	47	137	32	0	232	
96-EQ-010	12	0	22	75	43	1	153	diamond?
96-EQ-011	27	3	10	44	25	0	109	
Totals	327	16	312	1223	302	3	2183	

CPX = Clinopyroxene

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

Date: Jan 29, 1997
File: 38684-D
Client : MONTELLO RESOURCES

SUMMARY OF POTENTIAL INDICATORS PICKED

Sample	Garnet	CPX	Chromite	Ilmenite	Olivine	Diamond	Remarks
96-EG-12	10	0	36	26	70	1	diamond?
96-EQ-13	0	0	28	23	23		
96-EQ-14	2	0	24	35	52		
96-EQ-15	0	1	0	3	43		
96-EQ-16	0	0	56	23	35		
96-EQ-17	0	0	5	3	36		
96-EQ-18	1	1	8	2	50		
96-EQ-19	5	0	11	3	31		
96-EQ-21	11	1	7	4	25		
96-EQ-04	3	0	9	0	4		
96-EQ-20	7	1	5	3	63		

CRA Exploration Pty. Limited
Incorporated in New South Wales ACN 000 057125
37 Belmont Avenue, Belmont 6104, Western Australia

Telephone (09) 2709 222
Direct (09) 2709 313
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Direct FAX (09) 2709 225

MINERAL LABORATORY

TO	Kennecott Canada Inc. #354-200 Granville Street, Vancouver, B.C.	**FROM**	CRA Exploration 37 Belmont Avenue Belmont Perth Western Australia 6104
ATTENTION	Buddy Doyle	**CONTACT**	Hans Lucas
PHONE	0011 1 604 669 1880	PHONE	09 270 9313
FAX NO	**0015 1 604 669 5255**	**FAX NO**	**09 270 9225**

Date: 29 April, 1997 **STRICTLY CONFIDENTIAL**

SUBJECT: CANADA WEEKLY REPORT

Dear Buddy,

Enclosed is the report for week 16.

Yours sincerely

[redacted]

B. Smith per
Hans Lucas
Principal Mineralogist.

INDICATOR MINERAL LABORATORY WEEKLY REPORT

CANADA

WEEK NO

DISTRIBUTION LIST : B. DOYLE

FROM : H. LUCAS

REPORT TYPE: (1) INDICATOR MINERAL RESULTS
(2) OTHER MINERALS

LEGEND

SAMPLE TYPE

G	- Drainage
L	- Loam
R	- Rock
JE	- Jig Eye
HMC	- Panned Concentrate
AU	- Auger Drill
RT	- Rotary Drill
D	- Diamond Drill
MS	- Mineral sands

OTHER MINERALS ABUNDANCE

P - Prevalent + 50%
A - Abundant 20-50%
C - Common 10-20%
S - Some 3-10%
O - Often 1-3%
F - Few 0.1-1%
R - Rare 2-10 grains
T - Trace 1 grain

CRA REPORT

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 28-APR-97 TO 2-MAY-97

**STATE : OS **
RUN ON : 6-MAY-1997 09:45:35

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSIO	--WEIGHTS--- RECD	OBS		RESULTS			
52298	60520	CANADA	BR96058	G	0.25	9.4	0.002	*CHROMITE	57 x +0.25			
								WEAR	: FRESH			
								SHAPE	: ANHEDRAL	SUBHEDRAL		
									: EUHEDRAL			
								SURFACE	: FROSTED	PITTED		
									: SMOOTH			
								LUSTRE	: SHINY	MATTE		
								TEXTURE	: VITREOUS/COMPACT			
								STREAK	: BROWN			
52298	60520	CANADA	BR96065	G	0.25	8.6	0.004	*CHROMITE	2 x +0.4 7 x +0.25			
								WEAR	: FRESH WORN	FRESH		
								SHAPE	: SUBHEDRAL	EUHEDRAL		
								SURFACE	: FROSTED			
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT		
								STREAK	: BROWN			

CRA REPORT

OTHER MINERALS

**STATE : OS **
PERIOD 28-APR-97 TO 2-MAY-97

**STATE : OS **
RUN ON : 6-MAY-1997 09:48:36

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96058	G	KI	F :ANATASE	C :ANDALUSITE	O :BARITE
						R :CORUNDUM	F :EPIDOTE	F :GARNET
						F :HEMATITE	F :ILMENITE	C :LEUCOXENE
						O :LIMONITE	F :MUSCOVITE	R :PYRITE
						F :RUTILE	F :SPHENE	F :STAUROLITE
						F :TOPAZ	O :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	F :SOIL PHOSPHATES	F :CHROMITE
52298	60520	CANADA	BR96065	G	KI	F :AMPHIBOLE	F :ANATASE	C :ANDALUSITE
						O :BARITE	O :CORUNDUM	F :EPIDOTE
						F :GARNET	O :HEMATITE	F :ILMENITE
						R :KYANITE	C :LEUCOXENE	O :LIMONITE
						R :MUSCOVITE	R :PYRITE	R :RUTILE
						F :SPHENE	F :STAUROLITE	F :TOURMALINE
						R :ZIRCON	A :ROCK FRAGMENTS	O :Soil Phosphate
						R :WAD	R :CHROMITE	R :SPHALERITE

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 5-MAY-97 TO 9-MAY-97

**STATE : OS **
RUN ON : 12-MAY-1997 15:27:29

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS			
52298	60520	CANADA	BR96054	G	0.25	9.2	0.002	*CHROMITE		1 x +0.4 ~100 x +0.25	
								WEAR	: FRESH WORN		
								SHAPE	: SUBHEDRAL		EUHEDRAL
								SURFACE	: FROSTED		
								LUSTRE	: MATTE		
								TEXTURE	: WITH RIM		VITREOUS/COMPACT
								STREAK	: NOT STREAKABLE		
50 chromite picked out then estimated.											
52298	60520	CANADA	BR96057	G	0.25	8.6	0.013	*CHROMITE		3 x +0.25	
								WEAR	: FRESH WORN		
								SHAPE	: SUBHEDRAL		
								SURFACE	: FROSTED		ROUGH
								LUSTRE	: MATTE		
								TEXTURE	: WITH RIM		VITREOUS/COMPACT
0.25 (wt 4.3g) sent for Micro Fusion.(Non Mag Fraction.)											
52298	60520	CANADA	BR96060	G	0.25	8.8	0.003	*CHROMITE		3 x +0.4 73 x +0.25	
								WEAR	: FRESH WORN		FRESH
								SHAPE	: ANHEDRAL : EUHEDRAL		SUBHEDRAL
								SURFACE	: FROSTED		PITTED
								LUSTRE	: SHINY : VITREOUS		MATTE
								STREAK	: BROWN		

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 5-MAY-97 TO 9-MAY-97

**STATE : OS **
RUN ON : 12-MAY-1997 15:27:29

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS		
52298	60520	CANADA	BR96067	G	0.25	11.7	0.002	*PYROPE	1 x +0.4 2 x +0.25	G9,4 - GARNET GROUP
								COLOUR COLOUR	: PINK : ORANGE	PURPLE
								*CHROMITE	5 x +0.4 93 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: BEVELED EDGES : EUHEDRAL	SUBHEDRAL
								SURFACE	: ROUGH : SMOOTH	PITTED
								LUSTRE	: MATTE	
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT
								STREAK	: BROWN	
52298	60520	CANADA	BR96070	G	0.25	6.8	0.000	*CHROMITE	1 x +0.4 23 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: ANHEDRAL	SUBHEDRAL
								SURFACE	: PITTED	SMOOTH
								LUSTRE	: SHINY : SATIN SHEEN	MATTE
								TEXTURE	: VITREOUS/COMPACT	

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 5-MAY-97 TO 9-MAY-97

**STATE : OS **
RUN ON : 12-MAY-1997 15:27:29

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS		RESULTS	
52298	60520	CANADA	BR96073	G	0.25	9.3	0.005	*CHROMITE	16 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: ANHEDRAL	SUBHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
52298	60520	CANADA	BR96075	G	0.25	9.8	0.001	*CHROMITE	100 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	EUHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	

Mica = fuchsite.

OTHER MINERALS

**STATE : OS **
PERIOD 5-MAY-97 TO 9-MAY-97

**STATE : OS **
RUN ON : 12-MAY-1997 15:17:48

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* Indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96054	G	KI	R :ANATASE	R :ANDALUSITE	F :EPIDOTE
						F :ILMENITE	F :LEUCOXENE	R :RUTILE
						F :SPHENE	R :SULPHIDES	O :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	F :SOIL PHOSPHATES

50 chromite picked out then estimated.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS		
52298	60520	CANADA	BR96057	G	KI	R :ANATASE	R :EPIDOTE	R :GARNET
						F :HEMATITE	R :ILMENITE	R :KYANITE
						A :LEUCOXENE	C :LIMONITE	R :PYRITE
						R :SPHENE	F :TOURMALINE	R :ZIRCON
						P :ROCK FRAGMENTS	F :SOIL PHOSPHATES	R :CHROMITE
						R :CHLOROTOID		

0.25 (wt 4.3g) sent for Micro Fusion. (Non Mag Fraction.)

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS		
52298	60520	CANADA	BR96060	G	KI	F :ANATASE	C :ANDALUSITE	R :CORUNDUM
						O :EPIDOTE	F :GARNET	S :HEMATITE
						S :ILMENITE	F :KYANITE	G :LEUCOXENE
						F :LIMONITE	R :PYRITE	F :RUTILE
						F :SPHENE	F :STAUROLITE	F :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	S :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	R :SPHALERITE
52298	60520	CANADA	BR96067	G	KI	F :AMPHIBOLE	F :ANATASE	F :CORUNDUM
						F :EPIDOTE	O :GARNET	F :HEMATITE
						O :ILMENITE	F :KYANITE	C :LEUCOXENE
						F :LIMONITE	R :MONAZITE	O :MUSCOVITE
						T :ORTHOPYROXENE	F :RUTILE	F :SILLIMANITE
						F :STAUROLITE	F :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	F :SOIL PHOSPHATES	F :CHROMITE
						F :CHLOROTOID		
52298	60520	CANADA	BR96070	G	KI	F :EPIDOTE	F :GARNET	R :ILMENITE
						R :LEUCOXENE	P :ROCK FRAGMENTS	T :FLUORENCITE
						F :CHROMITE	F :CHLOROTOID	

OTHER MINERALS

**STATE : OS **
PERIOD 5-MAY-97 TO 9-MAY-97

**STATE : OS **
RUN ON : 12-MAY-1997 15:17:48

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* Indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96073	G	KI	T :CLINOPYROXENE	R :CORUNDUM	F :EPIDOTE
						O :GARNET	F :ILMENITE	F :LEUCOXENE
						C :LIMONITE	R :PYRITE	F :RUTILE
						F :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	R :CHLOROTOID	R :SPHALERITE
						R :ALLANITE	F :DRAVITE	
52298	60520	CANADA	BR96075	G	KI	F :EPIDOTE	F :GARNET	F :ILMENITE
						F :LEUCOXENE	R :MICA	R :SILLIMANITE
						F :SPHENE	R :SULPHIDES	O :TOURMALINE
						R :ZIRCON	P :ROCK FRAGMENTS	F :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	

Mica - fuchsite.

OTHER MINERALS

**STATE : OS **
PERIOD 12-MAY-97 TO 16-MAY-97

**STATE : OS **
RUN ON : 16-MAY-1997 16:06:15

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96059	G	KI	F :ANATASE	F :ANDALUSITE	R :CORUNDUM
						O :EPIDOTE	F :GARNET	F :HEMATITE
						F :ILMENITE	F :KYANITE	S :LEUCOXENE
						S :LIMONITE	R :MONAZITE	O :MUSCOVITE
						R :PYRITE	F :RUTILE	F :SPHENE
						R :STAUROLITE	O :TOURMALINE	O :ZIRCON
						F :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
						F :ALLANITE		

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 26-MAY-97 TO 30-MAY-97

**STATE : OS **
RUN ON : 30-MAY-1997 15:09:14

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS			
52298	60520	CANADA	BR96068	G	0.25	9.7	0.002	*CHROMITE	4 x +0.4 #450 x +0.25		
								WEAR	: FRESH WORN	FRESH	
								SHAPE	: ROUND : EUHEDRAL	ANHEDRAL	
								SURFACE	: FROSTED : SMOOTH	PITTED	
								LUSTRE	: SHINY : SATIN SHEEN	MATTE	
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT	
								STREAK	: BROWN		
Chromites estimated from 1/3 of 0.25 Mag fraction.											
52298	60520	CANADA	BR96076	G	0.25	8.7	0.001	*CHROMITE	32 x +0.25		
								WEAR	: FRESH WORN	FRESH	
								SHAPE	: ANHEDRAL : EUHEDRAL	SUBHEDRAL	
								SURFACE	: FROSTED : SMOOTH	PITTED	
								LUSTRE	: SHINY	MATTE	
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT	
52298	60520	CANADA	BR96079	G	0.25	3.4	0.001	*CHROMITE	6 x +0.25		
								WEAR	: FRESH WORN		
								SHAPE	: SUBHEDRAL		
								SURFACE	: FROSTED		
								LUSTRE	: MATTE		
								TEXTURE	: VITREOUS/COMPACT		
								STREAK	: NOT STREAKABLE		

NB
* This sample not mentioned on DPO. *

OTHER MINERALS

**STATE : OS **
PERIOD 26-MAY-97 TO 30-MAY-97

**STATE : OS **
RUN ON : 30-MAY-1997 15:17:50

OPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS	(* indicates Rare Mineral not in Database)	
52298	60520	CANADA	BR96079	G	KI	F :EPIDOTE	F :GARNET	F :LEUCOXENE
						F :LIMONITE	R :PYRITE	R :RUTILE
						P :ROCK FRAGMENTS	R :CHROMITE	F :CHLOROTOID

This sample not mentioned on OPO.

OPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS		
52298	60520	CANADA	BR96068	G	KI	O :ANATASE	F :ANDALUSITE	F :CORUNDUM
						R :EPIDOTE	F :GARNET	F :HEMATITE
						S :ILMENITE	F :KYANITE	A :LEUCOXENE
						F :LIMONITE	F :MUSCOVITE	F :RUTILE
						R :SPHENE	R :SPINEL	F :STAUROLITE
						F :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS
						S :SOIL PHOSPHATES	F :CHROMITE	F :CHLOROTOID

Chromites estimated from 1/3 of 0.25 Mag fraction.

OPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS		
52298	60520	CANADA	BR96076	G	KI	F :AMPHIBOLE	R :ANATASE	R :CORUNDUM
						F :EPIDOTE	F :GARNET	F :ILMENITE
						F :KYANITE	O :LEUCOXENE	F :LIMONITE
						R :RUTILE	R :SPHENE	R :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE
						O :CHLOROTOID	F :ALLANITE	

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 16-JUN-97 TO 20-JUN-97

**STATE : OS **
RUN ON : 23-JUN-1997 11:38:12

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS	
52298	60520	CANADA	BR96045	G	0.25	10.7	0.001	*CHROMITE	14 x +0.25

WEAR	:	FRESH WORN	
SHAPE	:	ANHEDRAL	SUBHEDRAL
SURFACE	:	FROSTED	SMOOTH
LUSTRE	:	SHINY	MATTE
TEXTURE	:	VITREOUS/COMPACT	

Non mag processed thru' microfusion.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS	
52298	60520	CANADA	BR96052	G	0.25	10.8	0.000	*CHRCMITE	15 x +0.25

WEAR	:	FRESE WORN	
SHAPE	:	ANHEDRAL	SUBHEDRAL
	:	EUHEDRAL	
SURFACE	:	FROSTED	SMOOTH
LUSTRE	:	SHINY	MATTZ
TEXTURE	:	VITREOUS/COMPACT	

Non mag processed thru' microfusion.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS	
52298	60520	CANADA	BR96053	G	0.25	9.3	0.004	*CHRCMITE	2 x +0[illegible] 60 x +0.25

WEAR	:	FRESE WORN
SHAPE	:	SUBHLDRAL
SURFACE	:	FROSTED
LUSTRE	:	MATTE
TEXTURE	:	VITREOUS/COMPACT
STREAK	:	NOT STREAKABLE

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS	
52298	60520	CANADA	BR96056	G	0.25	9.3	0.002	*CHRCMITE	86 x +0.25

WEAR	:	FRESH WORN	FRESH
SHAPE	:	ANHEDRAL	EUHEDRAL
SURFACE	:	FROSTED	PITTED
	:	SMOOTH	
LUSTRE	:	MATTE	VITREOUS
TEXTURE	:	WITH SKIN	VITREOUS/COMPACT

Non Mag sent for Micro Fusion.

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 16-JUN-97 TO 20-JUN-97

**STATE : OS **
RUN ON : 23-JUN-1997 11:38:12

						--WEIGHTS---		
DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS
52298	60520	CANADA	BR96062	G	0.25	11.8	0.001	*CHROMITE 49 x +0.25

WEAR	: FRESH	FRESH WORN
SHAPE	: EUHEDRAL	ANHEDRAL
SURFACE	: SMOOTH	PITTED
	: FROSTED	
LUSTRE	: GLOSSY	MATTE
TEXTURE	: VITREOUS/COMPACT	WITH RIM
STREAK	: BROWN	

Non mag sent for Micro fusion.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS
52298	60520	CANADA	BR96066	G	0.25	8.6	0.000	*CHROMITE 19 x +0.25

WEAR	: FRESH WORN	FRESH
SHAPE	: ANHEDRAL	EUHEDRAL
SURFACE	: FROSTED	PITTED
	: SMOOTH	
LUSTRE	: MATTE	
TEXTURE	: VITREOUS/COMPACT	

Non Mag sent for Micro fusion.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS
52298	60520	CANADA	BR96072	G	0.25	11.1	0.000	*CHROMITE 19 x +0.25

WEAR	: FRESH WORN	
SHAPE	: SUBHEDRAL	EUHEDRAL
SURFACE	: FROSTED	SMOOTH
LUSTRE	: SHINY	MATTE
TEXTURE	: VITREOUS/COMPACT	

Non mag processed thru' microfusion.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS
52298	60520	CANADA	BR96074	G	0.25	10.2	0.001	*CHROMITE 36 x +0.25

WEAR	: FRESH WORN	
SHAPE	: ANHEDRAL	SUBHEDRAL
SURFACE	: FROSTED	SMOOTH
LUSTRE	: SHINY	MATTE
TEXTURE	: WITH SKIN	VITREOUS/COMPACT

Non mag processed thru' microfusion.

OTHER MINERALS

**STATE : OS **
PERIOD 16-JUN-97 TO 20-JUN-97

**STATE : OS **
RUN ON : 23-JUN-1997 11:58:04

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96045	G	KI	F :AMPHIBOLE	R :CLINOPYROXENE	F :EPIDOTE
						O :GARNET	R :ILMENITE	O :LEUCOXENE
						C :LIMONITE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	F :ALLANITE
Non mag processed thru' microfusion.								
52298	60520	CANADA	BR96052	G	KI	O :EPIDOTE	F :GARNET	R :ILMENITE
						O :LEUCOXENE	F :LIMONITE	F :RUTILE
						R :STAUROLITE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	F :ALLANITE
Non mag processed thru' microfusion.								
52298	60520	CANADA	BR96053	G	KI	O :EPIDOTE	F :KYANITE	F :LEUCOXENE
						O :LIMONITE	R :RUTILE	R :SILLIMANITE
						R :SPHENE	R :STAUROLITE	F :TOURMALINE
						R :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE
						F :ALLANITE		
52298	60520	CANADA	BR96056	G	KI	F :AMPHIBOLE	F :ANATASE	F :ANDALUSITE
						F :BARITE	F :CORUNDUM	O :EPIDOTE
						O :GARNET	O :HEMATITE	O :ILMENITE
						F :KYANITE	C :LEUCOXENE	F :LIMONITE
						F :MUSCOVITE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	F :SOIL PHOSPHATES	F :CHROMITE
						F :CHLOROTOID	R :SPHALERITE	F :ALLANITE
Non Mag sent for Micro Fusion.								
52298	60520	CANADA	BR96062	G	KI	F :ANATASE	F :ANDALUSITE	F :CLINOZOISITE
						R :CORUNDUM	O :EPIDOTE	F :GARNET
						F :HEMATITE	F :ILMENITE	R :KYANITE
						F :LEUCOXENE	F :LIMONITE	R :MONAZITE
						R :PYRITE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
						R :GAHNITE	F :ALLANITE	
Non mag sent for Micro Fusion.								

OTHER MINERALS

**STATE : OS **
PERIOD 16-JUN-97 TO 20-JUN-97

**STATE : OS **
RUN ON : 23-JUN-1997 11:58:04

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96066	G	KI	F :AMPHIBOLE	F :ANATASE	O :ANDALUSITE
						F :BARITE	F :CORUNDUM	S :EPIDOTE
						O :GARNET	F :HEMATITE	F :ILMENITE
						F :KYANITE	C :LEUCOXENE	O :LIMONITE
						F :MONAZITE	F :MUSCOVITE	F :RUTILE
						F :SPHENE	F :STAUROLITE	O :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	O :SOIL PHOSPHATES
						F :CHROMITE	R :CHLOROTOID	R :ALLANITE
Non Mag sent for Micro fusion.								
52298	60520	CANADA	BR96072	G	KI	R :CLINOPYROXENE	F :EPIDOTE	O :GARNET
						R :HEMATITE	R :ILMENITE	F :LEUCOXENE
						O :LIMONITE	P :ROCK FRAGMENTS	F :CHROMITE
						F :CHLOROTOID	F :ALLANITE	
Non mag processed thru' microfusion.								
52298	60520	CANADA	BR96074	G	KI	F :EPIDOTE	F :GARNET	* T :GOLD
						R :ILMENITE	F :LIMONITE	F :PYRITE
						F :SPHENE	R :STAUROLITE	R :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	R :CHLOROTOID
						F :ALLANITE		
Non mag processed thru' microfusion. * Flake of gold.								

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 30-JUN-97 TO 4-JUL-97

**STATE : OS **
RUN ON : 4-JUL-1997 15:10:14

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS		RESULTS
52298	60520	CANADA	BR96047	G	0.25	12.1	0.004	*CHROMITE	6 x +0.4 170 x +0.25

WEAR	: FRESH WORN	
SHAPE	: SUBHEDRAL	EUHEDRAL
SURFACE	: FROSTED	SMOOTH
LUSTRE	: SHINY	MATTE
TEXTURE	: WITH SKIN	VITREOUS/COMPACT

Chromite nos. estimated.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS		RESULTS
52298	60520	CANADA	BR96044	G	0.25	9.6	0.001	*CHROMITE	1 x +0.4 30 x +0.25

WEAR	: FRESH WORN	FRESH
SHAPE	: SUBHEDRAL	EUHEDRAL
SURFACE	: FROSTED	SMOOTH
LUSTRE	: SHINY	MATTE
TEXTURE	: WITH SKIN	VITREOUS/COMPACT

OTHER MINERALS

**STATE : OS **
PERIOD 30-JUN-97 TO 4-JUL-97

**STATE : OS **
RUN ON : 4-JUL-1997 15:21:28

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS	(* indicates Rare Mineral not in Database)	
52298	60520	CANADA	BR96047	G	KI	F :EPIDOTE F :KYANITE R :ORTHOPYROXENE F :ZIRCON O :CHLOROTOID	S :GARNET F :LEUCOXENE F :RUTILE P :ROCK FRAGMENTS	C :ILMENITE F :LIMONITE F :STAUROLITE O :CHROMITE
Chromite nos. estimated.								
52298	60523	CANADA	BR96044	G	KI	F :AMPHIBOLE F :GARNET O :LIMONITE R :ZIRCON O :CHLOROTOID	R :CLINOPYROXENE F :ILMENITE R :RUTILE P :ROCK FRAGMENTS F :ALLANITE	F :EPIDOTE F :LEUCOXENE F :STAUROLITE F :CHROMITE

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 23-JUN-97 TO 27-JUN-97

**STATE : OS **
RUN ON : 30-JUN-1997 15:22:40

DPO	COST CODE	AREA	SAMPLE NO	TYPE	CBSTO	--WEIGHTS--- RECD	CBS	RESULTS		
52298	60520	CANADA	BR96046	G	0.25	10.4	0.001	*CHROMITE	15 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: MATTE	
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT
52298	60520	CANADA	BR96048	G	0.25	10.5	0.001	*CHROMITE	61 x +0.25	
								WEAR	: FRESH	
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: MATTE	SATIN SHEEN
								TEXTURE	: WITH RIM	VITREOUS/COMPACT
								STREAK	: BROWN	
								*PYROPE	1 x +0.25	G9 - GARNET GROUP
								COLOUR	: PURPLE	
Non mag sent for micro fusion.										
52298	60520	CANADA	BR96049	G	0.25	10.6	0.003	*CHROMITE	22 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
								*PYROPE	1 x +0.25	9 - GARNET GROUP
								COLOUR	: MAUVE	

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 23-JUN-97 TO 27-JUN-97

**STATE : OS **
RUN ON : 30-JUN-1997 15:22:40

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS		
52298	60520	CANADA	BR96050	G	0.25	11.6	0.002	*CHROMITE	20 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
52298	60520	CANADA	BR96051	G	0.25	10.1	0.001	*CHROMITE	2 x +0.4 53 x +0.25	
								WEAR	: FRESH	
								SHAPE	: ANHEDRAL : EUHEDRAL	SUBHEDRAL
								SURFACE	: FROSTED : SMOOTH	PITTED
								LUSTRE	: MATTE	VITREOUS
								TEXTURE	: WITH RIM	VITREOUS/COMPACT
								STREAK	: BROWN	
								*PYROPE	1 x +0.25	G9 - GARNET GROUP
								COLOUR	: PURPLE	
Non mag sent for micro fusion.										
52298	60520	CANADA	BR96055	G	0.25	9.3	0.001	*CHROMITE	26 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	

CRA REPORT

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 23-JUN-97 TO 27-JUN-97

**STATE : OS **
RUN ON : 30-JUN-1997 15:22:40

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS	
52298	60520	CANADA	BR96063	G	0.25	10.3	0.001	*CHROMITE	6 x +0.25

WEAR : FRESH WORN
SHAPE : ANHEDRAL SUBHEDRAL
SURFACE : PITTED
LUSTRE : MATTE
TEXTURE : VITREOUS/COMPACT

One ilmenite grain from the 0.25mm contains 5% MgO and 0% Cr.

52298	60520	CANADA	BR96064	G	0.25	10.4	0.001	*CHROMITE	3 x +0.25

WEAR : FRESH WORN
SHAPE : ANHEDRAL SUBHEDRAL
SURFACE : PITTED
LUSTRE : MATTE
TEXTURE : VITREOUS/COMPACT

52298	60520	CANADA	BR96061	G	0.25	10.0	0.003	*CHROMITE	23 x +0.25

WEAR : FRESH WORN
SHAPE : SUBHEDRAL
SURFACE : PITTED
LUSTRE : MATTE
TEXTURE : GRANULAR
STREAK : NOT STREAKABLE

OTHER MINERALS

**STATE : OS **　　　**STATE : OS **
PERIOD 23-JUN-97 TO 27-JUN-97　　　RUN ON : 30-JUN-1997 15:43:03

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96061	G	KI	R :ALMANDINE	F :AMPHIBOLE	F :BARITE
						O :EPIDOTE	R :GARNET	F :HEMATITE
						R :ILMENITE	F :LEUCOXENE	F :MUSCOVITE
						T :PYRITE	R :RUTILE	R :STAUROLITE
						R :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE R: ORTHOPYROXENE
52298	60520	CANADA	BR96046	G	KI	F :CORUNDUM	F :EPIDOTE	F :GARNET
						F :ILMENITE	F :LEUCOXENE	O :LIMONITE
						F :PYRITE	R :STAUROLITE	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	
52298	60520	CANADA	BR96048	G	KI	F :AMPHIBOLE	F :ANATASE	R :CLINOZOISITE
						R :CORUNDUM	F :EPIDOTE	F :GARNET
						F :HEMATITE	F :ILMENITE	R :KYANITE
						O :LEUCOXENE	F :LIMONITE	R :MONAZITE
						F :MUSCOVITE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	F :SOIL PHOSPHATES	F :CHROMITE
						R :CHLOROTOID	R :ALLANITE	
Non mag sent for micro fusion.								
52298	60520	CANADA	BR96049	G	KI	C :AMPHIBOLE	F :EPIDOTE	F :GARNET
						F :LIMONITE	O :MICA	F :STAUROLITE
						F :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE
						F :CHLOROTOID		
52298	60520	CANADA	BR96050	G	KI	F :BARITE	F :EPIDOTE	F :GARNET
						F :LEUCOXENE	F :LIMONITE	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	
52298	60520	CANADA	BR96051	G	KI	F :AMPHIBOLE	F :ANATASE	F :ANDALUSITE
						R :CORUNDUM	F :EPIDOTE	F :GARNET
						F :HEMATITE	F :ILMENITE	F :KYANITE
						C :LEUCOXENE	F :LIMONITE	R :MONAZITE
						F :RUTILE	F :SPHENE	F :STAUROLITE
						F :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS
						F :SOIL PHOSPHATES	F :CHROMITE	R :CHLOROTOID
						R :ALLANITE		
Non mag sent for micro fusion.								

CRA REPORT

PAGE : 8

OTHER MINERALS

**STATE : OS **
PERIOD 23-JUN-97 TO 27-JUN-97

**STATE : OS **
RUN ON : 30-JUN-1997 15:43:33

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96055	G	KI	F :AMPHIBOLE	F :EPIDOTE	F :GARNET
						F :KYANITE	F :LEUCOXENE	F :LIMONITE
						F :MICA	T :PYRITE	F :RUTILE
						F :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE		
52298	60520	CANADA	BR96063	G	KI	R :CLINOZOISITE	F :EPIDOTE	F :GARNET
						R :ILMENITE	R :KYANITE	F :LEUCOXENE
						R :RUTILE	R :STAUROLITE	R :TOURMALINE
						R :ZIRCON	P :ROCK FRAGMENTS	R :XENOTIME
						R :CHROMITE		
One ilmenite grain from the 0.25mm contains 5% MgO and 0% Cr.								
52298	60520	CANADA	BR96064	G	KI	F :EPIDOTE	F :GARNET	R :ILMENITE
						R :KYANITE	R :LEUCOXENE	T :RUTILE
						R :TOURMALINE	P :ROCK FRAGMENTS	R :CHROMITE
						R :CHLOROTOID		

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 21-APR-97 TO 25-APR-97

**STATE : OS **
RUN ON : 28-APR-1997 10:50:47

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS	
52298	60520	CANADA	BR96069	G	0.25	9.1	0.000	*CHROMITE	3 x +0.25

WEAR : FRESH WORN
SHAPE : EUHEDRAL
SURFACE : FROSTED
LUSTRE : SHINY
TEXTURE : WITH SKIN VITREOUS/COMPACT

OTHER MINERALS

**STATE : OS **
PERIOD 21-APR-97 TO 25-APR-97

**STATE : OS **
RUN ON : 28-APR-1997 11:01:26

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52298	60520	CANADA	BR96069	G	KI	O :ANATASE	F :CORUNDUM	F :EPIDOTE
						F :GARNET	F :HEMATITE	F :ILMENITE
						C :LEUCOXENE	F :LIMONITE	C :MUSCOVITE
						F :RUTILE	O :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	F :SOIL PHOSPHATES	R :CHLORGTOID

CRA REPORT

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 26-MAY-97 TO 30-MAY-97

**STATE : OS **
RUN ON : 30-MAY-1997 15:09:14

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS		
52294	60-511-3	CANADA	VR63652	G	0.25	17.3	0.004	*CHROMITE	88 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	PITTED
									: SMOOTH	
								LUSTRE	: SHINY	MATTE
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT

2 grains gold - flakey.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS		
52294	60-511-3	CANADA	VR63634	G	0.25	18.0	0.004	*PYROPE	1 x +0.25	3 - GARNET GROUP
								COLOUR	: ORANGE PINK	
								*CHROMITE	69 x -0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: SUBHEDRAL	EUHEDRAL
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: MATTE	
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT

Non mag processed thru microfusion.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS		
52294	60-511-3	CANADA	[redacted] VR63632A	G	0.25	0.0	0.001	*CHROMITE	51 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: SUBHEDRAL	
								SURFACE	: FROSTED	

OTHER MINERALS

**STATE : OS **
PERIOD 26-MAY-97 TO 30-MAY-97

**STATE : OS **
RUN ON : 30-MAY-1997 15:17:50

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63634	G	KI	R :CLINOPYROXENE	F :EPIDOTE	S :GARNET
						S :ILMENITE	F :KYANITE	F :LEUCOXENE
						F :LIMONITE	R :ORTHOPYROXENE	F :RUTILE
						F :SPHENE	F :STAUROLITE	F :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	O :CHLOROTOID
						F :ALLANITE		
Non mag processed thru microfusion.								
52294	60-511-3	CANADA	VR63652	G	KI	R :ANATASE	R :CLINOPYROXENE	F :EPIDOTE
						S :GARNET	R :GOLD	O :ILMENITE
						F :KYANITE	O :LEUCOXENE	F :MICA
						T :ORTHOPYROXENE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	O :CHLOROTOID	F :ALLANITE
2 grains gold - flakey.								
52294	60-511-3	CANADA	VR63632A	G	KI	F :ANATASE	R :BARITE	R :EPIDOTE
						O :GARNET	F :ILMENITE	R :KYANITE
						O :LEUCOXENE	F :LIMONITE	T :PYRITE
						R :RUTILE	R :SPHENE	F :STAUROLITE
						T :TOURMALINE	R :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	O :CHLOROTOID	

SRC
technology is our business

Saskatchewan Research Council
15 Innovation Blvd.
Saskatoon. SK Canada S7N 2X8
Ph: 306-933-5400 Fax: 306-933-7896
Internet: http://www.src.sk.ca

OCTOBER 1,1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 01**

KG OF SAMPLE FUSED: 0.55 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

:echnology is our business

Saskatchewan Research Council
15 Innovation Blvd.
Saskatoon. SK Canada S7N 2X8
Ph: 306-933-5400 Fax: 306-933-7896
Internet: http://www.src.sk.ca

OCTOBER 1,1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 02**

KG OF SAMPLE FUSED: 1.60 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

technology is our business

Saskatchewan Research Council
15 Innovation Blvd.
Saskatoon. SK Canada S7N 2X8
Ph: 306-933-5400 Fax: 306-933-7896
Internet: http:.. www.src.sk.ca

OCTOBER 1,1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 03**

KG OF SAMPLE FUSED: 0.60 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Saskatoon. SK Canada S7N 2X8
Ph: 306-933-5400 Fax: 306-933-7896
Internet: http://www.src.sk.ca

OCTOBER 4, 1996

TO: PATRICK POWERS
MONTELLO RESOURCES LTD

FROM: AL HOLSTEN
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: RESULTS FOR SAMPLE, 96 - DW - 04

KG OF SAMPLE FUSED: 1.35 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Internet: http://www.src.sk.ca

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FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 05**

KG OF SAMPLE FUSED: 0.90 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Internet: http://www.src.sk.ca

OCTOBER 4,1996

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FROM: **AL HOLSTEN**
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SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 06**

KG OF SAMPLE FUSED: 0.40 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 9,1996

TO: **PATRICK POWERS**
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FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 07**

KG OF SAMPLE FUSED: 1.05 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 10,1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 08**

KG OF SAMPLE FUSED: 0.50 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 16, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 09**

KG OF SAMPLE FUSED: 0.65 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 15, 1996

TO: PATRICK POWERS
MONTELLO RESOURCES LTD

FROM: AL HOLSTEN
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: RESULTS FOR SAMPLE, 96 - DW - 10

KG OF SAMPLE FUSED: 1.65 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Ph: 306-933-5400 Fax: 306-933-7896
Internet: http://www.src.sk.ca

OCTOBER 16, 1996

TO: PATRICK POWERS
MONTELLO RESOURCES LTD

FROM: AL HOLSTEN
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: RESULTS FOR SAMPLE, 96 - DW - 11

KG OF SAMPLE FUSED: 1.50 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Internet: http://www.src.sk.ca

OCTOBER 17, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 12**

KG OF SAMPLE FUSED: 1.45 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 17, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 13**

KG OF SAMPLE FUSED: 0.75 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 22, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 14**

KG OF SAMPLE FUSED: 0.80 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 22, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 15**

KG OF SAMPLE FUSED: 1.20 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 22, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 16**

KG OF SAMPLE FUSED: 1.50 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Internet: http://www.src.sk.ca

OCTOBER 22, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 17**

KG OF SAMPLE FUSED: 1.25 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 22, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 18**

KG OF SAMPLE FUSED: 0.85 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 22, 1996

TO: **PATRICK POWERS**
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FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 19**

KG OF SAMPLE FUSED: 0.75 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 22, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 20**

KG OF SAMPLE FUSED: 2.15 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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OCTOBER 22, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 21**

KG OF SAMPLE FUSED: 0.55 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Ph: 306-933-5400 Fax: 306-933-7896
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OCTOBER 29, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 22**

KG OF SAMPLE FUSED: 0.25 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Saskatoon. SK Canada S7N 2X8
Ph: 306-933-5400 Fax: 306-933-7896
Internet: http://www.src.sk.ca

OCTOBER 24, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 23**

KG OF SAMPLE FUSED: 0.65 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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15 Innovation Blvd.
Saskatoon, SK Canada S7N 2X8
Ph: 306-933-5400 Fax: 306-933-7896
Internet: http://www.src.sk.ca

OCTOBER 29, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 24**

KG OF SAMPLE FUSED: 0.95 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

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Saskatchewan Research Council
15 Innovation Blvd.
Saskatoon. SK Canada S7N 2X8
Ph: 306-933-5400 Fax: 306-933-7896
Internet: http://www.src.sk.ca

OCTOBER 29, 1996

TO: **PATRICK POWERS**
MONTELLO RESOURCES LTD

FROM: **AL HOLSTEN**
MANAGER, GEOCHEM
SASK. REASEARCH COUNCIL
PH: (306)933-5426
FAX: (306)933-5656

RE: **RESULTS FOR SAMPLE, 96 - DW - 25**

KG OF SAMPLE FUSED: 1.65 kg. of sample fused

METHOD: Caustic fusion

RESULTS: 0 Microdiamonds

APPENDIX VI

MICROPROBE ANALYSIS RESULTS

Kennecott Canada Exploration Inc.
Mineral Processing Laboratory

Masumeka Troymin -Mineral ID
Anomalous Samples From 6 Graincards Submitted to Thunder Bay

Sample	CHR	ILM	PYR	ECL	UVA	SUM
96EQ01	4					4
96EQ02	11	1				12
96EQ03	7					7
96EQ04	7					7
96EQ05	10					10
96EQ06	1				1?	1
96EQ08	1					1
96EQ09	4					4
96EQ10	7					7
96EQ11	7	1			1	9
96EQ12	3					3
96EQ13	5				1	6
96EQ14	3					3
96EQ15					1?	0
96EQ16	5			2		7
96EQ20	1		1			2
96EQ21	2				1	3

Kennecott Canada Exploration Inc.
Mineral Processing Laboratory

Masumeka Troymin -Mineral ID
Analyses by: R.L. Barnett Geological Consulting Inc. London, Ontario, Processed Using Min-id

Sample	Graintype	Grainno	Min-id Mineral Name	Indicator?
96EQ01	CHR	1	PICRO_CHROMITE	Yes
96EQ01	CHR	2	PICRO_CHROMITE	Yes
96EQ01	CHR	4	PICRO_CHROMITE	Yes
96EQ01	CHR	6	PICRO_CHROMITE	Yes
96EQ02	CHR	2	PICRO_CHROMITE	Yes
96EQ02	CHR	7	PICRO_CHROMITE	Yes
96EQ02	CHR	9	SUB_PICRO_CHROMITE	Yes
96EQ02	CHR	10	PICRO_CHROMITE	Yes
96EQ02	CHR	11	PICRO_CHROMITE	Yes
96EQ02	CHR	12	SUB_PICRO_CHROMITE	Yes
96EQ02	CHR	15	SUB_PICRO_CHROMITE	Yes
96EQ02	CHR	16	PICRO_CHROMITE	Yes
96EQ02	CHR	18	PICRO_CHROMITE	Yes
96EQ02	CHR	20	SUB_PICRO_CHROMITE	Yes
96EQ02	CHR	21	PICRO_CHROMITE	Yes
96EQ02	ILM	14	SUB_PICRO_ILMENITE	Yes
96EQ03	CHR	2	PICRO_CHROMITE	Yes
96EQ03	CHR	3	PICRO_CHROMITE	Yes
96EQ03	CHR	4	SUB_PICRO_CHROMITE	Yes
96EQ03	CHR	7	PICRO_CHROMITE	Yes
96EQ03	CHR	8	PICRO_CHROMITE	Yes
96EQ03	CHR	9	PICRO_CHROMITE	Yes
96EQ03	CHR	10	PICRO_CHROMITE	Yes
96EQ04	CHR	3	PICRO_CHROMITE	Yes
96EQ04	CHR	4	SUB_PICRO_CHROMITE	Yes
96EQ04	CHR	5	PICRO_CHROMITE	Yes
96EQ04	CHR	6	PICRO_CHROMITE	Yes
96EQ04	CHR	7	PICRO_CHROMITE	Yes
96EQ04	CHR	8	PICRO_CHROMITE	Yes
96EQ04	CHR	9	PICRO_CHROMITE	Yes
96EQ05	CHR	8	PICRO_CHROMITE	Yes
96EQ05	CHR	9	PICRO_CHROMITE	Yes
96EQ05	CHR	10	PICRO_CHROMITE	Yes
96EQ05	CHR	12	PICRO_CHROMITE	Yes
96EQ05	CHR	13	PICRO_CHROMITE	Yes
96EQ05	CHR	14	PICRO_CHROMITE	Yes
96EQ05	CHR	17	PICRO_CHROMITE	Yes
96EQ05	CHR	18	PICRO_CHROMITE	Yes
96EQ05	CHR	19	PICRO_CHROMITE	Yes
96EQ05	CHR	21	PICRO_CHROMITE	Yes
96EQ06	CHR	1	PICRO_CHROMITE	Yes
96EQ06	UVA	4	Uvarovite	Maybe
96EQ08	CHR	3	PICRO_CHROMITE	Yes
96EQ09	CHR	3	SUB_PICRO_CHROMITE	Yes
96EQ09	CHR	4	SUB_PICRO_CHROMITE	Yes
96EQ09	CHR	5	PICRO_CHROMITE	Yes
96EQ09	CHR	6	PICRO_CHROMITE	Yes
96EQ10	CHR	3	SUB_PICRO_CHROMITE	Yes

Kennecott Canada Exploration Inc.
Mineral Processing Laboratory

Masumeka Troymin -Mineral ID
Analyses by: R.L. Barnett Geological Consulting Inc, London, Ontario, Processed Using Min-id

Sample	Graintype	Grainno	Min-id Mineral Name	Indicator?
96EQ10	CHR	4	SUB_PICRO_CHROMITE	Yes
96EQ10	CHR	5	SUB_PICRO_CHROMITE	Yes
96EQ10	CHR	6	PICRO_CHROMITE	Yes
96EQ10	CHR	7	PICRO_CHROMITE	Yes
96EQ10	CHR	8	PICRO_CHROMITE	Yes
96EQ10	CHR	9	PICRO_CHROMITE	Yes
96EQ11	CHR	5	PICRO_CHROMITE	Yes
96EQ11	CHR	6	PICRO_CHROMITE	Yes
96EQ11	CHR	7	SUB_PICRO_CHROMITE	Yes
96EQ11	CHR	8	PICRO_CHROMITE	Yes
96EQ11	CHR	9	PICRO_CHROMITE	Yes
96EQ11	CHR	10	SUB_PICRO_CHROMITE	Yes
96EQ11	CHR	12	PICRO_CHROMITE	Yes
96EQ11	ILM	11	SUB_PICRO_ILMENITE	Yes
96EQ11	UVA	4	Uvarovite	Maybe
96EQ12	CHR	3	High Chrome Magnetite	No
96EQ12	CHR	4	PICRO_CHROMITE	Yes
96EQ12	CHR	5	PICRO_CHROMITE	Yes
96EQ13	CHR	4	PICRO_CHROMITE	Yes
96EQ13	CHR	5	PICRO_CHROMITE	Yes
96EQ13	CHR	6	PICRO_CHROMITE	Yes
96EQ13	CHR	8	PICRO_CHROMITE	Yes
96EQ13	CHR	9	PICRO_CHROMITE	Yes
96EQ13	UVA	1	Uvarovite	Maybe
96EQ14	CHR	2	PICRO_CHROMITE	Yes
96EQ14	CHR	3	PICRO_CHROMITE	Yes
96EQ14	CHR	4	PICRO_CHROMITE	Yes
96EQ15	UVA	2	Chrome Uvarovite	Maybe
96EQ16	CHR	4	PICRO_CHROMITE	Yes
96EQ16	CHR	5	PICRO_CHROMITE	Yes
96EQ16	CHR	6	PICRO_CHROMITE	Yes
96EQ16	CHR	7	PICRO_CHROMITE	Yes
96EQ16	CHR	8	PICRO_CHROMITE	Yes
96EQ16	ECL	1	G_03_CALCIC_PYROPE_ALMANDINE_>ONE_S.D.	Yes
96EQ16	ECL	2	G_03_CALCIC_PYROPE_ALMANDINE_>ONE_S.D.	Yes
96EQ20	CHR	2	High Chrome Magnetite	No
96EQ20	CHR	3	PICRO_CHROMITE	Yes
96EQ20	PYR	1	G_09_CHROME_PYROPE	Yes
96EQ21	CHR	1	SUB_PICRO_CHROMITE	Yes
96EQ21	CHR	2	PICRO_CHROMITE	Yes
96EQ21	UVA	3	High Chrome Uvarovite	Maybe

Kennecott Canada Exploration Inc.
Mineral Processing Laboratory

Masumeka Troymin Probe Results

Analyses by: R.L. Barnett Geological Consulting Inc, London, Ontario

SAMPCHAR	GRTYPE	GRAINNO	SIEVE	SIO2	TIO2	AL2O3	CR2O3	FEO	MNO	MGO	CAO	NA2O	NIO	ZNO	SUM
96EQ01	CHR	1	60	0.05	0.23	23.13	43.97	18.7	0.26	12.87			0.02	0.08	99.31
96EQ01	CHR	2	60	0.13	0.34	10.86	54.9	20.15	0.39	13.39			0.18	0.1	100.44
96EQ01	CHR	4	60	0.13	0.11	7.36	62.8	14.59	0.23	14.62			0.13	0.03	100
96EQ01	CHR	6	60	0.06	0.72	24.09	41.13	18.95	0.25	14.15			0.23	0.07	99.65
96EQ02	CHR	2	60	0.09	1.23	19.18	43.94	20.2	0.25	14.62			0.17	0.03	99.71
96EQ02	CHR	7	60	0.16	0.15	11.25	54.15	23.92	0.49	9.29			0.21	0.07	99.69
96EQ02	CHR	9	60	0.1	1.01	31.64	30.79	20.77	0.23	15.37			0.25	0.05	100.21
96EQ02	CHR	10	60	0.04	0.14	24.89	41.71	20.29	0.28	11.46			0.1	0.4	99.31
96EQ02	CHR	11	60	0.03	0.38	12.1	51.44	26.42	0.46	8.04			0.1	0.34	99.31
96EQ02	CHR	12	60	0.11	0.61	24.96	37.2	22.01	0.23	13.85			0.14	0.11	99.22
96EQ02	ILM	14	60	0.05	45.25	0.44	0	48.89	0.49	4.1			0.04	0.06	99.32
96EQ02	CHR	15	60	0.09	0.4	29.68	36.55	15.59	0.21	16.91			0.11	0.03	99.57
96EQ02	CHR	16	60	0.04	0.08	11.77	56.02	23.3	0.42	8.63			0.07	0.2	100.53
96EQ02	CHR	18	60	0.05	0.27	19.08	46.13	24.29	0.35	9.98			0.06	0.06	100.27
96EQ02	CHR	20	60	0.02	0.14	28.55	39.47	16.67	0.26	14.3			0.06	0.13	99.6
96EQ02	CHR	21	60	0.05	0.23	17.87	63.19	15.95	0.3	12.27			0.02	0.2	100.08
96EQ03	CHR	2	60	0.06	0.29	13.38	51.09	24.93	0.4	9.87			0.12	0.14	100.28
96EQ03	CHR	3	60	0.05	0.08	16.24	53.29	18.97	0.35	11.17			0.03	0.2	100.38
96EQ03	CHR	4	60	0.09	0.54	6.57	32.59	45.38	0.34	12.53			0.27	0.05	98.36
96EQ03	CHR	7	60	0.09	3.32	13.06	40.79	31.15	0.28	10.76			0.21	0.16	99.82
96EQ03	CHR	8	60	0.58	0.25	8.94	57.63	17.78	0.23	13.88			0.13	0.04	99.46
96EQ03	CHR	9	60	0.11	1.51	16.05	45.69	23.82	0.25	12.3			0.22	0.11	100.06
96EQ03	CHR	10	60	0.21	0.13	7.13	62.12	18.26	0.37	12.1			0.14	0.07	100.53
96EQ04	CHR	3	60	0.1	0.43	9.22	46.78	27.13	0.31	14.57			0.2	0.07	98.81
96EQ04	CHR	4	60	0.05	0.71	15.95	39.84	33.16	0.29	8.48			0.17	0.32	98.97
96EQ04	CHR	5	60	0.08	1.27	18.98	42.09	26.48	0.31	10.36			0.18	0.15	99.88
96EQ04	CHR	6	60	0.13	0.15	7.71	60.2	17.37	0.3	13.35			0.09	0.03	99.33
96EQ04	CHR	7	60	0.11	1.32	17.6	44.22	24.81	0.27	11.99			0.22	0.13	100.47
96EQ04	CHR	8	60	0.1	1.52	13.87	48.57	23.12	0.31	12.84			0.2	0.1	100.43
96EQ04	CHR	9	60	0.15	0.01	11.85	58.57	13.67	0.23	15.02			0.2	0.05	99.75
96EQ05	CHR	8	60	0.11	0.44	8.28	47.46	29.31	0.31	13.1			0.16	0.01	99.18
96EQ05	CHR	9	60	0.08	0.47	8.11	45.14	34.11	0.38	11.04			0.15	0.07	99.55
96EQ05	CHR	10	60	0.05	0.65	10.8	46.9	31.44	0.52	8.59			0.12	0.24	99.31
96EQ05	CHR	12	60	0.1	1.39	17.53	46.85	19.41	0.19	14.37			0.31	0	100.15
96EQ05	CHR	13	60	0.06	0.26	14.15	49.95	25.68	0.37	8.47			0.04	0.18	99.16
96EQ05	CHR	14	60	0.1	0.87	10.5	48.28	29.06	0.33	10.2			0.03	0.09	99.26
96EQ05	CHR	17	60	0.1	0.44	6.09	54.81	24.49	0.35	12.56			0.15	0.04	99.03

Kennecott Canada Exploration Inc.
Mineral Processing Laboratory

Masumeka Troymin Probe Results

Analyses by: R.L. Barnett Geological Consulting Inc, London, Ontario

SAMPCHAR	GRTYPE	GRAINNO	SIEVE	SIO2	TIO2	AL2O3	CR2O3	FEO	MNO	MGO	CAO	NA2O	NIO	ZNO	SUM
96EQ05	CHR	18	60	0.17	0.14	7.91	61.92	15.11	0.27	14.69			0.13	0.04	100.38
96EQ05	CHR	19	60	0.11	1.43	17.04	44.78	20.71	0.19	14.55			0.21	0	99.02
96EQ05	CHR	21	60	0.12	1.76	15.17	45.25	22.8	0.25	13.42			0.19	0.09	99.05
96EQ06	CHR	1	60	0.08	1.67	19.01	40.51	23.88	0.24	13.9			0.24	0.06	99.59
96EQ06	UVA	4	60	35.23	0.08	0.12	6.98	22.59	0	0.11	34.32				99.41
96EQ08	CHR	3	60	0.08	1.53	17.07	41.91	28.07	0.28	10.13			0.17	0.11	99.35
96EQ09	CHR	3	60	0.03	0.1	29.57	33.66	23.07	0.29	12.39			0.17	0.19	99.47
96EQ09	CHR	4	60	0.05	0.74	17.46	42.81	30.76	0.62	6.41			0.07	0.17	99.09
96EQ09	CHR	5	60	0.1	1.08	18.5	45.52	19.31	0.18	15.01			0.18	0.07	99.95
96EQ09	CHR	6	60	0.09	1.85	15.15	44.74	26.57	0.27	11.45			0.21	0.07	100.4
96EQ10	CHR	3	60	0.09	3.73	12.95	37.75	33.11	0.32	10.94			0.29	0.11	99.29
96EQ10	CHR	4	60	0.06	0.12	11.59	53.8	26.66	0.46	7.32			0.04	0.28	100.33
96EQ10	CHR	5	60	0.11	1.54	22.9	38	23.46	0.23	13.42			0.16	0.03	99.85
96EQ10	CHR	6	60	0.17	0.15	7.71	59.92	19.38	0.54	11.22			0.23	0.1	99.42
96EQ10	CHR	7	60	0.12	1.15	14.02	49.24	22.49	0.29	12.28			0.23	0.1	99.9
96EQ10	CHR	8	60	0.06	0.08	9.32	61.18	18.75	0.41	9.47			0.1	0.16	99.51
96EQ10	CHR	9	60	0.06	0.25	20.52	47.14	19.37	0.37	11.95			0.06	0.11	99.83
96EQ11	UVA	4	60	36.67	0.04	0.28	8.86	20.39	0.05	0.06	33.58				99.93
96EQ11	CHR	5	60	0.07	0.11	10.28	58.91	21.16	0.41	8.81			0.06	0.25	100.06
96EQ11	CHR	6	60	0.04	0.14	21.38	45.3	20.05	0.3	12.65			0.09	0.1	100.05
96EQ11	CHR	7	60	0.1	1.99	26.19	30.76	27.87	0.25	12.2			0.14	0.06	99.56
96EQ11	CHR	8	60	0.1	1.25	19.64	44.47	19.54	0.25	14.85			0.14	0	100.24
96EQ11	CHR	9	60	0.11	1.21	17.6	45.97	21.42	0.22	12.94			0.29	0.1	99.86
96EQ11	CHR	10	60	0.02	0.23	21.29	39.96	28.83	0.33	8.77			0.02	0.19	99.64
96EQ11	ILM	11	60	0.19	50.77	0.27	0.11	43.4	0.5	3.48			0.03	0.02	98.77
96EQ11	CHR	12	60	0.06	0.09	11.54	58.59	18.74	0.38	10.62			0.03	0.18	100.23
96EQ12	CHR	3	60	0.07	0.56	32.81	23.43	27.86	0.2	13.98			0.16	0.02	99.09
96EQ12	CHR	4	60	0.09	1.7	14.63	46.77	23.61	0.21	13			0.27	0.07	100.35
96EQ12	CHR	5	60	0.11	1.68	14.69	47.11	22.14	0.26	13.61			0.22	0.08	99.88
96EQ13	UVA	1	60	38.07	0.39	19.35	2.24	4.23	0.49	0.07	34.76				99.6
96EQ13	CHR	4	60	0.04	0.19	19.05	49.43	19.65	0.25	11.18			0	0.23	100.02
96EQ13	CHR	5	60	0.09	1.8	18.66	41.95	22.38	0.17	13.6			0.21	0.08	98.94
96EQ13	CHR	6	60	0.19	0.9	21.9	44.84	15.68	0.19	16.12			0.26	0.07	100.15
96EQ13	CHR	8	60	0.14	0.17	6.51	62.5	14.74	0.25	14.83			0.17	0.01	99.32
96EQ13	CHR	9	60	0.1	1.18	17.22	46.33	20.82	0.26	13.88			0.18	0.01	99.98
96EQ14	CHR	2	60	0.05	0.11	10.34	57.19	21.12	0.33	10.92			0.12	0.17	100.35
96EQ14	CHR	3	60	0.07	0.33	8.71	55.18	21.08	0.25	13.15			0.09	0	98.86

Kennecott Canada Exploration Inc.
Mineral Processing Laboratory

Masumeka Troymin Probe Results

Analyses by: R.L. Barnett Geological Consulting Inc, London, Ontario

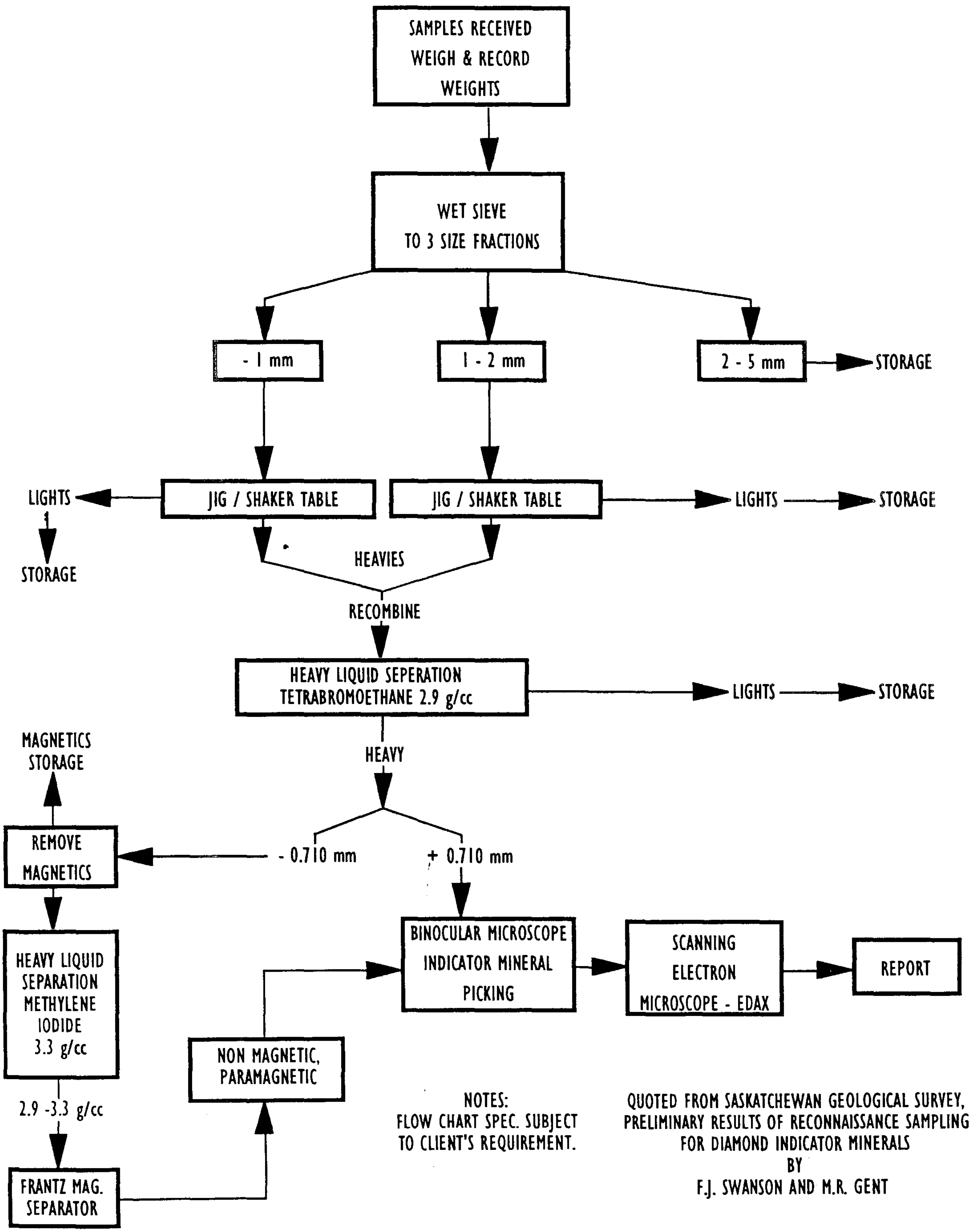
SAMPCHAR	GRTYPE	GRAINNO	SIEVE	SIO2	TIO2	AL2O3	CR2O3	FEO	MNO	MGO	CAO	NA2O	NIO	ZNO	SUM
96EQ14	CHR	4	60	0.04	0.14	10.91	55.98	23.3	0.37	9.08			0.09	0.17	100.06
96EQ15	UVA	2	60	38.06	0.36	15.61	7.12	3.56	0.84	0.08	34.14				99.77
96EQ16	ECL	1	60	38.15	0.21	22.18	0	21.82	0.53	6.68	10	0.05			99.42
96EQ16	ECL	2	60	38.2	0.42	22.59	0.02	21.15	1.12	8.35	7.7	0.03			99.58
96EQ16	CHR	4	60	0.09	0.21	29.73	40.14	12.3	0.13	17.58			0.01	0	100.19
96EQ16	CHR	5	60	0.07	0.37	12.56	53.01	18.44	0.29	14.35			0.16	0.05	99.3
96EQ16	CHR	6	60	0.03	0.23	17.75	49.69	18.89	0.28	12.35			0.08	0.07	99.37
96EQ16	CHR	7	60	0.06	0.16	9.7	59.37	21	0.39	9.21			0.12	0.23	100.24
96EQ16	CHR	8	60	0.08	0.17	13.31	55.72	17.54	0.23	13.27			0.13	0.03	100.48
96EQ20	PYR	1	60	41.91	0.07	21.98	3.78	6.54	0.35	20.01	5.81				100.45
96EQ20	CHR	2	60	0.05	0.44	37.38	20.28	27.49	0.24	14.35			0.06	0	100.27
96EQ20	CHR	3	60	0.05	0.18	9.25	56.91	24.78	0.49	8.02			0.04	0.2	99.92
96EQ21	CHR	1	60	0.1	1.48	21.08	38.57	23.29	0.24	14.58			0.22	0.01	99.57
96EQ21	CHR	2	60	0.11	0.06	19.66	49.82	15.46	0.23	14.67			0.08	0.05	100.14
96EQ21	UVA	3	60	37.61	0.67	8.57	11.73	7.12	0.25	0.25	33.99				100.19

APPENDIX VII

LABORATORY PROCEDURES: HEAVY MINERAL SAMPLE PROCESSING

DIAMOND EXPLORATION SERVICES

SAMPLE PROCESSING FLOW CHART



APPENDIX VIII

LABORATORY PROCEDURES: METHODLOGY OF SAMPLE PREPARATION FOR ELECTRON MICROPROBE ANALYSIS

METHODOLOGY OF SAMPLE PREPARATION AND ELECTRON MICROPROBE ANALYSIS

The purpose of this section is to describe the manner in which the mineral grains are mounted polished and analyzed with an electron microprobe.

The mineral grains of interest; garnet, clinopyroxene, olivine, ilmenite and chromite, are sent to R.L. Barnett fixed to paper with cellotape. Each individual grain is identified by a number written immediately adjacent to each mineral grain.

The basic technique of electron microprobe mineral analysis requires that the surface of each grain be highly polished. The method of mounting and polishing the grains is as follows:

(i) All grains are mounted on rectangular glass slides that are commonly used to make standard petrographic thin sections. The actual mounting surface of the glass slide is first etched with acid to ensure good adherence of the mounting medium, plastic.

(ii) Before the individual grains are removed from their location on the paper, their corresponding numbers are written into two or three parallel rows on the surface of the etched glass with the aid of a binocular microscope. Care is taken to use an ink which is not soluble in plastic. A small dab of plastic is then placed beside each number.

(iii) With the aid of a binocular microscope and using sharp tweezers, the cellotape is carefully pulled back to expose one grain at a time. Using a sharp point, the grain is then coated in a small amount of plastic to prevent unpredictable movement due to static electricity. The plastic-coated grain is then carefully removed from the cellotape and transferred to the waiting dab of plastic beside the proper number. In this manner between 25 and 40 grains can be mounted on one rectangular glass slide. The actual number of grains per slide is determined largely by the size of the grains involved.

Throughout the mounting procedure, extreme care is taken to ensure that the grains are not lost and the proper grain is mounted and identified with the proper grain.

(iv) The slide is then put on a hot plate at 150 degrees for one hour, to set the plastic enclosing each grain.

(v) Next, small grains of quartz are placed in the plastic at the ends and strategically about the margin of each slide to provide resistance during the polishing process. The entire glass slide is then covered in a layer of plastic and put on the hot plate and allowed to harden slowly, over a period of several hours with moderate heat.

(vi) Using exteme care, the section is then polished by Mr. John Forth. The surface of the polished grain mount is examined and re-examined throughout the polishing process to ensure that the individual grains are present at the surface of the plastic. It is necessary to ensure that no grains are too thin and in danger of being wiped off the glass slide.

Although the grains , as sent, are mounted in sequential numerical order, it is essential that grains of similar size be mounted on the same glass slide. In this way the grains all appear at the polished surface simultaneously. If larger grains are mixed with smaller grains, the larger grains appear at the polished surface, leaving the smaller grains still covered in plastic.

(vii) As silicate mineral grains and plastic do not conduct electrical current, the next step in the process is to coat the polished grain mounts with a thin layer of carbon. To eliminate problems of differential conductivity, which can introduce some analytical error, the mineral standards are routinely cleaned on a polishing lap and the standards and polished grain mounts are coated simultaneously with carbon vapour in a vacuum evaporator-carbon coater.

(viii) It is extremely important that the polished grains be easily located and identified once the polished and carbon-coated grain mounts are in the sample chamber of the electron microprobe. A map of each polished grain mount is made and with the aid of a binocular microscope each grain number is written directly into the carbon-coated with a scribe. This scribing process perturbs the conductivity of the thin layer of carbon, and the number is easily seen using the secondary electron detector on the microprobe.

(ix) The final step is analysis of the individual, carbon-coated mineral grains. All mineral analyses are produced by R.L. Barnett in London, Ontario, using two different electron microprobes. A Model JXA-8600 JEOL electron microprobe in the Department of Geology at The University of Western Ontario is equipped with four wavelength x-ray spectrometers and a Tracor Northern EDS, spectrometer and stage automation system. A Model JXA-733 JEOL electron microprobe in the laboratory of R.L. Barnett Geological Consulting Inc. is equipped with five wavelength spectrometers and a Tracor Northern EDS, spectrometer and stage automation system.

R.L. Barnett has over 25 years experience with electron microprobe analytical techniques and has been Director of the Electron Microprobe Analytical Laboratory at The University of Western Ontario since 1973. The mineral standards used have been assembled by R.L. Barnett over the last 20 years and have, during this interval, been the basis for hundreds of theses and scientific papers. These mineral standards have been obtained from various sources such as the Geophysical Laboratory and Smithsonian Institute in Washington, D.C.. Most recently R.L. Barnett obtained clinopyroxene and chrome-pyrope mineral standards used by Dr. Nockolai Sobolev.

Electron microprobe mineral analysis is a comparative analytical technique in which the x-ray yields of mineral standards of accurately known composition are compared with the x-ray yields of the unknown minerals. It is important that appropriate standards be used for each unknown mineral species, to minimize certain inequities in the data reduction programs. Garnet reference standards are used for pyrope mineral analyses, clinopyroxene standards for unknown clinopyroxenes, ilmenite for ilmenite, etc. The electron microprobe compares the counts per second of the standard mineral with the counts per second of the unknown mineral, and assumes that the remainder of the sample os oxygen. A standard conversion program calculates the oxide values from the x-ray yields (or counts).

A backscattered electron detector, BSE, on the electron microprobe is used to examine in detail the surface and possible compositional variation on the polished surface of each mineral grain. The backscattered electron detector displays by variation in grey level intensity on a CRT screen. The variation in mean atomic number of the area roistered by the electron beam reflects compositional variation. Using the backscattered electron detector, the surface of each grain is examined at a magnification of 40 - 2000 times in an attempt to identify and avoid mineral inclusions and fine-scale cracks that might perturb the electron beam - sample interaction and lead to analytical error.

Throughout the entire analytical procedure, all attempts are made to ensure reproducibility and analytical accuracy. Special attention is given to chrome and reference mineral standards are repeatedly and intermittently analyzed to ensure optimum accuracy.

APPENDIX IX

I.C.P. ANALYSIS RESULTS

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: KENNECOTT CANADA, INC.

354 - 200 GRANVILLE ST.
VANCOUVER, BC
V6C 1S4

RECEIVED MAR 19 1997

A9716573

Comments: ATTN: SUSAN BALL

CERTIFICATE A9716573

(KAV) - KENNECOTT CANADA, INC.

Project: D084J
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 16-MAR-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	75	Dry, sieve to -80 mesh
202	75	save reject
229	75	ICP - AQ Digestion charge

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	75	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
2118	75	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
2119	75	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	75	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	75	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	75	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	75	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	75	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	75	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	75	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	75	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	75	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	75	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	75	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	75	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	75	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	75	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	75	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	75	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	75	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	75	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	75	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	75	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	75	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	75	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	75	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	75	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	75	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	75	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	75	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	75	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	75	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	75	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

Chemex Labs Ltd.
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British Columbia, Canada V7J 2C1
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To: KENNECOTT CANADA, INC.

354 - 200 GRANVILLE ST.
VANCOUVER, BC
V6C 1S4

Project : D084J
Comments: ATTN: SUSAN BALL

Certificate Date: 16-MAR-97
Invoice No. : I9716573
P.O. Number :
Account :KAV

CERTIFICATE OF ANALYSIS A9716573

SAMPLE	PREP CODE		Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
96 BR44	201	202	1	< 0.01	11	730	8	< 2	1	25	< 0.01	< 10	< 10	15	< 10	50
96 BR45	201	202	3	< 0.01	15	670	10	< 2	2	59	< 0.01	< 10	< 10	14	< 10	56
96 BR46	201	202	1	< 0.01	10	630	8	< 2	1	53	< 0.01	< 10	< 10	11	< 10	42
96 BR47	201	202	2	< 0.01	11	620	10	< 2	1	56	< 0.01	< 10	< 10	11	< 10	42
96 BR48	201	202	1	< 0.01	8	640	2	< 2	1	28	< 0.01	< 10	< 10	11	< 10	42
96 BR49	201	202	2	0.01	9	810	4	< 2	1	31	< 0.01	< 10	< 10	13	< 10	52
96 BR50	201	202	2	0.04	16	840	8	< 2	2	31	< 0.01	< 10	< 10	17	< 10	108
96 BR51	201	202	3	< 0.01	12	770	6	< 2	1	44	< 0.01	< 10	< 10	16	< 10	68
96 BR52	201	202	2	< 0.01	12	800	6	< 2	1	33	< 0.01	< 10	< 10	16	< 10	60
96 BR53	201	202	1	< 0.01	15	780	8	< 2	3	28	< 0.01	< 10	< 10	22	< 10	72
96 BR54	201	202	1	< 0.01	11	830	4	< 2	1	34	< 0.01	< 10	< 10	15	< 10	58
96 BR55	201	202	1	< 0.01	8	700	2	< 2	1	29	< 0.01	< 10	< 10	12	< 10	42
96 BR56	201	202	1	0.05	13	830	10	< 2	2	33	< 0.01	< 10	< 10	18	< 10	80
96 BR57	201	202	3	< 0.01	14	1120	6	< 2	2	36	< 0.01	< 10	< 10	15	< 10	62
96 BR58	201	202	1	< 0.01	10	560	6	< 2	1	20	< 0.01	< 10	< 10	11	< 10	36
96 BR59	201	202	1	< 0.01	12	720	8	< 2	1	26	< 0.01	< 10	< 10	14	< 10	56
96 BR60	201	202	1	< 0.01	9	800	6	< 2	1	36	< 0.01	< 10	< 10	13	< 10	62
96 BR61	201	202	2	< 0.01	9	620	6	< 2	1	37	< 0.01	< 10	< 10	12	< 10	42
96 BR62	201	202	1	< 0.01	8	620	6	< 2	1	23	< 0.01	< 10	< 10	12	< 10	44
96 BR63	201	202	1	< 0.01	7	730	4	< 2	1	32	< 0.01	< 10	< 10	11	< 10	38
96 BR64	201	202	2	< 0.01	9	530	2	< 2	1	28	< 0.01	< 10	< 10	12	< 10	42
96 BR65	201	202	1	< 0.01	10	670	8	< 2	1	26	< 0.01	< 10	< 10	11	< 10	46
96 BR66	201	202	3	< 0.01	8	1020	6	< 2	1	46	< 0.01	< 10	< 10	12	< 10	66
96 BR67	201	202	1	< 0.01	11	660	6	< 2	1	24	< 0.01	< 10	< 10	14	< 10	54
96 BR68	201	202	2	< 0.01	12	620	8	< 2	1	30	< 0.01	< 10	< 10	15	< 10	44
96 BR69	201	202	2	< 0.01	19	680	16	< 2	3	61	< 0.01	< 10	< 10	22	< 10	68
96 BR70	201	202	2	< 0.01	10	700	4	< 2	1	26	< 0.01	< 10	< 10	13	< 10	46
96 BR72	201	202	1	0.01	16	780	8	< 2	3	37	< 0.01	< 10	< 10	19	< 10	64
96 BR73	201	202	1	0.01	10	620	4	< 2	1	27	< 0.01	< 10	< 10	13	< 10	50
96 BR74	201	202	3	< 0.01	12	680	6	< 2	1	29	< 0.01	< 10	< 10	15	< 10	52
96 BR75	201	202	< 1	0.11	14	730	6	< 2	2	37	< 0.01	< 10	< 10	18	< 10	62
96 BR76	201	202	1	0.01	21	830	8	< 2	3	52	< 0.01	< 10	< 10	24	< 10	84
96 BR77	--	--	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd
96 BR78	--	--	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd	NotRcd
96 BR79	201	202	2	< 0.01	13	830	6	< 2	1	24	< 0.01	< 10	< 10	13	< 10	48

CERTIFICATION: [redacted]

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: KENNECOTT CANADA, INC.

354 - 200 GRANVILLE ST.
VANCOUVER, BC
V6C 1S4

A9644

Comments: ATTN: ROB VAN EDGMOND

CERTIFICATE A9644423

(KAV) - KENNECOTT CANADA, INC.

Project: 60-511-3
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 14-JAN-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	145	Dry, sieve to -80 mesh
202	145	save reject
3289	145	X-RAY pellet prep charge
285	145	ICP - HF digestion charge

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	145	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
578	145	Ag ppm: 24 element, rock & core	AAS	0.2	100.0
573	145	Al %: 24 element, rock & core	ICP-AES	0.01	25.0
565	145	Ba ppm: 24 element, rock & core	ICP-AES	10	10000
575	145	Be ppm: 24 element, rock & core	ICP-AES	0.5	1000
561	145	Bi ppm: 24 element, rock & core	ICP-AES	2	10000
576	145	Ca %: 24 element, rock & core	ICP-AES	0.01	25.0
562	145	Cd ppm: 24 element, rock & core	ICP-AES	0.5	500
563	145	Co ppm: 24 element, rock & core	ICP-AES	1	10000
569	145	Cr ppm: 24 element, rock & core	ICP-AES	1	10000
577	145	Cu ppm: 24 element, rock & core	ICP-AES	1	10000
566	145	Fe %: 24 element, rock & core	ICP-AES	0.01	25.0
584	145	K %: 24 element, rock & core	ICP-AES	0.01	10.00
570	145	Mg %: 24 element, rock & core	ICP-AES	0.01	15.00
568	145	Mn ppm: 24 element, rock & core	ICP-AES	5	10000
554	145	Mo ppm: 24 element, rock & core	ICP-AES	1	10000
583	145	Na %: 24 element, rock & core	ICP-AES	0.01	10.00
564	145	Ni ppm: 24 element, rock & core	ICP-AES	1	10000
559	145	P ppm: 24 element, rock & core	ICP-AES	10	10000
560	145	Pb ppm: 24 element, rock & core	AAS	2	10000
582	145	Sr ppm: 24 element, rock & core	ICP-AES	1	10000
579	145	Ti %: 24 element, rock & core	ICP-AES	0.01	10.00
572	145	V ppm: 24 element, rock & core	ICP-AES	1	10000
556	145	W ppm: 24 element, rock & core	ICP-AES	10	10000
558	145	Zn ppm: 24 element, rock & core	ICP-AES	2	10000
2891	145	Ba ppm: XRF	XRF	5	50000
2067	145	Rb ppm: XRF	XRF	2	50000
2898	145	Sr ppm: XRF	XRF	2	50000
2973	145	Nb ppm: XRF	XRF	2	50000
2978	145	Zr ppm: XRF	XRF	3	50000
2974	145	Y ppm: XRF	XRF	2	50000

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

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To: KENNECOTT CANADA, INC.

354 - 200 GRANVILLE ST.
VANCOUVER, BC
V6C 1S4

Project : 60-511-3
Comments: ATTN: ROB VAN EGMOND

Certificate Date: 14-JAN-97
Invoice No. : I9644423
P.O. Number :
Account :KAV

CERTIFICATE OF ANALYSIS A9644423

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)
VR63633A	201	202	< 5	< 0.2	5.43	710	0.5	< 2	1.08	< 0.5	7	51	12	2.09	1.46	0.65	380	< 1	0.86	19	710
VR63635A	201	202	< 5	< 0.2	4.77	620	0.5	2	1.48	< 0.5	7	42	11	1.95	1.36	0.68	475	< 1	0.69	19	740
VR63653A	201	202	< 5	< 0.2	4.32	610	0.5	< 2	1.29	0.5	10	41	9	2.98	1.15	0.49	2340	< 1	0.65	15	910

CERTIFICATION: [redacted]

APPENDIX X

DIAMOND DRILL LOGS

KENNECOTT CANADA EXPLORATION INCORPORATED
1997 EXPLORATION DRILLING
MASUMEKA

Drill Hole:	97MT19-1	Date Started:	January 23/97
Dip:	-90 Deg	Date Completed:	January 29/97
Northing:	255 N	Core Size:	NQ
Easting:	108 W	Date Logged:	January 29/97
Drill Contractor:	Aggressive	Logged By:	S.Ball

0.0 - 20.6 m **OVERBURDEN**
- 70% recovery

15.0 - 15.5 Black clay, common quartzite pebbles
15.5 - 17.5 Chunks quartzite/shale/coal
17.5 - 18.0 Loosely consolidated clay
18.0 - 18.5 Rounded pebbles
18.5 - 19.8 Blocks of sandstone
19.8 - 20.6 Organic clay

20.6 - 30.3 m **SANDSTONE**
- light grey color
- medium grained
- consists of grains of quartz/feldspar/hornblende
- weakly to well bedded
- calcareous
- common coal seams/stringers
- moderately competent, recovery >90%
- local siltstone beds and mud seams

20.6 - 25.0 Blocky ground, average unbroken length 10 cm
22.5 - 22.6 Rubble
22.9 - 22.95 Mud seam
22.95 - 23.2 Fine grained, grading down section to a siltstone
23.2 - 23.35 Soft, clayey textured siltstone
23.35 - 23.5 Hard, greenish siltstone interval, healed microfractures
23.5 - 23.75 Mud seam
23.75 - 24.0 Fine grained sandstone, grading down section to medium grained
24.0 - 30.3 Strongly bedded. Common coal stringers
27.8 Strongly bedded @ 62 deg tca

30.3 - 57.25 m **INTERBEDDED SHALES/SILTSTONES**
- shales: black to light grey in color/ fissile to blocky fracture/ locally laminated/ fine grained. May or may not be calcareous. Local shell fragments (bivalves).
- siltstone: light grey with grey-white laminations/ fine grained/ locally massive/ calcareous/ competent
- local fine grained sandstone beds
- common coal seams up to 50 cm length
- laminations locally contorted.
- flame structures/ worm burrow tubes/ cross-bedding locally

30.3 - 30.5; 31.85 - 32.2; 32.45 - 32.6 m Bituminous coal seams

32.2 - 32.45	Sugary texture within siltstone, soft, sericite alteration(?)
33.0 - 33.05	Mud seam
34.8	Siltstone, bedded @ 65 deg tca
36.4 - 36.5	Cross bedding
39.15 - 40.95	Blocky fracture healed with calcite. Rock itself is not calcareous.
42.5	Glassy, green-brown inclusion in coal seam, irregular shape, amber(?)
44.15	Worm burrow tubes (?) 2 x 0.5 cm
44.3	Strongly laminated @ 85 deg tca
46.35 - 47.2	Fine grained sandstone interval, weakly to well bedded @ 65 deg tca
47.5 - 48.6 m	Sandstone intermittently bedded with shale
48.0	Contact @ 78 deg tca. Flame structure
48.45 - 48.5	Two coarse grained sandstone beds approximately 2 cm wide
48.8 - 48.9	Abundant shell fragments
48.95 - 49.0	Carbonate vein, chalky texture
49.45 - 50.5	Sandstone interbedded with siltstone
50.5	Contact sharp @ 85 deg tca
52.4 - 52.5	Worm burrow tubes (?)
52.8	Wavy contact between two shale units. Erosional?
55.05 - 55.35	Shale containing dense, light brown ironstone beds/ lenses of slightly higher magnetic susceptibility
57.45 - 57.6	Mud seam

57.25 - 61.25 m

SANDSTONE
- as uphole
- medium grained
- weakly bedded @ 60 deg tca on average
- coal inclusions, mm scale

61.25	Lower contact irregular, but sharp @ 65 deg tca. Flame structure.

61.25 - 133.3 m

INTERBEDDED SHALES/SILTSTONES
- as uphole
- recovery >90%. Shales less competent, locally broken up
- common black shales
- calcite locally in fractures
- <10% sandstone beds, generally fine grained and strongly bedded
- gastropod/bivalve fossils in shales
- common coal seams and mud seams
- zones of brownish to chalky grey, soft, friable rock

65.2 - 66.3	Sandstone interval
66.35 - 66.5	Sandstone interval
66.5 - 68.0	Fining down section, silts to shales
67.3 - 67.9	Abundant bivalve/gastropod fragments
69.0 - 69.8	Coal seam
74.65 - 75.9	Strongly bedded, fine grained sandstone. Cross bedding common. Flame structure at lower contact
84.0	Mudstone clasts, 0.5 - 2 cm rounded
86.0 - 86.2	Blocky fracture pattern, healed
87.95 - 88.1	Soft, waxy grey-green alteration. Non calcareous
89.03 - 89.05	Very hard coal, anthracite?
90.5	Flame structure
91.25	Flame structure
91.6	Bedding @ 86 deg tca
97.4 - 97.5	Abundant bivalve/gastropod fragments
97.9 - 98.0	Polished fracture in coal seam @ 10 deg tca

102.2 - 102.6	Fine grained, bedded sandstone
102.6	Bedding @ 70 deg tca
102.8	Flame structure
108.97	Waxy green alteration, as uphole
109.4 - 109.45	Waxy green alteration, as uphole
109.55 - 109.57	Load structures, elongate downhole
109.9 - 110.35	Strongly bedded sandstone, average orientation 70 deg tca
113.8 - 114.7	Sandstone blackened over upper 20 cm (due to proximity of coal seam?)
124.5 - 124.6	Rock fractures into shale 'clasts', rounded, elongate chunks
124.7 - 125.2	Core soft, breaks into blocky pieces with hands
125.4 - 125.85	Fine grained sandstone. Upper contact gradational from silt. Weakly bedded @ 84 deg tca
129.1	Waxy green clayey seam
130.0	3 cm waxy seam as above with subrounded clasts shale consolidated within seam
130.3	Two <1 cm size waxy seams
131.9 - 132.35	Coal seam intercalated with shale and peaty layers
132.35 - 132.45	Subrounded clasts (0.5 - 2.5 cm size) in shale matrix. Core fractures into clasts
133.3 - 136.2 m	**SANDSTONE** - as uphole - weakly to moderately bedded - common discontinuous coal stringers, mm scale - rare cherty clasts, <0.5 cm size
136.0	Bedding @ 85 deg tca
136.2	Lower contact sharp @ 62 deg tca
136.2 - 149.0 m	**INTERBEDDED SHALES/SILTSTONE/SANDSTONE** - units as uphole - 60% shale/ 20% siltstone/ 20% sandstone
141.1 - 142.9	Much of interval soft, breaks into < 1 cm size blocky pieces
144.2	Strongly bedded sandstone @ 74 deg tca
147.2 - 147.9	Very soft/friable. Greenish-brown color. Blocky fracture
149.0 - 165.45 m	**SANDSTONE** - as uphole - medium to coarse grained - mainly strongly bedded; cross bedding and some contorted bedding - grades locally to siltstone - becoming increasingly coarse downhole with angular clasts of shale up to 4 cm.
151.0 - 155.0	Abundant cross bedding
155.8	Bedding @ 77 deg tca, uniform
159.0	Appearance of shale clasts, elongate, <5%
159.35 - 160.1	10 - 30% shale clasts, irregular subangular shape, rare bedded siltstone clasts and very soft mudstone clasts. Many elongate, but not well oriented. Some very irregular shapes. Matrix a uniform, massive, medium grained sandstone. Representative sample taken from 159.6 - 159.7 m.
160.05	Clasts weakly oriented @ 80 deg tca
160.5	Sandstone becoming coarser. Intercalated with finer sandstone beds.
161.85 - 169.1	Clasts, as before
165.45 - 167.03 m	**INTERBEDDED SHALES/SILTSTONE** - as uphole - shale dominates the interval, 20 % black shale
167.03 m	**EOH**

KENNECOTT CANADA EXPLORATION INCORPORATED
1997 EXPLORATION DRILLING
MASUMEKA

Drill Hole:	97MT19-2	Date Started:	January 29/97
Dip:	-50 Deg	Date Completed:	January 31/97
Northing:	205N	Core Size:	NQ
Easting:	045W	Date Logged:	February 1/97
Drill Contractor:	Aggressive	Logged By:	S. Ball
Azimuth:	133 Deg		

0.0 - 11.5 m

OVERBURDEN
- alternating clays and blocks of sandstone/siltstone/shale
- very blocky ground; pieces average 8 cm unbroken length

11.5 - 27.2 m

INTERBEDDED SANDSTONE/SILTSTONE/SHALE
- sandstone and siltstone comprise most of interval, shales occur locally
- sandstone: light grey color
  medium grained
  calcareous
  composed of quartz/feldspar/hornblende
- siltstone: light to medium grey color
  fine grained
  calcareous
- shale: light to dark grey color
  fine grained
  very friable and broken up. Locally clayey
  80% calcareous
  common shell fragments (bivalves/gastropods)
- very blocky ground, moderately competent, unbroken lengths average 10 cm
- common coal seams; local mud seams

16.6 Laminated @ 45 deg tca
19.9 Bedded siltstone @ 44 deg tca
20.3 - 21.0 Very blocky ground. Common mud seams
21.9 - 23.1 Very blocky ground. Core broken up. Common mud seams
24.1 - 24.6 Very blocky ground. Local waxy green alteration. Coal seam in interval.
25.1 - 27.2 Black shale. Laminated @ 52 deg tca. Very blocky/broken up. Shale is fine grained, black, weakly to moderately calcareous, with local coal seams.

27.2 - 43.0 m

SANDSTONE
- coarse grained
- weakly to moderately bedded
- composed of grains of quartz/feldspar/hornblende
- local siltstone and shale beds
- competent. Recovery >90%. Unbroken lengths average 40 cm
- weakly to moderately calcareous
- coal seams common, mm scale

29.3 Bedded @ 50 deg tca
32.75 - 33.45 Siltstone grading down section to shale. Upper contact sharp @ 38 deg tca

	Lower contact sharp, but broken up
33.45 - 33.9	Laminated siltstone (50 deg tca), grading to fine grained more massive siltstone. Lower contact sharp @ 47 deg tca
34.6	Bedding @ 48 deg tca
35.65 - 35.95	Very friable. Crumbles with hands
35.8	Open fracture @ 30 deg tca, clay filled
42.7	Bedded with coal stringers @ 52 deg tca
43.0 - 51.9 m	**INTERBEDDED SILTSTONE/SHALE** - units similar to uphole - medium to dark grey color - siltstone grades locally to fine grained sandstone
43.0 - 43.3	Core friable/broken up
45.1 - 45.2	Very friable (crumbles with hands); waxy alteration
45.2 - 45.35	Soft/broken up coal seam
45.7 - 45.85	Very friable; waxy alteration
45.85 - 45.9	Bituminous Coal
46.9	Mud seam
48.55 - 49.0	Interbedded siltstone and fine grained sandstone, bedded @ 50 deg tca
49.0 - 51.9	Strongly bedded siltstone/fine grained sandstone/shales
51.5	Bedded @ 55 deg tca
51.9 - 53.7 m	**SHALE** - as uphole - fine grained - medium grey to black color - massive to blocky fracture - fine grained
52.7 - 53.0	Coal seam; fissile; bituminous to peaty
53.3 - 53.7	Blocky fracture; calcareous
53.7 - 72.0 m	**INTERBEDDED SHALES/SILTSTONE** - as uphole - fine grained - weakly calcareous - grades locally to a fine grained sandstone - moderately competent, some broken sections, recovery >90%
55.2	Bedded @ 44 deg tca
55.5 - 55.6	Friable, muddy shale. Breaks with hands.
55.6 - 55.8	Breaks easily along fracture planes. Blocky fracture.
56.35 - 56.9	Interbedded with sandstone. Grain size increasing down section to a coarse sandstone. Lower contact sharp, but irregular @ 25 deg tca.
59.0	Shales laminated @ 45 deg tca
61.3 - 63.0	Common mud seams
63.0	Well laminated @ 45 deg tca
64.25 - 64.6	Coal
64.6 - 64.8	Core very friable/fissile. Crumbles with hands
69.4 - 69.7	Broken up coal seam
72.0 - 73.3 m	**SANDSTONE** - as uphole - medium grained/grey in color/ calcareous - weakly to strongly bedded @ 47 deg tca on average - very competent. Recovery >90%

73.3 - 80.2 m		**INTERBEDDED SHALES/SILTSTONE**
		- as uphole
	74.2 - 74.6	Brown-black, friable, organic-rich? interval
	79.0 - 79.45	Coal seams
	79.45 - 80.2	Beds of sandstone increasing down section
80.2 - 85.2 m		**SANDSTONE**
		- as uphole
		- coarse-grained/weakly bedded
		- upper contact @ 55 deg tca; lower contact @ 30 deg tca
	84.3	Bedded @ 45 deg tca
85.2 - 205.9 m		**INTERBEDDED SHALES/SILTSTONE**
		- as uphole
		- light grey to black in color
		- weakly to moderately calcareous
		- common shell fragments (bivalves/gastropods)
		- local fine grained sandstone beds
		- common coal seams, may contain amber/local mud seams
		- generally competent throughout (locally friable); >90% recovery
	87.1 - 87.8	Friable/breaks with hands. Brown-black to grey-green color
	92.3 - 93.4	Finely interbedded sandstone/siltstone @ 55 deg tca on average
	94.1 - 94.8	Abundant shell fragments
	94.6	Bedding @ 50 deg tca
	95.5 - 95.55	Waxy green, very friable interval
	101.5	3 cm mud seam
	102.95 - 105.35	Fine grained to medium grained sandstone/weakly to well bedded @ 60-65 deg tca/abundant cross bedding, increasing down section.
	105.6 - 106.4	Very soft/ clayey/ breaks easily with hands
	106.8 - 107.4	Bedded sandstone @ 30-35 deg tca on average. Lower contact @ 50 deg tca.
	111.7	Bedded @ 52 deg tca
	121.9 - 122.1	Waxy/ green/very soft/non-calcareous
	125.8	Sandstone bedded @ 50 deg tca
	127.2	Shale bedded @ 60 deg tca
	148.4 - 149.5	Core broken up/soft.
	164 - 182	Very competent siltstone/shales. Most weakly bedded. No significant coal seams. Color varies from grey-green siltstone to black shale.
	184.4 - 186.6	Weakly bedded, medium grained sandstone. Bedding averages 40-55 deg tca. Upper contact gradational from siltstone. Lower contact sharp @ 48 deg tca.
	198.9 - 191.1	Nucleated, 0.5 cm size fragments. Carbonate alteration halo?
	197.3	Strongly bedded shales/siltstone @ 52 deg tca
	202.4 - 203.5	Very friable/ grey-green color
	204.0 - 205.9	Fine grained sandstones/siltstone.
205.9 - 224.6 m		**SANDSTONE**
		- as uphole
		- medium grained/calcareous
		- massive to moderately bedded on average/ local strong bedding
	209.0	Strong bedding @ 65 deg tca
	211.65 - 212.0	Bituminous coal. Upper contact sharp @ 56 deg tca
	216.2 - 216.8	Laminated shale beds
	216.8 - 224.6	Coarser grained, massive to weakly bedded sandstone
	222.1	Bedding @ 47 deg tca
224.6 m		**EOH**

KENNECOTT CANADA EXPLORATION INC
1996 Exploration Drilling (Operator: Montello Resources)
Masumeka Project

Drill Hole:	MT24-1	Date Started:	October 5, 1996
Dip:	90 Deg.	Date Completed:	October 8, 1996
Northing:	5958900	Core Size:	NQ
Easting:	433900	Date Logged:	October 22, 1996
Drill Contractor:	Aggressive	Logged By:	S. Ball

0.0 – 14.0 m **OVERBURDEN**

14.0 – 100.0 m **INTERBEDDED SANDSTONE/SILTSTONE/SHALE**

- predominantly sandstone: medium to coarse grained; light grey color; carbonate cemented; competent; weakly bedded
- shale: fine grained; medium to dark grey in color; calcareous; laminated; locally fissile
- siltstone: fine to medium grained; light grey color; massive to laminated; calcareous; competent
- common bituminous coal seams throughout; blocky and concoidal fracture; locally softer, brownish in color and peaty.

100.0 m **EOH**

KENNECOTT CANADA EXPLORATION INCORPORATED
1997 EXPLORATION DRILLING
MASUMEKA

Drill Hole:	97MT24-2	Date Started:	January 18/97
Dip:	-50 Deg.	Date Completed:	January 21/97
Northing:	322 S	Core Size:	NQ
Easting:	257E	Date Logged:	January 24-26/97
Drill Contractor:	Aggressive	Logged By:	S.Ball
Azimuth:	205 Deg.		

0.0 - 17.1 m		**OVERBURDEN** - friable, soft, light to medium grey clay. Loosely consolidated, some platy shale fragments
17.1 - 35.7 m		**SANDSTONE** - medium to coarse-grained sandstone - light grey color - dominantly even granular, local conglomerate beds up to 10 cm wide consisting mainly of quartzite and mudstone/shales - calcite cemented - composed dominantly of quartz, with lesser amounts of hornblende, micas, feldspar. - competent. 30-40 cm averageunbroken length. Recovery >90%. Scratches with knife. - minor groundwater alteration along fractures - open fractures average 45-65 deg. tca - weakly to moderately bedded @55 deg. tca - minor mm scale coal seams throughout
	17.1-17.65	Very friable. Crumbles with touch
	19.5-19.8	Conglomerate bed. 10%, 1 cm size rounded clasts of mudstone in sandstone matrix.
	20.6	Open fracture @55 deg tca
	22.6	Open groundwater-altered fracture @ 45 deg tca
	23.15 - 23.2	Oxidized. Chalky grey to red brown, fine-grained marl
	23.35-23.45	Conglomerate bed. Broken up. Contains rounded shale and quartzite pebbles, 0.5 - 4 cm average size, local oxidation rims.
	24.5 - 24.75	Subparallel, groundwater-altered, open fractures @ 40 deg tca
	26.2	2 mm coal seam
35.7 - 38.0 m		**BITUMINOUS COAL SEAM** - friable, black, well jointed - locally lower grade (peaty), dull brown color, more friable and broken up - weakly competent throughout
	36.0 - 36.2	Higher grade bitumen
	37.3 - 38.0	Higher grade bitumen
38.0 - 39.0 m		**SILTSTONE**

	- light grey in color
	- fine to medium grained, grading locally to fine grained sandstone.
	- well defined bedding/laminations @ 60-65 deg tca
	- rare <1mm size coal seams
	- moderately competent, >90% recovery
	- calcareous
	- fissile, finely laminated
38.0 - 38.3	Clayey at contact. Very friable and broken up.
38.8	Bedding @ 65 deg tca
39.0 - 40.4 m	**SANDSTONE**
	- fine to medium grained
	- light grey color
	- weak bedding @ 65 deg tca on average
	- <1 mm coal seams parallel bedding
	- similar compositionally and texturally to sandstone uphole
40.4	Lower contact @ 50 deg tca
40.4 - 46.5 m	**SHALE**
	- strongly laminated
	- fine grained
	- alternating light grey with chalky white laminae
	- contorted laminae common
	- highly competent, minor open fractures parallel bedding
	- local mm scale coal stringers
	- highly calcareous
	- minor subangular to angular clasts within unit, <1 cm size
42.5	Strongly laminated @50 deg tca
43.1 - 43.3	Bituminous coal seam
43.3 - 45.5	Fractured/brecciated. Very friable. Blocky fracture pattern Common mm - cm scale coal stringers
46.05 - 46.3	Blocky fracture as above
46.5	Contact @ 50 deg tca
46.5 - 49.5 m	**SILTSTONE**
	- similar to siltstone unit uphole
	- fine grained
	- light grey color
	- local contorted laminations of shale and/or coal
49.5 - 50.1 m	**SHALE**
	- similar to uphole
	- well laminated @ 40-55 deg tca
	- local blocky, fractured intervals
	- more competent than previous shale
	- highly calcareous
50.1 - 50.4 m	**BITUMINOUS COAL**
	- blocky and concoidal fracture
	- hard, lustrous
50.1 - 50.15	Coal stringers intercalated with shale, 1-3 mm laminations
50.4 - 50.6 m	**PEATY COAL**
	- brown-grey in color

	- blocky, friable, crumbles with hands - intercalated with shales
50.6 - 51.2 m	**SILTSTONE** - similar to uphole - fine grained - light grey color - weak bedding @ 50 deg tca on average
51.2 - 51.7 m	**PEATY COAL** - as uphole
51.2 - 51.3	Calcareous
51.7 - 52.8 m	**SHALE** - fine grained - dull grey color - blocky fracture - non-calcareous - moderately competent. 10cm average unbroken length - breaks easily along fractures
52.2 - 52.3	Mud seam
52.6 - 52.9	Subparallel open fractures @ 45-55 deg tca
52.8 - 54.15 m	**BITUMINOUS COAL** -upper contact gradational over 20 cm - local calcareous seams. Very soft/friable, chalky light grey-white color.
53.2	Bedding @ 30 deg tca
53.7 - 54.0	Soft, calcareous, brown, peaty interval
54.0 - 54.15	Gradational contact. Competent.
54.15 - 56.75 m	**SANDSTONE** - as uphole - light grey color, medium grained - weakly to strongly bedded. Local coal stringers, mm scale. Local contorted and discontinuous laminations. - moderately calcareous
54.8 - 55.0	Strong bedding @ 45 deg tca
56.0	Open fracture @ 40 deg tca
56.6 - 56.75	Siltstone and coal laminations intercalated with sandstone
56.75 - 57.1 m	**BITUMINOUS COAL** - bedded @ 50 deg tca
56.9 - 57.0	Dull grey shale/siltstone interval
57.1 - 57.5 m	**SILTSTONE** - fine grained - dull grey color - weakly bedded @ 60 deg tca - common coal seams
57.1	Contact @ 46 deg tca
57.5 - 66.2 m	**SANDSTONE** - as uphole - local siltstone beds

	- common mm scale coal seams
	- weakly calcareous
	- moderately competent
	- weakly to well bedded
59.9 - 60.3	Abundant mm scale coal seams
59.95	Bedded @ 50 deg tca
58.2 - 58.5	Finely laminated
60.0	Common mm scale coal seams, subparallel @45 deg tca
62.1	Laminations of shale and siltstone
62.25 - 62.45	Coal seam
62.45 - 62.7	Friable broken core. Blocky fracture. Chalky grey colored siltstone
62.7 - 63.0	Laminated shales, brown-grey color, non-calcareous, very competent, silicified?
66.2 - 79.9 m	**SHALE**
	- intercalated with siltstone and locally with fine-grained sandstone
	- weakly calcareous
	- weakly to strongly laminated
	- dull grey to chalky white color
	- local shell fragments including bivalves
66.2 - 66.3	Well laminated @ 55 deg tca
66.3 - 66.4	Bituminous coal
66.4 - 68.35	Calcareous laminated shale. Shell fragments (bivalves/gastropods)concentrated at upper contact, 0.5 - 1 cm size fragments.
66.6 - 66.9	Friable, blocky fracture, chalky grey color, highly calcareous, coal seams more abundant
67.7	Well laminated @ 60 deg tca
68.15 - 68.35	Dull brown color
68.55	3 cm coal seam, laminated
69.0 - 69.2	Bituminous coal seam
69.2 - 70.6	Dull brown-grey to grey, massive to weakly bedded siltstone
70.6 - 71.1	Bedded sandstone. 55 deg tca
71.35 - 72.0	Abundant coal seams, mm scale
72.3 - 72.5	Bituminous coal seam
72.8 - 73.05	Crumbly, chalky white color
73.05 - 73.5	Siltstone
74.6 - 74.9	Contorted bedding
75.4	Strong laminations @ 60 deg tca
77.1 - 77.3	Siltstone bedded @ 55 deg tca
77.3	Siltstone contact @ 50 deg tca
77.5 - 77.8	Dull black shale
78.0 - 78.3	Shales interbedded with siltstone and fine grained sandstone
78.3 - 78.7	Core broken up, 3-4 cm chunks
79.9 - 82.15	**SANDSTONE**
	- as uphole
	- highly competent
	- medium to coarse grained
	- massive to weakly bedded
82.15 - 82.65 m	**BEDDED SANDSTONE**
	- medium grained
	- grey color
	- strongly defined bedding @ 60-70 deg tca
	- upper contact sharp @ 70 deg tca, defined by rock fragments (shale/coal/chert) and coarse grains.

		- lower contact sharp, but irregular, @ approx. 50 deg tca. Flame structure.
82.65 - 83.6 m		**SHALE** - as uphole - laminated - common coal seams - calcareous
	82.8 - 83.3	Core friable, broken up into blocky/platy chunks, 1-2 cm average size
83.6 - 84.2 m		**SANDSTONE** - as uphole, but finer grained - bedded - mm scale black laminae, shale(?) and some coal
	84.0	bedded @ 65 deg tca
84.2 - 84.35 m		**INTERBEDDED SANDSTONES/SHALES** - sandstone and shales as uphole - bedded @ 45-60 deg tca
84.35 - 89.1 m		**INTERBEDDED SHALES/SILTSTONE** - massive to well-bedded - calcareous - fine grained - colors vary from light grey (siltstone) to black, green-grey or brown-black (shales) - carbonate fracture fillings
	84.5 - 84.9 & 85.1 - 85.2	Fissile, chalky grey color
	85.4 - 86.1	Friable, dull brown-black color
	86.1 - 86.4	Light green-grey color. Friable. Non-calcareous
	87.8	Open fracture @ 55 deg tca
	88.5	Well bedded @ 47 deg tca
	88.7 - 89.0	Interbedded with fine grained sandstones and siltstones
89.1 - 89.6 m		**SANDSTONE** - as uphole
89.6 - 90.7 m		**BLACK SHALE** - massive - fine grained - competent, recovery >90% - black color - minor coal seams
90.7 - 90.9 m		**BITUMINOUS COAL SEAM** - lower contact sharp @ 35 deg tca; upper contact gradational
90.9 - 111.5 m		**INTERBEDDED SHALES/SILTSTONE** - as uphole - massive to well bedded (laminated) - interval is dominated by shale sequences - some contorted laminations, locally folded - colors vary from grey to black to green-grey
	91.5 - 91.65	Coal seam
	91.65 - 92.1	Greenish -grey. More friable
	91.4	Well laminated @ 48 deg tca

98.65 - 99.15	Sandstone bed
99.6	Shale fragment, angular, <1 cm size
100.05 - 100.2	Coal seam
101.2	2% pyrite along fracture in shale
101.7 - 101.8	Bituminous coal seam
103.9 - 104.0	Bituminous coal seam
104.0 - 105.15	Massive shale, 3% shell fragments up to 0.5 cm size
105.5	Laminated @ 60 deg tca
107.55 - 107.75	Coal seam
107.8 - 108.2	Core broken up into blocky/angular chunks
108.35 - 109.0	Coal seam. Bituminous to peaty with sharp contacts between grades
109.5 - 109.7	Chalky, very friable
109.7 - 110.0	Peaty coal
110.0 - 110.2	Chalky white color, very friable, lower contact sharp @ 30 deg tca
110.2 - 110.3	Bituminous coal seam
110.3 - 110.55	Chalky white color, very friable
110.55 - 111.0	Bituminous coal
111.0 - 111.5	Chalky green-brown color, very blocky, friable

111.5 - 112.0 m **SILTSTONE**
- as uphole
- weakly bedded
- fine grained
- dull, light grey color

111.6	Open fracture @ 40 deg tca
111.8	Bedded @ 50 deg tca

112.0 - 115.0 m **UNCONSOLIDATED SILTY CLAY**
- clays
- metal drill shavings throughout may contaminate magnetic susceptibility

115.0 - 115.5 m **BLACK SHALE**
- as uphole
- fine grained
- friable/blocky fracture

115.5 - 116.5 m **BITUMINOUS COAL**
-as uphole

116.5 - 121.1 m **INTERBEDDED SILTSTONE/SANDSTONE/SHALES**
- as uphole
- competent, recovery >90%, 20 cm average unbroken length
- bedded, mm to cm average scale, less commonly beds up to 20 cm
- common open fractures along bedding planes

118.0	Bedding @ 55 deg tca
118.9	Bedding @ 47 deg tca
120.1	Open fracture @ 58 deg tca

121.1 - 126.7 m **SANDSTONE**
- as uphole
- weakly bedded
- calcareous

126.3	Bedding @ 48 deg tca

126.7 - 128.05 m **BITUMINOUS COAL SEAM**

	- locally chalky calcareous intervals
128.05 - 161.3 m	**INTERBEDDED SILTSTONE/SHALES**
	- as uphole
	- local fine grained sandstone beds
	- weakly to strongly bedded
	- strongly calcareous
	- mm scale coal seams throughout
	- shell fragments (bivalves/gastropods, <1 cm size) common in shales
128.9	Bedded @ 55 deg tca
129.4	Bituminous coal with chalky layers
135.1 - 135.2	1 cm size clay seams
135.9 - 135.3	Folded, contorted seams
141.1	Cross-bedding
142.4	Flame structure
142.8	Well laminated @ 55 deg tca
146.6	Microfault @ 25 deg tca, displacing laminae
148.2 - 149.2	Bedded sandstone
149.5 - 150.6	Coal seam, peaty to bituminous
150.6 - 151.4	Bedded sandstone
150.6 - 150.8	Core friable and broken up
158.2 - 158.9	Coal seam
161.3 - 163.05 m	**SANDSTONE**
	- as uphole
	- medium grained
	- weakly bedded (@ 65 deg tca) to massive
161.3	Contact gradational
163.05	Contact sharp @ 44 deg tca
163.05 - 164.25 m	**BLACK SHALE**
	- as uphole
	- fissile, common fracture angle @ 58 deg tca
164.25 - 165.7 m	**SANDSTONE**
	- compositionally similar to uphole, but fine grained
	- weakly bedded @ 42 deg tca on average
	- lower contact sharp @ 60 deg tca. Flame structure.
165.7 - 173.4 m	**SHALE**
	- fine grained
	- alternating black with greenish grey shales
	- black shales especially fissile; green-grey shales more massive
165.75 - 166.2	Siltstone interbedded with shales
165.8	Burrow tubes(?) 0.5 x 2 cm average size
167.6 - 167.7	Mud seam
168.4	Laminated @ 50 deg tca
173.4 - 176.6 m	**SILTSTONE**
	- as uphole
	- upper contact gradational
	- weakly to strongly bedded
	- common coal seams and shale laminae
	- local shell fragments
	- local contorted laminations

176.6 - 176.8 m		**SANDSTONE** - similar to that at 164.25 m (fine grained, bedded) - lower contact sharp @ 60 deg tca. Flame structure. - strong bedding @ 56 deg tca
176.8 - 180.9 m		**SHALE** - as uphole - common coal seams
	178.3 - 178.5	Core broken up below coal seam
	178.7 -179.35	Interval very friable/fissile, chalky grey color, non-calcareous, powdery skin
	180.4 - 180.65	Abundant shell fragments
	180.65 - 180.9	Coal seam
180.9 - 185.05 m		**SILTSTONE** - as uphole - massive to well laminated - local shale laminations
	180.9 - 181.05	Brownish grey color
	181.05 - 182.0	More competent (but still scratches with knife). Non calcareous Rep sample taken.
185.05 - 185.55 m		**SHALE** - as uphole - very common shell (bivalve/gastropods) fragments - carbonate in fractures - blocky fracture pattern
	185.55	Flame structure
185.55 - 185.8 m		**SILTSTONE** - as uphole
185.8 - 187.4 m		**SANDSTONE** - as uphole - medium to coarse grained - lower contact @ 55 deg tca, sharp, but irregular. Flame structures - upper contact gradational - bedded @ 65 deg tca on average
187.4 - 187.95 m		**SHALE** - laminated with siltstone
187.95 - 189.1 m		**BITUMINOUS COAL**
189.1 - 189.28 m		**SILTSTONE** - greenish, fine-grained - weakly bedded @ 45 deg tca on average - non-calcareous - local 1-2 mm angular shale/mudstone fragments, brownish in color, some stretched
189.28		**EOH**

REPRESENTATIVE SAMPLES

50.3 - 50.4 m	Coal with rounded glassy inclusion (amber?)
156.2 m	Glassy inclusion, amber(?)
156.3 m	Brown-black, friable sandstone
178.8 m	Siltstone. Friable, chalky, soft.
181.15 - 182.0 m	Siltstone containing sericite(?)

KENNECOTT CANADA EXPLORATION INCORPORATED
1997 EXPLORATION DRILLING
MASUMEKA

Drill Hole:	97MT28-1	Date Started:	February 8/97
Dip:	- 90 Deg	Date Completed:	February 10/97
Northing:	985 N	Core Size:	NQ
Easting:	195 W	Date Logged:	February 11/97
Drill Contractor:	Aggressive	Logged By:	S. Ball

0.0 - 22.2 m	**OVERBURDEN**
0.0 - 14.33	Peat/ clay
14.33 - 22.2	Boulders sandstone, shale, quartzite. Clay seams.
22.2 - 44.75 m	**INTERBEDDED SANDSTONE/ SHALE/ SILTSTONE** - 40% sandstone: mainly fine-grained, but varies to coarse-grained / massive to strongly bedded / local cross-bedding / light to medium grey color / competent; >90% recovery; average unbroken length 30 cm / composed of grains of quartz, feldspar, hornblende, and mica. - 50% shale: fine-grained / massive to strongly laminated / medium grey to black in color / less competent than sandstone, average unbroken length 8 cm / locally fissile / local blocky fracture / fossiliferous (bivalves/gastropods) / rare cherty, brown ironstone(?) seams. - 10% siltstone: fine-grained / massive to strongly bedded / light grey in color transitional between sandstone and shale contacts / competent. - local rock fragments - calcareous throughout - local coal seams/mud seams - minor worm burrow tubes(?)/ flame structures
24.8	Sandstone bedded @ 77 deg tca (cm scale bedding)
27.75	Flame structure
38.8 - 40.9	Blocky. 80% interval broken into pieces 2-4 cm length
42.6	Uniformly laminated @ 80 deg tca. (mm to cm scale sandstone/siltstone beds)
44.75 - 50.2 m	**SANDSTONE** - as uphole - medium to coarse-grained - weakly to moderately bedded
44.75	Contact @ 73 deg tca
46.9	Weakly bedded @ 70 deg tca
50.2	Contact @ 80 deg tca
50.2 - 74.9 m	**INTERBEDDED SANDSTONE/SILTSTONE** - units as uphole - light to medium grey color - sandstone is fine-grained - massive to strongly bedded - local waxy green alteration

	- common bituminous coal seams (may contain rare amber)
	- 5% fossiliferous shales throughout
52.7 - 58.0	Waxy seams/ very soft
61.8	Bedding @ 83 deg tca (cm scale)
66.0 - 67.2	Contorted laminations/ rare flame structures
73.3 - 74.8	Friable/altered sandstone. Bands (1-2 cm size) of very friable rock (breaks with hands) alternating with competent sandstone. Average unbroken length 5 cm.
74.9 - 79.85 m	**INTERBEDDED SHALE/SILTSTONE/COAL** - units as uphole - 70% shale: brown-grey color/ moderately well bedded @ 82 deg tca on average - 15% coal: bituminous - 15% siltstone - moderately competent; average unbroken length 10 cm - lower contact sharp @ 87 deg tca
79.85 - 86.25 m	**SANDSTONE** - as uphole - medium-grained - weakly bedded - light to medium grey color - calcareous
85.8	Weak bedding @ 67 deg tca
85.95 - 86.25	Common discontinuous coal stringers (mm scale)
86.25 - 106.8 m	**INTERBEDDED SHALE/SILTSTONE/SANDSTONE** - units as uphole - 25% shale / 30% siltstone/ 45% sandstone - competent; recovery >90% - calcareous throughout - common coal seams (less competent) containing minor amber - local friable, waxy, greenish brown intervals, 4-20 cm in length
98.95	Flame structure
103.0	Bedding @ 68 deg tca
106.8 - 108.8 m	**SANDSTONE** - as uphole - medium to coarse-grained - calcareous - moderately to strongly bedded
108.8 - 109.4 m	**SAND/ROCK FRAGMENTS** - unconsolidated sand and rock fragments up to 3 cm size - rock fragments angular to subrounded; 70% subangular. - interval is contaminated with drill filings
109.4 - 109.8 m	**SANDSTONE** - as at 106.8 - 108.8 m
109.8 - 109.9	**SAND/ROCK FRAGMENTS** - as at 108.8 - 109.4 m - quartzite pebbles (rounded) up to 3 cm size
109.9 - 112.7 m	**SANDSTONE**

	- as at 108.8 - 109.4 m
111.0	Bedding @ 75 deg tca
112.7 - 113.39 m	**BITUMINOUS COAL/BLACK SHALE** - 70% coal / 30% black shale - moderately competent. Average unbroken length 5 cm. - blocky fracture within shale
113.39	**EOH**

KENNECOTT CANADA EXPLORATION INCORPORATED
1997 EXPLORATION DRILLING
MASUMEKA

Drill Hole:	97MT28-2	Date Started:	February 10/97
Dip:	- 50 Deg.	Date Completed:	February 12/97
Northing:	960 N	Core Size:	NQ
Easting:	260 W	Date Logged:	February 15/97
Drill Contractor:	Aggressive	Logged By:	S. Ball
Azimuth:	269 Deg.		

0.0 - 30.5 m **OVERBURDEN**
- peat and clay
- boulders sandstone/siltstone/quartz/rare shale

29.6 - 30.5 Clay and siltstone boulders, only

30.5 - 34.5 m **SHALE/ SILTSTONE/ COAL**
- blocky ground
- common clay seams
- medium to dark grey shales and siltstone/ black coal
- recovery >80%
- 75% of interval very broken up. Average unbroken length 3 cm
- coal and shale are especially broken up

32.6 - 32.65 Soft, clayey interval. Mint green color. Well defined contacts. Upper contact broken up. Lower @ 65 deg tca.

34.5 - 49.6 m **INTERBEDDED SHALE/ SANDSTONE**
- 60% sandstone: fine to medium-grained, coarsening down section/ light grey color/ strongly bedded up section grading to generally more weakly bedded down section (mm - cm scale)/ calcareous/ very competent; recovery >90%; average unbroken length 30 cm/ composed of grains of quartz, feldspar, hornblende, mica.
- 40% shale: fine-grained/ light to dark grey in color/ strongly laminated (mm - cm scale) @ 45-60 deg tca/ calcareous/ somewhat fissile/ local chalky grey and/or brown laminations/ moderately competent; recovery >90%; average unbroken length 2-3 cm/ locally varies to mudstone.
- beds of shale and sandstone alternate over lengths of 0.5 - 5.0 m
- sandstone beds increase in frequency down section
- minor bituminous coal seams (cm scale) throughout

36.8 - 37.6 Parallel open fractures @ 30 deg tca (set of three)
40.2 - 40.8 Shale broken up/ muddy
45.75 Sandstone/shale contact @ 50 deg tca
47.0 - 49.6 Strongly bedded (mm scale), fine-grained sandstone. Bedding @ 50-60 deg tca

49.6 - 69.45 m **INTERBEDDED SHALE/ SILTSTONE**
- shale: similar to that uphole/ blocky fracture/ medium grey to black in color/ minor fossils(bivalves/gastropods)/ massive(minor) to very strongly laminated.
- siltstone: fine-grained/ light grey in color/ massive to strongly bedded

	- relatively competent throughout; average unbroken length 15 cm
	- calcareous throughout
57.1 - 64.3	Laminated @ 40-55 deg tca. Finely laminated siltstone. Brown, chalky grey and dark grey laminations. Varies to mudstone.
69.45 - 72.4 m	**SANDSTONE**
	- as uphole
	- fine to medium-grained
	- light grey in color
	- calcareous
	- very weakly to locally strongly bedded
	- very competent; recovery >90%
	- common mm scale coal stringers
69.45 - 69.75	Very strongly laminated siltstone @ 58 deg tca. Locally contorted.
69.45	Upper contact sharp @ 60 deg tca
72.4	Lower contact sharp @ 50 deg tca
72.4 - 100.3 m	**INTERBEDDED SILTSTONE/ SHALE/ SANDSTONE**
	- units as uphole
	- alternating beds: 60% siltstone/ 20% shale/ 20% fine-grained sandstone
	- light to medium grey in color
	- minor coal
	- locally fossiliferous (gastropods/bivalves)
	- calcareous
	- competent; recovery >90%
	- massive to strongly bedded, mm - cm scale. Locally contorted.
	- local waxy, green friable intervals associated with coal seams
72.6	Shale laminated @ 57 deg tca
84.6	Siltstone laminated @ 48 deg tca
87.1 - 88.8	Coal and shale. Very friable/ crumbles with hands. Brownish black, varying down section to green-grey color
89.7 - 90.0	Blocky fracture
93.4	Flame structure
100.3 - 106.2 m	**SANDSTONE**
	- as uphole
	- light grey in color
	- weakly to strongly bedded @ 68-75 deg tca
	- local friable/clayey bands, cm scale
	- minor mm scale coal seams
106.2 - 112.9 m	**INTERBEDDED SILTSTONE/ SANDSTONE/ SHALE/ COAL**
	- units as uphole
	- 70% siltstone/ 10% sandstone/ 10% shale / 10% bituminous coal
106.5 - 106.8	Soft, waxy, green interval
106.9 - 107.0	Soft, waxy, green interval
109.85	Sandstone/shale contact @ 30 deg tca
111.0	Flame structure
112.9 - 120.5 m	**SANDSTONE**
	- as uphole
	- 10% shale and siltstone beds
	- medium to coarse-grained
	- calcareous
	- weakly to strongly bedded

	- competent; recovery >90%; average unbroken length 60 cm
113.2	Contact of sandstone/siltstone @ 67 deg tca. Flame structure.
115.55	Contact of fine-grained sandstone/ coarse-grained sandstone @ 40 deg tca
117.0 - 117.4	Common discontinuous coal stringers @ 60-70 deg tca
120.5 - 148.7 m	**INTERBEDDED SHALE/ SILTSTONE/ SANDSTONE** - units as uphole - 40% shale: locally fossiliferous - 35% siltstone - 25% sandstone: fine-grained - light to medium grey and green-grey colors - weakly to strongly bedded - common coal intercalated with friable, waxy, green intervals of shale(?)
138.1 - 138.2	Bed oriented @ 60 deg tca, containing subrounded clasts shale, 2-3mm average size
142.6	Shale weakly bedded @ 50 deg tca
148.0	Bedding @ 50 deg tca, mm scale
148.7 - 155.85 m	**SANDSTONE** - as uphole - weakly to strongly bedded @ 30-80 deg tca, mm - cm scale bedding - fine to medium-grained - local contorted bedding - calcareous - very competent. Average unbroken length 50 cm
148.72	Truncated bedding
155.65 - 155.7	Bed containing subangular clasts of shale, 0.2 - 1.0 mm size
155.85 - 175.87 m	**INTERBEDDED SHALE/ SILTSTONE/ SANDSTONE** - units as uphole - 45% shale: chalky light grey to black in color/ weakly bedded to strongly laminated/ local brown mottles and laminations - 40% siltstone: fine-grained/ light to medium grey color - 15% sandstone: fine-grained/ weakly to strongly bedded - moderately competent throughout. Average unbroken length 15 cm - common coal seams intercalated with intervals of friable, waxy, green shale.
160.0	Strongly laminated @ 43 deg tca
165.4 - 165.9	Core broken up. Non-calcareous
167.5	Bedding @ 43 deg tca (cm scale)
175.87 m	**EOH**

APPENDIX XI

COST STATEMENTS

MASUMEKA-TROYMIN PROPERTY, Alberta

1997 Assessment Filing

Permit Number	Township	Range	Sections	Anniv. Date	Size (HA)	Extension Date	Assessment $ Required	Report Due Date	Assessment $ Filed	New Expiry Year
9393030652	53	25	2W,3-11,13-36	3/17/97	8576.00	6/15/97	$85,760.00	9/13/97	$85,760.00	1999
9393030653	54	25	1-36	3/17/97	9216.00	6/15/97	$92,160.00	9/13/97	$92,160.00	1999
9393030654	54	26	1-36	3/17/97	8576.00	6/15/97	$85,760.00	9/13/97	$21,313.77	
9393030655	54	27	1-36	3/17/97	9216.00	6/15/97	$92,160.00	9/13/97	$0.00	
9393030657	55	26	1-36	3/17/97	9216.00	6/15/97	$92,160.00	9/13/97	$0.00	
9393030658	55	27	1-5,6E,7E,8-17,18E,19E, 20-29,30E,31E,32-36	3/17/97	8311.00	6/15/97	$83,110.00	9/13/97	$0.00	
9393030660	56	27	1-5,6E,7E,8-17,18E,19E, 20-29,30E,31E,32-36	3/17/97	8293.00	6/15/97	$82,930.00	9/13/97	$0.00	
9393030663	57	1	1-35	3/17/97	8960.00	6/15/97	$89,600.00	9/13/97	$0.00	
9393030665	58	1	2-11,14-23	3/17/97	7680.00	6/15/97	$76,800.00	9/13/97	$0.00	
9393030667	58	1	26-35;	3/17/97	8192.00	6/15/97	$81,920.00	9/13/97	$0.00	
	59	1	1-30,33,34							
					86,236.00		**$ 862,360.00**		**$199,233.77**	
					Total Area				**Total Assessment Filed**	

Kennecott Canada Exploration Inc.

9/9/97

COST STATEMENT

TROYMIN CLAIM GROUP

(See attached notes for detailed explanation of components of specific line items)

Ground Geophysical Surveys		
10 Magnetic Surveys	$	73 985.00
Diamond Drilling (1007 m)	$	60 113.77
Stream Sediment Samples		
Samples Collected: 83 @ $768.67	$	63 800.00
Mineral Grains Probed: 89 @ $15	$	1 335.00
TOTAL ASSESSMENT COSTS	$	199 233.77

NOTE TO COST STATEMENT

The ground geophysical survey cost is all inclusive, including salaries of Kennecott and contractor personnel, personnel support (room and board, transportation), vehicle support, and in house office support.

The diamond drilling cost is all inclusive, including salaries of Kennecott and contractor personnel, personnel support, direct contractor charges for the drill equipment and all supplies, fuel, mobilization and demobilization and drill processing costs, and in house office support.

The stream sediment sample cost is all inclusive, including salaries, personnel support, supplies such as sample bags, vehicle support with fuel, sample shipping, laboratory processing and microscope work, and in house office support.

The mineral grain probe cost includes the cost of electron microprobe analysis and the preparation by Kennecott personnel of each mineral grain probed, and in house office support.

APPENDIX XII

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Susan Ball, hereby certify that:

1. I am presently employed by Kennecott Canada Exploration Inc. as a Geologist.

2. I am a graduate of the University of Saskatchewan, BSc. (Geology), 1987.

3. I have practiced my profession as a geologist for 10 years.

4. The information used in this report is based on reports, maps, and data lists on file at Kennecott Canada Exploration Inc., and the author's familiarity with the project area.

Dated this 11 day of September, 1997 at Vancouver, B.C.

[redacted]