MAR 19970009: MASUMEKA-RICH

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19970009

ASSESSMENT REPORT

KENNECOTT CANADA EXPLORATION INC.

RICH CLAIM BLOCK

GEOLOGICAL, GEOPHYSICAL,

AND GEOCHEMICAL REPORT

DATES WORK PERFORMED
MARCH 1995 TO JUNE 1997

HINTON AREA

N.T.S. 83F/11, 14

Latitude 53° 32' N to 53°59' N
Longitude 117°03' W to 117°25' W

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

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September 1997

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1.0 SUMMARY

The Rich claims comprise 73 738 hectares north of Hinton, AB. Mineral grains indicative of possible diamond-bearing kimberlites have been recovered from stream sediment samples on the property. Exploration work has been conducted by Kennecott Canada Exploration Inc. from 1996 until present. Prior to that, joint venture partner Montello Resources of Vancouver was operator. Work filed in this report includes ground geophysical surveys and heavy mineral sampling and processing.

Geophysical ground surveys have been conducted over airborne geophysical anomalies on the property. To date, no kimberlitic bodies have been identified on the Rich claim block.

2.0 INTRODUCTION

The Rich 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 nearby source. Work to date has focused on extensive stream sediment sampling, indicator work, and airborne and ground geophysics.

3.0 LOCATION AND ACCESS

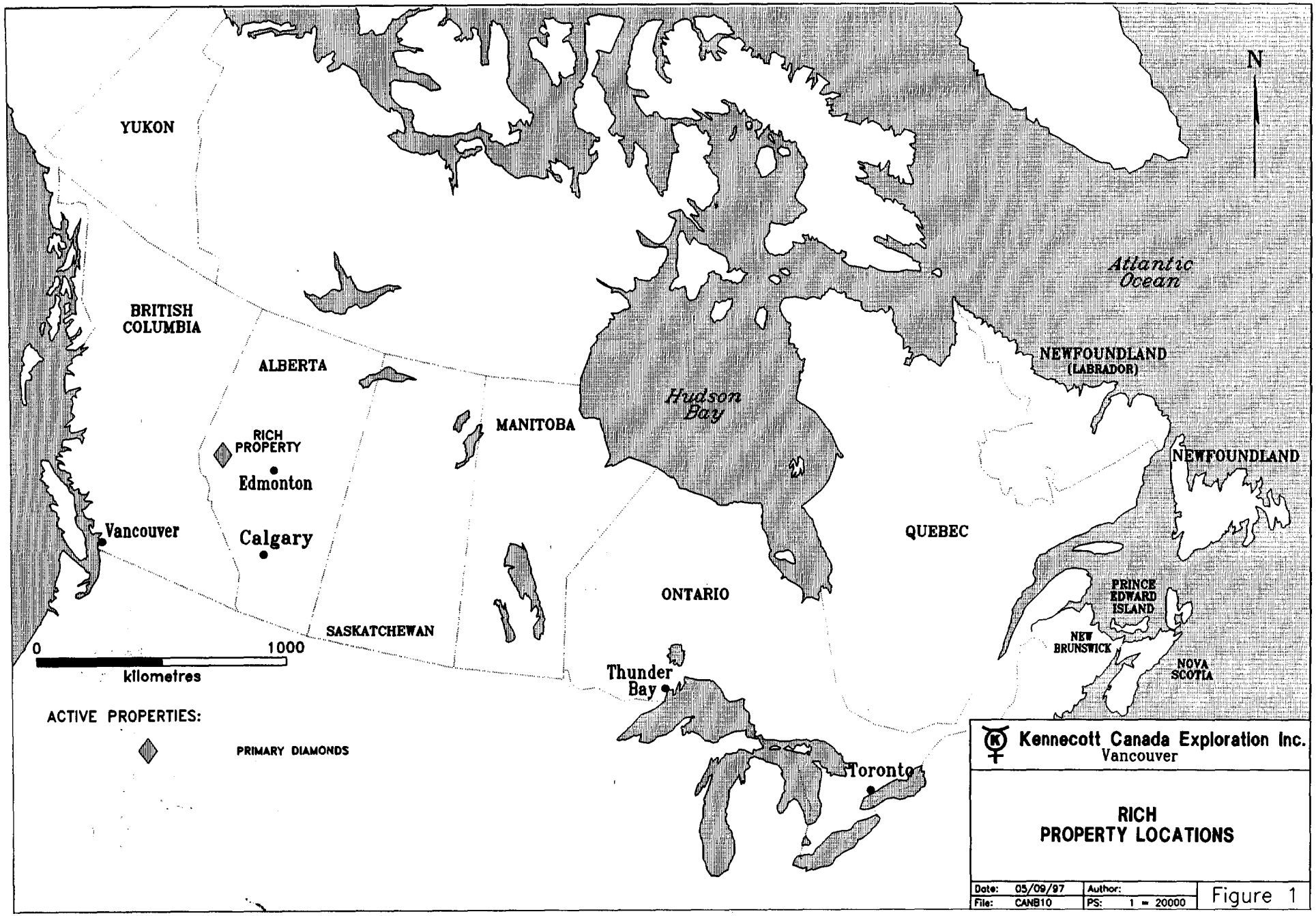
The Rich claims are located between latitudes 53°32'N and 53°59'N and longitudes 117°03'W and 117°25'W on the 1:50 000 NTS map sheets 83F/11 and 83F/14 (Figure 1). The property is approximately 15 km north of Hinton, Alberta.

1995,1996 and 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.

4.0 PHYSIOGRAPHY AND CLIMATE

The Rich property lies 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 within the property, dividing the Alberta Plateau (to the north) from the Alberta Plain to the south. Landforms, relief and drainage have been influenced by the


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

effects of several periods of glaciation and by post-glacial fluvial processes. The topographic relief is low to moderate ranging from about 920 meters in the Athabaska River valley to 1325 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 may prevail 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, 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 Rich Property consists of 10 Metallic and Industrial Minerals Permits covering a land base of 73 738.00 hectares (Figure 2). Claims, with anniversary dates are presented below in Table 1.

Table 1 - Rich Claims

RICH CLAIM BLOCK		
Claim	**Hectares**	**Anniversary Date**
9393031012	9216.00	June 30, 1997
9393031013	9216.00	June 30, 1997
9393031014	6400.00	June 30, 1997
9393031015	9216.00	June 30, 1997
9393031016	6912.00	June 30, 1997
9393031017	5120.00	June 30, 1997
9393031018	9216.00	June 30, 1997
9393031019	1536.00	June 30, 1997
9393031020	7690.00	June 30, 1997
9393031021	9216.00	June 30, 1997

6.0 PREVIOUS WORK

The area covered by the Rich 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:

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.

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

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

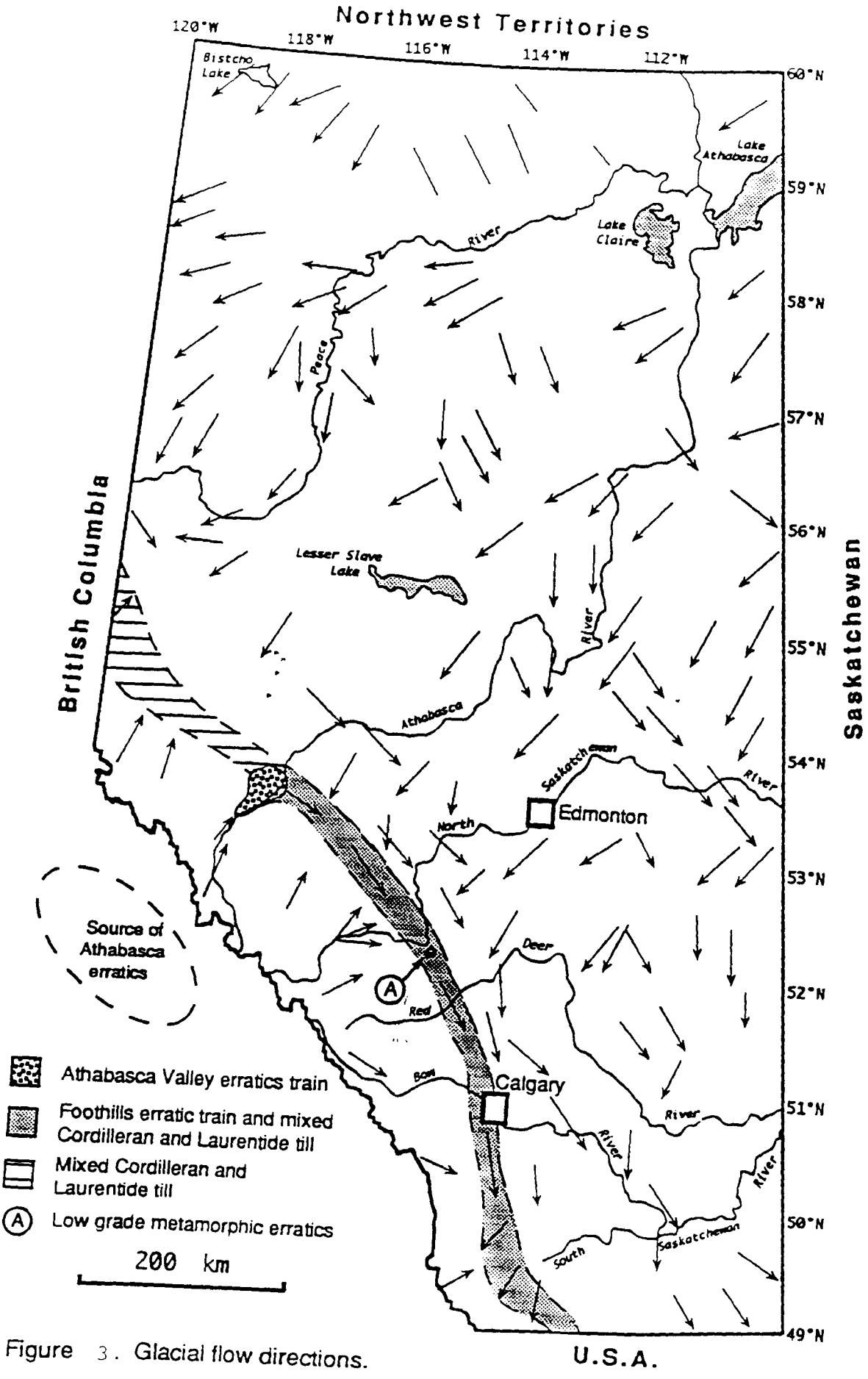


Figure 3. Glacial flow directions.

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 Rich 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 Rich 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 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 Rich 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 Rich claims consists of two main branches: ground geophysics, and heavy mineral sampling.

The entire assessment area has been covered by an airborne magnetic survey completed by Dighem in 1994. Thirteen ground magnetic surveys were completed on the Rich ground during January and February of 1996 by Amerok Geosciences Ltd. One of these magnetic anomalies were tested with NanoTEM surveys conducted by Zonge Engineering. Detailed ground magnetic surveys of several grids were carried out by Kennecott staff to in fill work previously done by Amerok.

During 1995 and 1996, 91 stream sediment, two esker, and one sandstone samples were collected on the property. These samples were processed for diamond indicator minerals.

12.0 GEOPHYSICAL PROGRAM

Magnetic Surveys

Thirteen geophysical grids were laid out and preliminary ground magnetic surveys were conducted by Amerok Geosciences Ltd. of Whitehorse, YT during January and February, 1996.

Three in fill ground magnetic surveys were completed by Kennecott staff on the New Claymore property during June and July, 1996. The surveys were conducted on established grids, over selected anomalies that were previously surveyed by Amerok. Crews were mobilized to and from the project area via a combination of 4x4 truck and ATV support.

Targets from the airborne survey are identified by the prefix "RC", and by a number (e.g. RC-18). Individual ground magnetometer surveys are located in Appendix II.

Table 2: Summary of Ground Magnetometer Surveys

GRID	EASTING	NORTHING
RC 01	474300	5973300
RC 02	477100	5980900
RC 03	473700	5978400
RC 04	484900	5976400
RC 05	473700	5960800
RC 06	492200	5939300
RC 07	492200	5937400
RC 08/09	474200	5971500
RC 10	483000	5973300
RC 16	488300	5955000
RC 17	477500	5956050
RC 18	478000	5957500

EM Surveys

One transient EM survey was conducted by Zonge Engineering and Research Organization of Arizona over a previously established UTM grid (RC 18). stations were surveyed at 50 meter station spacing and at 50 or 100 meter line spacing. The survey took place during July, 1996. All field equipment was provided by Zonge Engineering (Appendix III).

13.0 HEAVY MINERAL SAMPLING PROGRAM

A regional stream sediment sampling program carried out during the summers 1995 - 1996 resulted in the collection of 91 samples on and adjacent to the Rich block.

The sampling program was conducted from July to October, using a combination of 4x4 truck and ATV support. Crews of two people evaluated and sampled selected 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 20 kg sample was sieved using water from its parent stream. Samples were collected in plastic pails, excess water poured off, then stored for up to three months before being shipped to the Rio Tinto lab in Perth, Australia. A silt sample was taken from each site and sent to Chemex Laboratories in Vancouver, BC for I.C.P. analysis.

Samples of 12 kg weight (identified by the prefix OB) were collected in plastic bags and shipped to Loring Laboratories in Calgary, AB for indicator analysis.

Rock and esker samples were shipped to Kennecott Laboratories in Thunder Bay, ON, where they were crushed and analyzed for indicators.

13.1 Heavy Mineral Sample Processing

During 1996 and 1997, the majority of sample processing took place at the Rio Tinto heavy mineral laboratory in Perth, Australia. Sample processing consists of a series of procedures in order to concentrate the sample down to its heavy mineral constituents. These steps 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 (eg. amphiboles) by heavy liquid (SG 3.25) from magnetic fraction
5. The magnetic fraction is 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. Scanning electron microscope used to distinguish pyrope from grossular garnets

Samples identified by the prefix "OB" were analyzed for indicators at Loring Laboratories. See Appendix VII for a flow chart outlining the Loring procedure for heavy mineral processing.

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 were 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 (denoted by the prefix "OB")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.

13.3 Discussion of Heavy Mineral Sample Results

Of 91 stream sediment samples collected during summer of 1996, heavy minerals with possible kimberlitic affinity were recovered from most samples. Mineral grains selected from samples with the prefix "OB" were submitted to R.L. Barnett Geological Consulting Inc. of London, Ontario for electron microprobe analysis. 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 CONCLUSIONS AND RECOMMENDATIONS

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

15.0 BIBLIOGRAPHY

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Union Oil Co. of Canada Ltd. (1979) Obed-Marsh Thermal Coal Project, Volumes II - III.

APPENDIX I

PROJECT PERSONNEL AND

DAYS WORKED

PROJECT PERSONNEL AND WORK DATA

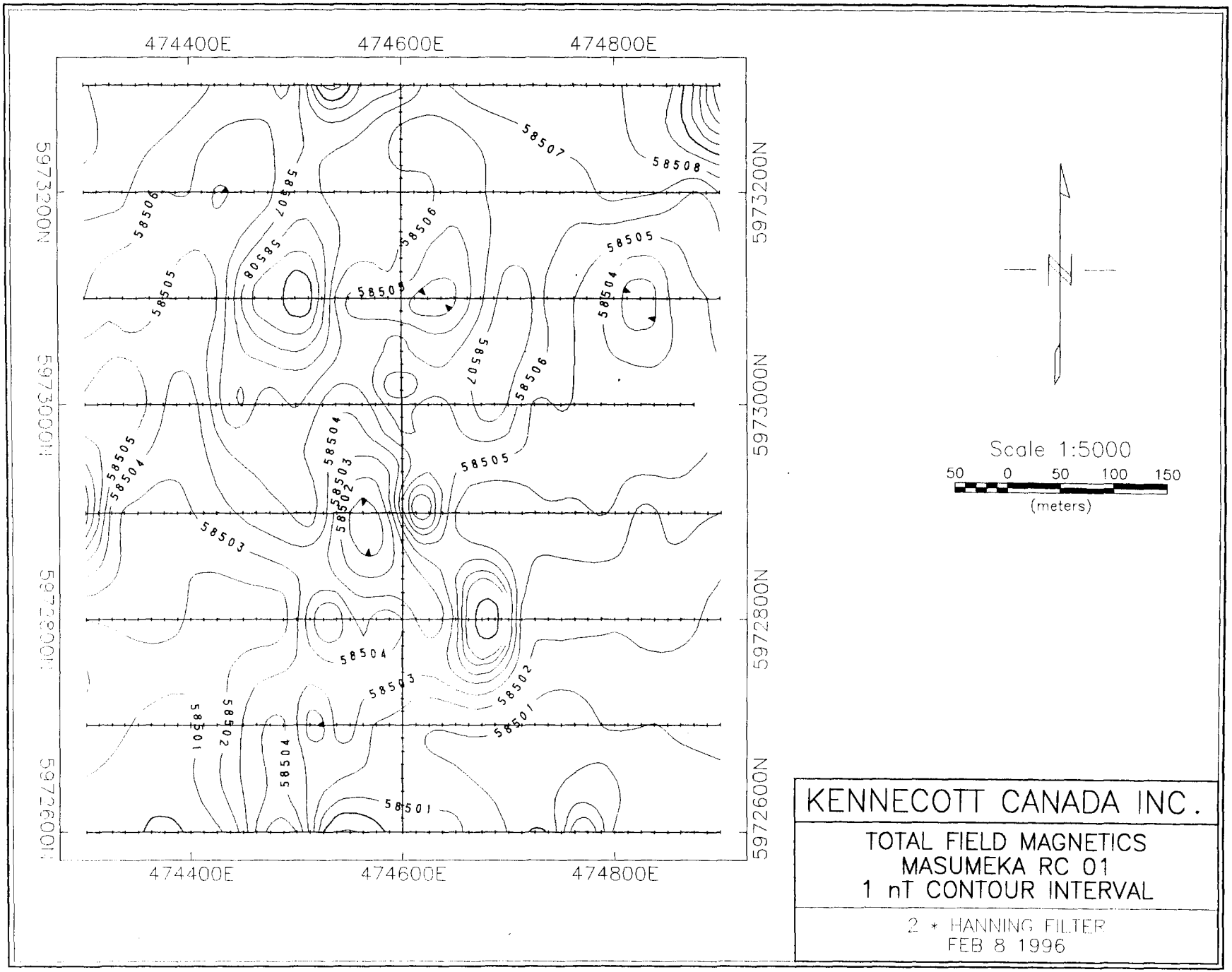
The following personnel were actively engaged in the exploration of the Rich claim block. Each individual worked on a number of properties being actively explored by Kennecott Canada Exploration Inc. The number of days worked directly on the Troymin claim block and period during which the days were worked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

PERSONNEL	DAYS WORKED	PERIOD WORKED
Susan Ball	28	July-October 1996
Richard Beck	8	June and October 1996
Anne Bordeleau	5	September-October, 1996
Robert Dinning	3	October 1996
Katya Masun	3	June 1996
Colin Macauly	16	June-August 1996
Jen Mueller	18	July-October, 1996
Ted Muraro	10	July-August, 1996
Robert van Egmond	19	June-October, 1996

APPENDIX II

GROUND MAGNETIC SURVEY FIGURES

GROUND MAGNETIC SURVEYS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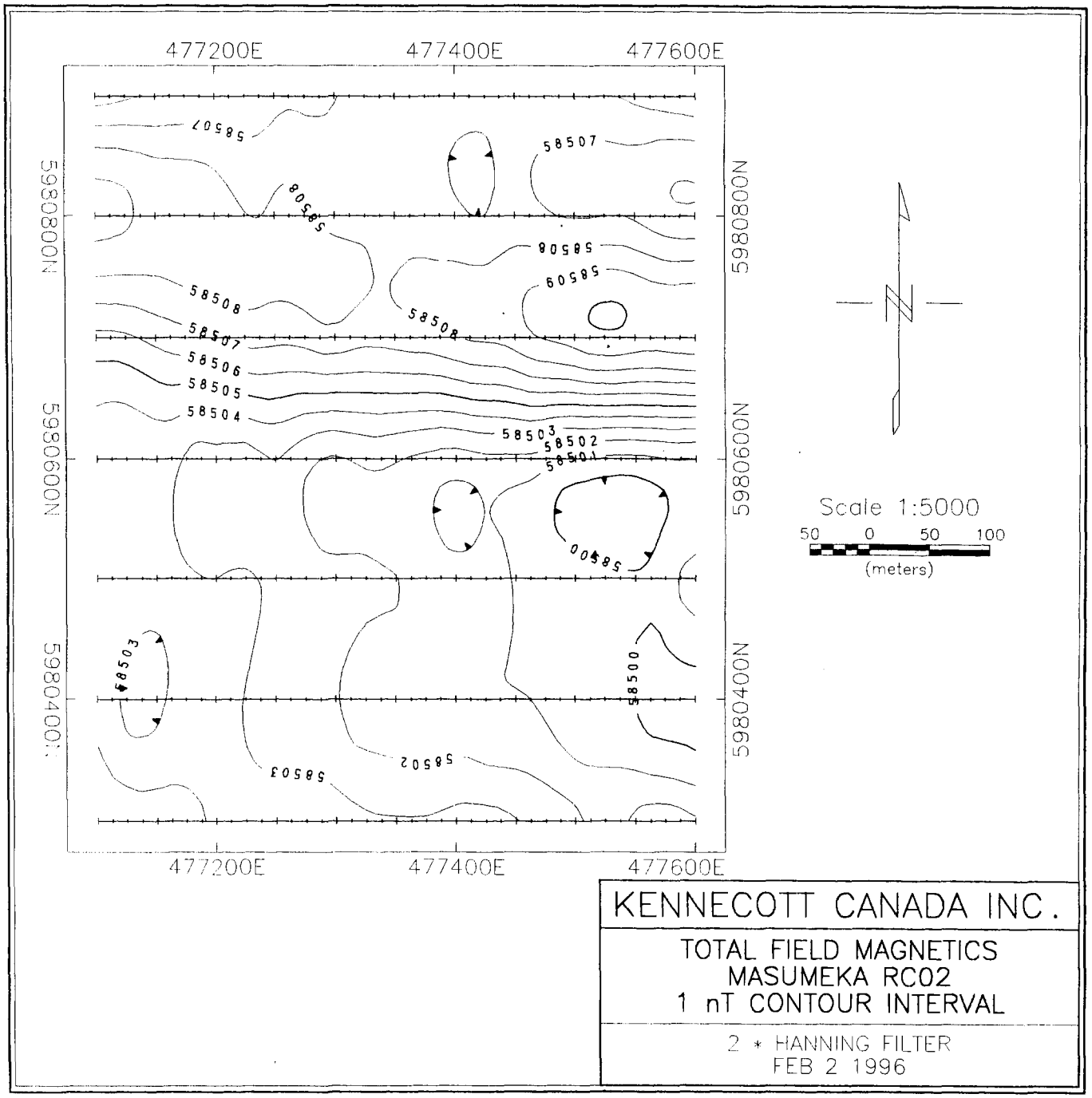
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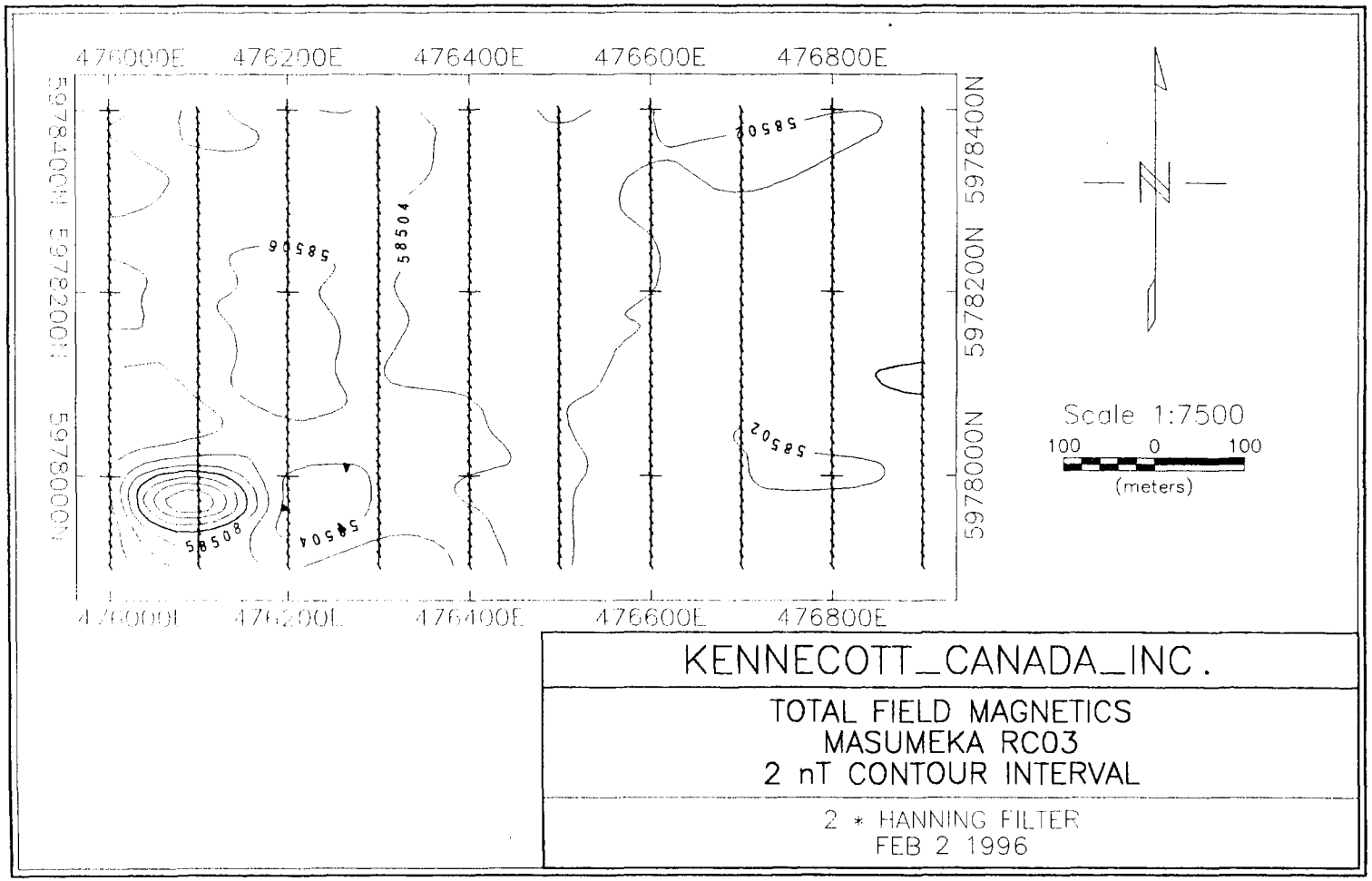
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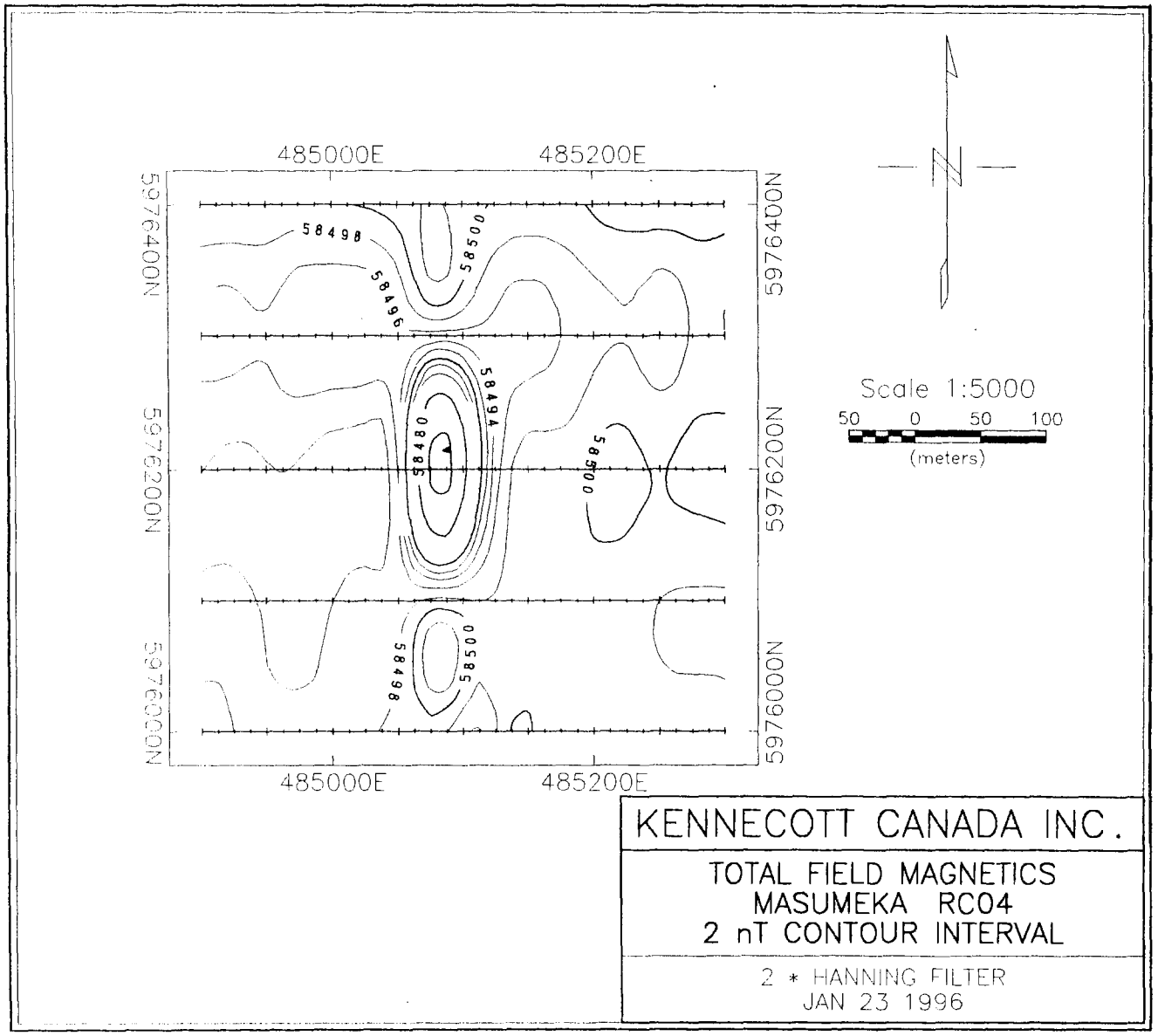
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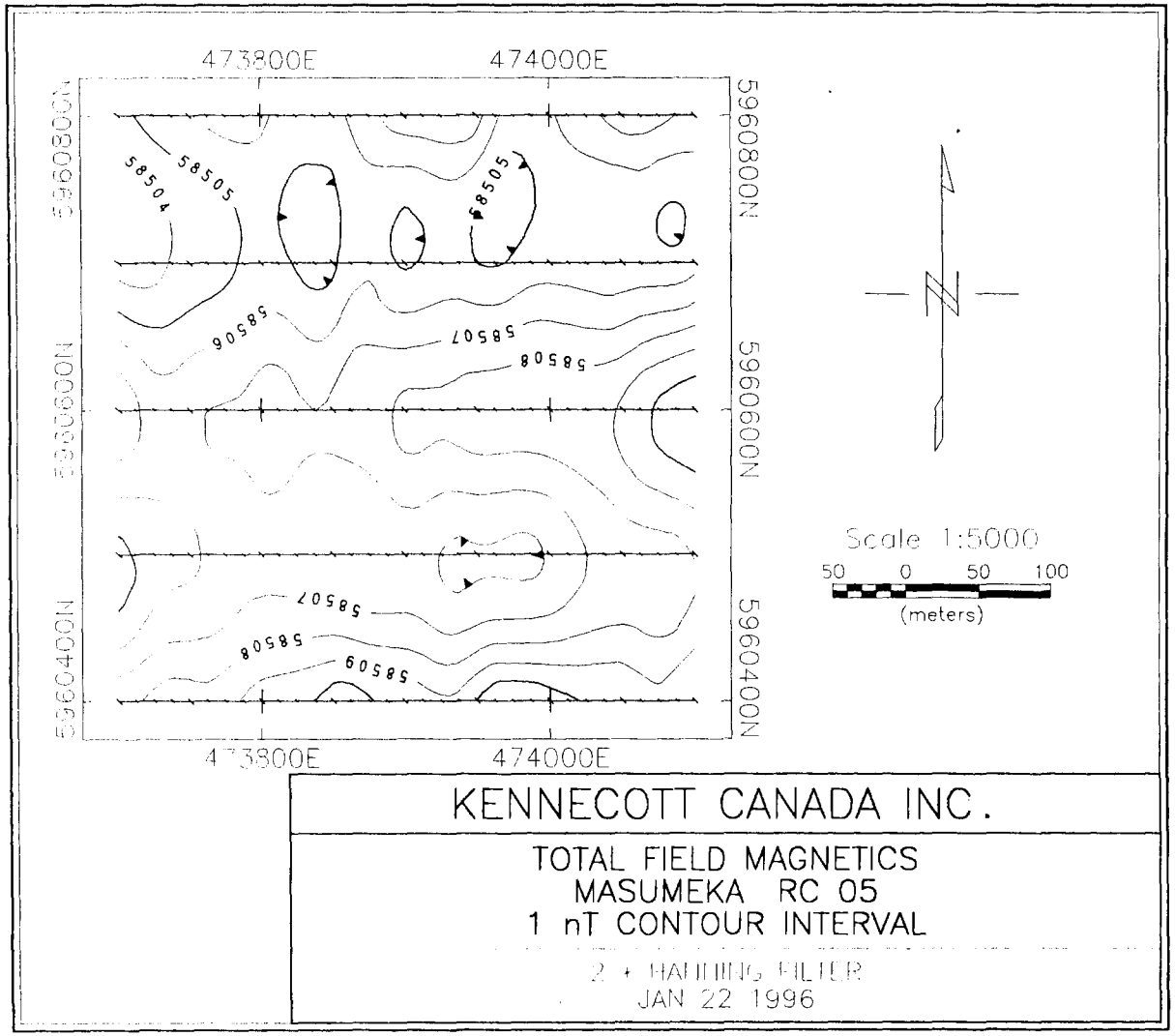
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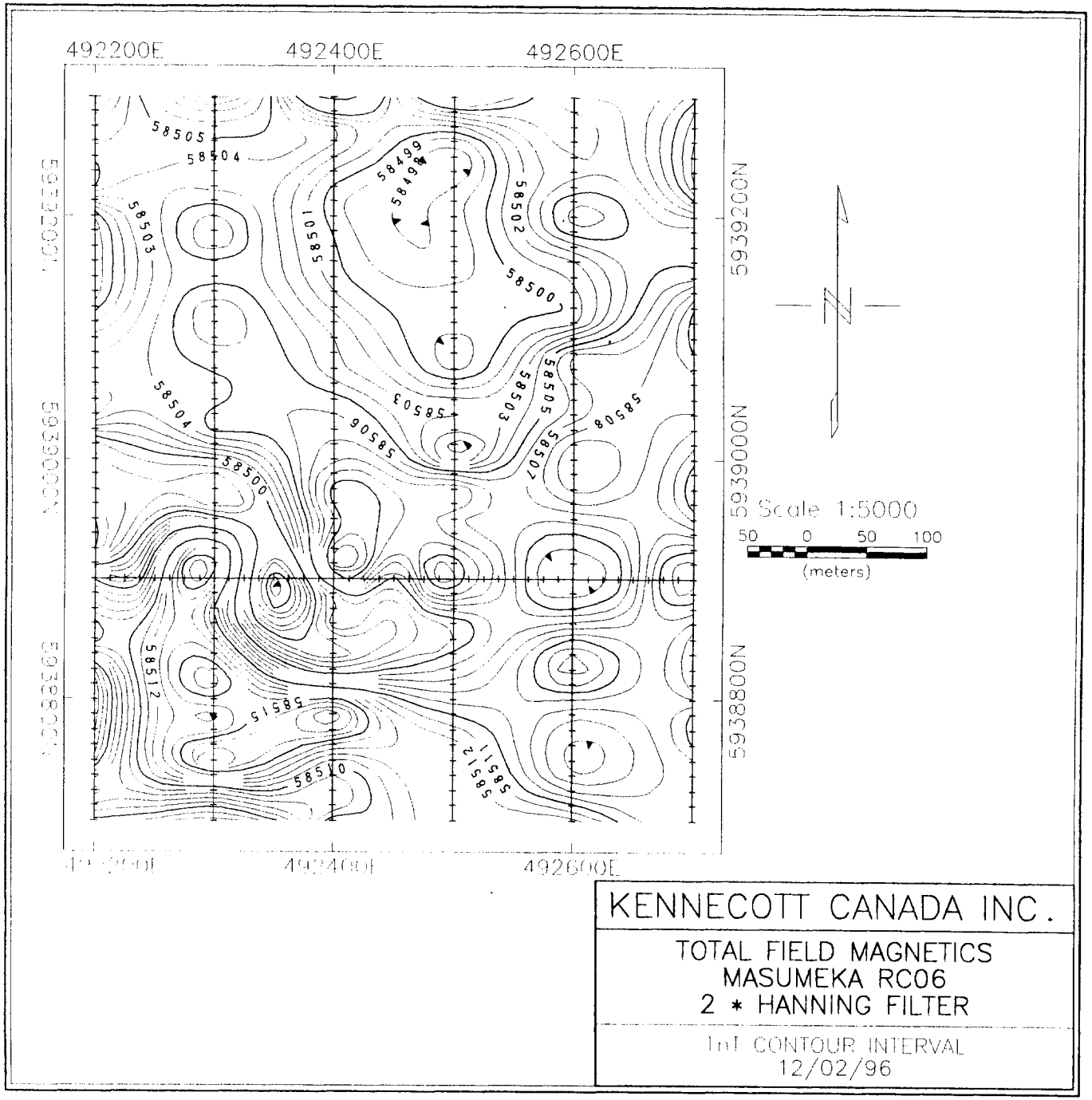
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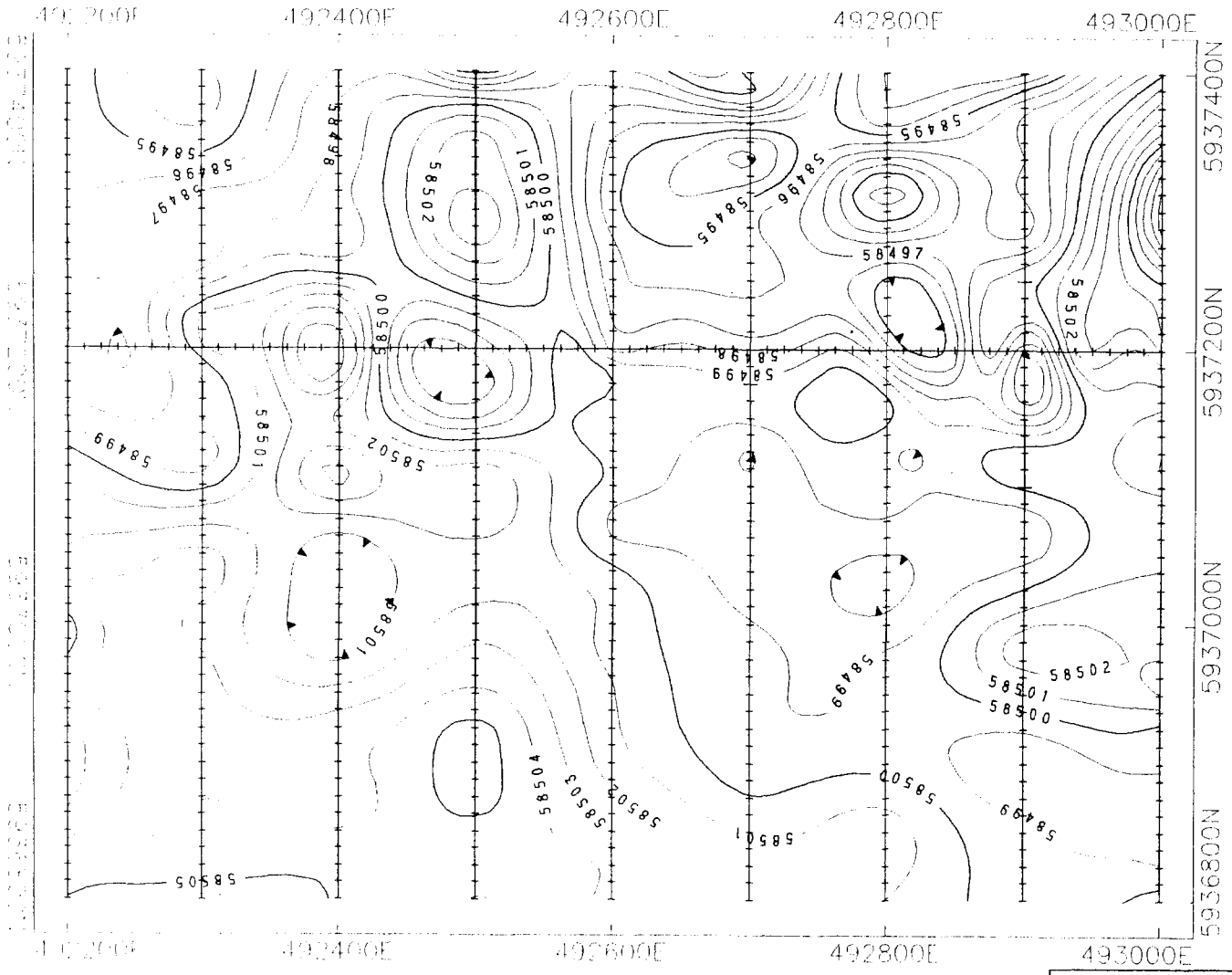

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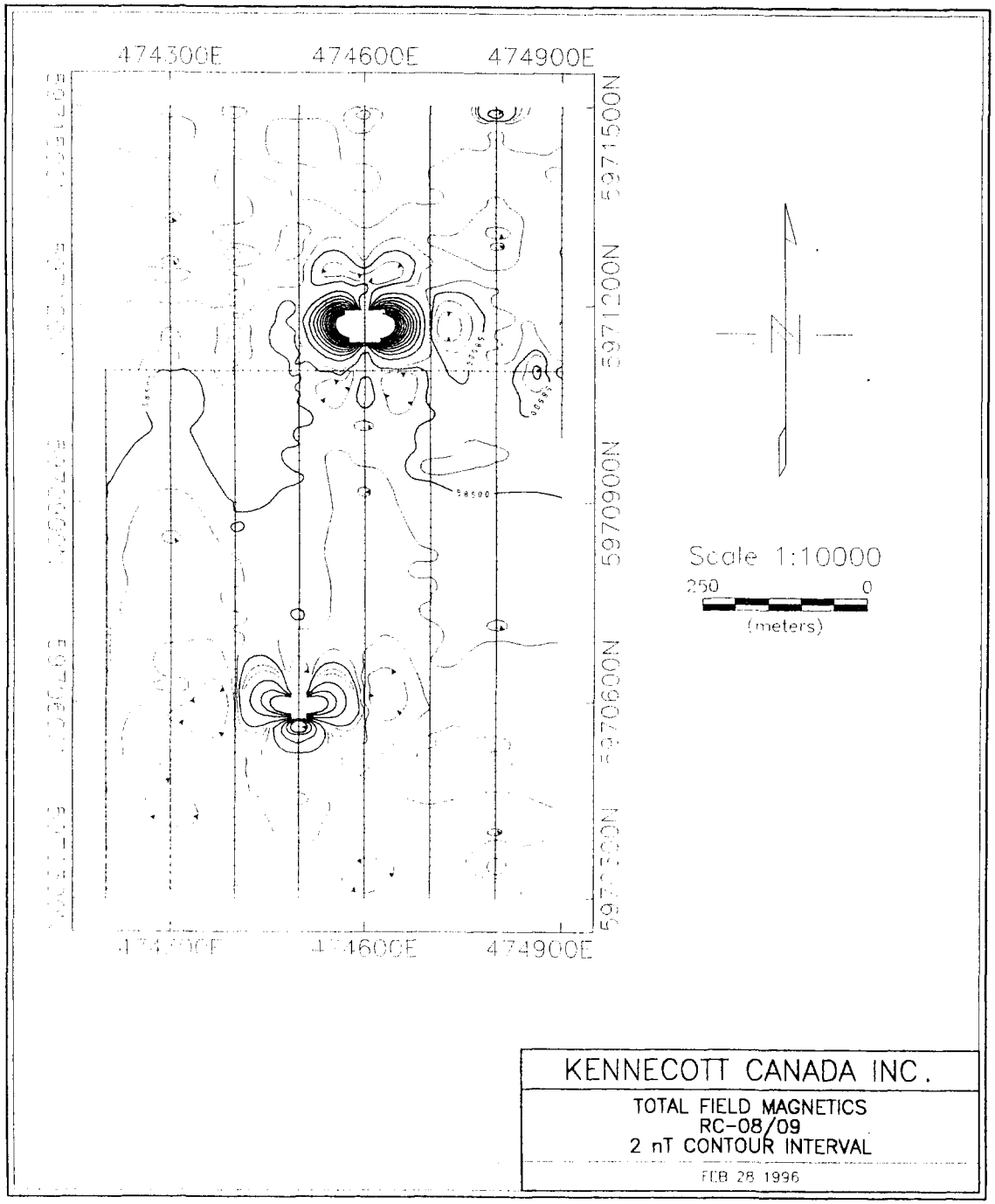

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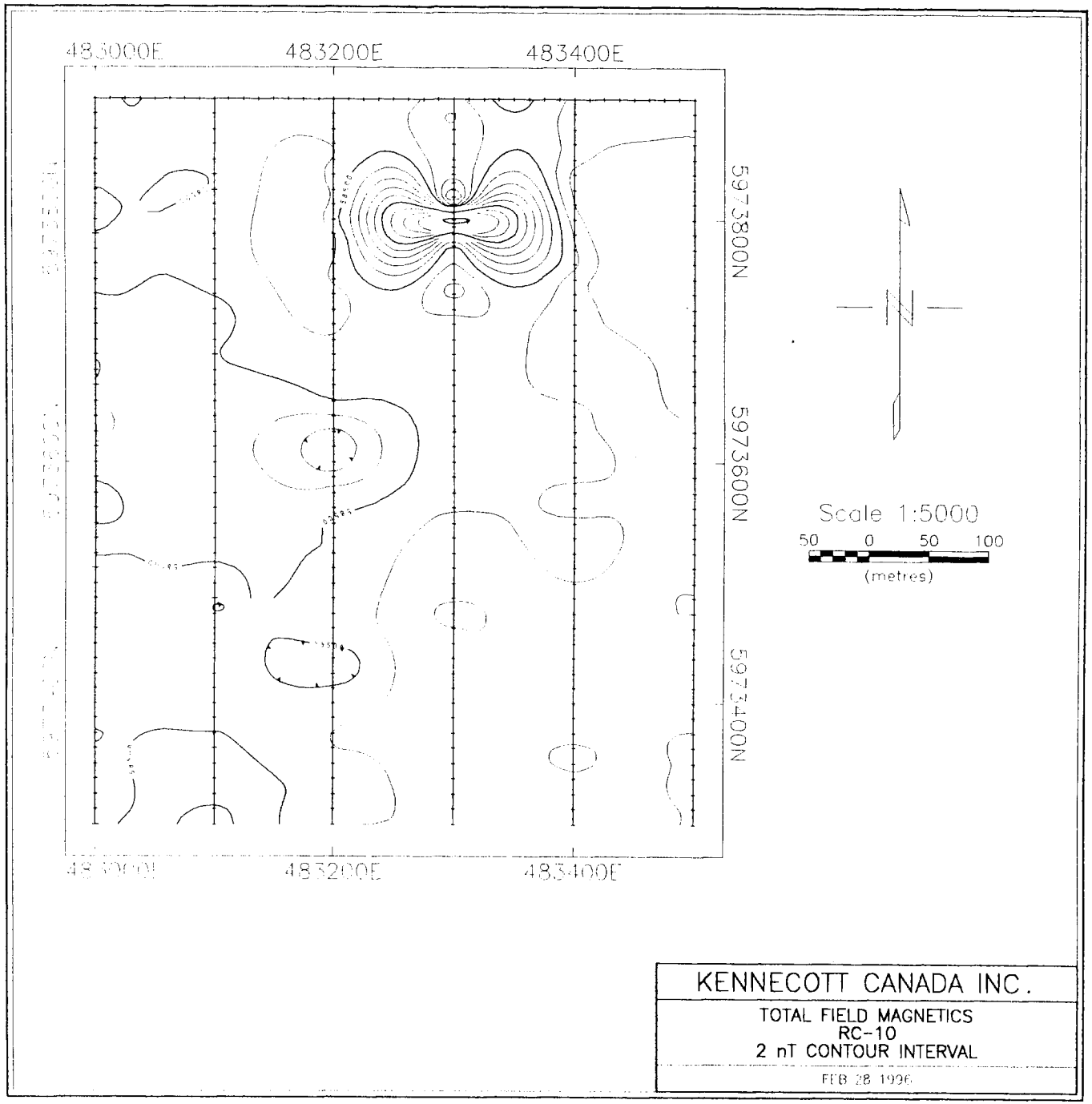
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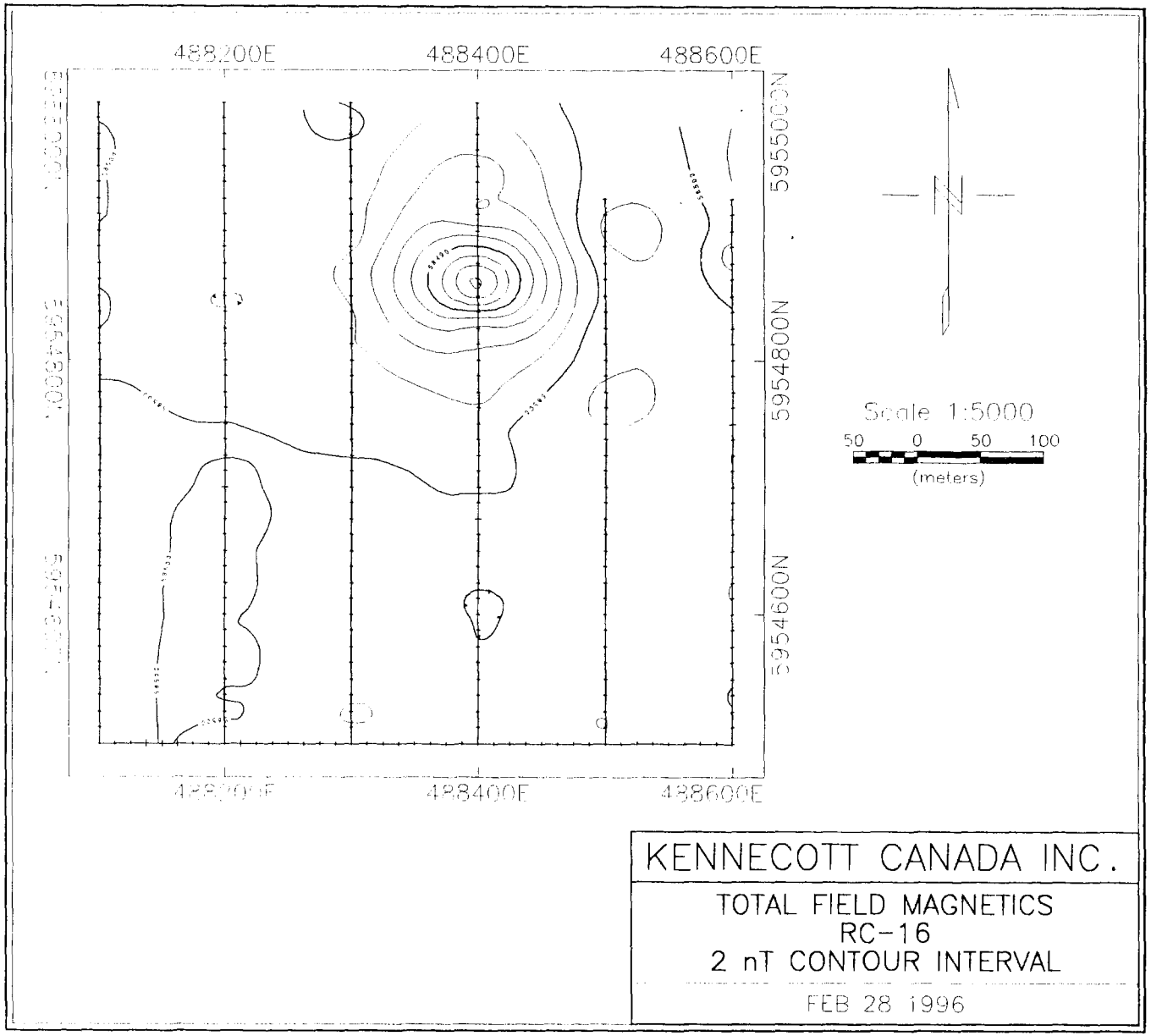

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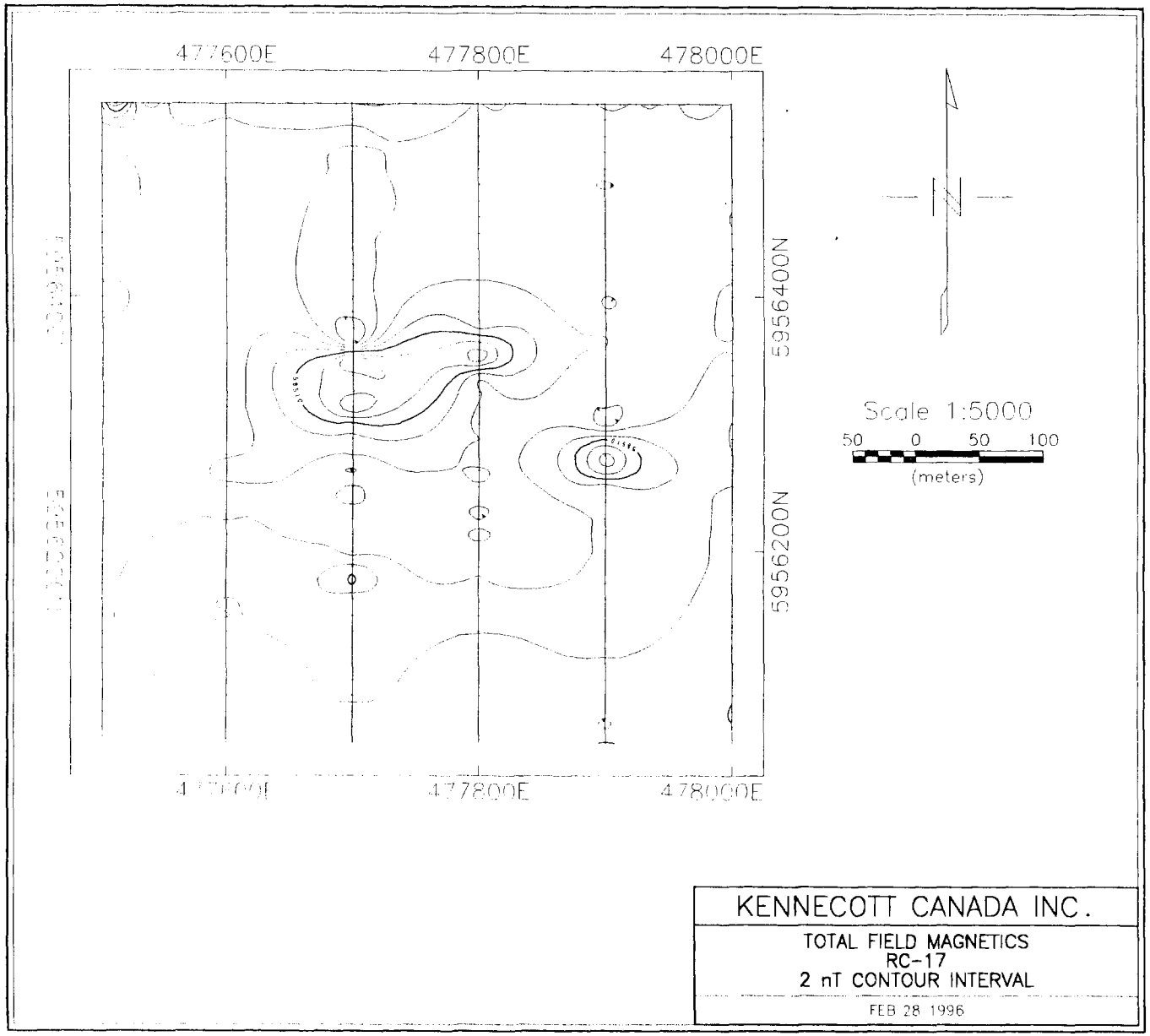
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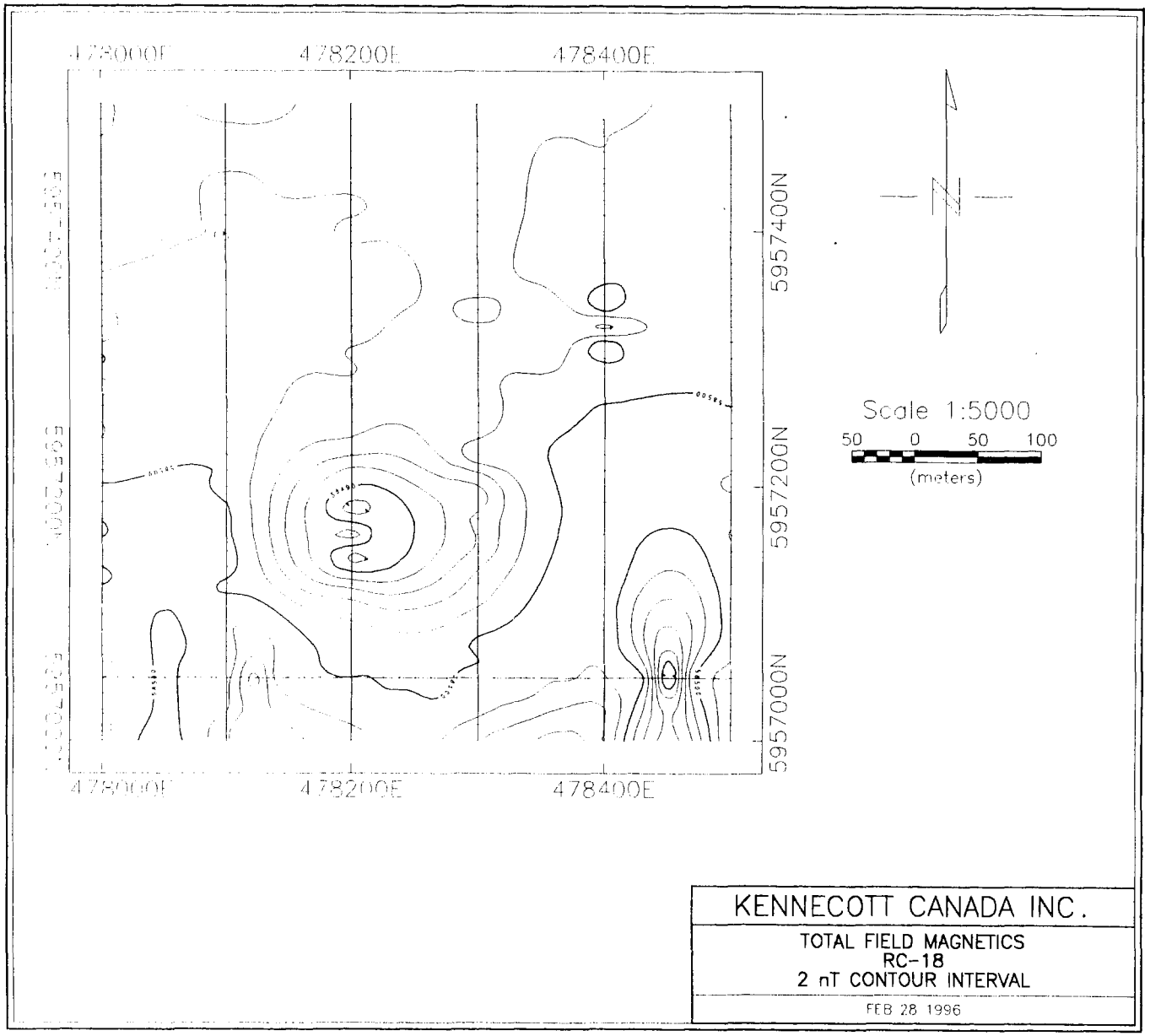
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FEB 28 1996

APPENDIX III

ZONGE ENGINEERING & RESEARCH ORGANIZATION INC. :

LOGISTICS REPORT, TEM SURVEYS, MASUMEKA PROJECT

LOGISTICS REPORT

TEM SURVEYS

MASUMEKA PROJECT
Hinton, Alberta, Canada

for
Kennecott Canada

Issue date: October 1996
Zonge Job# 9658

Zonge Engineering & Research Organization, Inc.
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LOGISTICS REPORT

TEM SURVEY

MASUMEKA PROJECT
Hinton, Alberta, Canada

for
Kennecott Canada

PROJECT INFORMATION

Project contact:	**Susan Ball** **Rob Van Egmond** **Dave Kelsch**
Company:	**Kennecott Canada**
Location:	**Alberta, Canada**

CREW INFORMATION

Crew Chief:	**Jesse Naiman**
Crew Members:	**Mark Wald-Hopkins**
Local Hires:	**Rob Davidson**
	Heidi Biggers

PROJECT LOGISTICS

SURVEY PARAMETERS

Type of survey: **Transient Electromagnetics**

Survey Parameters: Measurements were made by transmitting a time-domain, 50% duty cycle square-wave (running at a repetition rate of 32 and 16 Hz) into a 50 or 100 meter-square loop of insulated 16 gauge wire. The decaying secondary vertical magnetic field was sensed using a square loop coincident with the transmitting loop, or a TEM/3 ferrite-cored antenna placed at the center of the transmitting loop. Each measurement consisted of 512 cycles, stacked and averaged by the digital receiver. All measurements were made and recorded at least twice to establish data repeatability. Transmitter current on all loops was 2.5 amperes for the 50 x 50 m loops, and 1.5 amperes for the 100 x 100 m loops.

TEM: The receiver, a Zonge three-channel GDP-16, and a battery-powered NT-20 transmitter, were positioned at the common corner for two loops. A Zonge TEM 3 magnetic-field sensor, oriented vertically, was placed in the center of the loop for the in-loop measurement. The effective area of the TEM 3 antenna is 10,000 m^2. For the coincident-loop measurements, a second loop overlying the transmitter loop, was used for the receiver. The effective areas were 2500 m^2 for the 50 x 50 m loops and 10,000 m^2 for the 100 x 100 m loops.

For the survey, an alternating 32 or 16 Hz squarewave was generated by the NT-20 transmitter, which was driven by the GDP-16 receiver. For TEM, the positive and negative portions of the waveform are followed by an off time, during which measurements are made of the secondary magnetic field decay associated with secondary induced galvanic and vortex currents in the ground. The secondary magnetic field mimics the primary vertical field associated with the transmitting loop. To understand the propagation of current in the ground, use is often made of the smoke-ring analogy, which has equivalent current filament rings that propagate downward and outward into the ground after current turn-off in the loop. The current filaments propagate at a rate proportional to the square root of the ground resistivity and at a 47° angle from the loop center. For each TEM measurement, a minimum of 512 cycles per reading were sampled. All the data for the sampled windows is contained within a data block which was stored in the solid-state memory of the GDP-16.

The duration and shape of the decay of the secondary fields are affected by resistivity interfaces in the subsurface. The depth of penetration is dependent upon ground resistivities, loop size, and the ability to resolve the magnitude of the signal from noise levels. Sampling of the decay is done at 1.9 microsecond intervals for NanoTEM, and 31 microseconds for regular TEM, for the GDP-16 system. After the first 6 data points (or windows), the sampled data are combined to generate windows spaced at constant logarithmic intervals.

Number of loops: 315
Number of grids: 10

Lines located by: client

FIELD EQUIPMENT
List of equipment:

#1 GDP-16, SN T026
#2 GDP-16, SN T030
NT-20
TEM-3
Wire size: RX: 16 gauge TX: 16 gauge

PRODUCTION SUMMARY

Mobe from: **Northwest Territories Canada** To: **Alberta, Canada**
Arrival date on job site: **06/23/96**
Begin work on: **06/29/96**
Date job completed: **07/17/96**
Date crew left job site: **07/19/96**
Demobe from job site to: **Tucson, AZ**

Date	Production summary
06/29	Grid NC18, lines 466425E and 466375E, tests with 50 and 100 m TX loops
06/30	Grid NC18, lines 466475E and 466450E, tests with 50 and 100 m TX loops in coincident- and in-loop configurations
07/01	Grid NC05, lines 458275E, 325E, and 375E
07/02	Day off- drive to town to e-mail data.
07/03	Grid NC19, lines 458775E, 725E, 675E, and 625E
07/04	Grid NC44, lines 465825E, 465700E
07/05	Grid RC18, lines 478125E, 225E, and 275E
07/06	Grid NC44, lines 465700E, 750E, and 625E
07/07	Grid NC10, line 445975E, 446075E, and 446175E
07/08	Grid NC59, line 465775E, 825E, 875E, and 925E
07/09	Grid NC05, line 458325E, repeat Grid NC19, line 458725E, repeat
07/10	Grid NC08, trucks and quad stuck, equipment problems, no production
07/11	Grid NC08, lines 444725E, 825E, and 925E
07/12	Grid NC18, line 466425, repeat
07/13	Grid NC19, line 458725, repeat
07/14	Grid "DSTEEL", line 999N
07/15	Grid NC20, line 435825E and 435775E
07/16	Day off, crew chief ill
07/17	Grid NC45, line 469225E
07/18	Cleaned and packed gear.
07/19	Demobe to Tucson

Data sent to office via: **Courier and E-Mail**

Total numbers:		
	Production hours:	107.5 (billed)
	Survey testing hours:	21 (at Zonge's expense)
	Weather days:	0
	Days off:	2
	Standby days:	0
	Down days:	1
	Other:	0

DISCUSSION OF THE DATA

During the first and second days in the field, numerous tests were run along lines over Grid NC18. These tests included running NanoTEM and regular TEM using 50 x 50 meter and 100 x 100 meter transmitter loops for in-loop and coincident-loop surveys.

The NanoTEM data look reasonable, showing variations in the sub-surface down to about 150 meters. However, the intent was to be able to map down to 200 meters, so NanoTEM was not considered for further work.

The coincident-loop data show very strong conductive and resistive variations at depth, but unfortunately the data are probably not valid. The alternating high/low resistivity variations at depth look very suspicious. See for example Line 466425E.

On the second day on Grid NC18, both in-loop and coincident-loop surveys were run on Line 466450E using 100 x 100 meter transmitter loops. The results of the two surveys are basically identical, which is to be expected as long as there are no IP or super-paramagnetic sources in the overburden. Based on these identical results, it was decided to use the coincident-loop method since is would be logistically easier for this survey area.

On July 12, measurements on Line 466425E were repeated, using 50 meter transmitter loops, and running both in-loop and coincident-loop surveys. Two different GDP-16 receivers were used to test for a faulty receiver. The results for both receivers are basically the same, evidently ruling out any receiver problems. However, there was a large difference in the measured responses between the in-loop and coincident-loop configurations. The in-loop data are smoothly varying to depth, but the coincident-loop data have strong high/low resistivity variations at depth.

On July 17, coincident- and in-loop measurements were gathered and compared along Line 469225E on Grid NC45. Again the in-loop data are smoothly varying and the coincident-loop data have strong high low resistivity contrasts at depth.

Note: The reason for the difference is unknown at this time. All of the equipment checked out okay when it was returned to the Tucson office. It appears that the in-loop data more accurately represent what is happening at depth. Is there something in the near-surface, such as super-paramagnetism (SPM) that is messing up the late-time decays? SPM effects extend the late-time tails which then model as strong conductors at depth. IP effects make the late-time tails decay faster than normal, which then models as strong resistors at depth. We will keep working on this to see if we can find a solution.

Additional Comments: TEM methods should work fine for locating kimberlites at depth as long as the alteration cap is in place. If the cap has been eroded away, then the kimberlite may show up as a resistive feature in the basement rock. If this is the case, TEM will not see a 50 x 50 meter cone-shaped, resistive target at depth. The electric field has to be measured to detect that type of target. A method such as CSAMT or AMT should work fairly well. The problem with CSAMT is that the transmitter antenna would have to be moved for every new grid. With AMT there is much more flexibility since the transmitter logistics are avoided. In a non-cultured environment (no power lines, industrial noise, etc.), AMT data could be gathered about as fast as CSAMT data. Using both in-loop TEM and AMT would provide information about near-surface resistivity layering and deeper resistive or conductive targets.

Data Presentation: Data for all lines, including repeat data, are modeled using our smooth-model inversion program, and are presented in color depth vs. station sections. Black and white plots of decay waveforms are included for the test line labeled "DSTEEL". This is a test line that ran over a steel casing.

[redacted]

Cris Mauldin Mayerle
Geophysicist

[redacted]

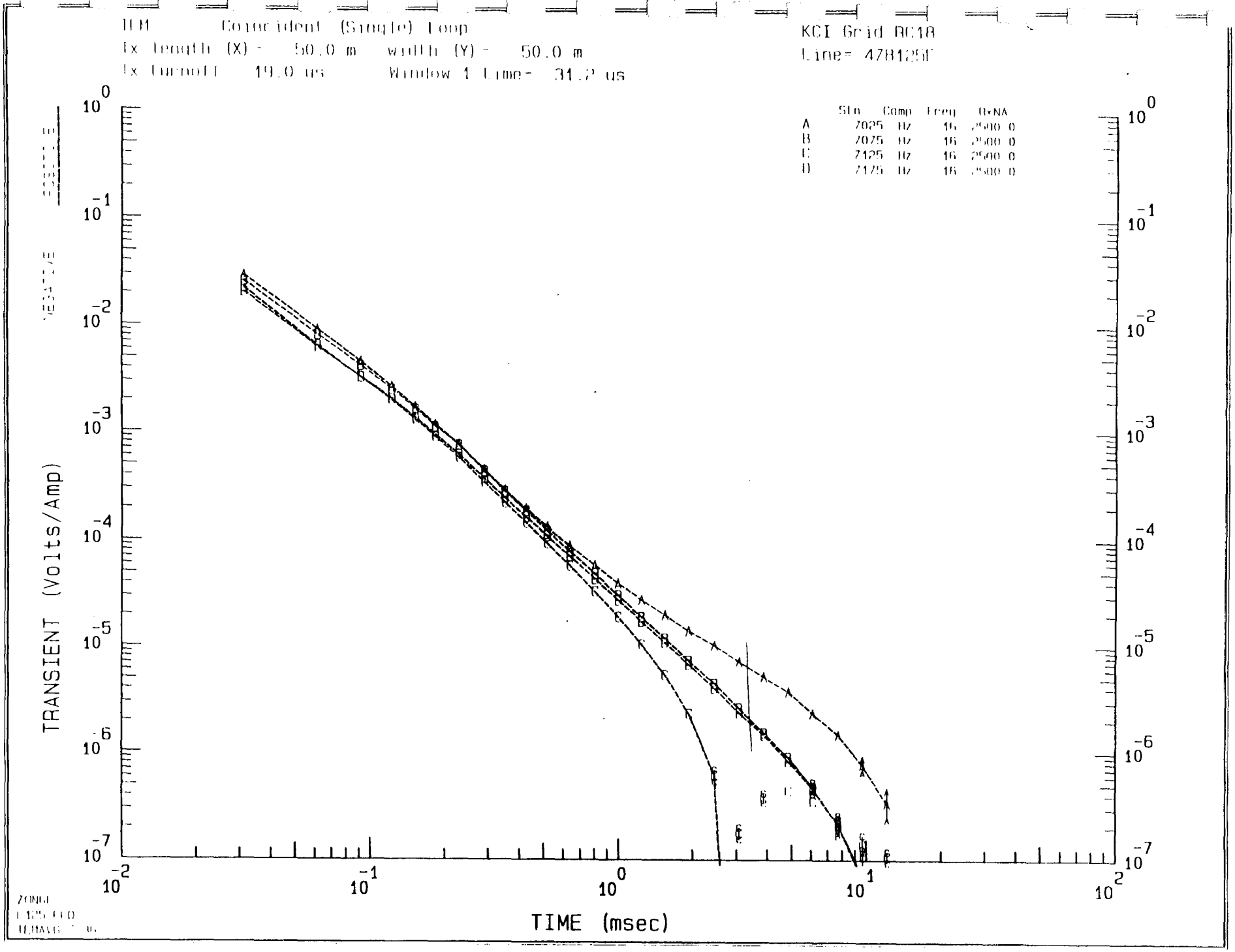
Kenneth Zonge
President

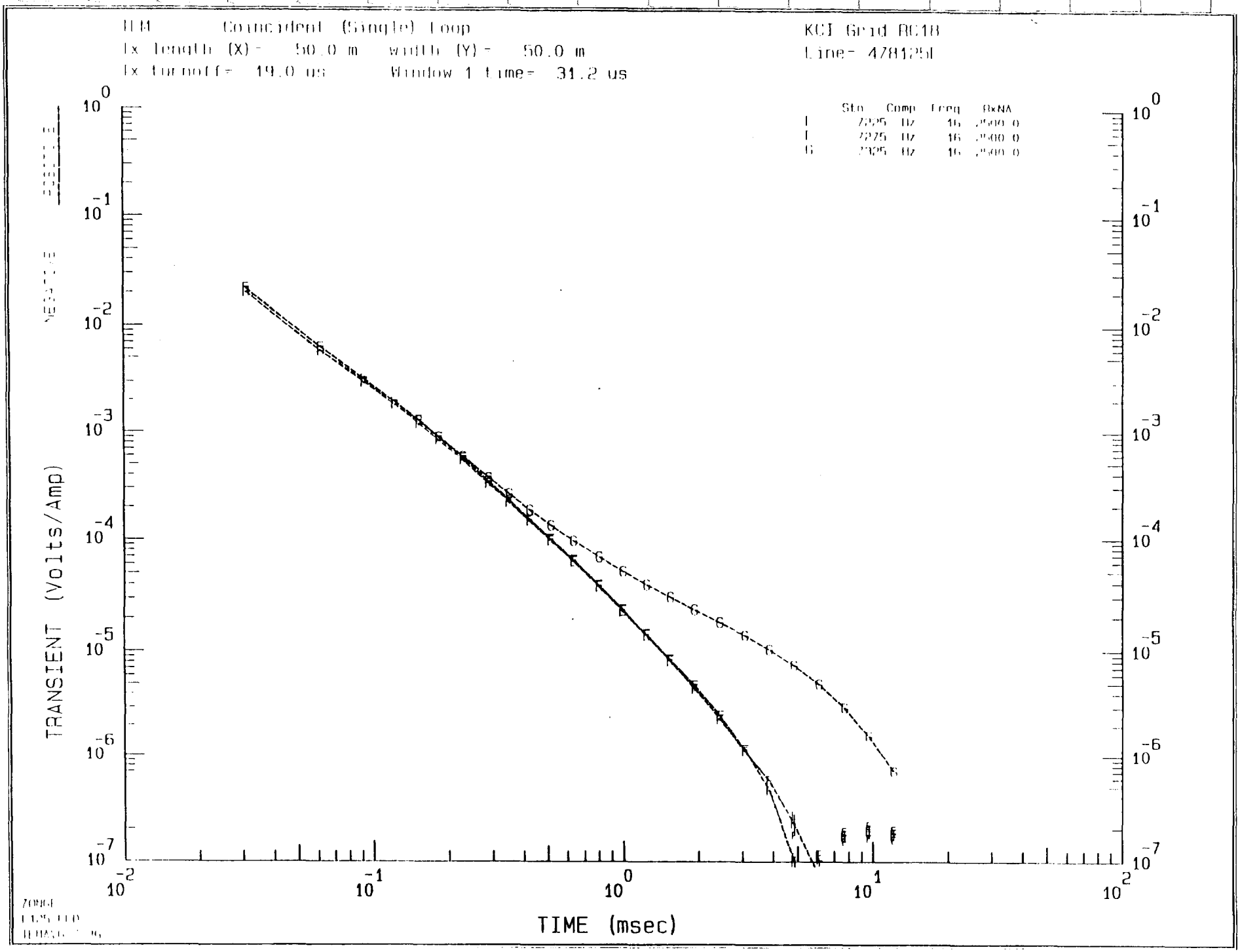
[redacted]

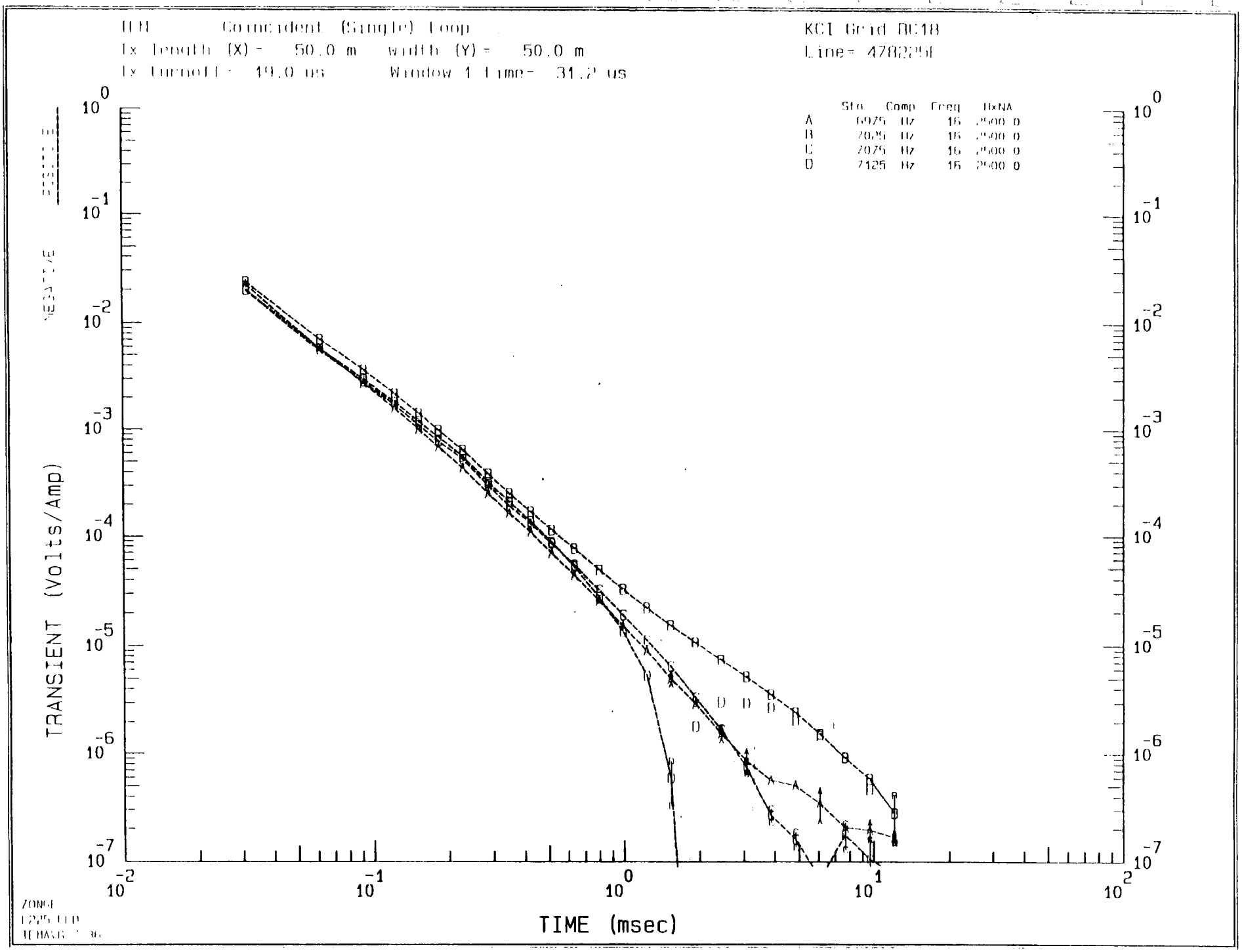
Emmett Van Reed
Geophysicist

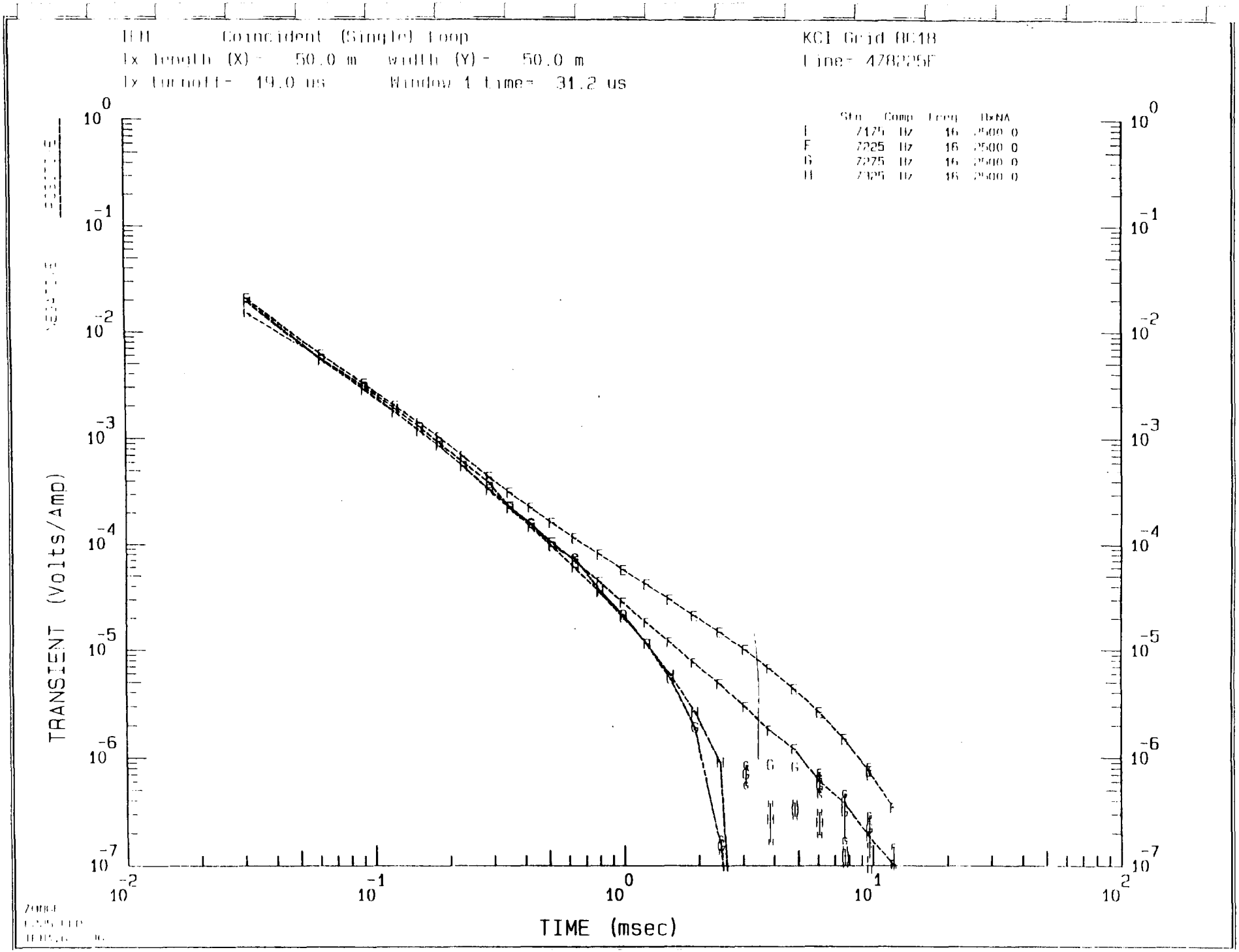
[redacted]

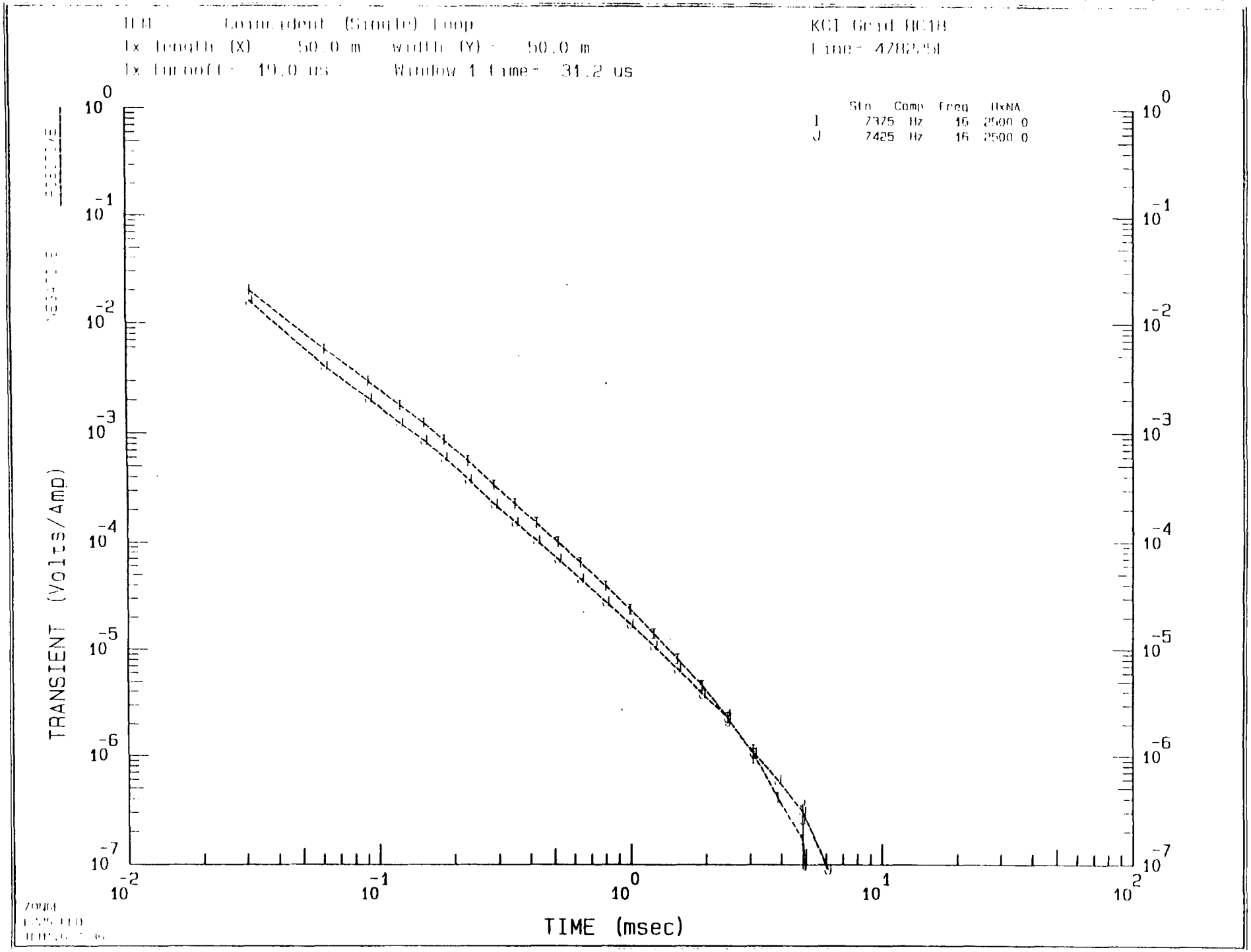
Liu Dexin
Geophysicist

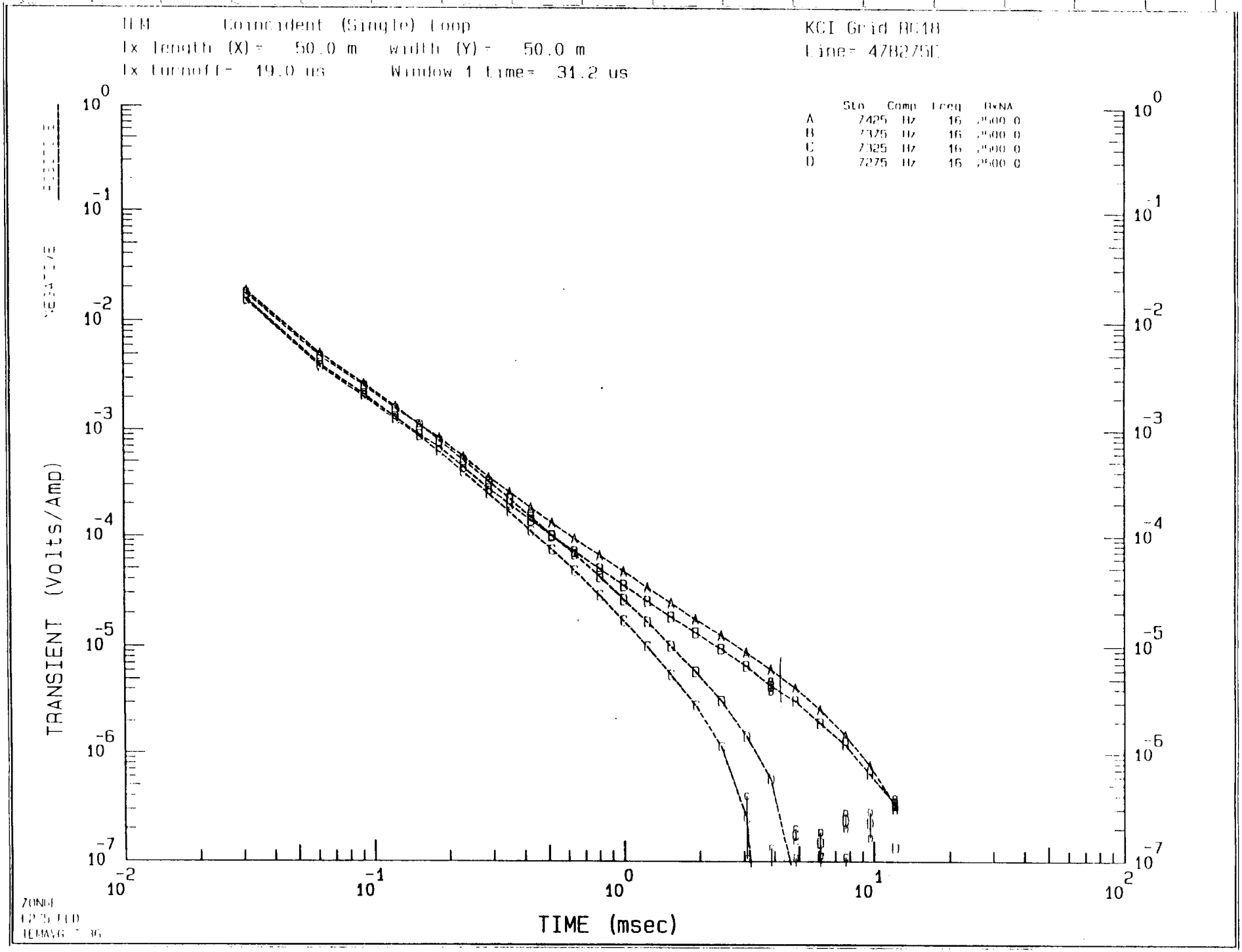

HM Coincident (Single) Loop
Tx length (X) = 50.0 m width (Y) = 50.0 m
Tx turnoff 19.0 us Window 1 time= 31.2 us
KCI Grid BC18
Line= 4781250
Stn Comp Freq B*NA
A 7025 Hz 16 2500.0
B 7075 Hz 16 2500.0
C 7125 Hz 16 2500.0
D 7175 Hz 16 2500.0
TRANSIENT (Volts/Amp)
TIME (msec)

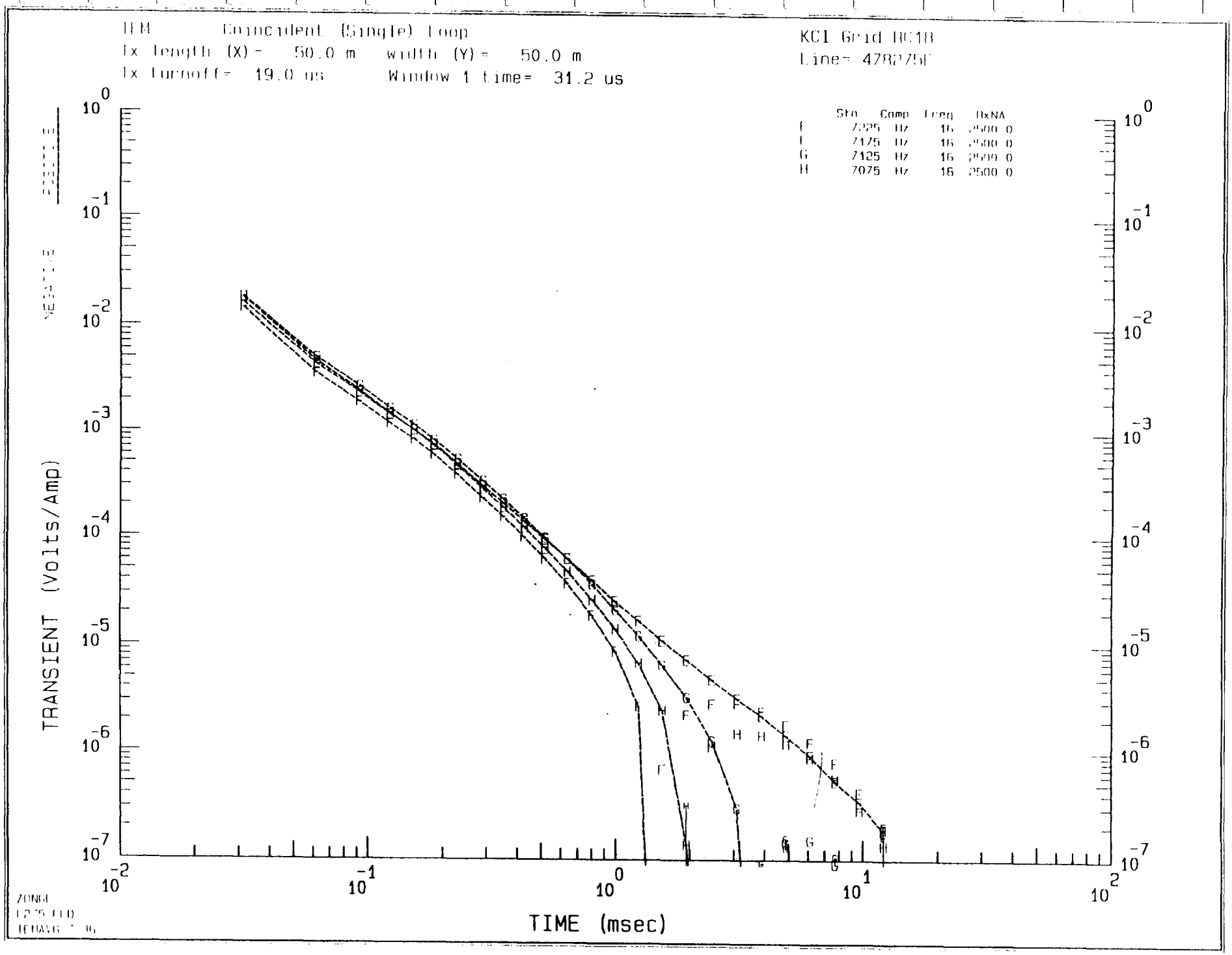

HLEM Coincident (Single) Loop
Tx length (X) = 50.0 m width (Y) = 50.0 m
Tx turnoff = 19.0 us Window 1 time = 31.2 us
KCI Grid BC1B
Line= 4781251
Stn Comp Freq RxNA
TRANSIENT (Volts/Amp)
TIME (msec)

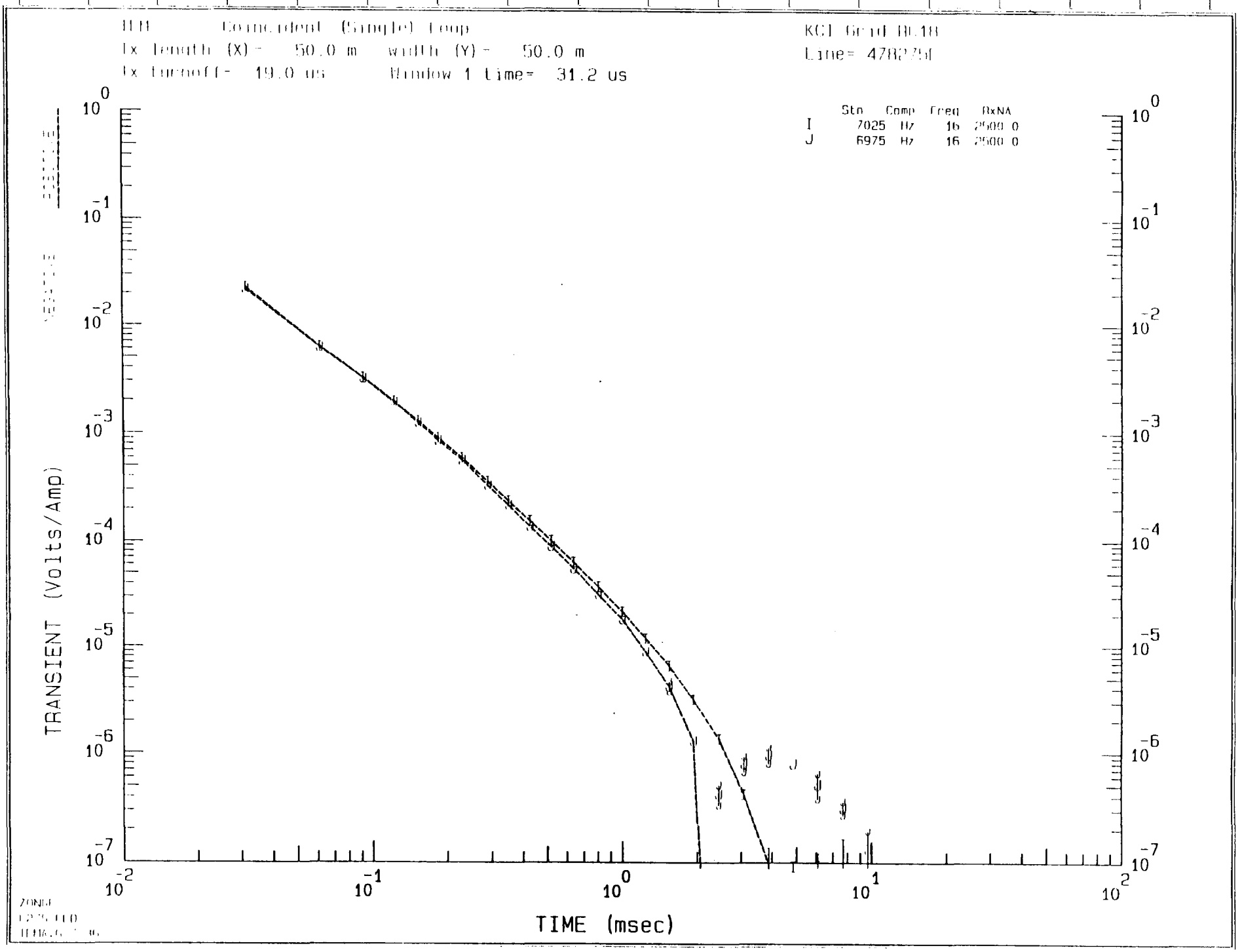

HH Coincident (Single) Loop
Tx length (X) = 50.0 m width (Y) = 50.0 m
Tx turnoff = 19.0 us Window 1 time = 31.2 us
KCI Grid BE18
Line = 4782250
Sta Comp Freq TxNA
A 6975 Hz 16 2500.0
B 7025 Hz 16 2500.0
C 7075 Hz 16 2500.0
D 7125 Hz 16 2500.0
NEGATIVE
TRANSIENT (Volts/Amp)
TIME (msec)
ZONE
CHAN


EM Coincident (Single) Loop
Tx length (X) = 50.0 m width (Y) = 50.0 m
Tx turnoff = 19.0 us Window 1 time= 31.2 us
KCI Grid BC18
Line= 4782250
Stn Comp Freq IxNA
E 7175 Hz 16 2500.0
F 7225 Hz 16 2500.0
G 7275 Hz 16 2500.0
H 7325 Hz 16 2500.0
TRANSIENT (Volts/Amp)
TIME (msec)


HLH Coincident (Simple) Loop
Tx length (X) 50.0 m width (Y) 50.0 m
Tx turnoff 19.0 us Window 1 time= 31.2 us
KCI Grid HC18
Line= 4782.5N
Stn Comp Freq TxNA
I 7375 Hz 16 2500.0
J 7425 Hz 16 2500.0
TRANSIENT (Volts/Amp)
TIME (msec)


TEM Coincident (Single) Loop
Tx length (X) = 50.0 m width (Y) = 50.0 m
Tx turnoff = 19.0 us Window 1 time = 31.2 us
KCI Grid BC1B
Line= 478275E
Stn Comp Freq N*NA
A 7425 Hz 16 2500.0
B 7375 Hz 16 2500.0
C 7325 Hz 16 2500.0
D 7275 Hz 16 2500.0
TRANSIENT (Volts/Amp)
TIME (msec)
ZONGE


TEM Coincident (Single) Loop
Tx length (X) = 50.0 m width (Y) = 50.0 m
Tx turnoff = 19.0 us Window 1 time = 31.2 us
KCl Grid DC1B
Line= 4780750
Sta Comp Freq TxNA
F 7325 Hz 16 2500 0
F 7175 Hz 16 2500 0
G 7125 Hz 16 2500 0
H 7075 Hz 16 2500 0
TRANSIENT (Volts/Amp)
TIME (msec)


HLM Coincident (Simple) Loop
Tx length (X) = 50.0 m width (Y) = 50.0 m
Tx turnoff = 19.0 us Window 1 time = 31.2 us
KCI Grid BL1B
Line= 478275
Stn Comp Freq RxNA
I 7025 Hz 16 2500 0
J 6975 Hz 16 2500 0
TRANSIENT (Volts/Amp)
TIME (msec)

Line 478125E
KCI Grid RC18
for
Kennecott Canada

ZONGE ZPLOT 7.23
File L125.ZM, Plotted 13 Jul 96

TRANSIENT EM SURVEY DATA
Window MAGNITUDE

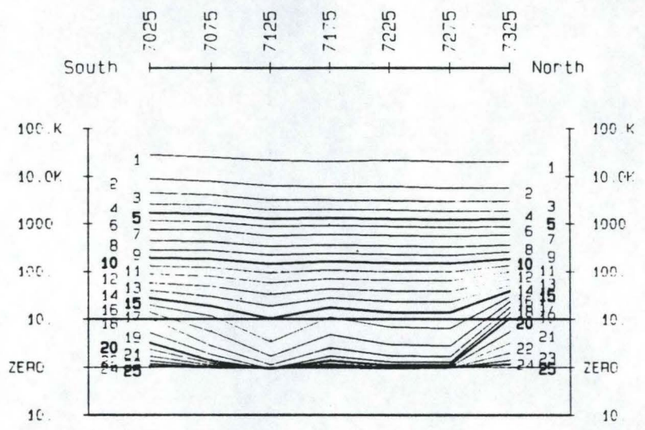
values in microV/ampere
Component: Hz, Rxna: 2500.0

SURVEY LINE DATA
Line Orient= North

Survey Date= Jul.96

Window NUMBER and TIME (seconds)

W 1:	31.20u	W11:	516.7u	W21:	4.851m
W 2:	61.60u	W12:	636.2u	W22:	6.101m
W 3:	92.00u	W13:	802.7u	W23:	7.689m
W 4:	122.4u	W14:	999.7u	W24:	9.653m
W 5:	152.8u*	W15:	1.241m*	W25:	12.13m*
W 6:	183.2u	W16:	1.544m		
W 7:	228.2u	W17:	1.935m		
W 8:	289.2u	W18:	2.448m		
W 9:	350.0u	W19:	3.083m		
W10:	425.2u*	W20:	3.868m*		



Line 478125E
KCI Grid RC18
for
Kennecott Canada

ZONGE ZPLOT 7.23
File L125.ZD. Plotted 13 Jul 96

TRANSIENT EM SURVEY DATA
Ramp-Corrected App. Res.

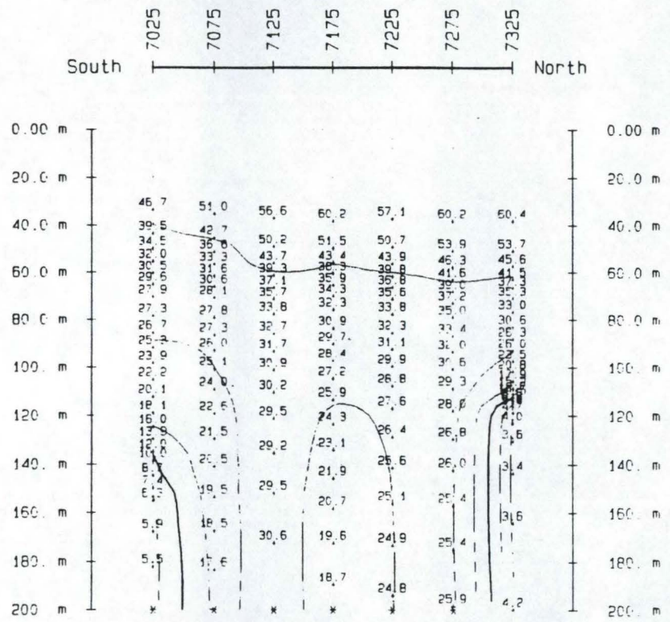
vs DEPTH, values in ohm-meters
Tx length (X) = 50.0 meters
Tx width (Y) = 50.0 meters

RECEIVER DATA — TRANSMITTER DATA

Line = North
Surveyed= Jul.96 Dipole= North

[Plot limits] and LOGARITHMIC CONTOURS
(Interval: 0.20)

[3.43]
3.98
6.31
10.0
15.8
25.1
39.8
[60.7]



Line 478225E
KCI Grid RC18
for
Kennecott Canada

ZONGE ZPLOT 7.23
File L225.ZM. Plotted 13 Jul 96

TRANSIENT EM SURVEY DATA
Window MAGNITUDE

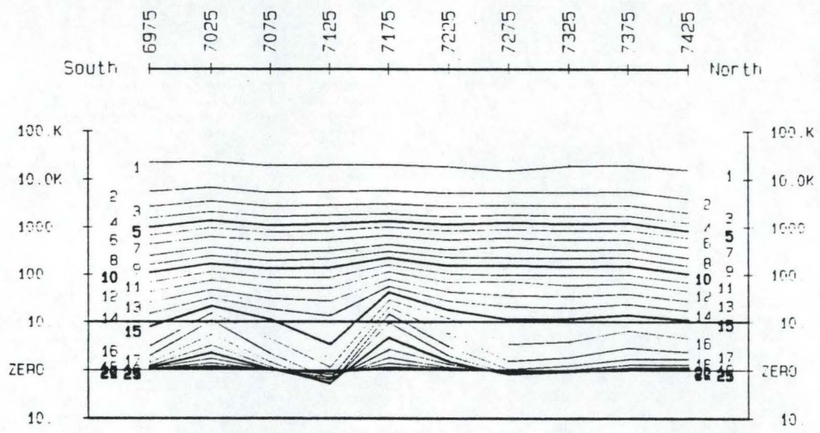
values in microV/ampere
Component: Hz, Rxna: 2500.0

SURVEY LINE DATA
Line Orient= North

Survey Date= Jul.96

Window NUMBER and TIME (seconds)

W 1:	31.20u	W11:	516.7u	W21:	4.851m
W 2:	61.60u	W12:	636.2u	W22:	6.101m
W 3:	92.00u	W13:	802.7u	W23:	7.689m
W 4:	122.4u	W14:	999.7u	W24:	9.653m
W 5:	152.8u*	W15:	1.241m*	W25:	12.13m*
W 6:	183.2u	W16:	1.544m		
W 7:	228.2u	W17:	1.935m		
W 8:	289.2u	W18:	2.448m		
W 9:	350.0u	W19:	3.083m		
W10:	425.2u*	W20:	3.868m*		



Line 478225E
KCI Grid RC18
for
Kennecott Canada

ZONGE ZPLOT 7.23
File L225.ZD. Plotted 13 Jul 96

TRANSIENT EM SURVEY DATA
Ramp-Corrected App. Res.

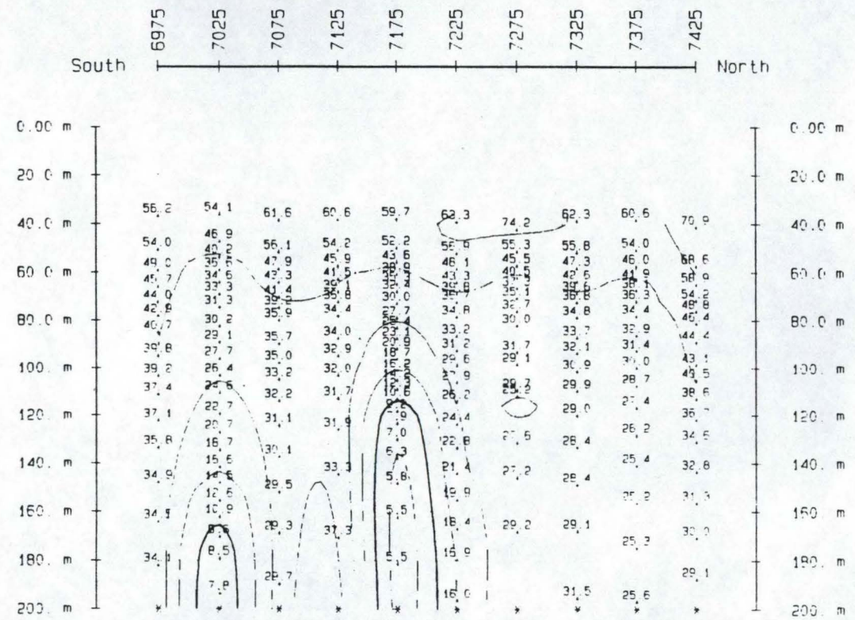
vs DEPTH, values in ohm-meters
Tx length (X) = 50.0 meters
Tx width (Y) = 50.0 meters

RECEIVER DATA — TRANSMITTER DATA

Line = North
Surveyed= Jul.96 Dipole= North

[Plot limits] and LOGARITHMIC CONTOURS
(Interval: 0.20)

[5.35]
6.31
10.0*
15.8
25.1
39.8
63.1
[74.3]



Line 478275E
KCI Grid RC18
for
Kennecott Canada

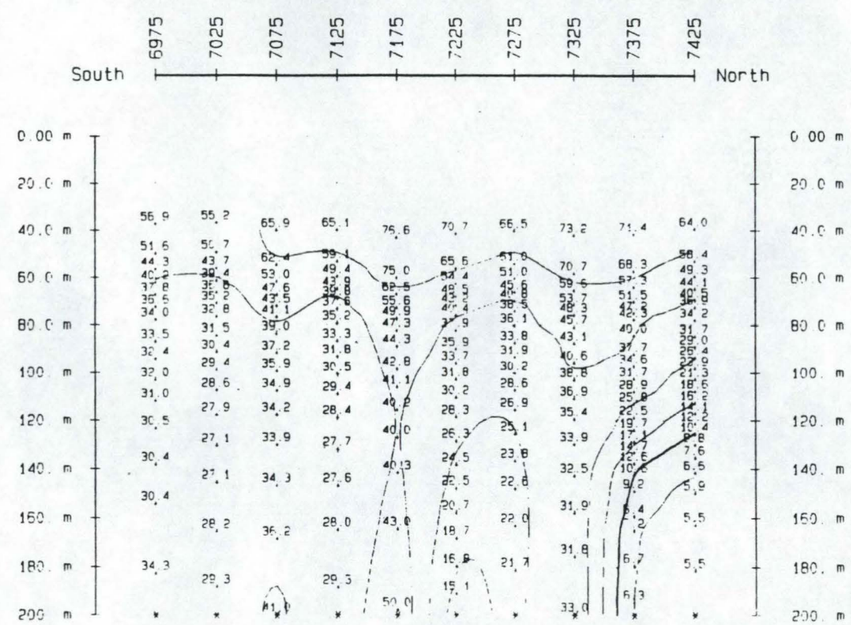
ZONGE ZPLOT 7.23
File L275.ZD. Plotted 13 Jul 96

TRANSIENT EM SURVEY DATA
Ramp-Corrected App. Res.

vs DEPTH, values in ohm-meters
Tx length (X) = 50.0 meters
Tx width (Y) = 50.0 meters

RECEIVER DATA — TRANSMITTER DATA
Line = North
Surveyed= Jul.96 Dipole= North

[Plot limits] and LOGARITHMIC CONTOURS
(Interval: 0.20)
[4.89]
6.31
10.0*
15.8
25.1
39.8
63.1
[86.2]



Line 478275E
KCI Grid RC18
for
Kennecott Canada

ZONGE ZPLOT 7.23
File L275.ZM, Plotted 13 Jul 96

TRANSIENT EM SURVEY DATA
Window MAGNITUDE

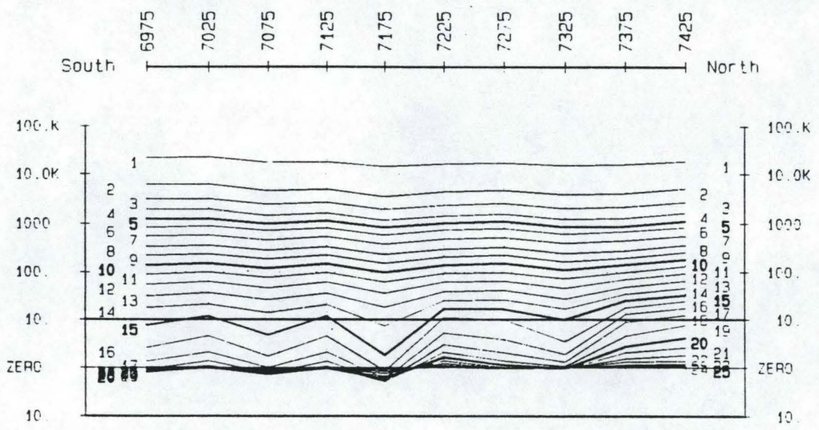
values in microV/ampere
Component: Hz, Rxna: 2500.0

SURVEY LINE DATA
Line Orient= North

Survey Date= Jul.96

Window NUMBER and TIME (seconds)

W 1:	31.20u	W11:	516.7u	W21:	4.851m
W 2:	61.60u	W12:	636.2u	W22:	6.101m
W 3:	92.00u	W13:	802.7u	W23:	7.689m
W 4:	122.4u	W14:	999.7u	W24:	9.653m
W 5:	152.8u*	W15:	1.241m*	W25:	12.13m*
W 6:	183.2u	W16:	1.544m		
W 7:	228.2u	W17:	1.935m		
W 8:	289.2u	W18:	2.448m		
W 9:	350.0u	W19:	3.083m		
W10:	425.2u*	W20:	3.868m*		



31.2 cm A

APPENDIX IV

LIST OF HEAVY MINERAL SAMPLES

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: [redacted] INE[redacted] CANA[redacted] INC.

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

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

Certificate Date: 14-JAN-97
Invoice No. : 19644423
P.O. Number :
Account : KAV

A9644423 - CERTIFIED
CLIENT KENNECOTT CANADA INC
# of SAMPLES : 145
DATE RECEIVED 18-DEC-96
PROJECT 60-511-3

SAMPLE DESCRIPTION	983 Au ppb FA+AA	578 Ag ppm AAS	573 Al % (ICP)	585 Ba ppm (ICP)	575 Be ppm (ICP)	561 Bi ppm (ICP)	576 Ca % (ICP)	562 Cd ppm (ICP)	563 Co ppm (ICP)	569 Cr ppm (ICP)	577 Cu ppm (ICP)	566 Fe % (ICP)	584 K % (ICP)	570 Mg % (ICP)	568 Mn ppm (ICP)	554 Mo ppm (ICP)	583 Na % (ICP)	564 Ni ppm (ICP)	559 P ppm (ICP)
VR63504A	-5	-0.2	4.52	580	0.5	-2	0.98	-0.5	7	41	8	1.67	1.24	0.63	595	-1	0.91	16	630
VR63517A	-5	-0.2	5.24	700	0.5	-2	1.06	-0.5	7	41	11	1.8	1.35	0.6	435	-1	1.11	21	620
VR63535A	-5	-0.2	4.47	670	0.5	-2	0.97	-0.5	7	28	7	1.86	1.22	0.45	615	-1	1.03	13	640
VR63537A	-5	-0.2	5.51	700	1	2	1.03	0.5	9	37	10	1.99	1.33	0.54	495	-1	0.99	18	670
VR63538A	-5	-0.2	4.93	690	0.5	2	0.87	-0.5	6	34	9	1.42	1.23	0.43	165	-1	1.05	14	680
VR63541A	-5	-0.2	4.88	670	0.5	-2	1.43	0.5	9	34	11	2.09	1.24	0.66	725	-1	0.95	18	960
VR63543A	-5	-0.2	4.89	670	0.5	2	2.1	-0.5	9	40	9	1.72	1.37	0.73	440	-1	1.05	17	620
VR63545A	-5	-0.2	5.08	720	1	6	3.35	-0.5	8	38	14	1.75	1.38	0.9	420	-1	1.08	18	600
VR63547A	-5	-0.2	3.39	510	0.5	6	4.51	-0.5	5	26	4	1	1.04	1.08	330	-1	0.92	9	540
VR63549A	-5	-0.2	4.54	710	0.5	10	6.21	0.5	8	28	10	1.67	1.29	1.01	710	-1	0.89	18	540
VR63551A	-5	-0.2	4.23	480	0.5	6	1.79	0.5	6	35	8	1.37	1.12	0.6	280	-1	0.72	12	810
VR63556A	-5	-0.2	5.16	640	1	-2	1.32	-0.5	8	39	11	1.86	1.32	0.8	480	-1	1.09	20	740
VR63558A	-5	-0.2	3.5	480	0.5	6	4.1	0.5	6	27	6	1.27	1.08	1.17	450	-1	0.73	11	580
VR63565A	-5	-0.2	3.36	600	0.5	12	9.14	0.5	9	33	15	1.4	0.97	1.13	470	-1	0.54	17	820
VR63568A	-5	-0.2	5.42	770	1	6	1.25	-0.5	9	34	10	1.8	1.39	0.61	325	-1	1.29	21	660
VR63569A	-5	-0.2	3.24	530	0.5	10	4.74	0.5	7	25	9	1.23	1	0.88	280	-1	0.51	11	490
VR63572A	-5	-0.2	5.47	780	1	10	1.37	-0.5	8	37	8	1.76	1.37	0.7	375	-1	1.31	17	620
VR63573A	-5	-0.2	4.54	580	0.5	4	0.81	-0.5	7	39	6	1.71	1.14	0.43	620	-1	0.83	12	710
VR63589A	-5	-0.2	5.36	720	0.5	-2	0.95	-0.5	9	44	12	1.86	1.45	0.58	390	-1	1.1	18	600
VR63593A	-5	-0.2	4.99	670	0.5	-2	0.84	-0.5	9	41	9	2.06	1.39	0.58	725	-1	0.96	20	560
VR63595A	15	-0.2	5.52	800	0.5	-2	1.08	-0.5	8	38	10	1.92	1.46	0.57	410	-1	1.21	20	540
VR63597A	35	-0.2	5.61	730	0.5	-2	2.37	-0.5	9	47	14	2.16	1.62	0.89	640	1	0.98	21	600
VR63603A	-5	-0.2	4.72	700	0.5	-2	2.83	-0.5	8	39	9	1.59	1.46	0.9	490	-1	1.09	14	570
VR63612A	-5	-0.2	4.57	630	0.5	-2	1.2	-0.5	3	42	9	1.48	1.16	0.53	185	-1	0.87	12	640
VR63615A	-5	-0.2	6.18	770	0.5	-2	0.69	-0.5	9	54	14	2.62	1.41	0.57	585	-1	0.92	19	740
VR63631A	-5	-0.2	6.01	1390	0.5	-2	1.19	0.5	15	53	18	4.04	1.52	0.65	6450	-1	0.97	34	1150
VR63637A	-5	-0.2	4.35	590	0.5	-2	2.62	-0.5	5	37	9	1.71	1.31	1.02	530	-1	0.83	16	660
VR63639A	-5	-0.2	5.46	800	0.5	-2	2.99	0.5	7	49	12	2.09	1.47	0.92	540	-1	1.21	21	610
VR63641A	-5	-0.2	5.2	700	0.5	-2	1.06	0.5	7	46	11	2.41	1.43	0.66	315	-1	0.91	15	770
VR63643A	-5	-0.2	5.7	980	0.5	-2	2.16	-0.5	9	47	17	2	1.6	0.84	485	-1	1.21	19	620
VR63645A	-5	-0.2	4.88	720	0.5	-2	1.24	-0.5	9	41	11	1.98	1.29	0.56	745	-1	0.92	17	700
VR63647A	-5	0.4	5.39	820	0.5	-2	1.36	-0.5	9	42	12	1.84	1.49	0.68	425	1	1.21	19	610
VR63649A	-5	-0.2	5.67	770	0.5	-2	1.83	0.5	11	49	12	2.18	1.55	0.81	615	-1	1.08	18	730
VR63651A	-5	-0.2	4.93	720	0.5	-2	0.97	-0.5	9	38	10	1.83	1.43	0.59	530	-1	1.01	16	680
VR63659A	-5	-0.2	6.08	650	1	-2	2.33	-0.5	15	52	17	2.55	1.81	1.14	910	1	0.78	23	670
VR63664A	-5	-0.2	4.23	660	0.5	4	4.48	-0.5	7	33	7	1.37	1.31	0.76	500	-1	1.03	13	470
VR63666A	225	-0.2	4.54	690	0.5	2	2.81	0.5	8	44	9	1.72	1.38	0.84	505	-1	1.1	17	640
VR63676A	-5	-0.2	3.53	470	0.5	6	3.85	-0.5	7	35	9	1.47	1.1	1.56	295	-1	0.68	14	830
VR63682A	-5	-0.2	5.73	830	0.5	4	3.1	0.5	11	51	13	2.17	1.64	1.2	365	-1	1.08	21	790
VR63713A	-5	-0.2	5.43	720	0.5	-2	0.9	-0.5	8	48	11	1.88	1.51	0.52	360	-1	1.16	20	670
VR63715A	-5	-0.2	5.24	720	0.5	-2	0.88	0.5	7	42	8	1.73	1.45	0.5	435	-1	1.15	17	570
VR63718A	-5	-0.2	3.98	480	0.5	6	2.3	-0.5	7	31	7	1.33	1.33	1.01	240	1	0.79	12	630
VR63720A	-5	-0.2	5.53	820	0.5	-2	1.69	0.5	10	51	16	2.03	1.67	0.76	480	-1	1.12	21	590
VR63722A	-5	-0.2	5.62	910	0.5	-2	2.41	-0.5	11	200	31	2.11	1.84	0.86	495	3	1.18	63	700
VR63724A	-5	-0.2	5.08	760	0.5	-2	0.8	0.5	7	49	13	1.84	1.45	0.53	430	-1	1.1	18	560
VR63726A	-5	-0.2	4.85	690	0.5	-2	0.85	-0.5	8	44	15	1.9	1.38	0.52	435	-1	0.94	21	520
VR63728A	-5	-0.2	5.24	780	0.5	-2	2.08	-0.5	11	50	15	1.96	1.53	0.78	535	1	1.1	23	570
VR63730A	-5	-0.2	4.98	760	0.5	2	2.11	-0.5	9	45	13	1.89	1.45	0.72	460	-1	1.02	17	610
VR63732A	-5	-0.2	5	770	0.5	-2	1.55	-0.5	8	41	13	1.77	1.48	0.65	435	-1	1.11	18	550
VR63735A	-5	-0.2	4.86	720	0.5	2	0.92	-0.5	7	36	9	1.66	1.27	0.43	480	-1	0.99	10	970
VR63737A	-5	-0.2	5.27	760	0.5	-2	3.07	-0.5	10	43	14	1.9	1.56	0.98	530	-1	1.14	20	600
VR63739A	-5	-0.2	2.82	400	-0.5	6	4.09	-0.5	6	20	10	1.03	1	1.09	300	-1	0.6	5	470
VR63745A	-5	-0.2	5.45	730	0.5	-2	0.83	-0.5	9	52	12	2.03	1.51	0.53	885	1	1.09	17	640
VR63747A	30	-0.2	5.21	750	0.5	-2	1.02	-0.5	8	43	13	1.96	1.42	0.57	570	1	1.08	19	640
VR63749A	-5	-0.2	4.7	660	0.5	-2	0.96	-0.5	8	34	9	1.75	1.4	0.49	545	1	0.98	12	590
VR63754A	-5	-0.2	5.49	730	0.5	-2	0.86	-0.5	10	49	8	2.3	1.58	0.66	440	-1	0.74	18	630
VR63758A	-5	-0.2	4.21	590	0.5	-2	1.37	-0.5	7	37	7	1.59	1.24	0.58	645	-1	0.89	13	620
VR63760A	-5	-0.2	4.84	630	0.5	-2	0.8	0.5	10	42	10	2.17	1.34	0.49	725	-1	0.8	16	770

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: [redacted] INE[redacted] CANA[redacted] INC.

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

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

Page Number : 3-D
Total Pages : 4
Certificate Date: 14-JAN-97
Invoice No. : 19644423
P.O. Number :
Account : KAV

A9644423 - CERTIFIED
CLIENT : KENNECOTT CANADA INC.
# of SAMPLES : 145
DATE RECEIVED : 18-DEC-96
PROJECT 60-511-3

SAMPLE DESCRIPTION	983 Au ppb FA+AA	578 Ag ppm AAS	573 Al % (ICP)	565 Ba ppm (ICP)	575 Be ppm (ICP)	561 Bi ppm (ICP)	576 Ca % (ICP)	562 Cd ppm (ICP)	563 Co ppm (ICP)	569 Cr ppm (ICP)	577 Cu ppm (ICP)	566 Fe % (ICP)	584 K % (ICP)	570 Mg % (ICP)	568 Mn ppm (ICP)	554 Mo ppm (ICP)	583 Na % (ICP)	564 Ni ppm (ICP)	559 P ppm (ICP)
VR63504A	-5	-0.2	4.52	580	0.5	-2	0.98	-0.5	7	41	8	1.67	1.24	0.63	595	-1	0.91	16	630
VR63517A	-5	-0.2	5.24	700	0.5	-2	1.06	-0.5	7	41	11	1.8	1.35	0.6	435	-1	1.11	21	620
VR63535A	-5	-0.2	4.47	670	0.5	-2	0.97	-0.5	7	28	7	1.86	1.22	0.45	615	-1	1.03	13	640
VR63537A	-5	-0.2	5.51	700	1	2	1.03	0.5	9	37	10	1.99	1.33	0.54	495	-1	0.99	18	670
VR63538A	-5	-0.2	4.93	690	0.5	2	0.87	-0.5	8	34	9	1.42	1.23	0.43	165	-1	1.05	14	680
VR63541A	-5	-0.2	4.88	670	0.5	-2	1.43	0.5	9	34	11	2.09	1.24	0.66	725	-1	0.95	18	960
VR63543A	-5	-0.2	4.89	670	0.5	2	2.1	-0.5	9	40	9	1.72	1.37	0.73	440	-1	1.05	17	620
VR63545A	-5	-0.2	5.08	720	1	6	3.35	-0.5	8	38	14	1.75	1.38	0.9	420	-1	1.08	18	600
VR63547A	-5	-0.2	3.39	510	0.5	6	4.51	-0.5	5	26	4	1	1.04	1.08	330	-1	0.92	9	540
VR63549A	-5	-0.2	4.54	710	0.5	10	6.21	0.5	8	28	10	1.67	1.29	1.01	710	-1	0.89	18	540
VR63551A	-5	-0.2	4.23	480	0.5	6	1.79	0.5	6	35	8	1.37	1.12	0.6	280	-1	0.72	12	810
VR63556A	-5	-0.2	5.16	640	1	-2	1.32	-0.5	8	39	11	1.86	1.32	0.8	480	-1	1.09	20	740
VR63559A	-5	-0.2	3.5	480	0.5	6	4.1	0.5	6	27	6	1.27	1.08	1.17	450	-1	0.73	11	580
VR63565A	-5	-0.2	3.36	600	0.5	12	9.14	0.5	9	33	15	1.4	0.97	1.13	470	-1	0.54	17	820
VR63568A	-5	-0.2	5.42	770	1	8	1.25	-0.5	9	34	10	1.8	1.39	0.61	325	-1	1.29	21	660
VR63569A	-5	-0.2	3.24	530	0.5	10	4.74	0.5	7	25	9	1.23	1	0.88	280	-1	0.51	11	490
VR63572A	-5	-0.2	5.47	780	1	10	1.37	-0.5	8	37	8	1.76	1.37	0.7	375	-1	1.31	17	620
VR63573A	-5	-0.2	4.54	580	0.5	4	0.81	-0.5	7	39	6	1.71	1.14	0.43	620	-1	0.83	12	710
VR63589A	-5	-0.2	5.36	720	0.5	-2	0.95	-0.5	9	44	12	1.86	1.45	0.58	390	-1	1.1	18	600
VR63593A	-5	-0.2	4.99	670	0.5	-2	0.84	-0.5	9	41	9	2.06	1.39	0.56	725	-1	0.96	20	560
VR63595A	15	-0.2	5.52	800	0.5	-2	1.08	-0.5	8	38	10	1.92	1.46	0.57	410	-1	1.21	20	540
VR63597A	35	-0.2	5.81	730	0.5	-2	2.37	-0.5	9	47	14	2.16	1.52	0.89	640	1	0.98	21	600
VR63603A	-5	-0.2	4.72	700	0.5	-2	2.83	-0.5	6	39	9	1.59	1.46	0.9	490	-1	1.09	14	570
VR63612A	-5	-0.2	4.57	630	0.5	-2	1.2	-0.5	3	42	9	1.48	1.16	0.53	185	-1	0.87	12	640
VR63615A	-5	-0.2	6.18	770	0.5	-2	0.69	-0.5	9	54	14	2.62	1.41	0.57	585	-1	0.92	19	740
VR63631A	-5	-0.2	6.01	1390	0.5	-2	1.19	0.5	15	53	18	4.04	1.52	0.65	6450	-1	0.97	34	1150
VR63637A	-5	-0.2	4.35	590	0.5	-2	2.62	-0.5	5	37	9	1.71	1.31	1.02	530	-1	0.83	16	660
VR63639A	-5	-0.2	5.48	800	0.5	-2	2.99	0.5	7	49	12	2.09	1.47	0.92	540	-1	1.21	21	610
VR63641A	-5	-0.2	5.2	700	0.5	-2	1.06	0.5	7	46	11	2.41	1.43	0.66	315	-1	0.91	15	770
VR63643A	-5	-0.2	5.7	980	0.5	-2	2.16	-0.5	9	47	17	2	1.8	0.84	485	-1	1.21	19	620
VR63645A	-5	-0.2	4.88	720	0.5	-2	1.24	-0.5	9	41	11	1.98	1.29	0.56	745	-1	0.92	17	700
VR63647A	-5	0.4	5.39	820	0.5	-2	1.36	-0.5	9	42	12	1.84	1.49	0.68	425	1	1.21	19	610
VR63649A	-5	-0.2	5.67	770	0.5	-2	1.83	0.5	11	49	12	2.18	1.55	0.81	615	-1	1.08	18	730
VR63651A	-5	-0.2	4.93	720	0.5	-2	0.97	-0.5	9	38	10	1.83	1.43	0.59	530	-1	1.01	16	680
VR63659A	-5	-0.2	6.08	850	1	-2	2.33	-0.5	15	52	17	2.55	1.81	1.14	910	1	0.78	23	670
VR63664A	-5	-0.2	4.23	660	0.5	4	4.48	-0.5	7	33	7	1.37	1.31	0.78	500	-1	1.03	13	470
VR63666A	225	-0.2	4.54	690	0.5	2	2.81	0.5	8	44	9	1.72	1.38	0.84	505	-1	1.1	17	640
VR63676A	-5	-0.2	3.53	470	0.5	8	3.85	-0.5	7	35	9	1.47	1.1	1.56	295	-1	0.68	14	830
VR63682A	-5	-0.2	5.73	830	0.5	4	3.1	0.5	11	51	13	2.17	1.64	1.2	365	-1	1.08	21	790
VR63713A	-5	-0.2	5.43	720	0.5	-2	0.9	-0.5	8	48	11	1.88	1.51	0.52	360	-1	1.16	20	670
VR63715A	-5	-0.2	5.24	720	0.5	-2	0.88	0.5	7	42	8	1.73	1.45	0.5	435	-1	1.15	17	570
VR63718A	-5	-0.2	3.98	480	0.5	6	2.3	-0.5	7	31	7	1.33	1.33	1.01	240	1	0.79	12	630
VR63720A	-5	-0.2	5.53	820	0.5	-2	1.69	0.5	10	51	16	2.03	1.67	0.76	480	-1	1.12	21	590
VR63722A	-5	-0.2	5.62	910	0.5	-2	2.41	-0.5	11	200	31	2.11	1.64	0.88	495	3	1.18	63	700
VR63724A	-5	-0.2	5.08	760	0.5	-2	0.8	0.5	7	49	13	1.84	1.45	0.53	430	-1	1.1	18	560
VR63726A	-5	-0.2	4.65	690	0.5	-2	0.85	-0.5	8	44	15	1.9	1.36	0.52	435	-1	0.94	21	520
VR63728A	-5	-0.2	5.24	780	0.5	-2	2.08	-0.5	11	50	15	1.96	1.53	0.78	535	1	1.1	23	570
VR63730A	-5	-0.2	4.98	760	0.5	2	2.11	-0.5	9	45	13	1.89	1.45	0.72	460	-1	1.02	17	610
VR63732A	-5	-0.2	5	770	0.5	-2	1.55	-0.5	8	41	13	1.77	1.48	0.65	435	-1	1.11	18	550
VR63735A	-5	-0.2	4.86	720	0.5	2	0.92	-0.5	7	36	9	1.66	1.27	0.43	480	-1	0.99	10	970
VR63737A	-5	-0.2	5.27	780	0.5	-2	3.07	-0.5	10	43	14	1.9	1.56	0.98	530	-1	1.14	20	600
VR63739A	-5	-0.2	2.82	400	-0.5	6	4.09	-0.5	6	20	10	1.03	1	1.09	300	-1	0.8	5	470
VR63745A	-5	-0.2	5.45	730	0.5	-2	0.83	-0.5	9	52	12	2.03	1.51	0.53	885	1	1.09	17	640
VR63747A	30	-0.2	5.21	750	0.5	-2	1.02	-0.5	8	43	13	1.96	1.42	0.57	570	1	1.08	19	640
VR63749A	-5	-0.2	4.7	660	0.5	-2	0.96	-0.5	8	34	9	1.75	1.4	0.49	545	1	0.98	12	590
VR63754A	-5	-0.2	5.49	730	0.5	-2	0.86	-0.5	10	49	8	2.3	1.58	0.66	440	-1	0.74	18	630
VR63758A	-5	-0.2	4.21	590	0.5	-2	1.37	-0.5	7	37	7	1.59	1.24	0.58	645	-1	0.89	13	620
VR63760A	-5	-0.2	4.84	630	0.5	-2	0.8	0.5	10	42	10	2.17	1.34	0.49	725	-1	0.8	16	770

CERTIFICATION: [redacted]

OCT - 6 1997

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

October 1, 1997

Hazel Henson
Mineral Operations
Alberta Department of Energy
Petroleum Plaza - North Tower
9945-108 Street NW
Edmonton, AB
T5K 2G6

Dear Hazel;

Enclosed please find, in duplicate, copies of corrections to the Assessment Report for the Rich Claim Block.

These include the correct version of page 7. Please replace this page, as previously submitted, with the new corrected page.

Included also please find the following which was omitted from the original report:

Appendix IX: Chemex I.C.P. results to be added to appendix IX.

Sincerely,

[redacted]

Susan Ball
Kennecott Geologist

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 Rich claims consists of two main branches: ground geophysics, and heavy mineral sampling.

The entire assessment area has been covered by an airborne magnetic survey completed by Dighem in 1994. Thirteen ground magnetic surveys were completed on the Rich ground during January and February of 1996 by Amerok Geosciences Ltd. One of these magnetic anomalies were tested with NanoTEM surveys conducted by Zonge Engineering. Detailed ground magnetic surveys of several grids were carried out by Kennecott staff to in fill work previously done by Amerok.

During 1995 and 1996, 91 stream sediment, two esker, and one sandstone samples were collected on the property. These samples were processed for diamond indicator minerals.

12.0 GEOPHYSICAL PROGRAM

Magnetic Surveys

Thirteen geophysical grids were laid out and preliminary ground magnetic surveys were conducted by Amerok Geosciences Ltd. of Whitehorse, YT during January and February, 1996.

Three in fill ground magnetic surveys were completed by Kennecott staff on the Rich property during June and July, 1996. The surveys were conducted on established grids, over selected anomalies that were previously surveyed by Amerok. Crews were mobilized to and from the project area via a combination of 4x4 truck and ATV support.

Targets from the airborne survey are identified by the prefix "RC", and by a number (e.g. RC-18). Individual ground magnetometer surveys are located in Appendix II.

EASTING	NORTHING	UTM ZONE	SAMP CHAR	TYPE	CLAIM	SAMPLE WT
484056	5934901	11U	VR63546A	STRM	RC	20.0
492290	5938662	11U	VR63555A	STRM	RC	20.0
483800	5942004	11U	VR63781A	STRM	RC	20.0
481710	5946050	11U	VR63534A	STRM	RC	20.0
479021	5946517	11U	VR63536A	STRM	RC	20.0
480316	5932737	11U	VR63548A	STRM	RC	20.0
481975	5940375	11U	VR63560A	STRM	RC	20.0
483470	5942600	11U	VR63602A	STRM	RC	20.0
482625	5944955	11U	VR63609A	STRM	RC	20.0
477330	5943565	11U	VR63658A	STRM	RC	20.0
477415	5934120	11U	VR63663A	STRM	RC	20.0
474900	5941700	11U	VR63746A	STRM	RC	20.0
474750	5942400	11U	VR63748A	STRM	RC	20.0
477000	5942795	11U	VR63763A	STRM	RC	20.0
479000	5944238	11U	VR63765A	STRM	RC	20.0
479060	5943721	11U	VR63767A	STRM	RC	20.0
479368	5939216	11U	VR63779A	STRM	RC	20.0
483350	5931948	11U	VR63853A	STRM	RC	20.0
489750	5950450	11U	VR63558A	STRM	RC	20.0
492004	5951748	11U	VR63570A	ESKR	RC	20.0
489883	5942758	11U	VR63571A	STRM	RC	20.0
476425	5962625	11U	VR63712A	STRM	RC	20.0
472985	5967375	11U	VR63717A	STRM	RC	20.0
479115	5966750	11U	VR63744A	STRM	RC	20.0
482019	5947743	11U	VR63516A	STRM	RC	20.0
478915	5955424	11U	VR63542A	STRM	RC	20.0
472550	5954400	11U	VR63588A	STRM	RC	20.0
475500	5954000	11U	VR63592A	STRM	RC	20.0
475868	5953839	11U	VR63594A	STRM	RC	20.0
476000	5955245	11U	VR63596A	STRM	RC	20.0
473725	5955650	11U	VR63600A	STRM	RC	20.0
482950	5947900	11U	VR63611A	STRM	RC	20.0
479442	5948226	11U	VR63769A	STRM	RC	20.0
481871	5956287	11U	VR63771A	STRM	RC	20.0
479585	5955948	11U	VR63773A	STRM	RC	20.0
483036	5954044	11U	VR63538A	STRM	RC	20.0
484865	5955456	11U	VR63540A	STRM	RC	20.0
483377	5956747	11U	VR63544A	STRM	RC	20.0
492330	5954150	11U	VR63566A	ESKR	RC	20.0
486850	5960000	11U	VR63719A	STRM	RC	20.0
468920	5959710	11U	VR63727A	STRM	RC	20.0
487525	5960060	11U	VR63729A	STRM	RC	20.0
486660	5955650	11U	VR63731A	STRM	RC	20.0
483300	5957250	11U	VR63733A	STRM	RC	20.0
483420	5957160	11U	VR63734A	ROCK	RC	20.0
487628	5955278	11U	VR63736A	STRM	RC	20.0
488695	5953890	11U	VR63738A	STRM	RC	20.0
495457	5970900	11U	VR63567A	STRM	RC	20.0

487600	5965275 11U	VR63642A	STRM	RC	20.0
489988	5968217 11U	VR63644A	STRM	RC	20.0
488765	5966100 11U	VR63646A	STRM	RC	20.0
490780	5971140 11U	VR63648A	STRM	RC	20.0
485775	5961675 11U	VR63721A	STRM	RC	20.0
484400	5962100 11U	VR63723A	STRM	RC	20.0
483750	5962425 11U	VR63725A	STRM	RC	20.0
474290	5982835 11U	VR63785A	STRM	RC	20.0
473130	5981325 11U	VR63791A	STRM	RC	20.0
479368	5977694 11U	VR63801A	STRM	RC	20.0
484379	5980991 11U	VR63503A	STRM	RC	20.0
488593	5980784 11U	VR63636A	STRM	RC	20.0
488493	5977042 11U	VR63640A	STRM	RC	20.0
485056	5976286 11U	VR63757A	STRM	RC	20.0
483692	5973720 11U	VR63759A	STRM	RC	20.0
494953	5976826 11U	VR63638A	STRM	RC	20.0
474375	5960210 11U	VR63714A	STRM	RC	20
474925	5931895 11U	VR63665A	STRM	RC	20
475900	5931300 11U	1996 OB1	STRM	RC	12
473500	5933050 11U	1996 OB2	STRM	RC	12
473150	5932750 11U	1996 OB3	STRM	RC	12
471200	5934500 11U	1996 OB4	STRM	RC	12
471550	5934700 11U	1996 OB5	STRM	RC	12
472500	5938700 11U	1996 OB6	STRM	RC	12
473500	5938900 11U	1996 OB7	STRM	RC	12
475050	5931950 11U	1996 OB8	STRM	RC	12
471550	5929300 11U	1996 OB9	STRM	RC	12
473450	5930800 11U	1996 OB10	STRM	RC	12
470550	5933450 11U	1996 OB11	STRM	RC	12
480050	5939700 11U	1996 OB12	STRM	RC	12
477850	5934800 11U	1996 OB13	STRM	RC	12
480650	5937000 11U	1996 OB14	STRM	RC	12
477200	5932300 11U	1996 OB15	STRM	RC	12
478750	5934150 11U	1996 OB16	STRM	RC	12
482900	5947850 11U	1996 OB17	STRM	RC	12
481550	5939550 11U	1996 OB18	STRM	RC	12
482550	5939650 11U	1996 OB19	STRM	RC	12
483675	5942250 11U	1996 OB20	STRM	RC	12
481875	5947900 11U	1996 OB21	STRM	RC	12
474800	5942300 11U	1996 OB22	STRM	RC	12
476650	5943150 11U	1996 OB23	STRM	RC	12
475050	5942000 11U	1996 OB24	STRM	RC	12
479225	5944300 11U	1996 OB25	STRM	RC	12
479275	5944150 11U	1996 OB26	STRM	RC	12
481850	5944700 11U	1996 OB27	STRM	RC	12
481675	5946000 11U	1996 OB28	STRM	RC	12

APPENDIX V

MICROSCOPE EXAMINATION RESULTS

KENNECOTT CANADA EXPLORATION INC.
1300 West Walsh Street
Thunder Bay, Ontario
P7E 4X4

sampchar	prefix	sampnum	suffix	sieve	fraction	pyr	ecl	cpx	ilm	chr	opx	oil	remarks	picker	date
VR63566A	VR	63566	A	40	MAG	0	0	0	0	0	0	0		ZM	24-Apr-97
VR63566A	VR	63566	A	60	MAG	0	0	0	1	18	0	0		ZM	24-Apr-97
VR63570A	VR	63570	A	40	MAG	0	0	0	0	0	0	0		ZM	24-Apr-97

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

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 08 9270 9313
FAX NO 0015 1 604 669 5255	**FAX NO 08 9270 9225**

Date: 20 May, 1997

STRICTLY CONFIDENTIAL

SUBJECT: CANADA WEEKLY REPORT

Dear Buddy,

Enclosed is the report for week 19.

Yours sincerely

[redacted]

B. Smith per
Hans Lucas
Principal Mineralogist.

INDICATOR MINERAL LABORATORY WEEKLY REPORT

CANADA

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

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 24-FEB-97 TO 28-FEB-97

**STATE : OS **
RUN ON : 28-FEB-1997 15:17:05

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECO	OBS		RESULTS
52294	60-511-3	CANADA	VR63723A	G	0.25	17.0	0.003	*CHROMITE	45 x +0.25

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

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	VR63723 A	G	EI	F :AMPHIBOLE	R :BARITE	R :CORUNDUM
						F :EPIDOTE	S :GARNET	R :GOLD
						F :ILMENITE	F :KYANITE	O :LEUCOXENE
						F :LIMONITE	R :PYRITE	F :RUTILE
						R :SPHENE	F :STAUROLITE	F :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
						R :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		
52294	60-511-3	CANADA	VR63714	G	0.25	17.0	0.003	*CHROMITE	1 x +0.4 113 x +0.25	
								WEAR	: FRESH	FRESH WORN
								SHAPE	: EUHEDRAL	SUBHEDRAL
								SURFACE	: SMOOTH	FROSTED
								LUSTRE	: GLOSSY	SATIN SHEEN
								TEXTURE	: VITREOUS/COMPACT	
One flake of gold in 0.25mm.										
52294	60-511-3	CANADA	VR63717	G	0.25	19.3	0.003	*CHROMITE	220 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: IRREGULAR	SUBHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
								*PYROPE	3 x +0.25	3, 9 - GARNET GROUP
								COLOUR	: ORANGE PINK	ORANGE RED
70 chromite picked out then estimated.										
52294	60-511-3	CANADA	VR63727	G	0.25	16.8	0.006	*CHROMITE	22 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: BEVELED EDGES	ANHEDRAL
									: SUBHEDRAL	
								SURFACE	: PITTED	
								LUSTRE	: MATTE	GLOSSY
								TEXTURE	: VITREOUS/COMPACT	
52294	60-511-3	CANADA	VR63712	G	0.25	18.4	0.002	*CHROMITE	22 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: IRREGULAR	SUBHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
								*PYROPE	1 x +0.25	9 - GARNET GROUP
								COLOUR	: MAUVE	
Mica = fuchsite.										

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	VR63712	G	KI	R :CLINOPYROXENE	F :CLINOZOISITE	F :GARNET
						F :ILMENITE	F :LEUCOXENE	F :LIMONITE
						T :MICA	? :MUSCOVITE	F :SPHENE
						F :STAUROLITE	F :TOURMALINE	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	
Mica = fuchsite.								
52294	60-511-3	CANADA	VR63714	G	KI	R :ANDALUSITE	R :CASSITERITE	R :CLINOZOISITE
						F :EPIDOTE	F :GARNET	T :GOLD
						F :ILMENITE	R :KYANITE	F :LEUCOXENE
						R :MONAZITE	R :ORTHOPYROXENE	R :RUTILE
						R :SPHENE	R :STAUROLITE	R :TOURMALINE
						R :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE
						F :CHLOROTOID		
One flake of gold in 0.25mm.								
52294	60-511-3	CANADA	VR63717	G	KI	O :AMPHIBOLE	F :EPIDOTE	F :GARNET
						F :ILMENITE	F :LEUCOXENE	F :MICA
						F :ORTHOPYROXENE	R :PYRITE	R :SPHENE
						F :STAUROLITE	F :TOURMALINE	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	
70 chromite picked out then estimated.								
52294	60-511-3	CANADA	VR63727	G	KI	R :AMPHIBOLE	R :ANDALUSITE	R :EPIDOTE
						R :GARNET	R :ILMENITE	R :MONAZITE
						T :ORTHOPYROXENE	R :RUTILE	F :STAUROLITE
						R :SULPHIDES	R :TOURMALINE	P :ROCK FRAGMENTS
						R :SOIL PHOSPHATES	T :PSEUDO-PYRITE	F :CHROMITE
						F :CHLOROTOID		
52294	60-511-3	CANADA	VR63736	G	KI	R :ANDALUSITE	R :CLINOPYROXENE	R :CORUNDUM
						R :EPIDOTE	F :GARNET	F :ILMENITE
						R :LEUCOXENE	R :RUTILE	R :TOURMALINE
						P :ROCK FRAGMENTS	R :SOIL PHOSPHATES	F :CHROMITE
						F :CHLOROTOID		

CRA REPORT

KIMBERLITIC INDICATORS

16/97

**STATE : OS **
PERIOD 7-APR-97 TO 11-APR-97

**STATE : OS **
RUN ON : 14-APR-1997 08:52:45

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS		RESULTS
52294	60-511-3	CANADA	VR63719A	G	0.25	16.8	0.005	*CHROMITE	8 x +0.4 70 x +0.25

WEAR : FRESH WORN
SHAPE : SUBHEDRAL
SURFACE : FROSTED
LUSTRE : MATTE
STREAK : NOT STREAKABLE

mica=chlorite

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS		RESULTS
52294	60-511-3	CANADA	VR63725A	G	0.25	16.7	0.002	*CHROMITE	90 x +0.25

WEAR : FRESH WORN
SHAPE : SUBHEDRAL EUHEDRAL
SURFACE : FROSTED SMOOTH
LUSTRE : SHINY DULL

50 chromite picked out then estimated.
Cu-mineral - chalcopyrite.

OTHER MINERALS

**STATE : OS **
PERIOD 7-APR-97 TO 11-APR-97

**STATE : OS **
RUN ON : 14-APR-1997 09:03:51

DFO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* Indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63719A	G	KI	O :ALMANDINE	F :AMPHIBOLE	F :BARITE
						R :CASSITERITE	F :CLINOPYROXENE	R :CLINOZOISITE
						F :EPIDOTE	F :HEMATITE	F :ILMENITE
						F :LEUCOXENE	F :LIMONITE	F :MICA
						R :MONAZITE	R :ORTHOPYROXENE	T :PYRITE
						R :RUTILE	F :SPHENE	F :SPINEL
						F :STAUROLITE	R :TOURMALINE	R :ZIRCON
						P :ROCK FRAGMENTS	F :MAGNETITE	F :CHROMITE
						F :CHLOROTOID	F :ALLANITE	
mica-chlorite								
52294	60-511-3	CANADA	VR63725A	G	KI	F :AMPHIBOLE	R :ANATASE	T :CU-MINERALS
						F :EPIDOTE	O :GARNET	T :GOLD
						F :ILMENITE	F :KYANITE	F :LEUCOXENE
						F :LIMONITE	R :MONAZITE	F :ORTHOPYROXENE
						R :PYRITE	F :SPHENE	F :STAUROLITE
						F :ZIRCON	P :ROCK FRAGMENTS	R :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	F :ALLANITE

50 chromite picked out then estimated.
Cu-mineral = chalcopyrite.

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 19-MAY-97 TO 23-MAY-97

**STATE : OS **
RUN ON : 26-MAY-1997 10:30:32

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS		RESULTS	
52294	60-511-3	CANADA	VR63560	G	0.25	14.9	0.004	*CHROMITE	1 x +0.4 48 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SURFACE	: FROSTED	PITTED
									: SMOOTH	
								LUSTRE	: SHINY	MATTE
								TEXTURE	: VITREOUS/COMPACT	
52294	60-511-3	CANADA	VR63571	G	0.25	18.6	0.001	*CHROMITE	22 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: IRREGULAR	SUBHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 19-MAY-97 TO 23-MAY-97

**STATE : OS **
RUN ON : 26-MAY-1997 10:30:32

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63763	G	0.25	~~0.0~~ 16.72	0.007	*CHROME DIOP. 1 x +0.4 1 x +0.25

COLOUR : EMERALD GREEN

*CHROMITE -180 x +0.25

WEAR	: FRESH	
SHAPE	: ROUND	ANHEDRAL
	: EUHEDRAL	
SURFACE	: FROSTED	INDENTED
	: PITTED	
LUSTRE	: MATTE	GLOSSY
	: VITREOUS	
TEXTURE	: WITH SKIN	VITREOUS/COMPACT

Chromites estimated. Picked 90 from 1/2 of 0.25).Non Mag sent for Micro fusion.

52294	60-511-3	CANADA	VR63542	G	0.25	16.9	0.006	*CHROMITE 1 x +0.4 250 x +0.25

WEAR	: FRESH WORN	FRESH
SHAPE	: SUBHEDRAL	EUHEDRAL
SURFACE	: ROUGH	PITTED
	: SMOOTH	
LUSTRE	: SHINY	DULL
TEXTURE	: GRANULAR	VITREOUS/COMPACT

Cu-minerals = chalco pyrite. 50 chromite picked out of the 0.25mm then estimated.

52294	60-511-3	CANADA	VR63548	G	0.25	16.1	0.002	*PYROPE	1 x +0.25 3 - GARNET GROUP

COLOUR : PINK

*CHROMITE 37 x +0.25

WEAR	: FRESH WORN	FRESH
SHAPE	: ANHEDRAL	SUBHEDRAL
	: EUHEDRAL	
SURFACE	: FROSTED	SMOOTH
LUSTRE	: SHINY	MATTE

Non mag processed thru microfusion.

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 20-JAN-97 TO 24-JAN-97

**STATE : OS **
RUN ON : 24-JAN-1997 14:26:12

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS
52294	60-511-3	CANADA	[illegible]	G	0.25	12.4	0.003	*CHROMITE 62 x +0.25

WEAR	: FRESH WORN	FRESH
SHAPE	: ROUND	SUBHEDRAL
	: EUHEDRAL	
SURFACE	: FROSTED	INDENTED
LUSTRE	: SHINY	MATTE
TEXTURE	: WITH RIM	GRANULAR
	: VITREOUS/COMPACT	
STREAK	: BROWN	

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS
52294	60-511-3	CANADA	VR63558	G	0.25	21.0	0.004	*CHROMITE 36 x +0.25

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

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS
52294	60-511-3	CANADA	VR63567	G	0.25	16.9	0.006	*CHROMITE 50 x +0.25

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

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	WEIGHTS RECD	WEIGHTS OBS	RESULTS
52294	60-511-3	CANADA	VR63748	G	0.25	17.2	0.005	*CHROMITE 49 x +0.25

WEAR	: FRESH	
SHAPE	: BEVELED EDGES	ANHEDRAL
	: SUBHEDRAL	
SURFACE	: PITTED	
LUSTRE	: SHINY	MATTE
	: SATIN SHEEN	
TEXTURE	: VITREOUS/COMPACT	

*PYROPE 2 x +0.25 9, 3 - GARNET GROUP

COLOUR : MAUVE

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	VR63542	3	KI	F :AMPHIBOLE	R :ANATASE	O :BARITE
						R :CLINOPYROXENE	R :CU-MINERALS	F :EPIDOTE
						F :GARNET	F :ILMENITE	F :KYANITE
						O :LEUCOXENE	F :LIMONITE	R :MARTITE
						R :PYRITE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	F :CARBONATE
						R :SPHALERITE	R :ALLANITE	
Cu-minerals = chalco pyrite. 50 chromite picked out of the 0.25mm then estimated.								
52294	60-511-3	CANADA	VR63548	G	KI	F :EPIDOTE	S :GARNET	O :ILMENITE
						F :LIMONITE	F :MONAZITE	R :PYRITE
						F :SPHENE	F :STAUROLITE	P :ROCK FRAGMENTS
						F :CHROMITE	S :CHLOROTOID	
Non mag processed thru microfusion.								
52294	60-511-3	CANADA	VR63558	G	KI	R :CASSITERITE	R :CLINOZOISITE	R :EPIDOTE
						F :GARNET	R :ILMENITE	R :KYANITE
						R :LEUCOXENE	R :RUTILE	F :STAUROLITE
						R :TOURMALINE	P :ROCK FRAGMENTS	R :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 10-FEB-97 TO 14-FEB-97

**STATE : OS **
RUN ON : 14-FEB-1997 16:12:05

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS
52294	60-511-3	CANADA	[redacted] VR63731A	G	0.25	0.0	0.004	*CHROMITE 66 x +0.25
								WEAR : FRESH WORN — FRESH
								SHAPE : ANHEDRAL — SUBHEDRAL
								: EUHEDRAL
								SURFACE : FROSTED — INDENTED
								LUSTRE : MATTE
								TEXTURE : VITREOUS/COMPACT
52294	60-511-3	CANADA	[redacted] VR63738A	G	0.25	0.0	0.002	*CHROMITE 1 x +0.4 36 x +0.25
								WEAR : FRESH
								SHAPE : SUBHEDRAL
								SURFACE : FROSTED
52294	60-511-3	CANADA	[redacted] VR63739A	G	0.25	0.0	0.005	*CHROMITE 70 x +0.25
								WEAR : FRESH WORN — FRESH
								SHAPE : ANHEDRAL — SUBHEDRAL
								: EUHEDRAL
								SURFACE : FROSTED — INDENTED
								LUSTRE : SHINY — MATTE
								TEXTURE : VITREOUS/COMPACT
								*PYROPE 1 x +0.25 G9 - GARNET GROUP
								COLOUR : PURPLE
52294	60-511-3	CANADA	VR63602	G	0.25	17.8	0.002	*CHROMITE 81 x +0.25
								WEAR : FRESH WORN — FRESH
								SHAPE : ANHEDRAL — SUBHEDRAL
								: EUHEDRAL
								SURFACE : FROSTED — PITTED
								: SMOOTH
								LUSTRE : SHINY — MATTE
								TEXTURE : WITH SKIN — VITREOUS/COMPACT

Non mag fraction processed thru microfusion.

KIMBERLITIC INDICATORS

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

**STATE : OS **
RUN ON : 16-MAY-1997 15:44:24

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS		
52294	60-511-3	CANADA	VR63534A	G	0.25	15.1	0.005	*CHROMITE	320 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	VITREOUS
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
70 chromite picked out then estimated.										
52294	60-511-3	CANADA	VR63757	G	0.25	17.1	0.008	*PICROILMENITE	1 x +0.4	7 % MgO 1 % Cr_2O_3
								*CHROMITE	6 x +0.4 400 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: BEVELED EDGES	SUBHEDRAL
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								*PYROPE	6 x +0.25	10 - GARNET GROUP
								COLOUR	: ORANGE PINK	PINK
									: PURPLE	
								COLOUR	: ORANGE	
60 chromite picked out then estimated. Only 1.2g of 0.25mm heavies observed. Group 1, 3 and 4 pyropes also found. Picroilmenite 1% Cr2O3.										
52294	60-511-3	CANADA	VR63767	G	0.25	17.6	0.008	*CHROMITE	103 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: WITH RIM	VITREOUS/COMPACT
								STREAK	: NOT STREAKABLE	
52294	60-511-3	CANADA	VR63638A	G	0.25	13.3	0.001	*CHROMITE	9 x +0.25	
								WEAR	: FRESH	
								SHAPE	: SUBHEDRAL	EUHEDRAL
								SURFACE	: PITTED	CHIPPED
									: FROSTED	ROUGH
								LUSTRE	: SHINY	MATTE
								TEXTURE	: VITREOUS/COMPACT	

KIMBERLITIC INDICATORS

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

**STATE : OS **
RUN ON : 16-MAY-1997 15:44:24

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63773Â	G	0.25	16.9	0.009	*CHROMITE 2 x +0.4 520 x +0.25
								WEAR : FRESH — VERY FRESH
								SHAPE : ANHEDRAL — SUBHEDRAL
								: EUHEDRAL
								SURFACE : ROUGH — PITTED
								: SMOOTH
								LUSTRE : MATTE — SATIN SHEEN
								TEXTURE : WITH RIM — VITREOUS/COMPACT
								Chromites estimated . (Picked 65 chromites from 1/8.)
52294	60-511-3	CANADA	VR63536Â	G	0.25	14.0	0.005	*CHROMITE 1 x +0.4 50 x +0.25
								WEAR : FRESH WORN
								SHAPE : SUBHEDRAL — EUHEDRAL
								SURFACE : FROSTED
52294	60-511-3	CANADA	VR63540Â	G	0.25	13.9	0.002	*CHROMITE 1 x +0.5 1 x +0.4 ~500 x +0.25
								WEAR : FRESH
								SHAPE : ANHEDRAL — SUBHEDRAL
								: EUHEDRAL
								SURFACE : FROSTED — ROUGH
								: PITTED — SMOOTH
								LUSTRE : SHINY — MATTE
								*PYROPE 1 x +0.25 — 3,4 - GARNET GROUP
								COLOUR : ORANGE

60 chromite picked out of 0.25mm then estimated.
1 bright green, chrome bearing grossular garnet in 0.25mm.

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)		
52294	60-511-3	CANADA	VR63773A	G	KI	S :AMPHIBOLE	F :ANATASE	F :BARITE
						F :CLINOPYROXENE	F :CORUNDUM	F :EPIDOTE
						O :GARNET	R :GOLD	F :HEMATITE
						O :ILMENITE	F :KYANITE	C :LEUCOXENE
						F :LIMONITE	F :MONAZITE	F :ORTHOPYROXENE
						F :PYRITE	O :RUTILE	O :SILLIMANITE
						T :SPHENE	F :STAUROLITE	O :TOURMALINE
						T :ZIRCON	A :ROCK FRAGMENTS	O :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	R :SPHALERITE
						F :ALLANITE		
Chromites estimated . (Picked 65 chromites from 1/8.)								
52294	60-511-3	CANADA	VR63638A	G	KI	F :AMPHIBOLE	C :BARITE	R :CLINOPYROXENE
						A :GARNET	C :ILMENITE	F :KYANITE
						A :LEUCOXENE	F :ORTHOPYROXENE	F :RUTILE
						O :STAUROLITE	C :ROCK FRAGMENTS	T :XENOTIME
						F :CHLOROTOID	R :ALLANITE	

OTHER MINERALS

**STATE : OS **
PERIOD 17-FEB-97 TO 21-FEB-97

**STATE : OS **
RUN ON : 25-FEB-1997 08:40:39

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63729A	G	KI	R :AMPHIBOLE	R :CLINOPYROXENE	R :EPIDOTE
						S :GARNET	O :ILMENITE	F :KYANITE
						F :LEUCOXENE	O :LIMONITE	R :ORTHOPYROXENE
						F :RUTILE	F :STAUROLITE	F :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE
						O :CHLOROTOID		
52294	60-511-3	CANADA	VR63731A	G	KI	O :AMPHIBOLE	F :CLINOPYROXENE	R :EPIDOTE
						O :GARNET	O :ILMENITE	F :KYANITE
						O :LEUCOXENE	P :ORTHOPYROXENE	F :RUTILE
						F :STAUROLITE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	O :CHLOROTOID	
52294	60-511-3	CANADA	VR63738A	G	KI	R :AMPHIBOLE	R :ANATASE	F :EPIDOTE
						O :GARNET	F :HEMATITE	O :ILMENITE
						F :KYANITE	O :LEUCOXENE	F :LIMONITE
						R :ORTHOPYROXENE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	R :XENOTIME	F :CHROMITE
						F :CHLOROTOID		
52294	60-511-3	CANADA	VR63757	G	KI	O :AMPHIBOLE	F :CLINOPYROXENE	F :CLINOZOISITE
						F :DIOPSIDE	F :EPIDOTE	O :GARNET
						F :ILMENITE	F :LEUCOXENE	R :MONAZITE
						R :OLIVINE	F :ORTHOPYROXENE	F :SILLIMANITE
						R :SPINEL	R :STAUROLITE	P :ROCK FRAGMENTS
						F :SOIL PHOSPHATES	F :CHROMITE	F :CHLOROTOID
60 chromite picked out then estimated. Only 1.2g of 0.25mm heavies observed. Group 1, 3 and 4 pyropes also found. Picroilmenite 1% Cr2O3.								
52294	60-511-3	CANADA	VR63767	G	KI	F :EPIDOTE	F :GARNET	R :KYANITE
						F :LEUCOXENE	F :LIMONITE	R :SPHENE
						F :STAUROLITE	P :ROCK FRAGMENTS	F :CHROMITE
						F :CHLOROTOID	R :ALLANITE	
52294	60-511-3	CANADA	VR63779	G	KI	O :GARNET	O :ILMENITE	F :LEUCOXENE
						P :LIMONITE	F :ORTHOPYROXENE	F :RUTILE
						F :SPHENE	O :STAUROLITE	F :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	O :CHLOROTOID
Non mag fraction processed thru microfusion.								
52294	60-511-3	CANADA	VR63534A	G	KI	F :CLINOPYROXENE	F :EPIDOTE	O :GARNET
						F :ILMENITE	O :MICA	F :SPHENE
						F :STAUROLITE	O :TOURMALINE	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	F :ALLANITE
70 chromite picked out then estimated.								

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		
52294	60-511-3	CANADA	VR63640A	G	0.25	16.1	0.006	*PICROILMENITE	1 x +0.4	9.5 % MgO 1.5% Cr_2O_3
								WEAR : FRESH		
								SHAPE : BLOCKY		
								SURFACE : SMOOTH		
								LUSTRE : VITREOUS		
								*CHROMITE	49 x +0.25	
								WEAR : FRESH WORN		FRESH
								SHAPE : ANHEDRAL		SUBHEDRAL
								: EUHEDRAL		
								SURFACE : PITTED		SMOOTH
								LUSTRE : SHINY		MATTE
								Trace of gold in 0.25mm.		
								Picro-ilmenite contained 1.5% Cr.		
52294	60-511-3	CANADA	VR63644A	G	0.25	16.6	0.006	*CHROMITE	~120 x +0.25	
								WEAR : FRESH WORN		
								SHAPE : SUBHEDRAL		EUHEDRAL
								SURFACE : ROUGH		SMOOTH
								LUSTRE : SHINY		DULL
								60 chromite picked out then estimated.		
								Trace of gold in 0.25mm, flat and rough.		

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)		
52294	60-511-3	CANADA	VR63640 A	G	KI	F :AMPHIBOLE	T :ANATASE	R :ANDALUSITE
						R :APATITE	R :CASSITERITE	T :CLINOPYROXENE
						R :CLINOZOISITE	R :EPIDOTE	F :GARNET
						T :GOLD	F :ILMENITE	F :KYANITE
						F :LEUCOXENE	R :MICA	R :ORTHOPYROXENE
						F :RUTILE	R :SILLIMANITE	R :STAUROLITE
						R :TOURMALINE	R :ZIRCON	P :ROCK FRAGMENTS
						R :SOIL PHOSPHATES	F :CHROMITE	F :CHLOROTOID
						T :GAHNITE		
Trace of gold in 0.25mm. Picro-ilmenite contained 1.5% Cr.								
52294	60-511-3	CANADA	VR63644 A	G	KI	F :AMPHIBOLE	F :ANATASE	O :BARITE
						F :CASSITERITE	F :CLINOPYROXENE	F :CLINOZOISITE
						F :EPIDOTE	O :GARNET	T :GOLD
						F :ILMENITE	F :KYANITE	F :LIMONITE
						F :MONAZITE	T :OLIVINE	F :ORTHOPYROXENE
						T :PYRITE	F :SPHENE	R :SPINEL
						F :STAUROLITE	F :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	R :FLUORENCITE	F :CHROMITE
						O :CHLOROTOID	F :CARBONATE	R :SPHALERITE
						F :ALLANITE		
60 chromite picked out then estimated. Trace of gold in 0.25mm, flat and rough.								
52294	60-511-3	CANADA	VR63658 A	G	KI	O :BARITE	R :CASSITERITE	F :GARNET
						O :ILMENITE	F :KYANITE	F :LEUCOXENE
						F :LIMONITE	F :PYRITE	F :RUTILE
						F :SPHENE	F :STAUROLITE	R :TOPAZ
						P :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
						F :CARBONATE	R :SPHALERITE	F :ALLANITE
						T :UVAROVITE		
Chromite estimated in 0.25mm. 50 picked out.								
52294	60-511-3	CANADA	VR63665 A	G	KI	R :AMPHIBOLE	T :ANATASE	R :ANDALUSITE
						R :CASSITERITE	R :CLINOPYROXENE	R :EPIDOTE
						F :GARNET	R :GOLD	R :ILMENITE
						F :KYANITE	F :MONAZITE	R :PYRITE
						F :RUTILE	F :STAUROLITE	R :TOURMALINE
						R :ZIRCON	P :ROCK FRAGMENTS	F :SOIL PHOSPHATES
						F :CHLOROTOID		
Two flakes of gold in 0.25mm.								

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	
52294	60-511-3	CANADA	VR63658 A	G	0.25	15.1	0.009	*CHROMITE	~100 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	EUHEDRAL
								SURFACE	: SMOOTH	
								LUSTRE	: SHINY	DULL
Chromite estimated in 0.25mm. 50 picked out.										
52294	60-511-3	CANADA	VR63665 A	G	0.25	18.2	0.007	*CHROMITE	54 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: EUHEDRAL	SUBHEDRAL
								SURFACE	: SMOOTH	PITTED
								LUSTRE	: SATIN SHEEN	MATTE
									: SHINY	
Two flakes of gold in 0.25mm.										
52294	60-511-3	CANADA	VR63733 A	G	0.25	15.7	0.006	*CHROMITE	1 x +0.4 -330 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	PITTED
									: SMOOTH	
								LUSTRE	: SHINY	MATTE
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT
Chromites estimated. 0.25 (wt 3.7)Non Mag fraction sent for MD.										

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)		
52294	60-511-3	CANADA	VR63733A	G	KI	O :ANATASE	F :BARITE	F :BIOTITE
						F :CORUNDUM	F :EPIDOTE	O :GARNET
						F :HEMATITE	F :ILMENITE	F :KYANITE
						A :LEUCOXENE	F :LIMONITE	F :MONAZITE
						O :MUSCOVITE	F :ORTHOPYROXENE	F :RUTILE
						F :SILLIMANITE	O :TOURMALINE	F :ZIRCON
						A :ROCK FRAGMENTS	O :SOIL PHOSPHATES	F :CHROMITE
						O :CHLOROTOID	R :ALLANITE	

Chromites estimated. 0.25 (wt 3.7)Non Mag fraction sent for MD.

52294	60-511-3	CANADA	VR63596A	G	KI	R :ANATASE	O :EPIDOTE	F :GARNET
						F :ILMENITE	F :KYANITE	F :LEUCOXENE
						F :LIMONITE	R :RUTILE	R :SPHENE
						F :STAUROLITE	R :SULPHIDES-pyrite	S :TOURMALINE
						R :ZIRCON	F :CHROMITE	F :CHLOROTOID
						T :SPHALERITE	R :ALLANITE	

90 chromite picked out then estimated.

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 19-MAY-97 TO 23-MAY-97

**STATE : OS **
RUN ON : 26-MAY-1997 10:30:32

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS		
52294	60-511-3	CANADA	VR63588	G	0.25	19.8	0.004	*CHROMITE	360 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: IRREGULAR	SUBHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	VITREOUS
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
60 Chromites picked, then the rest estimated.										
52294	60-511-3	CANADA	VR63744	G	0.25	16.9	0.003	*CHROMITE	1 x +0.4 66 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: SUBHEDRAL	EUHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
								*PYROPE	1 x +0.4 1 x +0.25	1 - GARNET GROUP
								COLOUR	: MAUVE	
								COLOUR	: ORANGE	

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	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS		
52294	60-511-3	CANADA	VR63609A	G	0.25	14.1	0.003	*CHROMITE	135 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: SHINY	MATTE
								TEXTURE	: WITH SKIN	VITREOUS/COMPACT
52294	60-511-3	CANADA	VR63646A	G	0.25	16.4	0.006	*PYROPE	1 x +0.25	9 - GARNET GROUP
								COLOUR	: MAUVE	
								*CHROMITE	5 x +0.4 37 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: ANHEDRAL	SUBHEDRAL
								SURFACE	: CHIPPED	FROSTED
								LUSTRE	: MATTE	
								TEXTURE	: WITH RIM	VITREOUS/COMPACT
								STREAK	: NOT STREAKABLE	

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)		
52294	60-511-3	CANADA	VR63609A	G	KI	R :BIOTITE	F :EPIDOTE	O :GARNET
						F :ILMENITE	F :KYANITE	O :LEUCOXENE
						F :RUTILE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	O :CHLOROTOID	
52294	60-511-3	CANADA	VR63646A	G	KI	O :AMPHIBOLE	* :EPIDOTE	F :GARNET
						T :ILMENITE	R :MONAZITE	R :ORTHOPYROXENE
						R :PYRITE	T :SPINEL	R :STAUROLITE
						P :ROCK FRAGMENTS	R :FLUORENCITE	F :CHROMITE
						F :CHLOROTOID		

OTHER MINERALS

**STATE : OS **
PERIOD 19-MAY-97 TO 23-MAY-97

**STATE : OS **
RUN ON : 26-MAY-1997 10:35:25

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* Indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63560	G	KI	O :AMPHIBOLE	O :ANATASE	F :CLINOPYROXENE
						F :CORUNDUM	F :EPIDOTE	F :GARNET
						F :HEMATITE	F :ILMENITE	F :KYANITE
						C :LEUCOXENE	F :LIMONITE	R :MONAZITE
						R :ORTHOPYROXENE	R :PYRITE	O :SILLIMANITE
						F :SPHENE	F :STAUROLITE	F :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	O :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	R :SPHALERITE
						F :ALLANITE		
52294	60-511-3	CANADA	VR63571	G	KI	F :GARNET	F :ILMENITE	F :LEUCOXENE
						O :MICA	R :SPHENE	F :STAUROLITE
						P :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
52294	60-511-3	CANADA	VR63588	G	KI	F :CLINOZOISITE	F :EPIDOTE	F :GARNET
						F :ILMENITE	O :MICA	F :SPHENE
						F :STAUROLITE	F :TOURMALINE	P :ROCK FRAGMENTS
						F :CHROMITE	O :CHLOROTOID	
60 Chromites picked, then the rest estimated.								
52294	60-511-3	CANADA	VR63592	G	KI	F :EPIDOTE	O :GARNET	F :ILMENITE
						F :KYANITE	F :LEUCOXENE	R :PYRITE
						F :RUTILE	F :SPHENE	F :STAUROLITE
						F :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE
						S :CHLOROTOID	R :SPHALERITE	
52294	60-511-3	CANADA	VR63744	G	KI	S :AMPHIBOLE	F :CLINOPYROXENE	F :EPIDOTE
						O :GARNET	F :ILMENITE	F :LIMONITE
						F :ORTHOPYROXENE	F :SPHENE	O :TOURMALINE
						P :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
						T :*UVAROVITE		
52294	60-511-3	CANADA	VR63763	G	KI	F :AMPHIBOLE	F :ANATASE	R :CLINOPYROXENE
						R :CLINOZOISITE	F :CORUNDUM	R :EPIDOTE
						F :GARNET	F :HEMATITE	O :ILMENITE
						F :KYANITE	C :LEUCOXENE	F :LIMONITE
						R :ORTHOPYROXENE	O :RUTILE	O :SILLIMANITE
						F :SPHENE	F :STAUROLITE	F :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	F :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	F :ALLANITE
Chromites estimated. Picked 90 from 1/2 of 0.25).Non Mag sent for Micro fusion.								

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 14-APR-97 TO 18-APR-97

**STATE : OS **
RUN ON : 22-APR-1997 15:43:53

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS		
52294	60-511-3	CANADA	VR63721	G	0.25	16.3	0.004	*PYROPE	1 x +0.4	3 - GARNET GROUP

COLOUR : ORANGE PINK

*CHROMITE 4 x +0.4
60 x +0.25

WEAR : FRESH WORN
SHAPE : SUBHEDRAL
SURFACE : FROSTED
LUSTRE : MATTE SHINY
STREAK : BROWN

*PICROILMENITE 1 x +0.25 9 % MgO 0.5% Cr

OTHER MINERALS

**STATE : OS **
PERIOD 14-APR-97 TO 18-APR-97

**STATE : OS **
RUN ON : 22-APR-1997 15:56:46

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63721A	G	KI	O :ALMANDINE	F :AMPHIBOLE	R :ANATASE
						F :BARITE	R :CLINOPYROXENE	R :EPIDOTE
						F :GARNET	F :ILMENITE	F :KYANITE
						F :LEUCOXENE	R :MUSCOVITE	R :ORTHOPYROXENE
						F :PYRITE	R :RUTILE	R :SPHENE
						F :STAUROLITE	R :ZIRCON	T :MOLYBDENITE
						P :ROCK FRAGMENTS	F :CHROMITE	O :CHLOROTOID
						R :ALLANITE		

Picro ilmenite Cr = 0.5%.

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 1-APR-97 TO 4-APR-97

**STATE : OS **
RUN ON : 7-APR-1997 10:19:45

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS-- RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63636A	G	0.25	14.1	0.007	*CHROME DIOP. 1 x +0.4

COLOUR : EMERALD GREEN

*CHROMITE 3 x +0.4
-130 x +0.25

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

Cu-Mineral = Sulphide.

OTHER MINERALS

**STATE : OS **
PERIOD 1-APR-97 TO 4-APR-97

**STATE : OS **
RUN ON : 7-APR-1997 10:23:42

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63636	G	KI	C :AMPHIBOLE	F :ANATASE	F :BARITE
						F :CLINOPYROXENE	R :CORUNDUM	F :CU-MINERALS
						R :EPIDOTE	O :GARNET	O :HEMATITE
						O :ILMENITE	F :KYANITE	C :LEUCOXENE
						F :LIMONITE	F :MONAZITE	F :MUSCOVITE
						R :ORTHOPYROXENE	F :PYRITE	O :RUTILE
						F :SPHENE	R :SPINEL	F :STAUROLITE
						F :TOURMALINE	F :ZIRCON	C :ROCK FRAGMENTS
						F :SOIL PHOSPHATES	F :CHROMITE	F :CHLOROTOID
						R :GAHNITE		

Cu-Mineral = Sulphide.

KIMBERLITIC INDICATORS

10/97

**STATE : OS **
PERIOD 10-MAR-97 TO 14-MAR-97

**STATE : OS **
RUN ON : 14-MAR-1997 15:12:16

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS		RESULTS
52294	60-511-3	CANADA	VR63555A	G	0.25	12.8	0.003	*CHROMITE	85 x +0.25

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

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS		RESULTS
52294	60-511-3	CANADA	VR63801A	G	0.25	13.1	0.004	*CHROMITE	1 x +0.4 48 x +0.25

WEAR	: FRESH WORN	FRESH
SHAPE	: ROUND	ANHEDRAL
	: EUHEDRAL	
SURFACE	: FROSTED	PITTED
LUSTRE	: SHINY	MATTE
TEXTURE	: VITREOUS/COMPACT	
STREAK	: BROWN	

OTHER MINERALS

**STATE : OS **
PERIOD 10-MAR-97 TO 14-MAR-97

**STATE : OS **
RUN ON : 14-MAR-1997 15:25:28

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63555A	G	KI	F :CLINOPYROXENE	F :EPIDOTE	S :GARNET
						O :ILMENITE	O :KYANITE	O :LEUCOXENE
						F :ORTHOPYROXENE	T :PYRITE	O :RUTILE
						R :SPHENE	F :STAUROLITE	O :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	O :CHLOROTOID
						F :SPHALERITE	F :ALLANITE	
52294	60-511-3	CANADA	VR63801A	G	KI	F :AMPHIBOLE	O :ANATASE	F :ANDALUSITE
						F :CLINOPYROXENE	F :CORUNDUM	F :EPIDOTE
						O :GARNET	F :HEMATITE	F :ILMENITE
						O :KYANITE	S :LEUCOXENE	F :LIMONITE
						R :MONAZITE	F :ORTHOPYROXENE	O :RUTILE
						R :SPINEL	F :STAUROLITE	F :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	F :CHROMITE
						F :CHLOROTOID	R :CARBONATE	F :ALLANITE

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 4-MAR-97 TO 7-MAR-97

**STATE : OS **
RUN ON : 7-MAR-1997 16:38:48

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS		
52294	60-511-3	CANADA	VR63746A	G	0.25	15.4	0.008	*CHROMITE	230 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: ANHEDRAL	SUBHEDRAL
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
Cu mineral is chalcopyrite										
52294	60-511-3	CANADA	VR63765A	G	0.25	17.1	0.004	*CHROMITE	150 x +0.25	
								WEAR	: WORN	FRESH WORN
									: FRESH	
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	PITTED
									: SMOOTH	
								LUSTRE	: SHINY	DULL
50 chromite picked out then estimated.										
52294	60-511-3	CANADA	VR63853A	G	0.25	14.9	0.007	*CHROMITE	84 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: BEVELED EDGES	ANHEDRAL
									: SUBHEDRAL	EUHEDRAL
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: SHINY	MATTE
								TEXTURE	: VITREOUS/COMPACT	

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 4-MAR-97 TO 7-MAR-97

**STATE : OS **
RUN ON : 7-MAR-1997 16:38:48

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63611A	G	0.25	12.8	0.003	*CHROMITE 49 x +0.25

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

52294	60-511-3	CANADA	VR63642A	G	0.25	14.9	0.002	*CHROMITE	12 x +0.25

WEAR	: FRESH WORN	
SHAPE	: SUBHEDRAL	EUHEDRAL
SURFACE	: FROSTED	
LUSTRE	: SHINY	MATTE
STREAK	: BROWN	

Cu-Mineral =Chalco Pyrite.

OTHER MINERALS

**STATE : OS **
PERIOD 4-MAR-97 TO 7-MAR-97

**STATE : OS **
RUN ON : 7-MAR-1997 16:43:10

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS	(* indicates Rare Mineral not in Database)	
52294	60-511-3	CANADA	VR63611A	G	KI	F :ANATASE	F :CORUNDUM	F :EPIDOTE
						O :GARNET	F :HEMATITE	F :ILMENITE
						O :KYANITE	S :LEUCOXENE	F :LIMONITE
						R :MUSCOVITE	F :RUTILE	R :SPHENE
						F :STAUROLITE	F :TOURMALINE	F :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
						F :ALLANITE		
52294	60-511-3	CANADA	VR63642A	G	KI	O :AMPHIBOLE	F :ANATASE	? :BARITE
						F :CLINOPYROXENE	R :CORUNDUM	R :CU-MINERALS
						F :EPIDOTE	O :GARNET	F :HEMATITE
						F :ILMENITE	F :KYANITE	A :LEUCOXENE
						F :LIMONITE	O :RUTILE	R :SPHENE
						F :STAUROLITE	R :TOPAZ	F :TOURMALINE
						F :ZIRCON	A :ROCK FRAGMENTS	F :SOIL PHOSPHATES
						R :CHROMITE	F :CHLOROTOID	

Cu-Mineral =Chalco Pyrite.

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 24-FEB-97 TO 28-FEB-97

**STATE : OS **
RUN ON : 28-FEB-1997 15:17:05

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	—WEIGHTS— RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63503A	G	0.25	12.6	0.001	*CHROMITE 24 x +0.25

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

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63769A	G	0.25	16.9	0.004	*CHROMITE 1 x +0.4 120 x +0.25

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

Chromites estimated.

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63544A	G	0.25	16.0	0.002	*CHROMITE 25 x +0.25

WEAR	: FRESH WORN	
SHAPE	: SUBHEDRAL	ANHEDRAL
SURFACE	: SMOOTH	ROUGH
LUSTRE	: DULL	SHINY

*PICROILMENITE 1 x +0.25 5 % MgO

Cu-minerals - chalcopyrite. One picro ilmenite with 0% Cr.

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	
52294	60-511-3	CANADA	VR63594	G	0.25	18.5	0.006	*CHROMITE	2 x +0.4 #340 x +0.25	
								WEAR	: FRESH	
								SHAPE	: ROUND	ANHEDRAL
									: SUBHEDRAL	EUHEDRAL
								SURFACE	: FROSTED	PITTED
									: SMOOTH	
								LUSTRE	: SHINY	MATTE
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: BROWN	
Chromites estimated.										
52294	60-511-3	CANADA	VR63596A	G	0.25	19.5	0.007	*PYROPE	2 x +0.25	3,4,9 - GARNET GROUP
								COLOUR	: MAUVE	
								COLOUR	: ORANGE	
								*CHROMITE	400 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: IRREGULAR	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	
								LUSTRE	: MATTE	
								TEXTURE	: VITREOUS/COMPACT	
								STREAK	: NOT STREAKABLE	
90 chromite picked out then estimated.										

OTHER MINERALS

**STATE : OS **
PERIOD 24-FEB-97 TO 28-FEB-97

**STATE : OS **
RUN ON : 28-FEB-1997 15:22:29

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63503A	G	KI	F :AMPHIBOLE	A :CORUNDUM	F :EPIDOTE
						O :GARNET	O :ILMENITE	F :KYANITE
						O :LEUCOXENE	R :ORTHOPYROXENE	R :PYRITE
						F :RUTILE	F :STAUROLITE	F :ZIRCON
						P :ROCK FRAGMENTS	T :SOIL PHOSPHATES	F :CHROMITE
						S :CHLOROTOID	R :ALLANITE	
52294	60-511-3	CANADA	VR63769A	G	KI	R :AMPHIBOLE	F :ANATASE	R :CORUNDUM
						F :EPIDOTE	O :GARNET	T :GOLD (1 flake)
						F :HEMATITE	F :ILMENITE	O :KYANITE
						C :LEUCOXENE	F :LIMONITE	R :MONAZITE
						R :ORTHOPYROXENE	F :RUTILE	F :SPHENE
						F :STAUROLITE	R :TOPAZ	O :TOURMALINE
						F :ZIRCON	P :ROCK FRAGMENTS	S :SOIL PHOSPHATES
						F :CHROMITE	O :CHLOROTOID	R :GAHNITE
						R :SPHALERITE	R :ALLANITE	
Chromites estimated.								
52294	60-511-3	CANADA	VR63594	G	KI	S :AMPHIBOLE	F :ANATASE	F :ANDALUSITE
						F :CORUNDUM	F :EPIDOTE	O :GARNET
						O :HEMATITE	O :ILMENITE	R :KYANITE
						O :LEUCOXENE	F :LIMONITE	R :MONAZITE
						R :PYRITE	F :RUTILE	F :SILLIMANITE
						F :SPHENE	T :SPINEL	F :STAUROLITE
						F :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS
						F :SOIL PHOSPHATES	F :CHROMITE	F :ALLANITE
Chromites estimated.								

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		
52294	60-511-3	CANADA	VR63600	G	0.25	19.9	0.011	*PYROPE	6 x +0.25	9 - GARNET GROUP
								COLOUR : PURPLE		WINE RED
								*CHROMITE	2 x +0.4 1200 x +0.25	
								WEAR : FRESH		FRESH WORN
								SHAPE : SUBHEDRAL		ANHEDRAL
								SURFACE : SMOOTH		PITTED
								LUSTRE : GLOSSY		SATIN SHEEN
								: MATTE		
								TEXTURE : VITREOUS/COMPACT		
	100 chromite picked out then estimated. Mica = fuchsite.									
52294	60-511-3	CANADA	VR63663	G	0.25	15.7	0.003	*CHROMITE	1 x +0.4 64 x +0.25	
								WEAR : FRESH WORN		FRESH
								SHAPE : BEVELED EDGES		ROUND
								: SUBHEDRAL		EUHEDRAL
								SURFACE : FROSTED		SMOOTH
								LUSTRE : SHINY		MATTE
								TEXTURE : WITH SKIN		VITREOUS/COMPACT
52294	60-511-3	CANADA	VR63736	G	0.25	17.4	0.003	*CHROMITE	70 x +0.25	
								WEAR : FRESH WORN		
								SHAPE : SUBHEDRAL		
								SURFACE : PITTED		
								LUSTRE : MATTE		
								TEXTURE : VITREOUS/COMPACT		
								*PYROPE	6 x +0.25	3 - GARNET GROUP
								COLOUR : PINK		
								COLOUR : ORANGE		
								*DIAMOND	1 x +0.25	

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	VR63663	G	KI	C :ANATASE	R :CLINOPYROXENE	F :CLINOZOISITE
						F :CORUNDUM	R :EPIDOTE	F :GARNET
						F :HEMATITE	F :ILMENITE	F :KYANITE
						C :LEUCOXENE	F :LIMONITE	R :ORTHOPYROXENE
						O :RUTILE	F :SPHENE	F :STAUROLITE
						C :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS
						O :SOIL PHOSPHATES	F :CHROMITE	F :CHLOROTOID
						F :ALLANITE	T :*UVAROVITE	
52294	60-511-3	CANADA	VR63600	G	KI	R :ANDALUSITE	R :CLINOZOISITE	R :CORUNDUM
						F :GARNET	F :ILMENITE	R :LEUCOXENE
						R :MICA	R :MONAZITE	R :PYRITE
						R :RUTILE	F :STAUROLITE	P :ROCK FRAGMENTS
						R :SOIL PHOSPHATES	F :CHROMITE	F :CHLOROTOID
52294	60-511-3	CANADA	VR63602	G	KI	T :CLINOPYROXENE	F :EPIDOTE	S :GARNET
						O :ILMENITE	F :KYANITE	F :LEUCOXENE
						F :LIMONITE	T :ORTHOPYROXENE	R :PYRITE
						F :STAUROLITE	P :ROCK FRAGMENTS	F :CHROMITE
						S :CHLOROTOID	F :ALLANITE	

100 chromite picked out then estimated.
Mica - fuchsite.

Non mag fraction processed thru microfusion.

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		
52294	60-511-3	CANADA	VR63791	G	0.25	17.2	0.005	*PICROILMENITE	1 x +0.25	6% % MgO
								SHAPE : IRREGULAR		BLOCKY
								*PYROPE	2 x +0.4 3 x +0.25	GR3,9 - GARNET GROUP
								COLOUR : ORANGE PINK : PURPLE		PINK
								COLOUR : ORANGE		
								*CHROMITE	5 x +0.4 ~~60~~ 160 x +0.25	
								WEAR : FRESH WORN		FRESH
								SHAPE : ANHEDRAL : EUHEDRAL		SUBHEDRAL
								SURFACE : FROSTED : SMOOTH		PITTED
								LUSTRE : SATIN SHEEN		
								TEXTURE : VITREOUS/COMPACT		
0.25 Non Mag fraction sent for Micro Fusion.Chromites estimated.										
52294	60-511-3	CANADA	VR63779	G	0.25	18.7	0.003	*CHROMITE	69 x -0.25	
								WEAR : FRESH WORN		
								SHAPE : ANHEDRAL : EUHEDRAL		SUBHEDRAL
								SURFACE : FROSTED		SMOOTH
								LUSTRE : SHINY		MATTE
								TEXTURE : WITH SKIN		VITREOUS/COMPACT
Non mag fraction processed thru microfusion.										
52294	60-511-3	CANADA	VR63781	G	0.25	19.2	0.004	*CHROMITE	74 x +0.25	
								WEAR : FRESH WORN		
								SHAPE : SUBHEDRAL		EUHEDRAL
								SURFACE : FROSTED : SMOOTH		PITTED
								LUSTRE : SHINY		MATTE
								TEXTURE : WITH SKIN		VITREOUS/COMPACT

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	VR63781	G	KI	R :CORUNDUM	F :EPIDOTE	S :GARNET
						O :ILMENITE	O :KYANITE	O :LEUCOXENE
						F :LIMONITE	F :PYRITE	F :RUTILE
						F :SPHENE	O :STAUROLITE	F :ZIRCON
						P :ROCK FRAGMENTS	R :SOIL PHOSPHATES	F :CHROMITE
						S :CHLOROTOID		
52294	60-511-3	CANADA	VR63791	G	KI	F :AMPHIBOLE	F :ANATASE	O :ANDALUSITE
						R :CLINOPYROXENE	F :CORUNDUM	R :EPIDOTE
						O :GARNET	F :HEMATITE	O :ILMENITE
						F :KYANITE	O :LEUCOXENE	R :MONAZITE
						R :OLIVINE	R :ORTHOPYROXENE	R :PYRITE
						F :RUTILE	F :SILLIMANITE	R :SPHENE
						R :SPINEL	F :TOURMALINE	F :ZIRCON
						A :ROCK FRAGMENTS	F :SOIL PHOSPHATES	F :CHROMITE
						F :CHLOROTOID	T :GAHNITE	F :ALLANITE
0.25 Non Mag fraction sent for Micro Fusion.Chromites estimated.								
52294	60-511-3	CANADA	VR63793	G	KI	F :AMPHIBOLE	R :DIOPSIDE	F :EPIDOTE
						P :GARNET	F :ILMENITE	C :LEUCOXENE
						F :LIMONITE	O :ORTHOPYROXENE	F :RUTILE
						O :STAUROLITE	F :ZIRCON	F :CHROMITE
						C :CHLOROTOID	T :GAHNITE	
52294	60-511-3	CANADA	VR63795	G	KI	O :AMPHIBOLE	F :CLINOPYROXENE	F :GARNET
						F :ILMENITE	S :MICA	F :MONAZITE
						F :ORTHOPYROXENE	F :PYRITE	F :SPHENE
						F :STAUROLITE	P :ROCK FRAGMENTS	F :CHROMITE
						F :CHLOROTOID		
160 chromite picked out then estimated.								

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 10-FEB-97 TO 14-FEB-97

**STATE : OS **
RUN ON : 14-FEB-1997 16:12:05

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS
52294	60-511-3	CANADA	[redacted] VR63516A	G	0.25	15.5	0.002	*CHROMITE 87 x +0.25

WEAR	: FRESH WORN	
SHAPE	: ANHEDRAL	SUBHEDRAL
SURFACE	: FROSTED	ROUGH
	: PITTED	SMOOTH
LUSTRE	: SHINY	MATTE
	: SATIN SHEEN	

Chromites have interesting morphology.

52294	60-511-3	CANADA	VR63538A	G	0.25	14.8	0.004	*CHROMITE	59 x +0.25

WEAR	: FRESH WORN	
SHAPE	: SUBHEDRAL	EUHEDRAL
SURFACE	: ROUGH	SMOOTH
LUSTRE	: SHINY	DULL

Cu-mineral = chalcopyrite.

OTHER MINERALS

**STATE : OS **
PERIOD 10-FEB-97 TO 14-FEB-97

**STATE : OS **
RUN ON : 14-FEB-1997 16:16:46

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63516A	G	KI	A :CASSITERITE	R :CORUNDUM	F :EPIDOTE
						G :GARNET	O :ILMENITE	F :KYANITE
						O :LEUCOXENE	O :LIMONITE	F :MARTITE
						R :PYRITE	R :RUTILE	F :SPHENE
						F :SPINEL	F :STAUROLITE	F :ZIRCON
						P :ROCK FRAGMENTS	T :ANDRADITE	F :CHROMITE
						F :CHLOROTOID		
52294	60-511-3	CANADA	VR63746A	G	KI	R :CORUNDUM	T :CU-MINERALS	F :EPIDOTE
						S :GARNET	R :HEMATITE	F :ILMENITE
						O :KYANITE	O :LEUCOXENE	O :LIMONITE
						T :PYRITE	F :RUTILE	F :SILLIMANITE
						F :SPHENE	F :SPINEL	O :STAUROLITE
						F :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS (schistose
						F :XENOTIME	F :CHROMITE	F :CHLOROTOID
						R :ALLANITE		

Cu mineral is chalcopyrite

52294	60-511-3	CANADA	VR63765A	G	KI	R :ANATASE	F :CLINOPYROXENE	F :EPIDOTE
						O :GARNET	F :ILMENITE	S :KYANITE
						A :LEUCOXENE	F :LIMONITE	R :MICA
						F :ORTHOPYROXENE	F :PYRITE	F :RUTILE
						F :SPHENE	O :STAUROLITE	F :ZIRCON
						A :ROCK FRAGMENTS	F :ANDRADITE	F :CHROMITE
						F :CHLOROTOID	F :CARBONATE	F :ALLANITE

50 chromite picked out then estimated.

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 17-FEB-97 TO 21-FEB-97

**STATE : OS **
RUN ON : 25-FEB-1997 08:27:30

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECO	OBS		RESULTS	
52294	60-511-3	CANADA	VR63546A	G	0.25	14.4	0.004	*CHROMITE	2 x +0.4 85 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: SHINY	MATTE
								TEXTURE	: VITREOUS/COMPACT	
52294	60-511-3	CANADA	VR63771A	G	0.25	15.6	0.008	*CHROMITE	42 x +0.25	
								WEAR	: FRESH WORN	
								SHAPE	: ANHEDRAL	SUBHEDRAL
									: EUHEDRAL	
								SURFACE	: FROSTED	SMOOTH
								LUSTRE	: SHINY	MATTE
								TEXTURE	: GRANULAR	VITREOUS/COMPACT
52294	60-511-3	CANADA	VR63735A	G	0.25	16.1	0.011	*CHROMITE	140 x +0.25	
								WEAR	: FRESH WORN	FRESH
								SHAPE	: ANHEDRAL	SUBHEDRAL
								SURFACE	: FROSTED	INDENTED
								LUSTRE	: SHINY	MATTE
									: SATIN SHEEN	
								TEXTURE	: VITREOUS/COMPACT	
								*PYROPE	1 x +0.4 2 x +0.25	3,4,9 - GARNET GROUP
								WEAR	: FRESH	
								SHAPE	: ANHEDRAL	
								SURFACE	: CHIPPED	FROSTED
								COLOUR	: PURPLE	
								COLOUR	: ORANGE	

70 chromite picked out and estimated.

OTHER MINERALS

**STATE : OS **
PERIOD 17-FEB-97 TO 21-FEB-97

**STATE : OS **
RUN ON : 25-FEB-1997 08:40:39

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* Indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63771A	G	KI	R :AMPHIBOLE	R :ANATASE	T :CLINOPYROXENE
						R :EPIDOTE	C :GARNET	O :ILMENITE
						F :KYANITE	S :LEUCOXENE	O :LIMONITE
						R :PYRITE	F :RUTILE	F :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	F :CHLOROTOID
						R :SPHALERITE		
52294	60-511-3	CANADA	VR63775A	G	KI	R :EPIDOTE	F :GARNET	F :ILMENITE
						F :LEUCOXENE	O :LIMONITE	R :ORTHOPYROXENE
						F :RUTILE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	F :CHLOROTOID	
52294	60-511-3	CANADA	VR63536A	G	KI	R :ANATASE	R :BARITE	T :CLINOZOISITE
						F :EPIDOTE	S :GARNET	F :HEMATITE
						O :ILMENITE	O :KYANITE	O :LEUCOXENE
						O :LIMONITE	R :MONAZITE	R :PYRITE
						F :RUTILE	R :SPHENE	F :STAUROLITE
						F :TOURMALINE	F :ZIRCON	P :ROCK FRAGMENTS
						R :XENOTIME	F :CHROMITE	F :CHLOROTOID
52294	60-511-3	CANADA	VR63540A	G	KI	F :ANATASE	F :CORUNDUM	F :EPIDOTE
						C :GARNET	F :ILMENITE	T :KYANITE
						A :LEUCOXENE	A :LIMONITE	T :PYRITE
						F :RUTILE	F :SPHENE	F :TOPAZ
						F :ZIRCON	F :CHROMITE	S :CHLOROTOID
						F :ALLANITE		

60 chromite picked out of 0.25mm then estimated.
1 bright green, chrome bearing grossular garnet in 0.25mm.

52294	60-511-3	CANADA	VR63546A	G	KI	R :CLINOPYROXENE	R :EPIDOTE	C :GARNET
						T :GOLD	O :ILMENITE	F :KYANITE
						O :LEUCOXENE	F :LIMONITE	F :ORTHOPYROXENE
						T :PYRITE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :ZIRCON	P :ROCK FRAGMENTS
						F :CHROMITE	O :CHLOROTOID	F :ALLANITE

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	VR63748	G	XI	R :ANDALUSITE	R :CASSITERITE	R :CLINOZOISITE
						R :EPIDOTE	F :GARNET	F :ILMENITE
						F :LEUCOXENE	R :RUTILE	R :SILLIMANITE
						F :STAUROLITE	F :ROCK FRAGMENTS	R :SOIL PHOSPHATES
						F :CHROMITE	F :CHLOROTOID	
52294	60-511-3	CANADA	VR63567	G	XI	F :CORUNDUM	R :EPIDOTE	F :GARNET
						F :ILMENITE	F :KYANITE	F :LEUCOXENE
						R :PYRITE	R :RUTILE	R :TOURMALINE
						F :ROCK FRAGMENTS	R :SOIL PHOSPHATES	F :CHROMITE
						F :CHLOROTOID	T :*PIEDMONTITE	

OTHER MINERALS

**STATE : OS **
PERIOD 4-MAR-97 TO 7-MAR-97

**STATE : OS **
RUN ON : 7-MAR-1997 16:43:10

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63853A	G	KI	F :CORUNDUM	F :EPIDOTE	C :GARNET
						O :ILMENITE	F :KYANITE	O :LEUCOXENE
						F :MONAZITE	F :ORTHOPYROXENE	F :RUTILE
						F :SPHENE	F :STAUROLITE	F :ZIRCON
						P :ROCK FRAGMENTS	F :CHROMITE	O :CHLOROTOID
						F :ALLANITE		
52294	60-511-3	CANADA	VR63538A	G	KI	F :CLINOPYROXENE	T :CU-MINERALS	F :EPIDOTE
						O :GARNET	F :ILMENITE	F :KYANITE
						A :LEUCOXENE	R :MICA	F :ORTHOPYROXENE
						R :PYRITE	F :RUTILE	F :SPHENE
						O :STAUROLITE	R :TOPAZ	F :ZIRCON
						A :ROCK FRAGMENTS	R :PSEUDO-PYRITE	F :CHROMITE
						O :CHLOROTOID	R :CARBONATE	F :ALLANITE
						T :*STEEL BALL		
Cu-mineral = chalcopyrite.								
52294	60-511-3	CANADA	VR63544A	G	KI	F :AMPHIBOLE	R :ANATASE	F :CLINOPYROXENE
						R :CU-MINERALS	F :EPIDOTE	S :GARNET
						S :ILMENITE	F :KYANITE	O :LEUCOXENE
						F :LIMONITE	R :MARTITE	F :ORTHOPYROXENE
						R :PYRITE	F :RUTILE	F :SPHENE
						F :STAUROLITE	F :ZIRCON	P :ROCK FRAGMENTS
						T :PSEUDO-PYRITE	F :CHROMITE	F :CHLOROTOID
						F :COLLOPHANE	F :CARBONATE	F :ALLANITE
Cu-minerals = chalcopyrite. One picro ilmenite with 0% Cr.								

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 20-JAN-97 TO 24-JAN-97

**STATE : OS **
RUN ON : 24-JAN-1997 14:26:12

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS-- RECD	OBS	RESULTS
52294	60-511-3	CANADA	[redacted]	G	0.25	12.4	0.003	*CHROMITE 62 x +0.25

WEAR	: FRESH WORN	FRESH
SHAPE	: ROUND	SUBHEDRAL
	: EUHEDRAL	
SURFACE	: FROSTED	INDENTED
LUSTRE	: SHINY	MATTE
TEXTURE	: WITH RIM	GRANULAR
	: VITREOUS/COMPACT	
STREAK	: BROWN	

CRA REPORT

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 27-JAN-97 TO 31-JAN-97

**STATE : OS **
RUN ON : 31-JAN-1997 15:21:41

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS-- RECD	OBS		RESULTS
52294	60-511-3	CANADA	[redacted]	G	0.25	0.0	0.002	*CHROMITE	63 x +0.25

VR6364BA

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

OTHER MINERALS

**STATE : OS **
PERIOD 27-JAN-97 TO 31-JAN-97

**STATE : OS **
RUN ON : 31-JAN-1997 15:25:22

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR63648	G	KI	R :ANATASE	R :EPIDOTE	S :GARNET
						F :KYANITE	O :LEUCOXENE	F :RUTILE
						F :ZIRCON	F :ROCK FRAGMENTS	O :CHROMITE
						O :CHLOROTOID	R :SPHALERITE	

KIMBERLITIC INDICATORS

**STATE : OS **
PERIOD 19-MAY-97 TO 23-MAY-97

**STATE : OS **
RUN ON : 26-MAY-1997 10:30:32

DPO	COST CODE	AREA	SAMPLE NO	TYPE	OBSTO	--WEIGHTS--- RECD	OBS	RESULTS
52294	60-511-3	CANADA	VR63592	G	0.25	18.7	0.002	*CHROMITE 52 x +0.25

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

OTHER MINERALS

**STATE : OS **
PERIOD 17-FEB-97 TO 21-FEB-97

**STATE : OS **
RUN ON : 25-FEB-1997 08:40:39

DPO	COST CODE	AREA	SAMPLE NO	TYPE	WORK	RESULTS (* indicates Rare Mineral not in Database)		
52294	60-511-3	CANADA	VR61785A	G	KI	F :AMPHIBOLE	R :CLINOPYROXENE	F :EPIDOTE
						A :GARNET	O :ILMENITE	O :KYANITE
						F :LEUCOXENE	R :ORTHOPYROXENE	F :RUTILE
						R :SPINEL	F :STAUROLITE	O :TOURMALINE
						O :ZIRCON	A :ROCK FRAGMENTS	O :CHROMITE
						O :CHLOROTOID	I :GAHNITE	

70 chromite picked out and estimated.

Martelli, Zdenka

From: Lucas, Hans
Sent: Wednesday, 28 May 1997 9:43
To: Martelli, Zdenka
Subject: FW: Good VR results

From: Lucas, Hans
Sent: Wednesday, 28 May 1997 9:43
To: 'Buddy Doyle'
Subject: Good VR results

Three VR samples are very interesting

2. VR63736A

1 diamond 0.3x0.3mm transparent white, octa aggregate
70 chromites most have typical background morphologies, but a few (~10) have possible kimberlitic morphologies

20 possible eclogitic garnets (Being confirmed by SEM)

3. Sample VR63791A

The chromites in this sample look good
3 G9 garnets
6 possible eclogitic garnets
165 chromites
13 picro-ilmenites (SEM confirmation needed)

Once again let me offer our SEM services for analyzing your grains should you want to confirm their kimberlitic affinities

Cheers,
Hans

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
VR63516A	Chromites: Mostly anhedral (possibly fragments) showing some signs of wear - minor chipping and abrasion on edges, and a few light scratches. One grain displays the kimberlitic lustre - "satin sheen" (due to etching of the surface by magmatic fluids).
VR63540A	Garnet - fragment, sharp edges, no wear. Chromites - +0.4mm - Euhedral, originally smooth faces scratched,

edges abraded. One other showing percussion marks on fracture surface.
+0.25mm Very little wear evident - only 2-3 grains showing abrasion and <5 with on or two chips on otherwise euhedral grains. About 50% of grains euhedral to subhedral. Remainder anhedral. Surfaces smooth to frosted, one pimply, several cokey.

VR63546A

Chromites
- +0.4mm - Grains quite rounded but as a result of etching rather than abrasion.
+0.25mm - Many grains rounded. Some vertices chipped. There are a few anhedral grains with sharp edges.

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.

VR63738A

Chromites - possibly two populations. Population 1, euhedral to subhedral grains with slightly rounded to quite rounded edges. Some vertices chipped. No abrasion or chipping on edges noticeable. 2. Irregular grains with coarse possibly kimberlitic "satin sheen" and sharp edges.

VR63771A

Chromites - show some signs of travel - abraded edges and scratches on surfaces.

VR63785A

Garnets - Two purple G9 -
one +0.4mm - moderate sphericity, frosted, minor chipping on edges, no abrasion;
one +0.25mm - has bluey green tinge, sharp edges, is a fragment, one surface frosted.

Chromites - some grains fresh with no sign of wear and finely pitted surfaces. One with "satin sheen". The majority show minor abrasion and chipping on edges.

[redacted]

Joyce Syms
Senior Mineralogist

Anomaly Name | Request No SEM 108 | Submitted By B. DOYLE

Geologist's Date 10/6/97 | Cost Code 60-511-3 | Geol File No

Geological Background

Sample No	250 000 Mapsheet	+0.8	+0.5	+0.4	+0.25	Total
VR63791				2	3	5

Comments

Urgency Top Priority

SCANNING NOTES Cores Only

Report To BD/CBS

v/cc is vitreous compact core

Sample No	Grain Sequence	+0.4	+0.25	Morphological Description
VR63791	1-5	2	3	One purple G9, 4 pale pink.

Summary

Two grains were crustal garnets with elevated MnO and FeO values. One grain is a G9 with 4.24wt% Cr_2O_3. Two grains were G3 pyropres and one grain can not be classified according to Dawsons and Dtephens grouping. It has <2wt% Cr_2O_3, low FeO and high MgO and TiO_2 values, but plot in Sobolev's lherzolitic trend. The number of grains are too low to assess diamond prospectivity.

Sample No	Assessor's Recommendation
VR63791	High priority follow up.

Assessor E. Bullock

Date 4/7/97

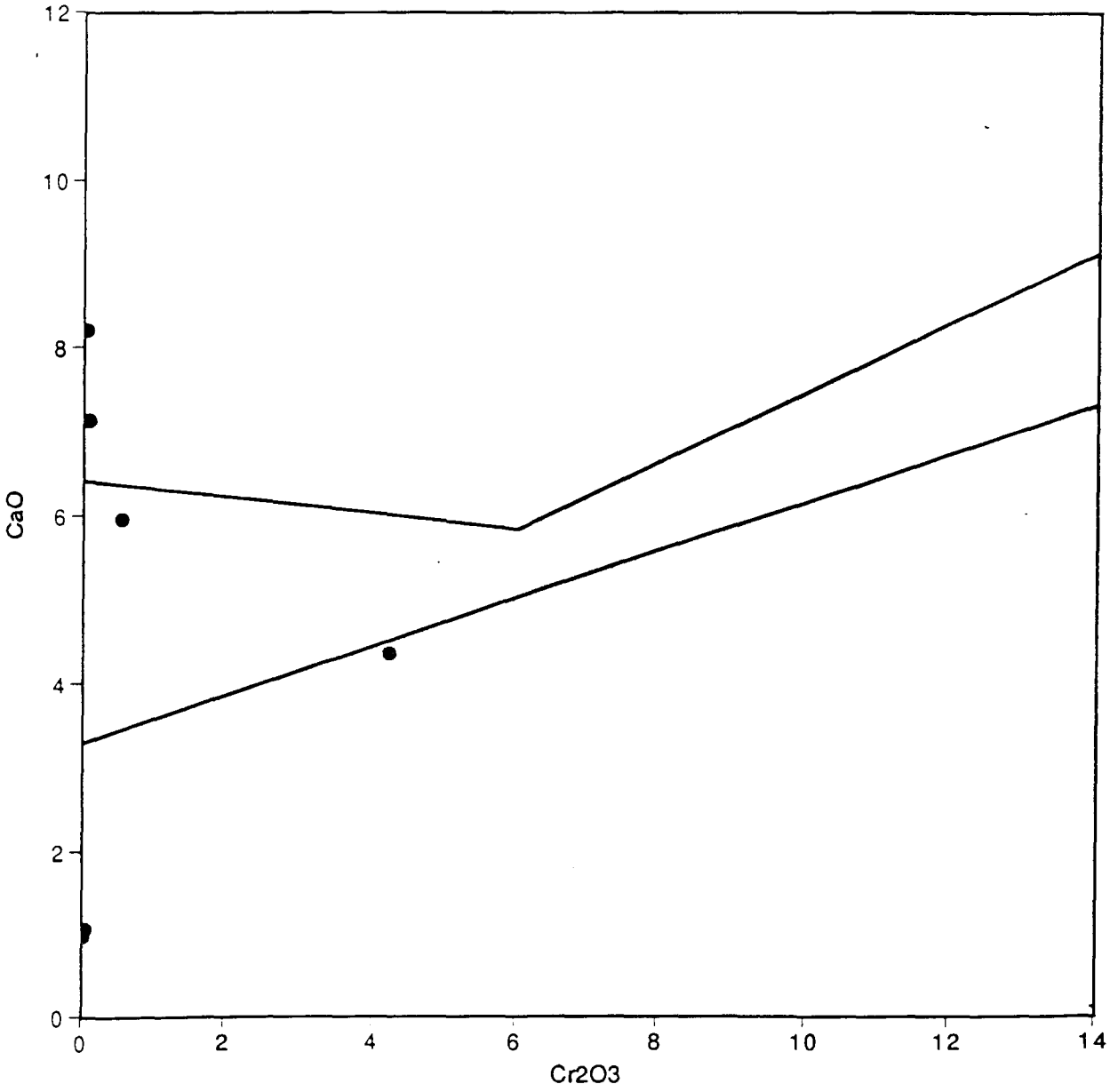
Plot OS17J

Slide

Garnet Plot

Legend

● VR63791



Anomaly Name		Request No	SEM 75	Submitted By	B. Doyle		
Geologist's Date	10/6/97	Cost Code	60-511-3	Geol File No			
Geological Background							
Sample No	250 000 Mapsheet		+0.8	+0.5	+0.4	+0.25	Total
VR63736A						50	50

Comments

Urgency Top Priority

SCANNING NOTES Cores Only

Report To DB/CBS

v/cc is vitreous compact core

Sample No	Grain Sequence	+0.4	+0.25	Morphological Description
VR63736A	1-7		•	Anhedral, rounded (resorbed?) grains. Fine pitting, matt lustre.
	8-50		•	Subhedral to anhedral, moderately pitted, matt, v/cc.

Summary

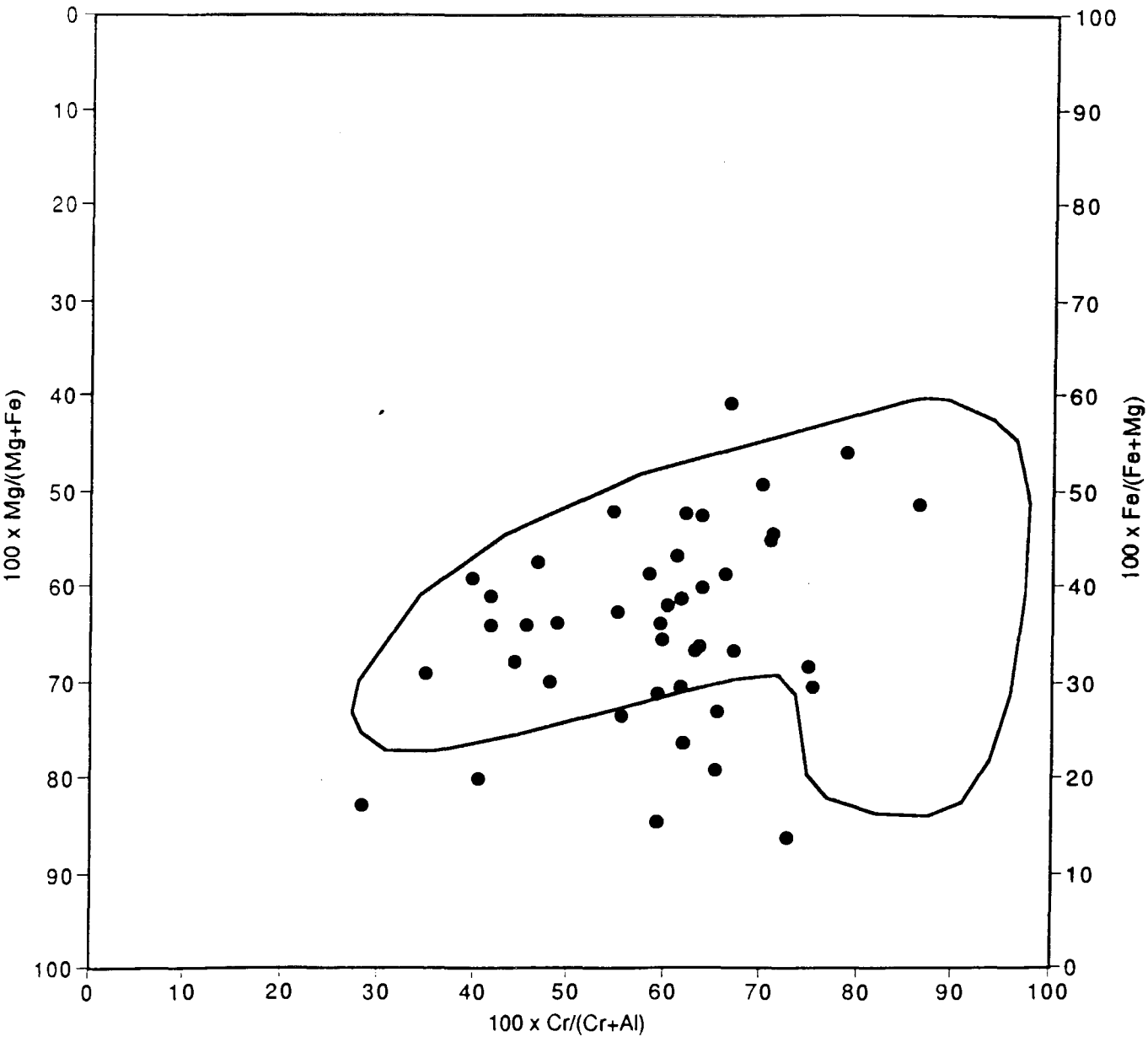
The majority of the grains plot along the kimberlitic trend, with approximately five grains above 70 Cr#. This indicates that these chromites may have been sourced from the diamond stability field.

Sample No	Assessor's Recommendation		
VR63736A	High priority follow up.	Assessor	E. Bullock
		Date	7/797
		Plot	OS17D
		Slide	

Chromite Plot

Legend

● VR63736



Anomaly Name		Request No	SEM 112	Submitted By	B. DOYLE	
Geologist's Date	10/6/97	Cost Code	60-511-3	Geol File No		

Geological Background

Sample No	250 000 Mapsheet	+0.8	+0.5	+0.4	+0.25	Total
VR63757				5	45	50

Comments

Urgency Top Priority

SCANNING NOTES Cores Only

Report To BD/CBS

v/cc is vitreous compact core

Sample No	Grain Sequence	+0.4	+0.25	Morphological Description
VR63757	1-5	*		Subhedral, rounded (resorbed?) . Fine pitting, matt, v/cc.
	6-27		*	Rounded, (resorbed?) Finely pitted, matt, v/cc.
	28-33		*	Anhedral, with rough knobbly surfaces, v/cc (picro?)
	34-50		*	Subhedral, moderately pitted, matt,v/cc.

Summary

Most of the grains plot within the kimberlitic field, following the mantle trend. Three grains plot above 70 Cr#, indicating that they may have come from the diamond stability field.

Sample No	Assessor's Recommendation
VR63757	High priority follow up

Assessor E. Bullock

Date 7/7/97

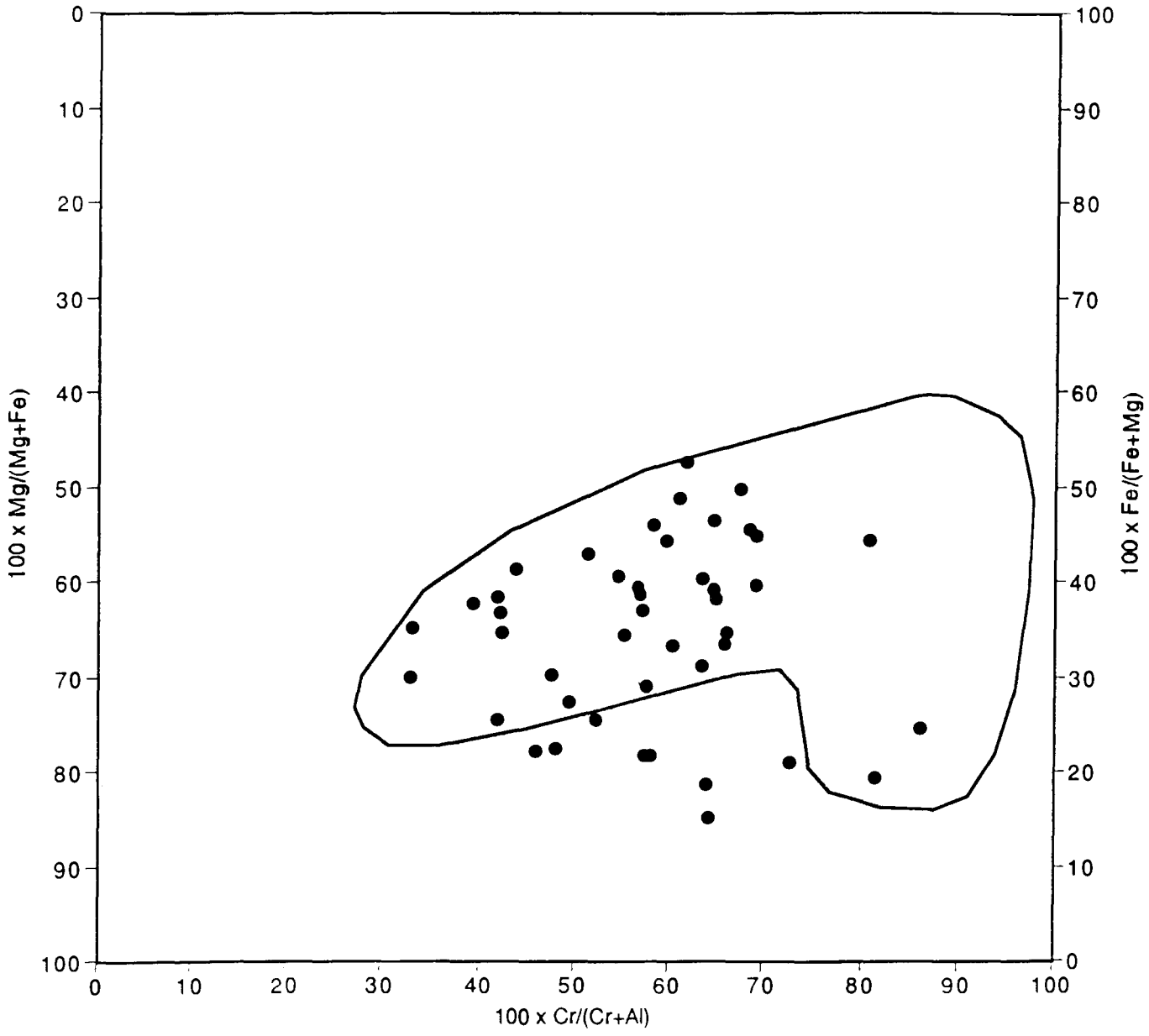
Plot OS17G

Slide

Chromite Plot

Legend

● VR63757



APPENDIX VI

ELECTRON 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
96OB01	1					1
96OB08					1?	0
96OB09	3				2	5
96OB11	1					1
96OB13	1					1
96OB14	1					1
96OB24			1		2?	1
96OB26				1		1
96OB28			1			1

Prepared by Kevin Kivi 3/30/97

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?
96OB01	CHR	7	SUB_PICRO_CHROMITE	Yes
96OB08	UVA	1	Uvarovite	Maybe
96OB09	CHR	5	PICRO_CHROMITE	Yes
96OB09	CHR	6	PICRO_CHROMITE	Yes
96OB09	CHR	7	PICRO_CHROMITE	Yes
96OB09	UVA	3	High Chrome Uvarovite	Maybe
96OB09	UVA	4	Uvarovite	Maybe
96OB11	CHR	1	PICRO_CHROMITE	Yes
96OB13	CHR	3	PICRO_CHROMITE	Yes
96OB14	CHR	1	PICRO_CHROMITE	Yes
96OB24	PYR	1	G_10_LOW_CALCIUM_CHROME_PYROPE_>ONE_S.D.	Yes
96OB24	UVA	2	Uvarovite	Maybe
96OB24	UVA	3	Uvarovite	Maybe
96OB26	ECL	1	G_03_CALCIC_PYROPE_ALMANDINE_>ONE_S.D.	Yes
96OB28	PYR	2	G_10_LOW_CALCIUM_CHROME_PYROPE_>ONE_S.D.	Yes

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
96OB01	CHR	7	60	0.08	0.09	10.98	55.21	24.69	0.42	7.15			0.1	0.27	98.99
96OB08	UVA	1	60	36.62	0.16	0.15	8.13	20.84	0.14	0.07	33.4				99.5
96OB09	UVA	3	60	36.18	0.32	11.91	13.46	2.53	0.72	0.18	33.11				100.41
96OB09	UVA	4	60	36.77	0.12	0.49	3.92	24.27	0.07	0.07	33.66				99.37
96OB09	CHR	5	60	0.03	0.42	12.65	51.1	26.23	0.35	9.31			0.12	0.22	100.43
96OB09	CHR	6	60	0.05	0.08	16.11	52.09	20.67	0.37	10.73			0.08	0.21	100.29
96OB09	CHR	7	60	0.11	1.75	15.96	45.09	21.46	0.2	14.26			0.24	0.06	99.12
96OB11	CHR	1	60	0.07	1.56	16.9	41.47	28.68	0.21	11.22			0.21	0.08	100.4
96OB13	CHR	3	60	0.11	1.13	18.67	46.06	19.7	0.29	14.18			0.26	0.04	100.44
96OB14	CHR	1	60	0.1	1.39	19.11	41.89	24.89	0.26	11.56			0.22	0.09	99.51
96OB24	PYR	1	60	42.37	0.23	19.43	5.77	7.24	0.45	19.55	4.88				99.92
96OB24	UVA	2	60	36.5	0.09	0.14	4.72	24.23	0.12	0.04	33.73				99.57
96OB24	UVA	3	60	36.72	0.05	0.08	3.82	25.01	0.07	0.03	33.55				99.33
96OB26	ECL	1	60	39.71	0.32	22.1	0.04	19.05	0.49	6.97	11.34	0.09			100.11
96OB28	PYR	2	60	41.49	0.07	17.43	8.95	7.74	0.57	16.98	7.04				100.27

Prepared by Kevin Kivi 3/30/97

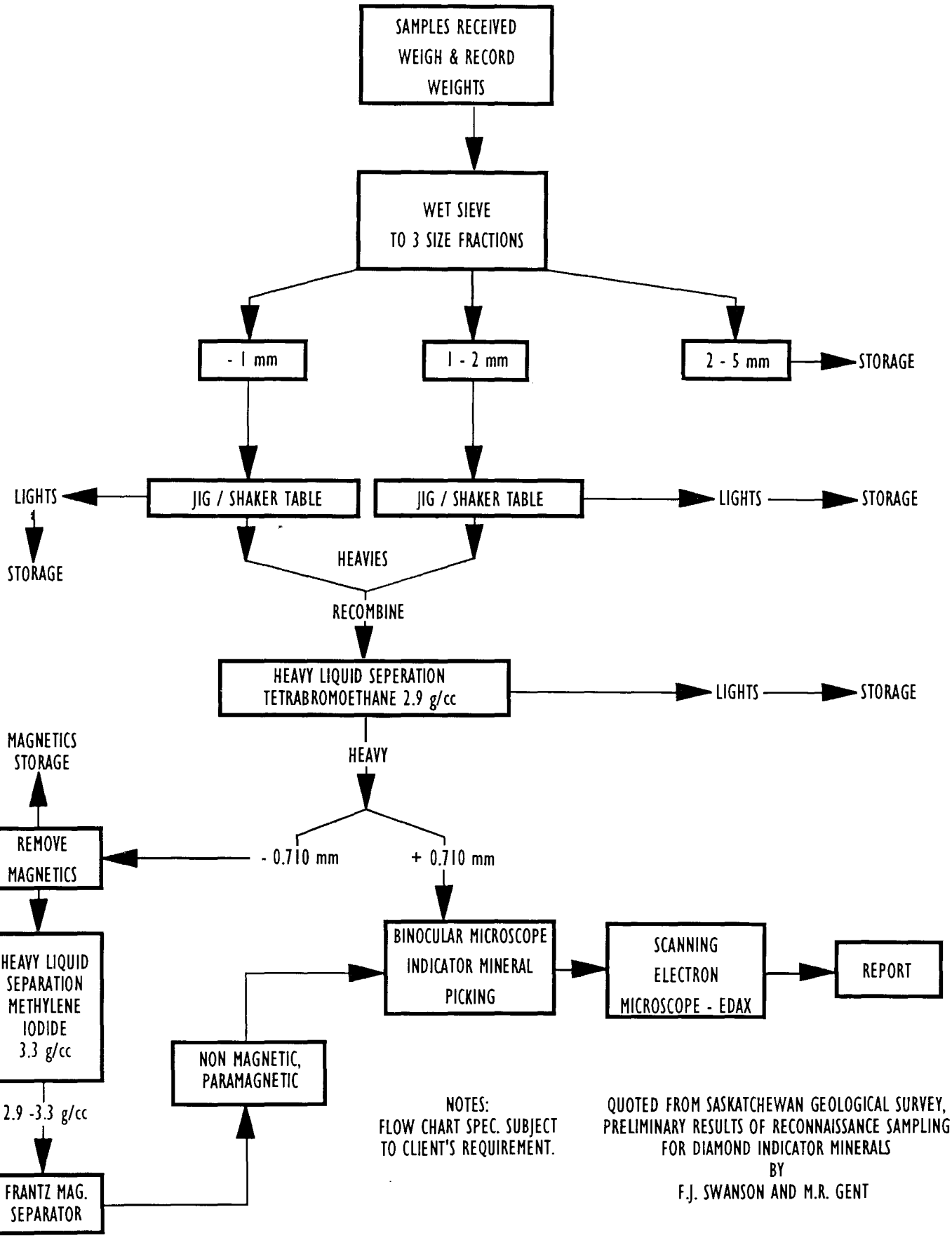
APPENDIX VII

LABORATORY PROCEDURES: HEAVY MINERAL SAMPLE PROCESSING

LORING LABORATORIES LTD.

DIAMOND EXPLORATION SERVICES

SAMPLE PROCESSING FLOW CHART



NOTES:
FLOW CHART SPEC. SUBJECT
TO CLIENT'S REQUIREMENT.

QUOTED FROM SASKATCHEWAN GEOLOGICAL SURVEY,
PRELIMINARY RESULTS OF RECONNAISSANCE SAMPLING
FOR DIAMOND INDICATOR MINERALS
BY
F.J. SWANSON AND M.R. GENT

APPENDIX VIII

LABORATORY PROCEDURES:

METHODOLOGY 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

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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

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354 - 200 GRANVILLE ST.
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Project : 60-511-3
Comments: ATTN: ROB VAN EDGMOND

Certificate Date: 14-JAN-97
Invoice No. :19644423
P.O. Number :
Account :KAV

CERTIFICATE OF ANALYSIS A9644423

SAMPLE	PREP CODE		Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Ba ppm	Rb ppm	Sr ppm	Nb ppm	Zr ppm	Y ppm
VR63504A	201	202	6	131	0.20	53	< 10	46	605	54	138	10	303	16
VR63517A	201	202	8	164	0.24	54	< 10	52	760	66	182	10	345	18
VR63535A	201	202	4	159	0.22	44	< 10	42	675	52	164	12	615	22
VR63537A	201	202	6	148	0.22	61	< 10	66	745	70	162	12	228	18
VR63539A	201	202	6	161	0.21	49	< 10	48	715	58	174	10	348	16
VR63541A	201	202	8	178	0.20	54	< 10	52	705	58	190	10	231	16
VR63543A	201	202	8	170	0.21	52	< 10	48	675	60	178	10	336	18
VR63545A	201	202	8	191	0.20	56	< 10	48	725	58	202	8	207	14
VR63547A	201	202	4	179	0.19	31	< 10	28	500	36	176	10	531	16
VR63549A	201	202	8	214	0.19	48	< 10	50	720	54	226	8	174	14
VR63551A	201	202	6	138	0.19	44	< 10	62	500	56	146	10	408	18
VR63556A	201	202	8	169	0.23	56	< 10	52	635	58	172	10	270	18
VR63559A	201	202	6	147	0.15	34	< 10	36	470	44	150	8	285	18
VR63565A	201	202	8	181	0.14	37	< 10	30	615	42	188	6	243	28
VR63568A	201	202	8	193	0.26	61	< 10	54	785	60	202	18	393	16
VR63569A	201	202	6	124	0.13	31	< 10	22	505	42	126	12	294	20
VR63572A	201	202	6	226	0.22	52	< 10	50	795	62	238	14	255	14
VR63573A	201	202	8	125	0.20	47	< 10	56	575	58	132	12	381	16

CERTIFICATION: [redacted]

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VR63589A	201	202	4	173	0.22	60	< 10	56	710	62	172	10	354	18
VR63593A	201	202	4	155	0.18	54	< 10	50	645	62	156	10	195	14
VR63595A	201	202	4	193	0.24	61	< 10	58	795	62	196	10	348	16
VR63597A	201	202	8	174	0.21	65	< 10	60	705	66	170	10	195	18
VR63603A	201	202	8	186	0.18	49	< 10	42	630	52	176	8	183	14
VR63612A	201	202	6	158	0.19	47	< 10	44	660	54	174	12	185	14
VR63615A	201	202	10	148	0.24	79	< 10	80	735	70	144	12	237	18
VR63631A	201	202	8	168	0.25	81	< 10	72	1320	68	164	8	162	18
VR63637A	201	202	8	139	0.19	53	< 10	48	570	52	140	10	264	16
VR63639A	201	202	8	204	0.23	66	< 10	52	740	56	196	10	207	14
VR63641A	201	202	6	139	0.21	63	< 10	66	660	62	136	10	213	16
VR63643A	201	202	10	204	0.23	66	< 10	58	965	60	198	8	225	14
VR63645A	201	202	6	170	0.22	60	< 10	58	710	56	172	10	288	18
VR63647A	201	202	8	193	0.23	62	< 10	54	790	58	186	10	255	16
VR63649A	201	202	8	180	0.25	72	< 10	64	730	62	176	10	231	16
VR63651A	201	202	6	154	0.20	59	< 10	54	660	54	146	16	216	14
VR63659A	201	202	3	134	0.23	67	< 10	96	605	78	130	14	228	18
VR63664A	201	202	8	272	0.17	44	< 10	34	595	42	240	8	174	10
VR63666A	201	202	10	195	0.27	55	< 10	40	625	46	182	12	846	22

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Certificate Date: 14-JAN-97
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VR63676A	201	202	6	130	0.16	58	< 10	50	520	44	144	8	213	16
VR63682A	201	202	8	208	0.25	73	< 10	64	820	62	210	12	210	16
VR63713A	201	202	4	170	0.24	61	< 10	62	785	66	184	10	393	18
VR63715A	201	202	8	168	0.21	53	< 10	62	800	64	184	10	258	14
VR63718A	201	202	2	125	0.19	43	< 10	38	485	48	122	10	525	20
VR63720A	201	202	10	177	0.23	65	< 10	56	875	68	184	10	210	16
VR63722A	201	202	10	197	0.25	67	10	58	965	64	202	12	381	18
VR63724A	201	202	8	163	0.22	58	< 10	50	855	62	182	10	291	16
VR63726A	201	202	10	140	0.22	58	< 10	50	920	66	164	10	381	18
VR63728A	201	202	12	181	0.23	63	< 10	56	825	62	190	10	234	14
VR63730A	201	202	12	176	0.23	57	< 10	52	810	60	188	10	381	18
VR63732A	201	202	12	172	0.21	56	< 10	48	810	58	178	10	288	14
VR63735A	201	202	6	154	0.23	52	< 10	46	740	58	160	10	426	16
VR63737A	201	202	10	198	0.21	58	< 10	52	795	60	204	10	195	14
VR63739A	201	202	10	123	0.14	28	< 10	24	400	36	126	8	525	18
VR63745A	201	202	10	164	0.27	65	< 10	54	760	66	170	12	531	20
VR63747A	201	202	10	194	0.24	61	< 10	54	805	62	192	10	321	18
VR63749A	201	202	10	151	0.20	50	< 10	48	720	60	160	8	288	18
VR63754A	201	202	10	157	0.23	68	< 10	72	805	84	172	12	225	14
VR63758A	201	202	8	139	0.21	47	< 10	46	610	52	146	10	345	14
VR63760A	201	202	6	127	0.20	56	< 10	64	680	68	138	10	279	16

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Page Number : 4-A
Total Pages : 4
Certificate Date: 14-JAN-97
Invoice No. : 19644423
P.O. Number :
Account : KAV

CERTIFICATE OF ANALYSIS A9644423

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VR63764A	201	202	< 5	< 0.2	5.05	730	0.5	< 2	2.09	< 0.5	8	43	11	1.85	1.33	0.73	705	< 1	1.10	19	560
VR63766A	201	202	< 5	< 0.2	4.33	620	0.5	< 2	1.97	< 0.5	7	30	8	1.61	1.26	0.71	490	< 1	0.95	14	550
VR63768A	201	202	< 5	< 0.2	4.25	670	0.5	< 2	2.12	< 0.5	5	34	6	1.42	1.23	0.66	445	< 1	1.09	16	480
VR63770A	201	202	< 5	< 0.2	5.26	760	0.5	< 2	1.14	< 0.5	8	41	10	1.81	1.40	0.62	390	< 1	1.16	16	560
VR63772A	201	202	< 5	< 0.2	4.90	700	0.5	< 2	3.21	< 0.5	7	33	10	1.62	1.38	0.90	480	< 1	1.09	18	530
VR63776A	201	202	< 5	< 0.2	4.88	630	0.5	< 2	0.58	< 0.5	7	42	13	1.86	1.28	0.48	280	< 1	0.77	21	570
VR63780A	201	202	< 5	< 0.2	4.55	690	0.5	2	3.13	< 0.5	8	35	9	1.62	1.29	0.82	535	< 1	1.13	17	530
VR63782A	201	202	65	< 0.2	4.38	660	0.5	< 2	2.54	< 0.5	6	36	7	1.45	1.30	0.83	440	< 1	1.07	16	490
VR63786A	201	202	< 5	< 0.2	4.58	660	0.5	< 2	0.75	< 0.5	7	35	10	1.62	1.17	0.44	415	< 1	0.98	16	550
VR63792A	201	202	< 5	< 0.2	4.72	690	0.5	< 2	0.71	< 0.5	7	36	9	1.61	1.24	0.44	345	< 1	1.06	15	560
VR63802A	201	202	< 5	< 0.2	3.85	550	0.5	< 2	3.75	< 0.5	6	33	9	1.46	1.17	1.33	300	< 1	0.78	16	770

CERTIFICATION: [redacted]

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Page Number : 1-B
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Invoice No. : I9644423
P.O. Number :
Account : KAV

CERTIFICATE OF ANALYSIS A9644423

SAMPLE	PREP CODE		Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Ba ppm	Rb ppm	Sr ppm	Nb ppm	Zr ppm	Y ppm
VR63504A	201	202	6	131	0.20	53	< 10	46	605	54	138	10	303	16
VR63517A	201	202	8	164	0.24	54	< 10	52	760	66	182	10	345	18
VR63535A	201	202	4	159	0.22	44	< 10	42	675	52	164	12	615	22
VR63537A	201	202	6	148	0.22	61	< 10	66	745	70	162	12	228	18
VR63539A	201	202	6	161	0.21	49	< 10	48	715	58	174	10	348	16
VR63541A	201	202	8	178	0.20	54	< 10	52	705	58	190	10	231	16
VR63543A	201	202	8	170	0.21	52	< 10	48	675	60	178	10	336	18
VR63545A	201	202	8	191	0.20	56	< 10	48	725	58	202	8	207	14
VR63547A	201	202	4	179	0.19	31	< 10	28	500	36	176	10	531	16
VR63549A	201	202	8	214	0.19	48	< 10	50	720	54	226	8	174	14
VR63551A	201	202	6	138	0.19	44	< 10	62	500	56	146	10	408	18
VR63556A	201	202	8	169	0.23	56	< 10	52	635	58	172	10	270	18
VR63559A	201	202	6	147	0.15	34	< 10	36	470	44	150	8	285	18
VR63565A	201	202	8	181	0.14	37	< 10	30	615	42	188	6	243	28
VR63568A	201	202	8	193	0.26	61	< 10	54	785	60	202	18	393	16
VR63569A	201	202	6	124	0.13	31	< 10	22	505	42	126	12	294	20
VR63572A	201	202	6	226	0.22	52	< 10	50	795	62	238	14	255	14
VR63573A	201	202	8	125	0.20	47	< 10	56	575	58	132	12	381	16

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

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

Certificate Date: 14-JAN-97
Invoice No. :19644423
P.O. Number :
Account :KAV

CERTIFICATE OF ANALYSIS A9644423

SAMPLE	PREP CODE		Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Ba ppm	Rb ppm	Sr ppm	Nb ppm	Zr ppm	Y ppm
VR63589A	201	202	4	173	0.22	60	< 10	56	710	62	172	10	354	18
VR63593A	201	202	4	155	0.18	54	< 10	50	645	62	156	10	195	14
VR63595A	201	202	4	193	0.24	61	< 10	58	795	62	196	10	348	16
VR63597A	201	202	8	174	0.21	65	< 10	60	705	66	170	10	195	18
VR63603A	201	202	8	186	0.18	49	< 10	42	630	52	176	8	183	14
VR63612A	201	202	6	158	0.19	47	< 10	44	660	54	174	12	195	14
VR63615A	201	202	10	148	0.24	79	< 10	80	735	70	144	12	237	18
VR63631A	201	202	8	168	0.25	81	< 10	72	1320	68	164	8	162	18
VR63637A	201	202	8	139	0.19	53	< 10	48	570	52	140	10	264	16
VR63639A	201	202	8	204	0.23	66	< 10	52	740	56	196	10	207	14
VR63641A	201	202	6	139	0.21	63	< 10	66	660	62	136	10	213	16
VR63643A	201	202	10	204	0.23	66	< 10	58	965	60	198	8	225	14
VR63645A	201	202	6	170	0.22	60	< 10	58	710	56	172	10	288	18
VR63647A	201	202	8	193	0.23	62	< 10	54	790	58	186	10	255	16
VR63649A	201	202	8	180	0.25	72	< 10	64	730	62	176	10	231	16
VR63651A	201	202	6	154	0.20	59	< 10	54	660	54	146	16	216	14
VR63659A	201	202	3	134	0.23	67	< 10	96	605	78	130	14	228	18
VR63664A	201	202	8	272	0.17	44	< 10	34	595	42	240	8	174	10
VR63666A	201	202	10	195	0.27	55	< 10	40	625	46	182	12	846	22

CERTIFICATION: [redacted]

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To: KENNECOTT CANADA, INC.

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

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

Page Number :3-B
Total Pages :4
Certificate Date: 14-JAN-97
Invoice No. : I9644423
P.O. Number :
Account :KAV

CERTIFICATE OF ANALYSIS A9644423

SAMPLE	PREP CODE		Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Ba ppm	Rb ppm	Sr ppm	Nb ppm	Zr ppm	Y ppm
VR63676A	201	202	6	130	0.16	58	< 10	50	520	44	144	8	213	16
VR63682A	201	202	8	208	0.25	72	< 10	64	820	62	210	12	210	16
VR63713A	201	202	4	170	0.24	61	< 10	62	785	66	184	10	393	18
VR63715A	201	202	8	168	0.21	53	< 10	62	800	64	184	10	258	14
VR63718A	201	202	2	125	0.19	43	< 10	38	485	48	122	10	525	20
VR63720A	201	202	10	177	0.23	65	< 10	56	975	68	184	10	210	16
VR63722A	201	202	10	197	0.25	67	10	58	945	64	202	12	381	18
VR63724A	201	202	8	163	0.22	58	< 10	50	855	62	182	10	291	16
VR63726A	201	202	10	140	0.22	58	< 10	50	920	66	164	10	381	18
VR63728A	201	202	12	181	0.23	63	< 10	56	825	62	190	10	234	14
VR63730A	201	202	12	176	0.23	57	< 10	52	810	60	188	10	381	18
VR63732A	201	202	12	172	0.21	56	< 10	48	810	58	178	10	288	14
VR63735A	201	202	6	154	0.23	52	< 10	46	740	58	160	10	426	16
VR63737A	201	202	10	198	0.21	58	< 10	52	795	60	204	10	195	14
VR63739A	201	202	10	123	0.14	28	< 10	24	400	36	126	8	525	18
VR63745A	201	202	10	164	0.27	65	< 10	54	760	66	170	12	531	20
VR63747A	201	202	10	184	0.24	61	< 10	54	805	62	192	10	321	18
VR63749A	201	202	10	151	0.20	50	< 10	48	720	60	160	8	288	18
VR63754A	201	202	10	157	0.23	68	< 10	72	805	84	172	12	225	14
VR63758A	201	202	8	139	0.21	47	< 10	46	610	52	146	10	345	14
VR63760A	201	202	6	127	0.20	56	< 10	64	680	68	138	10	279	16

CERTIFICATION: [redacted]

Chemex Labs Ltd.

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CERTIFICATE OF ANALYSIS A9644423

SAMPLE	PREP CODE		Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Ba ppm	Rb ppm	Sr ppm	Nb ppm	Zr ppm	Y ppm
VR63764A	201	202	8	191	0.22	55	< 10	50	770	58	202	10	279	16
VR63766A	201	202	6	156	0.19	47	< 10	44	670	56	172	8	306	16
VR63768A	201	202	4	183	0.19	44	< 10	38	740	52	206	8	294	14
VR63770A	201	202	4	174	0.23	58	< 10	56	785	64	186	10	285	16
VR63772A	201	202	6	199	0.19	51	< 10	44	710	56	204	10	210	14
VR63776A	201	202	8	127	0.21	66	< 10	62	675	64	138	10	273	16
VR63780A	201	202	6	197	0.21	52	< 10	42	670	50	206	8	378	16
VR63782A	201	202	6	179	0.17	45	< 10	38	675	52	184	6	156	10
VR63786A	201	202	8	155	0.20	53	< 10	50	655	56	162	8	261	14
VR63792A	201	202	6	170	0.21	54	< 10	52	635	54	168	10	411	16
VR63802A	201	202	4	158	0.18	54	< 10	48	465	40	150	10	228	12

CERTIFICATION: [redacted]

APPENDIX X

COST STATEMENT AND DISTRIBUTION OF COSTS TO CLAIMS

MASUMEKA-RICH PROPERTY, Alberta
1997 Assessment Filing

Claim No	Township	Range	Section	Size (HA)	Anniv.Date	Extension Date	Assess. Required	Assess. Filed	Report Due
9393031012	22	53	1-36	9216.00	3/31/97	6/30/97	$92,160.00	$0	09/29/97
9393031013	23	53;54	1-5,9-16,21-28,33-36;1-4,9-15	9216.00	3/31/97	6/30/97	$92,160.00	$0	09/29/97
9393031014	22	54	3-10,15-22,27-35	6400.00	3/31/97	6/30/97	$64,000.00	$0	09/29/97
9393031015	23	54;55	24-26,35-36; 1,5-9,12-36	9216.00	3/31/97	6/30/97	$92,160.00	$92,160.00	09/29/97
9393031016	22	55	1-21,28-33	6912.00	3/31/97	6/30/97	$69,120.00	$69,120.00	09/29/97
9393031017	22	56	5-8,17-20,25-36	5120.00	3/31/97	6/30/97	$51,200.00	$0	09/29/97
9393031018	23	56	1-36	9216.00	3/31/97	6/30/97	$92,160.00	92,160.00	09/29/97
9393031019	21	57	17-20,29-30	1536.00	3/31/97	6/30/97	$15,360.00	15,360.00	09/29/97
9393031020	22	57	1-30	7690.00	3/31/97	6/30/97	$76,900.00	$2,732.63	09/29/97
9393031021	23	57	1-36	9216.00	3/31/97	6/30/97	$92,160.00		09/29/97
			Totals	73, 738.00			$737,380.00	$271, 532.63	

COST STATEMENT

RICH CLAIM GROUP

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

Ground Geophysical Surveys		
13 Magnetic Surveys	$	112 727.63
1 EM Survey		3 000.00
Geochemical Samples		
Samples Collected: 94 @ $1700	$	155 100.00
Mineral Grains Probed: 47 @ $15	$	705.00
TOTAL ASSESSMENT COSTS	$	271 532.63

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 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 XI

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 26 day of September, 1997 at Vancouver, B.C.

[redacted]

5 980,000m N

5 970,000m N

5 960,000m N

5 950,000m N

5 940,000m N

470,000m E

480,000m E

490,000m E

9393031021

9393031020

9393031019

9393031018

9393031017

9393031015

9393031016

9393031014

9393031013

9393031012

RC01

RC02

RC03

RC04

RC05

RC06

RC07

RC08/09

RC10

RC16

RC17

RC18

RC03 GEOPHYSICAL GRID

STREAM SILT SAMPLE

ROCK SAMPLE

ESKER SAMPLE

scale: 1:50,000

0 1 2

kilometres

Kennecott Canada Exploration Inc.
Vancouver

MASUMEKA PROJECT - RICH BLOCK

COMPILATION MAP

ALBERTA, CANADA

NTS: 82F/14	Projection: UTM(NAD27)	Drawn by: MJD
Date: 24/09/97	Author:	Figure 2
File: 7RICH50	Scale: 1:50,000	

Index # 19970009