GM 60874

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ASSESSMENT REPORT

DIAMOND DISCOVERIES INTERNATIONAL

DDI - 7 PROPERTY

NTS 24 P/07

Abloviak Region, Ungava Bay, Quebec

Latitude 59°11' **Longitude 64° 54'**

Submitted to

QUEBEC MINISTRY OF NATURAL RESOURCES

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TABLE OF CONTENTS

ST. PIERRE DYKE SYSTEM

BELLA - MOUNT JACQUES ROUSSEAU SYSTEM

IMAGES

APPENDIX I

TABLES

APPENDIX I

FIGURES

Figure 3i Mt. Jacques Rousseau Centre 1:10,000
Figure 3j Bella dyke 1:2500

RECONNAISSANCE GEOLOGY

Figure 4a Geology and rock sample locations 1:20,000
Figure 4b Geology and rock sample locations 1:20,000
Figure 4c Geology and rock sample locations 1:20,000
Figure 4d Geology and rock sample locations 1:20,000

REGIONAL GEOLOGY

Figure 5 24P07 Geology, Dykes & Figure location plan 1:50,000

GEOPHYSICS

Magnetic Contours -Total magnetic field - black line, colour

Figure 6a Southeast Map 1:20,000
Figure 6b Northwest Map 1:20,000

Henri Kimberlite System

Figure 7a Henri north 1:2500
Figure 7b Henri south (includes Peter Lake) 1:2500

St. Pierre Kimberlite System

Figure 7c North zone 1:1000
Figure 7d South Zone 1:2500

Mt. Jacques Rousseau Kimberlite System

Figure 7e North side of Col 1:10,000
Figure 7f Mt. Jacques Rousseau 1:10,000

Magnetic Profile

Figure 7c St. Pierre System - North zone 1:1000

SUMMARY

Geological, geophysical and geochemical surveys were completed over Diamond Discoveries International mineral exploration license number 0001482 in the Torngat Mountain region of Ungava Bay, NTS 24 P/07, Latitude 59° 22.5' Longitude 64° 45' during July, August and September, 2001 in an effort to locate diamondiferous kimberlite and/or lamproite dykes, blows and pipes.

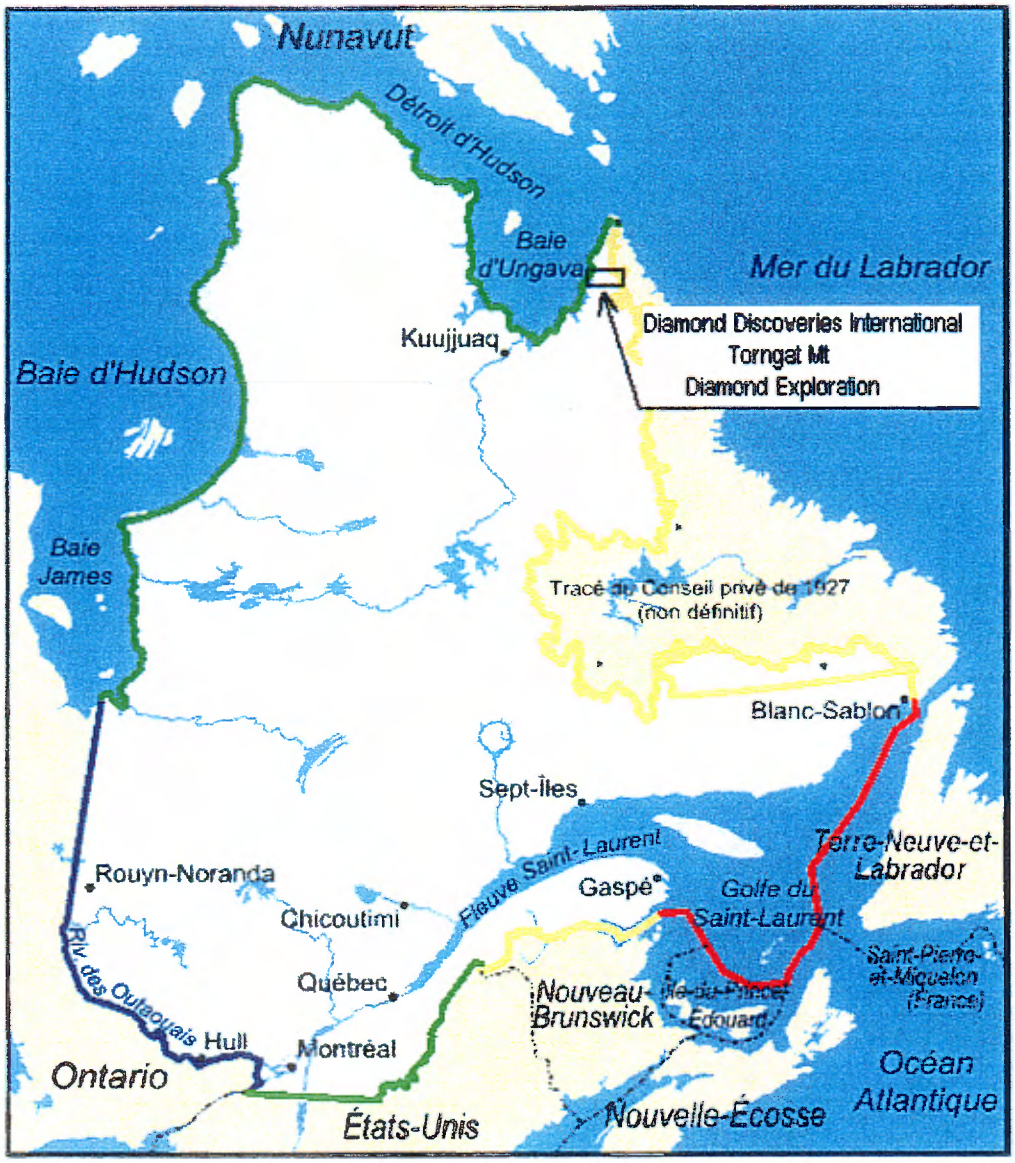
Geological reconnaissance mapping and prospecting defined lithlogies, stratigraphic and structural relationships of bedrock during efforts to locate and define kimberlite dykes and pipes. Prior to 2001 there were no known kimberlitic dykes documented on this block.

The "H" dyke, the Martina dyke, the "K" dyke and the Champagne complex consisting of two dykes, several blows and a root zone of a pipe were all established to be kimberlites (see G. Mazerolle, DDI 2001 assessment report).

Evaluation surveys consisted of detailed geological mapping, magnetometer surveys, rock sampling and stream sediment sampling for heavy mineral concentrates (HMC's). Fine fractions from HMC's were analysed by Robert Dillman of Arjadee Prospecting. Microprobe work carried out by R.L. Barnett located indicator minerals. Several samples were forwarded to Lakefield Research for analysis.

Results of work carried out in 2001 encouraged DDI to extend its diamond search on its licenses in the Torngat region into 2002. During July, August and September of that year a helicopter assisted field party including two geologists, a prospector, a magnetometer operator, four geochemical samplers, a screening technician and a cook established a camp at a lake east of Weymouth Inlet, Ungava Bay on 1:50,000 sheet 21P/06 along the Qijujjuutijaq River near lat. 59 ° 17 N, long. 65° 07 W.

Reconnaissance geological surveys and prospecting defined four loosely bounded belts of kimberlite dykes and dyke swarms during the 2002 field season. Kimberlite dykes were sampled, stream gravels and sands were collected and concentrated for heavy indicator minerals and diamonds.



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- Ontario
- Northern
- Newfoundland and Labrador
- Gulf of Saint Lawrence
- New Brunswick
- United States

Detailed geological mapping was carried out at 1:500, 1: 1,000 and 1: 2,500 scales on the Champagne complex, the Yvon and Henri dyke swarm, the St. Pierre dyke system and fragments of the Mount Jacques Rousseau - Bella dyke systems. Reconnaissance prospecting and geology is ongoing over several areas on and off DDI claim groups in an effort to find new dyke swarms, dyke intersections and pipes.

LOCATION PLAN

LOCATION OF DDI-7 CLAIM LICENSES

Diamond Discoveries International's claim group seven (DDI-7) comprises the majority of 1:50,000 NTS map 24 P/07. The group straddles the Abloviak fiord, east of Ungava Bay in the Torngat Mountains. DDI-7 claims are partially bounded by the Labrador border in the north and east. It is approximately bounded to the south by the Aluviaq and extends in NTS 24 P/02 map sheet 4 km. The claims comprise 26991.6 hectares.

DISCUSSION OF KIMBERLITES

1.0 PETROGRAPHY

Papers covering data on the petrography of kimberlites were reviewed in order to better comprehend kimberlites and/or lamproites encountered in the Abloviak Fiord kimberlite dyke swarms. Criteria useful for field geologists and prospectors in the Abloviak region are summarized below.

Megacrysts up to 15cm in size, but average much less, include olivine, phlogopite, pyroxene, picro-ilmenite, garnet set in a matrix of olivine, mica, serpentine group minerals and carbonate.

Microphenocrysts of mica, rare diopsides and chrome diopsides, pyropes, spinel, perovskite, and monticellite are apparently common but not visible to the naked eye. Apatite, rare pyrochlore, rutile, rare quartz and chalcedony are also found in cracks and cavities. Pyrite and/or pyrrhotite was observed at the Yvon Dyke and the St-Pierre dyke.

The groundmass is composed dominantly of olivine, diopside, phlogopite, calcite, serpentine and lesser apatite, spinel, perovskite, ilmenite and magnetite in varying proportions.

Note: Olivine is always abundant. Its abundance is independent of the relative abundance of other minerals present. It is difficult to distinguish between primary and xenocrystic olivine.

Carbonates include calcite, magnesian calcite, siderite, dolomite, aragonite, strontianite and possibly shortite. A few kimberlite dykes in the Abloviak region are estimated be up to 60% carbonate. In the Saguenay River area of Quebec kimberlites are rich in carbonates, apatite and monazite.

Rare pyrochlore is suspected to be present as red to bright red accumulations in minute cracks in calcite rich kimberlites at the St-Pierre dyke, the Peter Lake Dyke in the Henri system and the "X" dyke south sample. In Yakutia, pyrochlore is reported in carbonate rich explosive kimberlite breccias. Other rare earth elements reported in kimberlites are La, Ce,, Nd, Sm, Gd, Dy, Y.

Ba, Ce, Cr, Ni, Sr, Ba, Zr and Co are present in high enough levels in kimberlites to locate dyke swarms via stream sediment surveys.

Olivines

With the exception of extensive micaceous zones along the Henri kimberlite dyke system where phlogopite is more important, medium grained olivine together with its alteration products (serpentine etc.) is the commonest constituent mineral of Abloviak kimberlites.

Olivines occur as large rounded megacrysts in the range of 1 to 10 mm with rare crystals up to 25 cm found in the St. Pierre, in the U dyke near the Q cluster and beautiful near gem quality 3 cm sherry coloured crystals in the Mount Jacques Rousseau South system at the sinuous dyke.

Smaller less obvious euhedral and sugary crystals of olivine occur as fine buckshot throughout the groundmass . Fresh grains in the Bella dyke

are surrounded by a thin rim of serpentine minerals which in some instances are overgrown by hydrophlogopite.

Olivine is replaced by serpentine and following serpentinisation may be further replaced by various combinations of calcite, dolomite, phlogopite and perovskite.

Serpentine and mica can lower the specific gravity of kimberlites to approximately 2.2. The density of the surrounding gneiss country rock averages 2.7.

Phlogopite

Micaceous kimberlite dykes in the Abloviak area may contain up to 60% phlogopite. High quantities of phlogopite give the kimberlite a bronzy lustrous sheen. The 310° dyke cutting the Yvon dyke has these features.

Petrographers report that considerable variation in groundmass mica can occur both within an individual intrusion and from intrusion to intrusion. This is the case with mica (observable with a hand lens) in the Abloviak area; for example the Henri dyke which is predominantly micaceous and relatively calcite poor contains zones of mica poor, calcite rich nodular diopside kimberlite. It also hosts an en echelon paralleling nodular dyke to 40 cm wide that is calcitic with only a few rare phenocrysts of phlogopite.

The St. Pierre dyke also has micaceous rich and poor zones. The mica poor zones are most often nodular pyroxene kimberlites, contain chrome diopside and are garnetiferous. The observation that mica rich and mica poor dykes are often found in pairs is further substantiated at the Bella dyke which is mica rich, while the adjacent Mount Jacques Rousseau dykes are nodular, calcite rich and relatively mica poor.

A barium rich (?) hydromica with a yellowish luminescence thought to be kinoshitalite was found occurring along the Mount Jacques Rousseau system. The yellowish mica resembles a luminescent muscovite. Kinoshitalite was used as a field term.

Zoning or "streaming" noted in several dykes create "shark fins" phenomenon at the weathered surface. The Bella dyke displays several outcrops of shark's fins. The "shark fins" are interpreted to be the result of fractionation of high temperature minerals, xenoliths and xenocrysts from a low temperature matrix following the emplacement of the kimberlite; in some cases rapid emplacement and in others protracted cooling gives rise to the zoning. Differential weathering leaves the harder mica poor zones standing in the dyke zones up to 50 cm above ground level resembling shark's fins.

Chlorite, amphibole assemblages were observed along the fine grained margins in the central portion of the Henri dyke.

Carbonate

Calcite, magnesian calcite, siderite, dolomite, aragonite, strontianite and shortite (?) make up the suite of carbonates found in kimberlites. In the field it has only been possible to identify calcite and siderite with confidence. Nonetheless, matrix carbonate is of extreme interest to petrographers, where it is not recrystallized, for its trace element content and isotopic characteristics. Post consolidation stages of kimberlite genesis, according to the pundits, causes redistribution of calcite at low temperatures which can introduce halides, pyrite and sulphates. Pyrite has been noted in the Yvon dyke, the Henri dyke (where orbs of calcite occur) and the St. Pierre dyke.

Garnets

Garnets of group 9 (J.B. Dawson classification) are observed in the field in the St. Pierre, Mount Jacques Rousseau and Henri systems. Group 9 pyrope garnets are considered the most diagnostic trace mineral in diamondiferous kimberlites. They are generally wine red to dark brownish red. Other kimberlite fields have reported rare yellow and purple or green group 9 pyropes. They range from 1 to 3 mm in diameter in the Abloviak field; in other kimberlite fields pyropes have been reported up to the size of grapefruit. These wine red pyrope garnets contain negligible TiO3 but moderate amounts of Cr2O3.

Group 10 garnets are lilac or violet coloured and are a low calcium, chrome pyrope. Compared with group 9 they contain more MgO and Cr2O3 and are exceptionally low in CaO. They can be dark purple. Lilac coloured G-10's (?) were observed in the Mt. Jacques Rousseau and St Pierre systems by field personnel.

Chrome Diopside

Light bottle green glassy chrome diopsides are present in the Henri, St. Pierre and Mount Jacques Rousseau dyke systems as well as in isolated dykes elsewhere. They range up to 5mm in length. Chrome diopsides can attain gem quality and are the most easily observed diamond indicator in Abloviak kimberlites. They are most often found in nodules and less frequently in the groundmass as xenocrysts. They can be in association with garnets in eclogite xenoliths to 3cm in length. A dramatic chrome diopside measuring 11 cm by 5 cm was located in the pipe root zone - diatreme facies at the Champagne Complex.

Discussion

Hydrogen and oxygen isotope analysis ratios of diatreme facies serpentine strongly suggest that much of the "hydrothermal" water in diatreme serpentines and groundmass micas is high level suggesting that the parent magma is relatively dry and that serpentinsation does not take place until it contacts groundwater perhaps at a depth of a few kilometers below surface. Serpentinisation lowers the specific gravity of the kimberlite.

Second generation phlogopite and serpentinised olivine together with serpentine, calcite, ilmenite and perovskite indicate low silica activity in kimberlites. Carbonate ocelli are common in kimberlites a resultant of unmixing of a carbonate rich liquid from kimberlite melt as it ascends to regions of lower confining pressure.

CaO fractionated and lost to the magmatic silicate system is thought to result in crystallization of Ca bearing melilites of low silica activity but more CaO. Melilites and carbonatites therefore were tentatively identified in the Abloviak region.

CLASSIFICATION OF ABLOVIAK KIMBERLITES

Schemes for the classification of kimberlites were developed in southerly Africa. The oldest classification broke kimberlites into two groups:

1. Basaltic with either a) olivine, clinopyroxene and or melilite or b) olivine or olivine and monticellite

2. Lamprophyric which were broken down into: a) olivine phlogopite, clinopyroxene and/or melilite or b) olivine and phlogopite or olivine, monticellite and phlogopite.

This classification regarded both calcite and serpentine as secondary minerals. Mitchell and others dropped the term basaltic because kimberlites are feldspar free and do not display basaltic texture.

A partially updated classification proposed by Mitchell and others in 1970 (R.H. Mitchell Kimberlites and Lamproites: Primary Sources of Diamond, Geocscience Canada, Vo. 18, No.1) subdivides kimberlites according to their relative abundance of olivine, phlogopite and carbonate. This classification had three types:

1. Kimberlite (the old basaltic type)

2. Micaceous kimberlite

3. Calcareous kimberlite

Mitchell himself later considered this classification inadequate because it failed to account for the full range of primary minerals and that the word kimberlite is used to describe only a particular variety of kimberlite. Furthermore olivine was found to be of little use for classification because it is both present as xenocrysts and phenocrysts which are almost impossible to distinguish.

A mid 1980's revision by Mitchell is best suited for the Ungava field descriptions of kimberlites. It makes five subdivisions according to whichever mineral is volumetrically most abundant. They are:

1. Diopside kimberlite (+ any modifier minerals in decreasing order of abundance)

2. Monticellite kimberlite (as above with modifiers)

3. Phlogopite kimberlite (with of without modifiers)

4. Calcite kimberlite (with or without modifiers)

5. Serpentine kimberlite (with of without modifiers)

Phlogopite and calcite and diopside kimberlites are the three most abundant groups in the DDI-7 licenses of the Abloviak region. Field personnel are unable to identify monticellite; petrographers may find that it exists in larger or smaller proportions. A fine non reactive whitish mineral identified in some kimberlite dykes may be monticellite or leucite but was not in enough abundance to be the primary mineral to name the kimberlite.

Olivine content and nodular content of kimberlites are necessary modifiers.

KIMBERLITES, LAMPROITES AND LAMPROPHYRES

Some kimberlites in the Abloviak area have been argued to be alnoites or melilites. Several lines of field evidence and petrography establish the dykes in the Abloviak region to be kimberlites. Carbonate rich dykes ranging up to 60% carbonate could be carbonatites. Field criteria are listed below:

Kimberlites are unknown to be extrusive outside of their diatremes whereas lamproites can form plugs, flows, crypto volcanic structures and dykes up to 25 km in radius from its vent. These features are not observed in the Abloviak region. Kimberlites are gas rich while lamproites are not known to have high CO2 activity. Abloviak kimberlites are gas rich.

Kimberlite diatremes and dykes readily erode to form topographic lows in the landscape while lamproites form topographic highs.

Lamproites are defined as a volcanic lamprophyre with mica phenocrysts. Abundant small phenocrysts of leucite are present in all lamproites; small whitish phenocrysts were found along a section of the Henri dyke which may be leucite. Lamproites have no kimberlitic suite inclusions and can be flow banded and vesicular. Kimberlites in Abloviak contain kimberlitic inclusions can be banded and are not vesicular.

In sum field evidence weights the Abloviak dyke swarms and diatremes to be kimberlites not lamproites. These kimberlites are affiliated with possible carbonatites or carbonate rich (~60% Ca2CO3) kimberlite dykes.

KIMBERLITE DYKES AND DIATREMES IN THE ABLOVIAK

Kimberlite dykes in the Abloviak region intermittently extend more than 12 kms along strike and range from 10 cm to 4.5 ms wide. They average from 0.5 to 2 ms wide. The longest dyke in southerly Africa is 65 kms. There they average 1 to 2 m wide. Everywhere dykes occur in swarms. The Abloviak DDI-7 region hosts four loosely bounded dyke swarms comprising upwards of 50 dykes.

Dykes coalesce or break into groups of branching dykes ranging from 2 to 7 presumably due to multiple pulses of magma and /or paralleling en echelon dykes stoping to surface via available structural weaknesses.

Widening in kimberlites referred to as dyke enlargements, chonliths or blows are pod shaped and disconnected from diatremes. They are lenticular in section as well as in plan. They are found in the St. Pierre, Mount Jacques Rousseau, Henri and Yvon dykes. The joint surfaces at these blows are arcuate and create a sinuous trace. The wallrocks dip vertically or tilt slightly inward. The hydraulically stoped walls frequently display vertical striae caused by upward and downward movement of goughing

xenoliths of gneiss. A few blind dykes stope laterally for a meter or two into gneissic wall rocks along joint planes, shear zones or other lines of weakness. Floating reefs composed of wall rock stoped by encompassing kimberlite dykes are located in the sinuous dyke on the Mount Jacques Rousseau south system, the St. Pierre dyke and elsewhere.

Kimberlite intrusions in the Abloviak do not display arching, doming or radial fractures. There is a marked absence of thermal effects on wall rocks. The exception being discreet zones of chlorite and pink potassic alteration related to kimberlite emplacement found at several locales. A portion of the pink altered material may be carbonate.

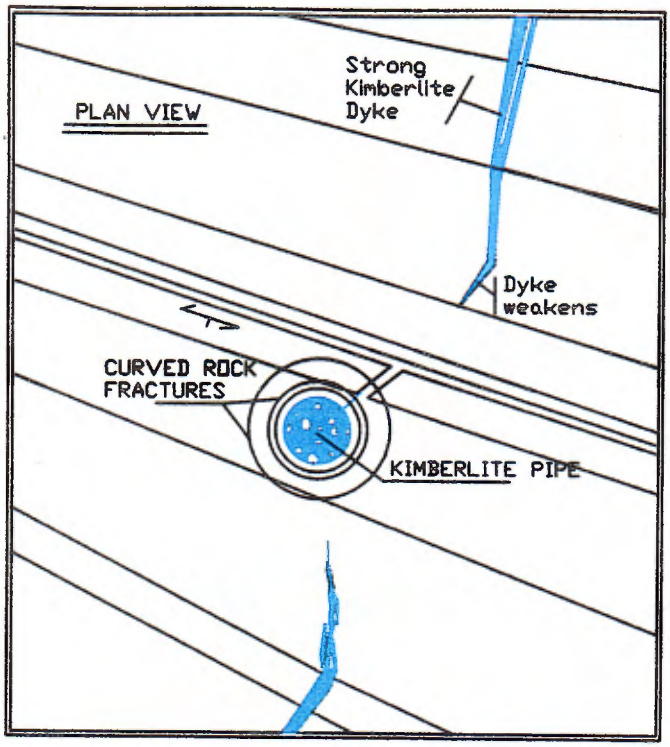
Intersecting dykes in Africa are often sites of diatremes where kimberlites drill upwards at speeds of 400 m/sec taking advantage of jointing, faulting and shearing. Feeder dykes rise above the general level of dyke intrusion underneath diatremes.

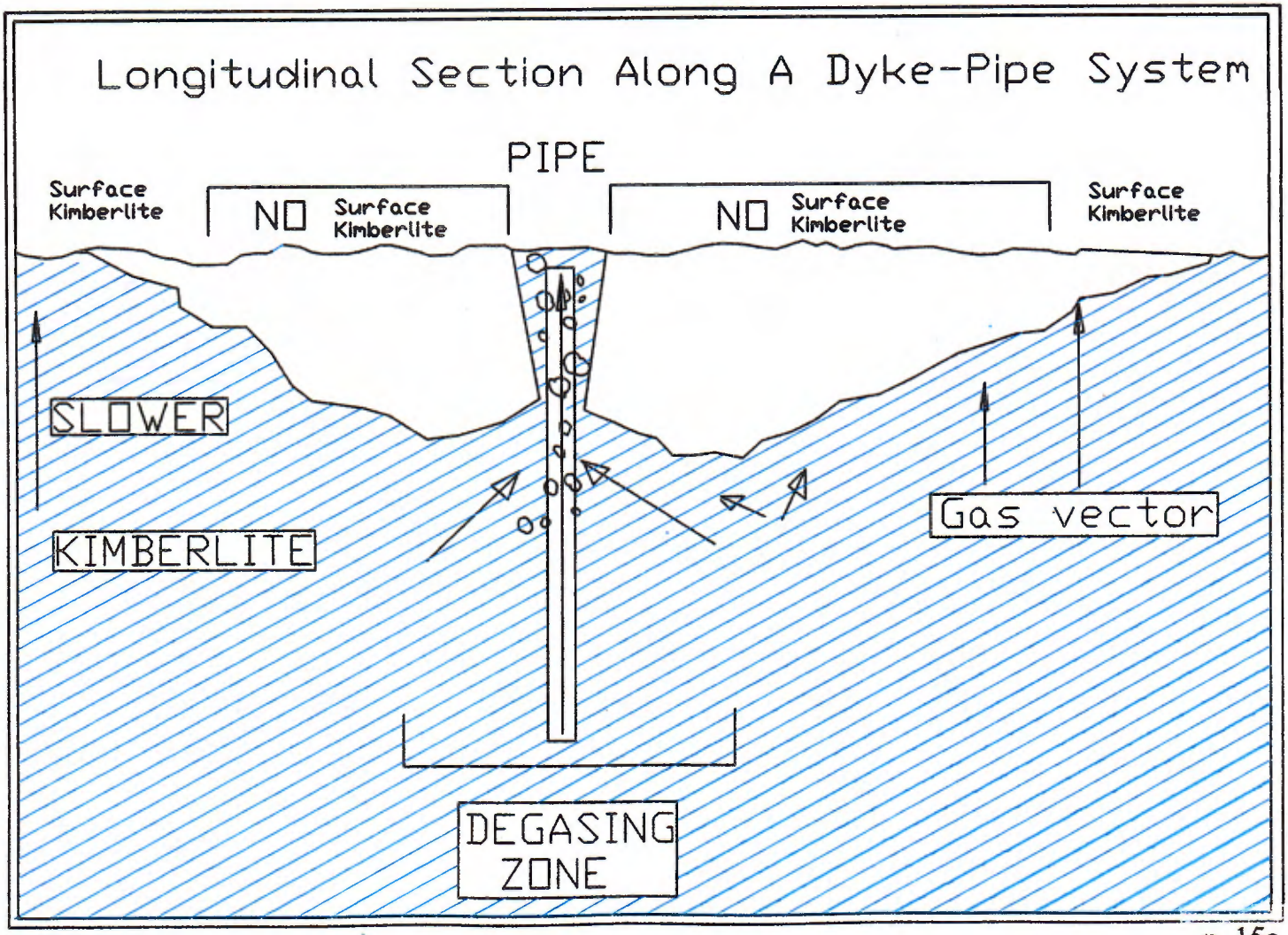
Dykes can disappear into hills under country rock in hilly terrain and reappear as diatremes. The Champagne complex and the dykes at the pass along the Mount Jacques Rousseau system are Abloviak examples of this phenomenon.

Sills of kimberlite occupy joint planes in well jointed granite in Tanzania which vary from 45 m to a few cm thick. Along the Labrador border bodies suggestive of sills were observed from helicopter northeast of the H dyke which may be kimberlitic antecedent dykes.

Sills on surface at Kimberly are associated with major diatremes which taper downwards below them in excess of 700m before their feeder dykes are encountered. These antecedent sills penetrated to a much higher level than the diatremes.

Antecedent mafic dykes are often associated with kimberlite dykes and diatremes. Mafic dykes are noted at Mount Jacques Rousseau, the Yvon dyke and at the Champagne diatreme on DDI's Abloviak properties. These dykes have cross cutting relationships to the kimberlite dykes and pipes.


PLAN VIEW
Strong Kimberlite Dyke
Dyke weakens
CURVED ROCK FRACTURES
KIMBERLITE PIPE


Longitudinal Section Along A Dyke-Pipe System
PIPE
Surface Kimberlite
NO Surface Kimberlite
NO Surface Kimberlite
Surface Kimberlite
SLOWER
KIMBERLITE
Gas vector
DEGASING ZONE

Some post kimberlite emplacement dykes in Africa are calcite rich and radiate out from a vertical central column. Calcite rich dykes in the Abloviak region are presently thought to be emplaced at the same time as the kimberlites and are en echelon to the principal dykes in the systems.

GEOCHEMISTRY

Stream Sampling Program - Heavy Mineral Concentrates (HMC)

125 gravel and sand samples were collected from first and second order streams on DDI properties and adjoining un-staked ground on the 24 P/07 NTS sheet. At each site more than 80 litres of coarse sand and gravels were passed through 6 mm opening screen into 20 litre pails to collect a minimum 20 kg (or ~ 4 litres) of material. The samples were hand jigged through a 1 mm screen at camp. The eye of the coarse portion remaining on the screen was set aside in vials for reference. The less than 1 mm fine fractions were mechanically jigged on 80 mesh (0.032 mm) Tyler screens.

Note: If chrome diopside and garnets were found by the field crew during jigging they were selected and reserved in vials. These were added to the corresponding fine fraction jigged concentrate.

The resulting grain size range examined varies from .032 to 0.97mm. All recovered heavy minerals were forwarded to Robert Dillman of Arjadee Prospecting, Mount Brydges, Ontario for analysis, selection of diamonds and indicator minerals. Selected minerals from all samples were forwarded to R. L. Barnett Geological, of Lambert, Ont. For microprobe analysis.

Note:

There is an identification problem with two of the HMC samples. Sample bags and containers were lettered with marker pens and backup paper identification tags placed in plastic sandwich bags inserted in the samples; however, two samples did not have this backup feature. Intense rain washed the identification numbers from their containers. The samples were DDI-7 81 and DDI-7 120.

The jigged vials, for these samples, have been assigned a location based on a visual inspection of the contained average grain size. Sample #81 is assigned to a steep mountain creek because it has the larger grain size of the two vials. Sample #120 has been assigned to a low gradient stream because of finer overall grain size. If encouraging results are obtained these samples must be verified.

HMC DISCUSSION

Specific Gravities and jigger comments:

Minerals associated with kimberlite intrusions and used as indicators in the search for kimberlite dykes and pipes are given below along with their specific gravities and chemical formulas in descending order of density. Regular garnets are included in the list.

Mineral	Specific Gravity	Chemical Formula
Magnetite	5.2	Fe_3O_4
Ilmenite	4.5 - 5	$FeTiO_2$
Chromite	4.5 - 4.8	$(MgFe)Cr_2O_4$
Almandine garnet	4.32	$FeAl_2(SiO_4)_2$
Spessartine garnet	4.19	$Mn_2Al_2(SiO_4)_2$
Perovoskite	4	$CaTiO_2$
Spinel	3.5 - 4.1	$MgAl_2O_4$
Uvarovite	3.8	$Ca_3Cr_2(SiO_4)_2$
Grossularite garnet	3.59	$Ca_2Al_2(SiO_4)_2$
Sphene	3.4 - 3.6	$CaTiSiO_5$
Pyrope garnet	3.56	$Mg_2Al_2(SiO_4)_2$
Diamond	3.50	C
Chrome Diopside	3.3 - 3.4	Ca $MgCr(Si_20_6)$
Olivine	3.27 - 3.6	$(MgFe)_2SiO_4$

In previous years the stream sediments collected from the field were passed through a 1 mm diamond screen. If the residue was large the field personnel would reduce it by panning. It is clear from the densities table

Champagne System

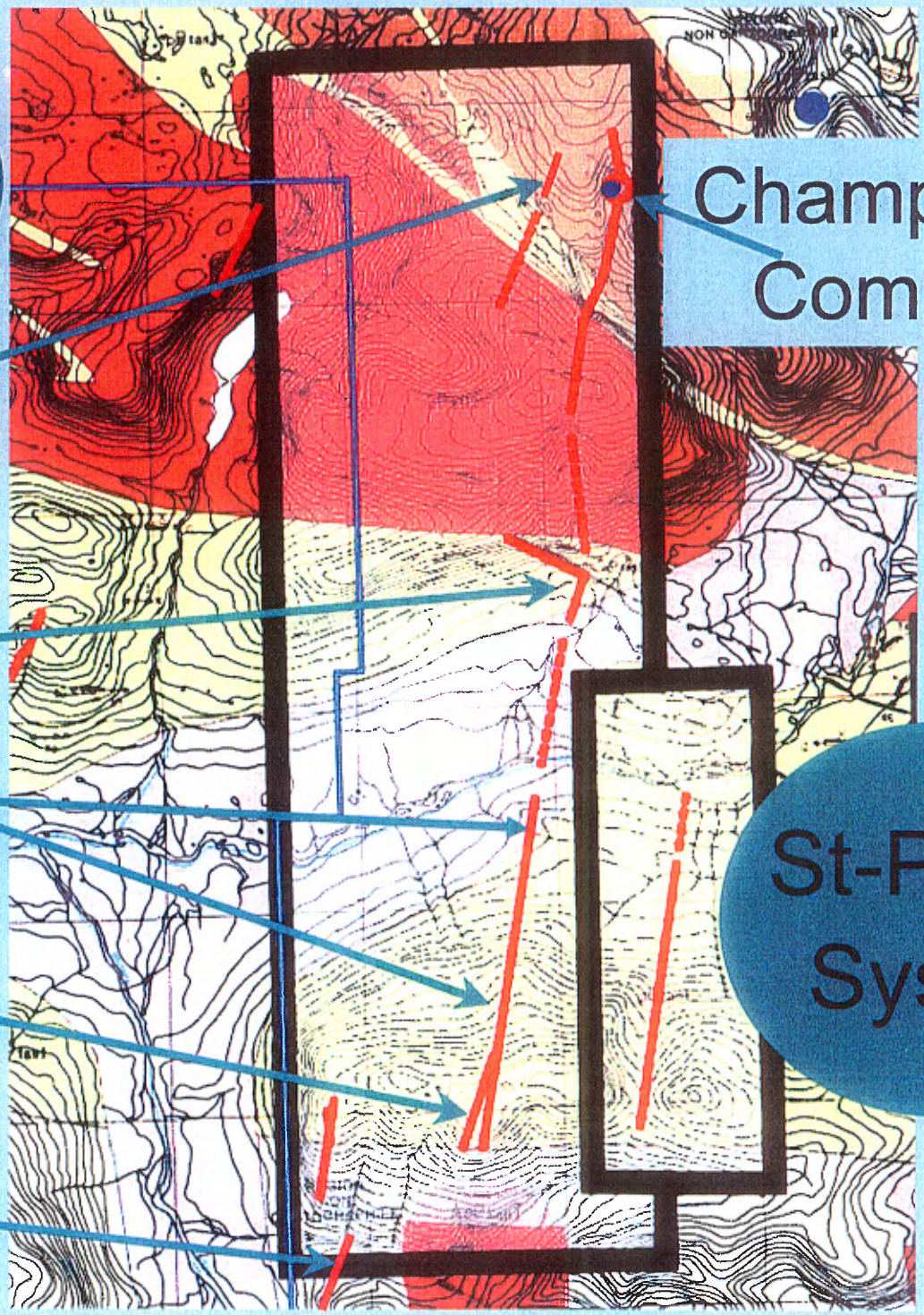
K-Dyke
Rubies

Yvon Dyke

Henri Dykes

Peter Lake Dyke

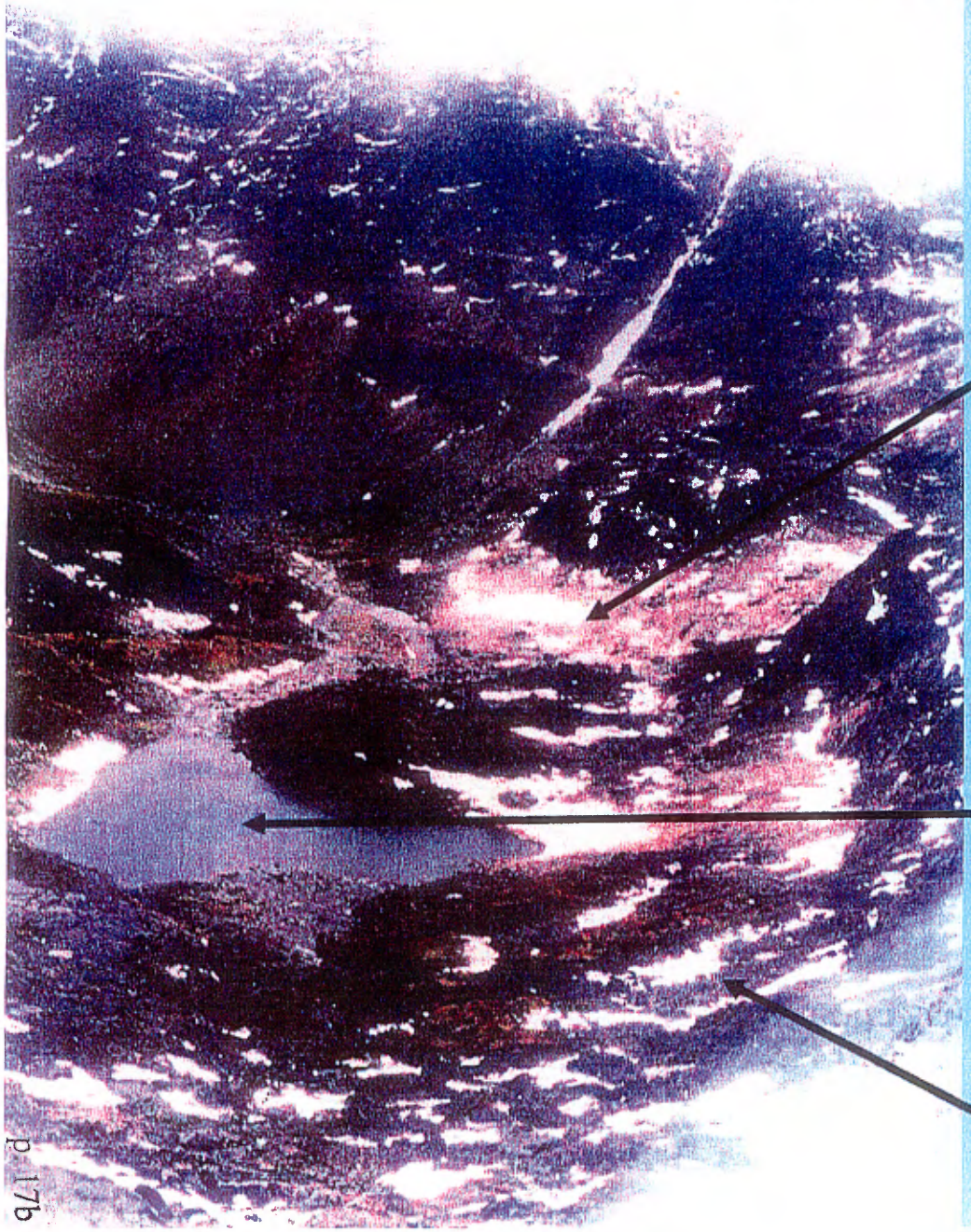
Olympic Dyke



Champagne Complex

St-Pierre System

Champagne Lake



Triangle Blow

Champagne Kimberlite Pipe

Peter Blow

above that important indicators and diamonds would be lost if panning stopped at the first sign of garnets. For example; if Spessartine or grossularite predominate, statistically the lighter pyropes, sphenes, diamonds and chrome diopsides are lost.

On the basis of these densities no panning of <1mm material was applied to samples collected in 2002. The fine HMC material collected from all samples in 2002 was processed only by the mechanical jigger. The same caution still applies to the coarse HMC fraction (>1mm to <2mm). Diamonds along with the lighter portion of the indicator minerals will not appear in the coarse fraction. It is particularly true when sediments contain very large volumes of common garnets. This is often the case on DDI-7 properties where the streams drain garnet rich gneissic rocks. Garnets can make up to 40-60% of the HMC sample. In such cases where samples contain large garnet populations any mineral having a specific gravity lower than 3.6 may be lost and not reach the grain selection process.

The Mechanical Jigging Process

The HMC samples containing large garnet populations create a situation where the chances of recovering the majority of light indicator minerals and diamonds is greatly reduced. The "eye" includes heavy magnetite and ilmenite in the bottom half of the "cake" made up of common garnets. Diamonds and the lighter indicator minerals are in the middle of the cake. There is the chance that the abundant heavier garnets that are not indicators have displaced the lighter desirable minerals from the position under the "eye" proper. Caution must be exercised to select the material with the appropriate specific gravity. A curved screen may help but a properly equipped laboratory would better process the samples.

HENRI KIMBERLITE DYKE SYSTEM

The Henri kimberlite dyke is interpreted to extend 7.5 km from UTM zone 20 402600E and 6575500N at its southerly limit to 404200E and 6581100N where it is terminated or offset by a northwest trending kimberlite dyke. The interpreted offset could extend north to incorporate the Champagne complex which consists of two kimberlite dykes, four blowouts and a pipe (G. Mazerolle, 2001).

A Base Line trending 010° (UTM Grid) was established to geologically map and sample the dyke system south of the Abloviak River at a scale of 1:2500 (see figures 3a to 3e). Hand specimens were collected for examination. Several 10 to 20 kg rock samples were obtained for analysis at intervals spaced from 100m to 400m.

A magnetic survey utilizing a Gem 19 proton precession magnetometer was carried out over aprons of felsenmeer and glacial drift under which the dyke system frequently disappears. The magnetometer is capable of reading to < 1 nanotesla and obtaining the GPS co-ordinates of the data as it is surveyed. The instrument therefore can precisely define dyke positions and locate zones of widening due to blows or pipes.

The Henri dyke system is composed of a swarm of 4 dykes at and north of BL 0 + 00. The main dyke is consistently wider than 130 cm and can reach widths of over 2.5 meters. The accompanying three dykes in the swarm extend southwards but pinch, swell and disappear under gneiss at 1+35N. The corollary dykes are generally very narrow, less than 50 cm, but can reach maximum widths of 220 cm. One of the corollary dykes in the swarm re-emerges at 12+65N and another at 13 + 70N (Geology Map - figure 3d).

GEOLOGY

The Henri Kimberlite dyke intrudes paleoproterozoic Tasiuyak paragneiss composed of feldspar, quartz, garnet gneisses, quartzofeldspathic meta-pelites, minor quartzites and pyritic rusty Tasiuyak gneisses which frequently host gossanous zones. It strikes ~ 010 for more than 7.5 kms.

The dominantly micaceous kimberlite is composed of from 30 to 60% coarse grained megacrystic phlogopite with crystals up to 5mm in width. It is frequently laminated with streaming of less micaceous fine grained zones representing separate pulses (up to 7cm wide) and bands of volatile kimberlitic material or upwelling of magma. Some bands contain 2 cm long pseudomorph laths of chloritized amphiboles. These are oriented approximately at right angles to the dyke walls.

The large phenocrysts of phlogopite, pyroxene and olivine with occasional garnets are set in a fine grained matrix of olivine, fine phlogopite, serpentine minerals and carbonate - presumably largely calcite and dolomite with lesser magnesite and siderite. Discrete calcite patches and randomly oriented vienlets can be observed at several locales along its strike length.

The dyke can be very fine grained at its contacts presumably due to chilling but no thermal effects are observed on wall rocks. This phenomenon suggests that the dyke, where observed, must have been less than 2km from the paleo-surface at the time of emplacement. Its weak to strongly magnetic character is caused by fine grained ilmenite and/or magnetite. Nodular zones are present notably at 12+00N, 12+50N, 16+50N and near the Abloviak River.

Nodules represent xenoliths and xenocrysts that vary from less than 1 cm to 10cm in length. They are composed of pyroxenes and olivines. One chrome diopside xenocryst 4 mm in length was observed at 16+50N (MC-042-02). Nodular zones are much harder than the micaceous, serpentinised and calcite rich matrix and stand out in stark relief on the weathered surface. The nodules are mica poor and olivine or pyroxene rich. One nodular zone in the dyke widens in an elongate lens shape blow to nearly 3 meters at 12+50N.

A coarsely brecciated zone interpreted as a blow (chonolith) was found at 403859E and 6578238N on a tundra plain. A trench 5.5 m long and 50 cm wide was dug to excavate boulders from the micaceous soil. Angular fragments of quartzite and banded gneiss 10 to 15 cm along the long axis were observed to be encased in interstitial micaceous kimberlite with accompanying olivine and serpentine groundmass. There are no reaction rims surrounding the fragments suggesting that they were torn from the wall near the transition from hypabyssal to root zone facies. A magnetometer survey indicated a large circular area with a high of 400 nT in the centre over the dyke (see figure 7a).

Rock sample descriptions

105006 403859E 6578238N MC-044-02 Micaceous kimberlite (6a), boulders suspended in micaceous soil in fractured north south lineament in gneiss ~ 1m wide. Minor olivine and serpentine. Near 0+00 on BL.

403925E 6578508N MC-038-02 2+85N on BL, Micaceous weakly calcitic kimberlite (6a), 150 cm wide dyke, shark's fins, most easterly dyke in swarm; check magnetics for extension. At 3+25N hand specimen Mc-045-02 was taken from an outcrop of cg micaceous kimberlite (6a).

403981E 6578673N MC-046-02 fg micaceous kimberlite, (6a) nodules of diopside and olivine, some serpentine dyke is magnetic.

105010 403317E 6576050N MC-030-02 cg micaceous kimberlite, lesser diopside, olivine and calcite, serpentinised olivine.

MC-031-02 37.5N 38E cg micaceous kimberlite (6a) with nodules of pyroxene and olivine up to 5 cm and average 2cm.

403380E 6576100N MC-032-02 0+15W 0+75N cg micaceous kimberlite (6a) small nodules diopside to 1 cm.

403426E 6576609N MC-033-02 6+64N cg micaceous serpentine kimberlite dyke, phlogopite to 0.5 cm, serpentinised groundmass

105008 403486E 6576795N, MC-035-02 8+25N 1.30 m wide micaceous kimberlite 50% phlogopite, olivine serpentine, minor clinopyroxene no calcite, weakly magnetic

105012 404552E 6577055N MC-036-02 20kg, cg micaceous kimberlite(6a) very little calcite, olivine and serpentine, minor diopside, magnetic (similar to MC-034-02)

105006	404552E 6577055N MC-037-02 11+76N cg micaceous kimberlite(6a) very little calcite, olivine and serpentine, minor clinopyroxene, magnetic (similar to MC-034-02)
	403552E 6577156N GV-004-02 pyroxene, micaceous kimberlite (6c), nodular olivine rich and weakly serpentinised red stubby crystals to 1 mm of microlite, pyrochlore or samarksite (?) Cliff opening facing river 3 m wide. 403607E 6577166N MC-038-02 10 cm wide kimberlite dyke 44 m E of main Henri Dyke fine grained micaceous dark grey kimberlite
105046	403563E 6577468N MC-039-02 12+90N 20 kg sample Serpentine (40%) micaceous (30%) olivine (15%) kimberlite, diopside bands with 25% cpx in 5 cm wide bands (streaming) dyke is 180 cm wide.
	403669E 6577219N MC-040-02 20 cm wide fg nodular cpx kimberlite dyke striking 010 parallel to Henri Dyke
105045	403614E 6577366N MC-041-02 weakly laminated cg micaceous kimberlite, phlogopite, minor serpentine, olivine, diopside , weakly magnetic, some carbonate (effervesces)
105047	403646E 6577468N MC-042-02 20 kg of diopside kimberlite, nodular, hard, olivine, serpentine, phlogopite, nodules of cpx, minor calcite, magnetic several 2 - 3 mm chrome diopside crystals (one 4mm wide). 2 m wide dyke.
	403655E 6577538E Phlogopite rich micaceous kimberlite lesser serpentine, olivine, cpx, magnetic, 1.70 m wide
105056	403859E 6578238N MC-044-02 Blow Out Zone micaceous soil over 5 m trench revealed angular fragments of gneiss and quartzite in phlogopite rich kimberlite matrix with minor olivine weakly serpentinised, possible minute crystals of chrome diopside or green serpentine

403925E 6578508N 2+85N on tundra zone south of Abloviak River 150 cm wide micaceous, weakly calcitic kimberlite dyke cuts outcrop of Tasiuyak gneiss hosting brecciated transported gossans, shark's fins at 3+25N MC-045-02

403921E 6578513N (900 m N) large outcrop just south of Abloviak river phlogopite facies kimberlite

403981E 6578673E MC-046-02 fg micaceous kimberlite dyke 40 cm wide, nodular with cpx, olivine, serpentine, magnetic.

YVON DYKE - ROOT ZONE

North of the Abloviak River at 404340E and 6581148N an interpreted root zone of a diatreme and several blows were observed in two 2.5 to 4.5 m wide kimberlite dykes which intersect under a blanket of glacial debris in the immediate vicinity. The area has been highly faulted, sheared and disturbed as evidenced by anastomosing graphite bearing shear zones, fault breccia with rotated blocks of gneiss and diabase up to two meters in diameter.

Faulting and shearing is interpreted to have occurred before the emplacement of the kimberlite and at least one of several diabase dykes. The north south gorge is the northerly extension of the Henri dyke while the northwest trending off shoot could be either lateral stoping off the Henri Dyke up a line of entrance provided by the structural disruption or an intersecting dyke. Subsequent magnetic surveys suggest it is a southwest northeast trending intersecting kimberlite dyke.

Several lenticular blows in the north south gorge dilated the walls to over 5 meters and occur as a series over the 50 meter length of the gorge. The walls of the gorge dip steeply inward at the lower end of the gorge and are vertical at the upper (north) end. The dilatant blows can contain up to 60% gneissic and 20 - 30% olivine rich xenoliths (lherzolites and/or harzburgites, partially serpentinised) up to 30cm in diameter. Some of the gneissic xenoliths could represent fall-back blocks from the lowermost portions of a diatreme. The gneissic have no kelyphite reaction rims

whereas the olivine xenoliths do.

Two 20 kg samples were taken from the kimberlite dykes; one from the northwest trending micaceous dyke and the second from the downstream southerly end of the Yvon Dyke gorge where traces of chalcopyrite, rare calcite ocelii and bright green serpentine are observed in the micaceous groundmass of an intensely xenolithic kimberlite. The kimberlite is magnetic but only weakly calcitic.

A 1:1250 scale geological and sampling plan of the area was completed with a 1:500 detail of the northwest trending kimberlite dyke (see figures 3a and 3b).

Rock Descriptions

105052 404176E 6581726N MC-092-02 Micaceous kimberlite (6a) cg phlogopite xenocrysts (?), non calcareous, olivine rich groundmass only weakly serpentinised, magnetic. Taken from a boulder 60 cm x 30 cm in stream draining upper cirque to north of Yvon Dyke

105053 404302E 6581080N MC-093-02Micaceous kimberlite (6a) 20 kg of mg phlogopite to 3 - 4 mm wide, olivine in groundmass patches, wall rocks arcuate and probable chocolates in northwest trending fracture 2.5 m wide, wall rocks perturbed but no thermal alteration, diabase dykes up to 1 m wide cut kimberlite and may be antecedent dykes, breccia and transported brecciated wall rocks resemble root zone to diatreme facies transition of a kimberlite pipe (see 1:500 scale geological and sampling plan).

105054 404341E 6580948N MC-094-02 Micaceous kimberlite (6a) calcitic, magnetic, 50% rounded xenoliths of gneissic wall rock and lesser dunite (predominantly olivine) that often have kelyphite reaction rims, arcuate wall rocks with vertical striae and no thermal alteration but have minor chlorite and pink potassic altered splotches, traces of pyrite and chalcopyrite, occasional chrome diopside and rare tiny wine red

garnets. Located in south end of 4.5 m wide north trending hydraulically stoped zone of chonoliths (blows) ~ 50 m long that intersects the above sampled northwest trending kimberlite.

105051 403802E 6577461N BA-096-02 Possible marble in gneiss, boulder of nodular calcareous green grey kimberlite (?) east of Henri dyke system, ranges from 20 cm to 40 cm wide, intact walls in two samples paralleling gneiss, Chrome diopside suspected!

Magnetic Survey

The NE - SW trending Yvon Dyke has a magnetic signature which can be traced several kilometers to the southeast. Where this trend intersects the presumed extension of the St. Pierre, P and U dykes, pipes or root zones of pipes may be present (see figure 6a). The southeast trending magnetic feature continues across several prospective zones to the Labrador border.

Northwest from the Yvon Dyke this feature should intersect the K, K-20, K-17, K-16, K-9, K-8, K-15or (DDI B), and DDI F dykes.

The Yvon dyke can be traced across the Abloviak to the Henri dykes (see figure 6a)

Henri Dyke South and The Peter Lake Kimberlite Dyke (PLD)

Approximately 3 kms south of the Abloviak River the Henri Dyke system breaks into a swarm of several kimberlite dykes extending southwards across the crest of the ridge from the base line at 0+00. The dykes extend across a half km wide plateau and pass through or near four small ponds.

A kimberlite dyke named the Peter Lake Dyke (PLD) outcrops along the western shore of the northwest pond (Peter Lake) at its outlet. Here the kimberlite dyke bifurcates, separated by 6-8 metres of gneiss. Where the

dykes rejoin south of the lake sample V105040 was taken at 403215E, 6575892N. The kimberlite here contains abundant megacrysts of pyroxene but no xenoliths of gneiss. The PLD crevasse reaches a width of 12 m at the south end of the lake and has no notable magnetic signature but the kimberlite is magnetic. It continues 350 m south through a rectangular shaped pond. This lake may represent a root zone of a pipe. Here it is highly charged with xenoliths of diopside up to 1 cm long and dark olivine phenocrysts to 5 mm. Brick red pyrochlore was found in cracks and blebs. This rough knobby surfaced kimberlite was sampled at 402000E 6575550N (V105029).

The kimberlite of the PLD is magnetic, dense and contains ~ 40% carbonate, 20% phlogopite, 20% pyroxene (diopside) and about 20% olivine with local serpentine. The Olivine percent increases to 35% at its southern extremity. There it was tested by sample # V1050367.

East of the PLD are three additional kimberlitic dykes. The first, 35 m east of the rectangular pond is a 30 cm wide north - south trending fracture with micaceous soil. This unnamed dyke was traced for a distance of 200 metres. No kimberlite float was found (see figure 3e).

A further 50 to 100 metres east is the micaceous Henri West kimberlite dyke. Its composition contains 40 - 60% phlogopite, 10% calcite and 5% magnetite; the remainder is assumed to be fine olivine and pyroxene.

The most easterly of the three is the Henri dyke. It parallels the Henri West at a distance of about 25 to 35 metres. The trace of the Henri dyke extends across a small pond, at the north, which is approximately 50 m long (NS) and 25 m wide. Here kimberlite float contains numerous large 1 - 4 cm xenocrysts of pyroxene and rare but smaller olivine macrocrysts of which sample V105043 is representative.

One hundred and fifty metres south, the Henri dyke is displaced 5 metres eastward by a east west trending left hand fault. The cleft in the gneiss on the south side of the fault is approximately 25 cm. No kimberlite was found in it. Its trace is lost in fractured rock at 402062E, 6575537N (see figures 3d and 3e).

The "O" micaceous kimberlite dyke located 120 metres to the west of the swarm was not mapped as part of the Henri System. It is 1 metre wide and strikes 010° parallel to the Henri dykes.

1.25 kms to the west of the O kimberlite dyke and paralleling it are the "V" and "W" north south trending kimberlite dykes which cross the ridge at its' western extremity.

The "V" dyke is about 30 cm wide with a limited strike length. The "W" dyke is 1 m wide and traceable for 1 km. The W dyke contains abundant olivine, garnet and chrome diopside diamond indicator minerals were located (see R. Dillman report, Appendix B).

Rock descriptions

V105035 Henri Dyke 2 metres wide at 403351E 6576077N
Dyke is zoned lath like crystals (pyroxenes) radiating inward in the chill margin 1-2 cm long then massive phlogophite mica for 4 cms then olivine rich 50% fine grained central band. The rock is very magnetic.

V105037 South end of the Peter Lake dyke NAD 27 403000E 6575400N
Carbonate 35% Kimberlite, olivine 30%, pyroxene 20%, phlogophite 15%. low xenoliths.

V105040 Peter Lake Dyke at north lake 403210E 6575900N
Pyroxene Kimberlite .2 -.7 cm xenoliths (20%) of dark grey pyroxene yields pebble texture on weathering, olivine and carbonate with serpentine, phlogophite 20-25 %, some garnets.

V105041 "O" dyke west of the PLD on the north face,403087E 576115N
Narrow Mg carbonate (45%) Kimberlite dyke, phlogophite 40%, with magnetite and wine red garnets.

V105043 PLD 100 metres west of Peter lake 403310E 6575015N
Pyroxene Kimberlite, 1 -2 cm xenoliths of dark pyroxene about 30%, fine olivine 30%, carbonate 15-20%, phlogophite 20%

MAGNETIC RESULTS

All of the Henri dykes reveal very modest magnetic signatures. There are three magnetic anomalies located on the tundra plain over the trace of the Henri dyke that should be followed up (see figures 7a and 7b).

ST. PIERRE KIMBERLITE DYKE

The St. Pierre kimberlite dyke was traced by geological mapping and magnetometer for 3.3 kms from a mountain pass at 404746E and 6575672N to the banks of the Abloviak River. At the time of writing it has not been located south of the pass or north of the Abloviak River.

A base line was established at 405000E and 6577000N and run UTM grid north parallel to the dyke system for the purposes of making a geological map and sampling plan at a scale of 1:1000 over a portion of the exposed dyke not covered by snow. Cross lines were established every 50 meters from 1+50N to 4+50N for control. A 1:2500 geological and sampling plan was made to cover the southerly extension of the dykes. A base line striking 010° was established for control. It extended 0+00 on the !:1000 map at 6577000N to the col at 6575672N.

Magnetometer surveys utilising a Scintrex MF-2 fluxgate was carried out over both areas by G. Venne with the MF-2 and by Dan Headrick with the Gem 19 . Readings were taken at 2 meter intervals along lines. These surveys revealed the subsurface location of the St. Pierre dyke over the area mapped where till thicknesses were less that 10 m. The magnetometer survey utilising the Gem 19 corroborated the findings over the detailed grid, locating the subsurface kimberlite dyke signature and extending it north to the Abloviak River (see figures 7c, 7c1).

The St. Pierre kimberlite dyke breaks into as many as 7 dykes ranging from 10 to 60 cm wide which rejoin to pinch and swell to maximum widths of 150 cm. Magnetic response over the dyke coupled with subcroping blocks of kimberlite suggest an estimated maximum width of > 2 m. The

dyke system strikes 009° over the 1:2500 mapped portion and 360 ° (UTM grid N) on the 1:1000 scale geology map. It outcrops on slopes and in crevasses recessed in the gneissic country rock. It can be traced with confidence by the evidence of micaceous soil, specific arctic flora and grassy zones over flat ground.

GEOLOGY

The St. Pierre kimberlite dyke system roughly parallels the Henri dyke 1.6 kms to its east and intrudes similar paleoproterozoic Tasiuyak paragneiss composed of feldspar quartz garnet gneisses, quartzofeldspathic meta-pelites, minor quartzites and pyritic rusty Tasiuyak gneisses with gossanous zones as noted along the Henri system.

A dilated brecciated zone at 0+80N on the 1: 1000 grid containing gneissic xenoliths to 40 cm (averages 10 cm) represents a blow. In this vicinity the dyke bifurcates into as many as seven subsidiary dykes as it stoped upwards during its ascent. The intervening large blocks of gneiss in this zone are "floating reefs". One 60 cm wide kimberlite dyke dislodged from the wall at 0+75S is oriented at 045° to the trend of the main dyke system. It represents lateral stoping due to hydraulic fracturing of the walls for a meter or two. The walls, as at the Henri dyke, are not thermally altered but often display arcuate jointing caused by dilatory expansion of the upward drilling kimberlite. Jointing parallel to the dyke up to 5 m from the wall is intensive...up to 7 joints per meter paralleling the dyke. Slickenslides with no preferred direction are observed on the walls at this zone.

The 1: 2500 St. Pierre grid between 0+00 and 3+00N (404746E 6575672N and 404650E 6575965N) hosts three parallel bifurcating kimberlite dykes that must intersect near 0+ 50 N where there could be a dilatant blow. They are predominantly mica poor, nodular, olivine, pyroxene and calcite rich. It is a diopside calcite kimberlite. The fresh surface is dark bluish grey all dykes are magnetic. Group 9 and 10 wine red and lilac coloured garnets and chrome diopsides were observed near 0+00 and at 1+20N.

The St. Pierre dyke is less micaeous overall than the Henri dyke and consistently more nodular. Several dramatic nodules representing xenoliths and xenocrysts up to 8 cm long and 3 cm wide display reaction rims and can contain chrome diopsides up to 4 mm in length accompanied by pyrope garnets (wine red and lilac coloured - group 9 and group 10). These were located at 30W and 2+90N on the 1:1000 grid. Nodules for the most part are composed of 2 to 6 mm long pyroxenes and /or olivine aggregates or xenocrysts which form a rough irregular green grey, brown to yellow brown weathered surface. They can be both xenoliths and xenocrysts. Xenoliths can range up to 10 cm in length.

The groundmass of the kimberlite is composed of fine granular olivine and its serpentinised derivatives, abundant carbonate presumed to be calcite accompanied by dolomite, magnesite, siderite and other exotics. Up to 20% fine phlogopite makes up the remainder of the material. The mica content, however, can vary dramatically in size and abundance along strike.

In general field petrography of the dyke indicates it is a phlogopite weakly calcitic kimberlite north of 2+00N on the 1:1000 geological plan and a calcite or diopside, kimberlite south of there. The southerly calcite and diopside kimberlites tend to be on the whole more nodular and richer in garnets and chrome diopsides.

The dyke was trenched in three places where 15 kg samples were taken from micaceous subcrops at 2+80N, 3+20N and 3+90N and sent for analysis (see figure 3f and 3g)

Rock descriptions

1:1000 Grid (northerly, telephone grid figure 3f)

V 105018 404970E 6577030N MC-020-02 80 cm wide fg - mg diopside kimberlite with 5% phlogopite, magnetite, chilled margin located in stream, 1.3 kg

V 105020 404965E 6577060N MC-021-02 4 small mg micaceous kimberlite dyke with fine cpx up to 0.5 cm abundant calcite possible tiny garnets, dykes join at 6577070N to make a 1.60 m

wide dyke. 2.2 kg

404995E 6577110N MC-022-02 mg phlogopite, cpx, calcite olivine kimberlite dyke

405000E 6577230N MC-023-02 30 cm long boulder of diopside kimberlite found in the stream with a 7 - 8 cm long nodule of fine chrome diopsides and garnets possible G-9's

V105016 404960E 6577280N MC-024-02 Trench # 1 ~ 20 kg 5 cm to 50 cm boulders in micaceous soil of green grey phlogopite, cpx, olivine kimberlite with possible fine garnets, Trench excavated to 70 cm depth.

V 105015 405016E 6577325N GV-002-02 Trench # 2 ~ 20 kg boulders to 70 cm of micaceous (phlogopite), cpx and fg yellow brown glassy olivine

V 105011 405000E 6577390N GV-003-03 Trench # 3 nodular cpx, phlogopite kimberlite with olivine groundmass many shark's fins as subcrop, chrome diopside observed by Yvon, zones of 60% mica

405008E 6577400N MC-025-02 Nodular cpx, phlogopite kimberlite with bands of micaceous kimberlite, calcite and olivine, cpx crystals from 3 to 5 mm - possible chrome diopside

404773E 6575695N T2-001-02 Nodular Cpx kimberlite with chrome diopside crystals - collected by Tommy 2

1:2500 Grid (starting at col figure 3g)

V 105050 404746E 6575672N GV-072-02 nodular cpx kimberlite, mica poor with 10 - 30% vfg calcite with occasional blebs and ocelli to 3 mm some nodules of olivine; olivine abundant as fg groundmass, nodules vary from 2 mm to 3 cm but average 4-5 mm and are predominantly pyroxene, a few rose to violet

coloured garnets (G-9, G-10?), chrome diopside, light blue serpentine possible coatsite, rare kinoshitalite crystals, magnetic, 20 kg

V 105057 404759E 6575708N GV-073-02 ~ 20 kg of nodular cpx, calcite kimberlite, minor phlogopite, weathers greenish grey brown, occasional vein of calcite to 5 mm wide, magnetic, subcroping boulders slightly less olivine in groundmass than above sample

404760E 6575740N GV-074-02 hand specimen nodular cpx kimberlite as above with abundant laminated zones and patches of olivine, mica poor an excellent G-9 or G-10 garnet observed.

404768E 6575784N GV-075-02 hand specimen cpx nodular kimberlite with crystals of chrome diopside to 3 mm in length associated with wine red pyropes (in rubble below snow)

105078 404769E 6574690N To2-03-02 Tommy 2 Cr diopside in kim

105079 404980E 6577040N To2-02-02 Tommy 2 sample kimberlite

105077 404758E 6575656N T02-01-02 Tommy 2 sample kimberlite

404950E 6576763N GV-079-02 several large boulders of nodular cpx, calcite rich kimberlite xenoliths some garnets and fine calcite in groundmass, magnetic, possible ilmenite, mica poor, weathers green grey

404955E 6576794N GV-080-02 many nodular cpx (diopside) kimberlite boulders as above with occasional garnet and chrome diopside crystals. Greenish grey weathered surface

404963E 6576912N GV-081-02 Hand Specimen Several nodular boulders of kimberlite up to 1 meter in length description as above

V 105070 404987E 6576979N GV-082-02 Micaceous olivine rich kimberlite dyke, 150 cm wide outcrop, nodular bands of cpx rich mica poor kimberlite zones, chrome diopside observed, wall rocks highly jointed parallel to strike of dyke. Chip sampled with irregular chips and blocks. Nearby kimberlite stopes into wall rocks. Grab sample 082 was taken 4 m east.

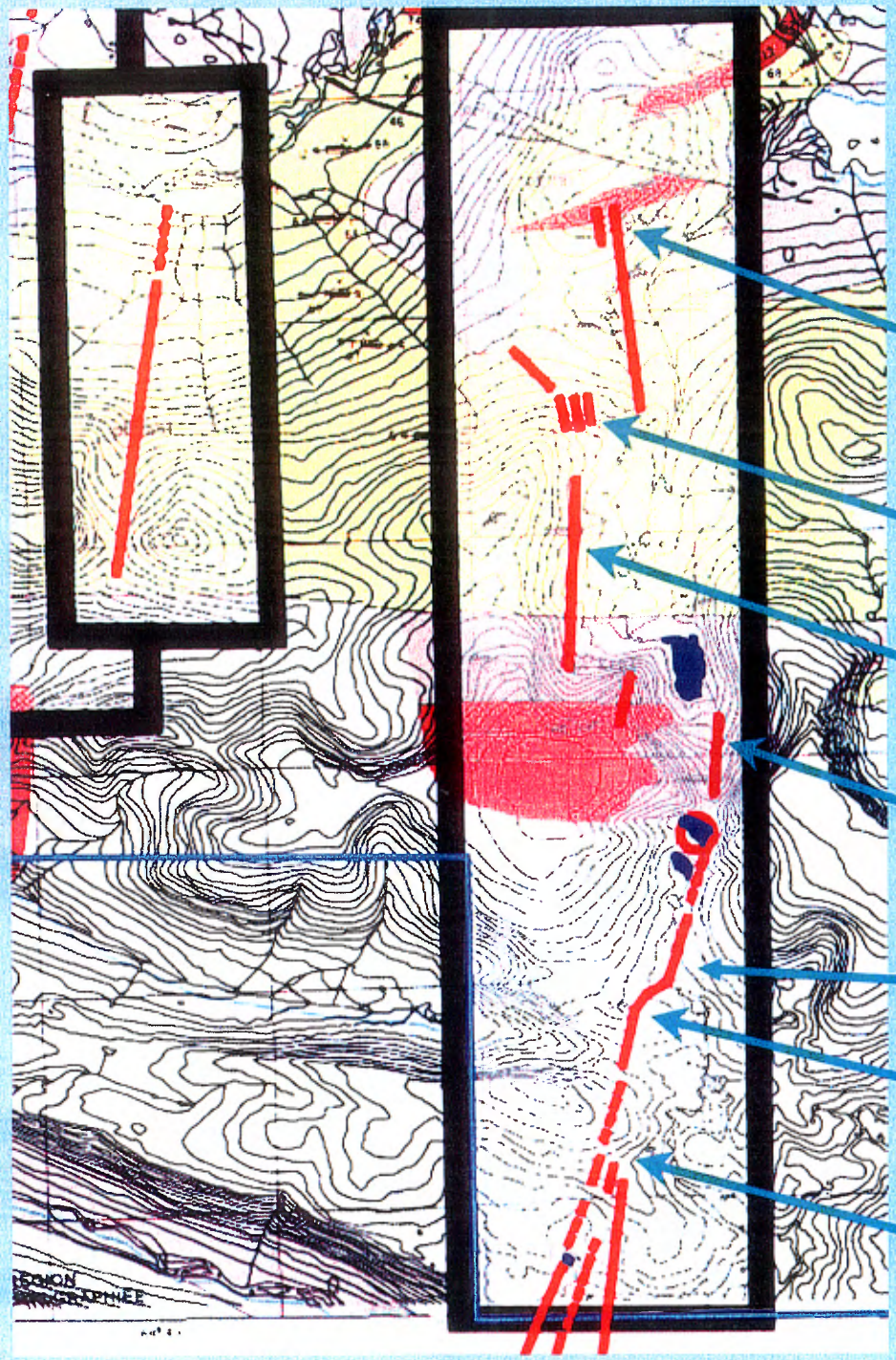
MAGNETOMETER SURVEY

A magnetometer survey utilising a Scintrex MF-2 fluxgate magnetometer was carried out by G. Venne over the grid on lines spaced 50 m apart with readings taken every 2 m. Base station readings were taken at regular intervals to determine drift. Sunspot activity was low. The instrument reads within 10 gammas (9.98 nanoteslas) and identified the position of the kimberlite dyke where covered with drift. A map of the survey is submitted (see figure 7c). Generally the kimberlites carry ilmenite and magnetite as accessory minerals which produce a moderate to high magnetic susceptibility. The MF-2 readings over kimberlites varied from 400 nT's to 1400 nT's above the surrounding country rock depending on the magnetic susceptibility of the enclosing gneisses and the quantity of contained magnetic minerals. These variations are comparable to pipes in Mali (A.S. Kamara, Geophysical Methods of Kimberlite Prospecting, 1981). Kimberlites have variable magnetic responses over short distances as they contain many local inhomogeneities.

A magnetic survey utilising a Gem 19 was completed by Dan Headrick over the grid and extended to the Abloviak River a kilometer to the north (see figure 7d). The Gem survey indicates an attractive anomaly at the join of the two base lines near 0+00 on the flagged grid and several large expressions on the tundra plain.

ANALYSES

At the time of writing no rock analyses or HMC's have been reported.



Mount Jacques Rousseau System

P U-Dyke

Q-Dykes

Bella Dyke

MJR North

MJR Discovery

MJR Center

MJR South

ANALYSES

At the time of writing no rock analyses or HMC's have been reported.

BELLA - MOUNT JACQUES ROUSSEAU KIMBERLITE DYKE SWARM

The Bella - Mt Jacques Rousseau kimberlite dykes swarm consists of the following groupings:

NORTHERN ZONE

Northern zone kimberlite dykes are from north to south are the P and U dykes, the four Q dykes, the Bella dyke and the Mt. Jacques Rousseau North dyke.

The "P" and "U" pair of kimberlite dykes are located at 409220E, 6578600N and 409310E, 6578650N respectively. The P dyke is 100 m long and up to 1 m wide. It cannot be traced southward under overburden and felsenmeer. The U dyke is also 100 m long and up to 1.5 m wide and can be traced intermittently in a southerly direction for 1.7 km (see figure 6a). The most southerly location at 409424E, 6576973N has Cr-Diopside, nodules of pyroxene containing olivine and a number of wine red garnets. Sample 105076 tested this float. At a distance of 2.5 kms south on this trend a gap is seen in the north facing mountain ridge which may represent a continuation of the dyke.

The Q cluster discovered in 2001is now composed of four kimberlite dykes. Q_B, Q_T, Q_E. these easterly three are all less than 40 cm wide. Q_y was located in 2002. It is inferred from a kimberlite boulder train which extends north-westerly 200 m which projects 5 km toward the Yvon Dyke.

The two Bella kimberlite dykes are located 500 m south of the Q cluster along strike.

THE BELLA DYKE

The Bella kimberlite dyke is located in the southwest quadrant of the 24 P/7 Mount Jacques-Rousseau 1:50,000 NTS sheet at 408840E and 6574808N. It can be traced 700 m north of this point and may extend another 500 m further under felsenmeer to the Q dyke system. Southwards the dyke probably extends 800 m under gneissic felsenmeer to a snow filled crevasse in a cirque. It is interpreted to extend a further 3 kms to the south where its trace intersects the Mount Jacques Rousseau dyke.

A 1: 2,500 scale geological map and sampling plan was made in the central area of the Bella dyke over the intermittently exposed 700 m strike length. The dyke varies from 40 cm to 2 m wide, strikes 350° from 0+00 to ~3+00N where it trends 340° for another 400 m. It is accompanied by an auxiliary dyke which trends 0° and disappears under country rock gneisses; its trace intersects the principal dyke at ~3+00N. Four samples of 20kg each were taken from the principal dyke and one taken from the offshoot en echelon dyke.

Kimberlites from both dykes are micaceous, magnetic, carbonate rich with pyroxene nodular kimberlite zones. The rock weathers green grey to brownish grey with a dark grey fresh surface. It is frequently lamellar with harder bands of relatively mica free diopside kimberlite weathering slower and emerging as "shark's fins" from the micaceous soil. The mica is phlogopite with occasional hydrophlogopite or kinoshitalite. Crystals range up to 4 mm in diameter as megacrysts but averages ~ 2 mm. Xenocrysts of pyroxene make up the majority of the nodules. They vary from 3mm to 5mm in diameter. The groundmass is composed of fine grained olivine, phlogopite, serpentine, calcite and unidentifiable microscopic minerals (apatite, perovskite, monticellite?).

A potential dilatant area was observed at ~ 3+00N where the dyke bifurcates into two sinuous dykes that trend 340° . The main dyke trends 350° and is observed to stope into the wall rocks and pinch out over a few meters. The junction zone is fifteen (15) metres in diameter. The two dykes directly to the north contain abundant olivine rich nodules up to 5cm in length. Their convergence point suggest a blow (see figure 3j).

Rock descriptions

408884E 6574808N WP-064 0+00 on Base Line of 1:2500 sampling and geology plan. Brown to yellow brown weathered laminated micaceous kimberlite dyke with abundant (+ 20%) calcite and random nodules of pyroxenes to 3 mm, fg olivine in groundmass, occasional pale blue serpentine. Dyke is greater than 1 m in width.

V105058 408791E 6574858N MC-065-02 ~ 20 kg Micaceous kimberlite 1.5 m wide weakly nodular zones, shark's fins, calcite rich and magnetic, vfg olivine, in a subsidiary dyke, strikes 010 toward the main Bella dyke (see sample plan 3j). 54 m N another 6 m long outcrop is cut off by gneiss, dyke "pops" through gneiss randomly suggesting the dyke outcrops at the root zone level of nearby pipes or is at the upper limit of the dyke.

408834E 6574932N MC-066-02 Micaceous grassy zone at 100N sample at 118N ~ 7 kg from several large boulders up to 50 cm wide and 1.5 m long of laminated nodular cpx, calcitic kimberlite with vfg olivine, calcite ~35%, vfg olivine, phlogopite ~ 15%, magnetic

408836E 6574977N MC-067-02 2 boulders of magnetic phlogopite calcite kimberlite ~ 30% mica, ~ 30% calcite as groundmass with olivine patches as vfg buckshot. At 1+80N zone of shark's fins in place, laminated max 150 cm wide abundant olivine, serpentine and 20% mica.

105059 408832E 6575069N MC-068-02 15 kg nodular cpx, micaceous kimberlite, 20% phlogopite, vfg olivine, serpentine, diopside ~40%. Subcrops as rounded greenish brown rough boulders, laminar, abundant mica in soil, zone is ~ 2 m wide and trends 350°.

105060 408775E 6575338N MC-070-02 18 kg Micaceous m.g. kimberlite ~ 2 m wide in area with large shark fins, lamellar subcrops with nodules up to 1 cm, average 0.5 cm, calcite in fg

Mount Jacques Rousseau
Centre
Note Kimberlite Rock in the fore,middle and Background.

Mount Jacques Rousseau
Centre
Nodular Kimberlite With Tan Weathering Olivine

groundmass as patches and occasional crystals, cpx, olivine vfg can be serpentinised, magnetic, dun grey rugous weathered surface.

MOUNT JACQUES ROUSSEAU NORTH KIMBERLITE DYKE

At 1 km east of the Bella kimberlite are a series of elongate fracture controlled gaps on the west side of Mt Jacques Rousseau. Kimberlite dykes located in these fractures are named the Mt Jacques Rousseau North Dyke (MJR). The mineralogy of the xenoliths and megacrysts in the MJR dyke is very encouraging. These kimberlites contain chrome diopsides, pale olivines, wine red and violet garnets and pyroxene nodules streamed in a carbonate matrix (see figure 6a, 3h and 4a, for rock sample locations and descriptions see table 3).

CENTRAL ZONE

A kimberlite boulder train was located southwest of Mount Jacques Rousseau between 409635E 6572050N and 409693E 6572351N. The boulders are confined to the edge of a prominent snow filled crevasse. The east side of which is marked by chloritized and perthitic gneissic wall rock.

The boulders up to 70 cm long were found to contain olivine rich nodules as both megacrysts and xenoliths up to 7 cm in length. Olivines in southern Africa are reported up to 8 cm. Pyroxene xenocrysts range up to 7mm. The nodules are set in a groundmass of very fine grained olivine and up to 60% carbonate, dominantly calcite. The olivines are marginally serpentinised by a bluish green serpentine mineral, probably coatsite. Yellow brown luminescent kinoshitalite (hydrophlogopite) mica ranges up to 8% in the groundmass as megacrysts to 4 mm. Bright to brick red pyrochlore was observed as rare specs and tiny earthy crystals. Chrome diopside was found in several boulders and two lilac coloured garnets, possible group 10's, were located in one boulder.

The boulder train trends north 500 m toward two deep lakes at the col

on the west flanks of Mount Jacques Rousseau. The southward projection of its trace strikes toward an intersection with the projected extension of the Bella dyke.

On strike at 010°, 300 m to the north of the pass, the above described Mount Jacques Rousseau North dyke is located.

The dykes to the north and south of the pass strike toward the two deep lakes located at the col or pass. The dykes, disappear under gneiss several hundred meters before the lakes. A similar situation occurs at the Champagne kimberlite pipe. A possible antecedent fine grained, magnetic mafic dyke with a shallow dip cuts across the northern edge of the upper lake. These features taken together enhance the possibility that the lake represents a diatreme.

Mount Jacques Rousseau Centre kimberlite dyke 1 km to the southwest is probably an extension of the above described Mount Jacques Rousseau dyke. The dyke passes just to the east of two small lakes at 409140E 6571400N. The kimberlite dyke extends another 400 m further south southwest before it is lost under felsenmeer (see figure 3i)

This kimberlite is consistently nodular, pyroxene, calcite (~30%) kimberlite with attendant olivine. Chrome diopside and G-9 garnet rich nodules can range up to 4 cm but average less. Up to 50% of the kimberlite is nodular. This central zone has the best nodular, indicator mineral rich kimberlite on DDI properties. A 40 kg sample of this material was sent to J Moorhead of the Quebec Ministry of Mines.

A nearby, additional area of interest in the central zone is located in a fracture zone on a north facing cliff on the northeast side of Mt. Jacques Rousseau. Notches in contours at 411720E 6573000N and at 411650E 6575000N (NAD27) define this suspected dyke. This north striking fracture passes through a lake in a cirque between these two points. The continuation of this trend to the north (2km) is coincident with a kimberlitic float found at 411650E 6577050N in 2001. Additionally the Qy kimberlite dyke as it strikes southeast could intersect this feature under the lake in this cirque. To better explain this feature it will require a magnetic survey.

SOUTHERN ZONE

Mt Jacques Rousseau South kimberlite dykes

The Mt. Jacques Rousseau South kimberlite dykes are a suite of three dykes which are located one kilometer south southwest from the Mount Jacques Rousseau Central Zone dyke last described above. The three dykes cut a ridge between 408859E, 6569854N and 409148E, 6569538N

MJR South - Sinuous - ANR kimberlite dyke

The first co-ordinate above is on the strike extension of the MJR dyke and is referred to as MJR South or the Sinuous dyke. The kimberlite dyke has arcuate jointing on its walls that are 3 to 4 meters apart. The walls show vertical striae in chlorite and minor local potassium alteration. The sinuous crevasse trending 020°was found to give a magnetic response of +300 nT above background over approximately 2.5 m. The kimberlite dyke bifurcates, one dyke is 70 cm wide and the other 20 cm.

It is composed of a nodular mica poor diopside kimberlite assemblage characterized by a high percentage of xenolith and xenocrysts. They frequently contain chrome diopsides, G-9 and G-10 garnets, large sherry and clear olivine phenocrysts. The dyke was sampled (GV-085-02 #105067) and is a mica poor, diopside, calcite, kimberlite composed of nodules to 3.5 cm of crystalline yellow olivine xenocrysts, eclogite xenoliths containing chrome diopside, fine garnets that are red brown to brownish in colour and xenocrysts of chrome diopside. Reaction rims consisting of fine sooty material - kelyphite, and serpentine to 3mm are noted around several xenoliths. The groundmass consists of abundant very fine grained calcite and phenocrysts as ocelli, fine olivine with minor serpentine, phenocrysts of phlogopite or kinoshitalite, magnetite or ilmenite, rare G-9 garnets and chrome diopside and microscopic accessory minerals. This dyke should be diamondiferous. It has a similar petrographic and nodular character to that of Mount Jacques Rousseau centre and north.

At 25 m east of the Sinuous dyke along the control line a boulder of eclogite (?) 30 cm in diameter was located consisting of green diopside, chrome diopside, minor phlogopite, light brown to dark brown fine garnets

small veins and blebs of a soft whitish non effervescent mineral. It was collected for observation as hand sample # GV-084-02 (see figure 4a).

A kilometer south along strike the kimberlite dyke passes just west of a small round deep pond and cuts a 50 m wide diabase dyke which intersects the east-west gneissosity at a low angle. Here the kimberlite dyke changes its petrographic characteristic becoming highly carbonated and micaceous. It has an unusual granular texture and is 50 cm wide.

Along strike to the south 500 m on a cliff this dyke is exposed as an outcrop of micaceous kimberlite and was named the ANR dyke. The dyke here is situated in a crevasse up to 3 meters wide. The poorly exposed kimberlite appears to be broken into two or more dykes.

Hygins-Tuk kimberlite Dyke

Two hundred meters east of the Sinuous dyke, a 40 cm wide highly carbonate kimberlite with attendant mica dyke was found and called the Hygins dyke. The Tuk dyke located 1.3 kms southwest along strike at 408391E 6568722N is similar in petrography, size and weathering characteristics to the Hygins kimberlite dyke and is interpreted to be the same dyke. The carbonate content ranges up to 60%. It weathers in leisergang zones from ochre to chocolate brown.

Wide - Twin Kimberlite Dyke

Four hundred meters southeast of the Sinuous Dyke at 409148E, 6569538N a crevasse in excess of 8 metres was located. The soil is made up entirely of phlogopite mica and occasional small micaceous kimberlite boulders. A Syntrex MF-2 Fluxgate Magnetometer profile was carried out across the crevasse by G. Venne and Tommy Assevak. The magnetic response inferred a kimberlite dyke to have a width of ~ two meters. A pit was dug to a depth of two meters revealed a few micaceous kimberlite cobbles in a mica rich yellow ground. A 15 meter wide diabase dyke located 800 m southwards along strike occupies the same fracture. 100 meters north of this outcrop the fracture cuts the east west diabase described above. It appears that there are two ages of diabase intrusions followed by

a kimberlite that stoped into the north trending diabase.

The Wide dyke was verified to be kimberlitic on a cliff at a distance of 1.2 km from its origin given above. It is characterized by micaceous phlogopite carbonated kimberlite broken into 5 dykes over 9 meters. Here it was named the Twin Dyke by Yvon Champagne.

Discussion:

An area containing three lakes at 408450E 6569140N is situated where the projected intersection of the Bella, MJR, Hygins and Wide kimberlite dykes occurs. This area is highly fractured by abundant north south trending joints. An east west diabase dyke is observed to cross the fractured zone. These factors point to a possible locus for a kimberlite diatreme in one of the three lakes. Follow up detailed magnetic surveys over the ice is recommended.

The area to the east of the Mount Jacques Rousseau dykes entailing the entire southeast corner of NTS map sheet 24 P/07 must be examined thoroughly on the ground. There are at least fourteen lakes that could harbour kimberlitic pipes.

All the kimberlite dykes in this map quadrant are highly prospective. The Mt Jacques Rousseau nodular and indicator mineral rich kimberlite dykes are among the most attractive in the region.

Rock descriptions

MC-055-02 MJR south of pass at discovery - diopside kimberlite, 30% calcite, buckshot olivine in groundmass, nodules are predominantly cpx with lesser olivine, magnetic, minor kinoshitalite, a few 1-2mm chrome diopside crystals

409635E 6572050N MC-056-02 Upstream limit of boulder train of nodular kimberlite at MJR, as above with kinoshitalite, large olivine grains and a beautiful ruby like garnet to 3mm.

409602E 6571923N MC-057-02 nodular diopside kimberlite, calcite rich, kinoshitalite mica, rare yellowish books, boulder train strikes 010, boulders range up to 70 cm in diameter.

409545E 6571763N MC-058-02 small 5-15 cm nodular cpx kimberlite with abundant olivine, near a 50 cm boulder of cg calc silicate marble.

409870E 6573244N MC-059-02 hard fg mafic dyke, non magnetic, no calcite, , dark grey, possible antecedent dyke cuts col at 010

409779E 6573385N MC-060-02 mafic dyke in cliff face, continuation of above, weakly magnetic, non calcareous, fg hard possible fine leucite throughout, 1.5 m wide

410018E 6573496N MJR-001-02 (MC-061-02) Zone of small nodular diopside kimberlite boulders 90 m long, 20 kg sample taken, nodular cpx, non calcareous, minor olivine, < 5% phlogopite, minor kinoshitalite dyke must be ~ 30 - 40% wide, magnetic, dense , composite sample

410022E 6573640N MJR-002-02 WP-062 ,nodular cpx kimberlite, olivine rich, calcite, kinoshitalite, boulders to 50 cm gneiss is covered with felsenmeer so difficult to locate dyke without a magnetometer, taken 150 m north of previous sample

410024E 6573663N MJR-003-02 GM Way Point 171 nodular cpx - calcite kimberlite, highly calcareous, magnetic some minor blue serpentine , laminated by streaming or fractionation, minor kinoshitalite, mica to 8%

410024E 6573663N MJR-004-02 20 kg sample -70 cm wide nodular calcite - cpx kimberlite, 40 -60% calcite, kinoshitalite 5%, olivine as fg granular groundmass and mats with occasional clear crystals, brilliant red pyrochlore (?) very rare chrome diopside, blue green serpentine, G-9 and possible G-10

garnets

409293E 6574741N MC-063-02 Kimberlite / peridotite, no mica, float, yellow brown weathered, laminated, magnetic, no calcite.

Mount Jacques Rousseau - south

408848E 6569823N GV-084-02 Diopside kimberlite. Ocelli of calcite and small thin veins, no mica, fine dark brown to reddish brown garnets (pyrope) possible G-9's, Chrome diopside to 3 mm diopside to 7mm, averages 4- 5 mm

408844E 6569867N GV-085-02 nodular diopside calcite kimberlite dyke in arcuate jointed crevasse, hydraulic stoping of walls, strikes 020 and rises 4o degrees upslope bifurcates into 70 cm and 20 cm dykes of kimberlite, abundant nodules of pyroxene and olivine, some olivine crystals are> 2.5 cm, chrome diopside in tiny crystals, abundant ocelli of calcite, and 1-2% yellow megacrysts of hydrophlogopite, wine red to brownish garnets, xenoliths of possible eclogite with olivine, kelyphite reaction rims...Good diamond possibility!, magnetic response of + 300 nT's

ANALYSES

At the time of writing no analyses of rocks and 30% of the HMC's have been reported.

RECONNAISSANCE PROSPECTING AND GEOLOGY - DDI 7

Olympic Area

A magnetometer survey carried out in conjunction with prospecting on September 5th, located three dykes on a ridge south of the Henri kimberlite dyke system. A calcitic, low mica, kimberlite dyke 170 cm wide

trending 020° was located on the western extremity of the ridge at 401862E and 6573606N. It is magnetic and gives a response of 1400 nT on the MF-2 fluxgate magnetometer. It is considered to be Twin Mining's Olympic dyke.

A minor 10 to 15 cm wide nodular diopside, calcite kimberlite dyke was located in a cliff 400m to the northeast and is probably a pinched out extension of the Olympic dyke or an en echelon parallel dyke.

Thirdly a 150 cm wide micaceous non calcitic kimberlite dyke lettered MMU-11 on old flagging was located at 4+00E by prospecting micaceous soil and a magnetic response of 1200 nT's. This dyke is considered to be the southerly extension of the Henri dyke. Its co-ordinates are 402224E and 6573503N.

The east trending magnetic survey was abandoned 200 m east of a small lake (not appearing on the topographic map) in the col. This pond was suspected of being a possible location for a diatreme. The lake is shallow and has gneiss outcropping on its north shore and 50 m to its south. A felsic dyke was located on the lake shore. It is not believed to be a kimberlitic blow. The east-west valley to the north was prospected as far as the St. Pierre dyke with no success.

Rock descriptions

105068 401874E 6573596N BA-088-02 calcite cpx kimberlite with large phlogopite phenocrysts to 8mm, olivine xenoliths in predominantly calcite matrix, ghostly xenoliths one yellow brown olivine to 1 cm dyke is 170 cm wide with lamellar zones, like Henri dyke (located on Olympic Ridge)

105069 402224E 6573503N BA-089-02 Micaceous kimberlite dyke, magnetic, strikes 020 traced along micaceous soil trend, previous workers sampled numbered MMU-11 no calcite in matrix, nodule poor.

402097E 6547096N GV-091-02 10 - 15 cm wide kimberlite dyke in crevasse 30 cm wide in cliff face, facing north, hand

sample only, nodular, micaceous precarious access.

RECONNAISSANCE PROSPECTING AND GEOLOGY - DDI-3

A series of lakes rising at the height of land near the Labrador border at ~406500E and 6591000N draining both to the southwest and southeast through glaciated valleys was reconnoitred by M Connell assisted by G. Venne and Tommie Anrtuk. The area covered is bounded to the west at 403500E 6588000N and on the east by 407000E and 6591000N.

Only one thin 7cm wide mafic dyke was located at 406125E 6590628N (NAD 83) that could be a kimberlite or lamproite. It was dark grey, fine grained and composed of 10% very fine mica. It may represent an antecedent dyke to kimberlite at depth. Three peridotite (pyroxenite) boulders to 1.5 m in the long axis were located in felsenmeer on the eastern side of the area covered. No other kimberlites or lamproites were located.

Paragneisses represented by dirty quartzites, feldspar-quartz-garnet gneiss and rusty bands of pyritic quartzite are interbedded with a zone of highly folded marble beds altered to calc-silicate rocks, which upon first sight were thought to be carbonatites. These paragneisses and marbles are cut by grey to blackish grey diorite to granodiorite gneiss. The entire package is intensely deformed and dissected by several NE and SE trending fault zones.

Samples of the calc-silicate metamorphosed marble were collected along with hand specimens of the pyroxenite and peridotite boulders.

It is recommended to traverse the area with a magnetometer to determine if extensions of the Martina, "H" and/or the St. Pierre system Pass through this area.

Previous Heavy mineral concentrate results in 2001 indicate that this area has at least one source of kimberlitic indicator minerals.

K-16, K-17 RECONNAISSANCE

Ray Grenier and Gabriel Venne traversed an east-west valley north of K-16 and K-17 and noted the presence of kimberlite features on the south wall. Follow up by G. Mazerolle and M. Connell consisted of two traverses near a deep lake with arcuate jointing encircling it.

G. Mazerolle located a new kimberlite dyke at 398700E 6580760 1.5 m wide of micaceous calcitic kimberlite. It extends southerly to form the east boundary of the deep lake and cuts across the outlet toward the southwest. It was traced for 700m.

M. Connell located a nodular diopside micaceous kimberlite dyke 60 cm wide which is possibly the extension of the K-17 kimberlite dyke. Several outcrops had chrome diopside and pyrope garnets. It had been sampled by previous investigators but not where the indicator minerals were located. It was traced down slope 500 m on the north flank of the Abloviak fiord.

Rock Descriptions

398322E 6580758N nodular diopside micaceous kimberlite with xenocrysts of olivine exhibiting kelyphite rims to 1.5 mm, 10% carbonate (calcite) in groundmass, highly magnetic dyke is approximately 60 cm wide and strikes grid north where sampled.

Z Dyke Kimberlite Reconnaissance

G. Mazerolle and M. Connell spent a half day exploring from the Labrador border southwest towards the known location of the Z micaceous kimberlite dyke. No further occurrences of kimberlite were located.

The crevasse in which the Z dyke occurs varies from 8 to 10 m wide and will require a magnetic survey to locate it more thoroughly. The presence of indicator minerals from past HMC work in the region points out the need for more work in following on any indications of kimberlite bodies in this region. There are numerous lakes here and the crew did previous

traverses not having passed through their learning curve.

N Kimberlite Reconnaissance

A micaceous kimberlite dyke 90 cm wide and 200 m long was located at 391882E 6592203N. Micaceous soil outlined its lineament. A small pit dug with grub hoes and a 10 kg sample was collected called MC-005-02

Unnamed dyke NW DDI 1 boundary

An unnamed micaceous dyke 50 cm wide with a micaceous soil trace of 200 m was located at 390372E 6586086N. It parallels the F dyke 300 m to the east. It was not sampled or followed northward. It's trace to the south lines up with the Y dyke.

X Kimberlite Reconnaissance

The X dyke is a northeast trending micaceous kimberlite dyke with local carbonate zones and xenoliths of orbicular nodules. It varies from 1.5 m to 3 m and was traced 3 km. At its southwest end coordinates are 400550E 6586180N. At location 401848E 6588010N a sample was taken in a zone of streaming with nodules of pyroxene up to 5mm with zones of pyroxene and carbonate rich bands alternating with micaceous bands. This dyke arcs northerly at the northern end where it was lost in snow and talus.

Lakes East of DDI-2

The lakes between DDI-2 and DDI-3 have all been reconnoitred, no indications of kimberlite were found. A lake at 401900E 6590100N was not looked at. However, lakes to the southwest of the Z dyke trend deserve further prospecting. The DDI-2 property should be traversed again by field crews with their present skill levels.

K-15 & B-Dyke , K8 & K9 Dykes

The Dumont Nickel K-15 dyke is 2 - 6 m wide with bifurcations including floating reefs. It is 2.5 km long. It is a micaceous kimberlite dvke and is more energetic than it's extension the DDI B dyke which trends

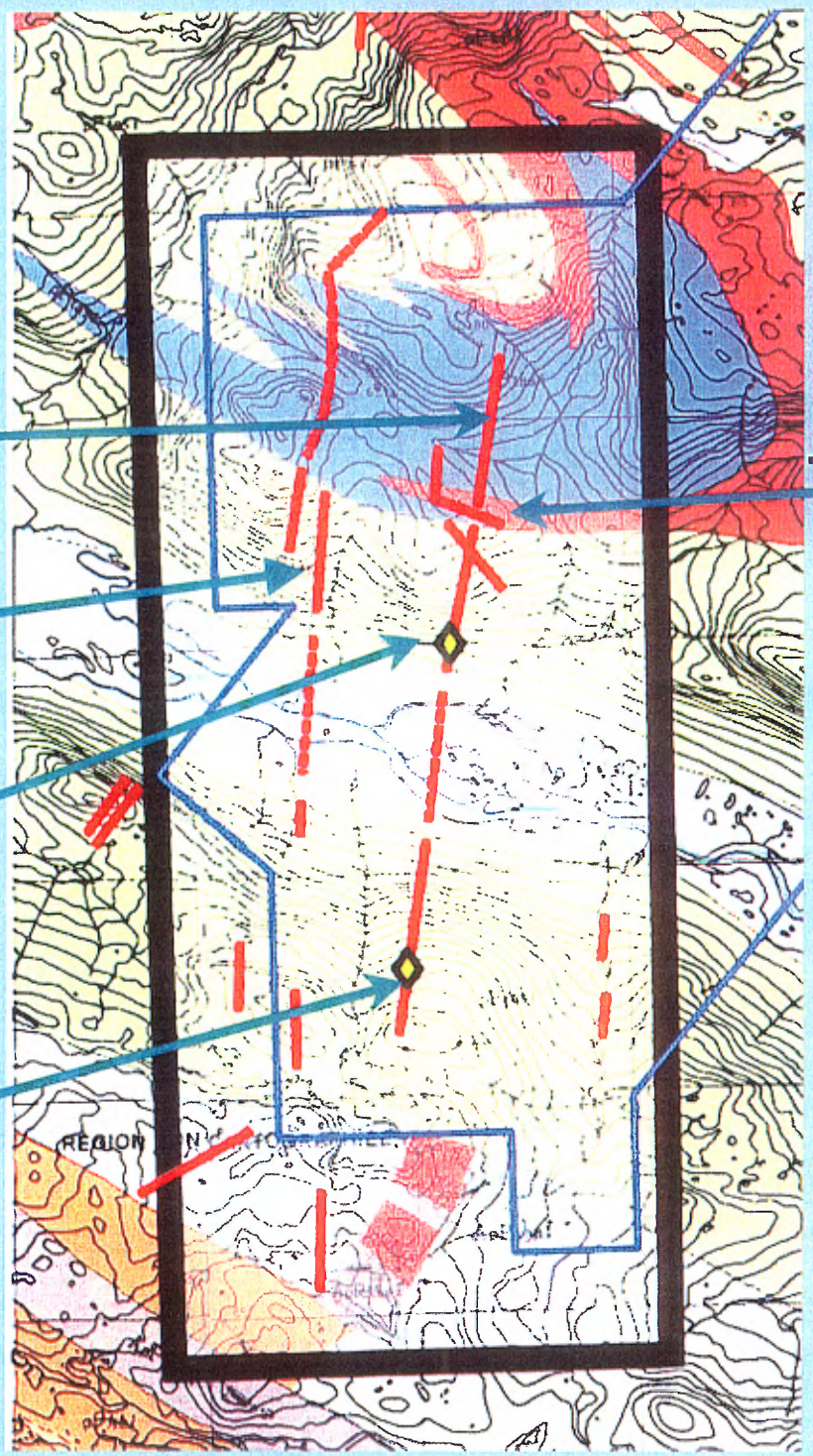
DDI-1 Diamondiferous A-F Dyke System

F-Dyke

D-Dyke
Rubies

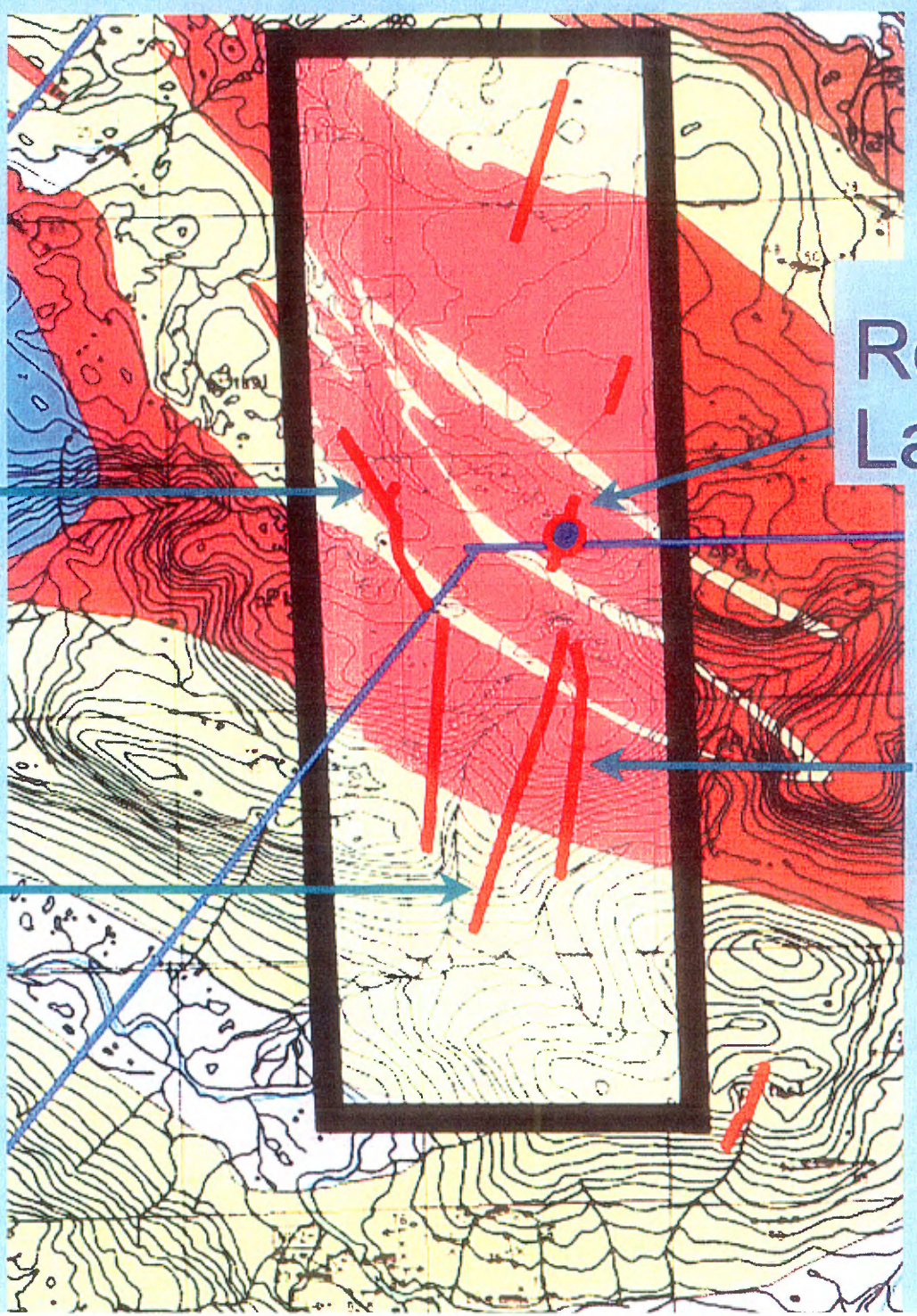
F-Dyke
Diamonds

A-Dyke
Diamonds



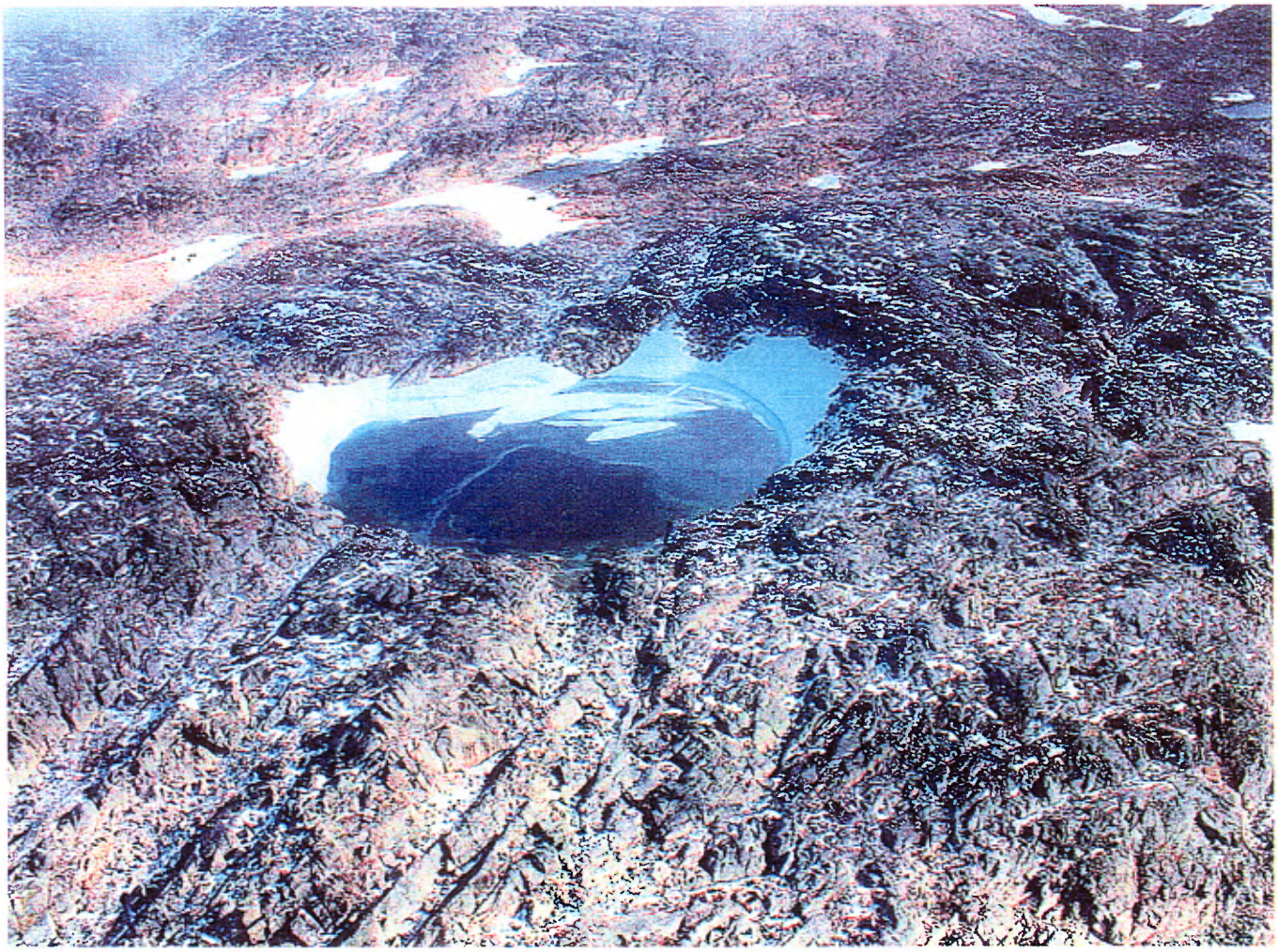
Rubies

Round Lake System



B-Dyke Diamonds

K-8 Dyke



Round Lake
Possible Kimberlite Pipe
Note: Rock Fractures Around the lake
Kimberlite Dyke exits the lake in the northwest corner.
See second photo.

Northwest Kimberlite Dyke narrows rapidly
on exiting
Round Lake

northwest from the K-15 dyke 1.7 km. The B dyke has a width less than a meter but ranges up to 2 m. The area of the intersection, or strike change, occurs at 396250E 6584375N. The character of the B dyke is less energetic, much narrower with no bifurcations.

The K-8 dyke was not inspected. The K-9 dyke contains numerous bifurcations, possible blows and floating reefs and is a micaceous kimberlite. It strikes 010° from 396970E 6581124N 3 kms north to 397300E 6584000 where it strikes 355° 1.15 km to a round lake suspected to be a kimberlite pipe. The northern leg of K-9 is less energetic than the southerly section.

Round Lake Pipe and Dykes

The round lake noted above is located at 397150E 6585140N. It is circular and 100 m in diameter. It is assumed to be deep as it was half frozen at the end of the season. A 20 cm micaceous kimberlite dyke exit's the lake on the south trending toward the K-9 kimberlite dyke for 200 m. Another micaceous pyroxene dyke was located on the north side of the round lake. At the lake the hosting gap for this dyke is 7m wide. 10 m north the gap diminishes to 2 m. Here it breaks into several narrow dykes which continue to trend northerly 70 m before they disappear under felsenmeer. Circular arcuate fractures surround the lake and dip steeply toward the lake. The distance between joints increases rapidly as one approaches the lake. <u>These factors together point to the lake as a kimberlite pipe.</u>

St-Pierre Ridge

The ridge from the Peter Lake dykes easterly toward the St. Pierre dyke was traversed. It yielded no new kimberlite dykes. A calc silicate (marble) bed 60 cm wide was found in scree on a slope 300 m east of the Henri dyke.

Another traverse was carried out from the St. Pierre area at 405250E 6575680N to 409300E 6575800N east of the Q dykes. The Qy dyke previously discussed was discovered on this traverse. A magnetic friable gabbro was found outcropping at 407700N 6576200N. It strikes southeast across the gneissosity toward the Bella dyke trace. It contains a large percentage of magnetite ~25%.

Cirque Lake

A traverse was carried out around a lake in a cirque at 406700E 6585650N. This lake is on the northern trend of the St. Pierre dyke. The lake was still half frozen late in the season. Twenty (20) small pieces of micaceous carbonate rich kimberlite float was located in the felsenmeer on the southeast side of the lake (see figure 4b). Nothing of interest was seen along the shoreline. A friable weathered slab of peridotite (?) was located a few meters from the kimberlite samples.

Mt Jacques Rousseau South Cirque

A traverse was carried out southwest of Mt. Jacques Rousseau from a lake at 410700E 6571650N in a cirque. A crevasse was observed in a cliff 400 m northwest of the lake which may represent a kimberlite. It's lower portion was covered by a small glacier. A traverse southward located a kimberlite boulder at 409950E 6570125N. It was micaceous kimberlite with lesser carbonate that occurred in a north trending defile that aligns with other features trending toward the Mt Jacques Rousseau dykes and its deep lakes.

Daily Mobilization observations

It happened that on many days while flying to or from the property a field crew member would notice grassy strips indicating the presence of underlying kimberlitic. Only two of these sites were visited. Mazerolle having noticed these locations during the winter research determined to visit those sites. The RND Lake did not reveal any kimberlitic but a strong indicator mineral rich dyke one kilometre east of it was visited and sampled. The second location visited was a dyke previously discovered by Font De L'Exploration du Nunavit.

MAGNETIC SURVEYS

Magnetic surveys utilised two magnetometers McPhar MF-2 fluxgate capable of reading within 10 nanoteslas and a Gem 19 proton precession magnetometer capable of reading to less than 1 nanotesla and positioning itself by means of a built in Global Positioning System.

The MF-2 was used over three areas: the St. Pierre Grid, the Olympic Ridge and the Mt Jacques Rousseau South Ridge. It was used as a reconnaissance tool to aid prospectors in locating kimberlite dykes during field operations (see image and figure 7c-1).

The Gem 19 had greater flexibility due to the built in GPS which allowed surveys to proceed without grid control or other support. It was used both as a reconnaissance tool in till covered areas and for detailed work tracing kimberlite dykes. Figures 6a through 7f record the results of these surveys.

Kimberlites in the Abloviak area generally have a magnetic signature which varies from 50 to 1200 nT's above background. Most dykes are in the order of 200 to 400 nT's above values in the adjoining gneisses. Positive negative inversions are observed north of the Champagne complex and at Mt. Jacques Rousseau.

It may be cost effective to re-fly DDI properties with greater magnetic sensitivity to detect and process magnetic data outlining kimberlite dykes. (Airborne magnetic surveys have successfully revealed kimberlite dykes on nearby Twin Mining ground.)

Magnetic Anomalies - NAD 83 UTM's centred on the anomaly

Fig 6b	**No.**	**Easting**	**Northing**	**Notes**
Champ.	1	404790	6585400	These are the traces of the
	2	404900	6585820	Champagne to the north. These are
	3	405000	6585100	negative magnetic anomalies except
	4	405040	6586100	for #4. No. 3, and (#6,#7) my each be
east	5	404970	6585040	100 m in radius. Continue the
branch	6	405150	6585400	magnetic survey northwards to
	7	405250	6585480	capture the three visible dyke
k-dyke	8	404600	6585820	trends. Till samples here.
Fig 7a		**Henri**		
	1	403970	6578600	#1 Near river, positive mag. Dyke
	2	403870	6578100	blow in a large magnetic depression

	3	403700	6577700	200 m radius. #1,#2, #3 Possible pipes. #2 dyke expands E-W 350m N-S 150m. 33 350m x75m
Fig 7b		**Henri South - Peter Lake**		
	1	403500	6577415	#1 west of dyke 50x100m may be
	2	403500	6576600	gneiss. #2 about 100m diameter mag
	3	403430	6576340	high. #3 the same but may be gneiss.
	4	403250	6576070	#4 magnetic depression Peter Lake.
Fig 6a		**St-Pierre** (North to South)		
	1	408200	6578400	From the Abloviak R. south to Fig 7c
	2	405120	6578680	Detailed geology& till sampling for
	3	405120	6578130	diamonds required. Enlarge the
	4	405090	6577940	Magnetic survey around #1 &#2
Fig 7c		**St-Pierre** (North Grid)		
	1	405060	6577630	Dyke mag expression widens to 45m
	2	404890	6577550	a blow. #2,#3 ~30m diameter blind
	3	405190	6577575	intrusive. #4 is 40m diam. Mag low
	4	404910	6577290	with two similar highs E & W.
Fig 7d		**St-Pierre** (South)		
	1	405190	6577150	200m x150m mag. High in Abloviak
	2	404350	6576620	flat area. #2 is blow or Kim dyke
	3	404800	6576320	passing through gneiss of equal magnetic susceptibility. #3 appears dyke related.
Fig 7e		**Mount Jacques Rousseau** (MJR)		
	1	410000	6574050	Narrow alternating magnetic gneiss
	2	409570	6572520	beds makes interpretation difficult. #1 mag high under gneissic outcrop. #2 mag. High near lake may be gneiss
Fig 7f		**MJR South**		
	1	409050	6571950	#1 mag high in band of low mag
	2	408800	6571100	gneiss. #2 cluster of 5 mag highs in

3	408950	6570000	mag low gneiss. #3 is 70m mag depression

Fig 7g **Round Lake**

1	397300	6585375	There is a wide positive band of magnetic gneiss with a bite taken out of it on the northeast.

A magnetic survey over the winter ice of the lake is required here

Sinuous dyke ridge

The wide dyke has a significant magnetic high from a MF-2 survey which delineated a width of 2m.

A third magnetic response was noted at 10+50 NW where a dipolar response was recorded from +3000 nT's to - 2000 nT's. Several strongly magnetic peridotite boulders ranging up to 2m's in diameter were noted in the surrounding felsenmeer but the response was obtained over grey paragneiss outcrop. The kimberlitic dykes do not give a dipole response so the response is presumed to be a peridotite. The readings remains a spurious enigma. The third speculated kimberlite dyke that the traverse was intended to intersect at 9+50NW gave no magnetic response. This proposed dyke does not exist.

SPECULATIONS, CONCLUSIONS, RECOMMENDATIONS

Observations and Speculations:

Over 50 kimberlite dykes one kimberlite pipe, eight suspected pipes and numerous blow outs have been located in the 2001 and 2002 field seasons.

Diamonds are now known to be located on the Twin Mining Claims and on DDI-1.

Rubies were reported on DDI-1 and DDI-3 properties

Chrome diopside and G-9 garnet indicator minerals are located on all of the DDI Abloviak properties.

Future exploration will locate more dykes and pipes on and off DDI properties.

No diamond exploration was carried out by competitors in the region in 2003. A window of opportunity could exist for another field season.

Intersections of kimberlite dyke traces are prospective sites for diatremes.

Four zones of kimberlite dyke swarms have been delineated on DDI properties.

Kimberlite dykes in these zones can be divided broadly into three petrographically distinct groups:

1. Micaceous phlogopite rich; often zoned or lamellar with bands of mica poor kimberlite producing more resistant bands which often emerge in outcrop or subcrop as "shark's fins". The calcite content of the groundmass is variable; when mica increases carbonate decreases indicating dominance of $C0_2$ over H_20 or vice versa. Olivine and serpentine are common.

2. Pyroxene (diopside) rich with variable amounts of calcite or other carbonates. Olivine and serpentine are common with lesser mica.

3. Calcite rich with lesser pyroxenes or micas, olivine is common.

Worldwide diamonds have been found in all these petrographic groups. Determining kimberlite group rock types is significant in southern Africa to assess kimberlite diamond bearing abundance.

Dykes rise (in elevation) under pipes ... e.g. Henri dyke swarm south of 0+00 near Peter Lakes on BL 0, the Champagne complex and the Mt. Jacques Rousseau dykes. (see cartoon)

Kimberlite dykes in southern Africa are rarely more than one or two meters in width; Ungava area kimberlite dykes fall into this bracket. The longest

dyke in South Africa is 65 km. They average less that 2 kms in length. Ungava dykes in the Abloviak region have been traced for well over 10 kms.

Frequency of dilatant (dyke widening) pod like zones, bifurcation of dykes and blows is significant in diamond producing kimberlite dyke systems. These events occurred in the Henri, St. Pierre, Champagne and Mt Jacques Rousseau kimberlite dyke systems

Sills and rare kimberlite sheets occupy horizontal joint planes in Tanzania. Near the H dyke on the Labrador border kimberlite sills were hypothesised from helicopter observations. In Africa sills can vary from a few cm to 45 m thick.

Antecedent mafic dykes are common in kimberlite fields. The mafic dyke at the pass at Mt. Jacques Rousseau and the diabase dyke in the wide dyke may represent these.

Kimberlite dykes in the Abloviak region are Ordovician in age.

Diabase dykes and sills of late Proterozic age in the southeast corner of the 24 P/07 map sheet trend southeast and dip gently southwest. Ultramafic sills and/or dykes are steeply dipping. This system of mafic to ultramafic magmatism could be related to the widespread Mugford group volcanic episode 60 kms to the southeast in the Kaumajet Mountains. The event generated massive flood basalts, pillowed basalts, ultramafic dykes and sills resting unconformably on Nain Archean gneisses. These extrusions would have depleted upper mantle harzburgites and/or lherzolites, a condition, in southern African literature, presumed to be prerequisite for the generation of kimberlites. Younger sheets of overlying flood basalts and peridotites on the 24P/07 sheet have disappeared through erosion but potential feeder dykes have been mapped in the Mount Jacques Rousseau area. Material derived from diatremes destroyed by erosion and glaciation in the Abloviak region must been deposited down ice either along the U shaped valleys or in Ungava Bay. These areas have obvious potential for diamondiferous gravels.

Tilting of a craton would better preserve pipes in the direction of tilt; Dr.

Marcos Zentilli of Dalhousie University has published a paper suggesting that the Nain craton tilts northward from a point near Nain. Exploration for pipes therefore may be more successful north of the Abloviak fiord.

The continental collision zone between the Churchill Proterozoic aged Rae province and the Nain Archean province is hinged in the vicinity of the east edge of map sheet 24 P/07 where it's northerly trend curves westerly.

Note: at Voisey's Bay and north it is assumed that the Rae province Tasiuyak pyritic gneisses were subducted under the Nain Province. These gneisses are presumed to have supplied the sulphur to produce nickeliferous pyrrhotite and pentlandite at Voisey's Bay. The ECSOOT project of the Geological Survey of Canada is attempting to clarify subcrustal movements in the DDI area of exploration.

The plunge of a subduction zone steepens with increased curvature. The Rae - Nain collision zone exhibits dramatic regional curvature as it passes through the Abloviak region on NTS sheet 24 P/07. The remnant plates under this hinge zone should be plunging at a very steep angle. The sharp curvature of the hinge would place the subducted rock to the north and east under tension opening structural opportunities for the ascent of kimberlitic material from depth.

The area east of Mount Jacques Rousseau in Labrador and north of the Rae - Nain hinge zone therefore must be prospective for kimberlite dykes and pipes that have a deep origin at no great distance from this hinge.

CONCLUSIONS:

The Abloviak Region hosts known diamondiferous kimberlite dykes. One kimberlite pipe has been located and several proposed pipes are indicated on DDI properties. Four kimberlite dyke swarms have been located. They have been only partially explored.

There is a high potential for locating additional diamond bearing kimberlite dykes and pipes in the Abloviak Region.

Reconnaissance prospecting for kimberlite pipes and dykes on and off DDI

properties must be pursued with as much expediency as possible before competitors become aware of the regions potential.

RECOMMENDATIONS:

Analysis of rock and HMC samples collected during the 2002 field season must be completed at appropriate laboratories. Duplicates should be submitted to competing laboratories in following field seasons.

The complete processing of HMC's should be done at an outside laboratory for more effective separation of diamonds and their indicator minerals.

Laboratory results must be returned in a timely manner.

DDI-3

The Champagne pipe must be sampled with a minimum of 10 samples of diatreme facies kimberlite weighing 600 kg each. The samples must be hand cobbed to eliminate xenoliths of wall rock. A pipe of this size requires it.

A detailed geology map and sampling plan of the Champagne complex initiated in 2002 must be completed in 2003 during sampling.

A composite HMC should be taken from the stream exiting the Champagne pipe in the U shaped valley A sample of 200 kg of HMC < 2 mm material processed in a laboratory for the recovery of diamonds should indicate if the Champagne pipe has shed diamonds into the drainage system.

Magnetometer traverses utilising the proton precession Gem - 19 instrument with readings at a maximum of 2 second intervals must be continued north of the Champagne Pipe toward the Labrador border. The survey should cover a series of lakes at the following coordinates 407000E 6586000N on DDI-7 through 407300E and 6589900N, 408100E 6591600N and 408100E 6593200N where numerous HMC indicator mineral anomalies are located.

DDI-7

A magnetic feature extending southeast from the Yvon dyke at 404200E 6581000N, must be extended eastward over till cover to the Labrador border. This survey would determine where it intersects the north trending St. Pierre, Bella, P, U and Mt Jacques Rousseau kimberlite dykes. At promising magnetic junctions detailed magnetic surveys should be carried out to reveal hidden diatremes. Magnetic surveys must be followed up with prospecting and sampling.

The area south of the St. Pierre ridge between the Mt. Jacques Rousseau system and the Olympic dyke should be explored.

Magnetic and EM surveys must be carried out over all frozen lakes suggestive of kimberlite pipes within 5 kms of the Mt. Jacques Rousseau system.

The area east of the Mt Jacques Rousseau kimberlite dyke system to the Labrador border contains a number southwest trending linears with numerous lakes which should be explored.

One of these trends is potentially an extension of the recently discovered Holy Smoke dyke located more than ten kilometres to the southwest. This trend definitely must be examined while it is still available for staking.

Lakes located along the north trend of the St. Pierre dyke system to the Labrador border should also be surveyed with magnetic and EM surveys.

A north facing cirque containing a lake on Mount Jacques Rousseau hosts a north south trending fracture system on its east side. A magnetic survey over this trend are needed to reveal kimberlite dykes or pipes.

Prospecting and geological reconnaissance must be carried out along the southerly extension of the favourable Mt. Jacques Rousseau dyke south of the Twin, Anr and Tuk dykes into unstaked ground to 3 snowfield breaks at 406000E 6564000N and beyond the Alluviaq River.

A magnetometer survey should be completed over the Z kimberlite dyke

located at the outlet of a lake 401200E 6591800N. This dyke could extend south-westerly into an area of DDI2 which contains a number of HMC's with elevated indicator minerals.

The area between the Yvon dyke and the eastern boundary of DDI-1 has not been adequately prospected assisted by magnetometer surveys for extensions of kimberlite dykes; the northwest trending Yvon dyke could intersect up to six other dykes if it persisted north-westerly across DDI 7.

It may be cost effective to re-fly DDI properties with greater magnetic sensitivity to detect and process magnetic data outlining kimberlite dykes. (Airborne magnetic surveys have successfully revealed kimberlite dykes on nearby Twin Mining ground.)

APPENDIX I

Table 1 STREAM HMC SAMPLE LOCATIONS

	NAD 27		NAD 83		
Sample No.	**Easting**	**Northing**	**Easting**	**Northing**	**notes**
DDI7-1	410779	6586179	410841	6586399	
DDI7-2	411445	6578838	411507	6579058	
DDI7-3	410773	6578672	410835	6578892	
DDI7-4	407163	6579917	407225	6580137	
DDI7-5	406422	6578823	406484	6579043	
DDI7-6	411999	6578795	412061	6579015	
DDI7-7	410623	6579010	410685	6579230	
DDI7-8	409955	6574227	410017	6574447	
DDI7-9	405811	6578601	405873	6578821	
DDI7-10	407970	6580896	408032	6581116	
DDI7-11	409237	6574934	409299	6575154	
DDI7-12	411584	6574825	411646	6575045	
DDI7-13	406857	6585895	406919	6586115	
DDI7-14	407272	6586236	407334	6586456	
DDI7-15-EX	407076	6571488	407138	6571708	
DDI7-16-EX	406763	6571502	406825	6571722	
DDI7-17-EX	406566	6571553	406628	6571773	
DDI7-18	405014	6577307	405076	6577527	
DDI7-19	405042	6577470	405104	6577690	
DDI7-20	402456	6578315	402518	6578535	
DDI7-21	402657	6578607	402719	6578827	
DDI7-22	403212	6578871	403274	6579091	
DDI7-23	404901	6577971	404963	6578191	
DDI7-24	405411	6577973	405473	6578193	
DDI7-25-EX	407391	6571422	407453	6571642	
DDI7-26	409769	6572660	409831	6572880	
DDI7-27	409638	6572385	409700	6572605	
DDI7-28	402638	6574231	402700	6574451	
DDI7-29-EX	409866	6571200	409928	6571420	
DDI7-30-EX	409858	6570739	409920	6570959	
DDI7-31-EX	409554	6569782	409616	6570002	
DDI7-32-EX	410021	6570725	410083	6570945	
DDI7-33-EX	412265	6571172	412327	6571392	
DDI7-34-EX	411608	6570394	411670	6570614	
DDI7-35-EX	411249	6570438	411311	6570658	
DDI7-36-EX	410565	6571286	410627	6571506	

DDI7-37	404726	6572126	404788	6572346
DDI7-38	403735	6574834	403797	6575054
DDI7-39-EX	403936	6572705	403998	6572925
DDI7-40EX	403842	6572631	403904	6572851
DDI7-41	404170	6572906	404232	6573126
DDI7-42-EX	403952	6572955	404014	6573175
DDI7-43	403050	6573265	403112	6573485
DDI7-44EX	403047	6573189	403109	6573409
DDI7-45	401270	6574685	401332	6574905
DDI7-46	401720	6574400	401782	6574620
DDI7-47	408864	6582894	408926	6583114
DDI7-48-EX	407047	6571818	407109	6572038
DDI7-49-EX	406915	6571824	406977	6572044
DDI7-50-EX	406635	6571818	406697	6572038
DDI7-51	405292	6574913	405354	6575133kim flot South slope
DDI7-52-EX	396105	6581778	396167	6581998
DDI7-53-EX	396271	6581787	396333	6582007
DDI7-54-EX	396578	6581722	396640	6581942
DDI7-55-EX	396609	6581682	396671	6581902
DDI7-56-EX	398297	6582675	398359	6582895
DDI7-57-EX	398388	6582593	398450	6582813many dykes in area
DDI7-58-EX	398548	6583863	398610	6584083
DDI7-59-EX	398639	6583762	398701	6583982
DDI7-60-EX	400171	6581937	400233	6582157
DDI7-61-EX	400231	6581547	400293	6581767
DDI7-62-EX	401081	6583393	401143	6583613
DDI7-63-EX	401718	6583976	401780	6584196
DDI7-64	402210	6584849	202272	6585069
DDI7-65	401897	6584825	401959	6585045
DDI7-66	401602	6585653	401664	6585873
DDI7-67	402415	6585521	402477	6585741
DDI7-68	401928	6586408	401990	6586628
DDI7-69	401737	6586182	401799	6586402
DDI7-70	401977	6586344	402039	6586564
DDI7-71	401970	6586651	402032	6586871
DDI7-72	401443	6587532	401505	6587752
DDI7-73	401431	6587351	401493	6587571
DDI7-74	400136	6587204	400198	6587424
DDI7-75	399838	6587925	399900	6588145
DDI7-76	400305	6590713	400367	6590933
DDI7-77	399754	6591350	399816	6591570
DDI7-78	400278	6591405	400340	6591625
DDI7-79	401364	6591469	401426	6591689
DDI7-80	403265	6591533	403327	6591753

DDI7-81	408067	6585984	408129	6586204
DDI7-82	409110	6585312	409172	6585532
DDI7-83	409919	6589196	409981	6589416
DDI7-84	410414	6588169	410476	6588389
DDI7-85	410609	6588010	410671	6588230
DDI7-86-EX	411921	6587394	411983	6587614
DDI7-87-EX	413318	6587448	413380	6587668
DDI7-88-EX	411319	6585237	411381	6585457
DDI7-89	409940	6588910	410002	6589130
DDI7-90	409541	6589649	409603	6589869
DDI7-91	408403	6585396	408465	6585616
DDI7-92	408606	6583490	408668	6583710
DDI7-93	408647	6583505	408709	6583725
DDI7-94	408317	6583252	408379	6583472
DDI7-95	407873	6582901	407935	6583121
DDI7-96	407524	6583044	407586	6583264
DDI7-97	406670	6581800	406732	6582020
DDI7-98	406976	6580967	407038	6581187
DDI7-99	406814	6580492	406876	6580712
DDI7-100	406705	6580002	406767	6580222
DDI7-101	406745	6579984	406807	6580204
DDI7-102	405895	6579489	405957	6579709
DDI7-103	406556	6578874	406618	6579094
DDI7-104	406556	6578858	406618	6579078
DDI7-105	404305	6581082	404367	6581302
DDI7-106	404319	6581084	404381	6581304
DDI7-107	403702	6579767	403764	6579987
DDI7-107B	403055	6579449	403117	6579669
DDI7-108	402725	6578995	402787	6579215
DDI7-109	402384	6578793	402446	6579013
DDI7-110	401534	6578508	401596	6578728
DDI7-111	409632	6578219	409694	6578439
DDI7-112	409673	6578234	409735	6578454
DDI7-113	409712	6577311	409774	6577531
DDI7-114	409321	6577370	409383	6577590
DDI7-115	409648	6576198	409710	6576418
DDI7-116	409633	6576197	409695	6576417
DDI7-117	408798	6582787	408860	6583007
DDI7-118	410592	6581100	410654	6581320
DDI7-119	410663	6579829	410725	6580049
DDI7-120-EX	411535	6579977	411597	6580197
DDI7-121-EX	410262	6569310	410324	6569530
DDI7-122-EX	410447	6569297	410509	6569517
DDI7-123-EX	411417	6585150	411479	6585370

DDI7-124	415450	6592703	415512	6592923
DDI7-125 EX	415828	6595051	415890	6595271

NOTE: "EX indicates the sample is outside the edge of the claim boundary at collction date

Tuk Dyke soil 408525 6568722 soil taken no rock found. probable south extension of the Hygins dyke (south MJR area)

Table 2 Rock Sample Locations

	NAD 27			NAD 83	
ASSAY ID	Easting	Northing	Weight Kg	Easting	Northing
V 105005	403426	6576090	2.7	403488	6576310
V 105006	403735	6577722	0.9	403797	6577942
V 105007	403380	6576100	1.8	403442	6576320
V 105008	403459	6576759	1.3	403521	6576979
V 105009	404607	6577166	0.9	404669	6577386
V 105010	403317	6576050	1.3	403379	6576270
V 105011	450000	6577390	13.1	450062	6577610
V 105012	403551	6577085	11.35	403613	6577305
V 105013	403317	6576050	1.3	403379	6576270
V 105014	403438	6576653	3.6	403500	6576873
V 105015	405018	6577325	10.4	405080	6577545
V 105016	404960	6577280	12.2	405022	6577500
V 105017	404965	6577060	1.3	405027	6577280
V 105018	404970	6577030	1.3	405032	6577250
V 105019	405010	6577290	1.8	405072	6577510
V 105020	404965	6577060	2.2	405027	6577280
V 105021	405008	6775410	2.2	405070	6775630
V 105022	HAND SAMPLE		3.6		
V 105023	401685	6575761	2.7	401747	6575981
V 105024	408646	6576749	4.5	408708	6576969
V 105025	408601	6576883	2.2	408663	6577103
V 105026	390904	6586334	4.5	390966	6586554
V 105027	406932	6586692	4	406994	6586912
V 105028	391916	6592235	4	391978	6592455
V 105029	403118	6575642	4.9	403180	6575862
V 105030	403043	6575438	4.5	403105	6575658
V 105031	403209	6575888	4.5	403271	6576108
V 105032	403317	6575990	3.6	403379	6576210
V 105033	401723	6576134	1.8	401785	6576354
V 105034	401684	6576134	1.3	401746	6576354
V 105035	403351	6576077	3.6	403413	6576297
V 105036	406932	6585692	4.5	406994	6585912
V 105037	403008	6575410	4.5	403070	6575630

	NAD 27			NAD 83	
ASSAY ID	Easting	Northing	Weight Kg	Easting	Northing
V 105038	403278	6575793	3.1	403340	6576013
V 105039	403320	6575874	1.3	403382	6576094
V 105040	403209	6575888	4	403271	6576108
V 105041	403087	6576115	2.2	403149	6576335
V 105042	403552	6577156	4.5	403614	6577376
V 105043	403305	6575792	11.8	403367	6576012
V 105044	403259	6575841	5.4	403321	6576061
V 105045	403614	6577366	9	403676	6577586
V 105046	403563	6577174	14	403625	6577394
V 105047	403646	6577468	10	403708	6577688
V 105048	410018	6573496	21	410080	6573716
V 105049	410036	6573816	27	410098	6574036
V 105050	404746	6575672	18	404808	6575892
V 105051	403802	6577461	8	403864	6577681
V 105052					
V 105053	404302	6581080	11	404364	6581300
V 105054	404341	6580948	42	404403	6581168
V 105055	404955	6576794	22	405017	6577014
V 105056					
V 105057	404759	6575708	24	404821	6575928
V105058	408791	6574858	23	408853	6575078
V 105059	408832	6575069	15	408894	6575289
V 105060	408775	6575338	18	408837	6575558
V 105061	409298	6578651	5	409360	6578871
V 105062	401055	6591731	15	401117	6591951
V 105063	401272	6586931	20	401334	6587151
V 105064	401848	6588010	21	401910	6588230
V 105065	409415	6577720	7	409477	6577940
V 105066	409635	6572050	20	409697	6572270
V 105067	408844	6569867	20	408906	6570087
V 105068	401874	6573796	20	401936	6574016
V 105069	402224	6573503	17	402286	6573723
V 105070	404987	6576979		405049	6577199
V 105071	408456	6569149	20	408518	6569369
V 105072	409053	6569805	20	409115	6570025
V 105073	409101	6571112	39	409163	6571332
V 105074	409213	6571361	22	409275	6571581
V 105075	408834	6574932	4	408896	6575152
V 105076	409424	6576972	13	409486	6577192
V 105077	404748	6575656	15	404810	6575876
V 105078	404769	6575690	17	404831	6575910

	NAD 27			NAD 83	
ASSAY ID	Easting	Northing	Weight Kg	Easting	Northing
V 105079	404993	6577007	21	405055	6577227
V 105080					
V 105081	401686	6575758	20	401748	6575978
V 105082	403548	6577048	18	403610	6577268
V 105083	409642	6572059		409704	6572279
V 105084	405117	6577707	Void	405179	6577927
V 105085	409623	6571987	60	409685	6572207
V 105086	403122	6575643	20	403184	6575863
V 105087	409532	6576892	23	409594	6577112
V 105088					
V 105089					
V 105090	404980	6577040	13	405042	6577260
105091	409147	6569536		409209	6569756
105092	409532	6576892		409594	6577112
105093	409642	6572059		409704	6572279
105094	403122	6576643		403184	6576863
105095	398322	6580757	47	398384	6580977
105096	404655	6585026	25	404717	6585246
105097	404681	6585042	23	404743	6585262
105098	404670	6585030	19	404732	6585250
105099	404656	6584971	25	404718	6585191
105100	405117	6577707		405179	6577927
105101	391930	6562458	16	391992	6562678
105102	390057	6612101	20	390119	6612321
105103	404980	6577008	16	405042	6577228
105104	397223	6585246	20	397285	6585466

TABLE 3 ROCK SAMPLE DESCRIPTIONS

V105035 Henri Dyke 2 metres wide at 403351E 6576077N
Dyke is zoned lath like crystals (pyroxenes) radiating inward in the chill margin 1-2 cm long then massive phlogophite mica for 4 cms then olivine rich 50% fine grained central band. The rock is very magnetic.

V105037 South end of the Peter Lake dyke NAD 27 403000E 6575400N
Carbonate 35% Kimberlite, olivine 30%, pyroxene 20%, phlogophite 15%. low xenoliths.

V105040 Peter Lake Dyke at north lake 403210E 6575900N

Pyroxene Kimberlite .2 -.7 cm xenoliths (20%) of dark grey pyroxene yields pebble texture on weathering, olivine and carbonate with serpentine, phlogophite 20-25 %some garnets.

V105041 "O" dyke west of the PLD on the north face,403087E 576115N
Narrow Mg carbonate (45%) Kimberlite dyke, phlogophite 40%, with magnetite and wine red garnets.

V105043 PLD 100 metres west of Peter lake 403310E 6575015N
Pyroxene Kimberlite, 1 -2 cm xenoliths of dark pyroxene about 30%, fine olivine 30%, carbonate 15-20%, phlogophite 20%

V105048 MJR North side of the Col float
Zoned carbonate Kimberlite float, carbonate 55%, Pyroxene 20%, Olivine 10%, Mica as phlogophite 8%, magnetite 7%. Locally there is 1% white clear olivine.

V105049 MJR North side of col
Carbonate 55% Kimberlite, locally banded streaming white groundmass carbonate, nodules of olivine some almost white .5 -1 cm 25%. pyroxene 15%. red pyrochlore, kintachitalite, magnetite and garnets 5%. Locally there is some serpentinisation and some orange garnet.

V105062 The "Z" dyke float in a wide swale near the NFLD border.
Phlogophite (25-40%) Kimberlite, Calcite - leucite 25%, Pyroxene 30%, Olivine 5% (locally rare 30%) magnetite 5%

V105064 "X" dyke, North sample, West-northwest of the Champagne area Dyke appears to represent three pulses of injection. The centre band is a pebbly band with .2-.7cm pebbles of dark pyroxenes (as at the PLD) there is a chill margin associated with it. Pyroxene is about 30% of the 5 cm band the remainder is phlogophite mica. the next outer band is phlogophite with local phlogophite nodules having a structure of concentric layers. They are up to 8 cm in diameter. The rock is magnetic with local calcite amygdules. The outer band is phlogophite kimberlite

V105071 MJR South near shore of small lake in diabase sill.
Carbonate 50%,Kimberlite, Disintegrated dyke material cuts Diabase sill on the south of the pond two pieces of kimberlite found. Pyroxene 25%, white pea size olivine, yellow or serpentinized olivine 15%, phlogophite 5%

V105072 Hygins dyke in the MJR South Ridge area.

A 40 cm wide very fine grained Carbonate Kimberlite. The rock is white to blue grey in colour and weathers with a medium brown limonitic stain. The centre has some kintachitalite and chrome diopside and one observed garnet as well as red pyrochlore. The rock is very magnetic with less than 2% mica.

V105073 MJR Centre Area. A sample here sent to Quebec Government
Carbonate Kimberlite 50% xenoliths, 10% megacrysts, streaming carbonate 30%,olivine 30% both pale and dark , 10% phlogophite, many chrome diopsides and wine red garnets and magnetite - picroilmenite.

V105076 Float of "P" or "U" dyke 409424E 6576973N
Hard knobby weathering Pyroxene Kimberlite, 4 cm dark grey pyroxene containing olivine, wine red garnet and chrome diopsides, and carbonate. Phlogophite 15%, Locally xenoliths of gneiss.

105085 Mount Jacques Rousseau original find 409659E 6572091N
Knobby carbonate (40%) Kimberlite, low phlogophite 5%, locally 10% kintachitalite, Olivine in large xenoliths and megacrysts 40%. some magnetite. Olivine tan to yellow green to muddy grey some up to 7 cm in diameter. One garnet noted

V105086 PLD South - Rectangular Lake area
Carbonate 20% Kimberlite, 30% olivine, 15% Pyroxene and phlogophite, 5-10% pyrochlore, 10% magnetite. A 25kg sample of <2mm soil was taken from the dyke in this location.

105103 St-Pierre dyke system 2 thirty cm wide dykes3m apart
Low phlogophite 20%, greenish pyroxene fine grained 40%, olivine 30% not really visible assumed because of the rock colour. Chrome diopsides in abundance locally wine red garnets with kelyphitic rims, carbonate and magnetic also.

105104 North dyke on Round Lake Pipe
Phlogophite (40%) Kimberlite, 30% serpentinised olivine, 10% pyroxene locally some kintachitalite mica, 5% carbonate and strongly magnetic rock.

Table 4

DDI 7 Claim List

NTS Sheet	Range No.	Lot	Title	Date of Registration	Area (Ha)
24P02	27	46	1102251	2002/10/04	44.15
24P02	27	47	1102252	2002/10/04	44.15
24P02	27	48	1102253	2002/10/04	44.15
24P02	27	49	1102254	2002/10/04	44.15
24P02	28	46	1102255	2002/10/04	44.14
24P02	28	47	1102256	2002/10/04	44.14
24P02	28	48	1102257	2002/10/04	44.14
24P02	28	49	1102258	2002/10/04	44.14
24P02	29	47	1102259	2002/10/04	44.13
24P02	29	48	1102260	2002/10/04	44.13
24P02	29	49	1102261	2002/10/04	44.13
24P02	29	50	1102262	2002/10/04	44.13
24P02	30	47	1102263	2002/10/04	44.12
24P02	30	48	1102264	2002/10/04	44.12
24P02	30	49	1102265	2002/10/04	44.12
24P02	30	50	1102266	2002/10/04	44.12
24P07	1	47	1101692	2002/09/19	44.11
24P07	1	48	1101693	2002/09/19	44.11
24P07	1	49	1101694	2002/09/19	44.11
24P07	1	50	1101695	2002/09/19	44.11
24P07	1	51	1101696	2002/09/19	44.11
24P07	1	52	1102267	2002/10/04	44.11
24P07	1	53	1102268	2002/10/04	44.11
24P07	1	54	1102269	2002/10/04	44.11
24P07	1	55	1102270	2002/10/04	44.11
24P07	2	47	1101697	2002/09/19	44.1
24P07	2	48	1101698	2002/09/19	44.1
24P07	2	49	1101699	2002/09/19	44.1
24P07	2	50	1101700	2002/09/19	44.1
24P07	2	51	1101701	2002/09/19	44.1
24P07	2	52	1102271	2002/10/04	44.1
24P07	2	53	1102272	2002/10/04	44.1
24P07	2	54	1102273	2002/10/04	44.1
24P07	2	55	1102274	2002/10/04	44.1
24P07	3	47	1101702	2002/09/19	44.09
24P07	3	48	1101703	2002/09/19	44.09
24P07	3	49	1101704	2002/09/19	44.09
24P07	3	50	1101705	2002/09/19	44.09
24P07	3	51	1101706	2002/09/19	44.09
24P07	3	52	1102275	2002/10/04	44.09
24P07	3	53	1102276	2002/10/04	44.09
24P07	3	54	1102277	2002/10/04	44.09
24P07	3	55	1102278	2002/10/04	44.09
24P07	4	37	1096446	2002/06/17	44.08
24P07	4	38	1096447	2002/06/17	44.08
24P07	4	39	1096448	2002/06/17	44.08
24P07	4	40	1096449	2002/06/17	44.08
24P07	4	41	1096450	2002/06/17	44.08
24P07	4	42	1096451	2002/06/17	44.08
24P07	4	43	1096452	2002/06/17	44.08
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24P07	4	48	1096457	2002/06/17	44.08
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24P07	4	50	1096459	2002/06/17	44.08
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24P07	4	52	1096461	2002/06/17	44.08
24P07	4	53	1096462	2002/06/17	44.08
24P07	4	54	1096463	2002/06/17	44.08
24P07	4	55	1096464	2002/06/17	44.08
24P07	5	37	1096465	2002/06/17	44.07
24P07	5	38	1096466	2002/06/17	44.07
24P07	5	39	1089157	2002/06/19	44.07
24P07	5	40	1089158	2002/06/19	44.07
24P07	5	41	1050346	2002/02/12	44.07
24P07	5	42	1050347	2002/02/12	44.07
24P07	5	43	1096467	2002/06/17	44.07
24P07	5	44	1096468	2002/06/17	44.07
24P07	5	45	1096469	2002/06/17	44.07
24P07	5	46	1096470	2002/06/17	44.07
24P07	5	47	1096471	2002/06/17	44.07
24P07	5	48	1096472	2002/06/17	44.07
24P07	5	49	1096473	2002/06/17	44.07
24P07	5	50	1096474	2002/06/17	44.07
24P07	5	51	1096475	2002/06/17	44.07
24P07	5	52	1096476	2002/06/17	44.07
24P07	5	53	1096477	2002/06/17	44.07
24P07	5	54	1096478	2002/06/17	44.07
24P07	5	55	1096479	2002/06/17	43.45
24P07	6	32	1096480	2002/06/17	44.06
24P07	6	33	1096481	2002/06/17	44.06
24P07	6	34	1096482	2002/06/17	44.06
24P07	6	35	1096483	2002/06/17	44.06
24P07	6	36	1096484	2002/06/17	44.06
24P07	6	37	1096485	2002/06/17	44.06
24P07	6	38	1096486	2002/06/17	44.06
24P07	6	39	1089159	2002/06/19	44.06
24P07	6	40	1089160	2002/06/19	44.06
24P07	6	41	1050348	2002/02/12	44.06
24P07	6	42	1050349	2002/02/12	44.06
24P07	6	43	1096487	2002/06/17	44.06

24P07	6	44	1096488	2002/06/17	44.06	24P07	8	46	1096516	2002/06/17	44.03
24P07	6	45	1096489	2002/06/17	44.06	24P07	8	47	1089171	2002/06/19	44.03
24P07	6	46	1096490	2002/06/17	44.06	24P07	8	48	1089172	2002/06/19	44.03
24P07	6	47	1089161	2002/06/19	44.06	24P07	8	49	1089173	2002/06/19	44.03
24P07	6	48	1089162	2002/06/19	44.06	24P07	8	50	1096517	2002/06/17	44.03
24P07	6	49	1089163	2002/06/19	44.06	24P07	8	51	1096518	2002/06/17	44.03
24P07	6	50	1050350	2002/02/12	44.06	24P07	8	52	1096519	2002/06/17	44.03
24P07	6	51	1050351	2002/02/12	44.06	24P07	8	53	1096520	2002/06/17	44.03
24P07	6	52	1050352	2002/02/12	44.06	24P07	8	54	1096521	2002/06/17	28.29
24P07	6	53	1096491	2002/06/17	44.05	24P07	9	32	1096522	2002/06/17	44.02
24P07	6	54	1096492	2002/06/17	44.05	24P07	9	33	1096523	2002/06/17	44.02
24P07	6	55	1096493	2002/06/17	44.05	24P07	9	34	1096524	2002/06/17	44.02
24P07	7	32	1096494	2002/06/17	44.05	24P07	9	35	1096525	2002/06/17	44.02
24P07	7	33	1096495	2002/06/17	44.05	24P07	9	36	1096526	2002/06/17	44.02
24P07	7	34	1096496	2002/06/17	44.05	24P07	9	37	1096527	2002/06/17	44.02
24P07	7	35	1096497	2002/06/17	44.05	24P07	9	38	1096528	2002/06/17	44.02
24P07	7	36	1096498	2002/06/17	44.05	24P07	9	39	1089174	2002/06/19	44.02
24P07	7	37	1096499	2002/06/17	44.05	24P07	9	40	1089175	2002/06/19	44.02
24P07	7	38	1096500	2002/06/17	44.05	24P07	9	41	1050362	2002/02/12	44.02
24P07	7	39	1089164	2002/06/19	44.05	24P07	9	42	1050363	2002/02/12	44.02
24P07	7	40	1089165	2002/06/19	44.05	24P07	9	43	1050364	2002/02/12	44.02
24P07	7	41	1050353	2002/02/12	44.05	24P07	9	44	1096529	2002/06/17	44.02
24P07	7	42	1050354	2002/02/12	44.05	24P07	9	45	1096530	2002/06/17	44.02
24P07	7	43	1050355	2002/02/12	44.05	24P07	9	46	1096531	2002/06/17	44.02
24P07	7	44	1096501	2002/06/17	44.05	24P07	9	47	1050365	2002/02/12	44.02
24P07	7	45	1096502	2002/06/17	44.04	24P07	9	48	1050366	2002/02/12	44.02
24P07	7	46	1096503	2002/06/17	44.04	24P07	9	49	1050367	2002/02/12	44.02
24P07	7	47	1089166	2002/06/19	44.04	24P07	9	50	1096532	2002/06/17	44.02
24P07	7	48	1089167	2002/06/19	44.04	24P07	9	51	1096533	2002/06/17	44.02
24P07	7	49	1089168	2002/06/19	44.04	24P07	9	52	1096534	2002/06/17	44.02
24P07	7	50	1050356	2002/02/12	44.04	24P07	9	53	1096535	2002/06/17	44.02
24P07	7	51	1050357	2002/02/12	44.04	24P07	9	54	1096536	2002/06/17	34
24P07	7	52	1050358	2002/02/12	44.04	24P07	9	55	1096537	2002/06/17	28.6
24P07	7	53	1096504	2002/06/17	44.04	24P07	10	19	1106827	2002/12/11	44.02
24P07	7	54	1096505	2002/06/17	44.04	24P07	10	20	1106828	2002/12/11	44.02
24P07	7	55	1096506	2002/06/17	55.49	24P07	10	21	1106829	2002/12/11	44.02
24P07	8	32	1096507	2002/06/17	44.04	24P07	10	22	1106830	2002/12/11	44.02
24P07	8	33	1096508	2002/06/17	44.04	24P07	10	23	1106831	2002/12/11	44.01
24P07	8	34	1096509	2002/06/17	44.04	24P07	10	24	1106832	2002/12/11	44.01
24P07	8	35	1096510	2002/06/17	44.04	24P07	10	25	1106833	2002/12/11	44.01
24P07	8	36	1096511	2002/06/17	44.04	24P07	10	26	1106834	2002/12/11	44.01
24P07	8	37	1096512	2002/06/17	44.04	24P07	10	27	1106835	2002/12/11	44.01
24P07	8	38	1096513	2002/06/17	44.03	24P07	10	28	1106836	2002/12/11	44.01
24P07	8	39	1089169	2002/06/19	44.03	24P07	10	29	1106837	2002/12/11	44.01
24P07	8	40	1089170	2002/06/19	44.03	24P07	10	30	1106838	2002/12/11	44.01
24P07	8	41	1050359	2002/02/12	44.03	24P07	10	31	1106839	2002/12/11	44.01
24P07	8	42	1050360	2002/02/12	44.03	24P07	10	32	1096296	2002/06/17	44.01
24P07	8	43	1050361	2002/02/12	44.03	24P07	10	33	1096297	2002/06/17	44.01
24P07	8	44	1096514	2002/06/17	44.03	24P07	10	34	1096298	2002/06/17	44.01
24P07	8	45	1096515	2002/06/17	44.03	24P07	10	35	1096299	2002/06/17	44.01

24P07	10	36	1089176	2002/06/19	44.01	24P07	11	46	1096314	2002/06/17	44
24P07	10	37	1089177	2002/06/19	44.01	24P07	11	47	1096315	2002/06/17	44
24P07	10	38	1089178	2002/06/19	44.01	24P07	11	48	1096316	2002/06/17	44
24P07	10	39	1089179	2002/06/19	44.01	24P07	11	49	1096317	2002/06/17	44
24P07	10	40	1089180	2002/06/19	44.01	24P07	11	50	1096318	2002/06/17	44
24P07	10	41	1050368	2002/02/12	44.01	24P07	11	51	1096319	2002/06/17	44
24P07	10	42	1050369	2002/02/12	44.01	24P07	11	52	1096320	2002/06/17	44
24P07	10	43	1050370	2002/02/12	44.01	24P07	11	53	1096321	2002/06/17	44
24P07	10	44	1096300	2002/06/17	44.01	24P07	11	54	1096322	2002/06/17	44
24P07	10	45	1096301	2002/06/17	44.01	24P07	11	55	1096323	2002/06/17	44
24P07	10	46	1096302	2002/06/17	44.01	24P07	12	6	1095491	2002/06/07	44
24P07	10	47	1050371	2002/02/12	44.01	24P07	12	7	1095492	2002/06/07	44
24P07	10	48	1050372	2002/02/12	44.01	24P07	12	8	1095493	2002/06/07	44
24P07	10	49	1050373	2002/02/12	44.01	24P07	12	9	1095498	2002/06/07	40.45
24P07	10	50	1096303	2002/06/17	44.01	24P07	12	10	1095499	2002/06/07	22.92
24P07	10	51	1096304	2002/06/17	44.01	24P07	12	14	1106901	2002/12/11	28.35
24P07	10	52	1096305	2002/06/17	44.01	24P07	12	15	1106902	2002/12/11	43.93
24P07	10	53	1096306	2002/06/17	44.01	24P07	12	16	1106854	2002/12/11	43.99
24P07	10	54	1096307	2002/06/17	44.01	24P07	12	17	1106855	2002/12/11	43.99
24P07	10	55	1096308	2002/06/17	44.01	24P07	12	18	1106856	2002/12/11	43.99
24P07	11	11	1095495	2002/06/07	43.2	24P07	12	19	1106857	2002/12/11	43.99
24P07	11	12	1095496	2002/06/07	30.39	24P07	12	20	1106858	2002/12/11	43.99
24P07	11	13	1095497	2002/06/07	40.89	24P07	12	21	1106859	2002/12/11	43.99
24P07	11	19	1106840	2002/12/11	44	24P07	12	22	1106860	2002/12/11	43.99
24P07	11	20	1106841	2002/12/11	44	24P07	12	23	1106861	2002/12/11	43.99
24P07	11	21	1106842	2002/12/11	44	24P07	12	24	1106862	2002/12/11	43.99
24P07	11	22	1106843	2002/12/11	44	24P07	12	25	1106863	2002/12/11	43.99
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24P07	23	38	1096443	2002/06/17	43.87
24P07	23	39	1096444	2002/06/17	43.87
24P07	23	40	1096445	2002/06/17	5.41
24P07	24	27	1101524	2002/09/16	27.43
24P07	24	28	1101523	2002/09/16	43.86
24P07	24	29	1101525	2002/09/16	43.86
24P07	24	30	1101526	2002/09/16	43.86
24P07	24	31	1101527	2002/09/16	43.86
24P07	24	32	1101528	2002/09/16	43.86
24P07	24	33	1101529	2002/09/16	43.86
24P07	24	34	1101530	2002/09/16	43.86
24P07	24	35	1101531	2002/09/16	43.86
24P07	24	36	1101532	2002/09/16	43.86
24P07	24	37	1101533	2002/09/16	43.86
24P07	24	38	1101534	2002/09/16	43.86
24P07	24	39	1101535	2002/09/16	38.33
24P07	25	28	1101536	2002/09/16	34.3
24P07	25	29	1101537	2002/09/16	34.9
24P07	25	30	1101538	2002/09/16	35.49
24P07	25	31	1101539	2002/09/16	39.62
24P07	25	32	1101540	2002/09/16	43.85
24P07	25	33	1101541	2002/09/16	43.85
24P07	25	34	1101542	2002/09/16	43.85
24P07	25	35	1101543	2002/09/16	43.85
24P07	25	36	1101544	2002/09/16	43.85
24P07	25	37	1101545	2002/09/16	43.85
24P07	25	38	1101546	2002/09/16	32.72
24P07	26	31	1101547	2002/09/16	19.5
24P07	26	32	1101548	2002/09/16	39.81
24P07	26	33	1101549	2002/09/16	40.14
24P07	26	34	1101550	2002/09/16	41.82
24P07	26	35	1101551	2002/09/16	39.11
24P07	26	36	1101552	2002/09/16	31.98
24P07	26	37	1101553	2002/09/16	24.28

Total Claims Area 26991.58

Map Legend

6.	Kimberlite	6a - micaceous 6b - carbonate 6c - clinopyroxene 6d - non reactive, leucite / monticellite 6e - serpentine		
5.	Gabbro, Diabase, Basic dyke			
4.	Peridotite			
3.	Pegmatite sills, dykes			
2.	Granite / Granulite	2a - granodiorite 2b - diorite		
1.	Gneisses	Paragneiss	1a	granite gneiss >20% garnets
			1b	quartz, biotite, graphite, pyrite with rusty spots
			1c	quartz, feldspar, < 20% garnet
			1d	marble, calc-silicate, nodular weathering
		Orthogneiss	1e	quartz, feldspar, amphibole - amphibolite

Abbreviations

Minerals		Descriptives	
Apatite	ap	brown	br
Ankerite	ak	blue	bl
Biotite	bio	black	bk
Calcite	calc	red	r
Calc silicate	calc si	wine red	wr
Carbonate	carb	green	gr
Chlorite	chl	grey	gy
Clinopyroxene	cpx	orange	or
Chrome diopside	cr cpx	alteration	alt
Corundum	cor	vesicular	vesc
Diamond	<>	crystal	xll
Feldspar	f	amygdule	amg
Graphite	grph	fine grained	f.g.
Garnet	gar	coarse grained	c.g.
Ilmenite	il	diatreme facies	df
Kinoshitalite	ksh	root zone	rz
Kyanite	ky	hypabyssal	hypab
Leucite	leu	xenocryst	xcrst
Limonite	lm	xenolith	xlith
		outcrop	
Magnesium	mg	geologic boundary known, unknown	
Magnetite	mag		
Olivine	ov	bedding with dip	
Picroilmenite	pcil		
Phlogopite	phlog	jointing vertical, inclined	
Potassium	k		
Pyrrhotite	po	foliation with dip	
Pyrite	py		
Quartz	q	shear zone	
Silliminite	sil	fault	
Serpentine	serp	lineation with plunge	
Zircon	zr		

APPENDIX II

GEOPHYSICAL CONSULTING SERVICES

M.S. (Steve) King, P. Geo.
Registered Geophysicist

Survey Design and Management - Data Acquisition and Interpretation

TO: Gerard Mazerolle, Northern Search and Development

FROM: M.S. (Steve) King, P.Geo.

RE: Torngat Mag Data - Processing and Presentation

DATE: March 11, 2003

Upon a review of the total field magnetometer data submitted for processing, several issues affecting data quality and potential presentation were identified:

i) Although data was collected very densely along line (e.g. sub-metre) nominal line spacing ranged from 12 m to more than 150 m. In order to prepare the data for presentation and assessment purposes it was gridded and contoured. The largest along-line or cross-line sample spacing, in this case cross-line, limits gridding parameters. This makes it difficult to present very short wavelength data in a laterally coherent manner. These issues were partially overcome by processing each area (grid) individually using parameters derived from local cross-line nominal spacing. These data are presented as colour contour images and black-line contour images suitable for assessment purposes.

ii) The geological setting of the survey areas also presented some problems. Primarily, regional strike appeared to sub-parallel many of the survey lines and high-amplitude positive magnetic features dominated the dynamic range of the measured magnetic response. These phenomena and lack of field-leveling procedures made it difficult to present data in a comparative manner both within and between grids (i.e. compare files/lines). In order to "level" the data a high-pass filter was employed to reduce the data to a common datum.

iii) Overall data quality was poor, due primarily to the fact that no base station was used to reduce the diurnal variations. Short wavelength, moderate amplitude noise was prevalent in the data set and was most likely caused by operator factors in the "continuous read" mode. These issues were overcome to a certain degree by designing a low-pass filter and applying it to the high-pass data (see ii). This filter was tuned to pass "dyke-like" signatures; however, in many cases these signatures were mimicked by obvious noise in the data set. These colour contoured filtered data are presented as report figures with the subscript –2.

Some observations can be made regarding the utility of the magnetometer data in the delineation of mafic dykes in the project area:

i) The magnetic signature of the dykes can be described as a moderate amplitude positive response. This characterization must be qualified further on the basis of the magnetic background. Clear positive anomalies are present in areas of low to moderate background whereas relative lows are correlated with dyke occurrences in areas with high-magnetic background. The data reduction and presentation is designed so that magnetic background can be determined (i.e. colour contoured total field) and used to locally qualify the interpreted dyke response (i.e. colour contoured filtered mag).

ii) Due to the method of collection and GPS variation, a profile presentation was only possible on "File #4" data (St. Pierre North, Fig_7c-1). This data set, with the exception of two very suspect quality lines, represented a more appropriate field procedure for mapping dykes in the project area. In this data set the dyke(s) were delineated by a high amplitude isolated positive magnetic peak through a quiet background.

The following recommendations will assist in future data acquisition, processing, enhancement and interpretation, particularly for delineation of very narrow targets with variable polarity susceptibility contrast with respect to host lithology:

i) Data should be collected on regular grids with discrete stations.

ii) Data must be reduced for diurnal variations using a separate base station (3-5 seconds).

iii) Recording gradiometer data would reduce geological and cultural noise.

iv) If data is collected as per i) and ii) several quantitative processing techniques (e.g. de-convolution indices) can be applied to high-quality data to extract dyke-like signals. These techniques are robust with regards to variable polarity within and between survey areas.

If there are any questions regarding these notes or digital products please do not hesitate to get in touch.

Best Regards,

M.S. (Steve) King, M.Sc., P.Geo.
Registered Geophysicist

Attch: digital product list

Remarks on the

ABLOVIAK DIAMOND PROJECT

of

DIAMOND DISCOVERIES INTERNATIONAL

Fenton Scott P Eng

September 19, 2002

Introduction

These remarks are based on a two day visit to the properties of Diamond Discoveries International (DDI), discussions with the geological staff and supervisors on site and a review of published information on district geology by F. W. Digonet and Kate Taylor. The remarks made by the author include:

- Comparison of the Abloviak field to other developing diamond fields in Canada.
- General and specific observations made regarding the emplacement and composition of the Abloviak Kimberlites.
- Recommendations for compilation, analysis and interpretation of the data set developed over three years of work in the area by Prospecting Geophysics on behalf of DDI
-Recommendations for future exploration programs.

Project Area Geology

Bedrock on the properties includes a monotonous series of sedimentary gneisses of late Precambrian age (Proterozoic). These gneisses overlie the world's largest mass of early Precambrian (Archean) granites and granite gneisses which geologists call the "Superior Craton".

All of the worlds major diamond mines are located in or over Archean cratons. Diamonds have now been discovered in six of the seven continents in the world (Antarctica has to be explored).

History of the Abloviak Diamond Play

In 1996, the first diamond in the Abloviak district was discovered by G. Digonet, a graduate student at the University of Montreal. This diamond came from a fine grained sample taken from a fracture filling dyke which was initially classified in the field as an ultrabasic lamprophyre. It was during later microscopic work that the diamond was discovered and the mineral assemblage was found to be kimberlitic.

In 1996, The discovery fracture was staked by Montreal interests. There is no record of exploration that year. It is reported that a representative of De Beers visited the prospects. His recommendations were apparently negative. The permits were allowed to lapse.

In 1998, Twin Mining applied for an exploration permit over the Digonet fracture. They carried out limited surface exploration and their samples showed additional diamonds.

On the assumption that these findings north of Abloviak fiord, signalled the discovery of

a new diamond field, prospector Peter Ferderber applied for exploration permits east, west and north of the Twin Mining property. These permits were optioned to Diamond Discoveries International of New York

In 1999, Twin Mining ran an airborne magnetometer survey and announced additional diamond finds along the Digonet fracture zone.

A number of junior exploration companies recognized the potential of the area and placed considerable land under exploration permits.

In 2000, Twin Mining extracted several bulk samples for processing in Ontario. Significant diamond counts were reported.

In 2000, Diamond Discoveries International completed an aeromagnetic survey and started surface prospecting combined with stream sediment sampling. Ten kimberlite-filled fractures were discovered of which three proved to carry diamonds (one contained rubies). Microscope studies of the stream sediments identified three other concentrations of unique minerals diagnostic of kimberlites.

In 2001, Twin Mining acquired another diamond – kimberlite prospect near the north tip of Baffin Island and shifted their exploration focus north from Abloviak.

In the same year, Diamond Discoveries International resumed their surface prospecting activity with more positive results, more kimberlite filled fractures were found and the first "pipe" was discovered.

One tonne samples were taken from surface exposures of most of the kimberlites. Where possible the samples were taken from coarser grained material in the dykes.
The stream sampling program also continued over greater areas.

None of the Junior companies which explored in year 2000 returned to the area in 2001, probably due to negative initial results. This enabled Diamond discoveries to acquire additional exploration permits. In the opinion of DDI geologists, the junior samples were too small to be effective.

In 2002 Diamond Discoveries International has continued the surface prospecting and stream sediment sampling programs and removed three tones of bulk samples.

The total discoveries now stand at 48 kimberlite fractures measuring up to 5 meters wide plus 5 circular pipes up to 200 meters in diameter. Analysis of the stream sediments to date has revealed five other "hot" concentrations of kimberlite specific minerals still to be prospected.

Structural Relationships

All of the kimberlite intrusives are located in fracture zones, The kimberlite filled fractures measure from one centimetre to five meters wide. The fracture zones which host the dykes are generally much larger. The author observed three distinct fracture sets in the area:

Set I Early stage. These fractures zones are parallel to subparallel with fabric and formational contacts within the gneisses. These early zones of weakness have in places developed into shear and/or mylonite zones.

Set II Formed at later stage. These vertical fractures host most of the kimberlites. The trend of this set is at right angles to the gneissosity of the country rock.

Set III Intermediate or late stage. These vertical fractures trend at right angles to the Set II fractures. The age of these fractures is in doubt and they may contain kimberlites at oblique angles from the identifed trends.

Kimberlite Classification

The profusion of kimberlite specific minerals in bedrock and stream sediments leaves no doubt that the Ableviak intrusives are true kimberlites or a close relative.
In literature geologists describe three types of kimberlites in the classic "kimberlite pipe" model.
From depth upward, these types are classified as:

a) **Root zone or hypabyssal zone** - Generally finer grained and more homogenous than the shallow kimberlite facies.Olivine and pyroxene minerals dominant. The root kimberlite pipes normally has lower diamond content, but kimberlite dykes of the hypabyssal zone often have higher diamond counts.
b) **Diatreme or breccia zone** – multiple clasts torn from fractured wall rocks in a matrix including primary minerals carried from depth. Mica, mainly phlogopite will be common in matrix. This type of kimberlite hosts most of the economic diamond deposits, world wide.
c) **Surface or crater-filled zone** – this zone includes the explosive products produced when the kimberlite intrusive reaches the surface, including surface waters. Hydrous micas and carbonatization are common. The base of this zone may carry diatreme clasts. When concentrated by surface effects (water & wind) rich secondary diamond deposits can be formed.

In addition to vertical variation, kimberlite composition and diamond content may have lateral variation, partially controlled by wall topography.

General Comments

With over 50 kimberlite intrusives located , the Abloviak project has far more kimberlites than were discovered in the early stages of the Northwest Territories diamond play.

Presented below for comparison, are figures for the time from identification of the play to the discovery of diamonds in bedrock as documented for the larger Canadian Projects.

Ekati (Diamet, BHP)	8 years
Diavik (Aber, Kennecott)	3 years
Winspear (De Beers)	3 years
Mountain Province (De Beers)	3 years
Attawapiskatt (De Beers)	10 years
Ashton (Alberta)	6 years
DDI	1 year
Otish (Ashton, Sequiem)	6 year
Average	**5 years**

Most of the junior diamond exploration in Canada has followed a "3D" procedure:

1. Deal
2. Drill
3. Depart

Diamonds in nature are scarce and elusive and it is little wonder that the 3D players have been largely unsuccessful. Most of these players did not anticipate and therefore have been unable to continue to finance the higher costs of advancing their diamond projects. Serious diamond explorers can expect the cost of exploration to rise by an order of magnitude for each stage of activity. Persistence does however have its rewards. The value of the new Canadian Diamond Mines compared to the rest of the world is notable. The world average is less than 2 carats per tonne while production from some of the new mines in the Northwest territories average 5 carats per tonne at $50 to $300 per carat.

Recommendations for Data Presentation and Interpretation

When the 2002 data is plotted, interpretation should highlight these key features:

a) Areas of pipe concentrations.
b) Kimberlite types related to rock classes and diamond counts recorded to date
c) Detailed mapping of kimberlite clasts and composition with emphasis on:
    1. Olivine rich areas
    2. Coarse zones / phases within dykes and pipes

3.Diatreme phase (nodular kimberlites)
4.Serpentine alteration
5.Carbonate alteration

Exploration Recommendations

The cost of bulk sampling and processing of each of the over 50 kimberlites discovered would be prohibitive. Some prioritizing of the kimberlites is needed.

- Focus should be on kimberlites which exhibit diatreme features such as the nodular, fracture filling dykes and pipes.
- Coarse-grained matrix kimberlites should be given priority over fine-grained matrices.
- There appears to be a relationship between more favourable clastic kimberlite types and olivine content(forsterite)
- Future geological mapping should also include mapping of fractures orientations and densities. Kimberlite examined by the author occurred in stage two fracturing (2^{nd} fracture set). The intersection of set II and set III fractures should be a high priority.
- It should not be assumed that the kimberlite intrusive travelled vertically to the present surface. They may have migrated horizontally or at any angle.

Diamond Drilling Recommended

In addition to establishing the depth extent of the kimberlite filled fractures and pipes, diamond drilling can establish and measure various targets not yet tested:

a) Water or till covered pipes
b) Diamond bearing fractures that run beneath overburden .
c) Determination if known fractures widen or change in composition with depth.
d) Depth changes in kimberlites mineralogy and/or diamond contents
e) Core samples can be used to bulk sample for diamond content determination across a large area/volume of the kimberlites.

The DDI program has identified kimberlites over 150 square kilometres within the registered permits. The total size of the Abloviak Kimberlite Field has not yet been established and is possibly much larger.

Diamond Discoveries is in a unique position, as the only player still positioned to explore this large diamondiferous kimberlite field.

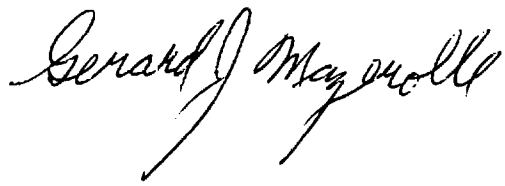
Fenton Scott P.Eng

DISCLAIMER

I, Gerard J Mazerolle of 88 Brookland Street, Antigonish, Nova Scotia; have been a professional Geologist for more than 32 years. I declare that I have never, nor do I hold any interest, monetary or otherwise, in any of the Diamond Discoveries International properties or in the company itself.

I declare that I performed and supervised the performance of all the fieldwork declared in this report for Peter Ferdeber (Prospecting Geophysics Ltd.) on behalf of Diamond Discoveries International.

Gerard J Mazerolle



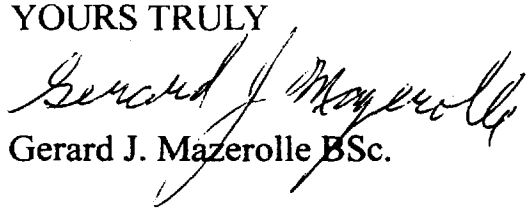
QUALIFICATIONS

I, Gerard J. Mazerolle, declare I am a graduate geologist. I received my B.Sc. degree in Geology from St. Francis Xavier University in 1969.

I have practiced my profession in Canada and the United States over the last 33 years. I am a member of the Prospectors and Developers Association of Canada.

I have performed or supervised all the work declared in this report.

YOURS TRULY



Gerard J. Mazerolle BSc.

DIAMOND LAKE CAMP
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