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DE BEERS

ASSESSMENT REPORT ON THE

WINTER 2001-2002

AIRBORNE GEOPHYSICAL AND DRILL PROGRAMME

ON CLAIMS

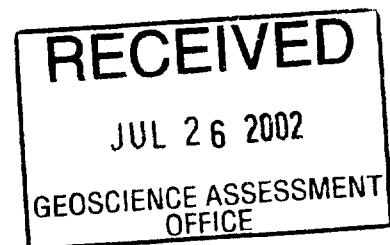
P 1246074 and P 120957 to P 1240964

LOCATED WEST OF VICTOR KIMBERLITE PIPE

2.23977

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May, 2002



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INTRODUCTION

An airborne magnetic and EM survey and follow-up drill programme were carried out during the winter of 2001-2002 over a claim block located just over 2 km west of the Victor Kimberlite Pipe. This was part of a more extensive programme in the Victor area. The programme was conducted with a view to identifying any previously undiscovered kimberlitic bodies. Improved geophysical techniques were employed so as to highlight more subtle anomalies that could potentially be kimberlite. The airborne work was performed in late November 2001; the follow-up work drilling was conducted in March 2002.

LOCATION, ACCESS AND LOGISTICS

Location

The Attawapiskat Kimberlite Province is located approximately 90 km west of the community of Attawapiskat, and 100 km west of the James Bay coast, in Ontario, Canada (Figure 1). This area is within the Attawapiskat River basin, which comprises part of the James Bay Lowlands.

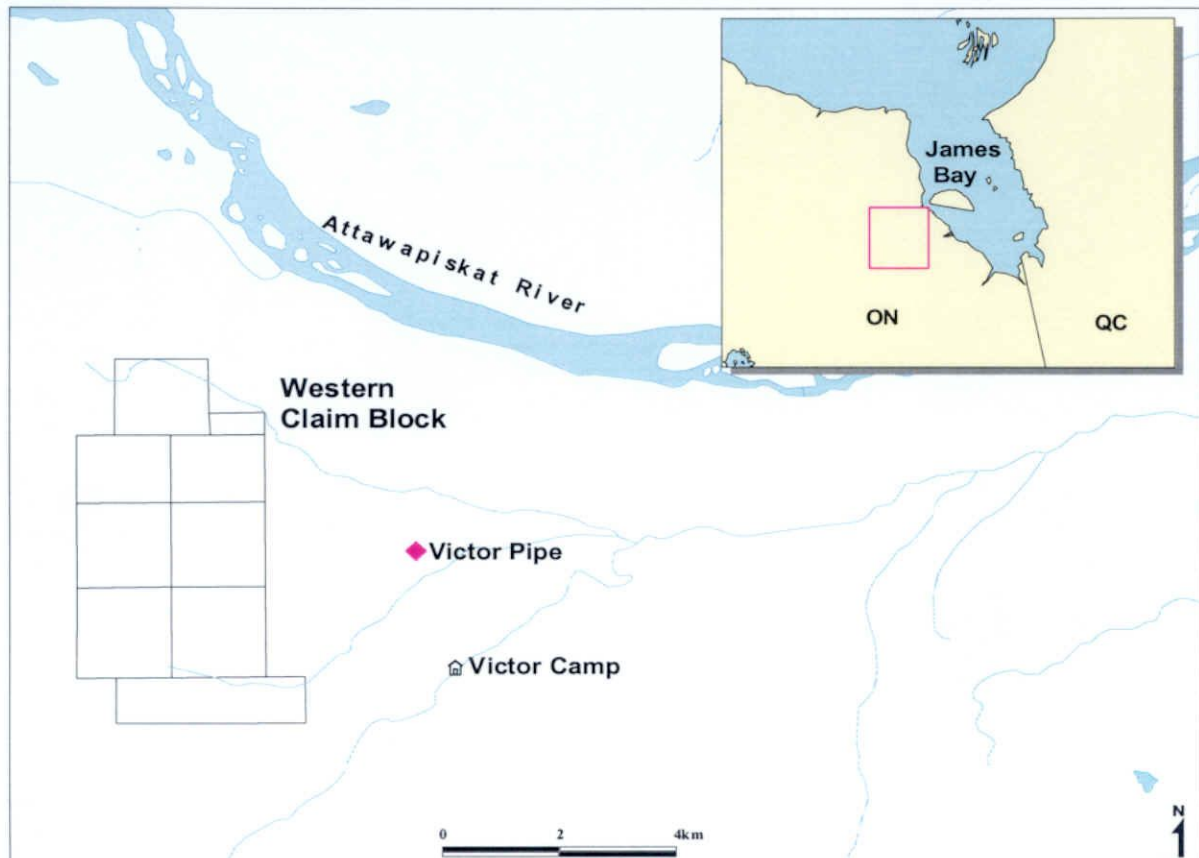


Figure 1: Location map of the Western Claim Block, Victor Pipe and Victor Camp

The Lowlands are a vast expanse of flat, muskeg terrain, developed on marine clays of the former Tyrell Sea. The majority of the land is occupied by a mosaic of fen and bog (or muskeg), characterized by perennially wet conditions, and by scattered, stunted tree cover of black spruce and tamarack. Well-developed forest communities are confined to narrow ribbons of land which border the region's rivers and major creeks.

Access

The Victor Camp was used as the operational base for this programme; it was serviced by fixed-wing aircraft and helicopter, and by winter road.

was used to shuttle people and supplies between the project site and the community of Attawapiskat. The helicopter was stationed in camp for the duration of the programme. (The airborne survey was flown by Questral Helicopters Ltd.).

A winter road from Moosonee to Victor Camp via Attawapiskat was open between February 17 and March 29, 2002. The CME 75 drill rig was transported to and from the work site by this road.

Access to the drill sites was by temporary winter trails that had been cleared using a bulldozer. Efforts were made to stay away from treed areas, and on small lakes as much as possible. No creek or rivers were crossed. Daily access to the work site was by snowmobile.

Logistics

Victor Camp was used to house the work crew. The airborne geophysical and follow-up drill programme on the western claim block were only two of several programmes conducted out of Victor during the winter of 2001-2002. Most of these programmes were part of the on-going Victor pre-feasibility study.

PERMITTING AND CLAIM TENURE

Permitting

No permits were required for the work performed in this programme. No drainages were crossed in the making of the temporary winter trails.

Claim Tenure

De Beers Canada Exploration holds 9 claims in this block. The total area of the block is 20.0 square kilometers. The claims are listed below:

P 1240957

P 1240958

P 1240959

P 1240960

P 1240961

P 1240962

P 1240963

P 1240964

P 1246074

GENERAL GEOLOGY AND TECTONIC SETTING

The Attawapiskat Kimberlite Province lies within the Western Superior Structural Province of the Canadian Shield. The Archean units of the Western Superior are overlain by Lower Paleozoic carbonate formations, which are part of the Hudson Bay Basin. The kimberlites are located on the south-east flank of the Cape Henrietta Maria arch which divides the Hudson Bay platform rocks into two basins, the Hudson Bay Basin to the northwest and the Moose River Basin to the southeast. This arch is the northeastern extension of the Transcontinental Arch. The stratigraphy of the Moose River Basin is described in depth by Sandford B.V. (1987) and Suchy and Stearn (1993), and is summarised in Figure 2. The area of interest is underlain by four sedimentary sequences of Lower Silurian Formations unconformably overlying an Upper Ordovician sequence, which rests on basement rocks. The basement rocks are found at a depth of 273 m near the Victor Kimberlite.

Series	Stage	Formation	Rock Type
LOWER SILURIAN	Wenlockian and younger	Kenogami River Formation	Evaporitic dolostones, gypsum, anhydrite, dolomitic mudstones
		Attawapiskat Formation	Patch reefs, inter-reef carbonates
	Llandoveryian	Ewan River Formation	Fossiliferous limestone
		Sever River Formation	Alternating fossiliferous limestone and evaporitic dolostones
ORD.	ASH.	Red Head Rapids Fm.	Limestones, dolostones, evaporites, sandstones

Figure 2 : Palaeozoic stratigraphy of the sedimentary sequence in the area of the Victor kimberlite. After Suchy and Steam (1993)

PREVIOUS WORK

Early Reconnaissance

Reconnaissance sediment sampling was conducted in the Attawapiskat River area as early as 1962, when two-person teams canoed down major rivers, such as the Albany and the Attawapiskat, collecting stream sediment samples. The samples were processed on site by manual gravitation methods. This first-pass exploration identified several sites with kimberlitic indicator minerals (garnets and ilmenites) downstream of the kimberlite cluster.

Further reconnaissance stream sediment sampling was done in 1963 to cover smaller tributaries in the area. One diamond, approximately 0.005 carat,

was found in a stream sediment sample east-southeast of the kimberlite cluster.

In 1970, follow-up work consisted of the collection of large (one to ten cubic yards) stream sediment samples taken at anomalous kimberlitic indicator mineral sites, for the purpose of finding diamonds. No diamonds were found, and the area was abandoned.

Further reconnaissance work during the mid-1980's used modern exploration techniques and defined a large kimberlitic indicator mineral glacial dispersal train leading to the Attawapiskat River.

Discovery of the Attawapiskat Kimberlites

During follow-up sediment sampling on the Attawapiskat River area, kimberlite boulders were discovered on the bank of the river in the summer of 1987.

This discovery, in addition to competitor activity in the area, prompted the flying of a total field aeromagnetic and gradiometer survey over the apex of the indicator mineral dispersal train. The survey detected several intrusive type magnetic anomalies. Due to ideal geological conditions in the area of interest, where the basement cover rocks consisted of several hundred metres of Paleozoic nonmagnetic carbonate rocks, the magnetic anomalies were classic, discrete bulls-eye features. These anomalies were therefore staked immediately as BP Selco were also actively prospecting for diamonds in the area.

Drilling in the winter of 1988 confirmed the kimberlitic nature of the magnetic anomalies. Core samples were taken and submitted for micro-diamond assay, kimberlitic indicator mineral analyses and petrographic work. The petrographic studies identified the kimberlites as hypabyssal macrocrystic

kimberlites (Scott-Smith, 1995). Micro-diamond abundance was very low and kimberlitic indicator mineral compositions indicated that the pipes were of moderate interest only.

Re-Evaluation of the Attawapiskat Kimberlites

Work was abandoned in the area until 1995, when the lapsing date for the claims was approaching. It was decided to re-examine the data before making a final decision to drop the claims. As a large amount of core was archived after the initial exploration programme was completed, it was decided to re-log the core and to update the previous analytical work. Additional micro-diamond analyses were done to increase the total mass treated for each body to a minimum of 200 kilograms, wherever possible.

During the reassessment of the project additional petrographic work was done and some of the kimberlites were re-interpreted as being crater-facies (Scott-Smith, 1995). The current interpretation is that most of the pipes in the Attawapiskat cluster are actually crater-facies pyroclastic rocks with lesser hypabyssal units.

The re-interpretation of the micro-diamond (MiDA) data using the additional mass treated indicated that the micro-diamond distribution was unusual in these kimberlites and that they may be low micro-diamond producers. The limited number of micro-diamonds recovered showed a distribution which was skewed toward the larger micro-diamond size fractions which, it is considered, relate to the coarse nature of the pyroclastics from where the samples originate. In 1995 all remaining core from the Attawapiskat kimberlites was processed for the recovery of macro-diamonds and two were recovered. This confirmed the coarse size frequency distribution that was suggested from the micro-diamond analysis and justified a renewed interest in this kimberlite province.

Since 1999 a large amount of drilling and bulk-sampling has been conducted on known kimberlites in the area. The large majority of the work has focussed on the Victor Kimberlite. The Victor Project is now in the pre-feasibility stage; as a consequence, adjacent claims, including the western claim block, which is the subject of this report, have come under more intense scrutiny. No kimberlites have been discovered on the western claim block to date. No drilling was performed on the western claim block prior to 2002.

2001-2002 AIRBORNE GEOPHYSICAL AND DRILL PROGRAMME

Personnel

De Beers permanent staff, De Beers contractors, and personnel from Fugro Airborne Surveys, AMEC Earth and Environmental, Boart Longyear, Attawapiskat Technical Services, and Moosonee Transportation (MTL) were directly involved in this programme. The personnel totalled 20; names are listed in Appendix 5.

Geophysical Programme

Fugro Airborne Surveys Inc. were contracted for the geophysical survey. The objective of the survey was primarily to ensure that there were no other likely kimberlitic targets in the vicinity of the Victor mine plan area. The western portion of the claim block discussed in this report was not flown. This claim block comprised only a part of the total area investigated during this survey. The area surveyed within the western claim was flown from November 29-30, 2001.

Geophysical instrument specifications are listed in Appendix 1. The electromagnetic system used was the Dighem Resolve recently designed by

Fugro. The system comprises five coplanar coils and one coaxial coil and covers a frequency range of 300 Hz to 100 kHz. This configuration allows for conductive overburden mapping (in this geological setting) as well as discrimination of deeper bedrock targets.

Survey details are summarized below:

Flightline Spacing	50m
Flightline Direction	N-S
Tieline Spacing	500m
Tieline Direction	E-W
Terrain Clearance	20m
Total Line-km for Claim Block	266.4

GEOPHYSICAL RESULTS

A total of 21 weak and small anomalies were identified within the claim block. The majority of these were magnetic but there were also six EM anomalies identified.

Drill Programme

Follow-up drilling commenced on March 9, 2002 and was completed on March 23. Temporary winter trail construction and site preparation commenced on March 5. Because of a heavy snowstorm on March 8-9, much of the preparatory work had to be completed twice. A portion of the drill programme (four drill holes) was carried out in conjunction with a civil engineering programme which was involved in determining the overburden stratigraphy and bedrock characteristics for potential infrastructure planning should mine development take place at nearby Victor. AMEC Earth and Environmental was the contractor for this work. These holes were logged in detail by AMEC soils engineers.

Two small drill rigs, both mounted on Boart Longyear Nodwells, were utilised. A Boart Longyear auger rig with rock coring capability, known as the CME 75, drilled four of the holes. Augers were 8-inch hollow stem and drill rods NQ. Overburden stratigraphy was determined through the use of split-spoons and Shelby tubes. The hollow stems served as casing for the NQ rods. Water for coring was supplied from a 500-gallon tank mounted on a sled, which was dragged behind a dozer. This rig was operated on a 24-hour basis for the majority of the programme.

The remaining holes were drilled by De Beers-owned RC-100 rig, which had been used in the past for reverse circulation drilling. The rig was modified so that it was capable of drilling short lengths of core using air, eliminating the need to bring water to the rig (Figure 3). Augers used were 4 ½-inch solid stem. As no hollow stems were available for this rig it was necessary to case the holes with NQ casing before coring. Using solid stem augers also meant it was difficult to make a proper log of the overburden. The RC-100 was operated on a day-shift basis only.



Figure 3. The RC-100 rig core-drilling with air.

Approximately three metres of bedrock were cored on each hole. This was deemed sufficient, as the targets were all shallow. All drill holes were vertical.

SURVEYING

In the majority of cases drill holes were initially spotted using a Trimble Pro XRS Real Time GPS (without a local base station), and then picked up upon completion of the hole with a Trimble 4800 GPS with a base station and post-processing software; the latter provided sub-centimetre accuracy.

DRILLING RESULTS

A total of 13 holes were drilled on this claim block. Eleven anomalies were evaluated by drilling. Two other holes were also drilled as part of the Victor civil engineering programme; these provided useful additional overburden thickness and bedrock information. All holes intersected Attawapiskat Formation limestone. Two additional anomalies were not drilled but otherwise ground-truthed; hand-augering at one of these turned up limestone chips, and the other was an elevated wooded area that was most likely a bioherm (common in this region). In all, 13 of the 21 geophysical anomalies were investigated.

Overburden thickness varied from 4.6m to 22.0m. Overburden was generally marine clay or silt overlying till or in some cases sand.

Anomaly and drilling data are summarised in Appendix 2. CME 75 drill logs can be found in Appendix 3.

EXPLORATION EXPENDITURES

Costs for the programme (both airborne geophysics and drilling) are summarised below, and detailed in Appendix 4:

Camp Costs	\$32,970
Permanent Staff	\$1,650
Temporary Staff	\$35,315
Fuel	\$16,748
Equipment Rental	\$9,727
Drilling Boart Longyear	\$16,058
Drilling Consumables	\$1,200
Airborne Geophysics (Fugro)	\$21,870
GRAND TOTAL	\$135,537

CONCLUSIONS

None of the geophysical targets evaluated were kimberlitic; due to the subtle nature of these anomalies it is unlikely that the remaining uninvestigated anomalies are due to kimberlite either. The bedrock intersected in all cases was Attawapiskat Formation limestone.

APPENDIX 1

Airborne Geophysical Specifications

INTRODUCTION

A DIGHEM^{RESOLVE} electromagnetic/resistivity/magnetic survey was flown for De Beers Canada Exploration Inc., from November 23 to December 11, 2001, over a survey block located near Attawapiskat, Ontario. The survey area can be located on NTS map sheets 43B/13 (Figure 1).

Survey coverage consisted of approximately 1666.7 line-km, including tie lines. Flight lines were flown in an azimuthal direction of 0°/180° with a line separation of 50 metres.

The survey employed the DIGHEM^{RESOLVE} electromagnetic system. Ancillary equipment consisted of a magnetometer, radar, barometric and laser altimeter, video camera, analog and digital recorders, and an electronic navigation system. The instrumentation was installed in an AS350B2 turbine helicopter (Registration C-FZTA) which was provided by Questral Helicopters Ltd. The helicopter flew at an average airspeed of 121 km/h with an average EM sensor height of 21 metres.

Section 2 provides details on the survey equipment, the data channels, their respective sensitivities, and the navigation/flight path recovery procedure. Noise levels of less than 2 ppm are generally maintained for wind speeds up to 35 km/h. Higher winds may cause the system to be grounded because excessive bird swinging produces difficulties in flying the helicopter. The swinging results from the 5 m² of area which is presented by the bird to broadside gusts.

Due to the presence of cultural features in the survey area, any interpreted conductors which occur in close proximity to cultural sources, should be confirmed as bedrock conductors prior to drilling.

SURVEY EQUIPMENT

This section provides a brief description of the geophysical instruments used to acquire the survey data and the calibration procedures employed.

Electromagnetic System

Model: DIGHEM^{RESOLVE}

Type: Towed bird, symmetric dipole configuration operated at a nominal survey altitude of 21 metres. Coil separation is 7.9 metres for 400 Hz, 1500 Hz, 6200 Hz, 25,000 Hz and 100,000 Hz and 9.0 metres for the 3300 Hz coil-pair.

<u>Coil orientations/frequencies:</u>	<u>orientation</u>	<u>nominal</u>	<u>actual</u>
	coplanar /	400 Hz 3	40 Hz
	coplanar /	1,500 Hz	1,524 Hz
	coaxial /	3,300 Hz	3,314 Hz
	coplanar /	6,200 Hz	6,255 Hz
	coplanar /	25,000 Hz	27,213 Hz
	coplanar /	100,000 Hz	106,280 Hz

Channels recorded: 6 in-phase channels
6 quadrature channels
2 monitor channels

Sensitivity: 0.13 ppm at 400 Hz Cp
0.12 ppm at 1,500 Hz Cp
0.06 ppm at 3,300 Hz Cx
0.24 ppm at 6,200 Hz Cp
0.44 ppm at 25,000 Hz Cp
0.44 ppm at 100,000 Hz Cp

Sample rate: 10 per second, equivalent to 1 sample every 3m, at a survey speed of 110 km/h.

The electromagnetic system utilizes a multi-coil coaxial/coplanar technique to energize conductors in different directions. The coaxial coil is vertical with its axis in the flight direction. The coplanar coils are horizontal. The secondary fields are sensed simultaneously by means of receiver coils which are maximally coupled to their respective transmitter coils. The system yields an in-phase and a quadrature channel from each transmitter-receiver coil-pair.

Calibration of the system during the survey will use the Fugro AutoCal automatic, internal calibration process. At the beginning and end of each flight, and at intervals during the flight, the system will be flown up to high altitude to remove it from any "ground effect" (response from the earth). Any remaining signal from the receiver coils (base level) will be measured as the zero level, and removed from the data collected until the time of the next calibration. Following the zero level setting, internal calibration coils, for which the response phase and amplitude have been determined at the factory, are automatically triggered – one for each frequency. The on-time of the coils is sufficient to determine an accurate response through any ambient noise. The receiver response to each calibration coil "event" is compared to the expected response (from the factory calibration) for both phase angle and amplitude, and the applied phase and gain corrections adjusted to bring the data to the correct value.

In addition, the output of the transmitter coils are continuously monitored during the survey, and the applied gains adjusted to correct for any change in transmitter output (due to heating, etc.)

Because the internal calibration coils are calibrated at the factory (on a resistive halfspace) ground calibrations using external calibration coils on-site are not necessary for system calibration. A check calibration may be carried out on-site to ensure all systems are working correctly. All system calibrations will be carried out in the air, at sufficient altitude that there will be no measurable response from the ground.

The internal calibration coils are rigidly positioned and mounted in the system relative to the transmitter and receiver coils. In addition, when the internal calibration coils are calibrated at the factory, a rigid jig is employed to ensure accurate response from the external coils.

Using real time Fast Fourier Transforms and the calibration procedures outlined above, the data will be processed in real time from measured total field at a high sampling rate to in-phase and quadrature values at 10 samples per second.

Magnetometer

Model: Fugro AM102 processor with Geometrics G822 sensor

Type: Optically pumped cesium vapour

Sensitivity: 0.01 nT

Sample rate: 10 per second

The magnetometer sensor is housed in the EM bird, 29 m below the helicopter.

Magnetic Base Station

Primary

Model: Fugro CF1 base station

Sensor type: Geometrics G822A sensor

Counter specifications: Accuracy: ± 0.1 nT

Resolution: 0.01 nT

Sample rate 1 Hz

GPS specifications: Model: Ashtech Z-Surveyor

Type: Code and carrier tracking of L1 band, 12-channel, dual-frequency C/A code at 1575.42 MHz, and L2 P-code at 1227 MHz

Sensitivity: 1.0 second update

Accuracy: Manufacturer's stated accuracy for differential corrected GPS is better than 1 metre

Environmental

Monitor specifications: Temperature:

Accuracy: $\pm 1.5^\circ\text{C}$ max

Resolution: 0.0305°C

Sample rate: 1 Hz

Range: -40°C to $+75^\circ\text{C}$

Barometric pressure:

Model: Motorola MPXA4115A

Accuracy: $\pm 3.0^{\circ}$ kPa max (-20°C to 105°C temp. ranges)

Resolution: 0.013 kPa

Sample rate: 1 Hz

Range: 55 kPa to 108 kPa

Secondary

Model: GEM Systems GSM-19T

Type: Digital recording proton precession

Sensitivity: 0.10 nT

Sample rate: 0.2 per second

A digital recorder is operated in conjunction with the base station magnetometer to record the diurnal variations of the earth's magnetic field. The clock of the base station is synchronized with that of the airborne system to permit subsequent removal of diurnal drift. The Fugro CF1 was the primary base station. It was located at 306386.21, 585395.26 (NAD27, Zone 17). The GSM-19T base station was used as a backup unit and was located at 306386.21, 585395.25 (NAD27, Zone 17).

Radar Altimeter

Manufacturer: Sperry
Model: RT220
Type: Short pulse modulation, 4.3 GHz
Sensitivity: 0.3 m

The radar altimeter measures the vertical distance between the helicopter and the ground. This information is used in the processing algorithm which determines conductor depth.

Laser Altimeter

Manufacturer: Optech
Model: G150
Type: Fixed pulse repetition rate of 2 kHz
Sensitivity: ± 5 cm from 10°C to 30°C
 ± 10 cm from -20°C to +50°C

The laser altimeter is housed in the EM bird and measures the vertical distance between the EM bird and the ground.

Barometric Pressure and Temperature Sensors

Model: DIGHEM D 1300
Type: Motorola MPX4115AP analog pressure sensor
AD592AN high-impedance remote temperature sensors
Sensitivity: Pressure: 150 mV/kPa
Temperature: 100 mV/°C or 10 mV/°C (selectable)
Sample rate: 10 per second

The D1300 circuit is used in conjunction with one barometric sensor and up to three temperature sensors. Two sensors (baro and temp) are installed in the EM console in the aircraft, to monitor pressure and internal operating temperatures.

Analog Recorder

Manufacturer: RMS Instruments

Type: DGR33 dot-matrix graphics recorder

Resolution: 4x4 dots/mm

Speed: 1.5 mm/sec

The analog profiles are recorded on chart paper in the aircraft during the survey. Table 2-1 lists the geophysical data channels and the vertical scale of each profile.

TABLE 2-1. THE ANALOG PROFILES

Channel Name	Parameter	Scale units/mm
400I	coaxial in-phase (400 Hz)	2.5 ppm
400Q	coaxial quad (400 Hz)	2.5 ppm
1500I	coplanar in-phase (1500 Hz)	2.5 ppm
1500Q	coplanar quad (1500 Hz)	2.5 ppm
6K2I	coplanar in-phase (6200 Hz)	5 ppm
6K2Q	coplanar quad (6200 Hz)	5 ppm
1X8I	coaxial in-phase (3300 Hz)	5 ppm
1X8Q	coaxial quad (3300 Hz)	5 ppm
25KI	coplanar in-phase (25000 Hz)	10 ppm
25KQ	coplanar quad (256000 Hz)	10 ppm
100KI	coplanar in-phase (100000 Hz)	10 ppm
100KQ	coplanar quad (100000 Hz)	10 ppm
ALTR	altimeter (radar)	3 m
MAGC	magnetics, coarse	20 nT
MAGF	magnetics, fine	2.0 nT
2SP	coplanar sferics monitor	
2PL	coplanar powerline monitor	
1KPA	altimeter (barometric)	30 m
2TDC	internal (console) temperature	1° C
3TDC	external temperature	1° C

Digital Data Acquisition System

Manufacturer: RMS Instruments

Model: DGR 33

Recorder: Scan disk compact flash card

The data are stored on a scan disk compact flash card and are downloaded to the field workstation PC at the survey base for verification, backup and preparation of in-field products.

Video Flight Path Recording System

Type: Panasonic VHS Colour Video Camera (NTSC)

Model: AG 720/VW-CL322

Fiducial numbers are recorded continuously and are displayed on the margin of each image. This procedure ensures accurate correlation of analog and digital data with respect to visible features on the ground.

Navigation (Global Positioning System)

Airborne Receiver

Model: Ashtech Glonass GG24

Type: SPS (L1 band), 24-channel, C/A code at 1575.42 MHz, S code at 0.5625 MHz, Real-time differential.

Sensitivity: -132 dBm, 0.5 second update

Accuracy: Manufacturer's stated accuracy is better than 10 metres
real-time

Base Station

Model: Ashtech Z-Surveyor

Type: Code and carrier tracking of L1 band, 12-channel, dual-frequency C/A code at 1575.42 MHz, and L2 P-code at 1227 MHz

Sensitivity: 1.0 second update

Accuracy: Manufacturer's stated accuracy for differential corrected GPS is better than 1 metre

The Ashtech GG24 is a line of sight, satellite navigation system which utilizes time-coded signals from at least four of forty-eight available satellites. Both Russian GLONASS and American NAVSTAR satellite constellations are used to calculate the position and to provide real time guidance to the helicopter. The Ashtech system can be combined with a RACAL or similar GPS receiver which further improves the accuracy of the flying and subsequent flight path recovery to better than 5 metres. The differential corrections, which are obtained from a network of virtual reference stations, are transmitted to the helicopter via a spot-beam satellite. This eliminates the need for a local GPS base station. However, the Ashtech Z-surveyor was used as a backup to provide post-survey differential corrections.

The Ashtech Z-surveyor was operated as a base station and utilizes time-coded signals from at least four of the twenty-four NAVSTAR satellites. The base station raw XYZ data are recorded, thereby permitting post-survey processing for theoretical accuracies of better than 5 metres.

The Ashtech GG24 receiver is coupled with a PNAV navigation system for real-time guidance.

Although the base station receiver is able to calculate its own latitude and longitude, a higher degree of accuracy can be obtained if the reference unit is established on a known benchmark or triangulation point. For this survey, the GPS station was located at latitude $52^{\circ}48'10.85916N$, longitude $83^{\circ}52'25.75719W$ at an elevation of 86.7 a.m.s.l. The GPS records data relative to the WGS84 ellipsoid, which is the basis of the revised North American Datum (NAD83). Conversion software is used to transform the WGS84 coordinates to the NAD27 system displayed on the base maps.

Field Workstation

A PC is used at the survey base to verify data quality and completeness. Flight data are transferred to the PC hard drive to permit the creation of a database using a proprietary software package (typhoon-version 19.00.02). This process allows the field geophysicists to display both the positional (flight path) and geophysical data on a screen or printer.

PROCESSING TECHNIQUES

Base Maps

Base maps of the survey area have been produced from published topographic maps. These provide a relatively accurate, distortion-free base which facilitates correlation of the navigation data to the UTM grid. The original topographic maps are scanned to a bitmap format and combined with geophysical data for plotting the final maps. The survey results are presented on nine separate map sheets for each parameter at a scale of 1:5,000. All maps are created using the following parameters:

Projection Description:

Datum: NAD27 (Canada Mean)
Ellipsoid: Clarke 1866
Projection: UTM (Zone: 17)
Central Meridian: 81°
False Northing: 0
False Easting: 500000
Scale Factor: 0.9996
WGS84 to Local Conversion: Molodensky
Datum Shifts: DX: 10 DY: -158 DZ: -187

Electromagnetic Data

EM data are processed at the recorded sample rate of 10 samples/second. Spheric rejection median and Hanning filters were applied to reduce noise to acceptable levels. The multi-channel profiles are used in conjunction with the resistivity maps and images to determine if and where levelling adjustments are required.

Apparent Resistivity

The apparent resistivity in ohm-m were generated from the in-phase and quadrature EM components for all six frequencies, using a pseudo-layer half-space model. A resistivity map portrays all the EM information for that frequency over the entire survey area. This contrasts with the electromagnetic anomaly map which provides information only over interpreted conductors. The large dynamic range makes the resistivity parameter an excellent mapping tool.

The preliminary resistivity maps and images were carefully inspected to locate any lines or line segments which required levelling adjustments. Subtle changes between in-flight calibrations of the system can result in line to line differences, particularly in resistive (low signal amplitude) areas. Manual levelling was carried out to eliminate or minimize resistivity differences which can be caused by changes in operating temperatures. These levelling adjustments were very subtle, and do not result in the degradation of anomalies from valid bedrock sources.

After the manual levelling process is complete, revised resistivity grids are created. The resulting grids were subjected to a microlevelling filter in order to smooth the data for contouring.

The calculated resistivities for the five coplanar frequencies and the one coaxial frequency are included in the XYZ and grid archives. Values are in ohm-metres on all final products.

Total Magnetic Field

The aeromagnetic data are corrected for diurnal variation using the magnetic base station data. The data were then levelled using the tie and traverse line intercepts. Manual adjustments were applied to any lines that require levelling, as indicated by shadowed images of the gridded magnetic data. After the manual levelling process is complete, the magnetic grids were subjected to a microlevelling filter.

Calculated Vertical Magnetic Gradient

The diurnally-corrected, levelled total magnetic field data are subjected to a processing algorithm which enhances the response of magnetic bodies in the upper 500 m and attenuates the response of deeper bodies. The resulting vertical gradient data is included in the XYZ archived.

Contour, Colour and Shadow Map Displays

The geophysical data are interpolated onto a regular grid using a modified Akima spline technique. The resulting grid is suitable for generating contour maps of excellent quality. The grid cell size was 12.5 metres or 25% of the line interval.

Colour maps are produced by interpolating the grid down to the pixel size. The parameter is then incremented with respect to specific amplitude ranges to provide colour "contour" maps. Colour maps of the total magnetic field are particularly useful in defining the lithology of the survey area.

Digital Terrain

The radar altimeter values (ALTR - aircraft to ground clearance) were subtracted from the differentially corrected de-spiked GPS-Z values, which were transformed to the local datum, to produce profiles of the height above mean sea level along the survey lines. These values were gridded to produce contour maps showing approximate elevations within the survey blocks. The calculated digital terrain data were then tie-line levelled. Any remaining subtle line-to-line discrepancies were manually removed. After the manual corrections were applied, the digital terrain data were filtered with a microlevelling algorithm. All of these corrections were used to adjust the GPS-Z data. The radar altimeter values were subtracted from the new corrected GPS-Z data to produce the final digital terrain data.

The accuracy of the elevation calculation is directly dependent on the accuracy of the two input parameters, ALTR and GPS-Z. The ALTR value may be erroneous in areas of heavy tree cover, where the altimeter reflects the distance to the tree canopy rather than the ground. The GPS-Z value is primarily dependent on the number of available satellites. Although post-processing of GPS data will yield X and Y accuracies in the order of 5 metres, the accuracy of the Z value is usually much less, sometimes in the ± 20 metre range. Further inaccuracies may be introduced during the interpolation and gridding process.

Because of the inherent inaccuracies of this method, no guarantee is made or implied that the information displayed is a true representation of the height above sea level. Although this product may be of some use as a general reference, THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.

APPENDIX 2

Western Block Anomaly and Drill Hole Summary

Drill Hole ID	Anomaly ID	Anomaly Type	Northing	Easting	Claim ID	Drill Hole Start Date	Drill Hole Finish Date	Drilled By	End of Hole (m)	Bedrock Contact (m)	Bedrock Type
V-02-225E	ATT_0067	Mag	5855222	301791	P 1240963	9-Mar-02	12-Mar-02	CME 75	21.5	17.7	Limestone
V-02-226E	N/A	N/A	5854149	301460	P 1240962	12-Mar-02	12-Mar-02	CME 75	21.65	16.3	Limestone
V-02-227E	N/A	N/A	5856225	300683	P 1240961	15-Mar-02	16-Mar-02	CME 75	12.8	9.3	Limestone
V-02-228E	ATT_0077	Mag	5857800	302558	P 1240959	16-Mar-02	17-Mar-02	CME 75	14.2	10.4	Limestone
V-02-235E	ATT_0066	Mag	5854354	301477	P 1240963	14-Mar-02	14-Mar-02	RC-100	11	9.8	Limestone
V-02-237E	ATT_0073	EM	5857158	301948	P 1240960	14-Mar-02	15-Mar-02	RC-100	7	4.6	Limestone
V-02-239E	ATT_0075	Mag	5857021	301539	P 1240961	15-Mar-02	16-Mar-02	RC-100	18.2	15.2	Limestone
V-02-241E	ATT_0074	Mag	5857338	302019	P 1240959	16-Mar-02	17-Mar-02	RC-100	27.8	22	Limestone
V-02-242E	ATT_0080	Mag	5858302	303062	P 1240959	17-Mar-02	18-Mar-02	RC-100	18.8	15.6	Limestone
V-02-243E	ATT_0082	EM	5858168	302706	P 1240959	18-Mar-02	19-Mar-02	RC-100	25.75	21.5	Limestone
V-02-244E	ATT_0068	Mag	5855897	301816	P 1240960	19-Mar-02	21-Mar-02	RC-100	15.5	12.3	Limestone
V-02-245E	ATT_0069	Mag	5856121	302703	P 1240960	21-Mar-02	22-Mar-02	RC-100	16.15	12.3	Limestone
V-02-246E	ATT_0076	N/A	5856319	301801	P 1240960	22-Mar-02	23-Mar-02	RC-100	16.6	12.3	Limestone
Not drilled	ATT_0061	Mag	5853098	303032	P 1240964						
Not drilled	ATT_0063	Mag	5853559	303454	P 1240964						
Not drilled	ATT_0064	Mag	5853396	302594	P 1240964						
Not drilled	ATT_0065	Mag	5853834	302165	P 1240964						
N/A	ATT_0070	EM	5855965	302403	P 1240960			Hand-augered			Limestone subcrop
Not drilled	ATT_0071	EM	5853286	302426	P 1240964						
Not drilled	ATT_0072	EM	5854021	301892	P 1240963						
Not drilled	ATT_0078	Mag	5858808	302540	P 1246074						
Not drilled	ATT_0079	Mag	5858576	302505	P 1246074						
Not drilled	ATT_0081	EM	5859465	301729	P 1240957						Probable limestone

APPENDIX 3

Drill Logs



RECORD OF BOREHOLE No. V02-225E

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boart Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B./P.M.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-32) COMPILED BY D.M.L.
 ELEVATION 88.2 m COORD. N 5,855,222 E 301,791 BORING DATE Start: 9 Mar 02 End: 12 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler TW Thin Walled Open (Shelby)
 WS Wash Sample

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{po})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test SCR Solid Core Recovery DS Direct Shear
 k Permeability GS Grain Size Analysis

ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	STRAT PLOT	SAMPLES				WELL / PIEZOMETER INSTALLATION	DEPTH (m)	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT w_p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT w_L	REMARKS
			NUMBER	TYPE	RECOVERY (%)	SPT "N" VALUES or RQD			MTO VANE □ INTACT ■ REMOULDED	NILCON VANE ▲ INTACT ▲ REMOULDED				
88.2	Existing ground surface													
86.0	MUSKEG Dark brown peat, amorphous Frozen to 0.3 m		1	SS	33	15								
			2	SS	50	1								
			3	SS	42	1								
2.2	CLAYEY SILT Grey clayey silt, trace sand, fibrous organics, stiff, low plasticity, wet		4	SS	67	9							550 Organic content=50.6%	
													P.P.=140 kPa GS	
													Pneum. piezo S/N: #27C0226 installed at 2.9 m by push-in method Attempted MTO vane but exceeded limits	
	Dark grey silty clay layers, very stiff to hard		5	SS	67	26							Attempted MTO vane but exceeded limits	
			6	SS	67	26								
			7	SS	75	33							GS	
	Increased clay fraction, stiff		8	SS	0	10								
			9	TW	88								Attempted MTO vane but exceeded limits Attempted MTO vane but exceeded limits Shelby tube very stiff to push	
79.1	SILTY SAND Grey silty sand (medium to fine)													

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RECORD OF BOREHOLE No. V02-225E

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boat Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B./P.M.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-32) COMPILED BY D.M.L.
 ELEVATION 88.2 m COORD. N 5,855,222 E 301,791 BORING DATE Start: 9 Mar 02 End: 12 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler TW Thin Walled Open (Shelby)
 WS Wash Sample

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{ps})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test k Permeability DS Direct Shear
 GS Grain Size Analysis

ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	STRAT PLOT	SAMPLES				WELL / PIEZOMETER INSTALLATION	DEPTH (m)	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT w_p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT w_L	REMARKS
			NUMBER	TYPE	RECOVERY (%)	SPT "N" VALUES or RQD			20	40				
76.5	grained), trace gravel, wet (questionable SPT "N" values due to sand heaving in hole)		10	SS	100	0								
11.7	SAND AND GRAVEL Grey gravelly sand (medium to coarse; angular to sub-angular), some silt, very dense, wet		11	SS	17	0								
73.6	Dark brown silty sand, some gravel (sub-rounded to sub-angular), fine, wet		12	SS	42	96								High resistance to augering between 11.7 m and 18.3 m
14.6	SANDY SILT TILL (PROBABLY) Reddish brown sandy silt, some clay and gravel (sub-rounded to sub-angular), inclusions of black (coal-like) nodules & salt crystals (probably), hard, low plasticity, wet		13	SS	55	50/0.13								
70.5	ASSUMED COMPLETELY WEATHERED LIMESTONE Gravelly medium to coarse sand with silt, very dense		14	SS	91	50/0.13								
69.9	LIMESTONE Light brown limestone, micro-karstification Jointing: bedding and cross joints;		15	SS	100	90/0.21								
18.3			16	SS	100	50/0.05								Auger refusal at 18.3m Switched to HQ coring
			17	RC	82	0								SCR=0%

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boart Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B./P.M.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-32) COMPILED BY D.M.L.
 ELEVATION 88.2 m COORD. N 5,855,222 E 301,791 BORING DATE Start: 9 Mar 02 End: 12 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler TW Thin Walled Open (Shelby)
 WS Wash Sample

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{50})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test k Permeability DS Direct Shear
 SCR Solid Core Recovery GS Grain Size Analysis

ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	SAMPLES				WELL / PIEZOMETER INSTALLATION	DEPTH (m)	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT w_p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT w_L	REMARKS
		STRAT PLOT	NUMBER	TYPE	RECOVERY (%)			SPT "N" VALUES or RQD	MTO VANE				
66.7	flat, dipping and vertical orientations; close to very close spacing; rough undulating surfaces; oxidized surfaces with silt fillings Fractured zone between 19.9m and 20.4m Strength: low to medium		18	RC	95	0						SCR=0%	
			19	RC	67	0						SCR=0%	
				20	RC	100	16						SCR=18%
21.5	END OF BOREHOLE											P.L.=0.97 MPa (21.1 to 21.4m segment)	
	Water levels (b.g.s.): Pneum. Piezo #27C0226 At 2.4m, 11-Mar-02 02:00 At 2.6m, 12-Mar-02 10:00 At -1.8m, 29-Mar-02 Pneum. Piezo #27C0043 At 9.5m, 11-Mar-02 02:00 At 1m, 12-Mar-02 10:00 At -0.8m, 29-Mar-02												



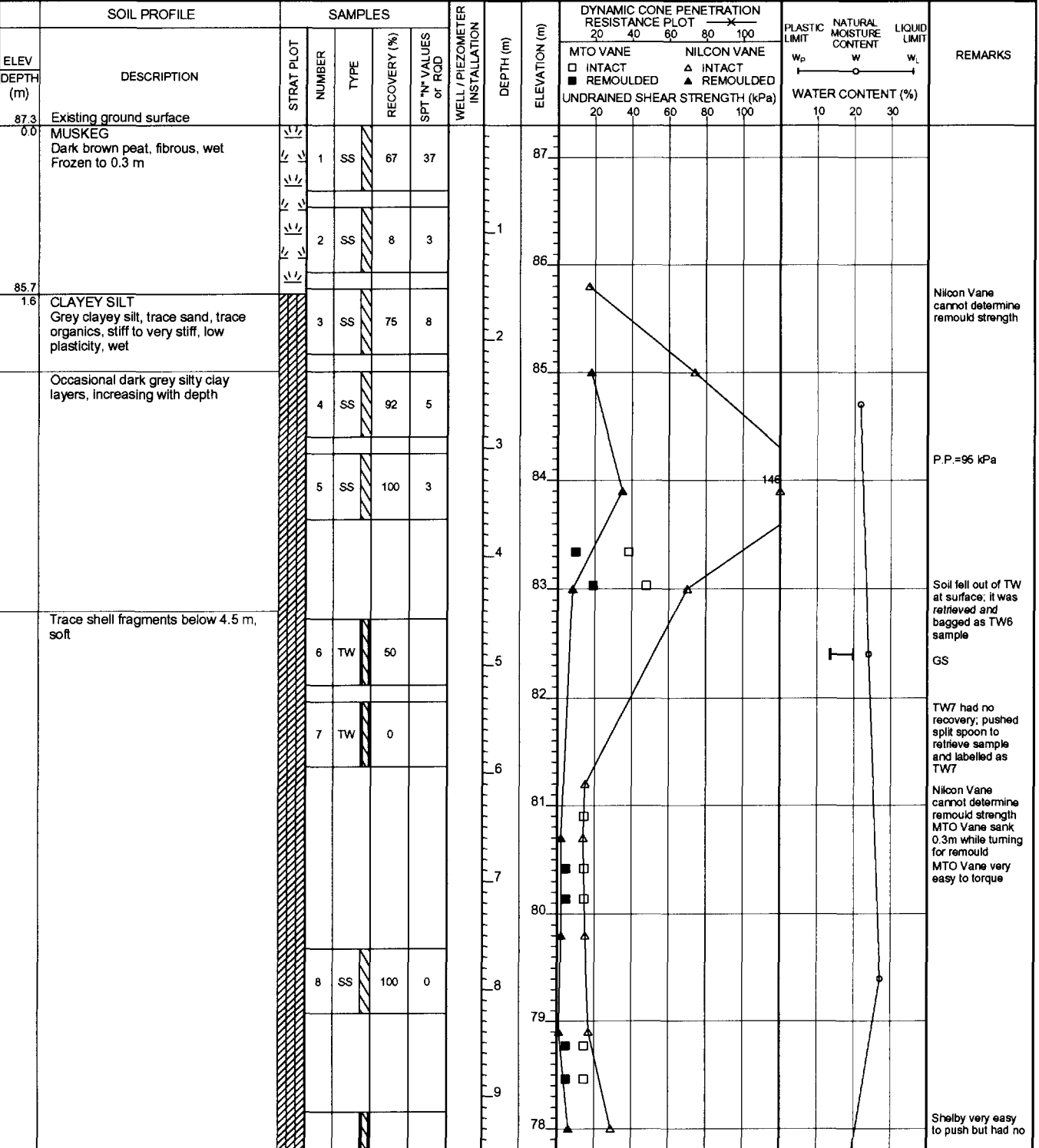
RECORD OF BOREHOLE No. V02-226E

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boat Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-31) COMPILED BY D.M.L.
 ELEVATION 87.3 m COORD. N 5,854,149 E 301,460 BORING DATE Start: 12 Mar 02 End: 12 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler TW Thin Walled Open (Shelby)
 WS Wash Sample

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{po})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test SCR Solid Core Recovery DS Direct Shear
 k Permeability GS Grain Size Analysis



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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boart Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-31) COMPILED BY D.M.L.
 ELEVATION 87.3 m COORD. N 5,854,149 E 301,460 BORING DATE Start: 12 Mar 02 End: 12 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler WS Thin Walled Open (Shelby)
 WS Wash Sample

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{50})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test k Permeability DS Direct Shear
 GS Grain Size Analysis

ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	STRAT PLOT	SAMPLES			WELL / PIEZOMETER INSTALLATION	DEPTH (m)	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT	NATURAL MOISTURE CONTENT	LIQUID LIMIT	REMARKS
			NUMBER	TYPE	RECOVERY (%)			SPT "N" VALUES or RQD	MTO VANE				
77.7	SANDY SILT TILL Brown sandy silt, some clay and gravel (subangular to subrounded), soft to firm, low plasticity, wet		9	TW	0		10					recovery, pushed split spoon to retrieve sample and labelled as TW9	
9.7			10	SS	58	4	11					GS	
			11	SS	67	7	12						
			12	SS	42	3	13						Split spoon sank 0.3m under hammer weight
			13	SS	100	8	14						Split spoon sank 0.15m under hammer weight
71.0			ASSUMED COMPLETELY TO HIGHLY WEATHERED LIMESTONE Light brown sand with some silt and gravel (subangular to subrounded), very dense, wet		14	SS	100	500/13	17				
16.3													
69.2	LIMESTONE Light brown to beige limestone, moderately weathered, slightly micro-karstified Jointing: flat, dipping and vertical orientations; close spacing; rough		15	RC	67	0	18					Auger refusal at 18.1m Switched to HQ coring SCR=0%	
18.1													

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boart Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-31) COMPILED BY D.M.L.
 ELEVATION 87.3 m COORD. N 5,854,149 E 301,460 BORING DATE Start: 12 Mar 02 End: 12 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Buk SS Split Spoon
 PS Piston Sampler TW Thin Walled Open (Shelby)
 WS Wash Sample

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{50})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test SCR Solid Core Recovery DS Direct Shear
 k Permeability GS Grain Size Analysis

ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	SAMPLES				WELL / PIEZOMETER INSTALLATION	DEPTH (m)	ELEVATION (m)	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT	NATURAL MOISTURE CONTENT	LIQUID LIMIT	REMARKS
		STRAT PLOT NUMBER	TYPE	RECOVERY (%)	SPT "N" VALUES or RQD				20	40				
	undulating surfaces; oxidized surfaces with silt filling Strength: low	16	RC	67	0		68						SCR=12%	
	0.1m thick silty clay and gravel over highly fractured limestone zone	17	RC	79	11		20						SCR=11% P.L.=3.41 MPa (19.95 to 20.02m segment)	
	At 20.3m, 0.15m thick silty clay with gravel size limestone over highly altered dark brown limestone						67							
	Fractured zone of dark brown sand with gravel size limestone	18	RC	75	8		21						SCR=8%	
65.7							66							
21.6	END OF BOREHOLE													



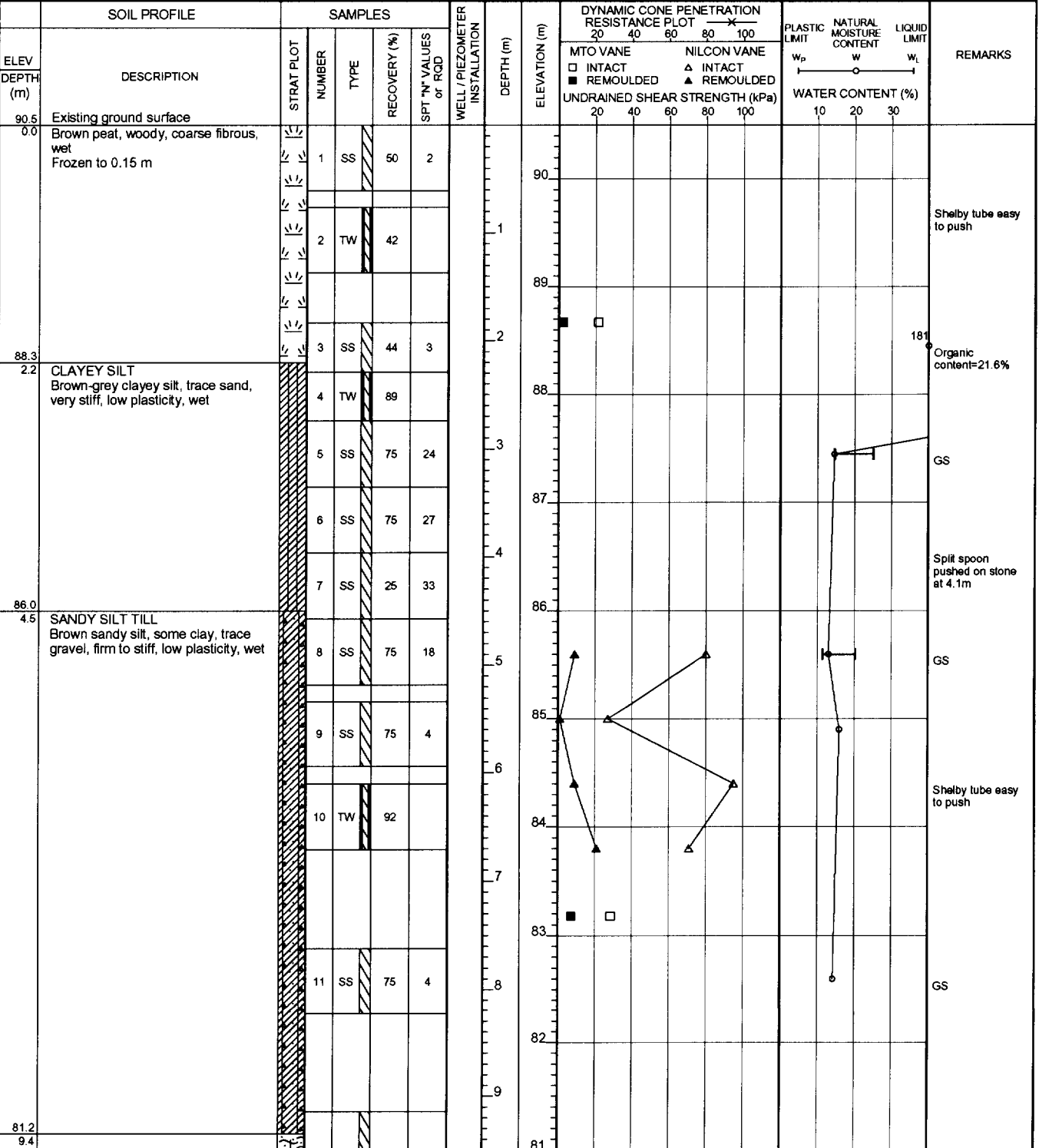
RECORD OF BOREHOLE No. V02-227E

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boat Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B./R.L.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-33) COMPILED BY D.M.L.
 ELEVATION 90.5 m COORD. N 5,856,225 E 300,683 BORING DATE Start: 15 Mar 02 End: 16 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler TW Thin Walled Open (Shelby)
 WS Wash Sample

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{po})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test SCR Solid Core Recovery DS Direct Shear
 k Permeability GS Grain Size Analysis



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RECORD OF BOREHOLE No. V02-227E

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boart Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY D.B./R.L.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-33) COMPILED BY D.M.L.
 ELEVATION 90.5 m COORD. N 5,856,225 E 300,683 BORING DATE Start: 15 Mar 02 End: 16 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES RC Rock Core AU Auger SS Split Spoon BU Bulk TW Thin Walled Open (Shelby) PS Piston Sampler WS Wash Sample
 ABBREVIATIONS P.P. Pocket Penetrometer U.W. Wet Unit Weight PT Standard Proctor Test P.L. Point Load Strength Index (I₅₀) RQD Rock Quality Designation SCR Solid Core Recovery k Permeability C Consolidation DS Direct Shear GS Grain Size Analysis

ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	STRAT PLOT	SAMPLES				WELL / PIEZOMETER INSTALLATION	DEPTH (m)	ELEVATION (m)	DYNAMIC CONE PENETRATION RESISTANCE PLOT				PLASTIC LIMIT w _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT w _L	REMARKS	
			NUMBER	TYPE	RECOVERY (%)	SPT "n" VALUES or RQD				MTO VANE □ INTACT ■ REMOULDED	NILCON VANE △ INTACT ▲ REMOULDED	UNDRAINED SHEAR STRENGTH (kPa)						WATER CONTENT (%)
80.8	SHATTERED LIMESTONE Light brown gravel and silty sand LIMESTONE Light grey to light yellowish brown limestone, slightly weathered Jointing: bedding and cross joints; flat, dipping and vertical orientations; very close to close spacing; rough undulating surfaces; silt filling Strength: medium to low		12	SS	88	78/0.25											Auger refusal at 9.8m Switched to HQ coring SCR=8% SCR=0% P.L.=0.56 MPa (11.4 to 11.5m segment) P.L.=2.96 MPa (11.7 to 11.8m segment) SCR=37% P.L.=1.72 MPa (12.0 to 12.3m segment)	
9.8			13	RC	89	0												
			14	RC	0	0												
			15	RC	92	0												
77.7	END OF HOLE																	



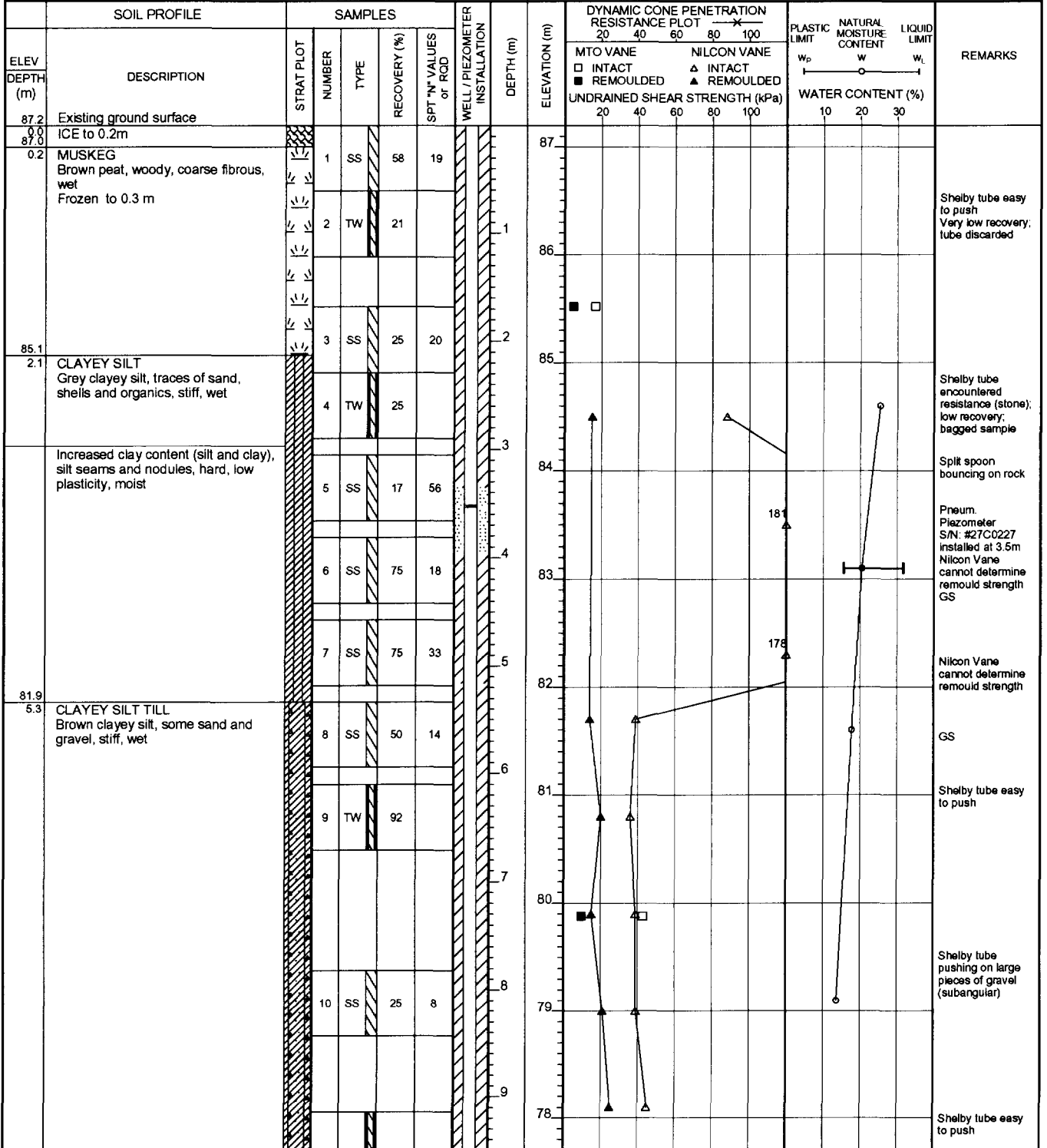
RECORD OF BOREHOLE No. V02-228E

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boat Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY R.K.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-36) COMPILED BY D.M.L.
 ELEVATION 87.2 m COORD. N 5,857,800 E 302,558 BORING DATE Start: 16 Mar 02 End: 17 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler WS Wash Sample
 TW Thin Walled Open (Shelby)

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{p2})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test SCR Solid Core Recovery DS Direct Shear
 k Permeability GS Grain Size Analysis



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RECORD OF BOREHOLE No. V02-228E

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PROJECT Victor Diamond Project - Geotechnical Investigation Program (Winter 2002) ENGINEER A.Z.
 PROJECT NO. TC19417-1003 DRILLER Boat Longyear (CME 75) BORING METHOD 4.5" HST Auger / 2.5" HQ Coring LOGGED BY R.K.
 CLIENT De Beers Canada LOCATION Potential PKD Facility (AMEC BH CV02-36) COMPILED BY D.M.L.
 ELEVATION 87.2 m COORD. N 5,857,800 E 302,558 BORING DATE Start: 16 Mar 02 End: 17 Mar 02 CHECKED BY N.S.V.

SAMPLE TYPES
 AU Auger RC Rock Core
 BU Bulk SS Split Spoon
 PS Piston Sampler WS Wash Sample
 TW Thin Walled Open (Shelby)

ABBREVIATIONS
 P.P. Pocket Penetrometer P.L. Point Load Strength Index (I_{50})
 U.W. Wet Unit Weight RQD Rock Quality Designation C Consolidation
 PT Standard Proctor Test k Permeability DS Direct Shear
 SCR Solid Core Recovery GS Grain Size Analysis

ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	SAMPLES				WELL / PIEZOMETER INSTALLATION	DEPTH (m)	ELEVATION (m)	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT	NATURAL MOISTURE CONTENT	LIQUID LIMIT	REMARKS
		STRAT PLOT NUMBER	TYPE	RECOVERY (%)	SPT "N" VALUES or RQD				MTO VANE 20 40 60 80 100	NILCON VANE 20 40 60 80 100				
76.8	SHATTERED LIMESTONE Grey sandy gravel (angular to subangular), some silt and clay, very dense	11	TW	92			10							
10.4														
76.1	LIMESTONE Light brown limestone, slightly weathered to unweathered Jointing: bedding and cross joints; flat, dipping and vertical orientations; very close to moderate spacing; rough undulating surfaces; sand and silt fillings Strength: medium to high	12	SS	75	68/0.28		11							
11.1														
		13	RC	100	61		12						SCR=68%	
		14	RC	100	92		13						Pneum. Piezometer S/N: #27C0042 installed at 12.7m	
							14						P.L.=4.36 MPa (13.1 to 13.5m segment) SCR=97%	
73.0														
14.2	END OF HOLE													
	Water levels (b.g.s.): Pneum. Piezo #27C0227 At -1.6m, 29-Mar-02 Pneum. Piezo #27C0042 At -1.0m, 29-Mar-02													

HOLE ID: V-02-239E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5857021.1
EASTING: 301539.2
DATUM: NAD 27 Zone 17
DATE STARTED: 15-Mar-02
DATE FINISHED: 16-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY	COMMENTS
0	15.2	OVERBURDEN	Below muskeg and above approximately 10m clay- probably marine but no shells observed. Brown; sticky; trace pebbles. Below 10m probable till- clay with minor sand and pebbles.
15.2	18.2	LIMESTONE	Poor recovery (weathered limestone).
18.2	18.2	EOH	

HOLE ID: V-02-237E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5857158.154
EASTING: 301947.765
DATUM: NAD 27 Zone 17
DATE STARTED: 14-Mar-02
DATE FINISHED: 15-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY
0	4.6	OVERBURDEN
4.6	7	LIMESTONE
7	7	EOH

HOLE ID: V-02-235E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5854354.0
EASTING: 301477.4
DATUM: NAD 27 Zone 17
DATE STARTED: 14-Mar-02
DATE FINISHED: 14-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY	COMMENTS
0	9.8	OVERBURDEN	Predominantly brown clay with trace angular to subangular limestone pebbles (dropstones?). Probable marine clay.
9.8	11	LIMESTONE	
11	11	EOH	

HOLE ID: V-02-243E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5858168.4
EASTING: 302706.2
DATUM: NAD 27 Zone 17
DATE STARTED: 18-Mar-02
DATE FINISHED: 19-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY	COMMENTS
0	21.5	OVERBURDEN	Upper part of hole definite marine clay; poor and contaminated recovery at lower depths. Auger refusal at 21.5m but possible weathered overburden starting from approximately 19m (harder augering).
21.5	25.75	LIMESTONE	Moderate to poor recovery (due to weathering?) but some solid lengths of limestone
25.75	25.75	EOH	

HOLE ID: V-02-242E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5858302.2
EASTING: 303062.4
DATUM: NAD 27 Zone 17
DATE STARTED: 17-Mar-02
DATE FINISHED: 18-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY	COMMENTS
0	0.6	ICE	
0.6	3.3	ORGANICS	
3.3	11.3	CLAY	Grey marine clay; with shells. Minor sand silt and gravel decreasing to trace downhole.
11.3	15.2	OVERBURDEN	Indeterminate material (no return; augering to refusal). Possibly till.
15.2	15.6	OVERBURDEN	Probable till with cobbles and boulders- mostly limestone but one piece of granite.
15.6	18.8	LIMESTONE	Blocky; weathered (poor recovery).
18.8	18.8	EOH	

HOLE ID: V-02-241E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5857338.5
EASTING: 302018.7
DATUM: NAD 27 Zone 17
DATE STARTED: 16-Mar-02
DATE FINISHED: 17-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY	COMMENTS
0	22	OVERBURDEN	
22	27.8	LIMESTONE	Bedrock contact approximate. Auger refusal at 22m; but possible weathered bedrock from 20m. Poor recovery until approximately 26.5m.
27.8	27.8	EOH	

HOLE ID: V-02-246E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5856318.6
EASTING: 301800.9
DATUM: NAD 27 Zone 17
DATE STARTED: 22-Mar-02
DATE FINISHED: 23-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY
0	12.3	OVERBURDEN
12.3	16.6	LIMESTONE
16.6	16.6	EOH

HOLE ID: V-02-245E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5856120.9
EASTING: 302703.1
DATUM: NAD 27 Zone 17
DATE STARTED: 21-Mar-02
DATE FINISHED: 22-Mar-02
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY
0	12.3	OVERBURDEN
12.3	16.15	LIMESTONE
16.15	16.15	EOH

HOLE ID: V-02-244E
RIG ID: RC-100
CORE SIZE: NQ
NORTHING: 5855897.2
EASTING: 301816.0
DATUM: NAD 27 Zone 17
DATE STARTED: 19-Mar
DATE FINISHED: 21-Mar
LOGGED BY: SCOTT BOYCE

From (m)	To (m)	LITHOLOGY	COMMENTS
0	12.3	OVERBURDEN	Predominantly clay
12.3	15.5	LIMESTONE	Auger refusal at 12.3m
15.5	15.5	EOH	

APPENDIX 4

Western Block Expenditure Details

ITEM	TIME/UNITS		CHARGE RATE		TOTAL COST	COMMENTS
Camp Costs (groceries, camp supplies, and travel)						
Drill programme	122	man-days	250	day	30,500	
Airborne programme					2,470	
					32,970	
Permanent Staff						
Victor Project Manager	3	days	550	day	1,650	
Temporary Staff						
D4 Dozer Dayshift Operator	180	hrs	30	hr	5,400	March 4 - 18
D4 Dozer Nightshift Operator	108	hrs	30	hr	3,240	March 9 - 17
CME 75 Supervising Geologist	6	days	520	day	3,120	75% of days spent drilling
CME 75 DS Geologist	9	days	408	day	3,672	March 9 - 17
CME 75 NS Geologist	9	days	408	day	3,672	March 9 - 17
RC-100 Geologist	20	days	350	day	7,000	March 4 - 23
Assistant Geologist	5	days	350	day	1,750	Supervised road construction, spotted holes, etc
RC-100 Driller	108	hrs	42	hr	4,536	March 15 - 23
RC-100 Drill Helper	9	days	325	day	2,925	
					35,315	
Fuel						
RC-100	9	days	205	drum	3,690	
CME-75	10	days	205	drum	4,100	
D4 dozer	21	days	205	drum	6,458	
Airborne programme (Helicopter)					2,500	
					16,748	
Equipment Rental						
D4	15	days	5600	month	2,710	trail construction and drill support (March 4 to March 18)
GPS	6	days	8500	month	1,645	
Diesel Generator	9	days	1240	month	372	
Bombardier	1	month	5000	month	5,000	mount for RC-100
					9,727	
Drilling Boart Longyear						
CME 75	111.5	hrs	165	hr	16,058	includes 36 hrs of standby due to standby @ \$100/hr; does not include vane tests
Drill Consumables						
Hole plug and grout					1,200	
Geophysics						
Fugro	266.4	line-km	82	line km	21,870	excluding camp cost and fuel

GRAND TOTAL

\$135,537

APPENDIX 5

List of Personnel

PERSONNEL INVOLVED IN AIRBORNE PROGRAMME:

De Beers Canada Exploration

Position

Gary Hodgkinson

Project Geophysicist

Fugro Airborne Surveys Inc.

Doug Robinson

Field Processor

Darcy Blouin

Operator

Luke Kukovica

Pilot

PERSONNEL INVOLVED IN DRILL PROGRAMME:

De Beers Canada Exploration

Position

Scott Boyce

On-site Supervising Geologist

Becky Chouinard

Geologist

Brad Wood

Project Manager

AMEC Earth and Environmental Inc.

Robert Lachance

On-site Supervising Engineer

Randy Knudsen

Soils Engineer

David Brown

Soils Engineer

Boart Longyear

Ed Legault

Foreman

Brian Leonard

Driller RC-100

Steve Corey

Driller CME 75

Jamie Goddard

Drillers Helper CME 75

Tim Boone

Driller CME 75

Edmund LeBlanc

Drillers Helper CME 75

Attawapiskat First Nation Technical Services

Bernard Hookimaw

Drillers Helper

John Wheesk

Equipment Operator

John-Paul Martin

Equipment Operator

Moosonee Transportation Ltd.

Oliver Rickard

Equipment Operator

Date: 2002-AUG-19

GEOSCIENCE ASSESSMENT OFFICE
933 RAMSEY LAKE ROAD, 6th FLOOR
SUDBURY, ONTARIO
P3E 6B5

DE BEERS CANADA EXPLORATION INC.
ONE WILLIAM MORGAN DRIVE
TORONTO, ONTARIO
M4H 1N6 CANADA

Tel: (888) 415-9845
Fax: (877) 670-1555

Submission Number: 2.23977
Transaction Number(s): W0260.01244

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact STEVEN BENETEAU by email at steve.beneteau@ndm.gov.on.ca or by phone at (705) 670-5855.

Yours Sincerely,



Sheila Lessard
Acting Senior Manager, Mining Lands Section

Cc: Resident Geologist

Donald R. Boucher
(Agent)

Assessment File Library

De Beers Canada Exploration Inc.
(Claim Holder)

De Beers Canada Exploration Inc.
(Assessment Office)



MINING LAND TENURE MAP

Date / Time of Issue Aug 8 2002 12:23h Eastern

TOWNSHIP / AREA PLAN

BMA 527 834 AREA G-1253

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division Porcupine
Land Titles/Registry Division KENORA
Ministry of Natural Resources District COCHRANE

TOPOGRAPHIC

- Administrative Boundaries
- Ownership
- Concession Lot
- Private Park
- Water Feature
- CRP, P1 and P2
- Contour
- Combin. Appeal, Amalg. Quasi-claim
- Shade
- Water Features
- Railway
- Road
- Tier
- Municipal Parks
- Hydro-Line
- Commercial Life
- Wooded Area
- Municipal, Commercial, Medical, Social Centre

LAND TENURE

- Freehold Patent
 - Surface and Mining Rights
 - Surface Rights Only
 - Mining Rights Only
- Leasehold Patent
 - Surface and Mining Rights
 - Surface Rights Only
 - Mining Rights Only
- License of Occupation
 - Uses Not Specified
 - Surface and Mining Rights
 - Surface Rights Only
 - Mining Rights Only
- Land Use Permit
- Order in Council
- Water Power License Approval
- Mining Claim

LAND TENURE WITHDRAWALS

- Area Withdrawn from Disposition
- Mining Act Withdrawal From
 - Surface and Mining Rights Withdrawal
 - Surface Rights Only Withdrawal
 - Mining Rights Only Withdrawal
 - Order in Council Withdrawal Types
 - Surface and Mining Rights Withdrawal
 - Surface Rights Only Withdrawal
 - Mining Rights Only Withdrawal

IMPORTANT NOTICES

- Area under which special regulations, conditions or conditions exist that affect normal prospecting, mining and mineral development activities.



LAND TENURE WITHDRAWAL DESCRIPTIONS

IMPORTANT NOTICES

Areas under which special regulations, conditions or conditions exist that affect normal prospecting, mining and mineral development activities.



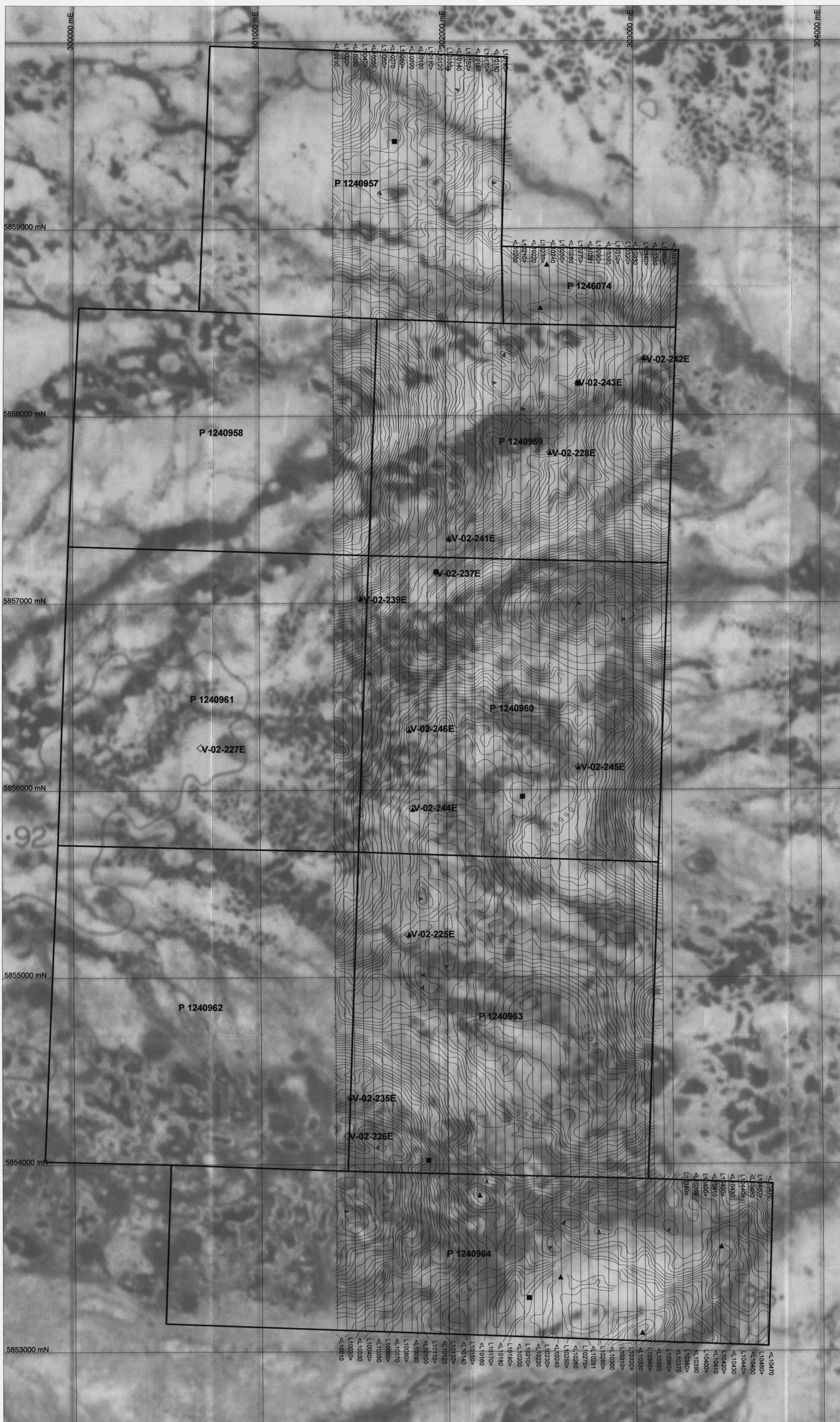
General Information and Limitations

Contact Information: Provincial Mining Recorder's Office, 1488 rue Wellington, Vancouver, BC V6Z 1K6

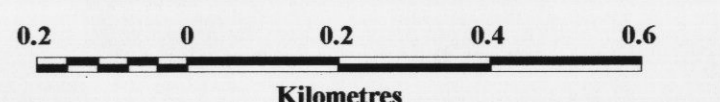
Map Datum: NAD 83

This map is a photocopy of the original map and does not include certain details, such as, easements, rights of way, flooding rights, reserves, or other forms of land tenure that are not shown on this map. The Province of British Columbia and its agencies do not warrant the accuracy of this map.





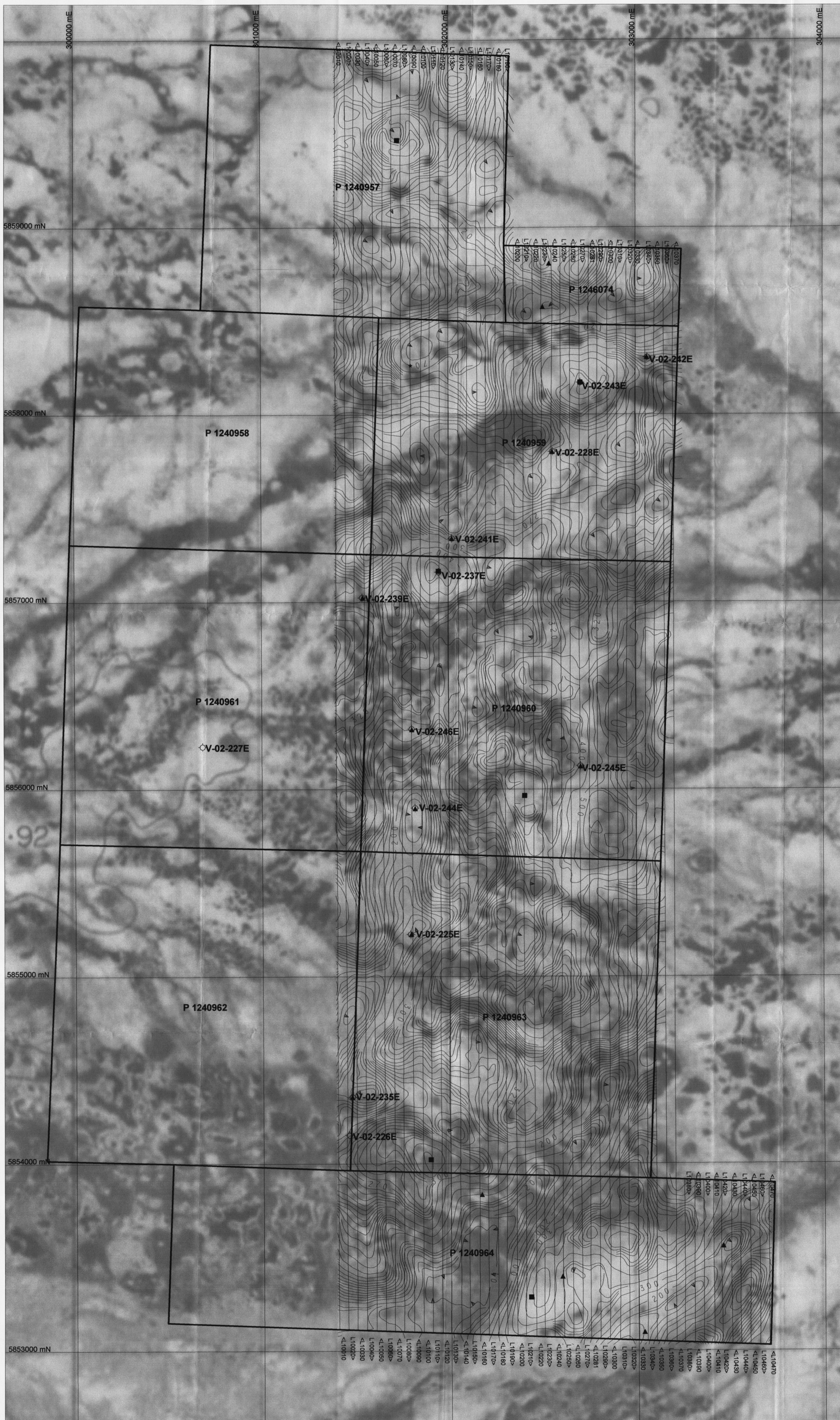
- DBCEI Claims
- Drill Holes
- EM Anomaly
- AMAG Anomaly
- 2 nT Isoline Contour
- Flight Path



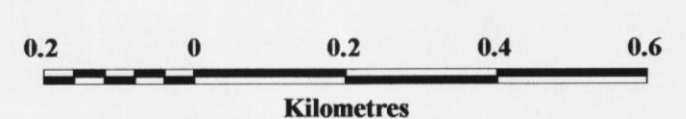
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2.23977

VICTOR PROJECT MAP 2: Total Magnetic Field Western Claim Block (1240957, 1240958, 1240959, 1240960, 1240961, 1240962, 1240963, 1240964, 1246074)		
Projection: UTM NAD 27, Zone 17		
Author: SWB	Scale: 1: 10,000	Date: May 7, 2002
Drawn By: ACB	NTS: 43B13	Revised Date: 5/06/2002
File Name: Assmt_2002_western_claim_block.wor		



- DBCEI Claims
- Drill Holes
- EM Anomaly
- MAG Anomaly
- Contour interval = 20 ohm - meters
- Flight Path



Scale: 1:10,000

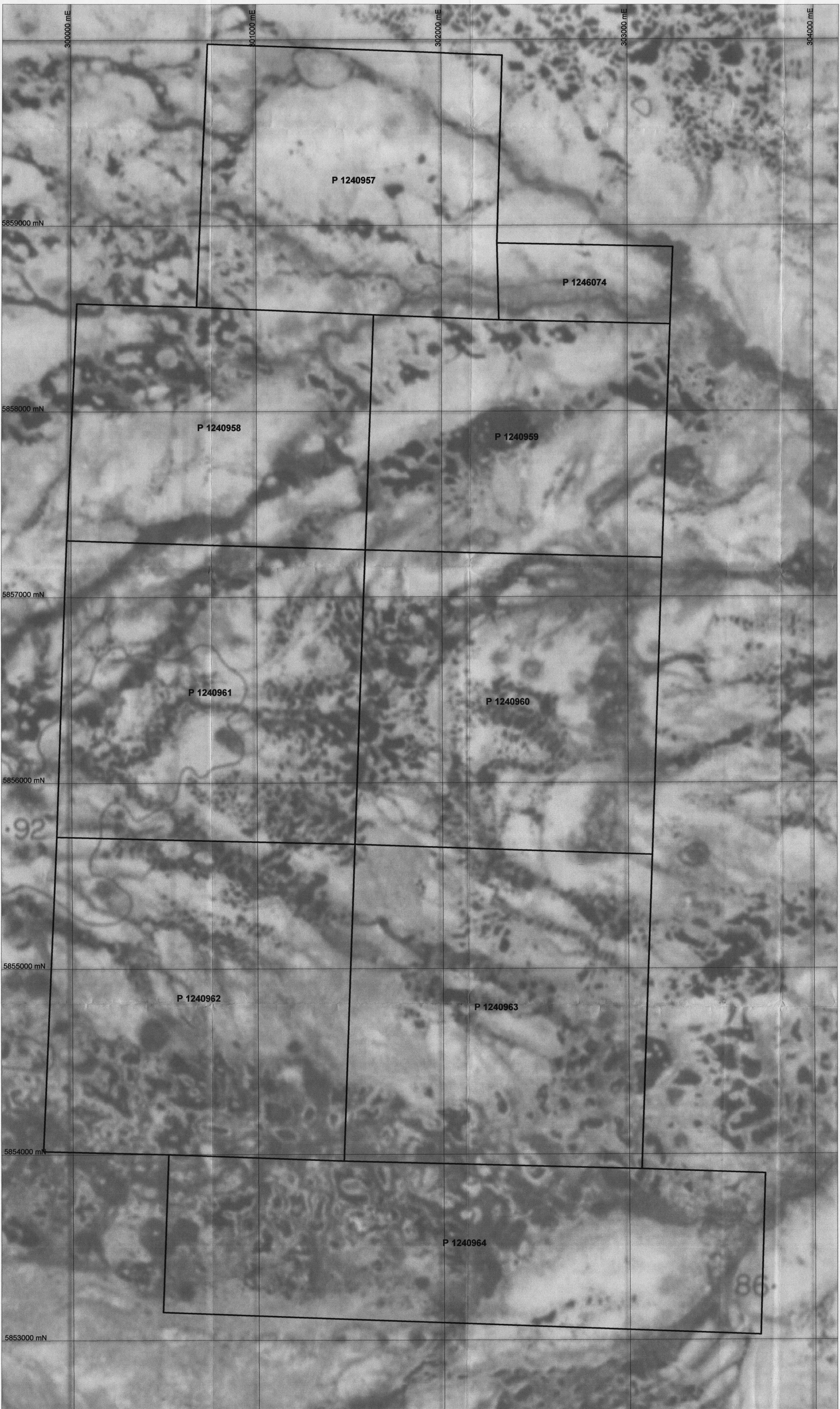
2.23977

DE BEERS CANADA EXPLORATION INC.

VICTOR PROJECT
MAP 3: Apparent Resistivity 6200 Hz Coplanar
 Western Claim Block (1240957, 1240958, 1240959, 1240960, 1240961, 1240962, 1240963, 1240964, 1246074)

Projection: UTM NAD 27, Zone 17

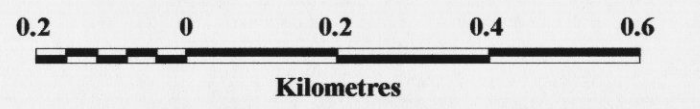
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Drawn By: ACB	NTS: 43B13	Revised Date: 5/06/2002
File Name: Assrmt_2002_western_claim_block.wor		



DBCEI Claims




N
1



Scale: 1:10,000

2.23977

 DE BEERS CANADA EXPLORATION INC.		
VICTOR PROJECT MAP 1: Air Photo Base Map Western Claim Block (1240957, 1240958, 1240959, 1240960, 1240961, 1240962, 1240963, 1240964, 1246074)		
Projection: UTM NAD 27, Zone 17		
Author: SWB	Scale: 1:10,000	Date: May 7, 2002
Drawn By: ACB	NTS: 43B13	Revised Date: 5/06/2002
File Name: Assml_2002_western_claim_block.wor		