RECEIVED
DEC 17 1997
Gold Commissioner's Office
VANCOUVER, B.C.

ASSESSMENT REPORT

ON THE

BT 1-11 CLAIMS

CARIBOO MINING DIVISION BRITISH COLUMBIA

LAT 54° 03′ N LONG 121° 36′ W

N.T.S. 93 I 4

FOR

26BT RESOURCE DEVELOPMENT CO. LTD.

BY

S. JAIN, P. GEOPH (ALBERTA), P. GEO. (B.C.)

&

W. L. KELSCH, P. GEOPH (ALBERTA)

December 11, 1997 **Calgary, Alberta**

SUDHIR JAIN received M.Tech. in Exploration Geophysics from Indian Institute of Technology and Ph.D. in Geophysics from University of Liverpool. After working for twelve years for Mobil and sundry service companies in U.K., Libya, U.S.A., and Canada, Dr. Jain set up Commonwealth Geophysical, a service company for oil and mineral exploration in 1976. He developed innovative interpretation techniques for geophysical data which quickly became industry standards. He published over 40 papers and was honoured by European and Canadian professional societies.

During the last 22 years, Dr. Jain has explored for numerous companies in Canada and overseas as well as in Madagascar and Southeastern Alberta on his own account. He is also associated with ore exploration in British Columbia and diamond exploration in Saskatchewan. He is a registered Geoscientist in British Columbia and a member of Association of Professional Engineers, Geologists and Geophysicists of Alberta, Society of Exploration Geophysicists (USA), Canadian Society of Exploration Geophysicists, Canadian Society of Petroleum Geologists and European Association of Geoscientists and Engineers.

LORNE KELSCH graduated with B.Sc. from University of Manitoba in 1952 after working on seismic data acquisitions, processing and interpretation for 22 years with Petty Ray Geophysical. Me. Kelsch moved to PanCanadian where he work in various capacities including Chief Geophysicist till 1995.

Mr. Kelsch is a professional member of Association of Professional Engineers, Geologists and Geophysicists of Alberta, Canadian Society of Exploration Geophysicists and Canadian Society of Petroleum Geologists.

CONTENTS

INTRODUCTION

Claim Data

The B.T. Properties are presently held in the name of 26BT Resource Development Co. Ltd. They were originally staked by Brendan A. Gordon on behalf of Malcolm T. MacDonald, one of the principals of the Company.

Claim Name	Tenure Number	Anniversary Date
BT 1-4	313837-313840	October 8, 1993
BT 5,6	313845-313846	October 8, 1993

These were then sold to the company.

BT 7, 8, 9, 10 and 11 were acquired on behalf of the company in 1993. Details are as follows:

BT 8-10	323096-323098	December 21, 1994
BT 7,11	323202-323203	December 29, 1994

BT 12, 13, 14, 15, 16, 17, 18, 19 and 20 were acquired on behalf of the company by Brendan A. Gordon in June 1996. The details are as follows:

BT 12-17	346620-346625	June 09, 1996
BT 18	346941	June 10, 1996
BT 19	346626	June 10, 1996

Stone 1 and Stone 2 were acquired on behalf of the company by Malcolm McDonald in 1996. The details are as follows:

Stone 1 and 2	349810-349811	August 04, 1996

The total area of claim is approximately 75 sq. km.

This report covers claims 1-11 only. Claims 12-19 and Stone 1 and 2 are reported separately.

Location & Access

The property lies north of the Fraser River and south of the West Torphy River. The centre of the claims is about 6 kilometres N.N.E. of Sinclair Mills (Figure 1). Access to the claims is by old logging roads. The claims lie between the elevation of 700 meters and 1690 meters in generally rugged terrain. Devil's club and windfall trees make the claims difficult to traverse.

History

Two of the principals of the company entered the area north and east of MacGregor in 1989. This was based on projections of the trends seen in the configuration of the North American Continental mass as demonstrated by Government gravity and magnetic maps. Later, while studying reports and maps in the Provincial offices in Prince George, the magnetic feature shown on Aeromagnetic Map 1536 G of the Geophysics Division of Mines and Technical Surveys (Figure 2) was noted. Subsequent sampling along Creeks Crossing the old logging road north of Sinclair Mills yielded unusually high amounts of magnetite. The decision to stake the area at the north west end of Bearpaw Ridge was then made and carried out in 1992. An aeromagnetic survey was flown, processed and interpreted in 1993. As a result of this survey, additional areas surrounding the claims were staked. 9 holes were drilled to the depth of 100′ on the claims in October 1994. The chemical analysis from the cores showed that Fe_2O_3 content averaged between 10 - 20% in the holes and reached up to 35% in some zones. The magnetic separation in 20 samples from two of the holes showed that in samples with high Fe_2O_3 content (greater than 10%), magnetite is more than 75% of total Fe_2O_3 percentage.

Three holes were drilled to the depths of 300′ in June 1995. Two of the holes confirmed the presence of magnetite in a variable amount to at least 300′. The third hole was mislocated and missed the anomaly. This hole does not appear to have any commercial significance.

Three holes were drilled in July 1996, two to the depth of 300′ and one to 500′. One hole confirmed magnetic concentration while the other two were discouraging. Detailed surface geology was undertaken in 1997 together with mineral and chemical analysis of and 60 stream samples and 109 chip samples. The report of professional geologist is attached as Appendix 7.

Geology

Following summary of known geology of Bearpaw ridge closely follows the report by Pell (1994). The area is mapped as Silurian volcaniclastics, felsic and intermediate tuffs, agglomerates of Nonda formation over the ridge, foliated hornblende gneiss on the western slope and coarse grained massive pink syenites in the southwest (Figure 3). Pell notes sodalite syenite outcrop and two flanking syenite sills in southeast portion of the claim area which intrude the volcaniclastics whose southeastern extent is not defined. These volcaniclastics "largely comprise clinopyroxene crystal tuffs, calcareous tuffs and minor basaltic flows. Flow rocks contain clinopyroxene phenocrysts and altered phenocrysts (now chlorite) in a ground mass of opaque oxides, plagioclase and clinopyroxene microphenocrysts and chlorite". These may be classified as alkali basalts. Folded and foliated dioritic orthogneiss vary from a banded gneiss containing 5 - 10% magnetite-ilmenite to a mafic gneiss with 15 - 20% magnetite-ilmenite. Chemical analyses indicates Fe_2O_3 content of 6.9 and 14.5% in two volcanic samples and 1.5, 7 and 11.2% in three samples from mafic gneiss. Corresponding TiO_2 content is .59 and 2.06% in volcanics and .27, .80 and 2.01% in mafic gneisses.

Kelsch in an appendix to Kelsch and Jain (1994) reported that the accessible part of the terrain is generally covered by a thin layer of soil. The vegetation is thick. Devil's club and mosquitoes are plentiful and they make the work quite difficult. In spite of these problems, he obtained several surface samples. The majority of these samples were from glacial erratics which had not moved very far from their original location. The magnetic susceptibility of these samples ranged from .001 to .250 emu. Two of the samples were analyzed chemically by Terramin Research Labs Ltd (Table 1). The analysis showed 22 and 25% Iron Oxide and 4.34 and 5% Titanium Oxide in these samples. These figures support more work on the prospect to define concentrations of magnetite and ilmenite which may have economic interest.

The magnetic data acquired by 26BT strongly suggest a magnetite rich intrusive of elliptical shape on the ridge. This is confirmed by the mineralogical analysis of samples from two holes drilled in October, 1994 which consist of highly mafic Diorite containing minerals indicative of contact zones. Pell (1994) does not mention this intrusive. Incidentally, the sodalite body mapped by Pell was not encountered in hole 95-3.

Geophysics

26BT engaged Geonex Aerodat to conduct an aeromagnetic and electromagnetic survey over a 12 km X 13 km area including the company's claims. The data were acquired in February, 1993 by a helicopter with mean terrain clearance of 100 m for helicopter and 70 m for sensing equipment. The survey comprises 321 line kilometres, with east-west traverse lines spaced 500 m apart and two north-south tie lines. In addition to the total field map with variable contour interval, Geonex also supplied maps for vertical gradient of the magnetic field and VLF-EM total field. The VLF-EM map is relatively quiet and indicates general absence of sulphide ores in the area. The vertical gradient measurements did not provide meaningful data probably because magnetic anomalies were very strong and very sharp. Therefore, the interpretation reported here is based mainly on magnetic total field. The details of acquisition and preliminary processing are contained in the report submitted by Geonex and included in Kelsch, and Jain (1993).

Geonex had difficulties in positioning of the data. Final data was received in November 1993. Jeff Thurston, M.Sc., of Commonwealth Geophysical Development Company, Ltd. did the processing and interpretation in late November, 1993.

Data Acquisition in 1997

26BT engaged Dighem, A Division of CGG Canada Ltd. to conduct an aeromagnetic and multi-coil, multi-frequency electromagnetic survey over an approximately 62 sq km area. Total coverage amounted to 361 km including tie-lines. The survey was flown on February 8 and February 9, 1997. Dighem processed the data in their Mississauga, Ontario facility and final maps and their report was received by 26BT on April 8,1997. See Assessment Report Number 25034.

The survey was conducted to evaluate claims 12 - 21 which are not the subject of this report. However, the survey area overlapped claims BT 6, BT 8, BT 9, and BT 10. 22.5% of the survey covered these claims and 22.5% is assigned to claims covered by this report. Overall costs of the survey were distributed accordingly.

Sixteen traverse lines were flown with the spacing of 200 m in a NE - SW direction. The length of lines was variable. Two tie lines were flown six kilometers apart. The survey employed the DIGHEM5 electromagnetic system installed in an Aerospatiale AS350BA turbine helicopter. Ancillary equipment consisted of an optically pumped Cesium vapour (model Picodas 3340) magnetometer, radar altimeter, video camera, analog and digital recorders and GPS navigational system (model Sercel NR106, Real-time differential positioning). In addition, a field work station was employed to verify data quality and completeness. Magnetic base station used a digital recording cesium vapour magnetometer. The helicopter flew at an average speed of 107 km/h, with average terrain clearance of 60 m. Clearance was 40 m for magnetic and 30 m for EM bird. For technical details of the Dighem report see Assessment Report Number 25034.

Preliminary Interpretation

Dighem supplied the following maps at a scale of 1:20,000 (see Assessment Report Number 25034):

1. Total magnetic field corrected for diurnal variations but without IGRF correction.

2. Vertical gradient of the magnetic field computed from total magnetic field.

3. Resistivity map from 7200 Hz coplanar data.

4. Resistivity map from 56,000 Hz coplanar data.

The strong magnetic anomaly in the south was observed in the previous survey in claims BT 8 and BT 9. The combination of two data sets defines the anomaly unambiguously and outlines the prospective area for commercial magnetite concentration.

Resistivity maps show numerous conductive anomalies. Most of these anomalies are associated with marsh, lakes and streams. However, a few anomalies are related to faults apparent on the magnetic maps. One of these anomalies parallels a stream located in the magnetic low separating main magnetic mass with northwestern anomaly in claim BT 8. This is being currently analyzed by the geologist.

Processing

The interpretation processing included the following steps:

1. Plot all flight lines on the map to check data tape, and for a base for profile interpretation (Figure 4).

2. Source inversion for all profiles using a Werner-deconvolution-based program **MAGDEP.** To estimate sources at various depth levels, data were interpreted with window length 135, 225, 435, 675, 1170, 2325, 3465, and 5985 m. Sources located within 100 m intervals were grouped together. Werner deconvolution and **MAGDEP** are described in detail by Jain (1976).

3. Grid and plot the total-magnetic field at a fixed contour interval of 100 NT. The map shows a major high (magnitude up to 4500 NT) accompanied by a major low of 1500 NT to the north (Figure 5).

4. Plot the total-magnetic field reduced to the pole (RTP) to minimize the bipolarity of the magnetic field and to locate the anomalies vertically above their sources. This was done after removal of the International Geomagnetic Reference field (IGRF) model (Figure 6).

5. Plot radar altimeter map to show deviation from desired terrain clearance and to estimate the probable effect of these deviations on the total field. The map shows significant deviations in terrain clearance but they do not correspond to any magnetic anomalies. In any event, the most serious deviations are noted in quiet magnetic areas (Figure 7).

6. Plot ground elevation map computed by subtracting radar elevation from barometric elevation, to check for location errors. Final map shows no measurable location errors (Figure 8).

The tie lines are not properly levelled. Therefore, the magnetic data is based on traverse lines alone. The data are dominated by wavelengths shorter than the spacing between flight lines, and a meaningful second derivative map could not be obtained.

Interpretation

The total-magnetic field map is dominated by an elliptical high oriented in the NW - SE direction and its companion low to the north. The total magnitude of the anomaly from peak to trough is 5,700 NT. There are local anomalies with relative amplitudes of 1000 NT , and less than 500 m^2 in aerial extent.

The total magnetic field has an inclination of 72 degrees and declination of 20 degrees east. For these parameters, the observed total field is bipolar and each source is represented by a high along the southern edge and a low along the northern edge. The reduction of magnetic field to the north pole (Figure 6) locates the anomaly vertically above the sources. The positive anomaly in Figure 6 is displaced to the north of its location in total field (Figure 5) and the negative rim is substantially reduced. The negative rim around strong anomalies after reduction to the pole suggest relatively thin sources and sharpness of anomalies indicate them to be close to the surface. **MAGDEP** (Jain, 1976) profiles identify the lateral and vertical location of the sources as well as the susceptibility contrast. As indicated earlier, the profiles show positive anomalies as high as 1,000 NT with wavelength of the order of 250 - 500 m. These anomalies are from highly susceptible sources (susceptibility contrast up to 1 emu) and located on or very close to the ground surface. The depth estimates range from 0 - 300 m below the surface. However, the depth estimates are not entirely accurate because no allowance has been made for the flight level not being horizontal and of the sources finite thickness of the sources.

MAGDEP2D *is the modification of* **MAGDEP** *for the gridded data and works on interpolated* profiles in the same way as described in the paper on **MAGDEP** referenced above. The profiles are interpolated for each major anomaly in a direction perpendicular to the strike and interpreted. The source bodies are outlined quite well by the horizontal gradient (Figure 9). The depth estimates range from 200 m - 300 m below the surface and may be inaccurate for the same reasons as the depths estimated in **MAGDEP.** Note that there is a probable extension of the magnetic body to the southwest but the susceptibility is less than the main anomaly. A close examination of the maps and the profiles shows four major bodies which are on or very close to the surface and are very highly magnetic. The interpretation overlay (Figure 10) shows the location of these bodies and identifies places where samples must be collected to establish the source of magnetism. Two of the marked places are identified for deep test because magnetic field is low at these points. It is of some importance to know if the low is due to lower susceptibility or thicker overburden.

Drilling subsequent to the interpretation has established that local variations in magnetite concentration are the main source of local magnetic anomalies.

Modelling

The anomalies were computed for numerous hypothetical two and three dimensional sources. The best fit with the major anomaly was obtained by a trapezoidal rectangular prism oriented in NW - SE direction, 5 km X 3.5 km at the bottom (140 m below surface) and 2 km X 2 km at the top (surface). Susceptibility contrast of this prism from surrounding medium is .05 emu. On the other hand, a prism of the same lateral size but only 45 m thick will cause the same anomaly if susceptibility increases progressively from .025 emu on the edge to 0.175 emu in the centre. In addition, either body needs small sources of high susceptibility contrast to explain high frequency anomalies superimposed on the main anomaly.

An anomaly of 1,000 NT over 500 m (as observed on many profiles) can be caused by a 250 X 250 m ore body located with its top surface 200 m below the flight plane and thickness of 3 m to 30 m for susceptibility range of .5 to .05 emu. To obtain a crude reserve estimate, consider that an ore body with 10 percent magnetite content (density of 5 gms/cc), with an area of one square kilometre and an average thickness of one meter contains .5 million tons of magnetite. Four main ore bodies on this prospect have an area of 19, 3, 3 and 1 sq kms, and probably contain 13 million tons per meter thickness. For a susceptibility of .2 emu, the ore bodies are at least 30 m thick and contain probable reserve of 390 million tons.

Reinterpretation of Magnetic Data

Aeromagnetic data was revisited in order to incorporate the results from 15 drill holes and to delineate high susceptibility areas within fifty meters of the surface. The profiles were reinterpreted using MAGDEP program used in previous interpretation but this time with parameter suited to near surface sources. The absence of negatives to the east and the west of the major positive anomaly as well as the depth to the sources suggests that the main anomaly is caused by a plate dipping to the east or south east and thin relative to its lateral dimensions. Variable magnetic content in the plate as well as protrusions in the top of the plate act as the sources for high-frequency anomalies which are identified by MAGDEP. The sources within 100 meters of the flight level and indicating susceptibility greater than 0.05 emu were correlated to define intrusive body shapes. The locations of intrusives with susceptibility contrast of .2 emu or more were transferred to the map. Figure 21 shows the interpreted zones as well as the outcrop locations. A resistivity anomaly from the 1997 survey is also shown. The map also shows the susceptibilities measured in the cores averaged over indicated depths. Fe_2O_3 content in Hole 96-1 located in the southern part of the western anomaly ranges from 20 - 25% corresponding to the susceptibilities of 0.1 - 0.15 emu. Therefore, it is probable that the areas outlined in the map indicate zones where magnetite concentrations average 25% or better over 100 m. It should be mentioned that MAGDEP assumes the sources to be infinite vertically and across the profile. This assumption leads to lower susceptibility estimates than those for sources of finite dimensions. It should be pointed out that while higher susceptibility indicates greater magnetite content, the different core samples with very similar susceptibilities contain widely different amount of Fe_2O_3.

Profiles crossing major anomalies were also modelled for prismatic sources. Prisms were assumed to have flat tops and bottoms and sloping sides. All prisms were square since small anomalies are generally circular on the total field map. In Figure 21, the areas where susceptibility of models is 0.5 and 0.3 emu are shown. Westernmost anomaly was modelled after integrating latest survey. The model was based on the susceptibilities logged in 96-1. The magnetic body is conical with its peak 16 m below the surface. The surface the area of the outcrop would be 0.1875 sq km at the depth of 20 m and 1.75 sq km at 45 m. Hole 96-1 confirms the susceptibility of 0.1 emu for this depth range and indicates average Fe_2O_3 content of 20% and TiO_2 content of 4.8%. After a 20 m thick relatively low susceptibility zone, there is a 30 m thick layer of average susceptibility 0.15 emu and area 4.5 sq km. Fe_2O_3 content in this range is from 20 - 30 % and TiO_2 from 4.8 - 6%. The expected reserves, if zones contain

20% magnetite by weight, are 14.5 million tons in upper zone and 79 million tons in lower zone for magnetite. Assuming 5% titanium ore, reserves are 3.5 and 20 million tons respectively. Hole 96-1 was drilled in the southern portion of the magnetic anomaly and is fully consistent with the model. However, the core analysis from visual examinations indicates magnetite content generally less than 10% and 15 - 20% in only a few instances. This inconsistency is probably due to inaccuracy inherent in visual examination.

Note that the area indicated by the models is significantly smaller than that by Magdep interpretation. It is partly because laterally narrow zones are very difficult to model accurately, our program being restricted to prisms with vertical axes.

Figure 21 indicates two widely different surface dimensions for the source bodies. In all likelihood, modelling provides the minimum extent while Magdep the maximum. With this provision, the maximum extent of all bodies in the main anomaly totals a little over 5 sq km, equivalent to 1,500 million tons of ore with 25% or more Fe_2O_3 and 5% or more TiO_2. The minimum area indicated by modelling is 0.5 and 0.16 sq km for susceptibility of 0.5 and 0.3 emu respectively. This translates into 200 million tons of ore with 25% or better Fe_2O_3 and 5% or better TiO_2. In all reserve calculations, the ore bodies are assumed to be 100 m thick. Holes 96-1 and 95-2 drilled to 92 m encountered good magnetic concentrations to the bottom of the holes.

Correlation of Geology and Geophysics

As discussed earlier, Pell (1994) has noted varying amount of magnetite-ilmenite in hornblende gneiss in the west as well as volcaniclastics on top of the ridge. A comparison of magnetic anomaly map with geology shown in Figure 3 establishes that western anomaly is due to magnetite ilmenite concentration in altered mafic gneiss although the concentration is likely to be greater than that suggested by Pell. The main magnetic anomaly is due to an elliptic intrusive oriented in NW - SE direction with magnetite concentration near the surface. High-frequency anomalies are caused by variations in magnetite concentrations. Higher magnitude of the anomalies strongly suggests that the concentration of magnetite is greater than elsewhere in the area. Two smaller anomalies in the south may be due to either the magnetite-ilmenite concentrations in volcaniclastics or small offshoots of the main intrusive body with lesser magnetite concentration.

DRILLING

9 holes were drilled to a depth of 30.46 m (100 ft) in October 1994 and 3 holes to the depth of 91.38 m (300 ft) in June 1995 and three holes, two to the depth of 91.38 m (300 ft) and one to 152.29 m (500 ft) in July 1996. All holes were cored in hard rock. Location of the holes is shown in Figure 11. Core diameter was 43 mm (1 ¾"). Hole 7 did not hit the hard rock till it reached the bottom. Susceptibility was measured at 1 ft intervals on the cores and analyzed

for the magnetite content. Two boulder specimens were also collected and later analyzed. The holes were drilled to determine the source of magnetic anomaly and not for details of local geology. Core logs are included with this report. No obvious metals have been noted in the cores. Appendix 1 gives details of the drilling logistics.

CHEMICAL AND MINERALOGICAL ANALYSIS OF CORES

140 samples were selected from fourteen cores to include a wide variety of susceptibility and core type (grain-size, colour, rock type) and two from boulders picked up on the site. Magnetic susceptibility of the samples was measured several times and the average recorded.

The samples were chemically analyzed by Terramin Research Labs of Calgary in December, 1994 and August, 1995. The results of their analyses are reported in Table 2 which also lists measured susceptibility. The sample number identifies the hole and depth of sample in feet. Chemical analysis shows consistent level of 40 - 50% silica, 12 - 20% Al_2O_3, 10 - 12% Ca0, 3 - 6% MgO, 2% Na_2O, 0.2 - 0.5% K_2O and 0.1 - 0.3% Mn0. Two samples analyzed for Vanadium gave values of 430 and 450 ppm. Fe_2O_3 content varied from 5% to 36% and TiO_2 content from 1% to 7%. Samples from some holes have copper, nickel, zinc and cobalt content of 0.01 to 0.05% suggesting that there may be more significant concentrations nearby. A small quantity of silver (a fraction of a gram per ton) was also noted. More significant, from commercial viewpoint, may be Barium (0.36%), Chromium (approximately 0.1%) and Vanadium (0.03 to 0.07%) (Appendix 5). High Barium content sometimes indicates proximity to gold and this probability will be investigated next year. In future analyses, these elements will be analyzed in low-susceptibility zones. So far, the analyses shows that Iron and Titanium are main metals of economic interest in the area represented by the cores. Therefore, the following analysis was restricted to these two metals.

MINERALOGICAL ANALYSIS

20 samples from holes BT 4 and BT 5 were analyzed for mineral content by Pilsum Master, P.Geol. (Appendix 2). He identified the rocks tentatively as Diorites (more than 50% mafic) from the contact zone. The minerals are sodic feldspar and plagioclase, diopsidic pyroxene and wollastonite. A major component is magnetite and sufficient titanium is present to indicate the presence of ilmenite. The presence of contact zone minerals is noted. Since both holes are located on slope of the magnetic anomaly, this analysis is consistent with a Diorite or Syenite intrusive being the source of this anomaly. We are not aware of any mention of this intrusive in published literature.

Norm calculations by CIPW method conducted by Master Mineral Resource Services Ltd. for five samples (Appendix 2) shows approximately equal weight distribution in Rutile and Ilmenite in samples with high magnetite concentration. Ilmenite norm is calculated as 4.6% by weight.

Iron minerals are magnetite and Diopside. The norm in magnetite samples varies from 27 - 38% for Diopside and 18 - 38% for magnetite. Magnetite content is only slightly smaller than Fe_2O_3 in chemical analysis.

The magnetic separation of 10 gm samples from holes 94-4 and 94-5 by handheld magnet yielded approximately half of that expected from CIPW norms (Appendix 3). This is not unusual since the norms are useful in a relative sense only. The separates confirm approximately even distribution of Titanium in Rutile and Ilmenite indicated by CIPW norms (Table 3). This table shows that upto 10% Fe is present in Magnetite form. Ore grade magnetite can be recovered by first separating magnetic material from plagioclase and Diopsides and then separating ilmenite and magnetite in the magnetic separates.

The magnetic separation in 46 samples from deep holes was done after placing the ground sample in water. The analysis (Appendix 4) shows Iron content of upto 65% (Magnetite 91%) in magnetic separates and 20% (28% magnetite) in core sample. The magnetic iron content is about 50 - 70% of total iron in samples, rest probably in Pyroxenes. Probably, a better Ti magnetite separation method will yield higher magnetite content. Titanium content of magnetic separate ranges from 3.2 - 7% which is equivalent to TiO_2 being 0.2 - 2.8% of the sample. This shows that non magnetic TiO_2 (Rutile?) is two to five times of magnetic TiO_2 (Ilmenite). Small TiO_2 in magnetic separates indicates that most iron in separates is magnetite with very small amount of Ilmenite.

Magnetic Susceptibility Analysis of the Cores

Magnetic susceptibility was measured at one foot interval for the cores and two boulders found near one of the holes. The magnetic susceptibility logs are plotted in Figure 12. The susceptibility was measured by a susceptibility meter purchased by 26BT for this purpose. The meter, model KT-9 is manufactured by Exploranium Radiation Systems.

We are aware of two studies relating magnetic susceptibility to magnetite content. Note that the susceptibility studies do not include all iron ore since Hematite is only weakly magnetic and hematite rich ores have low susceptibility. Gaucher (1965) presented the equation between maximum magnetite content (by volume, computed from density) V and susceptibility K as follows:

$$K = (0.3 + V) * V.$$

This equation was derived empirically for magnetite ores in northern Quebec. Bath (1962) similarly computed the relationship for Biwabik Iron formation in Minnesota. The relationship derived for Biwabik iron ores is:

$$K=0.00116V^{1.39}.$$

The volume was computed by magnetic separation. We used both equations to plot magnetite content for the holes. The equation given by Gaucher (1965) had to be modified to avoid negative volume content. The magnetite content logs are given in Figures 13 and 14. Both equations show several sections on many of the holes where magnetite content is more than 20%. In some holes, there is indication of better magnetite content near the bottom. Table 3 gives the average susceptibility and average magnetite content for the holes with both equations.

The equation for Biwabik ores provides smaller magnetite content than the one for northern Quebec. However, both equations suggest presence of mine grade ore in many holes. These results are most encouraging particularly considering that the hole locations in 1994 were governed by accessibility and were not optimal from the magnetic anomaly. There are many stronger anomalies on the map which need to be tested.

The susceptibility of the samples measured in the laboratory was quite different from that recorded in field at the corresponding depth in the hole (Figure 12). Figure 15 shows a plot of susceptibility measured in laboratory (sample value; y -axis) vs that measured in the field (log value; x-axis). The plot symbol indicates the depth of the sample in units of 10 feet (3.282 m). The slope of fitted line indicates that on average the sample value is 77% log value. There is no apparent depth deviation in this relationship. The cause of this reduction is not known and was not investigated.

As indicated above, Terramin Research Laboratories of Calgary, Alberta separated the magnetic component in powdered core sample and calculated Iron and Titanium content for 46 samples (Appendix 4). The amount of iron in the separate was converted into percent content in the sample and plotted vs the susceptibility of the sample (Figure 16). This plot shows a reasonable correlation and following equivalent relationships were deduced from the plot

IRON = .07538 * Susceptibility of sample
IRON = .05804 * Susceptibility in log
MAGNETITE = .08126 * Susceptibility in log

Based on the last relationship, magnetite content from fifteen holes (including 1996 drilling) was estimated as shown in Figure 17. There is considerable variation among holes, even within the same hole. 95-1, 95-2, 94-3, 94-1, 94-4, and 96-3 show thick zones where magnetite concentration is of commercial interest. Note that the concentration is significantly less than anticipated in Figures 13 and 14. Whether this is due to poor magnetic separation method, significant presence of nonmagnetic ferrous oxide ore or iron silicates has not yet been established. Note that the magnetite content is still high at the total depth in many holes.

The plot of TiO2 content from chemical analysis vs susceptibility (Figure 18) is quite random indicating that the susceptibility is not influenced by titanium minerals in the samples.

Reserve Estimates

Magnetite:

Table 5 shows residual magnetic total field reduced to the pole, average magnetite recovery in percent and average susceptibility for the length of the core. Figure 19 is the plot of magnetite content vs magnetic field. Hole 94-2 was inconsistent with other holes and was dropped. In spite of a wide scatter, it is possible to fit a second degree curve among the points. The equation of this curve is:

$$\text{Magnetite content} = a + b * F + c * F^2$$

where F is the total field, $a = 0.397$, $b = 1.148 * 10^{-3}$ and $c = 9.437 * 10^{-8}$.

None of the holes is located on or near the peak of the anomalies and three points with high magnetic values show considerable divergence. Therefore, this equation can only provide crude estimates. The recoverable magnetite content computed from this equation and the magnetic field is shown in Figure 20. On this map, 5 and 4% contours include areas of 2.5 and 6.25 sq km respectively. If the average depth of ore is 300′ as indicated by 95-1 and 95-2, there is 62 million tons of recoverable magnetite in 5% zone and additional 75 million tons in 4% zone. Following observations need to be emphasised:

1. Laboratory analysis shows that Iron content in ore after magnetic separation ranges from 40 - 65%.

2. The areas with smaller average content not included in these calculations are likely to have rich zones to supplement these estimates.

3. The deep holes indicate that reserves are present below 300′.

4. Weakly magnetic iron ores have not been included in these estimates.

5. Western magnetic anomaly is located at the junction of two surveys. Its areal extent is slightly larger to the west than assumed in these calculations.

Another estimate of magnetite reserve may be obtained from correlation of magnetic data interpretation with hole data. The bands of variable concentration of magnetite are present at different depths in different holes. 95-2 has poor concentration from top of the core to 90′ but very rich (upto 25%) zones below that to 300′. In 95-1, rich zones start at 30′ and continue to 300′ with many intercalated poor zones. 84-1 and 84-4 have better than 4% magnetite from the top while in 84-6 and 84-8 rich zones start at 40′ and 80′ respectively. Depth to source is also obtained from magnetic profiles as described under the title Geophysics-Interpretation. After combining magnetic profile interpretation with hole data, a map shown in Figure 20A was obtained. The depth to top of magnetite increases to the southwest as the ground elevation increases. The thickness of magnetite must also increase in this direction to account for higher magnetic field.

On the map in Figure 20A, an area of 10 sq km averages magnetite content of 3% or more from the cores. This is equivalent to 150 million tons of recoverable magnetite. This estimate is quite close to the one made in the previous paragraph.

In view of scant drill hole information and scatter in various curves used in estimation process, it is reasonable to put the reserves in a rather large range of 100 - 200 million tons. The ore is contained as 40 - 63% iron in magnetic separate which constitutes 2 - 25% rock mass. Any weakly magnetic iron oxides are additional to these estimates.

Titanium:

As indicated above, chemical analysis shows that magnetic titanium (ilmenite) is present in quantities which range from 10 - 20% of recoverable magnetite and that two to five times the amount of non magnetic titanium (Rutile) is present. Therefore, assuming recoverable magnetite reserve of 130 m tons, there is a strong indication of 13 - 25 m tons of Ilmenite and 25 - 100 m tons of Rutile.

While smaller than indicated by magnetic modelling, the estimated reserves are capable of commercial production for more than a hundred years. It should be noted that the overburden has been neglected in calculations even though the surface samples picked up on various occasions indicate high magnetite concentration.

Sulphide Ores:

The chemical analysis of a sample from 95-3 has zinc concentration of .01% (Appendix 5). While this is negligible in itself, a review of VLF-EM data collected with aeromagnetic survey in 1993 (Figure 20B) shows two strong anomalies near the hole (and five others) which may be caused by concentrations of disseminated sulfide minerals. The depth, amount or exact nature of these ores is not indicated by the data. However, anomalies are of great interest because their shape and location correspond closely to topographic features and they occur at the rim of major magnetite-rich intrusives. A surface sample was taken from the western anomaly near the airstrip during the field visit in October 1995. It is noteworthy that the strongest EM anomaly is located 500 m south of 95-3 and well within 26BT claims. Four other EM anomalies are also located in the claimed area.

Appendix 6 is the result of Chemical analyses of several core samples, one from 95-3, seven from 94-8, surface samples from western E-M anomaly (E-W1-2.5 and E-W2-2.3), western magnetic anomaly (MWS) and one from the creek between holes 94-3 and 94-4 (SS-3-4). The analyses show magnetite and Titanium concentration in magnetic area, higher zinc in 95-3, but no indication of sulphide concentration over western E-M anomaly. Further investigation of these anomalies proved discouraging.

Geological review of the 500′ deep hole drilled to test the strongest anomaly does not provide any encouragement.

CONCLUSIONS AND FUTURE WORK

Geological analysis of available report, geophysical work, drilling of fifteen holes and core analysis from the holes indicate the probability of a large reserve of magnetite, ilmenite and rutile in the prospect area. The investigation so far has concentrated on magnetite and titanium. Next stage of exploration will expand the investigation of the concentration of iron and Titanium minerals and also explore for sulphide minerals.

A detailed review of data collected so far and surface geology was conducted in the summer of 1997 by an experienced mining geologist who is currently finalising his study and preparing the report has been just received.

Future work will be determined after the recommendations contained in geologist report have been reviewed.

References

Bath, G. D., 1962, Magnetic anomalies and magnetisations of the Biwabik Iron-formation, Mesabi area, Minnesota: Geophysics, v 27, no 5, p 627-650

Gaucher, E. H. S., 1965, Quantitative interpretation of the "Montagne du Sorcier" magnetic anomaly, Chibougamau, Quebec: Geophysics, v 30, no 5, p 762-782

Jain, S., 1976, An automatic method of interpretation of magnetic profiles: Geophysics, v 41, no 3, p 531-545

Kelsch, W.L., Jain, S., 1993, Assessment report on the BT 1-6 claims: Prince George Mining Division, British Columbia

Kelsch, W.L., Jain, S., 1994, Assessment Report on the BT 1-11 claims: Prince George Mining Division, British Columbia

Pell, J., 1994, Carbonatites, Nepheline Syenites, Rimberlites and Related rocks in British Columbia: Province of British Columbia, Mineral Resources Division, Bulletin 88, p 14-18

Jain, S., Kelsch, W.L., 1997, Assessment report number 25034, BT claims 12-19

HOLE 94-1 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical).
Drilled to ~ 33 m (100'). Approx. collar elevation is 3620'.
Near full recovery of 32.1 m in 6 boxes.
Casing at 15' (4.57 m). Minor core rubble at the top.

Depth (m) Interval Thickness Interval Letter Designation Description

Start 15' (4.57 m)
0.55 m=17' 1.75 m=21' 3.07=27' 5.47=30' (9.14 m)
4.57 - 12.44 7.87 m DG Biotite Syenite. Mesocratic, coarse crystalline, well foliated. Not porphyritic. Rare healed epidote fractures. Anhedral very coarse crystalline biotite. Very rusty, very common limonitized fractures causing much rubble in the interval.

0.66=38' (11.58 m)
7.87 - 11.58 2.02 m DH As Unit DG Biotite Syenite but with more mafics; meso - melanocratic. Minor fracturing, very minor rubble in the interval.

11.58 - 12.28 0.70 m DI Magnetic Melanocratic Bi Syenite. Medium crystalline. Common very fine crystalline *pyrrhotite* (reacts with dilute HCl) as a late stage interstitial sulphide. Contributes to susceptibility measurement BT 1-45.

1.73=48' 5.25=58' (17.68 m)
12.28 - 20.58 8.30 m DJ As Unit DG Biotite Syenite. Melanocratic to mesocratic, equigranular, coarse crystalline. Faint igneous foliation. Competent. Approx. 10 - 15 % magnetic opaques.

0.34=68' (20.73 m)
20.58 - 21.58 1.00 m DK Leucocratic Syenite. Dark grey speckled off white. Diffuse feldspar rich bands are intermixed with minor amounts of the above Biotite Syenite. Megacrystic, little opaques.

2.82=78' 6.30=88' (26.83 m)
21.58 - 29.01 7.43 m DL Melanocratic Biotite Syenite. Diffuse off white coarse crystalline leucocratic feldspar layers are intermixed with very common schlieren bands. Minor epidote occurs in very common healed, epidotized fractures.

29.01 - 29.40 0.39 m DM Pelitic Xenolith. A dark grey fine crystalline pelitic inclusion. Possibly the original lithology was a shale or mudstone (argillite).

1.54=98' (incorrect marker)
29.40 - 32.10 2.70 m DN. As Unit DJ Melanocratic Biotite Syenite. Same texture, with a faint igneous foliation. Same magnetic susceptibility 43 e.m.u.

End Core 94-1

HOLE 94-2 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Drilled to 30.48 m (100'). Approx. collar elevation 3700'. Casing at 10' (3.05 m). Near complete recovery of 30.48 m in 6 boxes. Some core rubble at the top.

Depth (m) Interval Thickness Interval Letter Designation Description

Start 10' (3.05 m)
3.05 - 3.36 0.31 m DO Glacial erratic of melanocratic, well foliated Hornblende Syenite. Coarse crystalline, not porphyritic. Mostly rubble.

3.36 - 3.75 0.39 m DP Hornblende Syenite. Mesocratic, coarse crystalline, mafics ~ 25%, equigranular, very well foliated. The foliation is *a metamorphic* feature (not an igneous crystal cumulate layering texture). A single high angle fault in the midsection of the interval. Opaques ~ < 5%.

2.35=18' (5.49 m)
3.75 - 6.45 2.70 m DQ as Unit DO but more mafic ~ 35%. Two epidote healed fractures with open mm sized vugs occur.

6.45 - 8.18 1.73 m DR Mesocratic Hornblende Syenite as Unit DP. Off white, with common epidote veinlets and diffuse epidote rich schlieren. Competent. Approx. 10 - 15 % magnetic opaques.

1.33=28' (8.54 m)
8.18 - 9.51 1.33 m DS Mesocratic Hornblende Syenite. Grading from the above with v common epidote - potassium feldspar schlieren: diffuse light green - off white bands from the high temperature reaction of (possibly carbonate rich) inclusions.

9.51 - 11.91 2.40 m DT Mesocratic Hornblende Syenite as Unit DR. With a very common light green disseminated mafic mineral, possibly actinolite - tremolite. Uncommon epidote stringers.

11.91 - 12.52 0.61 m DU Alkalic Syenite. Very fine - very coarse crystalline. *Not foliated*. Green actinolite and black aegerine (sodium pyroxene) needles in an inequigranular potassium feldspar rich, felted matrix. Possibly from the complete absorption of an inclusion at very high temperatures. Texture is typical of alkalic rocks.

12.52 - 13.99 1.47 m DV As Unit DT with the bottom part of interval rusty and fractured. Very common disseminated actinolite - tremolite?. Uncommon schlieren as Unit DS.

2.00=48' (14.63 m)
13.99 - 16.97 2.98 m DW As Unit DV but more mafic; 40- 50 % mafics mostly amphibole. Fractured, and rusty in midsection.

16.97 - 17.60 0.63 m DX Melanocratic Hornblende Syenite with three cm sized bands of epidote - potassium feldspar schlieren.

1.63=58' (17.68 m)
17.60 - 21.98 4.38 m DY As Unit DV Leucocratic - Mesocratic Hornblende Syenite. Coarse - very coarse crystalline, very well foliated, actinolite to ~25 % and black hornblende to ~ 30%.

3.40=78' (23.78 m)
21.98 - 27.32 5.34 m DZ Mesocratic Hornblende - Actinolite Syenite. Well foliated, mineralogical banding on a 10 cm - sized scale. Rare epidote veinlets infilling fractures. Similar to Unit DY.

1.14=88' (26.83 m)
25.39 - 28.15 2.76 m EA Mesocratic Hornblende - Actinolite Syenite. As above Unit DZ but partly with more mafics; one 5 cm sized band of calc-silicates.

1.60=98' (29.88 m)
28.15 - 29.51 1.36 m EB Leucocratic Actiolite - Hornblende Syenite. Actinolite ~ 25 % with < 10 % black hornblende. Typical metamorphic foliation at moderate angles to the core.

0.97=100' (30.48 m)
29.51 - 30.48 0.97 m EC As Unit EA Mesocratic Hornblende - Actinolite Syenite.

End Core 94-2

HOLE 94-3 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Drilled to ~ 33.0 m (108.3'). Casing at 1' (0.30 m). Approx. Collar elevation 4080'. Full recovery of 33 m in 6 boxes. Some core rubble in the upper intervals.

Depth (m) Interval Thickness Interval Letter Designation Description

Start 1' (0.30 m) 2.71=13' (3.96 m)
0.30 - 6.14 5.84 m ED Mesocratic biotite - hornblende Anorthositic Syenite. Unfoliated and massive; partly with a faint igneous flow ? foliation. Medium to coarse crystalline, not porphyritic, mafics ~ 45 %. Very competent. Faint blue - grey larvikitic alteration of the plagioclase. Disseminated opaques to ~ 20 %; very uncommon one - cm sized magnetitite laminations in midsection, esp. at 1.85 - 2.10 m. Also in midsection a 35 cm sized rusty fault gouge; at 3.64 m depth is another rusty fault gouge. No pyrrhotite observed. Gradational to

1.66m=28' (8.53 m)
6.14 - 9.67 2.40 m (poor recovery) EE Foliated Hornblende Syenite. Mesocratic, very coarse crystalline, mafics ~ 25%, very well foliated - *a metamorphic foliation* (not an igneous crystal cumulate layering texture). Incompetent, much rubble and poor recovery. Opaques ~ < 5%.

2.11=38' (11.58 m)
9.67 - 14.15 4.48 m EF as Unit EE Foliated Hornblende Syenite but more competent; with common chlorite and epidote healed shear planes especially at the base .

0.19=48' (14.63 m)
14.15 - 14.63 0.48 m EG as Unit EF with a prominent high angle chloritized slickenplane with slickenlines - a fault surface.

14.63 - 17.59 2.96 m EH as Unit EE Foliated Hornblende Syenite.

0.36=58' (17.68 m)
14.63 - 17.68 1.54 m (poor recovery) EI as Unit EE Foliated Hornblende Syenite. An incompetent well fractured interval.
< 15 % opaques.

17.68 - 20.90 3.22 m EJ as Unit EI Foliated Hornblende Syenite. Common actinolite veining along healed fractures; also three 35 - 40 cm bands of off white (albitic plagioclase) to pale green (actinolite - tremolite) speckled black (mafics) absorbed inclusions. A slight foliation of the inclusions is evidence of a *post-intrusive* metamorphic foliation. Competent, coarse crystalline, a rather uniform unit. No epidote.

20.90 - 22.30 1.40 m EK Argillic altered Hornblende Syenite. Intensely to slightly altered. Soft, off white, friable and incompetent, mostly rubble.

22.30 - 23.43 1.13 m EL Inclusion - rich Hornblende Syenite. Coarse crystalline to megacrystic. As Unit EJ with very abundant inclusions. Fractured and incompetent.

0.82=78' (23.78 m)
23.43 - 25.38 1.95 m EM As Unit EK Argillic altered Hornblende Syenite with slight to moderate alteration. Incompetent, mostly rubble .

25.38 - 27.88 2.50 m EN Melanocratic Hornblende Syenite. Well foliated, more mafics than the above Units. Well fractured.

27.88 - 30.57 2.69 m EO Melanocratic Magnetite Anorthosite. Very dark bluish grey, very fine - medium crystalline, with disseminated opaques to ~ 20%. Massive and competent. Very common wispy schlieren of the well foliated Melanocratic Hornblende Syenite - thus this Anorthosite Unit and Unit ED are *separate phases of the Hornblende Syenite intrusion - later differentiates.*

30.57 - 31.60 1.03 m EP as Unit EL Inclusion - rich Hornblende Syenite. Megacrystic, well foliated, fractured.

EQ 0.50=98'
31.60 - 33.03 (108.3') 1.43 m (to 100' mark) Undefined Ultramafic Rock: possibly Hornblende Lamprophyre. Abundant fine to very coarse crystalline hornblende phenocrysts. Very dark brown black, foliated with some slickenplanes or shears. Soft, dark olive green alteration on the many fracture surfaces. Very incompetent - mostly rubble. A thin section is needed to accurately describe the lithology.

End Core 94-3

HOLE 94-4 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Drilled to ~ 34 m (112'). Approx. collar elevation 3990'. Casing at 5' (1.52 m). Near complete recovery of 34.19 m (112.1') in 6 boxes. Some rubble at the top.

Depth (m) Interval	Thickness Interval	Letter Designation	Description

Start 5' (1.52 m)
1.15=9' 3.51=15' 5.28=23' 8.47=28' (8.53 m)
1.52 - 12.89 11.37 m ER Mesocratic Biotite - Hornblende Syenite. Well foliated, very coarse crystalline, marginally porphyritic plagioclase, mafics ~ 65%. Partly fractured with black chloritic alteration; generally competent. Disseminated opaques < ~ 15 %

0.78=38' (inaccurate mark) (11.58 m)
12.89 - 14.61 1.72 m ES as Unit ER Mesocratic Biotite - Hornblende Syenite but with slightly less mafic mineral content ~ 55%. Well foliated, porphyritic with very coarse crystalline feldspar phenocrysts.

0.36=42' 2.49=48' (14.63 m)
14.61 - 17.84 3.23 m ET as Unit ER Mesocratic Biotite - Hornblende Syenite with more opaques - interstitial magnetite to 25%. Very coarse crystalline to megacrystic. Rare megacrysts of anhedral poikilitic biotite. A band of black chloritic fault gouge occurs at the top for 0.36 m.

17.84 - 19.69 1.85 m EU Magnetite Shonkinite. Fine to coarse crystalline with massive appearance. Evenly disseminated opaques (BTS 52 100 e.m.u.). Includes a cm sized bleb of Unit ET *(thus the Magnetite Shonkinite is a late igneous differentiate).*

0.78m=58' 4.01=68' 7.20=78' (23.78 m)
19.69 - 28.09 8.40 m EV Melanocratic Shonkinite Porphyry. Uncommon plagioclase phenocrysts in a fine to medium crystalline matrix. Faint metamorphic foliation, indistinct igneous foliation, rare anhedral cm sized poikilitic biotite megacrysts. Disseminated opaques ~ 20 - 25 % as magnetite and ilmenite (BT4-71 83.8 e.m.u.). Very competent.

28.09 - 28.44 0.35 m EW as Unit EU Magnetite Shonkinite. Fine to medium crystalline, massive appearance with mm sized laminations. Rare anhedral cm sized poikilitic biotite megacrysts. Very competent ~ < 35 % opaques. Smaller amount of plagioclase phenocrysts than Unit EV.

1.63=88' 4.72=98' (29.88 m)
28.44 - 34.19 (112.1') 5.75 m EX as Unit EV Magnetite Shonkinite but with characteristic, more abundant (though uncommon) anhedral cm sized biotite poikilitic megacrysts, approx. 2% of the unit.

End Core 94-4

HOLE 94-5 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Approx. collar elevation is 3630'. Casing at 10' (3.04 m). Drilled to ~ 34.5 m (113'). Full recovery of 34.45 m (= 113') in 6 boxes. Some core rubble increase the core length.

<u>Depth (m) Interval Thickness Letter Description</u>
<u>Interval Designation</u>

Start 10' (3.04 m)
3.04- 3.94 0.90 m EY Mesocratic Syenite. Unfoliated, variably coarse crystalline to megacrystic with euhedral alkalic amphibole megacrysts. 'Felted' igneous texture with euhedral undetermined mafic minerals. Mafics ~ 75 %. Incompetent; much rubble in the interval.

3.94 - 5.28 1.34 m EZ 'Alaskite'. A leucocratic 'flow press' differentiate with *no mafic minerals*. Composed of flesh pink medium - coarse crystalline potassium feldspar crystals with uncommon very coarse sized very light grey albite phenocrysts. Some core rubble. No opaques present.

0.92=18' 4.58=28' (8.53 m)
5.28 - 12.94 7.66 m FA as Unit EY Mesocratic Syenite. Generally megacrystic with cm - sized euhedral mafics. Uncommon pistachio - green epidote segregations in the matrix. Rare miarolitic vugs in mid section. Opaques < 5%.

0.38=38' (inaccurate mark) (11.58 m)
12.94 - 15.12 2.18 m FB Mesocratic Syenite. Like EY above but fine to coarse crystalline with rare mm sized white felsic (potassium feldspar?) veins. Rare mm sized miarolitic cavities.

1.44=48' (inaccurate mark) (14.63 m)
15.12 - 16.56 1.44 m FC as Unit FA Megacrystic Mesocratic Syenite .

3.53=58' (17.68 m)
16.56 - 21.85 5.29 m FD like Unit FB Mesocratic Syenite. Fine to coarse crystalline. Similar in mineralogy to the megacrystic Mesocratic Syenite but with finer crystal size. No miarolitic cavities. The lower part of the interval is completely gradational to the megacrystic Mesocratic Syenite Unit.

1.54=68' (inaccurate mark) (20.73 m)
21.85 - 23.60 1.75 m FE Intermixed fine crystalline and megacrystic Mesocratic Syenite. The megacrystic unit intrudes bands of the fine crystalline Unit; *so it is younger*. Competent and uniform except for this remarkable grain size variation.

2.97=78' (23.78 m)
23.60 - 29.73 6.13 m FF Mesocratic Syenite. An igneous cooling unit with abundant miarolitic vugs for 6 cm at the top of the Unit. The unit grades from coarse crystalline at the top to very fine crystalline at the base. The lower part of the interval has three megacrystic mesocratic 'xenoliths' incorporated in the Mesocratic Syenite. Unaltered (as is the rest of this hole). Very competent.

0.54=88' (inaccurate mark) (26.83 m)
29.73 - 32.07 2.34 m FG Mesocratic Syenite. Megacrystic at the top grading to coarse crystalline at the base. Rare cm sized poikilitic texture of the anhedral mafic minerals. No inclusions; a very competent unit.

2.22=100' (but actually 34.45 m = 113')
32.07 - 34.45 2.38 m FH Mesocratic Syenite. Megacrystic. Rare thin epidote veining.

End Core 94-5

HOLE 94-6 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Approx. collar elevation is 3880'. Casing at 5' (1.52 m). Drilled to ~ 30.48 m plus (over 100'). Recovery of 36.37 m (abundant core rubble) in 7 boxes.

Depth (m) Interval Thickness Letter Description
Interval Designation

Start 5' (1.52 m)
1.52 - 2.44 0.92 m FI Hornblende (?) Ultramafitite. Very dark grey green, with hairline chlorite along fractures forming a network 'lace' texture. No feldspar phenocrysts. Medium to coarse crystalline. Mafics ~ 97 %. Incompetent; all rubble.

2.44 - 3.73 1.29 m FJ 'Alaskite'. A leucocratic 'flow press' differentiate with *no mafic minerals*. Dominately flesh pink coarse crystalline potassium feldspar with common hairline chlorite- epidote fractures. Slight argillic alteration gives the Unit a crumbly aspect. All core rubble, *no opaques*.

0.21=8' (2.44 m) (interval thickness is too long due to rubble)
2.44 - 5.00 2.56 m FK Ultramafitite as Unit FI. Rare coarse sized feldspar phenocrysts. Generally broken core rubble. Magnetite would be completely altered; Opaques < 5%.

5.00 - 5.98 0.98 m FL 'Alaskite' as Unit FJ.

5.98 - 6.61 0.63 m FM Hornblende (?) Ultramafitite as Unit FI with common very coarse sized feldspar phenocrysts.

0.48=18' (5.48 m)
6.61 - 7.67 1.06 m FN 'Alaskite' as Units FL and FJ. Toward the base is a 25 cm sized inclusion of Ultramafitite. At the base the Alaskite is vuggy with common miarolitic cavities.

3.20=28' (8.53 m)
7.67 - 11.92 4.25 m FO Melanocratic Hornblendite. Approx. 15% coarse sized feldspar phenocrysts. Distinct hi angle metamorphic foliation. Common thin chlorite- epidote veins.

11.92 - 13.07 1.15 m FP 'Alaskite' as Unit FN laced with sub mm sized epidote - chlorite veinlets. V competent, unaltered.

1.09=38' 4.52=48' 2.59=57' 2.95=58' (17.68 m)
13.07 - 21.56 8.49 m FQ Melanocratic Hornblendite as Unit FO. Moderate to high angle foliation. Uncommon mm sized chlorite-epidote veins infill healed fractures. Toward the base in box 3 is a 25 cm sized chloritic band (possibly from an incorporated inclusion).

21.56 - 22.27 0.71 m FR Melanocratic Hornblendite as Unit FO. Medium grey, more altered with a pervasive soft off white talc ? alteration.

6.26=78' (23.78 m)
22.27 - 28.49 6.22 m FS Melanocratic Hornblendite as Unit FR above; less off white alteration. Uncommon medium crystalline cm sized bands with no feldspar phenocrysts. Very rare epidote - chlorite veining. Uncommon 2 mm sized vertical calcite veinlets.

28.49 - 29.37 0.88 m FT Melanocratic Hornblendite. Dark grey brown to dark grey green, medium crystalline with no feldspar phenocrysts. Very common mm sized chlorite- epidote veins infill healed fractures.

2.30=88' 5.49=96' 7.00=100' (30.48 m) (interval thickness too long due to rubble)
29.37 - 36.37 7.00 m FU Melanocratic Hornblendite. Same lithology and texture as Unit FQ.

End Core 94-6

HOLE 94-7 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Drilled to ~ 33 m (100'). Approx. collar elevation is 2810'. Casing @ 5'
No bedrock was recovered; very poor recovery of loose and very friable light brown glacial till. Composed of varied unsorted cobbles of varicolored alkalic rocks in a sandy and clayey matrix. 2 boxes.

HOLE 94-8 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical).
Approx. collar elevation 2695'. Casing at 5' (1.52 m).
Drilled to 100'.
Full recovery of 30.97 m (101.58') in 6 boxes.

Depth (m) Interval | Thickness Interval | Letter Designation | Description

Start 5' (1.52 m). 1.43 m of drift from 1.52 - 2.95 m.

0.47=13'
2.95 - 3.42 0.47 m FV Actinolitic Hornblende - Biotite Syenite. Mesocratic, well foliated: striped off white, black, and very dark grey green. Common interstitial pistachio green epidote. Coarse crystalline. Mafics ~ 55 %. Competent; good core recovery. Opaques < 10%.

0.68=18' 2.80=24' 5.52=32' (9.75 m)
3.42 - 9.46 6.04 m FW Actinolitic Hornblende - Biotite Syenite. As above Unit FV but the upper half of this interval is well fractured with intense argillic alteration: a fault is present. *No opaques.*

0.92=37' 3.70=44' (13.41 m)
9.46 - 14.38 4.92 m FX as Unit FV Actinolitic Hornblende - Biotite Syenite. Little epidote is visible. At the base the Unit is increasingly mafic to ~ 75 % dark minerals with a massive appearance; upper half has cm sized xenolith inclusions. Opaques < 15%.

0.19=49' (?) (14.94 m)
14.38 - 17.82 3.44 m FY as Unit FV Actinolitic Hornblende - Biotite Syenite but with less mafics approx. 40 %; well foliated with common epidote. A clot of Unit FX at the top and a 47 cm sized band in midsection is evidence that this Unit is a younger, more felsic differentiate.

17.82 - 17.97 0.15 m FZ as Unit FV Actinolitic Hornblende - Biotite Syenite with less black amphibole; slightly altered.

17.97 - 19.09 1.12 m GA Meso Actinolitic Amphibole - Biotite Syenite. Coarse crystalline with a discernible moderate angle metamorphic foliation. Complex mineralogy.

19.09 - 19.50 0.41 m GB Pink Leucosyenite. Megacrystic with abundant cm sized miarolitic cavities- *vugs*. Approx. ~ 10 % amphibole as coarse sized euhedral black phenocrysts. Possibly an incorporated xenolith.

19.50 - 22.81 3.31 m GC Actinolitic Amphibole - Biotite Syenite. Leucocratic and megacrystic at the top; overall meso- to melanocratic and very coarse crystalline. Discernible foliation. Cm sized mafic clots of poikilitic anhedral biotite. Very competent and unaltered.

22.81 - 25.08 2.27 m GD Leucocratic Syenite like the top part of Unit GC. Very coarse crystalline, a faint but discernible foliation present. Complex mineralogy; < 5 % opaques. Rare mm sized chlorite- epidote veins infill healed fractures. Very competent and unaltered. Completely gradational to

25.08 - 26.40 1.32 m GE Melanocratic Syenite (or Shonkinite). The upper part is mesocratic; very coarse crystalline with common cm sized mafic clots of anhedral poikilitic biotite. A sharp igneous intrusive contact with

26.40 - 28.97 2.57 m GF Leucocratic Syenite (upper sixth) completely gradational to Mesocratic Shonkinite (five sixths or most of he Unit). Very coarse crystalline, with a low angle foliation. Disseminated opaques mostly magnetite to ~ 18% in cm sized bands. No pyrrhotite observed. *Crystal settling has increased the mafic and opaque mineral content toward the base. The Leucocratic Syenite is a felsic differentiate cogenetic with the Melanocratic Syenite (Shonkinite)- both derived by settling of mafic crystals from the parental Actinolitic Hornblende - Biotite Syenite.*

28.97 - 30.97 (101.58') 2.00 m GG Leucocratic Syenite. Same texture and mineralogy as Unit GD. Very competent.

End Core 94-8

HOLE 94-9 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical).
Casing at 5' (= 1.52 m). Approx. collar elevation is 2490'.
Drilled to ~ 30.48 m (100').
Complete recovery of 30.48 m in 6 boxes.

Depth (m) Interval	Thickness Interval	Letter Designation	Description

Start 5'. 1.52 m
1.52 - 2.95 1.43 m of cobbles including a quartzite boulder in a lacustrine (glacial lake) silty clay matrix. Poor recovery.

0.47=13' (start 3.96 m)
3.96 - 4.43 0.47 m GH Mesocratic Syenite, no foliation evident. Very coarse crystalline, not porphyritic. General pale green *weak chloritic alteration of the mafics. Trace epidote veinlets.* Mafics ~ 65 %. Competent; good recovery. Opaques < 10%.

0.68=18' 2.80=24' 5.52=32' (9.75 m)
4.43 - 10.47 6.04 m GI Mesocratic Syenite as Unit GH with more common opaques ~ 18%. (BT-9-67 75.4 e.m.u).

0.92=37' 3.70=44' (13.41 m)
10.47 - 15.39 4.92 m GJ as Unit GH but moderately to intensely altered. Uncommon mm sized maroon coloured hematite veinlets and rare sub cm sized coxscomb carbonate veins infilling fractures. Opaques < 3%, destroyed by hydrothermal alteration.

0.19=49' (?)
15.39 - 25.41 3.44 m (missing core) GK As GH, Mesocratic Syenite with intense chloritic alteration grading to moderate argillic alteration at the base. Subhorizontal 3 - 5 cm sized banding with abundant one cm sized coxscomb carbonate veins. Carbonate is also in the matrix. No magnetite present; it would have been completely destroyed by alteration.

25.41 - 25.49 0.08 m GL. Fine crystalline Pyrite in an intensely clay (argillic) altered breccia. A possible original lithology is the Mesocratic Syenite.

2.11=92' (28.05 m)
25.49 - 28.19 2.70 m GM. Mesocratic Syenite (?) with Intense light grey green argillic (clay) alteration. Brecciated at the top of the interval. Common carbonate in the matrix and very abundant cm sized carbonate veins. A 10 cm hematitic band associated with breccia in the lower part of interval.

1.72= 98' (29.88 m)
28.19 - 29.91 1.72 m GN Mesocratic Syenite. Grey green due to intense chloritic alteration. Abundant cm sized carbonate veins. Competent, good recovery.

0.57=100' (30.48 m)
29.91 - 30.48 0.57 m GO Mesocratic Syenite with slight chloritic alteration. Poor recovery, mostly rubble. Little opaques.

End Core 94-9

HOLE 95-1 DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Approx. collar elevation 2400'. Casing at 16' (4.88 m). Drilled to 91.46 m (300'). Full recovery of 96.91 m (317.86') (some core rubble gives extra recovery) in 16 boxes.

Depth (m) Interval | Thickness Interval | Letter Designation | Description

Start 16' (4.88 m)
0.34 m=20' 0.65=24' 1.52m=28' 2.06m=30' 3.10=34' (10.36 m)
4.88 - 10.36 3.10 m CH Mafic Syenite. Very incompetent - common core rubble. Mesocratic, very coarse crystalline, indeterminate mafic mineral - pyroxene ?. A different intrusion than 95-2 or 95-3 drill holes. Moderate angle Igneous flow lamination. Uniform, but some of the interval is calc-silicate (developed from xenoliths?).

1.91=37' 5.01=47' (14.33 m)
10.36 - 16.06 5.70 m CI Pyroxene Syenite. Melanocratic, very coarse crystalline, uniform, competent, equicrystalline, magnetite (opaques) content < 10% .

2.22=57' (17.37 m)
16.06 - 19.16 3.10 m CJ Leucocratic Biotite - Amphibole Syenite. Coarse - very coarse crystalline with moderate angle igneous flow banding and common mm sized epidotized healed fractures.

19.16 - 19.65 0.49 m CK Mesocratic Syenite.
A calc-silicate altered very fine crystalline dark green 0.16 m band at the top of the interval, probably a xenolith incorporated in the Leuco - Syenite of Unit CJ.

1.87 =67' (20.4 m)
19.65 - 23.60 3.95 m CL Mesocratic Syenite like Unit CJ but with more mafics ~ 30%. Uniform, with a characteristic igneous flow lamination at moderate angles to the core, common epidotized healed fractures, mm sized.

1.21=77' (23.47 m) 3.10=87' 6.14=97' (29.57)
23.60 - 29.57 7.35 m (some extra rubble) CM Variably Leuco - Mesocratic Syenite Similar to CL. Moderate angle igneous foliation. One high angle fault in box 4. Common 1 - 5 mm sized epidote seams. *No* traces of Quartz noted. A uniform and very competent lithology.

29.57 - 30.59 1.02 m CN As Unit CM but with very common cm sized seams of epidote and pink garnet from incorporated xenoliths. Very competent.

30.59 - 31.75 1.16 m CO as CM with criss crossing mm sized healed epidotized fractures. Little magnetite or opaque content.

1.20=107' (32.62 m)
31.75 - 32.95 1.20 m CP As Unit CN with abundant epidote inclusions and veining. Incompetent.

32.95 - 33.39 0.44 m CQ A green to pink calc-silicate inclusion (xenolith) incorporated in the Syenite.

3.20m=117' (35.67 m)
33.39 - 37.66 4.27 m CR Leuco - Mesocratic Syenite As Unit CO.

37.66 - 38.01 0.35 m CS An inclusion of dark purple brown silicic hornfels.

1.62m=127' (38.72 m)
38.01 - 40.68 2.67 m CT Leuco - Mesocratic Syenite as CR, texturally identical.

40.68 - 41.11 0.43 m (to end of box 6) CU Calc-silicate inclusion very similar to CQ.

2.04=137' (41.77 m)
41.11 - 43.32 2.21 m CV Meso- partly Melanocratic Epidote Syenite. Medium grey, ~ 30 % mafics: biotite and pyroxene ? with very little magnetite. At the 135' marker (sample 95-1-135) is disseminated very fine crystalline pyrrhotite. The syenite is unaltered, very competent, and has incorporated more country rock material than usual to give more abundant epidote in his interval.

1.72=143' 2.92=147' 6.03=156' 6.79=158' (48.17 m)
43.32 - 50.42 7.10 m CW Mesocratic Syenite. With a strong igneous flow foliation and abundant epitotized fractures, some with pink calc-silicates (garnet). Mottled dark grey (mafics) and off white (feldspar). Very coarse crystalline.

50.42 - 51.03 0.61 m CX As Unit CW but mostly consisting of two epidote and garnet bearing calcsilicate inclusions as xenoliths.

2.00=167' (50.91 m)
51.03 - 53.60 2.57 m CY Mesocratic Syenite as Unit CW distinctly foliated.

2.68=177' (53.96 m)
53.60 - 56.56 2.96 m CZ Mesocratic Syenite as Unit CW with two 10 cm sized bands of calc-silicates formed from incorporation of xenoliths. Little opaque content.

0.26=179' 1.32m=182' (55.49 m)
56.56 - 58.20 1.64 m DA A xenolith rich interval with minor intersections of the Mesocratic Syenite. The top has much rubble and has poor core recovery.

0.06m=184' 2.77m=192' 4.327=197' 7.34=207' (63.11 m)
58.20 - 68.01 9.81 m DB Mesocratic Syenite as Unit CY, with the same texture and mineralogy. Most of the interval has less epidote veining.

1.81=217' (66.16 m)
68.01 - 70.42 2.41 m DC Melanocratic Syenite. Very coarse crystalline, porphyritic texture with very fine crystalline pyrrhotite to ~ 30 % in the very mafic midsection (sample 95-1 213).

1.28m=222' (67.68 m)
70.42 - 72.12 1.70 m DD Mesocratic Syenite as Unit DB with common cm sized epidote and grey- pink garnet veining. Magnetite and ilmenite opaques < 5%.

2.33m=230' 3.96=235' (71.46 m)
72.12 - 76.14 4.02 m DE Pelitic Hornfels coloured medium red-purple. Very fine crystalline, possibly a thick xenolith or argillaceous inclusion.

0.63=238' 0.71 m to end of box 12. 2.61=247' (75.30 m)
76.14 - 81.45 5.31 m DF As Unit DD Melanocratic to mesocratic Syenite. Well foliated with the usual epidote veins along fractures; uncommon calcite - healed high angle fault planes in the lower part of the interval.

81.45 - 82.38 0.93 m DE Epidote - Calcite xenolithic Mesocratic Syenite.

0.13=255' 0.85m=257' 3.91m=267' 7.13=277' 10.25=287' 13.41=297' 14.53=300' (91.46 m)

82.38 - 96.91 (317.86') 14.53 m DF Melanocratic to mesocratic Syenite as Unit DF; same lithology and texture. Uncommon calcite healed fractures. Igneous flow foliation at a moderate angle to the core.

End Core 95-1

HOLE 95-2 DESCRIPTION

43 mm Diamond Core. Hole inclined 090 degrees (vertical). Approx. collar elevation 4575'. Casing at 10' (3.05 m) Drilled to 298' (90.85 m). Full recovery of 93.60 m (107') in 16 boxes. Very minor core rubble.

Depth (m) Interval Thickness Letter Description
Interval Designation

1.60m=16' 2.15m=18' (5.48 m)
3.05 - 5.48 2.26 m BF Biotite Syenite. Mesocratic, very coarse crystalline, with ~ 30 % anhedral 'ragged' biotite. Uniform. Competent.

0.70=22' (6.71 m)
5.42 - 6.84 1.42 m BG Biotite Syenite as Unit BF but with altered dark brown biotite, well fractured and possibly a faulted zone.

0.61=28' 3.80=38' 5.45=42' (12.80 m)
6.84 - 12.52 5.68 m BH As Unit BF Biotite Syenite with a distinctive and common (faint) grey blue larvikitic alteration of the plagioclase.

0.67=48' 2.31=53' 3.93=58' 5.15=61' 7.26=68' 2.97=78' 6.10=88' (26.83 m)
12.52 - 26.33 13.81 m BI Larvikitic Biotite Syenite. Intense alteration of the calcic plagioclase has resulted in the uniform blue grey colour characteristic of larvikitic alteration. Megacrystic, generally competent. Some fracturing and hydrothermal alteration at biotite rich selvages has caused bleaching and destruction of the larvikitic alteration.

26.33 - 26.81 0.48 m BJ Anorthosite. Leucocratic, pale grey - blue due to weak larvikitic alteration. Inequicrystalline fine to very coarse sized crystals with < 5 % biotite; a reaction or contact zone with ~ 15 % fine grained interstitial euhedral glomeroporphyritic opaques - magnetite and ilmenite - developed.

2.45=98' 5.50=108' (32.92 m)
26.81 - 35.16 8.35 m BK Magnetitite. Equicrystalline, medium to coarse sized, dark grey, melanocratic and anorthositic with 15 - 25 % medium crystalline euhedral opaques. Variably strongly magnetic. Only very rare traces of carbonate noted.
0.56=118' 1.00=127' (38.72 m)

35.16 - 39.07 3.91 m BL Magnetitite as BK, medium to dark grey, possibly more calcium content in the plagioclase. Common fractures.

39.07 - 39.38 0.31 m BM Syenite. Very coarse crystalline to megacrystic. Dark green amphibole ± actinolite ? and black equant hornblende developed. No reaction with dilute HCl acid. Little magnetite content.

1.33=132' (40.24 m)
39.38 - 41.66 2.28 m BN Melanocratic Anorthosite. Medium - coarse crystalline, generally equicrystalline. Common yellow - brown limonite alteration is partially destructive of the ~ 10 % magnetite present. Competent.

0.75=138' (42.07 m)
41.66 - 43.37 1.71 m BO Magnetitite. Melanocratic, anorthositic, with common pyroxene (?). Very competent, uncommon coarse sized anhedral biotite phenocrysts, coarse - very coarse crystalline, unaltered.

2.25m=148' 3.69=155' 5.43=158' (48.17 m)
43.37 - 50.21 6.84 m BP Anorthosite, megacrystic, no larvikitic alteration, common dark green hornblende (actinolite?) and < 10 % opaques.

50.21 - 51.07 0.86 m BQ Biotite Anorthosite as Unit BP but well fractured. The biotite is partially altered to limonite. Mostly rubble.

0.98=168' 4.11=178' (54.27 m)
51.07 - 55.25 4.18 m BR Biotite Anorthosite as Unit BP but with a very coarse to pegmatitic grain size. The magnetite is concentrated in unevenly distributed clots; generally 5 - to exceptionally 30%.

2.50= 188' (57.32 m)
55.25 - 58.61 3.36 m BS Anorthosite. Pegmatoid texture for 0.60 meters in box 9. In box 10 the Anorthosite is very coarse crystalline to megacrystic, mesocratic. Clotted opaques mostly magnetite varying greatly in concentration.

58.61 - 59.16 0.55 m BT Leucocratic Anorthosite. Off white, < 5 % mafics, biotite is mostly anhedral. Very little magnetite.

1.95=198' (60.36 m)
59.16 - 62.13 2.97 m BU Mesocratic Anorthosite. Strongly foliated with common healed and limonitized fractures,; some are vuggy with sub cm sized cavities. Very coarse poikilitic phenocrysts of anhedral biotite.

62.13 - 63.20 1.07m BV Melanocratic Anorthosite. Very coarse - megacrystic, faintly but discernibly foliated.
0.29 m BW Anorthosite Meso - Leucocratic. With a very distinct moderate angle foliation.

0.78=208' (63.41 m)
63.20 - 66.91 3.71m BX Magnetitic Anorthosite. Very dark grey green, inequicrystalline generally very coarse sized. Melanocratic with abundant actinolite? and calcic hornblende at 215'. 10 % pyrrhotite as late disseminations is intergrown with the magnetite. Opaques 20 to 30 %.

0.23=218' (66.46 m)
66.91 - 72.60 5.69 m BY Biotite - Hornblende Anorthosite. Minor actinolite. Pegmatitic, unaltered, massive. Same lithology as Unit BP.

0.58=238' (72.56 m)
72.60 - 73.70 1.10 m BZ Leucocratic Anorthosite. Megacrystic, off white mottled black. Two hi angle faults present, one with a polished slickenplane (toward the end of box 12). Unaltered.

2.88=248' (75.61 m)
73.70 - 76.78 3.08 m CA Meso to Melanocratic Biotite Anorthosite. Megacrystic as BZ. Trace of interstitial (late) pyrrhotite.

76.78 - 77.43 0.65 m CB Pyrrhotite Anorthosite. Melanocratic, silicates are generally coarse crystalline. Fine to medium crystalline pyrrhotite is ~ 25 % of the interval. Magnetite and ilmenite opaques are < 10%.

2.38m = 258' (78.65 m)
77.43 - 80.53 3.10 m CC Mostly Mesocratic Biotite Anorthosite with cm sized leucocratic bands like Unit CA. Coarse - very coarse crystalline; mafics are anhedral. Maximum 15 % to < 5 % accessory interstitial pyrrhotite. Opaques (mag and ilmenite) approx. 10 - 15 %.

80.53 - 81.47 0.94 m CD Pyrrhotite Anorthosite. Melanocratic like Unit CB but with more pyrrhotite. Disseminated very fine - fine crystalline (grey brown with a metallic lustre) pyrrhotite to 35%, always interstitial to the silicates. Uncommon Leucocratic Anorthosite bands outline a cm sized horizontal igneous layering.

1.62=268' (81.70 m)
81.47 - 86.10 4.63 m CE Biotite Anorthosite. Mesocratic, megacrystic, colour is mottled very pale grey green (plagioclase) and black (mafics). Variable trace interstitial pyrrhotite in the lower part of the interval increases to a maximum of 20 - 30%. Very competent. No alteration.

0.15=278' (84.75 m)
86.10 - 88.62 2.52 m CF Biotite Anorthosite as Unit CE but with more plagioclase and only trace pyrrhotite. Some high angle healed fractures.

0.92 m = 288' 4.14 m = 298' (90.85 m)
88.62 - 93.60 (307.01') 4.98 m CG Biotite Anorthosite. Meso to leucocratic, megacrystic. Generally < 5% interstitial pyrrhotite concentrated in cm sized bands.

End Core 95-2

HOLE 95-3 DESCRIPTION

43 mm Diamond Core. Hole inclined 090 degrees (vertical). Approx. collar elevation 5320'. Casing at 7' (2.13 m). Drilled to 91 m (299'). Full recovery of 91.18 m (299.07') (some core rubble throughout) in 15 boxes.

<u>Depth (m) Interval Thickness Interval Letter Designation Description</u>

3.14=28' (8.53)
2.13 - 8.53 3.14 m (minimal recovery) AA Melanocratic Diorite. No quartz, coarse crystalline. In midsection is a 20 cm silicified orange chert inclusion. Common rubble.

8.53 - 9.27 0.74 m AB Melanocratic Diorite. as AA, fractured.

9.27 - 10.67 1.40 m AC Mesocratic Syenite. A very coarse crystalline strongly altered rock composed of light green propyliticaliy altered plagioclase and pale pink potassium feldspar. A skarn with calcite present (reacts with dilute HCl acid). Uncommon medium grey blue sodalite. Mostly rubble.

2.5=38' (11.58 m)
10.67 - 13.43 2.76 m AD Mesocratic Syenite. Very coarse crystalline, no calc-silicate. intense pink potassic alteration.

1.7=58' (17.68 m)
13.43 - 17.68 (minimal recovery) 1.70 m AE As AD but with strong argillic alteration and light brown Fe staining. Friable; an incompetent lithology. All rubble.

17.68 - 18.54 0.86 m AF Melanocratic Syenite as AC. Very coarse crystalline, very common cm sized lath shaped megacrystic amphiboles. Full recovery.

18.54 - (approx.) 20.98 2.44 m AG Mesocratic Syenite. Common coarse crystalline potassium feldspar phenocrysts. Thin high angle mylonitic fractures with epidote. Full recovery

starts 0.27 m above 68' (20.73 m)
20.46 - 20.53 0.07 m AH Mesocratic Syenite. Exactly as AD with the same texture. Very coarse crystalline, no calc-silicate. Intense pink potassic alteration.

1.46=78' Start box 4: 1.03=88' 4.0=98' 4.30 m in box 4.
20.53 - 27.83 7.3 m AI Mesocratic Syenite. Very pale pink to off white, medium to coarse crystalline with intense sodic alteration - albite has formed. At the top is a fault plane with chloritized slickenlines. Fractured in mid section. Full recovery.

27.83 - 28.23 0.40 m AJ Mesocratic Syenite. Medium to coarse crystalline with typical flesh pink intense potassic alteration.

end is 107' (32.62 m)
28.23 - 30.81 2.58 m AK Mesocratic Syenite. As Unit AI, uniform; no faulting observed.

32.62 - 33.03 0.41 m AL Melanocratic Syenite. Fractured, poor recovery with common rubble.

0.6=110' 1.51=118' (35.97 m)
35.85 - 35.97 0.12 m AM Mesocratic Syenite As Unit AI. In midsection at 1.15 m is an igneous intrusive contact between medium and coarse crystalline phases of the same syenite lithology.

1.15=128' 4.70=138' (42.07 m)
35.97 - 43.92 7.95 m AN Mesocratic Syenite. Coarse crystalline. Potassium feldspar alteration with very thin (hairline) epidotized fractures.

3.14=148' (45.12 m)
43.92 - 47.56 3.64 m AO As AN Mesocratic Syenite but with slight to intense Fe-stained limonitized breccia fractures esp. in the midsection. A zone of cataclasis with very common healed fractures.

47.56 - 49.08 1.52 m AP Upper part is Mesocratic Syenite like AN; the lower part has healed limonitic fractures like AO.

49.08 - 49.63 0.55 m AQ Melanocratic Syenite. Two prominent cataclastic 'crush breccia' fault zones occur at high angles to the core.

0.60=158' (48.17 m)
49.63 - 51.95 2.32 m AR Leucosyenite Syenite. Relatively fresh, pale pink, coarse crystalline with euhedral mafic very coarse crystalline amphibole. Very common felsic bands with little mafic minerals. A high temperature zone.

51.95 - 52.33 0.38 m AS Leucosyenite Syenite. As AR starting with a cm sized mylonitic hi-angle epidotized fault plane.

1.25=168' 4.03=178' 4.95 m to end of box 8. 2.72=188' 5.93= 198' 9.33=208' (63.41 m)
52.33 - 63.74 11.41 m AT Mesocratic Syenite. Generally very coarse, minor part is fine crystalline, Massive, uniform with little foliation developed.

63.74 - 64.59 0.85 m AU Mesocratic Syenite. Grading to off white with slight to common argillic alteration. Fractured at the base.

64.59 - 66.85 2.26 m AV Mesocratic Syenite. Medium - coarse crystalline with a uniform crystal size.

66.85 - 67.05 0.20 m AW A thin very melanocratic Cataclastic Fault Zone with very common opaques present.

1.06=228' 3.25=234' End of box is 3.45 m. 0.83=238' (72.56 m)
67.05 - 72.56 (missing core) 2.62 m AX Mesocratic Syenite like Unit AT. At 0.85 m is a 5 cm thick calcsilicate band with epidote. Fresh, off white, coarse crystalline. Euhedral variably sized mafic amphibole crystals. With uncommon healed fractures and traces of green calc-silicates.

1.51m=248' (75.61 m)
72.56 - 75.24 2.68 m AY Leuco - Mesocratic Syenite. Very coarse crystalline. Characteristic pink potassium feldspar alteration. Common felsic (leucosome) bands.

75.24 - 78.81 3.57 m AZ Mesocratic Syenite. Pale grey green and pink, medium - very coarse crystalline. Moderate hydrothermal alteration. No fractures. Two mafic minerals are present; one is equant and coarse - medium crystalline: possibly amphibole; the other is very fine - fine crystalline euhedral acicular lath shaped grains - a mafic calc-silicate?

1.90=268' (81.70 m)
78.81 - 81.87 3.06 m BA Leuco - Mesocratic Syenite. Very coarse crystalline. No or very rare lath shaped mineral present.

81.87 - 82.27 0.40 m BB Mesocratic Syenite. Fine crystalline, slightly altered.

82.27 - 83.07 0.80 m BC Mesocratic Syenite. Very fine crystalline as Unit BB. Common limonite stained fractures, calc silicate alteration, brecciated with xenolith-like blebs.

0.28=278' 4.31=288' (87.80 m)
83.07 - 88.47 5.40 m BD Mesocratic Syenite. Very mafic (last box), generally coarse crystalline with v common epidotized mylonitic fractures.

88.47 - 91.18 2.71 m BE Mesocratic Syenite. Pale pink, very coarse crystalline. A few epidotized fracture or fault planes are present.

End Core 94-1 at 91.18 m (299.07')

HOLE 96-1(4) DESCRIPTION

43 mm Diamond Core. Hole Inclined 090 degrees (vertical). Approx. collar elevation 2470' (752.8 m). Casing at 45' (13.72 m). Drilled to 91.44 m (300'). Full recovery of 91.17 m (299.11') in 14 boxes.

Depth (m) Interval	Thickness Interval	Letter Designation	Description

0.0 - 13.72 Casing

Start 45' (13.72 m) 13.72 - 14.98 1.26 m of glacial drift

14.98 - 22.08 1.16=58' 4.46=68' 7.10 m
DG Melanocratic Syenite.
Very coarse crystalline, 60 % subhedral mafic minerals - pyroxenes and biotite - in an off white plagioclase matrix. Common poikilitic pyroxene megacrysts. Holocrystalline, low angle igneous flow lamination. Uniform, very minor bands of very fine crystalline medium grey green melanocratic syenite, rare epidote segregations. Minor accessory magnetite ~ < 5 % and opaques disseminated throughout the interval - no cumulate concentrations of opaques evident.

22.08 - 22.88 0.80 m DH Melanocratic Syenite.
Very fine crystalline, uniform, competent, generally equicrystalline with uncommon plagioclase phenocrysts, common thin epidotized hairline fractures. magnetite (opaques) content < 10%.

22.88 - 28.25 2.81=88' 5.37 m DI Melanocratic Syenite.
As Unit DG very coarse crystalline with moderate angle metamorphic foliation. Minor mm sized epidotized healed fractures. A prominent very high angle mm sized fracture is healed by very fine crystalline calcite and qtz

28.25 - 31.18 5.12 m thick: 2.51=103' 2.93 m to end of box 3
2.19 m to end of box 4
DJ Altered Melanocratic Syenite.
Same as above Unit DI with pervasive medium green epidote - chlorite greenschist facies hydrothermal alteration. Magnetite is not destroyed; contains same minor accessory magnetite as Unit DH < 10 %. In box 4 moderate hydrothermal alteration

31.18 - 42.93 2.11=118' 4.88= 128' 8.13=138' 11.47=148' 11.75 m
DK Dark grey Melanocratic Syenite as Unit DI.
Coarse - very coarse crystalline, slightly less mafic; indistinct low angle igneous foliation. Very uniform and very competent. Rare epidote healed fractures.

42.93 - 43.08 0.15 m DL Mafic Xenolith.
An incorporated dark grey micro - very fine crystalline inclusion. Contacts are sharp with the syenite.

43.08 - 49.30 6.22 m thick: 1.98=158' 3.63 m to end of box 6.
2.22=168' 2.59 m in box 7.
DM Melanocratic to Mesocratic Syenite.
As Unit DK, but with uncommon 10 cm sized seams of moderate epidote - chlorite alteration. Two one and three cm sized bands of pink potassium feldspar - rich leucosome. Very competent. No settled concentrations of magnetite or opaques. In box 7 general weak chlorite - epidote alteration and some more felsic mesocratic syenite.

49.30 - 51.70 2.40 m DN Melanocratic Syenite.
Medium crystalline, very mafic, very dark grey- black strongly foliated in midsection to weakly foliated at the bottom of the unit. Moderately magnetic with ~ 10 - 15 % magnetite and opaques. Very competent.

51.70 - 56.57 4.87 m
DO Intensely Altered Melanocratic Syenite.
Intensely hydrothermally altered. Light grey green (chlorite) speckled white (calcite and plagioclase ?) and pistachio green (epidote). Coarse - very coarse crystalline. Seamed with cm sized distorted calcite veins. The syenite igneous texture is relict. A few coarse sized pyrite crystals at one spot; at the base gradational contact with

56.57 - 56.99 0.42 m DP Massive Pyrite.
Very coarse crystalline, no other metallic lustre opaques evident. Subrounded with 'clastic' milled crystals. Interspersed with light grey green altered syenite.

56.99 - 59.10 1.56=188' 2.11 m
DQ Moderately Altered Mesocratic Syenite.
Light grey green speckled white with a uniform massive relict igneous texture of syenite in upper half of interval; lower half has many bands and seams - irregular veins - of white calcite and an unidentified white felsic mineral giving a chaotic texture. At the base, 5 cm with decimated coarsely crystalline pyrite.

59.10 - 62.01 1.89=205' 2.91=208' 2.91 m
DR Melanocratic Syenite.
Coarse crystalline, very dark grey speckled white, Weakly altered with chlorite developed. Well fractured at the top of interval due to a white calcite - qtz veinlet. A 10 cm sized microcrystalline dark grey green inclusion or xenolith of hornfels as Unit DQ in lower part of the interval. Generally competent.
62.01 - 62.21 0.20 m
DS Intensely Altered Melanocratic Syenite.
Contains a cm sized band of pyrite. Mostly calcite and calcsilicates: epidote and chlorite.

62.21 - 62.67 0.46 m DT Melanocratic Syenite.
Very dark grey, micro - very fine crystalline, with very dark green mm sized chlorite veins with central calcite cores and off white bleached rims. Very hard and competent. A different phase of the Syenite - possibly a chilled margin or a xenolith. Not magnetic; no pyrite.

62.67 - 62.88 0.21 m DU Moderately Altered Mesocratic Syenite as Unit DQ

62.88 - 63.16 0.28 m DV Melanocratic Syenite.
Very dark grey- black, fine crystalline, microporphyritic *unaltered. Magnetic with common disseminated opaques ~ 15 %*

63.16 - 63.64 0.48 m DW Moderately to Intensely Altered Melanocratic Syenite.
Very coarse crystalline, speckled light green, dark grey and off white. Moderately altered at the top, grading to intensely altered at the base. Moderate angle relict igneous foliation. Trace of pyrite.

63.64 - 63.96 0.32 m DX Extremely Altered Syenite.
Light green and very friable; completely altered to a porous mass of chlorite, epidote calcite and pyrite: intense propylitic alteration.

63.96 - 65.06 to end of box 9 0.44 m 0.66 in box 10
DY Intensely Altered Melanocratic Syenite.
As Unit DV with some diffuse blebs of less altered Melanocratic Syenite.

65.06 - 65.56 0.18=218' 0.50 m DZ Moderately Altered Melanocratic Syenite.
Well fractured, incompetent, no pyrite. Very coarse crystalline, dark pink - red coloration is possibly potassium feldspar developed from potassic alteration.

65.56 - 69.78 1.50=223' 4.22 m EA Mesocratic Syenite.
Coarse - very coarse crystalline, unaltered, massive, very competent. Very rare epidote microveinlets. Disseminated magnetite and opaques ~ 15 %, no cumulate segregations are evident.

69.78 - 71.52 1.74 m EB Mesocratic Syenite.
Speckled dark grey and light green due to slight alteration of feldspars to light green chlorite. Very coarse crystalline to *pegmatoidal; generally unaltered, massive, and very competent.*

71.52 - 74.39 0.25=238' 2.87 m EC Melanocratic Syenite.
Coarse crystalline, well foliated at a moderate angle - likely a metamorphic foliation rather than an igneous flow foliation. Disseminated *magnetite and ilmenite as opaques* < 15%.

74.39 - 75.44 1.05 m ED Magnetic Melanocratic Syenite. Very dark grey, fine crystalline, well foliated at a slight angle to the core axis. Massive and unaltered. Strongly magnetic with ~ 15 - 20% magnetic opaques. No sulphides.

75.44 - 78.70 2.53=258' 3.26 m EE Mesocratic Syenite.
As Unit EB, speckled white and very dark grey, with very coarse euhedral mafics - augite and biotite - in a feldspar matrix. Massive. Weak alteration with cm sized bands of slight propylitic alteration.

78.70 - 82.91 *2.37=268'* 4.21 m thick: 3.53 m to end of box 12
0.68 m in box 13
EF Magnetic Melanocratic Syenite.
As Unit ED Very dark grey, fine crystalline pyroxene - biotite Syenite. Massive appearance but characteristically banded with *common 10 cm sized schleiren of medium - coarse crystalline* Mesocratic Syenite. These are foliated at a moderate angle to the core axis. Strongly magnetic with ~ 15 - 20 % magnetic opaques. No sulphides. In lower part of section is 15 cm of rhythmically banded Syenite with more magnetite segregations.

82.91 - 83.81 0.90 m EG Melanocratic Syenite. Medium crystalline, dark grey green with diffuse metamorphic foliation. Moderate propylitic alteration.

83.81 - 89.46 0.35=278' 3.40=288' 5.65 m
EH Mesocratic Syenite.
Coarse - very coarse crystalline as Unit EE speckled white and very dark grey. Very coarse euhedral mafics - augite and biotite - in a feldspar matrix. Massive. Metamorphic foliation at a moderate angle to the core axis. Uncommon one cm sized veins with epidote and calcite. Common large mafic poikiloblasts.

89.46 - 90.90 0.95=298' 1.44 m EI Mesocratic Syenite.
Medium - coarse crystalline, strongly foliated.

90.90 - 91.01 0.11 m EJ Magnetitite.
Black, medium crystalline, very common mm sized rhythmically banded opaques from crystal settling - a cumulate texture.
Opaques ~ 20 %.

91.01 - 91.11 0.10 m EK Mesocratic Syenite as Unit EI

91.11 - 91.17 0.06 m EL Magnetitite as Unit EJ

end Core 96-1 (4) at 91.17 m or 299.11'

HOLE 96-2 DESCRIPTION

43 mm Diamond Core. Hole inclined 090 degrees (vertical). Approx. collar elevation 5250' (1600.2 m). Casing at 7' (2.13 m). Drilled to 152.4 m (500'). More than full recovery of 175.39 m (575.43') due to core rubble throughout in 29 boxes.

Depth (m)	Interval	Thickness Interval	Letter Designation	Description

0.0 - 2.13 Casing

2.13 - 13.33 11.20 m 6.90=25' 10.59=34'
AA Melanocratic Microdiorite. Very fine horizontal laminations very dark grey green, micro - very fine crystalline. Very fractured and mostly rubble. Common subvertical epidotized fracture planes.

13.33 - 17.33 4.0 m 4.0=47'
AB Melanocratic Augite Porphyritic Diorite.
Medium - dark grey brown with indistinct foliation. Medium sized augite phenocrysts in a soft, porous, argillic altered matrix. Uncommon mm sized vugs. Generally competent.

17.33 - 22.27 4.94 m thick: 2.1 m to end of box 3 1.56=57' 2.84 m in box 4
AC Melanocratic Microdiorite. As Unit AA, dark grey green with very fine horizontal laminations. Common high angle partially epidotized fault planes with minor brecciation in box 3. In box 4 light - medium grey green with strongly epidotized fracture planes with rare quartz veinlets. Some rubble in midsection.

22.27 - 26.57 4.30 m AD Melanocratic Microdiorite. As Unit AA very dark grey green with very fine horizontal laminations. Microcrystalline. Indistinct dark grey blebs and diffuse seams - an igneous resorption texture. Orange colored rusty iron staining along some core rubble.

26.57 - 27.92 1.35 m AE As AD Melanocratic Microdiorite. Bleached off white to medium grey green along extensive open vertical fractures. Some subhorizontal mm sized quartz extensional veinlets. Otherwise competent.

27.92 - 40.43 12.51 m thick: 3.82=87' 9.41 m to end of box 6. 1.40=107' 3.10 to end of box 7.
AF *Melanocratic Microdiorite*. Dark grey green, very fine horizontal laminations. Microcrystalline. In box 6 common pale pink Potassium feldspar as diffuse blebs. Common cm sized ellipsoidal vugs lined with very fine crystalline epidote and rare quartz. Competent, good recovery.

40.43 - 54.95 11.52=147' 14.52 m to end of box 9
AG Melanocratic Diorite. Dark - medium grey green. Grades from micro - medium crystalline. At top of interval uncommon mm sized vugs. Generally massive, rare veinlets of quartz. Competent, good recovery. At 7.75 m a patch of hydrothermal alteration - argillic alteration? and very soft. At 12.45 m subvertical mm sized veinlets of medium green chlorite. At ~ 13.5 m strongly brecciated.

54.95 - 62.43 4.01=157' 7.48 m
AH Mesocratic Microdiorite Porphyry.
Medium grey green, very uniform, massive. Porphyritic texture: uncommon light green fine - medium sized equant phenocrysts - altered plagioclase ? in a very fine - microcrystalline matrix.

62.43 - 70.01 2.53=187' 5.75=197' 7.58 m
AI Melanocratic Diorite. Intermixed light - medium grey green. *Microcrystalline. Many types of intense deuteric ? alteration* with very common partially resorbed ovoid spherules of pink potassium feldspar. Common vugs in mid section. Corona reaction rims are medium grey green in colour. At the base, pervasive but diffuse pink potassium feldspar alteration. Competent with full recovery.

70.01 - 75.65 5.64 m thick: 2.74 m to end of box 91.55=217' 2.90 m in box 10
AJ Mesocratic Microdiorite. Medium - dark grey green Microcrystalline. Resorbed partially incorporated mm to cm sized megacrysts of pink potassium feldspar, peripherally altered to green sericite.

75.65 - 82.74 4.57=232' 7.09 m AK Melanocratic Microdiorite. Uniform; well faulted in upper part of section. Micro - very fine crystalline, dark grey green. No spherules, generally non descript. In lower part of interval subvertical igneous layering - laminated cumulates - with mm sized vugs of epidote.

82.74 - 85.85 3.11 m AL Melanocratic Microdiorite.
Dark grey - black microcrystalline very finely laminated. At 1.90 m abundant pink potassium feldspar blebs interspersed with the matrix. In lower part of the interval are dark green mafic spheroids with very thin reaction rims. Competent, good recovery.

85.85 - 86.22 0.37 m AM Bleached Microdiorite.
Light grey brown, fine crystalline, fractured with common subvertical mm sized white quartz veinlets.

86.22 - 87.28 1.06 m
AN Melanocratic Microdiorite Microporphyry.
Massive, micro - very fine crystalline, uniform with very fine sized indeterminate phenocrysts. Uncommon hairline fractures.

87.28 - 94.64 7.36 m thick: 1.59=257' 2.88 m to end of box 15
1.70=265' 4.48 m in box 16.
AO Porphyritic Melanocratic Microdiorite.
As Unit AI crowded with very common resorbed mm sized ovoid spherules of light - medium green mafic minerals. Minor blebs of potassium feldspar. In box 16, very common cm sized megacrysts of augite with no reaction rims.

94.64 - 97.34 1.70=277' 2.70 m
AP Melanocratic Microdiorite Microporphyry.
Very dark grey - black, Microcrystalline, very fine horizontal laminations. common fine sized off white plagioclase phenocrysts.

97.34 - 99.62 2.28 m AQ Melanocratic Microdiorite.
As Unit AP with very rare phenocrysts. Medium grey, microcrystalline, rhythmically banded on a mm scale: an igneous cumulate banding, partly outlined by rare phenocrysts.

99.62 - 101.15 0.15=287' 1.53 m
AR Mesocratic Porphyritic Microdiorite.
Drab light grey green. Moderately altered - possibly argillic alteration. Common rubble with hairline fractures.

101.15 - 106.05 4.90 m AS Melanocratic Microdiorite.
Very dark grey green, Microcrystalline, uncommon to common mm sized plagioclase phenocrysts. Uncommon epidotized, healed hairline fractures.

106.05 - 107.53 1.48 m in box 18
AT Melanocratic Microdiorite.
Medium grey green, microcrystalline, nondescript with rare phenocrysts. Common epidotized, healed hairline fractures.

107.53 - 109.27 1.74 m AU Mesocratic Microdiorite.
Dark grey green, very fine crystalline. Chaotic texture with very abundant screens and blebs of resorbed pink potassium feldspar megacrysts and pale green resorbed plagioclase aggregations. Very competent with full recovery.

109.27 - 110.53 0.42=317' 1.26 m
AV Melanocratic Microdiorite.
Very dark grey green, microcrystalline, microlaminated on a mm scale with common bleached hairline fractures.

110.53 - 114.90 4.37 m AW Melanocratic Microdiorite Breccia.
Medium grey green, very fine crystalline, very brecciated especially in lower part of interval with angular cm sized microdiorite fragments, some with resorbed dark grey green augite phenocrysts. A tectonic or structural breccia.

114.90 - 118.51 1.57=337' 3.61 m AX Mesocratic Microdiorite.
Medium grey green, microcrystalline, microlaminated on a mm scale. Fractured at the top. Common quartz filled hairline fractures.

118.51 - 119.01 0.50 m AY Leucosyenite.
Pink to grey, all coarse crystalline potassium feldspar with uncommon off white plagioclase phenocrysts. Common mm sized vugs.

119.01 - 123.98 3.82=357' 4.97 m
AZ Mesocratic Microdiorite Breccia.
Medium grey green, very fine crystalline, a breccia with thin quartz veinlets, very fractured. Some missing core.

123.98 - 126.09 2.11 m thick: 1.20 m to end of box 21 0.47=367' 0.91 m in box 22. BA Altered Syenite.
Bleached light pink to tan with strong argillic (clay) alteration. Unit is all intensely fractured core rubble.

126.09 - 127.82 1.73 m BB Mesocratic Diorite.
Medium grey brown, very fine crystalline, massive, very uniform, very competent.

127.82 - 131.27 3.45 m BC Mesocratic Diorite Breccia.
Medium grey green, intensely brecciated with cm sized megacrysts of melanocratic diorite in a very fine crystalline matrix,

131.27 - 133.38 1.31=387' 2.11 m BD Melanocratic Diorite.
At the top of unit are uncommon resorbed pink potassium feldspar megacrysts with corona reaction rims. Generally massive and very competent. Sparse off white plagioclase phenocrysts. In lower part of unit are uncommon epidotized fractures.

133.38 - 134.91 1.53 m BE Mesocratic Diorite Breccia.
As Unit BC. Intensely brecciated with mm - cm sized megacrysts of melanocratic diorite and dark pink potassium feldspar phenocrysts in a medium grey green very fine crystalline matrix.

134.91 - 137.35 1.32=397' 2.44 m BF Mesocratic Diorite.
As Unit BB. Medium grey brown, very fine crystalline, massive, very uniform, competent with uncommon rusty hairline fractures.

137.35 - 141.60 4.25 m BG Mesocratic Diorite Breccia.
As Unit BD. Variably medium or dark grey green. Intensely brecciated with 1 - 5 cm sized very angular megacrysts of melanocratic diorite in a very fine crystalline medium grey green matrix. Common resorbed pink Potassium feldspar.

141.60 - 142.46 0.86 m BH Mesocratic Diorite.
Massive, coarse crystalline with euhedral black, alkalic ? hornblende laths and very common apple green epidote. Uncommon vugs.

142.46 - 146.11 3.65 m thick: 0.24=417' 0.67 m to end of box 24
2.98 m in box 25. BI Mesocratic Diorite Porphyry.
Medium grey brown, very fine crystalline with uncommon large cm sized off white plagioclase phenocrysts.

146.11 - 155.76 9.65 m thick: 0.45=427' 6.30 *m* in box 25 3.35 *m* in box 26
BJ Mesocratic Diorite Breccia.
As Unit BD. Variably medium or dark grey green, intensely brecciated with mm - cm sized very angular megacrysts in a very fine crystalline medium grey green matrix. Common resorbed pink potassium feldspar phenocrysts.

155.76 - 158.21 0.72=447' 2.45 m
BK Melanocratic Diorite Porphyry.
Dark grey green, very fine crystalline. Massive, uniform, and very competent. Abundant off white plagioclase phenocrysts aligned along subhorizontal planes.

158.21 - 161.30 3.09 m thick: 0.17 m in box 26 1.43=457' 2.92 m in box 27
BL Mesocratic Diorite. As Unit BH. Medium grey green, very fine - medium crystalline. Massive, competent, with euhedral alkalic hornblende crystals. Uncommon epidote or quartz filled hairline fractures.

161.30 - 162.33 1.03 m BM Melanocratic Diorite Breccia.
Black and dark grey green angular fragments. Very competent, full recovery.

162.33 - 164.74 0.97=467' 2.41 m
BN Melanocratic Diorite Porphyry.
Medium grey green very fine crystalline finely laminated on a mm scale. Uncommon light green altered plagioclase phenocrysts. Very competent.

164.74 - 165.05 0.31 m BO Syenite.
Pale grey green, fine crystalline, uncommon mm sized medium grey augite ? phenocrysts. Uncommon vugs. Rare fractures infilled with quartz veinlets.

165.05 - 168.46 2.20=477' 3.41 m
BP Melanocratic Diorite Breccia.
Medium grey green angular fragments. Incompetent, only partial recovery

168.46 - 171.01 2.31=487' 2.55 m BQ Melanocratic Diorite.
Light grey green, fine - medium crystalline. Common epidote filled fractures.

171.01 - 173.56 2.55 m
BR Melanocratic Diorite Breccia. Medium grey green, angular fragments. Incompetent, only partial recovery.

173.56 - 174.18 0.62=497 0.62 m
BS Melanocratic Diorite.
Light grey green, very fine crystalline, uncommon epidote filled hairline fractures.

174.18 - 175.39 1.21=500' 1.21 m
BT Melanocratic Diorite Breccia.
As Unit BR medium grey green angular fragments. Incompetent, only partial recovery.

End Core 96-2 at 175.39 m (575.43')

HOLE 96-3 DESCRIPTION

43 mm Diamond Core. Hole inclined 090 degrees (vertical). Approx. collar elevation 5200'. Casing at 20' (6.10 m) Drilled to 300' (91.44 m). More than full recovery of 99.03 m (324.90') in 16 boxes. Very minor core rubble.
No economic concentrations of minerals, either sulphides or opaques, are present.

Depth (m) Interval	Thickness Interval	Letter Designation	Description

0.0 - 6.10 Casing

6.10 - 6.45 0.35 m of drill-rounded cobbles

6.45 - 7.83 1.38=28' 1.38 m BU Regolith - Intensely altered by Tertiary (?) surficial weathering - Light grey argillic (clay) altered Syenite, all rubble.

7.83 - 8.71 0.88 m BV Off white to light brown - intensely altered by surficial weathering. Originally a well foliated very mafic lithology as Unit CA. All core rubble.

8.71 - 12.42 0.35=32' 1.50=35' 3.37=41' 3.71=42' 3.71 m
BW Leucosyenite Porphyry. Fine - very coarse crystalline, very common light grey cm sized megacrysts of potassium feldspar in an off white felsic fine - medium crystalline matrix. No quartz, < 3 % mafics no magnetic opaques. Two 10 cm sized screens of foliated very fine crystalline mafic diorite.

12.42 - 14.75 1.30=46' 2.00=48' 2.33 m
BX Leucosyenite admixed with Altered Diorite Gneiss. Light rusty brown, foliated. Generally very fine crystalline. Incompetent and well fractured, mostly rubble.

14.75 - 20.09 2.50=58' 5.34 m BY Leucosyenite Porphyry. Leucocratic, off white - pale pink, inequicrystalline. Very coarse sized subhedral potassium feldspar crystals in a fine crystalline off white matrix, mostly plagioclase. Less than 5 % mafics - biotite and hornblende. Three incorporated 10 cm sized medium green or very dark grey 'screens' or inclusions of foliated diorite gneiss.

20.09 - 20.63 0.54 m BZ Leucosyenite Porphyry.
As BY but well fractured. Likely a fault zone.

20.63 - 21.73 0.89=68' 1.10 m CA Diorite Gneiss.
Very dark grey, fine crystalline well foliated mafic Diorite Gneiss. *Uncommon mm to cm sized veins of Leucosyenite.*

21.73 - 24.68 2.95 m thick: 2.10 m to end of box 3 0.85 m in box 4
CB Leucosyenite Porphyry.
As Unit BZ with a 30 cm sized incorporated inclusion of dark grey green diorite gneiss. Very competent.

24.68 - 28.73 0.20=78' 3.42=88' 4.05 m
CC Diorite Gneiss Intermixed with Leucosyenite.
Medium - dark grey green, very fine crystalline, well foliated mafic biotite Diorite Gneiss intermixed with cm sized bands of off white Leucosyenite. Moderate angle foliation, very common rusty fractures. Competent

28.73 - 29.67 0.94 m CD Leucosyenite Porphyry.
Leucocratic, off white - Light grey, inequicrystalline. Coarse sized subhedral potassium feldspar crystals in a fine - medium crystalline off white matrix, mostly plagioclase. Less than 2 % mafics. Uncommon incorporated m grey green 'screens' or inclusions of foliated diorite gneiss.

29.67 - 35.49 2.00=98' 5.25=108' 5.82 m CE Diorite Gneiss.
Light - medium grey, generally very fine crystalline well foliated mafic with common rusty fractures. Competent.

35.49 - 40.45 2.76=118' 4.96 m
CF Diorite Gneiss Intermixed with Leucosyenite.
Dark grey green, fine crystalline well foliated mafic biotite Diorite Gneiss intermixed with 10 cm sized bands of off white Leucosyenite. *Moderate to high angle foliation.* No rusty fractures. Very competent.

40.45 - 40.73 0.28 m CG Altered Leucosyenite.
Soft, off white argillic (clay) altered fracture or fault.

40.73 - 43.11 0.44=128' 2.38 m thick: 0.98 m to end of box 6
1.40 m in box 7
CH Diorite Gneiss Intermixed with Leucosyenite.
As unit CF dark grey green, fine crystalline well foliated mafic biotite Diorite Gneiss very intermixed with mm to 10 cm sized bands of off white Leucosyenite Porphyry. Moderate to high angle foliation. No rusty fractures. Very competent.

43.11 - 44.74 1.63=138' 1.63 m CI Diorite Gneiss.
Light grey green, very fine crystalline well foliated with a moderate angle foliation. Mafic, no leucosyenite, possibly epidote bearing. Very competent.

44.74 - 46.18 1.44 m
CJ Leucosyenite Intermixed with minor Diorite Gneiss.
Light grey fine - medium crystalline Leuco porphyry intermixed with adsorbed light - medium grey green Diorite Gneiss. Moderate to high angle foliation. Rare rusty fractures. Competent.

46.18 - 47.63 1.45 m CK Diorite Gneiss.
Very light - medium grey, very fine - fine crystalline indistinctly foliated, mafic. No leucosyenite. Moderately competent.

47.63 - 49.86 2.23 m CL Syenite. Light grey, very fine grained, unaltered, with distinct moderate angle foliation. Mafics <15 % no magnetic opaques. Uncommon veins of Leucosyenite. Rare rusty fractures Very competent.

49.86 - 51.27 1.35 m CM Syenite.
As Unit CL with very common rusty fractures. Moderately competent.

51.27 - approx. 52.13 *0.10=158' 0.92 m* CN *Altered Syenite.*
Strong argillic (clay) alteration. All soft core rubble.

52.13 - 55.90 2.44=168' 3.77 m CO Leucosyenite.
Very light grey and light green pervasively veined with a network (or stockwork) of light green chloritic seams from altered mafics. Common rusty fractures in upper part of interval.

55.90 - 56.94 1.04 m CP Amphibolite Gneiss.
Black, fine crystalline well foliated hornblende - biotite amphibolite gneiss. Minor cm sized white felsic leucosome veins.

56.94 - 59.58 1.00=178' 2.64 m to end of box 9
CQ Syenite. As Unit CL Light grey, very fine grained, unaltered. Indistinct moderate angle foliation. Mafics < 15 % no magnetic opaques. Very competent.

59.58 - 66.72 1.86=188' 5.20=198' 7.14 m
CR Melanocratic Diorite.
Very dark grey very fine crystalline, indistinctly foliated. Uncommon rusty fractured zones. Generally competent but fractured in midsection and at the base.
66.72 - 68.66 1.94 m CS Mesocratic Diorite.
Light - medium grey, very fine crystalline, distinctly foliated. A network of very common rusty, fractured zones.

68.66 - 69.33 0.67 m CT Mesocratic Diorite.
Medium grey brown, very fine crystalline, indistinctly foliated. Incompetent.

69.33 - 70.53 1.20 m CU Melanocratic Diorite.
Medium grey, fine crystalline, very common randomly oriented mm sized felsic veins. Incompetent.

70.53 - 70.87 0.34 m CV Agmatite.
Angular cm sized blocks of Melanocratic Diorite in a off white fine - medium crystalline porphyritic Leucosyenite matrix.

70.87 - 75.37 3.80=228' 4.50 m
CW Melanocratic Diorite.
Dark grey fine crystalline moderately foliated. Indistinct breccia fabric. Only slightly magnetic. In midsection a 10 cm sized Agmatite band as Unit CV. At the base is a 10 cm band of Porphyritic Leucosyenite.

75.37 - 79.71 4.34 m thick: 1.81 m in box 12 0.63=238'
2.53 m in box 13
CX Melanocratic Diorite.
Medium grey green, very fine crystalline, indistinctly foliated. Indistinct breccia fabric. Only slightly magnetic. In midsection of box 12 is a 10 cm sized very soft clay altered band. Distinctly foliated at a moderate angle to the core axis in box 13

79.71 - 81.08 1.37 m CY Altered Mesocratic Syenite.
Medium green, with intense argillic (clay) alteration and chloritic alteration of all the mafic minerals. Incompetent, mostly rubble

81.08 - 84.19 3.11 m CZ Mesocratic Diorite.
Medium grey - grey brown. Fractured as Unit CX

84.19 - 86.79 0.78=258' 1.50=261' 2.44=263' 2.60 m
DA Mesocratic Diorite. Medium grey, fine - medium crystalline. Indistinct foliation. brecciated and distorted fabric. Very common healed fractures.

86.79 - 90.40 0.33=264' 1.41=268' 3.61 m
DB Mesocratic Diorite.
Medium grey green, medium crystalline, strongly foliated with chaotic folded. Characteristic sheared bands of mm to cm sized ovoid pink potassium feldspar megacrysts - some have off white rims of plagioclase. Some of the potassium feldspar xenocrysts are microfaulted. (cont'd)
The megacrysts have been foliated by tectonic stresses after and likely during their formation.

90.40 - 95.16 4.24=288' 4.76 m
DC Melanocratic Diorite Porphyry.
Dark grey, strongly foliated at a high angle to the core axis. Uncommon mm sized vugs. Characteristic very abundant mm sized subhedral off white plagioclase phenocrysts.

95.16 - 96.88 1.72 m DD Foliated Leucosyenite Porphyry. Medium pinkish grey, coarse crystalline very strongly foliated at a very high angle to the core axis. Common mafic schleiren. Very competent.

96.88 - 97.47 0.59 m DE Amphibolite. Very coarse crystalline, black euhedral hornblende > biotite crystals dispersed in an off white plagioclase matrix.

97.47 - 99.03 0.80=298' 1.56 m=300' 1.56 m
DF Megacrystic Syenite.
Extremely coarse crystalline, medium grey pink mottled very dark grey with ~ 10 % black amphibole crystals. A band of light grey green weakly altered plagioclase in mid section. Very little opaques.

End Core 96-3 99.03 m or 324.90'

Table 1:

Chemical analysis of two boulder samples collected in May, 1994.

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
93-2	37.9	10.0	13.850	9.882	0.949	0.151	22.45	0.182	4.34		99.67
93-3	34.7	8.7	8.982	13.513	0.325	0.245	27.60	0.219	5.00		99.23

Table 2:

Chemical analysis and magnetite susceptibility for core samples.

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %	Susc. emu * 10^3	Rock Types
BT 1 33	40.0	13.0	11.640	07.809	2.426	0.307	19.02	0.247	3.84	1.6	99.92	054.10	BS
BT 1 39	43.6	15.1	11.752	06.947	2.548	0.334	14.59	0.181	2.59	1.6	99.28	040.20	BS
BT 1 45	40.2	14.2	10.604	06.748	2.629	0.921	18.02	0.245	3.75	2.0	99.30	054.60	BS
BT 1 56	43.4	16.1	12.479	06.516	2.480	0.305	13.93	0.176	3.09	0.8	99.25	033.10	BS
BT 1 63	40.9	15.9	12.227	07.030	2.399	0.302	15.02	0.176	3.04	3.6	99.87	043.40	BS
BT 1 73	52.6	16.8	08.786	03.731	7.360	0.476	06.45	0.089	0.92	2.8	99.83	001.19	BS
BT 1 78	41.3	15.3	10.702	05.902	3.154	0.307	13.27	0.182	3.12	5.8	99.02	009.27	BS
BT 1 94	42.4	15.5	11.598	06.466	2.656	0.693	13.77	0.181	2.80	2.4	98.41	033.00	BS
BT 1 97	42.1	16.4	13.095	06.831	2.507	0.233	14.03	0.158	3.07	0.0	98.49	040.10	BS
BT 2 23	45.8	20.0	11.822	03.747	3.100	0.348	10.73	0.116	3.19	0.6	99.44	023.70	HS
BT 2 30	46.0	19.5	11.724	03.747	2.925	0.281	10.32	0.127	2.97	1.0	98.54	007.33	HS
BT 2 49	43.4	18.1	11.724	04.858	2.629	0.322	13.57	0.139	4.00	0.8	99.60	033.60	HS
BT 2 68	46.2	20.4	11.933	03.631	3.208	0.443	09.75	0.112	2.65	0.6	98.94	015.00	HS
BT 2 72	46.0	20.0	12.045	03.581	3.168	0.364	10.15	0.112	2.95	0.2	98.59	022.60	HS
BT 2 93	46.6	21.0	12.087	03.117	3.397	0.354	08.69	0.105	2.42	1.0	98.77	003.38	HS
BT 2 99	42.8	18.1	12.171	04.991	2.588	0.249	14.73	0.134	2.79	1.4	99.96	018.70	HS
BT 3 12	43.0	17.9	12.297	04.891	2.467	0.222	14.59	0.134	2.67	0.0	98.21	054.80	HS
BT 3 19	45.1	19.6	11.864	03.847	3.127	0.323	10.40	0.117	2.94	1.2	98.59	042.90	HS
BT 3 26	42.8	17.8	09.821	04.991	2.332	1.374	14.30	0.133	2.62	3.8	99.91	044.20	HS
BT 3 31	41.9	17.6	11.430	04.808	2.561	0.395	14.03	0.133	2.69	3.4	98.93	047.40	HS
BT 3 49	44.5	17.4	11.514	04.941	2.494	0.233	14.30	0.132	2.75	1.2	99.43	041.40	HS
BT 3 53	43.0	18.1	11.822	04.957	2.534	0.248	14.44	0.134	2.80	1.6	99.67	036.70	HS
BT 3 60	44.3	21.5	11.598	03.664	3.222	0.189	10.68	0.096	1.88	2.2	99.35	028.60	HS
BT 3 68	45.3	21.7	11.192	03.482	3.316	0.296	09.87	0.096	1.47	1.8	98.59	024.60	HS
BT 3 75	44.3	21.0	12.479	03.349	2.844	0.292	08.82	0.068	1.42	5.2	99.72	005.02	HS
BT 3 83	44.5	18.7	11.430	04.294	2.548	0.219	13.44	0.112	2.50	1.6	99.34	032.80	HS
BT 3 88	42.8	17.0	12.325	05.239	2.346	0.171	13.77	0.132	4.34	0.8	98.90	028.20	MA
BT 3 97	42.6	17.4	12.227	04.974	2.588	0.239	12.30	0.179	3.84	2.6	98.89	000.49	HL
BT 4 07	36.4	10.0	11.654	06.632	2.035	0.198	22.17	0.336	5.84	1.0	96.23	074.00	BHS
BT 4 20	38.7	12.3	10.632	05.438	3.033	0.371	16.59	0.253	4.17	0.2	91.68	042.90	BHS
BT 4 25	39.1	13.0	10.562	05.355	2.831	0.298	16.73	0.258	4.50	0.2	92.92	043.90	BHS
BT 4 31	39.1	12.7	10.255	04.974	2.912	0.351	16.30	0.247	4.17	0.0	91.01	048.60	BHS
BT 4 40	35.3	09.8	10.590	06.334	2.116	0.318	20.45	0.312	5.17	0.4	90.81	034.30	BHS
BT 4 43	34.7	09.8	10.660	06.748	1.982	0.227	21.02	0.328	5.50	0.4	91.34	055.70	BHS
BT 4 52	26.1	02.6	10.982	11.125	0.406	0.076	34.75	0.554	8.17	-2.2	92.61	100.00	BHS
BT 4 57	41.5	13.4	10.674	05.455	2.939	0.358	16.30	0.267	4.17	0.6	95.67	029.90	MS
BT 4 65	40.2	12.3	10.548	05.770	2.642	0.383	18.02	0.287	4.67	0.6	95.41	042.20	SP
BT 4 71	33.4	07.0	11.290	08.622	1.415	0.190	27.74	0.436	7.01	-1.0	96.06	083.80	SP
BT 4 78	32.5	07.2	11.444	09.517	1.725	0.186	27.89	0.442	6.84	-0.6	97.13	086.00	SP
BT 4 85	35.5	09.1	10.423	07.444	2.035	0.251	24.02	0.413	6.00	-1.2	93.97	059.00	SP
BT 4 95	39.4	11.1	10.367	06.300	2.656	0.311	20.45	0.343	3.84	-0.6	94.16	047.10	MS

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %	Susc. emu * 10^3	Rock Types
BT 5 24	42.6	17.8	06.589	03.018	3.707	1.434	11.57	0.146	2.10	02.4	91.29	011.80	MesS
BT 5 35	38.1	12.1	09.191	05.820	2.035	0.866	19.02	0.261	5.67	01.8	94.83	015.70	MesS
BT 5 46	38.7	13.6	10.409	06.980	1.806	0.878	19.45	0.205	6.00	01.8	99.85	027.30	MesS
BT 5 60	37.2	13.2	10.898	06.864	1.806	0.686	16.45	0.198	5.00	02.4	94.74	008.43	MesS
BT 5 74	38.5	11.7	11.752	06.980	1.415	0.465	18.88	0.209	6.34	02.0	98.25	003.44	MesS
BT 5 88	39.6	12.3	11.626	06.914	1.928	0.606	16.02	0.205	5.84	02.0	96.98	003.40	MesS
BT 5 99	40.2	13.6	11.024	07.063	1.860	0.624	14.87	0.159	4.17	03.0	96.59	006.44	MesS
BT 6 22	33.2	12.3	05.414	08.273	1.112	0.472	28.60	0.280	5.67	03.2	98.46	045.00	MelH
BT 6 34	69.5	15.7	00.755	00.635	7.967	0.125	02.97	0.015	0.17	01.0	98.84	000.07	MelH
BT 6 43	40.9	13.0	12.227	06.400	1.550	0.313	18.16	0.181	4.17	02.6	99.49	010.70	MelH
BT 6 53	40.0	11.3	11.290	07.643	1.442	0.395	20.31	0.226	4.67	02.0	99.31	029.20	MelH
BT 6 62	38.3	10.8	11.108	08.025	1.219	0.480	22.02	0.222	4.84	02.6	99.57	042.60	MelH
BT 6 65	38.7	11.1	11.947	07.279	1.039	0.370	18.88	0.198	4.84	02.8	97.21	025.60	MelH
BT 6 75	37.9	12.1	11.108	06.350	1.361	0.383	17.59	0.173	3.34	03.0	93.25	007.48	MelH
BT 6 93	36.6	10.4	10.870	07.494	1.132	0.289	20.74	0.201	4.50	02.0	94.19	053.50	MelH
BT 6 97	37.2	10.4	11.402	07.527	1.321	0.349	20.45	0.205	5.00	01.6	95.47	039.50	MelH
BT 8 31	48.8	19.1	06.925	01.658	4.475	1.386	06.42	0.089	1.18	02.8	92.79	05.660	BHS
BT 8 42	37.4	10.0	09.681	07.279	1.847	0.769	19.59	0.298	5.17	01.4	93.48	033.60	BHS
BT 8 73	41.1	14.0	09.261	04.891	3.249	0.653	13.41	0.227	2.90	02.6	92.24	010.90	LS
BT 8 86	35.9	09.3	09.163	07.527	1.914	1.195	20.02	0.323	5.34	01.6	92.27	064.80	LS
BT 8 96	49.2	19.3	09.331	02.852	4.489	1.374	09.28	0.133	1.95	01.8	99.68	020.30	LS
BT 9 38	98.0	00.2	00.238	00.036	0.046	0.057	00.46	0.006	0.03	00.2	99.23	000.00	MesS
BT 9 56	36.8	17.6	09.583	04.145	1.318	1.131	12.36	0.121	1.92	03.8	88.73	048.90	MesS
BT 9 66	36.6	20.2	11.500	02.437	1.591	2.133	07.72	0.079	1.25	05.2	88.70	008.08	MesS
BT 9 67	34.0	13.4	11.514	05.389	1.302	1.142	17.30	0.185	2.92	03.8	90.98	075.30	MesS
BT 9 78	38.7	21.2	09.471	02.172	2.211	1.735	08.21	0.070	1.22	05.6	90.56	011.30	MesS
BT 9 96	37.9	20.2	11.724	01.152	2.130	2.639	10.47	0.120	2.34	11.2	99.84	000.25	MesS
GE-1	38.1	13.2	14.550	06.649	1.320	0.713	20.02	0.190	3.52	01.6	99.86	166.00	
GE-2	38.3	12.5	14.410	07.643	0.895	1.165	20.16	0.194	3.19	01.4	99.81	121.00	
95-1 39	40.6	07.9	15.300	13.380	0.890	0.584	14.87	0.223	2.65	9.9	99.99	059.80	PS
95-1 46	40.4	07.6	14.425	14.410	0.777	0.528	17.16	0.227	2.74	1.6	99.88	078.60	PS
95-1 73	37.7	06.6	17.070	11.656	0.767	0.236	19.73	0.241	5.17	0.6	99.99	101.00	MesS
95-1 75	42.6	25.3	14.555	02.437	2.238	1.670	06.33	0.083	1.28	3.4	99.99	015.90	MesS
95-1 90	40.4	23.6	16.090	03.084	2.035	0.880	08.57	0.103	1.63	3.4	99.99	022.50	MesS
95-1 112	42.2	23.4	14.690	03.034	1.779	1.789	08.37	0.107	1.57	2.8	99.90	031.30	MesS
95-1 135	38.3	11.5	16.090	09.119	1.096	0.715	17.16	0.210	4.34	1.4	99.94	085.80	MesS
95-1 162	41.3	22.9	14.690	03.349	1.712	1.892	09.27	0.112	1.65	3.0	99.81	028.10	MesS
95-1 175	35.9	08.7	16.510	10.164	0.666	0.378	20.88	0.285	5.17	1.2	99.87	121.00	MesS
95-1 189	40.4	23.6	15.530	03.316	1.645	1.888	09.09	0.103	1.62	2.6	99.62	032.70	MesS
95-1 213	35.3	09.4	14.830	09.401	0.960	0.606	22.02	0.239	5.50	1.6	99.90	138.00	MesS
95-1 229	58.6	16.6	08.117	00.204	9.234	0.106	04.60	0.063	0.45	1.2	99.26	000.30	MelS
95-1 237	41.3	21.2	13.500	04.311	1.806	1.747	11.10	0.121	2.17	2.8	99.96	045.50	Ho
95-1 248	40.0	21.3	15.670	03.996	1.604	1.458	11.21	0.124	2.15	2.4	99.96	052.20	MelS

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	L0I %	Total %	Susc. emu * 10^3	Rock Types
95-1 256	38.1	20.8	17.770	02.964	1.901	1.001	08.77	0.099	1.53	7.0	99.91	020.00	MesS
95-1 270	38.1	16.1	14.970	06.731	1.456	0.636	16.02	0.187	3.67	2.0	99.80	095.90	MesS
95-1 290	42.6	21.5	15.530	03.333	2.143	0.699	09.87	0.102	1.67	2.0	99.66	035.00	MesS
95-2 10	49.9	17.0	13.800	6.633	1.941	0.158	15.59	0.155	5.34	0.2	99.98	053.10	BS
95-2 40	18.1	16.1	05.300	2.750	5.325	2.880	07.09	0.124	2.04	0.6	99.67	006.10	BS
95-2 61	51.1	17.2	06.800	3.465	4.866	2.506	10.52	0.167	2.60	0.4	99.67	024.70	BS
95-2 86	49.2	15.5	08.800	3.813	4.246	1.723	12.17	0.218	3.37	0.2	99.60	027.10	BA
95-2 95	45.3	13.0	11.800	5.405	3.330	0.847	15.59	0.296	3.44	0.2	99.29	061.80	M
95-2 102	44.7	13.8	11.400	5.272	3.491	0.894	15.87	0.288	4.00	0.2	99.92	063.50	M
95-2 114	44.9	12.8	11.400	5.272	3.494	0.927	16.30	0.298	4.00	0.2	99.72	073.50	M
95-2 135	45.3	13.2	10.600	5.256	3.896	1.326	15.59	0.342	3.24	1.0	99.90	123.00	M
95-2 140	38.3	11.1	10.200	5.654	2.790	1.253	23.74	0.412	5.84	0.6	99.88	026.50	M
95-2 148	44.5	14.0	11.400	5.554	3.869	1.204	15.16	0.315	3.22	0.6	99.80	050.70	A
95-2 159	49.8	17.9	08.600	3.067	5.513	1.675	10.73	0.165	2.09	0.4	99.80	025.60	A
95-2 172	47.3	12.3	04.700	1.708	4.934	2.976	21.59	0.473	3.70	0.0	99.64	133.00	BA
95-2 185	42.6	13.0	09.500	4.100	4.000	1.500	19.31	0.350	4.84	0.0	99.11	100.00	A
95-2 200	54.8	19.6	03.100	0.450	6.200	2.500	08.54	0.140	1.55	2.4	99.20	016.90	MesA
95-2 208	34.2	05.1	09.890	3.000	2.300	1.000	35.89	0.790	6.84	0.0	99.03	265.00	M
95-2 211	36.4	03.8	13.100	4.100	1.900	0.800	33.32	0.840	5.67	0.0	99.61	201.00	A
95-2 215	36.4	02.8	15.100	4.200	1.700	0.500	32.75	0.820	5.17	0.0	99.46	184.00	A
95-2 225	43.4	15.5	09.890	4.600	4.000	1.000	15.02	0.260	5.00	1.2	99.90	053.60	BHA
95-2 235	60.5	20.0	04.160	0.800	7.200	2.700	02.65	0.070	0.35	0.6	99.93	008.30	BHA
95-2 250	40.2	13.8	11.860	6.200	3.100	0.500	17.59	0.300	6.17	0.2	99.82	055.90	BHA
95-2 266	45.1	14.5	10.380	5.100	3.900	0.900	15.44	0.290	3.97	0.2	99.82	055.90	PA
95-2 279	46.2	16.4	09.990	4.400	4.200	1.200	13.28	0.220	3.09	0.4	99.41	050.70	BA
95-2 292	51.5	18.1	07.200	3.000	5.300	1.700	09.95	0.150	1.70	0.6	99.22	034.50	BA
95-2 297	40.6	14.0	13.260	7.200	2.700	0.290	16.59	0.210	4.50	0.2	99.47	057.60	BA
95-3 147	57.6	17.9	01.450	0.530	4.900	5.900	07.21	0.200	0.37	3.6	99.88	005.40	MesS
95-3 206	61.6	19.1	00.860	0.120	6.600	6.200	04.19	0.100	0.12	1.2	100.00	031.70	MesS
95-3 219	59.9	19.1	01.670	0.210	6.500	6.300	04.92	0.150	0.15	1.0	99.87	006.50	MesS
95-3 227	60.3	18.5	01.890	0.200	6.300	6.000	04.93	0.120	0.18	1.4	99.86	009.30	MesS
95-3 238	57.8	18.1	02.530	0.390	6.200	6.200	07.26	0.220	0.32	1.0	99.97	009.50	MesS

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %	Susc. emu * 10^3	Rock Types
96-1 58	35.1	15.1	17.348	8.787	1.955	0.511	16.16	0.194	3.62	1.0	99.76	63.70	MelS
96-1 78	27.8	11.3	17.348	9.235	1.132	0.571	23.60	0.320	6.34	1.8	99.48	95.60	MelS
96-1 110	31.7	8.1	18.467	12.800	0.685	0.184	22.02	0.267	4.84	1.2	100.24	126.00	MelS
96-1 159	32.5	13.8	18.327	8.489	1.523	0.529	18.30	0.218	3.80	2.8	100.30	118.00	MelS
96-1 193	1.5	0.9	3.749	0.086	0.024	0.019	60.92	0.009	0.03	30.6	97.88	2.51	PYR
96-1 200	33.2	12.5	21.405	9.865	1.388	0.221	15.44	0.210	2.69	2.6	99.44	36.40	MelS
96-1 216	43.4	22.9	16.228	4.642	3.478	1.723	4.50	0.075	0.62	3.2	100.75	0.29	MesS
96-1 238	26.3	10.8	14.368	9.086	0.891	0.337	30.75	0.225	6.00	0.8	99.53	200.00	MesS
96-1 250	31.0	14.0	15.949	8.721	1.388	0.490	22.88	0.173	4.00	1.2	99.80	110.00	MelS
96-1 273	29.5	10.8	14.634	9.981	0.957	0.407	27.17	0.190	5.17	1.2	100.00	90.60	MelS
96-1 297	29.3	11.7	13.486	8.837	1.335	0.495	27.74	0.221	4.84	2.0	99.97	145.00	MesS
96-1 300	27.2	10.0	13.976	9.948	0.971	0.246	30.46	0.256	5.84	1.0	99.87	186.00	M
96-2 55	36.6	19.5	11.836	6.400	2.116	0.768	16.73	0.178	2.30	3.2	99.56	0.79	MelD
96-2 74	53.7	15.9	5.484	2.288	1.564	1.003	14.44	0.089	1.28	3.8	99.51	4.40	MelD
96-2 222	33.2	7.6	9.905	10.230	0.864	0.519	34.32	0.200	0.88	2.2	99.83	40.50	MelD
96-2 362	51.1	22.9	4.533	1.476	4.543	6.097	2.86	0.052	2.69	1.8	98.02	0.00	MesD
96-2 363	46.6	16.8	3.008	8.157	2.278	1.832	12.60	0.148	1.53	6.4	99.40	0.01	MesD
96-2 382	44.5	17.8	8.296	6.101	2.669	2.097	13.54	0.201	1.60	2.6	99.36	0.93	LeuS
96-2 416	32.7	13.6	10.646	8.191	0.931	2.024	22.17	0.376	5.17	3.8	99.65	19.80	MesD
96-2 420	45.1	19.6	3.553	3.996	5.648	2.735	12.63	0.221	2.09	2.6	98.24	0.66	MesD,B
96-2 476	37.2	13.4	17.627	6.814	0.441	0.474	19.88	0.200	1.37	2.0	99.43	0.31	MelD,P
96-3 108	54.3	15.3	10.632	6.781	3.073	0.662	6.64	0.108	0.33	1.6	99.46	0.09	DG
96-3 174	40.2	14.2	8.352	8.605	2.629	2.097	16.45	0.288	1.87	4.4	99.06	0.51	LeuS
96-3 212	37.9	14.5	9.541	7.776	0.830	1.229	16.73	0.204	2.14	8.2	99.05	1.21	MelD
96-3 242	39.1	17.8	14.200	6.168	1.955	1.277	14.87	0.361	2.03	0.8	98.57	13.90	MelD
96-3 276	46.0	18.5	7.135	2.570	4.435	2.820	11.47	0.146	1.65	3.4	98.13	23.40	MesD

INDEX FOR ROCK TYPES

BS Biotite Syenite
HS Hornblende Syenite
MA Magnetite Anorthosite
HL Hornblende Lamprophyre
BHS Biotite-Hornblende Syenite
MS Magnetite Shonkinite
SP Shonkinite Porphyry
MesS Mescratic Syenite
MelS Melanocratic Syenite
MelH Melanocratic Hornblendite
MelD Melanocratic Diorite/Microdiorite
LeuS Leucosyenite
P Porphyry
PYR Pyrite
PS Pyroxene Syenite
HO Hornfels
A Anorthosite
M Magnetite
BA Biotite Anorthosite
MesA Mesocratic Anorthosite
MagA Magnetitic Anorthosite
BHA Biotite-HornblendeAnorthosite
PA Pyrrhotite Anorthosite
LS Leucocratic Syenite
MesD Mesocratic
B Breccia
DG Diorite Gneiss

Table 3:

Average susceptibility and estimated magnetite content for twelve holes and the boulder.

Hole No.	Susceptibility emu	Magnetite Content (volume) Gaucher (maximum)	Bath
94-1	.045	21	14
94-2	.020	15	8
94-3	.041	20	13
94-4	.066	25	18
94-5	.012	14	5
94-6	.029	18	10
94-7 Bottom only	.023	16	8
94-8	.018	15	7
94-9	.012	13	5
95-1	.412		
95-2	.569		
95-3	.068		
boulder	.215	44	43

TABLE 4

Distribution of Fe and Ti after magnetic separation

SAMPLE						MAGNETIC SEPARATE					SAMPLE	
Number	Susceptibility emu	Fe_2O_3 %	Fe %	TiO_2 %	Ti %	Total Recovery %	Fe %	Ti %	Other	Fe in MAGNETITE *	Fe **	Ti
BT 4-52	100	34.75	24.3	8.17	4.90	22.1	55	11.9	6	43	9.5	2.6
BT 4-71	83	27.74	19.4	7.01	4.21	21.7	51	11.4	10	38	8.2	2.5
BT 4-93	47	20.45	14.3	3.84	2.30	10.8	54	10.9	8	41	4.4	1.2
BT 5-35	16	19.02	13.3	5.67	3.40	13.1	29	7.0	49	21	2.8	0.9
BT 5-99	0.25	14.87	10.4	4.17	2.50	6.1	38	16.3	22	19	1.1	1.0
BT 6-22	45	28.60	20.0	5.67	3.40	20.7	45	8.7	21	35	7.0	1.8

* Assumes that Titanium in magnetic separate is in the form of Ilmenite $FeTiO_3$.

** This is Fe in magnetite form in the magnetic separate.

Table 5:

Total magnetic field, average susceptibility and Magnetite content in the holes (weight).

Hole Number	Susceptibility (emu * 10^3)	Magnetite	Total Field (IGRF removed NT)
94-1	45.3	3.68	2703
94-2	19.6	1.59	2583
94-3	41.1	3.34	1351
94-4	66.5	5.40	2591
94-5	12.0	0.98	1068
94-6	28.8	2.34	543
94-7	22.9	1.86	1623
94-8	18.0	1.47	1172
94-9	12.1	0.98	844
95-1	41.2	3.35	1876
95-2	56.9	4.63	3255
95-3	6.83	0.55	1011

APPENDIX 1

Drill hole and core information

Hole diameter	1 ¾" 43 mm
Inclination	90°
Azimuth	n.a.
Minerals noted	no obvious metals noted, detailed analysis planned.
Number of holes	15
Total hole depth	2900′ 883.2 m
Total length of core	2611′ 795.2 m
Location of cores	7203 Keewatin Street S.W., Calgary, AB, T2V 2M6
Collar elevation of holes (estimated from topo map)	94-1 3620′
	94-2 3700′
	94-3 4080′
	94-4 3990′
	94-5 3630′
	94-6 3880′
	94-7 2810′
	94-8 2695′
	94-9 2490′
	95-1 2400′
	95-2 4575′
	95-3 5320′
	96-1 2470′
	96-2 5250′
	96-3 5200′

MASTER MINERAL RESOURCE SERVICES LTD.
Pilsum Master, M.Sc., P.Geol
Industrial Minerals - Market Development, Technical Advice, Evaluation
AutoCAD, Computer Imaging, Mineralogy (Diamond Indicator Minerals)

APPENDIX 2

To: Lorne Kelsch
BT Resource Development
c/o TerraMin Research Labs Ltd.
Calgary, Alberta

From: Pilsum Master, P.Geol.
Master Mineral Resource Services Ltd.

Date: January 19, 1995.

Re.: Petrology of BT 4- and BT 5 - samples

To determine the petrology and identification of rock samples, thin section petrography is normally completed, supplemented by major element chemical analysis.

The major element chemical analysis was completed for the suite of samples, and was made available for interpretation. Also, the rejects from each sample were preserved and submitted for examination under a petrographic binocular microscope with a magnification between 10X and 40X. The petrological descriptions and the mineralogy determined are preliminary, and can only be confirmed by detailed mineralogical examination, e.g. thin sections.

NORM MINERALOGICAL ANALYSIS BY CALCULATION FROM CHEMICAL ANALYSIS:

It was felt that the results of the preliminary petrological examination could be supplemented by the data from the chemical analysis. The technique described below is used for igneous rocks, and calculates the theoretical mineral composition or *norm (normalisation of chemical composition for comparison)*. Although the petrological examination revealed that the rocks are probably from a contact zone of an igneous body, the NORM CALCULATIONS are useful to compare the samples, and determine their unique characters.

It is emphasised that the mineralogical composition of an igneous rock, expressed as weight or volume percentages of microscopically identified minerals, i.e. the *mode* (modal composition) of the rock is not determined here. In the norm calculations the various oxide components as determined by chemical analysis are combined in a series of steps to form a series of normative mineral components.

32 Midpark Gardens S.E., Calgary, Alberta, Canada T2X 1N7 • Telephone (403) 256-6220

The complete calculations require completion of a number of sequence of oxide combinations so that eventually the calculated normative minerals correspond broadly with those present modally in any igneous rock which crystallised slowly at low pressure. Thus insufficient silica to form quartz or to be applied to other rock forming minerals like pyroxene, suggests that the rock is undersaturated in silica, and normative olivine (instead of hypersthene), normative nepheline and/or leucite instead of feldspars are recalculated. In this exercise, calculations were only taken to the point where deficiency in silica -- no free quartz -- is indicated. A more complete calculation is warranted if selected members of the rock suite are subjected to modal analysis (thin section) and the data used to calculate the norms for the rest of the samples.

The *norms* of samples BT4-52, BT4-85, BT 4-93, BT5-24, BT5-46 were completed to the determination of quartz, and are enclosed. The calculations indicate that a substantial portion of the Fe occurs as magnetite, there is no free quartz, and very little potassic feldspar. The silicate minerals are mainly sodic feldspar and plagioclase, although feldspathoid minerals can be present. The ferro magnesian minerals are mainly diopsidic pyroxene, with a strong indication of enstatic (Mg) component. Presence of Ca-silicates is likely due to the high proportion of wollastonite (skarn?). Complex hydrous modal minerals like amphibole and mica cannot be calculated by these methods directly.

None of the five samples match the norms of common igneous rock types.

The rocks are tentatively identified as diorite (>50% mafic) from the contact zone (probably a skarn) with undetermined country rock. A major component is magnetite, and sufficient titanium is present to indicate the existence of ilmenite.

PETROGRAPHIC EXAMINATION:

Laboratory rejects of thirteen samples of the BT 4- series and 7 samples of the BT 5-series were examined under hand lens and a 10-40X binocular microscope. In addition, the samples were tested for carbonate by 10% HCl acid at room temperature, and for magnetism by a hand-held magnetic stud finder. The terms used to describe the carbonate content and magnetic properties are subjective, e.g. weak, strong.

BT 4 -20:
Dioritic,≥50% mafic
Mafics, lath shaped diopsidic pyroxene and/or hornblende, biotite, magnetite.
Felsic, lath shaped opaque, white, prismatic cleavage -- feldspar (?)
Slight effervescence with 10% HCl
Strong magnetic.

BT 4 - 25:
same as BT4-20, less green more dark mafic component.

BT 4- 7:
same as BT 4- 20, slightly finer grained

BT 4- 31, - 40, -43:
same as BT 4-20

BT 4- 52:
same as BT 4- 20, except less (< 50%) light coloured component, and more magnetic.

BT 4 - 57:
same as BT 4 -20

BT 4 - 65:
same as BT 4-20, except stronger response to 10% HCl -- more CO_3, calcite grains recognisable, some H_2S smell with acid --- sulphide in matrix (?).

BT 4 - 71:
same as BT 4- 65

BT 4 - 78:
same as BT 4 - 65.

BT 4- 85:
same as BT 4 -65, except weakly magnetic

BT 4 - 93:
same as BT 4 - 65.

BT 5 - 24:
Dioritic, 50% mafics.
Mafics mainly diopsidic pyroxene and/or hornblende.
Light coloured minerals: opaque dull lustre (not like feldspar), hardness > 5, not possible to id..
Some effervescence with 10% HCl
Weakly magnetic.

BT 5 - 35:
More like BT4-20 than BT 5-24 with less of the sheet like mafic minerals present. Light coloured mineral laths look like feldspar phenocrysts.
Little or no reaction to 10% HCl
Weakly magnetic.

BT 5- 46:
same as BT 5 - 35, except some effervescence with 10% HCl.

BT Resource Development/ TerraMin/MMRS

BT 5- 60:
same as BT 5 - 46.

BT 5 - 74:
Dioritic, light coloured feldspar (?) laths not all lath shaped, smaller more irregular in form, some with ochre colour.
No magnetic reaction
Medium effervescence with 10% HCl

BT 5 - 88:
same as BT 5- 74, except green "albitic" phenocrysts.

BT 5 - 99:
same as BT 5 - 88, except weakly magnetic and a slight response to 10% HCl.

CONCLUSIONS AND RECOMMENDATIONS:

The samples represent a contact zone of a dioritic intrusion. The mode of origin of the magnetite is not possible to determine. Presence of Ca-silicate minerals is suspected but cannot be confirmed, nor can the presence of skarn type of mineralisation be determined. Modal mineralogical determinations using thin section petrography of atleast three representative samples of each of the series is recommended. The modal compositions can then be used to compare the remainder of the sample suite using their major element chemical analysis. For this normative calculations can be used with more confidence.

January 19, 1995 — Pilsum P. Master, P.Geol.

DETERMINATIVE PETROLOGY. SAMPLE: BT 5 – 24 PROJECT: 38 BT RESOURCE DEVELOPMENT
NORM CALCULATIONS BY CIPW METHOD. MASTER MINERAL RESOURCE SERVICES LTD.
Reported Fe2O3: 11.57 All Fe recalculated and assigned to FeO

CONSTITUENTS		SiO2	Al2O3	FeO (calc.)	Fe2O3(calc)	MgO	CaO	Na2O	K2O	TiO2	MnO	LOI	TOTAL
WEIGHT %,CHEM.ANAL.		42.60	17.80	10.44	0.00	3.02	8.59	3.71	1.43	2.10	0.15	2.40	90.23
MOLECULAR WTS.		60.00	102.00	160.00	72.00	40.00	56.00	62.00	94.00	80.00	71.00		
MOLECULAR PROP.		710.00	174.51	65.23	0.00	75.45	117.68	59.78	15.28	26.25	2.08		
ADJUSTED MOL.PROP.				67.29									
ILMENITE				30.29						30.29			
SPHENE(TITANITE)													
RUTILE										−4.04			
ORTHOCLASE		91.53	15.26						15.28				
ALBITE		358.74	59.79					59.79					
ANORTHITE		186.95	93.46				93.46						
MAGNETITE				34.94	0.00								
HEMATITE					0.00								
	Fe			0.48									
DIOPSIDE	Mg	135.66				17.71							
	Ca						117.68						
OLIVINE		0.93		−0.04									
	Mg					0.97							
QUARTZ		−75.99											
CORUNDUM			0.00										

MOLECULAR PROPORTIONS	MOLECULAR WEIGHTS	NORM % WEIGHT MINERAL		
0.03	152.00	4.60	ILMENITE	
			SPHENE(TITANITE)	
−0.00	80.00	−0.32	RUTILE	
0.02	556.00	8.48	ORTHOCLASE	
0.06	524.00	31.33	ALBITE	
0.10	278.00	27.65	ANORTHITE	
0.03	232.00	8.11	MAGNETITE	
0.00	160.00	0.00	HEMATITE	
0.00	132.00	0.06		ferrosilite
0.14	100.00	13.59	DIOPSIDE	enstatite
0.12	116.00	13.65		wollastonite
−0.00	132.00	−0.01	OLIVINE	fayalite
0.00	100.00	0.10		forsterite
−0.06	60.00	−4.56	QUARTZ	
0.00	102.00	0.00	CORUNDUM	
		102.53	Total	

DETERMINATIVE PETROLOGY. SAMPLE: BT 4 – 55 PROJECT: 28 BT RESOURCE DEVELOPMENT

NORM CALCULATIONS BY CIPW METHOD. MASTER MINERAL RESOURCE SERVICES LTD.

Reported Fe_2O_3: 24.02 All Fe recalculated and assigned to FeO

CONSTITUENTS		SiO_2	Al_2O_3	FeO (calc.)	Fe_2O_3(calc)	MgO	CaO	Na_2O	K_2O	TiO_2	MnO	LOI	TOTAL	MOLECULAR PROPORTIONS	MOLECULAR WEIGHTS	NORM % WEIGHT MINERAL		
WEIGHT %,CHEM.ANAL.		35.50	9.10	21.57	0.00	7.44	10.42	2.04	0.25	6.00	0.41	−1.20	91.63					
MOLECULAR WTS.		60.00	102.00	180.00	72.00	40.00	56.00	62.00	94.00	80.00	71.00							
MOLECULAR PROP.		591.67	89.22	135.43	0.00	186.10	186.13	32.82	2.67	75.00	5.82							
ADJUSTED MOL.PROP.				141.24														
ILMENITE				30.29						30.29				0.03	152.00	4.60	ILMENITE	
SPHENE(TITANITE)																	SPHENE(TITANITE)	
RUTILE										44.71				0.04	80.00	3.58	RUTILE	
ORTHOCLASE		16.02	2.67						2.67					0.00	556.00	1.48	ORTHOCLASE	
ALBITE		196.94	32.82					32.82						0.03	524.00	17.20	ALBITE	
ANORTHITE		107.45	53.72				53.72							0.05	278.00	14.93	ANORTHITE	
MAGNETITE				105.14	0.00									0.11	232.00	24.39	MAGNETITE	
HEMATITE					0.00									0.00	160.00	0.00	HEMATITE	
	Fe			4.01										0.00	132.00	0.53		ferrosilite
DIOPSIDE	Mg	318.53				128.39								0.32	100.00	31.85	DIOPSIDE	enstatite
	Ca						186.13							0.18	116.00	21.59		wollastonite
OLIVINE		0.94		−0.02										−0.00	132.00	−0.00	OLIVINE	fayalite
	Mg					0.97								0.00	100.00	0.10		forsterite
QUARTZ		−48.21												−0.05	60.00	−2.89	QUARTZ	
CORUNDUM			0.00											0.00	102.00	0.00	CORUNDUM	
																117.37	Total	

DETERMINATIVE PETROLOGY. SAMPLE: BT 4 – 52 PROJECT: 28 BT RESOURCE DEVELOPMENT

NORM CALCULATIONS BY CIPW METHOD. MASTER MINERAL RESOURCE SERVICES LTD.

Reported Fe2O3: 34.75 All Fe recalculated and assigned to FeO

CONSTITUENTS		SiO2	Al2O3	FeO (calc.)	Fe2O3(calc)	MgO	CaO	Na2O	K2O	TiO2	MnO	LOI	TOTAL	MOLECULAR PROPORTIONS	MOLECULAR WEIGHTS	NORM % WEIGHT MINERAL		
WEIGHT %,CHEM.ANAL.		26.10	2.80	31.35	0.00	11.13	10.86	0.41	0.05	8.17	0.55	-2.20	89.16					
MOLECULAR WTS.		60.00	102.00	160.00	72.00	40.00	56.00	62.00	94.00	80.00	71.00							
MOLECULAR PROP.		435.00	25.49	195.92	0.00	278.13	195.11	6.55	0.61	102.13	7.80							
ADJUSTED MOL.PROP.				203.73														
ILMENITE				30.29						30.29				0.03	152.00	4.60	ILMENITE	
SPHENE(TITANITE)																	SPHENE(TITANITE)	
RUTILE										71.84				0.07	80.00	5.75	RUTILE	
ORTHOCLASE		4.85	0.81						0.81					0.00	556.00	0.45	ORTHOCLASE	
ALBITE		39.29	6.55					6.55						0.01	524.00	3.43	ALBITE	
ANORTHITE		36.27	18.13				18.13							0.02	278.00	5.04	ANORTHITE	
MAGNETITE				185.63	0.00									0.17	232.00	38.43	MAGNETITE	
HEMATITE					0.00									0.00	160.00	0.00	HEMATITE	
	Fe			4.86										0.00	132.00	0.84		ferrosilite
DIOPSIDE	Mg	374.08				173.12								0.37	100.00	37.41	DIOPSIDE	enstatite
	Ca						188.11							0.20	116.00	22.75		wollastonite
OLIVINE		0.95		-0.02										-0.00	132.00	-0.00	OLIVINE	fayalite
	Mg					0.97								0.00	100.00	0.10		forsterite
QUARTZ		-20.44												-0.02	60.00	-1.23	QUARTZ	
CORUNDUM			0.00											0.00	102.00	0.00	CORUNDUM	
																117.37	Total	

DETERMINATIVE PETROLOGY. SAMPLE: BT 5 – 46 PROJECT: 26 BT RESOURCE DEVELOPMENT
NORM CALCULATIONS BY CIPW METHOD. MASTER MINERAL RESOURCE SERVICES LTD.

Reported Fe2O3: 19.45 All Fe recalculated and assigned to FeO

CONSTITUENTS		SiO2	Al2O3	FeO (calc.)	Fe2O3(calc)	MgO	CaO	Na2O	K2O	TiO2	MnO	LOI	TOTAL
WEIGHT %,CHEM.ANAL.		33.70	13.60	17.55	0.00	6.98	10.41	1.51	0.88	6.00	0.21	1.60	97.92
MOLECULAR WTS.		60.00	102.00	160.00	72.00	40.00	56.00	62.00	94.00	80.00	71.00		
MOLECULAR PROP.		545.00	133.33	109.68	0.00	174.50	185.83	29.13	9.34	75.00	2.89		
ADJUSTED MOL.PROP.				112.55									
ILMENITE				30.29						30.29			
SPHENE(TITANITE)													
RUTILE										44.71			
ORTHOCLASE		56.04	9.34						9.34				
ALBITE		174.77	29.13					29.13					
ANORTHITE		189.73	94.86				94.86						
MAGNETITE				79.37	0.00								
HEMATITE					0.00								
	Fe			1.48									
DIOPSIDE	Mg	276.89				89.53							
	Ca						185.83						
OLIVINE		0.97		−0.02									
	Mg					0.86							
QUARTZ		−53.40											
CORUNDUM			0.00										

MOLECULAR PROPORTIONS	MOLECULAR WEIGHTS	NORM % WEIGHT MINERAL		
0.03	152.00	4.60	ILMENITE	
			SPHENE(TITANITE)	
0.04	80.00	3.58	RUTILE	
0.01	556.00	5.19	ORTHOCLASE	
0.03	524.00	15.26	ALBITE	
0.09	278.00	28.37	ANORTHITE	
0.08	232.00	18.41	MAGNETITE	
0.00	160.00	0.00	HEMATITE	
0.00	132.00	0.20		ferrosilite
0.28	100.00	27.89	DIOPSIDE	enstatite
0.19	116.00	21.56		wollastonite
−0.00	132.00	−0.08	OLIVINE	fayalite
0.00	100.00	0.10		forsterite
−0.05	60.00	−3.20	QUARTZ	
0.00	102.00	0.00	CORUNDUM	
		119.76	Total	

DETERMINATIVE PETROLOGY. SAMPLE: BT 4 – 93 PROJECT: 26 BT RESOURCE DEVELOPMENT

NORM CALCULATIONS BY CIPW METHOD. MASTER MINERAL RESOURCE SERVICES LTD.

Reported Fe2O3: 20.45 All Fe recalculated and assigned to FeO

CONSTITUENTS		SiO_2	Al_2O_3	FeO (calc.)	Fe_2O_3(calc)	MgO	CaO	Na_2O	K_2O	TiO_2	MnO	LOI	TOTAL
WEIGHT %,CHEM.ANAL.		39.40	11.10	16.45	0.00	6.30	10.37	2.66	0.31	3.64	0.34	–0.60	92.16
MOLECULAR WTS.		60.00	102.00	160.00	72.00	40.00	56.00	62.00	94.00	80.00	71.00		
MOLECULAR PROP.		656.67	108.82	115.30	0.00	157.50	185.13	42.84	3.31	45.00	4.83		
ADJUSTED MOL.PROP.				120.13									
ILMENITE				50.29						50.29			
SPHENE(TITANITE)													
RUTILE										17.71			
ORTHOCLASE		19.85	3.31						3.31				
ALBITE		257.03	42.84					42.84					
ANORTHITE		125.35	62.88				62.66						
MAGNETITE				65.01	0.00								
HEMATITE					0.00								
	Fe			3.64									
DIOPSIDE	Mg	307.57				118.60							
	Cs						185.13						
OLIVINE		0.95		–0.02									
	Mg					0.97							
QUARTZ		–54.09											
CORUNDUM			0.00										

MOLECULAR PROPORTIONS	MOLECULAR WEIGHTS	NORM % WEIGHT MINERAL		
0.03	152.00	4.60	ILMENITE	
			SPHENE(TITANITE)	
0.02	80.00	1.42	RUTILE	
0.00	556.00	1.84	ORTHOCLASE	
0.04	524.00	22.45	ALBITE	
0.06	278.00	17.42	ANORTHITE	
0.08	232.00	18.72	MAGNETITE	
0.00	160.00	0.00	HEMATITE	
0.00	132.00	0.48		ferrosilite
0.31	100.00	30.76	DIOPSIDE	enstatite
0.19	116.00	21.47		wollastonite
–0.00	132.00	–0.00	OLIVINE	fayalite
0.00	100.00	0.10		forsterite
–0.05	60.00	–3.25	QUARTZ	
0.00	102.00	0.00	CORUNDUM	
		117.02	Total	

TERRAMIN RESEARCH LABS LTD.

APPENDIX 3

ANALYTICAL REPORT

26 BT Resource Dev't.

Lorne Kelsch

Date: January 27, 1995

Job No: 95-014

Project:

P.O. No:

20 Core

Signed: ____________________

14-2235 30th Avenue N.E., Calgary, Alberta, T2E 7C7
Phone (403) 250-9460   Fax (403) 291-7064

TERRAMIN RESEARCH LABS Ltd.

Job No: 95-014

Client: 26 BT Resource Development
Project:

Sample Number		Magnetite %
BT-4	7	14.6
BT-4	20	9.5
BT-4	25	9.6
BT-4	31	9.6
BT-4	40	12.5
BT-4	43	14.1
BT-4	52	22.1
BT-4	57	8.0
BT-4	65	8.5
BT-4	71	21.7
BT-4	78	21.9
BT-4	85	14.3
BT-4	93	10.8
BT-5	24	4.1
BT-5	35	13.1
BT-5	46	10.2
BT-5	60	5.5
BT-5	74	6.2
BT-5	88	4.3
BT-5	99	6.1

APPENDIX 4

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

26 BT Resource Development
7203 Keewatin St. S.W.
Calgary, Alberta
T2V 2M6

Lorne Kelsch

Date: Sept. 1, 1995

Job No: 95-102

Project:

46 Samples

Signed: [signature]

14, 2235 30th Avenue N.E., Calgary, AB, T2E 7C7
Phone: (403)250-9460 Fax: (403)291-7064

TERRAMIN RESEARCH LABS Ltd.

Job No: 95-102

Client: 26 BT Resources
Project:

ANALYSIS OF MAGNETIC FRACTION

Sample Number	Magnetics %	Fe %	Ti %
95-1 39	11.4	40.3	3.56
95-1 46	19.0	38.4	2.80
95-1 73	16.1	49.5	4.51
95-1 75	2.4	41.5	5.00
95-1 90	8.4	44.4	4.94
95-1 112	2.9	45.6	3.23
95-1 135	12.2	51.2	4.57
95-1 162	3.6	47.3	5.34
95-1 175	17.4	48.9	4.76
95-1 189	5.9	46.8	3.90
95-1 213	17.3	52.5	5.48
95-1 229	0.0	0.0	0.00
95-1 237	6.5	50.1	4.82
95-1 248	7.7	47.5	4.57
95-1 256	3.2	45.5	4.62
95-1 270	11.7	55.8	4.59
95-1 290	4.0	50.0	3.50
95-2 10	9.0	58.2	5.21
95-2 40	1.2	60.5	2.45
95-2 61	5.2	55.3	5.89
95-2 86	6.4	56.0	6.02
95-2 95	11.7	55.4	6.40
95-2 102	12.7	51.2	6.98
95-2 114	13.1	56.0	6.08
95-2 135	10.6	51.9	6.98
95-2 140	19.6	59.7	6.60
95-2 148	10.2	54.1	6.50
95-2 159	5.4	59.4	5.42
95-2 172	18.4	65.8	4.92
95-2 185	16.5	59.4	6.42
95-2 200	4.8	53.6	4.87
95-2 208	31.7	63.0	5.45
95-2 211	25.9	59.6	5.42
95-2 215	23.4	61.1	5.21
95-2 225	8.8	56.1	6.39
95-2 235	0.7	60.7	3.75
95-2 250	8.9	56.8	6.05
95-2 268	10.9	56.8	6.43
95-2 279	9.4	55.8	6.77
95-2 292	12.4	54.8	6.16

95-2 297	4.5	57.6	5.55
95-3 147	0.7	49.0	3.85
95-3 206	1.9	56.6	1.37
95-3 219	0.8	52.3	1.07
95-3 227	1.0	55.0	2.40
95-3 238	0.5	49.5	3.05

APPENDIX 5

TERRAMIN RESEARCH LABS Ltd.

Job No: 95-102

Client: 26 BT Resources
Project:

Sample Number	Ba ppm	Be ppm	Cr ppm	Li ppm	Rb ppm	Sr ppm	V ppm
95-1-229	10	2.9	52	3	4	227	30
95-2-200	1260	1.6	45	7	33	538	90
95-3-147	370	3.6	20	14	61	155	30

Sample Number	Ag ppm	Cd ppm	Co ppm	Cu ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
95-1-229	<.1	0.2	2	5	4	3	1	7
95-2-200	<.1	0.1	7	8	3	1	4	85
95-3-147	<.1	0.3	2	16	2	1	6	108

APPENDIX 5

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

26 BT Resources Dev't
7203 Keewatin St. S.W.
Calgary, Alberta
T2V 2M6

Lorne Kelsch

Date: Nov. 29, 1996

Job No: 96-258

Project:

26 Rock Samples

Signed: ymd

14, 2235 30th Avenue N.E., Calgary, AB, T2E 7C7
Phone: (403)250-9460 Fax: (403)291-7064

APPENDIX 5

TERRAMIN RESEARCH LABS Ltd.

Job No: 96- 258

Client: 26 BT Resources
Project:

Sample Number	Ba ppm	Be ppm	Cr ppm	Li ppm	Rb ppm	Sr ppm	V ppm
96-1- 58	160	1.1	370	12	27	882	380
96-1- 78	150	0.8	23	16	41	601	660
96-1- 110	70	0.9	530	13	13	510	450
96-1- 159	160	1.0	330	14	32	900	400
96-1- 193	30	0.2	114	23	35	162	80
96-1- 200	70	1.2	190	11	22	771	240
96-1- 216	330	1.3	49	20	72	1210	120
96-1- 238	70	0.7	38	14	23	437	770
96-1- 250	120	0.7	48	12	22	595	520
96-1- 273	130	0.7	67	12	24	420	640
96-1- 297	170	0.9	36	14	28	528	600
96-1- 300	100	0.7	39	14	19	269	840
96-2- 55	310	1.8	1390	26	35	804	480
96-2- 74	380	1.2	830	33	49	831	350
96-2- 222	220	1.6	520	17	29	143	300
96-2- 362	500	3.3	810	11	258	119	340
96-2- 363	230	3.2	1220	44	75	111	330
96-2- 382	460	1.5	870	21	90	362	360
96-2- 416	980	1.9	46	24	122	588	660
96-2- 420	3600	5.6	22	27	121	803	70
96-2- 476	120	2.3	590	11	21	1040	410
96-3- 108	80	4.1	114	12	46	459	100
96-3- 174	1600	15.6	330	33	491	180	340
96-3- 212	1710	2.0	390	32	78	495	400
96-3- 242	680	1.9	920	22	73	486	480
96-3- 276	440	3.6	23	13	99	369	70

APPENDIX 5

TERRAMIN RESEARCH LABS Ltd.

Job No: 96- 258

Client: 26 BT Resources
Project:

Sample Number	Ag ppm	Cd ppm	Co ppm	Cu ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Au ppb
96-1- 193									8
96-1- 200									4
96-2- 55	0.1	0.1	89	157	3	530	2	47	
96-2- 74	0.1	0.1	27	8	2	130	5	31	
96-2- 222	0.1	0.1	44	23	1	112	1	58	
96-2- 362	0.5	0.1	16	15	3	34	4	14	
96-2- 363	0.1	0.1	33	38	2	220	1	54	
96-2- 382	0.3	0.1	79	15	1	138	4	44	
96-2- 416	0.1	0.1	45	56	2	34	6	138	
96-2- 420	0.2	0.1	12	7	1	2	4	66	
96-2- 476	0.1	0.1	70	28	4	144	11	49	

APPENDIX 6

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

26 BT Resources Dev't.
7203 Keewatin St. S.W.
Calgary, Alberta
T2V 2M6

Lorne Kelsch

Date: Nov. 17, 1995

Job No: 95-230

Project:

P.O. No:

13 Rock for Major, Minor, Trace Elements

Signed: [signature]

14, 2235 30th Avenue N.E., Calgary, AB, T2E 7C7
Phone: (403)250-9460 Fax: (403)291-7064

TERRAMIN RESEARCH LABS Ltd.

Job No: 95-230

Client: 26 BT Resources
Project:

Sample Number	Ba ppm	Be ppm	Cr ppm	Li ppm	Rb ppm	Sr ppm	V ppm
94-BT8-31	2520	1.3	33	13	30	1600	80
95-3 101	1050	3.5	91	15	131	151	30
95-3 147	490	3.3	25	11	135	147	20
95-3 149	740	5.0	26	12	151	398	30
95-3 168	670	2.2	79	18	160	113	20
95-3 202	80	2.5	62	28	177	36	10
95-3 223	740	3.2	83	14	127	170	30
95-3 253	1670	3.2	68	13	149	218	10
95-1-5-NW	200	0.7	35	21	19	1080	310
E-W1-2.5	1040	1.6	170	18	59	411	110
E-W2-2.3	640	1.1	156	17	45	174	110
MWS	1010	1.7	161	23	58	239	120
SS-3-4	510	0.8	62	17	14	842	330

Sample Number	Ag ppm	Cd ppm	Co ppm	Cu ppm	Pb ppm	Mo ppm	Ni ppm	Zn ppm
94-BT8-31	< 0.1	< 0.1	10	10	1	4	1	33
95-3 101	0.1	< 0.1	3	24	6	5	2	121
95-3 147	0.1	< 0.1	3	15	5	4	< 1	110
95-3 149	0.1	< 0.1	3	11	3	3	< 1	80
95-3 168	0.1	< 0.1	2	13	5	7	< 1	92
95-3 202	0.1	< 0.1	3	9	7	4	< 1	100
95-3 223	< 0.1	< 0.1	4	14	1	8	2	105
95-3 253	0.1	< 0.1	3	18	2	6	< 1	93
95-1-5-NW	< 0.1	< 0.1	24	7	1	2	1	31
E-W1-2.5	< 0.1	< 0.1	12	11	3	7	20	64
E-W2-2.3	0.1	< 0.1	9	13	7	6	21	50
MWS	0.1	0.1	12	31	9	3	41	74
SS-3-4	< 0.1	< 0.1	28	31	3	1	17	66

TERRAMIN RESEARCH LABS Ltd.

Job No: 95-230

Client: 26 BT Resources
Project:

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
94-BT8-31	51.3	21.5	6.883	1.708	5.136	1.398	6.95	0.094	1.25	2.7	99.01
95-3 101	58.4	17.6	1.959	0.623	5.190	5.302	8.04	0.232	0.35	1.6	99.23
95-3 147	57.3	18.7	1.357	0.531	5.028	5.615	7.88	0.181	0.33	3.3	100.26
95-3 149	57.5	17.8	2.140	0.400	3.222	6.266	6.58	0.435	0.27	5.3	99.85
95-3 168	57.8	18.1	1.875	0.317	5.352	6.652	7.04	0.173	0.25	1.9	99.43
95-3 202	58.8	18.1	1.182	0.206	5.405	5.567	6.26	0.156	0.13	2.7	98.56
95-3 223	57.5	17.9	2.490	0.368	5.972	5.338	8.59	0.209	0.25	1.2	99.93
95-3 253	58.2	17.8	2.462	0.459	5.527	6.013	8.08	0.208	0.37	0.5	99.52
95-1-5-NW	37.0	13.8	15.389	5.654	1.483	0.429	19.45	0.187	4.84	1.0	99.23
E-W1-2.5	67.4	13.2	2.071	1.472	3.020	2.326	6.55	0.101	0.93	2.4	99.45
E-W2-2.3	73.8	9.6	1.567	1.330	1.321	1.518	5.75	0.079	0.60	3.3	98.85
MWS	68.2	13.8	1.441	1.519	1.928	1.952	5.63	0.053	0.50	3.7	98.71
SS-3-4	43.0	16.4	10.003	5.256	2.022	0.406	15.30	0.178	4.17	3.1	99.88

Green between 94-3 & 94-4

STATEMENT OF COSTS

(December 21, 1996 to December 11, 1997)

BT 8, 9 & 10

A. EXPLORATION COSTS

- Dighem, A Division of CGG Canda Ltd.	$ 7,247.82
- Geological Field Trips (June 25/97 - July 31/97)	5,748.30
- Field Trip (June 29/97 - July 5/97) 2 days X $200.00/day X 1 man	400.00
- 20% of $1,045.24 Transportation Expense	209.05
- 20% of $833.50 Transportation Expense	166.70
TOTAL EXPLORATION EXPENSES	**$13,771.87**

B. SAMPLE ANALYSIS

- Vancouver Petrographics - Thin Section Studies	$ 688.75
- Ed Kruchkowski - Thin Section Studies	200.00
- Terramin Research Laboratories Ltd.	1,439.02
TOTAL SAMPLE ANALYSIS EXPENSES	**$ 2,327.77**
TOTAL EXPENSES	**$16,099.64**

APPENDIX 7

Assessment Report
On
Geological and Geochemical Work
On The Following Claims

BT 1-4 ..... 313837 - 33840
BT 5-6 ..... 313845 - 313846
BT 7 323202
BT 8-10 ..... 323096 - 323098
BT 11 323203
BT 12-17 ..... 346620 - 346625
BT 18 346941
BT 19 346626
BT 20-21 ..... 347097 - 347098

located

60 km East Of
Prince George, British Columbia
Prince George Mining Division

54 degrees 03 minutes latitude North
121 degrees 36 minutes longitude West

N.T.S. 93I/4E and W

Project Period: June 15 to July 20, 1997

On Behalf Of
26 BT Resource Development Ltd.
Soniseis House
6620 Crowchild Trail, S.W.
Calgary, Alberta
T3E 5R8

Report By:
E.R. Kruchkowski, B.Sc., P. Geol.
November 30, 1997

Table Of Contents

List of Figures

List of Tables

List of Appendices

SUMMARY

The BT 1-21 Claims owned by 26 BT Development Co. Ltd. are located approximately 60 kilometers east of Prince George, British Columbia, in the Prince George Mining Division. The property covers an area of Cambrian to Ordovician sediments and Silurian volcaniclastics and sediments intruded by a variety of plutons ranging from anorthosite/gabbro to sodalite syenite.

In the period June 15 to July 20, 1997, a program was conducted on the property as follows:

1. Re-logging drill holes 96-1 to 3 as well as 94-1, 94-4 to 6.
2. In the course of re-logging, a total of 15 core samples were collected for petrographic studies.
3. A total of 109 rock geochemical and 61 silt samples were taken in the course of the program.
4. Reconnaissance geological mapping was conducted along accessible roads, creek beds and compass lines.
5. Petrographic studies on several of the rock geochemical samples.
6. Magnetic separation tests on 4 samples from the 1994 and 1996 drill holes.

Based on the petrographic studies, the re-logging of the core and surface mapping, it appears that the property is underlain by a gabbro/anorthosite intrusive complex subsequently hydrothermally altered by a later nearby syenite intrusive. The gabbro anorthosite complex corresponds with a large magnetic anomaly. This work has indicated that the intrusive complex may be layered with the gabbro portion at the bottom and the anorthosite portion at the top. Tilting of this complex has exposed the gabbro portion which is mineralized with magnetite, ilmenite and rutile. The anorthosite portion contains a low magnetite, ilmenite and rutile content. Thin section work has indicated that rutile may be present in amounts greater than 1% in the gabbro, while ilmenitencan be present in amounts up to 12 %.

The rock geochemical program has indicated highly anomalous values for iron oxides and titanium oxides with results ranging from 2.20 to 29.57 % Fe_2O_3 and 0.03 to 9.17 % TiO_2. The silt sampling program has also indicated highly anomalous results with values ranging from 3.30 to 36.75 % Fe_2O_3 and 0.47 to 13.84 % TiO_2.

ICP analysis (32 element package) were conducted on 29 rock samples, 61 silt samples, 15 core samples (used for thin section work) and 12 magnetic, paramagnetic and silicate portions from the magnetic separation studies. This work yielded low results except for

vanadium and phosphorous which show enrichment. This is probably due to apatite in the rock yielding the enriched phosphorous while vanadium is typically enriched in titanium bearing gabbros.

Samples of the sodalite bearing syenite were tested for the rare earth elements. Six samples of this syenite show a weak enrichment in rare earths.

Results of the magnetic separation studies show a good separation for the magnetics and para-magnetics from the silicate portion.

The property has an excellent potential to host vast resources of titanium and iron associated with the gabbro portion of the anorthosite complex. To date, known deposits of this type in the world generally host millions of tons of contained Ti O2. Also, the gravels overlying the property contain significant amounts of iron and titanium. Due to the thick and extensive nature of these gravels, a resource may be developed in the gravels. The recommended program would include the following:

1. Gridding across the gabbro portion of the complex to provide survey control.

2. Saw-cut sampling across outcrops to provide data, particularly in highly anomalous areas outlined in the rock geochemical program.

3. Magnetometer survey along the grid lines.

4. Bulk sampling of gravels within anomalous areas outlined by the silt sampling.

5. Detailed geological mapping along the grid lines, creek beds and newly constructed logging roads and/or new logging slashes.

6. Further rock and silt geochemical sampling to expand on the 1997 program.

Estimated cost of the program is $61,000.00.

INTRODUCTION

An exploration program designed to test the magnetite-titanium oxide potential of the BT claims was conducted during the period June 15 to July 20, 1997. The work expanded on drilling and airborne magnetometer surveys completed prior to 1997.

Work was conducted by personnel accommodated in a tent site erected on the BT 6/8 claim boundaries.

All rock and silt geochemical samples as well as magnetic separations were performed by Terramin Research Laboratories Ltd. in Calgary, Alberta. ICP analysis and rare earth determinations were sub-contracted by Terramin to Chemex Labs Ltd. of Vancouver, B.C. Petrographic studies were completed by Vancouver Petrographics Ltd. Northern Mountain Helicopters provided a Bell 206 in order to provide access to the top of Bearpaw Ridge.

Location and Access

The property consisting of the BT claims is located about 60 kilometers east of Prince George, British Columbia (figure 1). The village of Sinclair Mills is just 2 kilometers south of the southern portion of the claims. The claim area is approximately 54 degrees 3 minutes latitude north and longitude 121 degrees 36 minutes west on NTS sheet 93 1/4E and W.

Access to the lower slopes of the property is via vehicle along logging roads from McGregor and Prince George while the upper slopes are accessed by helicopter.

Roads within logging slashes are generally overgrown or have had culverts and bridges removed by logging companies.

Physiography and Topography

The 26 BT property area is situated along the northern edge of the Bearpaw Ridge. The property encompasses an area between the Fraser River and West Torpy River. The property lies at the eastern edge of the Interior Plateau and the western edge of the McGregor Range Plateau. Elevations vary from approximately 600 m on the southern portion of the BT 12 (near the Fraser River) claim to 1680 m on the eastern edge of BT-7 (along Bearpaw Ridge).

Except for north facing slopes along the top of Bearpaw Ridge and logging slashes, the property is generally heavily wooded. Recent logging slashes are present within the BT 8, 9 and 11 claims while older, more overgrown logging slashes are present within the BT 1, 2 and 3 claims.

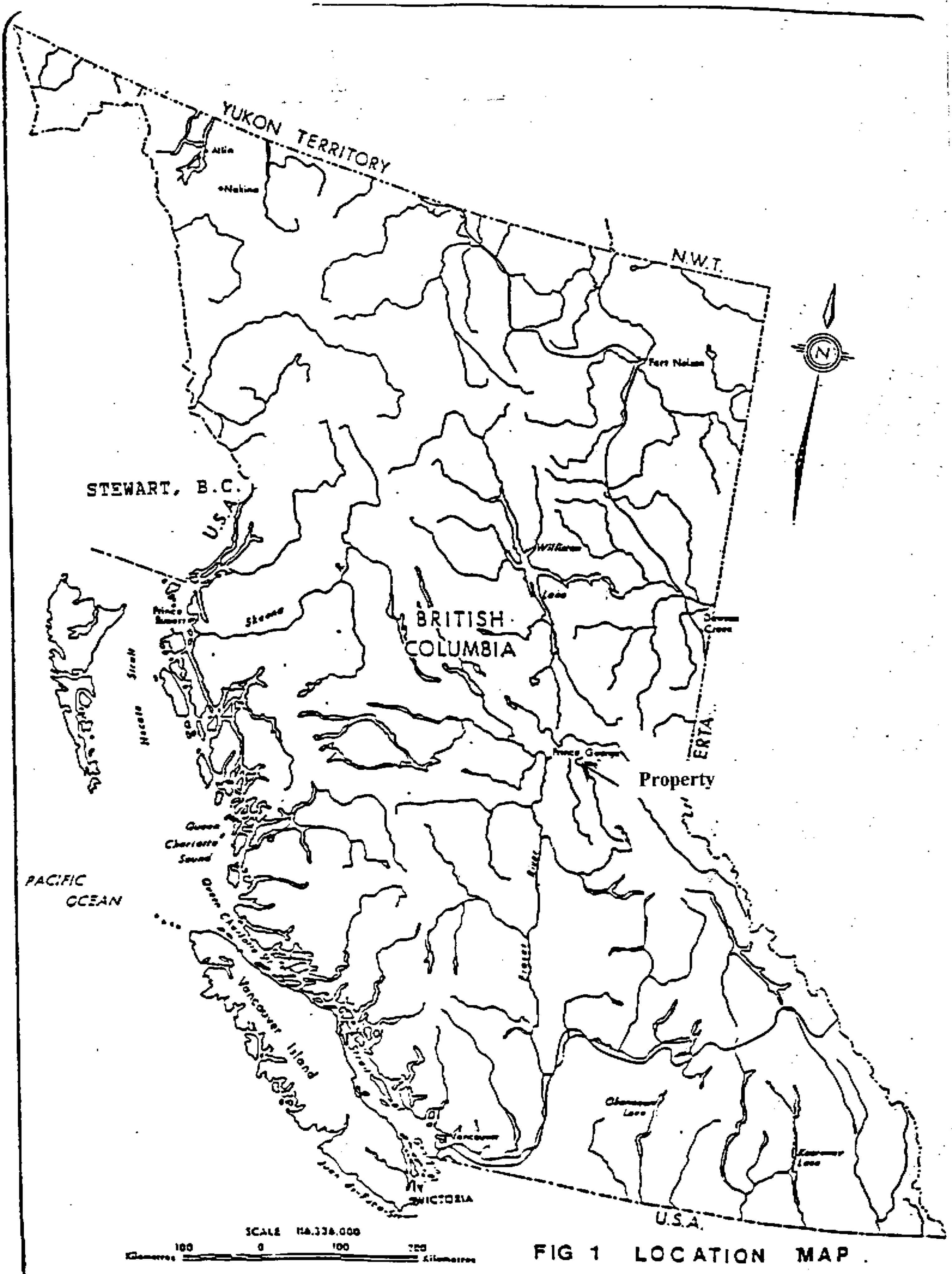


FIG 1 LOCATION MAP.

BRITISH COLUMBIA

The slopes are wooded with a variety of pine trees, poplars, willows as well as underbrush consisting of alder and devil's club. The presence of abundant windfall along with the above devil's club makes traversing the claims difficult.

Numerous small intermittent streams are present in the property area while Pritchard Creek and one draining the BT 8 and 9 claims appear to flow on a yearly basis.

Personnel and Operations

Personnel involved during the exploration program are listed below:

E.R. Kruchkowski	- Geologist	June 1 to July 13, 1997
V. Veljkovic	- Geologist	June 26 to July 12, 1997
S. Kruchkowski	- Geological Assistant	June 25 to July 1, 1997
M. Moorman	- Prospector	July 7 to July 12, 1997

Personnel in the program mobilized to the project area via vehicle or scheduled air flights to Prince George.

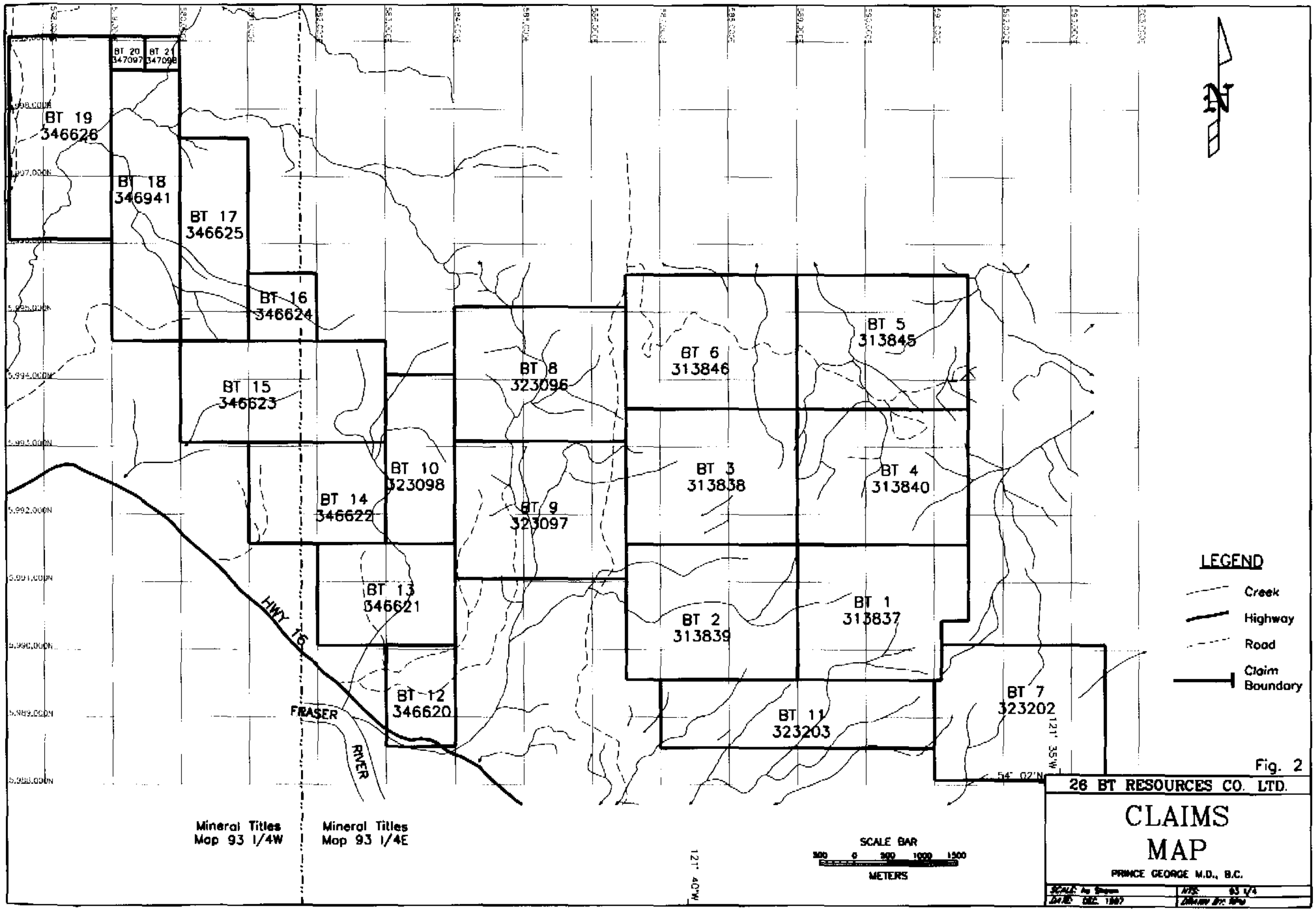
All personnel involved in the program, while on site were accommodated in the tent camp located on the BT 6/8 claim boundary. While in Prince George, crews were accommodated in local hotels.

Supplies and materials for the job were purchased in Prince George and taken to the job site via truck.

Property Ownership

The property, approximately 75 square kms, consists of 21 modified grid claims containing 306 units. Relevant claim information is summarized below:

Name	Tenure	No. Of Units	Expiry Date
BT 1	313837	20	Oct. 02/98
BT 2	313839	20	Oct. 02/98
BT 3	313838	20	Oct. 03/98
BT 4	313840	20	Oct. 05/98
BT 5	313845	20	Oct. 06/98
BT 6	313846	20	Oct. 07/98
BT 7	323202	20	Dec. 29/98
BT 8	323096	20	Dec. 21/98
BT 9	323097	20	Dec. 21/98
BT 10	323098	10	Dec. 22/98



BT 19
346626
BT 20
347097
BT 21
347098
BT 18
346941
BT 17
346625
BT 16
346624
BT 15
346623
BT 14
346622
BT 13
346621
BT 12
346620
BT 10
323098
BT 8
323096
BT 9
323097
BT 6
313846
BT 5
313845
BT 3
313838
BT 4
313840
BT 2
313839
BT 1
313837
BT 11
323203
BT 7
323202
HWY 16
FRASER
RIVER
Mineral Titles
Map 93 I/4W
Mineral Titles
Map 93 I/4E
121° 40'W
121° 35'W
54° 02'N
N
LEGEND
Creek
Highway
Road
Claim
Boundary
SCALE BAR
METERS
Fig. 2
26 BT RESOURCES CO. LTD.
CLAIMS
MAP
PRINCE GEORGE M.D., B.C.

BT 11	323203	16	Dec. 31/98
BT 12	346620	6	June 09/98
BT 13	346621	12	June 08/98
BT 14	346622	12	June 08/98
BT 15	346623	18	June 07/98
BT 16	346624	4	June 09/98
BT 17	346625	12	June 10/98
BT 18	346941	16	June 10/98
BT 19	346626	18	June 10/98
BT 20	347097	1	June 16/98
BT 21	347098	1	June 16/98

The claims are registered in the name of 26 BT Resource Development Ltd. of Calgary. The author did not examine the claim posts and cannot verify the quality and accuracy of the staking. The exact location of these claims would be subject to further surveys. Claim location is illustrated on Figure 2 copied after available government NTS maps.

Previous Work

The creeks in the vicinity of Bearpaw Ridge were in all likelihood examined for their placer potential in the late 1800's. This would have occurred as a result of the gold rush in the Cariboo area to the south.

Subsequently, prospectors have examined the Bearpaw Ridge and the underlying intrusives as a potential source for precious and base metals. Old claim posts were noted along Bearpaw Ridge in an area now covered by the BT 7 claim. Exploration activity from the late 1980's to now is quoted from an assessment report by Jain and Kelsch as follows:

"Two of the principals of the company entered the area north and east of McGregor in 1989. This was based on projections of the trends seen in the configuration of the North American Continental mass as demonstrated by Government gravity and magnetic maps. Later, while studying reports and maps in the Provincial offices in Prince George, the magnetic feature shown on Aeromagnetic Map 1536 G of the Geophysics Division of Mines and Technical Surveys was noted. Subsequent sampling along creeks crossing, the old logging road north of Sinclair Mills, yielded unusually high amounts of magnetite. The decision to stake the area at the north west end of Bearspaw Ridge was then made and carried out in 1992. An aeromagnetic survey was flown, processed and interpreted in 1993. As a result of this survey, additional areas surrounding the claims were staked. 9 holes were drilled to the depth of 100' on the claims in October 1994. The chemical analysis from the cores showed that Fe2O3 content averaged between 10-20% in the holes and reached up to 35% in some zones. The magnetic separation in 20 samples from two holes showed that in samples with high Fe2O3 content (greater than 10%), magnetite is more than 75% of total Fe2O3 percentage.

Three holes were drilled to the depths of 300' in June 1995. Two of the holes confirmed the presence of magnetite in a variable amounts to at least 300'. The third hole was and missed the anomaly. This hole does not appear to have any commercial significance.

Three holes were drilled in July 1996, two to the depth of 300' and one to 500'. One hole confirmed magnetic concentration while the other two were discouraging. The cores have not been fully analyzed yet and the results of this drilling could not be incorporated in to this report."

GEOLOGICAL SURVEY

Regional Geology

The Geological Survey of Canada Open File 630 shows that Bearpaw Ridge is underlain by a Cambrian to Silurian age sedimentary sequence to the east with a Lower Cambrian sedimentary sequence thrust on to the above rocks in the western portion of the area. Silurian age syenites are shown intruding the Cambrian to Silurian sediments.

Along the eastern edge of the Bearspaw Ridge, just west of the Torpy River, limestone and shale of the Lower Cambrian Mural Formation have been mapped. Overlying this formation is an undivided sequence of argillaceous limestone with minor shale that may range in age from Upper Cambrian to Upper Ordovician. West of this undivided sequence are more dolomitic siltstones, dolomite and shale of the Snake Indian Formation of Middle Cambrian age. This formation appears to be overlain by an undivided sequence of argillaceous limestone with minor shale that may be from Upper Cambrian to Upper Ordovician in age.

West of the above rocks, alkalic agglomerates of Silurian age form a synclinal structure along the west slopes of Bearpaw Ridge. Sodalite syenite of Silurian age intrudes both the alkalic agglomerates and argillaceous limestone and minor shale of Upper Cambrian to Upper Ordovician age. Lenticular horizons of Nonda Formation of Silurian age have been mapped between the above agglomerates and Upper Ordovician sediments. The Nonda Formation consists of dolomite, limestone, calcareous shale and quartzite. Thick quartzite beds are indicated for the southern portions of Bearpaw Ridge.

The Gog group of undivided sediments of Lower Cambrian age have been thrust along a northwest trenching belt over the Silurian Nonda Formation in the western edge of Bearpaw Ridge.

The above rocks all have a northwest trend, similar to trends for the overall region.

Local Geology

During geological investigations by the British Columbia Department of Mines, Energy and Petroleum Resources, Pell mapped the area of the BT claims in 1987. Her description of the geology is included as follows:

"Bearpaw Ridge Sodalite Syenite (93I/4)

A body of sodalite syenite and two flanking syenite sills crop out on Bearpaw Ridge in the Rocky Mountains approximately 60 kilometers east of Prince George, latitude 54 deg. 03'00" north, longitude 121 deg. 35'30" east. The ridge reaches a maximum elevation of 1700 meters in this area and is largely forested. Best exposure is found in subalpine meadows on north-facing slopes. The lower slopes are easily reached by logging roads from McGregor and Prince George; hiking or helicopter allows access to the ridge crest.

The syenites intrude Silurian Nonda Formation volcanicalstic rocks, which are predominantly alkaline mafic tuffs, locally containing limestone clasts. The syenite is massive, medium grained and white weathering. Three apparently separate bodies crop out; an oval stock, 500 meters by 1000 meters in size, is flanked by two smaller sill-like bodies. The stock contains randomly oriented feldspar laths (1 to 5 cm in size) with interstitial mafic silicated, feldspathoid and opaque minerals. The sills have feldspar phenocrysts up to 4 centimeters in size, in a groundmass of felted feldspar laths. The main intrusions are roughly parallel to bedding in the host rocks, however, crosscutting dykelets were observed (Pell, 1985). Intrusion apparently occurred prior to orogenesis. The syenites contain a low-grade metamorphic mineral assemblage (albite-epidote) and are exposed in the core of a synform.

A foliated orthogneiss of unknown age crops out on the western lower slopes of Bearpaw Ridge. It is not shown on previous maps of the area (Taylor and Stott, 1979) and its extent is unknown. Where exposed, the contact between the volcaniclastics and the gneiss is parallel to the bedding in the volcaniclastics, but may be either depositional or faulted.

A second body of syenite, also previously unmapped, crops out on the southwestern end of Bearpaw Ridge, intruding both the dioritic gneiss and volcaniclastics (Fig. 4). It is a massive, coarse-grained rock with a buff to pink fresh surface containing randomly oriented feldspar laths up to 1.5 cm long. Clinopyroxene, amphibole and opaques, predominantly magnetite, comprise up to 10 per cent of the rock. This syenite appears to be post-orogenic and unrelated to the sodalite syenite on the ridge crest. It is however similar petrographically to Cretaceous syenites described elsewhere in the Cordillera.

Sodalite Syenite

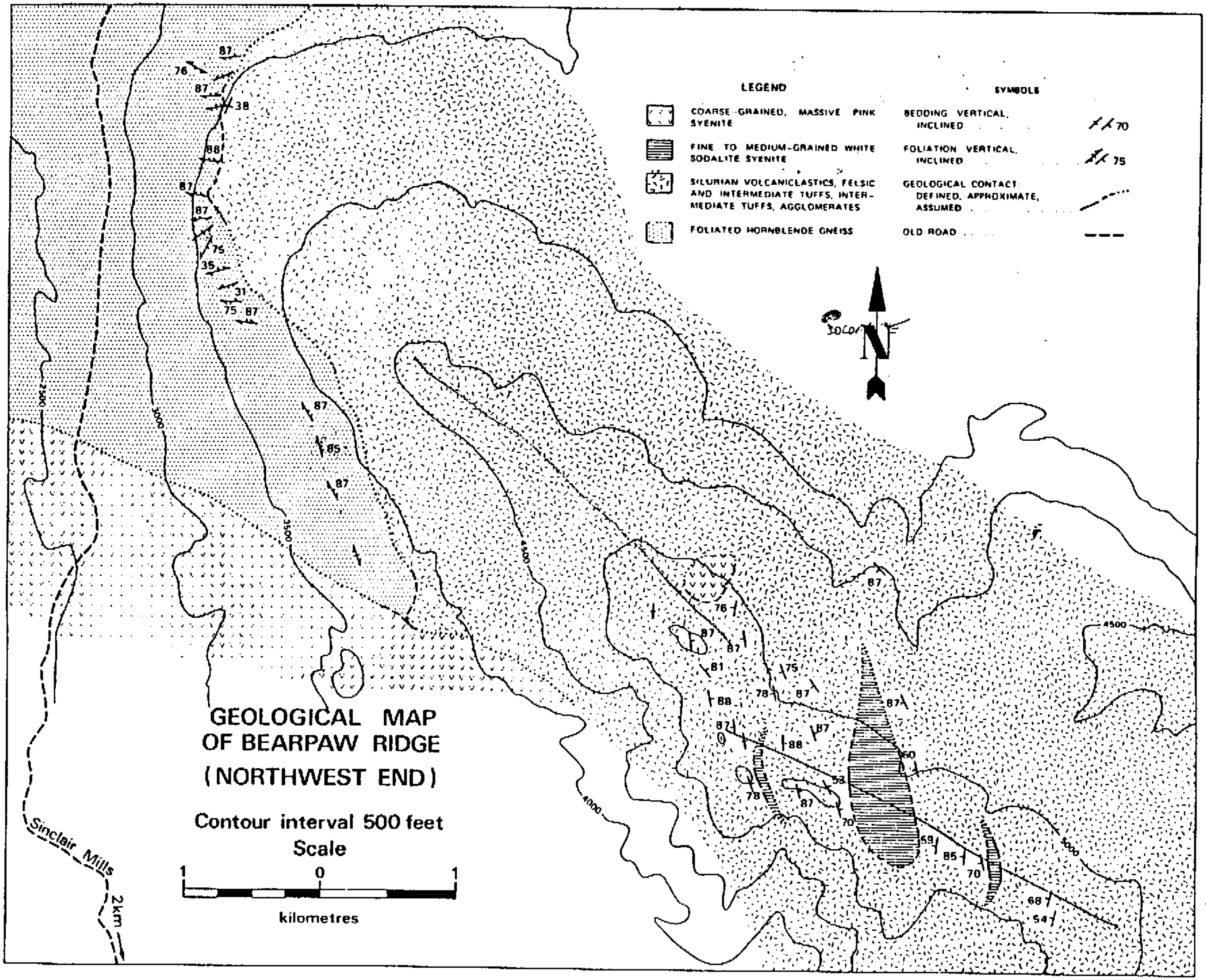


Figure 3 Geological Map of Bearpaw Ridge (after Pell - 1985)

The sodalite and related feldspathoid-poor syenites generally comprise 80 to 90 per cent feldspars. Due to metamorphism, much of the feldspar is now altered to albitic plagioclase and original potassic feldspar/plagioclase ratios are difficult to establish. Other metamorphic minerals include epidote (up to 10 per cent), muscovite (generally only a few per cent) and traces of chlorite. In one sample, alteration patches, consisting of fine-grained muscovite and epidote, comprise 30 per cent of the rock. Clay alteration was also noted locally.

Feldspathoid-bearing syenites occur near the center of the large syenite stock. They may contain up to 10 per cent feldspathoid minerals, generally sodalite and cancrinite or cancrinite alone. No nepheline was noted. Agirine (strongly pleochroic from marsh to blue-green) and biotite were also locally present in minor amounts. Trace minerals, identified by scanning electron microscopy, include magnetite (Ti-free), allanite, zircon, monazite, apatite, pyrochlore, thorite (ThSio4) and cheralite [(Ca,Ce,Th)(P,Si)o4].

Nonda Formation Volcaniclastics

The Nonda Formation rocks in this vicinity largely comprise clinopyroxene crystal tuffs, calcareous tuffs and minor basaltic flows. Flow rocks contain clinopyroxene phenocrysts and altered phenocrysts (now chlorite) in a matrix of opaque oxides, plagioclase and clinopyroxene microphenocrysts and chlorite. Some vesicles are present.

Orthogneiss

Folded and foliated gabbroic orthogneiss crops out on the lower slopes of the western end of Bearpaw Ridge. It varies from a banded gneiss containing approximately 70 per cent calcic plagioclase (bytownite) with 5 per cent olivine, 15 per cent titanaugite, 5 to 10 per cent magnetite-ilmenite and a trace of apatite, to a mafic gneiss with 10 per cent calcic plagioclase, 30 per cent olivine, 35 per cent titanaugite, 15 to 20 per cent magnetite-ilmenite and 2 to 3 per cent apatite. In both the feldspar-rich and feldspar-poor phases brown amphibole is present rimming pyroxenes and locally as an intercumulate phase comprising 5 to 7 per cent of the more mafic gneiss.

In some localities the gneiss is remarkably well preserved, in others it is highly altered, consisting of chlorite, epidote, plagioclase, sericite and prehnite.

Post-Organic Syenite

A second type of syenite outcrops on the southwest end of Bearpaw Ridge. It is massive and coarse grained with randomly oriented feldspar laths up to 1.5 cm in size. It comprises 30 to 35 per cent potassic feldspar, 20 to 25 per cent plagioclase and 10 to 20 per cent microperthite with up to 10 per cent clinopyroxene (aegirine-augite to aegirine), 5 per cent hornblende, 5 to 7 per cent magnetite (with titanium) plus ilmenite and minor biotite and apatite. The clinopyroxenes are strongly pleochroic, from yellowish to blue-

green and often rimmed by strongly pleochroic blue sodic amphibole (riebeckite). Accessory minerals, identified by scanning electron microscope, include pyrite, barite, monazite and sphalerite."

Figure 3 shows the geology as mapped by Pell.

Reconnaissance geological mapping in 1997 was conducted along accessible logging roads, within logging slashes, along creek beds and compass traverses as well as Bearpaw Ridge. Based on this work in conjunction with the thin section studies, it appears that up to three separate intrusive phases are present. These intrusives appear to intrude into a sequence of cherty sediments (quartzite, limestone and argillites). Figure 4 shows the geology, based on the 1997 fieldwork, plotted at a scale of 1:10,000. Mapping was restricted to the accessible portions of the BT 1-9 claims.

The eastern portions of the BT-2 and BT-4 to 6 claims appear to be underlain by a sedimentary sequence including cherty, thinly bedded sediments, limestone/dolomite and argillites. The cherts and/or quartzites consist of siliceous very fine grained rocks with individual beds from 1-2 cm thick. The rocks vary from light gray to light green in color. The limestones are dark gray in color with local brecciation and subsequent calcite filling along fractures. The argillites are fissile, black and easily eroded. Based on the GSC Open File 630, it appears that the cherts may be part of the Nonda Formation of Silurian age. The limestone and argillite is probably of Upper Cambrian to Upper Ordovician in age.

Along the ridge edge on BT-7, the cherty sediments are very fine grained and locally intruded by narrow dykes. Along the contacts of these dykes, local patchy pyrrhotite may be present in amounts from 5-6%. The sulfide rich portions of the cherts weather with a distinct brown gossan.

Dark gray limestone was noted in the southern portion of BT-11, while a gray marble unit is exposed in a creek bed on the BT-9 claim.

A large intrusive body underlies the BT 1, 3, 9 and 11 claims. It consists of a coarse grained, feldspar rich, pink to white intrusive with a low mafic content, generally less than 10%. Locally very coarse grained varieties contain 1-2% mafics. The phenocrysts occur in an equigranular habit and locally the feldspars are up to 6 cm in length. Initially the rock was identified as syenite in hand specimens. However, thin section work indicated that the K-feldspar were formed by the potassic alteration of plagioclases. Because of the low mafic content, the original rock type appears to be an anorthosite. Contacts of the anorthosite with the intruded rocks were not seen in the course of the survey.

It appears that the anorthosite may have been the initial intrusive in the area due to the strong subsequent alteration of the plagioclases. Along the northern portions of the anorthosite, gabbroic rocks form a border zone between the cherty sediments and main batholithic body. These gabbroic rocks were noted within BT 1-3 and BT 8 claims. The rocks appear to form an arcuate zone approximately 1-2.5 km wide along the northern boundary of the anorthosite and along a strike length of at least 7 km.

The gabbro is a thinly foliated, white to dark gray rock with mafics forming bands from 1 mm to 1 cm in width. The gabbro contains from 10-50% mafics as determined visually. The intrusive always exhibits some magnetism whether weak or strong.

Foliation in the gabbro is basically northwest trending and vertical along the eastern most portions examined. As the anorthosite is approached, the foliation shows a pronounced westerly dip. This may indicate a possible extension of the gabbro beneath the anorthosite to the west as the foliation appears to parallel the contact.

In weathered outcrop, the more mafic portions of the gabbro show a pronounced "ribbed" appearance. It appears that the magnetite, ilmenite and rutile causes the more mafic portions to be resistive to physical weathering.

Within the gabbro, a later phase of gabbroic intrusion was noted. In several localities on the BT 3 claim, narrow 1 cm stringers of gabbro cross-cut the earlier foliated gabbro. Even in the later intrusion, mafics show a pronounced orientation parallel to the contact walls. In the north central portion of BT 3, within a logging slash, a 1 m wide, non-foliated, magnetite-rich gabbro dyke is present. The contact of the dyke with the earlier foliated gabbro is irregular but definitely cross-cuts foliation.

A sodalite syenite has been identified by Pell on the BT 7 claim. Several different intrusive bodies are present with the largest being approximately 500 m in diameter. The second body noted was only about 30 m in length just below the ridge edge at the east central edge of the claim. The intrusive consisted of a gray coarse grained rock with about 10% mafic minerals. The unit weathers a white color. Locally the syenite has been sausseritized to a strongly epidote rich unit. In several syenite float samples located along the ridge, rare bright blue sodalite crystals up to 5 mm were noted.

It appears that the sodalite syenite has been intruded later that the gabbro and anorthosite. Narrow alaskite dykes generally less than 1 m in width are likely associated with the syenite intrusion. Several dykes were noted in road cuts across the BT 5 and 6 claims. Where noted, the dykes were intruding gabbroic rocks and appeared to have an overall northeast trend. The alaskite was white with no obvious mafics, almost pegmatitic and contained 80% white feldspars.

One outcrop of foliated granite was noted in the central portion of the BT 8 claim. The rock was pink, medium grained with mafics approximately 10% aligned in bands up to 5 mm wide. Quartz grains formed up to 15-20% of the rock.

Along the ridge top, on BT 7, narrow horizons of a basaltic tuff were mapped. These tuffs are generally thinly bedded and locally contain coarse fragments of basalt with euhedral feldspar crystals in a black, fine grained ground mass. Clasts may form 30-40% of these tuffs.

In the immediate area of the above tuffs, narrow basaltic/gabbro dykes are present within cherts. These dykes are up to 1 m wide, black and very dense. The dykes are composed of anhedral medium grained feldspars in a fine grained black groundmass. These dykes exhibit no magnetism but locally are associated with pyrrhotite mineralization in the wall rocks.

The 1997 work has differed from Pell's work in several areas, namely the orthogneisses and post-orogenic syenite. The orthogneisses that has been identified correlates with the foliated gabbro while the post-orogenic syenite correlates with the anorthosite.

This previous work has indicated a mapped contact that separates the gabbro (orthogneisses) from the anorthosite (syenite). Based on this mapped contact, the anorthosite body trend is across the foliation of the gabbro.

The overall trends for the sedimentary rocks appear to be northwest. Even foliation in the gabbro is aligned along this northwest direction.

Mineralogy

According to available literature (GSPP 959) titanium bearing oxides in anorthosite can include ilmenite, rutile, ilmeno-magnetite (ilmenite as fine intergrowths in magnetite) ilmeno-hematite (elements as fine intergrowths in hematite) hemo-ilmenite (hematite as fine intergrowths in ilmenite), titano-magnetite (titanium present in magnetite structure and ulvospinel. It appears that the titanium rich minerals crystallize later in the magmatic history of anorthositic complexes. Rocks rich in iron-titanium oxide and mafic minerals are emplaced later than the anorthosites themselves.

Work to date on the BT claim indicates that mineralization in the gabbro consists of magnetite, ilmenite, rutile, hematite and sphene. The magnetite content varies greatly but shows a good correlation with mafic content. Wherever the mafic content is high, elevated magnetite is noted. Ilmenite content varies from less than 1% in the anorothosite to up to 12% in the gabbro (determined by thin section studies). In the gabbro unit, ilmenite and magnetite occur as primary minerals forming patches between augite and plagioclase grains.

Rutile is present in amounts up to 2% and appears to occur as replacement grains within the ilmenite as well as alterations of the primary ilmenite. Hematite occurs in amounts varying from trace up to 3%. The hematite may be related to limonite alteration of the iron minerals. Sphene ($CaTiSiO_5$) is present in amounts varying from 0 up to 8%. Locally apatite and zircon are noted within zones of the gabbroic rocks.

Sulfides present in the intrusive vary from zero to minor amounts. These include pyrrhotite, pyrite and very rare chalcopyrite. Pyrrhotite is most abundant along contact zones of basaltic dykes intruding cherts.

Based on studies to date, the magnetite and ilmenite form grains and patches located mostly in spaces between nonopaque mineral grains. Their sizes range from 0.2 to 1.0 mm and occasionally up to 2.0 mm. Approximately 90% of the magnetite and ilmenite occur interstially while the remainder occurs within mineral grains.

GEOCHEMICAL SURVEYS

Introduction

Reconnaissance rock geochemical samples were taken from a variety of rock types on the BT 1-9 and 11 claims. Sampling density was greatest in areas of magnetically enhanced rocks. Silt sampling was conducted on streams that were crossed by the roads as well as streams encountered in the geological investigations. Sample location index maps are shown in Figure 5 and 6 in relation to claim lines, prepared at a scale of 1:10,000.

The location maps were prepared from government topographic maps with every 500 foot contour line shown. Altogether, 109 rock samples and 61 silt samples were collected. Locations for the samples were fixed in the field by reference to GPS readings, elevations readings in creekbeds and chain and compass traverses.

Field Procedure and Laboratory Technique

Rock samples were taken in the field with a prospectors' pick and collected in standard plastic sample bags. All samples were of a grab nature and were taken in such a manner as to reflect the nature of the outcrops. These samples varied from 1 large piece to a variety of small pieces with total sample weight ranging from 0.5 to 2.0 kg. Complete descriptions of the rock samples in terms of type are located in Appendix I and all analyses conducted on the samples are located in Appendix II.

Samples of silt and gravel were screened through a minus 20 mesh screen into a pan. This screened portion of material was then placed into an appropriately numbered kraft paper sample bag and dried.

All rock samples and silt samples were analyzed for the major elements at the Terramin Laboratory Ltd. facilities in Calgary, Alberta. Terramin subcontracted the ICP analysis and Rare Earth determinations to Chemex Labs Ltd., Vancouver, British Columbia.

For the major element analysis, rock samples were first crushed to minus 10 mesh using jaw and cone crushes. Then 250 grams of the minus 10 mesh material was pulverized to minus 140 mesh using a ring pulverizer. A portion of this prepared sample is then mixed with a flux and fused. The resulting melt is poured into an acid mixture and completely dissolved. The elements are determined by atomic absorption spectrophotometry. The major elements are usually calculated as oxides. For the analysis, a loss on ignition is done. A portion of the prepared sample is weighed into a ceramic dish an placed in a furnace. The temperature is gradually increased up to 950 deg. Celsius and held for 16 hours. After cooling, the sample is re-weighed to determine the loss. The silt samples were dried, sieved to a minus 140 mesh and analyzed for the major elements. Analysis procedure is similar to that for the rocks.

For the ICP analysis, a 1.00 gram portion of the minus 140 mesh material is digested with aqua regia for 2 hours at 95 degrees Celsius and made up to a volume of 20 mls prior to the actual analysis in the plasma. The absolute amounts were determined by comparing the analytical results to those of prepared standards.

The Rare Earth determinations utilized a meta-borate fusion to prepare a sample, than rare earth content were determined by ICP analysis. Rare Earth Element (REE) concentration data is typically rationed against a standard set, which is representative of the concentrations of rare earth elements found in chondritic meteorites. This allows easier interpretation of the data by smoothing out fluctuations due to natural abundance variations and exposing those anomalies due to geological process.

Statistical Treatment

A cumulative frequency plot to determine background and threshold values (greater than threshold is considered anomalous) was not conducted for the results. Rather, for the rock geochemistry, the average TiO_2 content for igneous rocks was used as a guide (GSPP 959-A). These are 1.32 and 1.13% TiO_2 in 2 different averages for a varirty of gabbros and 0.32% TiO_2 in one average for a variety of anorthosites. Any results enhanced in TiO_2 would also be generally enhanced in Fe_2O_3.

ICP analysis were all generally low except for phosphorous and vanadium. No statistical treatment of the ICP data was undertaken.

For the Rare Earth determinations, the results for the six samples were plotted on a REE Chrondites Normalization Plot (Appendix II).

Anomalous Zones

The geochemical program indicated anomalous values both for the rock and silt geochemical programs. Rock sampling has indicated iron oxide values ranging from 2.20 to 29.57% with titanium oxide values ranging from 0.03 to 9.17%. Silt sampling has indicated 3.30 to 36.75% iron oxides and 0.47 to 13.84% titanium oxides. The work *indicated that the area of gabbro was highly anomalous in both Fe2O3 and TiO2 content.* Results show a range of 5.42 to 29.57% Fe2O3 and 1.10 to 9.17% TiO2 for the gabbro. Silt sampling in creeks draining the areas underlain by gabbro show generally high values of Fe2O3 and TiO2. The exception is in the area of Pritchard Creek, SW of the BT 11 claim. One sample, S-43, shows a high Fe2O3 and TiO2 content.

This is unusual as the creek appears to be draining an area mostly underlain by anorthosite. It is possible that iron and titanium bearing oxides have been deposited in the area by glacial action.

Analysis of the anorthosite indicates values for titanium oxides that are comparable to those as reported in GSPP 959-A.

Rare Earth analyses indicates weak enrichment in the sodalite syenites.

DRILL CORE LOGGING

In June 1997, seven drill holes from the 1994 and 1996 drilling was re-logged. The core was examined in a storage facility in Calgary, Alberta. This work was conducted in order to select samples for thin section work to determine rock type and mineralogy. Drill holes 96-1 to 3 and 94-1 and 4 to 6 were re-logged.

Initially, the intrusives in the drill holes were logged as syenite due to the identification by Pell in the British Columbia Department of Mines, Energy and Petroleum Open File 1987-17. After completion of the thin section work, the logs were changed in order to reflect identification of the intrusives as gabbro.

Drill hole 96-1 was a 91.46 m hole drilled on the BT 8 claim to test a large magnetic anomaly. The core was predominantly gabbro with narrow sections of altered country rock. The gabbro is a coarse grained, mafic-rich rock with 50-60% coarse subhedral pyroxenes and biotite. Strong local epidote alteration occurs within veinlets and as interstitial grains. Strong magnetism is associated with the more mafic portions of the gabbro. Pyrite and/or pyrrhotite occur as minor quantities both in local veinlets and as disseminated grains. Narrow sections of pyroclastic or altered rocks are present over widths from 1-2 m. These zones have abundant chlorite after mafics, strong epidote alteration and local patchy pyrite/pyrrhotite.

Drill hole 96-2 was a 152.43 m hole drilled to test the sodalite syenite within the BT 7 claim on Bearpaw Ridge. The hole intersected a mixed zone containing altered volcaniclastic rocks with numerous syenite dykes. The volcaniclastics, part of the Nonda Formation, consists of a banded unit containing strong hornfels alteration and epidote alteration of the feldspars. Skarn assemblage minerals consisting of epidote and garnet as coarse individual crystals are common in the hornfels. Local blebs of magnetite occur within the hornfels.

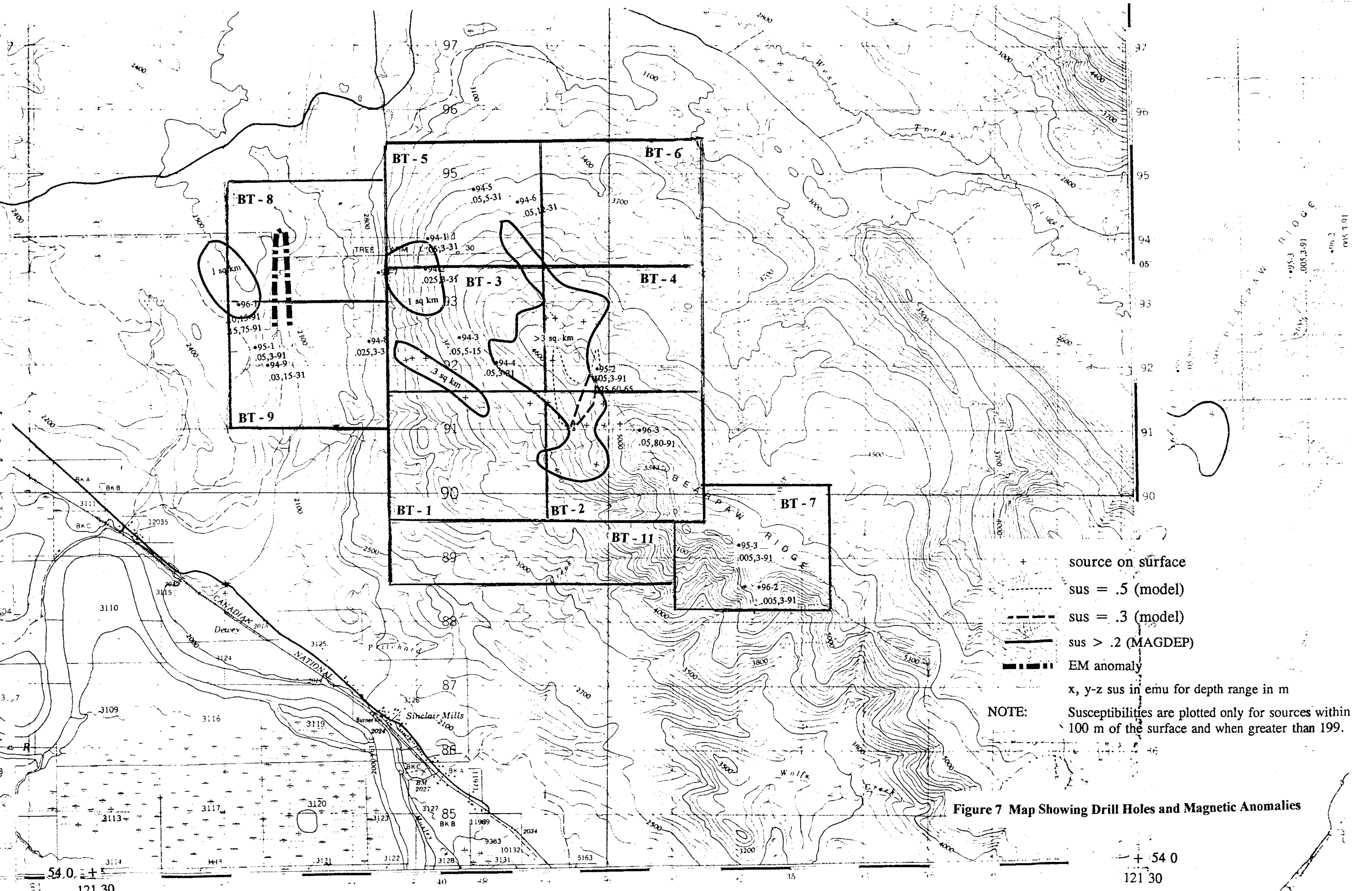


Figure 7 Map Showing Drill Holes and Magnetic Anomalies

The syenite is a fine grained, dense, gray rock with local minute epidote veinlets and generally abundant epidote alteration of feldspars. The dykes exhibit chill margins along the contact with the country rock. Numerous sections of syenite with fragments of hornfels up to 50% of the zone were intersected.

Drill hole 96-3 was drilled on the BT 1 claim to test the flank of a magnetic anomaly. The hole intersected a contact zone of hornfels and gabbro. In all likelihood, the hole was not deep enough to intersect the underlying source of magnetism. The drill hole shows a definite increase in magnetite as the hole gets deeper. The gabbro shows strong magnetite mineralization both at 10.06-19.96 m and from 83.68 to 91.46 m. The gabbros are very mafic with locally up to 80% mafic content (amphibolite). The hornfels consisted of biotite rich schists, generally blue-gray in color and thinly banded.

Drill hole 94-1 was drilled 30.5 m on the BT 5 claim to test the northern flank of a magnetic anomaly. The hole intersected biotite rich gabbro along its entire length. The gabbro is weakly foliated, strongly magnetic with traces fine grained pyrite or pyrrhotite. Fine grained magnetite occurs both as disseminated grains and wispy blebs in amounts up to 10%.

Drill hole 94-4 was drilled 30.5 m on the BT 3 claim to test a magnetic anomaly. The hole intersected gabbro along its entire length. The gabbro is mafic, coarse grained with magnetite content varying from weak to strong.

Drill hole 94-5 was drilled 30.5 m to test a magnetic anomaly on the BT 5 claim. The hole intersected gabbro except for a narrow alaskite dyke at 3.66 to 4.49 m. The gabbro is coarse grained gabbro, mafic rich with little or no magnetism. Locally hornblende crystals up to 2 cm long were noted. The alaskite was coarse grained, white to pink with no mafics.

Drill hole 94-6 was drilled 30.5 m on the BT 5 claim to test a northern extension of a magnetic anomaly. The hole intersected a gabbro intruded by alaskite dykes from 1.21 to 10.40 m. From 10.40 to 30.5, the hole intersected gabbro. The hole showed an increase of magnetism in the gabbro down the hole. The gabbro was coarse grained with mafics up to 50-60%.

Locations of the drill holes are shown on Figure 7. Complete drill log descriptions are included in Appendix V.

PETROGRAPHIC STUDIES

A petrographic study was conducted on drill core obtained during drill programs in 1994 and 1996. A total of 15 samples were collected from 6 holes as follows: 2 thin sections from DDH 96-1 (4), 9 from DDH 96-3, 1 from DDH 94-1, 1 from DDH 94-4, 1 from

DDH 94-5 and 1 from DDH 94-6. Rock names of this petrographic study are summarized below:

1.	96-3-50	Finely crystalline saussuritized hornblende monzodiorite
2.	96-3-31	Intensely saussuritized, chloritized and potassic altered diorite breccia
3.	96-3-56.9	Saussuritized and chloritized hornfels breccia (late stage epidote and hornblende)
4.	96-3-32.6	Orthoclase-biotite-hornblende hornfels (monzodiorite hornfels)
5.	96-3-66.77	Moderately sericitized and saussuritized hornblende diorite
6.	96-3-100.6	Potassic altered (orthoclase), intensely chloritized hornfels breccia (developed in diorite?)
7.	96-3-58.4	Intensely chloritized, weakly epidotized hornfels breccia
8.	96-3-54.3	Weakly chloritized and epidotized, moderately saussuritzed monzodiorite (monzogabbro)
9.	96-3-18.6	Pegmatitic (sphene- [agerine-augite]-zircon) syenite breccia
10.	94-1-12.8	Slightly saussuritized, chloritized and uralitized coarse grained augite diorite
11.	94-4-22	Augite gabbro/norite
12.	94-5-18.3	Moderately chloritized and saussuritized augite diorite
13.	94-6-28.4	Intensely chloritized augite diorite
14.	96-1-71.34	Ilmenite bearing, intensely sericitized augite diorite
15.	96-4-37.2	Moderately chloritized, sericitized and epidotized augite diorite

Based on the initial study, the mafic rich portion of the drill cores were identified as diorites that were variably hydrothermally altered. This work indicated saussuritization (plagioclase altered to epidote), uraliziation (pyroxene altered to fibrous amphiboles) and sericitization (feldspars altered to sericite). The studies indicated that some of the plagioclases were labradorite. This would indicate that the initial rock descriptions may not have been diorites. Appendix II shows the complete detailed petrographic descriptions.

Subsequently, these thin sections were re-examined to determine the An content of the plagioclase. A summary of this re-examination is as follows:

Sample 96-3-50	Hornblende monzodiorite or diorite
Sample 96-3-31	Very intensely altered rock, primary rock not possible to determine
Sample 96-3-56.9	Very strongly altered rock, possibly hornfels
Sample 96-3-32.6	Hornfels, primary rock not possible to determine
Sample 96-3-66.77	Hornfels (typical hornfelsic texture), not a hornblende diorite

(lack of interlocking texture)

Sample 96-3-100.6	Very strongly altered rock, possibly hornfels; primary rock not possible to determine
Sample 96-3-58.4	Very strongly altered (possibly hornfelsed) intermediate? tuff? breccia
Sample 96-3-54.3	Moderately sericitized, epidotized and chloritized intermediate volcanics?
Sample 96-3-18.6	K-feldspar is not a primary but clearly a secondary mineral so the rock can not be a syenite. The primary rock most likely was an anorthosite
Sample 94-1-12.8	In previous petrographic report the plagioclase has been determined as labradorite so the rock is a gabbro instead of diorite
Sample 94-4-22	The rock is not a gabronorite since it has no orthopyroxene, the rock is a gabbro; the sample contains 2-3% apatite and less quartz (1-3%)
Sample 94-5-18.3	Plagioclase composition was determined (using optical method of Michel-Levy) as labradorite (55% anorthite) so the rock is not a diorite, but a gabbro. The rock has 3-5% apatite (not shown in previous report)
Sample 94-6-28.4	Plagioclase composition was determined as labradorite (58-59% anorthite) so the rock is a gabbro
Sample 94-1-71.34	Most likely a gabbro since it has similar texture and mineral composition as the other samples determined as gabbro. Plagioclase is too altered to determine its composition. The rock contains 3-4% apatite.
Sample 96-4-37.2	About 60% of thin section is composed of gabbro? (plagioclase is too altered to determine its composition) The remaining 40% of the sample is of pyroxene bearing hornfels

In addition, several rock geochemical samples were examined in thin section. One was a sample of pink, coarse grained, feldspar rich intrusive while the second was of foliated, magnetic intrusive. The first sample was identified as a very strongly K-feldspar altered anorthosite/gabbro while the second sample was identified as fine grained gabbro. These identifications show a good correlation with the re-examined thin sections. The presence of anorthosite and gabbro indicates that the property is similar to others identified in the world that host iron/titanium oxides in commercial quantities. Appendix IV shows the results of the second petrographic study.

The wall rocks to the intrusives were identified as hornfels. This indicates re-crystallization in the border zones to these intrusives.

MAGNETIC SEPARATION STUDIES

Magnetic separation studies were carried out on 4 core samples utilized in the thin section studies. These samples included 96-1-37.2, 96-1-71.34, 94-1-12.8 and 94-6-28.4. The core samples were milled and sieved into size fractions. The fractions were then separated on a CARPCO dry roll type high density magnetic separation into ferro, weakly, para and non-magnetic fractions. After separation, the three fractions (magnetic, weakly magnetic and non-magnetic) were analyzed for the major elements. Results of this work is tabulated below:

Table 1 - Magnetic Separation Results

Sample Number	% Magnetics	% Para-magnetics	Non-Magnetics
96-1-37.2	19.14	7.49	73.37
96-1-71.34	22.56	9.76	67.68
94-1-12.8	19.57	12.27	68.16
94-6-28.4	20.47	6.25	73.28

This work indicates that most of the non-magnetic portion (silicate) can be removed through magnetic separation. It also indicates that a large part of the titanium will be recovered with the para-magnetic portion.

Based on analysis of the magnetic, para-magnetic and non-magnetic portions for titanium, a comparison with the original analysis was conducted. Results of this comparison are as follows:

Table 2 - Initial Titanium Results on Samples versus Results Calculated from Magnetic Separation

Sample Number	Initial TiO2 Analysis (%)	Calculated TiO2 Result (%)From Separation
94-1-12.8	3.02%	4.13%
94-6-28.4	7.09%	5.18%
96-1-71.34	5.92%	4.96%
96-1-37.2	3.42%	3.10%

It appears that calculated results vary significantly from the initial TiO2 analysis. This may be in large part due to the use of a small portion of the sample for the major element analysis while the whole rock is used for the separation studies.

The results for the study show that over 50% of the titanium oxide can be removed within the magnetic portions. Para-magnetic portions contain from 16-41% of the titanium oxides within the rocks.

The studies also show that approximately 5 tonnes of rock would yield 1 tonne of magnetic concentrate while approximately 12 tonnes of rock would yield 1 tonne of para-magnetic concentrate.

Complete analysis of the magnetic separation samples are included in Appendix II.

ECONOMIC CONSIDERATIONS

According to Force, 1991, unconsolidated deposits with at least 1 percent ilmenite or 0.1 percent rutile or linear combinations thereof are considered to be potentially economic. Also deposits with at least 10% ilmenite or 1% rutile are considered potentially economic in hard rocks.

In addition, the presence or absence of ilmenite as separable single crystals relatively free of intergrowths is a big factor in determining the economic value. In general, TiO2 present in magnetite solid solution or as fine intergrowths in magnetite is valueless.

The BT claims encompass an area with the potential to host deposits both in the gravels as well as in the gabbro intrusive itself. Silt sampling has shown titanium oxide values from 0.47 to 13.84% as well as iron oxide values from 3.3 to 36.75%. However this is only for the minus 140 portion of the samples and should only be used to guide further testing. Because the sampling screened the plus 20 mesh fractions out, it is difficult to determine the original values for all the material in the stream beds. In addition, the action of the waters along the stream bed has concentrated both the magnetite and titanium bearing minerals.

Sampling did outline at least 3 separate areas for further testing. These areas are within the BT 1, 3 and 6 claims. Extensive gravel deposits exist on the slopes of Bearpaw Ridge, particularly in the area of the BT 1-6 claims. The highest stream values are in areas of extensive gravel deposits, detected in the vicinity of highly mineralized bedrock sources.

It is possible that a large iron-titanium resource can be outlined in the gravels on the property. In addition, crushing of the coarse material, which in many cases contains magnetite and titanium oxides may make it possible to recover further minerals. It may well be that the gravels contain equal if not greater values than the original rock source.

Work conducted by Walus (Appendix IV) suggests that the titanium oxides and magnetite occur as patches and grains located mainly in spaces between non-opaque mineral grains. In addition, the grains have good size ranging from 0.2 to 1.0 mm and occasionally, up to 2.0 mm.

This work by Walus substantiated the magnetic separation studies by Terramin Laboratories. This later study showed a good separation of magnetic and para-magnetic minerals from the silicate. It appears that 90% recoveries for the titanium minerals is possible through a magnetic separation to collect all the strongly magnetic and para-magnetic minerals.

Due to the strategic location of the property; close to a railway about 8 km away, the abundance of water and nearby labor force, the property has an excellent chance to be a producer of titanium and iron. Further work should be conducted in order to delineate areas of highest grade TiO_2 and Fe_2O_3.

CONCLUSION

1. The property covers an area of Cambrian to Ordovician sediments and Silurian volcaniclastics and sediments intruded by a variety of plutons ranging from anorthosite/gabbro to sodalite syenite.

2. In the period June 15 to July 20, 1997, a program was conducted on the property as follows:

   a) Re-logging holes 96-1 to 3 as well as 94-1, 94-4 and 94-6
   b) Thin section studies on 15 core samples from the above holes
   c) A total of 109 rock geochemical and 61 silt samples were collected in the program
   d) Reconnaissance geological mapping was conducted along accessible roads, creek beds and compass lines
   e) Magnetic separation tests on 4 samples used for thin section studies from the 1994 and 1996 drill holes
   f) Petrographic studies on several of the rock geochemical samples

3. Based on the petrographic studies, the re-logging of the core and surface mapping, the property appears to be underlain by a gabbro/anorthosite intrusive complex subsequently hydrothermally altered by a later sodalite syenite intrusive.

4. Possible economic quantities of iron and titanium appear to be related to the gabbro which contains magnetite, ilmenite, rutile and sphene.

5. The rock geochemical program has indicated highly anomalous values for iron oxides and titanium oxides with results ranging from 2.20 to 29.57% Fe_2O_3 and 0.03 to 9.17% TiO_2. The most iron and titanium rocks are related to the more mafic portion of the gabbro.

6. The silt sampling program has also indicated highly anomalous results with values ranging from 3.3 to 36.75% Fe_2O_3 and 0.47 to 13.84% TiO_2. Streams draining the areas with underlying mafic rich gabbro appear to contain the highest Fe_2O_3 and TiO_2 content.

7. ICP analysis of a portion of the rocks and silts indicate low metal values except for vanadium and phosphorous.

8. Rare earth analysis of the sodalite syenite indicated weak enrichmennt.

9. Results of the magnetic separation studies show good recoveries and separation for the magnetics and para-magnetics from the silicate portion.

10. The property has an excellent potential to host iron and titanium reserves both in the gravels and underlying gabbroic rocks.

11. The recommended program would include gridding, magnetometer surveys, geological mapping, limited bulk sampling as well as further rock and silt sampling.

12. Estimated cost of the program is approximately $61,000.00.

RECOMMENDATIONS

The recommended program would include the following:

1. Gridding across the gabbro portion of the intrusive complex to provide survey control. The lines would be 100 m apart with stations every 25 m. A baseline approximately 4 km long would be cut with a total of 76 km of cross-lines completed off the baseline. The baseline would follow the ridge trending NW across the BT- 2, 3 and 4 claims. An overgrown logging road would provide access to the southwestern portions of the grid.

2. The survey lines would be used to carry out a magnetometer survey that may outline the greatest concentration of magnetite.

3. Geological mapping would be conducted along the grid lines. Mapping would also include traverses along creek beds and any newly constructed logging roads.

4. Saw-cut sampling across outcrops to provide data, particularly in highly anomalous areas outlined in the rock geochemical program. Saw-cuts would be from 10-30 m long and provide up to 70 kg samples per individual sample. it is anticipated that at least 4 separate saw-cut lines would be completed.

5. Bulk sampling of gravels within anomalous areas outlined by the silt sampling. A gravity concentration would be carried out on the -20 mesh portion with the oversize being sent to the lab facility for futher testing. The minus 20 mesh would be analysed for titanium/magnetite content. This work would allow for determination of the amounts of titanium/magnetite bearing fines in the gravels.

6. Further geochemical surveys in areas covered by the survey grid. Outcrops and/or creeks previously un-sampled would be tested for the iron/titanium content.

Estimated Cost of the Program is as follows:

1. Gridding	
80 line kilometers @ $200/km	$1,6000.00
2. Magnetometer Survey	
15 days @ $400/day, all inclusive	$6,000.00
3. Personnel	
2 geologists for 20 days @ $300/each/day	$12,000.00
1 assistant for 20 days @ $200/day	$4,000.00

4. Geochemical Analysis 200 samples @ $20/sample		$4,000.00
5. Rentals, truck, communications		$2,500.00
6. Subsistence, hotel		$1,000.00
7. Mobilization/demobilization		$2,500.00
8. Bulk sample processing, freight, etc. 2 samples @ $2,500.00 each		$5,000.00
9. Report, drafting, etc.		$5,000.00
10. Contingency		$3,000.00
	Total	**$61,000.00**

REFERENCES

1. Force, E.R., 1991. Geology of Titanium - Mineral Deposits

2. Geological Survey of Canada, 1979. Open File 630

3. Geological Survey Professional Paper, 1976. 959-A, B, C, D, E, F

4. Jain, S. , Kelsch, W.L., 1996. Assessment Report on the BT 1-11 Claims

5. Kruchkowski, E.R. , Veljkovic, V. , Moorman, M. , 1997. Field Notes.

6. Pell, J. , 1988. British Columbia Ministry of Energy Mine and Petroleum Resources - Open File 1987-17, p.17-23

STATEMENT OF EXPENDITURES

Aircraft (Northern Mountain Helicopters)		$3,522.87
Analysis (Terrain Invoices)		$6,443.70
61 silt samples for ICP and major elements		
114 rock and core samples for ICP and major elements		
4 samples - magnetic separation		
6 rare earth analysis		
Camp Rental		$1,100.00
Expenses (mobilization/demobilization/subsistence)		$3,450.00
Field Personnel		
E. Kruchkowski	22 days @ $300/day	$6.600.00
S. Kruchkowski	11 days @ $150/day	$1,650.00
V. Veljkovic	15 days @ $270/day	$4,050.00
M. Moorman	6 days @ $220/day	$1,320.00
Thin Section Studies		
Vancouver Petrographic Ltd.		$2,210.89
Alex Walus		$ 370.00
Vehicle		$1,118.40
Report, drafting, copying, etc.		$4,800.00
	Total -	**$36,436.73**

STATEMENT OF CERTIFICATE

I, Edward R. Kruchkowski, geologist, residing at 23 Templeside Bay, N.E., in the City of Calgary, in the Province of Alberta, hereby certify that:

1. I received a Bachelor of Science degree in Geology from the University of Alberta in 1972.

2. I have been practicing my profession continuously since graduation.

3. I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

4. I am a consulting geologist working on behalf of 26 BT Resources Co. Ltd.

5. This report is based on a review of reports, documents, maps and other technical data on the property area and work done by myself on the property in 1997.

6. I authorize 26 BT Resources Co. Ltd. to use information in this report or portions of it in any brochures, promotional material or company reports.

NOV 30/97
Date:

E.R. Kruchkowski, B.Sc.

Appendix I

Description of Rock Geochemical Samples

R-1 Black, mafic rich gabbro, mafics approximately 60%, moderately magnetic. Rock is coarse grained with mafic phenocrysts up to 1 cm.

Fe_2O_3 19.16% TiO_2 6.92%

R-2 Grey-blue, medium grained gabbro with feldspar phenocrysts in a fine grained ground mass. No magnetism detected. Weakly foliated.

Fe_2O_3 14.44% TiO_2 3.7%

R-3 Grey, medium grained gabbro, abundant epidote, equigranular with minor weak magnetism.

Fe_2O_3 17.16% TiO_2 7.06%

R-4 Dark grey, coarse grained gabbro, mafics approximately 50%, strong magnetism, minor epidote. Large feldspar blebs, generally equigranular.

Fe_2O_3 21.74% TiO_2 6.81%

R-5 Blue-grey, fine grained gabbro, no detected magnetism, mafics approximately 30%.

Fe_2O_3 15.44% TiO_2 3.59%

R-6 Grey to dark grey, coarse grained diorite, mafics approximately 40%. Very weak magnetism, equigranular. Anhedral and subhedral feldspars up to 5 mm.

Fe_2O_3 20.45% TiO_2 4.80%

R-7 Dark grey, coarse grained gabbro, equigranular with 50% mafics, strong magnetism.

Fe_2O_3 19.59% TiO_2 3.34%

R-8 Dark grey to black, coarse grained gabbro, equigranular, hornblende crystals up to 1 cm long, strong magnetism.

Fe_2O_3 22.59% TiO_2 5.25%

R-9 Dark grey, coarse grained, equigranular with mafics approximately 40%, strong magnetism (gabbro).

Fe_2O_3 22.31% TiO_2 4.39%

R-10 Dark grey, medium grained, equigranular gabbro, mafics approximately 40%. Moderate magnetism, abundant epidote.

Fe_2O_3 20.59% TiO_2 5.39%

R-11 Dark grey, coarse grained feldspar phenocrysts in a fine grained ground mass (gabbro), mafics approximately 35%, minor epidote, moderate magnetism.

Fe_2O_3 21.45% TiO_2 5.24%

R-12 Dark grey, coarse grained, equigranular gabbro, mafics approximately 20%, weakly magnetic.

Fe_2O_3 14.30% TiO_2 3.00%

R-13 Light grey, coarse grained, equigranular diorite, mafics approximately 20%, weakly magnetic, very strong epidote alteration.

Fe_2O_3 13.11% TiO_2 4.65%

R-14 Foliated, coarse grained diorite, mafics approximately 35%, strongly magnetic. Weak epidote alteration.

Fe_2O_3 15.13% TiO_2 3.42%

R-15 Medium grained anorthosite, pink to grey, with mafics approximately 4%, no detected magnetism.

Fe_2O_3 13.24% TiO_2 1.92%

R-16 Coarse grained equigranular gabbro, abundant biotite, mafics approximately 50%, strong magnetism.

Fe_2O_3 17.45% TiO_2 5.65%

R-17 Coarse grained, dark grey, equigranular gabbro, strong magnetism.

Fe_2O_3 15.73% TiO_2 4.94%

R-18 Very coarse grained anorthosite, white, weathers white, mafics approximately 7%, low magnetics.

Fe_2O_3 6.48% TiO_2 0.53%

R-19 Medium grained feldspars in a very fine grained, dark grey ground mass (anorthosite), low mafics, weakly magnetic. Appears to be contact zone of anorthosite with surrounding rocks.

Fe_2O_3 6.68% TiO_2 0.35%

R-20 Massive, medium grained groundmass with large anhedral feldspar crystals, dark grey-green. Very strong epidote alteration, minor green mafic veinlets (sodalite syenite).

Fe_2O_3 4.40% TiO_2 0.10%

R-21 Coarse grained sodalite syenite, local pale blue sodalite. Weathered, buff to pink, mafics approximately 10%.

Fe_2O_3 2.22% TiO_2 0.08%

R-22 Weathering rusty, large dense blue-grey hornfels, fine grained pyrrhotite approximately 15-10%, weakly magnetic.

Fe_2O_3 10.32% TiO_2 4.72%

R-23 Blue-grey rock, locally pink from biotite forming (hornfels), country rock is light green chert, thinly bedded at 170 deg. Pyrrhotite approximately 10%, weakly magnetic, locally fractures up to 1-2 mm with coarse pyrrhotite.
Fe2O3 11.74% TiO2 0.50%

R-24 1 m dyke, dyke is black with anhedral feldspar crystals in fine grained black groundmass. Very dense, very weakly magnetic. Gabbro and/or basaltic dyke.
Fe2O3 13.74% TiO2 2.25%

R-25 Coarse grained gabbro, equigranular, mafics approximately 50%, strongly magnetic.
Fe2O3 24.02% TiO2 6.29%

R-26 Same as R-25, strong magnetics.
Fe2O3 25.03% TiO2 6.56%

R-27 Same as R-25 and R-26, not as magnetic.
Fe2O3 21.02% TiO2 9.67%

R-28 Coarse grained felsic anorthosite, pink, weathers buff. Mafics approximately 5%.
Fe2O3 4.49% TiO2 0.58%

R-29 Coarse grained, pink anorthosite, mafics approximately 7-8%. No detected magnetism.
Fe2O3 5.03% TiO2 0.58%

R-30 Medium grained, felsic anorthosite approximately 3-5%, pink mafics. Weathers pink.
Fe2O3 3.65% TiO2 0.58%

R-31 Sample is pink, medium grained felsic anorthosite, mafics approximately 3%.
Fe2O3 4.10% TiO2 0.58%

R-32 Very coarse grained felsic intrusive, mafics approximately 10%, traces sulfide? (anorthosite).
Fe2O3 6.13% TiO2 0.42%

R-33 Sample is felsic rich intrusive (anorthosite), very coarse grained. Approximately 3% mafics, pink weathers buff.
Fe2O3 4.15% TiO2 0.37%

R-34 Hornfels, fine grained, dark grey with round, pink garnet blebs.
Fe2O3 13.34% TiO2 3.45%

R-35 Fine grained chert, round light grey clasts up to 1 cm in dark grey-green chert groundmass.

Fe2O3 11.74% TiO2 2.10%

R-36 Banded between cherty sediments, fine grained intrusive. 1 m wide, dark grey-green color. Fine anhedral feldspar crystals in aphanitic groundmass.

Fe2O3 13.46% TiO2 3.65%

R-37 Lower pyrrhotite rich contact. Pyrrhotite approximately 10%. Rock is weakly baked chert.

Fe2O3 7.85% TiO2 3.67%

R-38 Intrusive dyke. Black fine grained basalt, weathers grey.

Fe2O3 12.58% TiO2 3.30%

R-39 20% mafics, dark grey color, fine grained gabbro, massive blocks.

Fe2O3 13.44% TiO2 3.24%

R-40 Pale grey-green cherty sediments, strongly mottled, concoidal fractures.

Fe2O3 8.71% TiO2 1.43%

R-41 Large amount of rock types in area, fine grained chert type, light grey and green-grey non-magnetic. Thinly bedded.

Fe2O3 5.94% TiO2 0.50%

R-42 Weathered and rounded rock, dark with abundant mafics. Rock is coarse grained, mafics approximately 60%, weak sulfides, highly magnetic, some iron.

Fe2O3 11.14% TiO2 1.25%

R-43 Light grey weathered rock, is medium grained felsic with 30% black crystals scattered throughout the rock. Light iron stains, magnetic (sodalite syenite).

Fe2O3 7.29% TiO2 0.30%

R-44 Rock is fine to medium grained light grey with iron stains localized throughout some faint dark bands. Lightly magnetic, very little black crystal (sodalite syenite).

Fe2O3 4.59% TiO2 0.08%

R-45 Light grey rock fairly smooth, is grey with green, white and black crystals with the odd silvery sulfide (pyrrhotite?) - magnetic. Gabbro.

Fe2O3 9.10% TiO2 1.88%

R-46 Iron stained, weathered and fractured with iron stains covering al! fractures. Fine to medium grained grey to black with some white. Under magnification, black crystals seem metallic, very magnetic. Gabbro.

Fe_2O_3 12.58% TiO_2 2.72%

R-47 Small outcrop of highly magnetic red crystal rock, white quartz and black crystals about 50\50. Some feldspar. Coarse grained gabbro.
Fe_2O_3 9.90% TiO_2 2.29%

R-48 Predominantly light grey, coarse grained sodalite syenite with less than 10% black mafic components.
Fe_2O_3 4.00% TiO_2 0.03%

R-49 Grey-green cherty sediments, some iron staining (isolated).
Fe_2O_3 5.50% TiO_2 0.50%

R-50 Partly exposed, very weathered and fractured. Weakly magnetic, light grey rock with quartz veinlets. Small to medium elongated black crystals unorganized throughout and some larger feldspar crystals (appears to be fine grained sodalite syenite).
Fe_2O_3 6.75% TiO_2 0.95%

R-51 Foliated gabbro, medium grained, mafics approximately 20%, moderately magnetic.
Fe_2O_3 13.84% TiO_2 3.50%

R-52 Coarse grained diorite, weak magnetism. Equigranular, mafics approximately 20%.
Fe_2O_3 16.23% TiO_2 4.84%

R-53 Varies from white to grey coarse grained gabbro with narrow highly foliated sections. Sample is of foliated mafic rich portion, mafics approximately 50%, strongly magnetic.
Fe_2O_3 13.84% TiO_2 2.90%

R-54 Very coarse grained gabbro, magnetic with up to 2% pyrite, abundant epidote. Mafics form coarse blebs up to 1 cm across in a groundmass of coarse grained feldspar crystals.
Fe_2O_3 11.56% TiO_2 3.67%

R-55 Weakly foliated, light grey, medium grained gabbro, moderately magnetic. Mafics approximately 30%.
Fe_2O_3 16.61% TiO_2 5.17%

R-56 Coarse grained, foliated, white to grey gabbro, moderately magnetic. Mafics up to 40%.
Fe_2O_3 14.85% TiO_2 4.17%

R-57 Foliated, coarse grained diorite, strongly magnetic. Mafics up to 50%.
Fe_2O_3 15.48% TiO_2 4.50%

R-58 Coarse grained gabbro, mafics approximately 50%, strongly magnetic.
Fe_2O_3 21.90% TiO_2 4.67%

R-59 Coarse grained, foliated gabbro, mafics approximately 50%. Strongly magnetic.
Fe_2O_3 21.39% TiO_2 4.84%

R-60 Medium grained to coarse grained, weakly foliated gabbro, strongly magnetic. Mafics up to 50%.
Fe_2O_3 25.04% TiO_2 5.84%

R-61 Extremely mafic, approximately 60%. Very strongly magnetic, foliated gabbro.
Fe_2O_3 22.53% TiO_2 7.01%

R-62 Weakly foliated, extremely mafic gabbro, medium grained and strongly magnetic.
Fe_2O_3 27.06% TiO_2 6.00%

R-63 Same as R-62.
Fe_2O_3 22.65% TiO_2 6.51%

R-64 Foliated, coarse grained, mafic rich gabbro. Strong magnetism.
Fe_2O_3 24.16% TiO_2 5.67%

R-65 Coarse grained, weakly foliated, mafic rich gabbro. Strong magnetism.
Fe_2O_3 24.16% TiO_2 7.67%

R-66 Coarse grained, very weak foliation. Mafics approximately 30-40%, magnetic.
Fe_2O_3 11.48% TiO_2 3.67%

R-67 Weakly foliated gabbro, coarse grained, moderately magnetic. Mafics approximately 30-40%.
Fe_2O_3 12.11% TiO_2 2.49%

R-68 Foliated gabbro approximately 30% mafics. Weakly magnetic.
Fe_2O_3 13.97% TiO_2 4.84%

R-69 Highly foliated gabbro, approximately 60-70% mafics. Strongly magnetic.
Fe_2O_3 18.50% TiO_2 3.84%

R-70 Highly foliated gabbro at 180 deg., mafics approximately 50%. Moderately magnetic.
Fe_2O_3 18.88% TiO_2 3.67%

R-71 Coarse grained, weakly foliated gabbro, mafics approximately 50%. Strongly magnetic.

Fe_2O_3 18.00% TiO_2 3.67%

R-72 Highly foliated gabbro, mafics approximately 20% - magnetic.

Fe_2O_3 15.98% TiO_2 4.67%

R-73 Outcrop, mafic rich gabbro with minor coarse magnetic bands approximately 1-2 mm. Mafics approximately 50%.

Fe_2O_3 19.63% TiO_2 5.50%

R-74 Sample is coarse grained gabbro, foliated, mafics approximately 50%. Magnetic.

Fe_2O_3 21.02% TiO_2 5.00%

R-74a Dark brown weathering, foliated gabbro. Mafics up to 20%, magnetic.

Fe_2O_3 19.51% TiO_2 5.84%

R-75 Sample of magnetite rich dyke. Rock is medium grained gabbro, equigranular. Mafics up to 50%.

Fe_2O_3 29.57% TiO_2 9.17%

R-76 Outcrop of foliated gabbro, highly foliated, magnetic with approximately 50% mafics. Abundant epidote veinlets up to 1 cm.

Fe_2O_3 18.75% TiO_2 4.00%

R-77 Sample is highly foliated, mafic rich gabbro. Strongly magnetic mafics approximately 50%.

Fe_2O_3 18.12% TiO_2 3.67%

R-78 Coarse grained foliated gabbro at 170 deg. Strongly magnetic, mafics approximately 30%

Fe_2O_3 16.23% TiO_2 5.34%

R-79 Abundant epidote, strongly magnetic. Rock is coarse grained, equigranular gabbro with approximately 40% mafics.

Fe_2O_3 15.48% TiO_2 4.17%

R-80 Outcrop is medium grained gabbro, strongly magnetic, abundant epidote, equigranular.

Fe_2O_3 18.50% TiO_2 4.67%

R-81 Gabbro, mafics approximately 40%, pyrite as grains and blebs, approximately 3%. Rock is coarse grained equigranular.

Fe_2O_3 18.00% TiO_2 3.84%

R-82 Coarse grained gabbro, abundant epidote alteration, strongly magnetic. Mafics approximately 25-30% in equigranular groundmass.
Fe_2O_3 12.11% TiO_2 2.75%

R-83 Weakly foliated, coarse grained gabbro, moderately magnetic. Minor epidote, strong banding in the mafic portion of the rock.
Fe_2O_3 11.90% TiO_2 2.17%

R-84 Outcrop, medium grained gabbro, dark grey in color. Weak foliation. Very faint magnetics.
Fe_2O_3 5.66% TiO_2 1.08%

R-85 Weakly foliated coarse grained gabbro. Very weak magnetics, mafics approximately 20%. Weak epidote alteration.
Fe_2O_3 10.99% TiO_2 2.20%

R-85a Outcrop is coarse grained anorthosite, mafics approximately 10% as coarse blebs, magnetics is weak.
Fe_2O_3 7.89% TiO_2 0.53%

R-86 Outcrop is very coarse felsic anorthosite, red-brown in color, mafics approximately 5%. Weakly magnetic.
Fe_2O_3 6.19% TiO_2 0.33%

R-87 Highly mafic crystalline gabbro, coarse grained with strong magnetism.
Fe_2O_3 14.72% TiO_2 4.67%

R-88 Outcrop is coarse grained crystalline gabbro, strongly magnetic.
Fe_2O_3 13.97% TiO_2 4.84%

R-89 Foliated gabbro, fine grained, very mafic, very magnetic.
Fe_2O_3 19.51% TiO_2 2.75%

R-90 Coarse grained gabbro, strongly magnetic. Mafics approximately 40%. Weak epidote alteration.
Fe_2O_3 13.59% TiO_2 4.34%

R-91 Outcrop, coarse grained anorthosite, very felsic, feldspar crystals up to 2 cm. Mafics approximately 2-3%, grey to light pink on fresh surface, weathers white.
Fe_2O_3 7.74% TiO_2 0.55%

R-92 Rock is same as R-91, locally mafics up to 5%. Coarse equigranular, some feldspar crystals up to 5 cm.
Fe_2O_3 7.45% TiO_2 0.52%

R-93 Outcrop is coarse grained felsic anorthosite, mafics approximately 2%. Feldspar crystals up to 3 cm.
Fe2O3 3.30% TiO2 0.18%

R-94 Outcrop is coarse grained pink to grey anorthosite, mafics approximately 5%. No magnetism detected, weathers light pink - feldspar crystals up to 3 cm.
Fe2O3 2.39% TiO2 0.32%

R-95 Rock is coarse grained, anorthosite, mafics approximately 7%, very slightly magnetic. Weathers white, pink to grey on fresh surface.
Fe2O3 3.74% TiO2 0.30%

R-96 Coarse grained equigranular anorthosite mafics approximately 5%. Same as R-94 and R-95.
Fe2O3 4.43% TiO2 0.72%

R-97 Pink, coarsely crystalline felsic anorthosite, mafics approximately 1%.
Fe2O3 3.30% TiO2 0.48%

R-98 Coarse grained gabbro, mafics approximately 40-50%. Equigranular, magnetic.
Fe2O3 13.72% TiO2 2.07%

R-99 Coarse grained equigranular gabbro, mafics approximately 20-30%. Magnetic.
Fe2O3 5.42% TiO2 1.10%

R-100 Foliated, mafic rich gabbro. Mafics approximately 40%, weakly magnetic.
Fe2O3 20.26% TiO2 6.67%

R-101 Coarse grained, equigranular gabbro. Mafics approximately 30%. Magnetic.
Fe2O3 16.23% TiO2 5.17%

R-102 Dark grey-blue volcaniclastic, chloritic. Subhedral feldspar crystals approximately 5 mm approximately 15% in dark ground mass. Minor 5 mm late veinlets of iron rich/mafic rich intrusive.
Fe2O3 12.96% TiO2 3.30%

R-103 Dark grey-blue volcaniclastic, chloritic. Subhedral feldspar crystals approximately 5 mm approximately 5% in dark ground mass. Minor 5 mm late veinlets of iron rich/mafic rich intrusive.
Fe2O3 13.46% TiO2 3.64%

R-104 Sample is of intrusive light grey, medium to coarse grained equigranular. Circular blebs of sodalite (white) up to 8 mm. Mafics altered to chlorite approximately 10%. Rock weathers white to grey (sodalite syenite).
Fe2O3 4.92% TiO2 0.38%

R-105 Sample is intrusive, dark grey to black syenite with subhedral to anhedral feldspar crystals approximately 20% up to 0.5 mm in fine grained ground mass.

Fe_2O_3 5.29% TiO_2 0.40%

R-106 Rock is black, chloritic, volcanic, locally sericite altered with local rusty zones.

Fe_2O_3 14.35% TiO_2 3.54%

R-107 Coarse grained sodalite syenite, grey with 10% mafic component.

Fe_2O_3 4.76% TiO_2 0.28%

Appendix II

Analyses for the Geochemical Program

TERRAMIN RESEARCH LABS LTD.
14, 2235 - 30 Avenue NE, Calgary, Alberta, T2E 7C7
Phone (403) 250-9460
Toll Free (800) 363-0962
FAX (403) 291-7064

03 December 1997

PROCEDURE FOR

MAGNETIC SEPARATION OF MINERALS

Samples can be separated into fractions containing minerals of similar magnetic susceptibility using high intensity magnetic separators.

Rock and drill core samples are milled and sieved into size fractions. Soils, sediments and till samples are dispersed and sieved into size fractions. The fractions are then separated on a *CARPCO* dry roll type high intensity magnetic separator into ferro, weakly, para and non magnetic fractions.

TERRAMIN RESEARCH LABS LTD.
14, 2235 - 30 Avenue NE, Calgary, Alberta, T2E 7C7
Phone (403) 250-9460
Toll Free (800) 363-0962
FAX (403) 291-7064

02 December 1997

ANALYTICAL METHOD FOR MAJOR ROCK FORMING ELEMENTS

and MINOR ELEMENTS

TOTAL DISSOLUTION

SiO_2, Al_2O_3, CaO, MgO, Na_2O, K_2O, Fe_2O_3, MnO, TiO_2

Ba, Sr, Rb

A portion of the prepared sample is mixed with a flux and fused. The resulting melt is poured into an acid mixture and completely dissolved.

The elements are determined by atomic absorption spectrophotometry. The major elements are usually calculated as oxides.

For Whole Rock analysis, a Loss on Ignition is done. A portion of the prepared sample is weighed into a ceramic dish and placed in a furnace. The temperature is gradually increased up to 950 ° C and held for 16 hours. After cooling, the sample is reweighed to determine the loss.

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

To: TERRAMIN RESEARCH LABS LTD.
14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

A9739568

Comments:

CERTIFICATE A9739568

(DUC) - TERRAMIN RESEARCH LABS LTD.

Project: 97-182-S
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 31-AUG-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
225	61	Run as received
229	61	ICP - AQ Digestion charge

* NOTE 1:

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

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2118	61	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
2119	61	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	61	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	61	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	61	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	61	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	61	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	61	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	61	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	61	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	61	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	61	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	61	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	61	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	61	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	61	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	61	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	61	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	61	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	61	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	61	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	61	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	61	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	61	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	61	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	61	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	61	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	61	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	61	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	61	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	61	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	61	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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

To: TERRAMIN RESEARCH LABS LTD [illegible]
14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182-S
Comments:

[illegible] :1-A
Tot[illegible]ges :2
Certi[illegible]ate Date: 31-AUG-97
Invoice No. : I9739568
P.O. Number :
Account : DUC

CERTIFICATE OF ANALYSIS A9739568

SAMPLE	PREP CODE		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
S-01	225	229	< 0.2	1.95	< 2	160	< 0.5	< 2	1.05	< 0.5	23	35	27	5.73	< 10	< 1	0.03	10	0.68	380	< 1
S-02	225	229	< 0.2	1.21	< 2	90	< 0.5	< 2	0.65	< 0.5	13	23	11	3.98	< 10	< 1	0.03	10	0.32	320	< 1
S-03	225	229	< 0.2	1.13	2	130	< 0.5	< 2	1.28	< 0.5	14	26	14	4.70	< 10	< 1	0.03	10	0.60	250	< 1
S-04	225	229	< 0.2	1.09	2	350	< 0.5	< 2	1.33	< 0.5	15	27	14	6.24	< 10	< 1	0.03	10	0.63	295	< 1
S-05	225	229	< 0.2	1.03	2	80	< 0.5	2	0.83	< 0.5	18	42	13	9.04	< 10	< 1	0.02	10	0.45	275	< 1
S-06	225	229	< 0.2	1.03	2	1030	< 0.5	< 2	1.67	< 0.5	12	22	9	3.75	< 10	< 1	0.03	10	0.95	595	2
S-07	225	229	< 0.2	0.95	< 2	240	< 0.5	< 2	2.34	< 0.5	13	28	13	4.43	< 10	< 1	0.03	10	1.12	320	< 1
S-08	225	229	< 0.2	1.51	< 2	100	< 0.5	2	0.67	< 0.5	21	45	21	7.49	< 10	< 1	0.02	< 10	0.59	300	< 1
S-09	225	229	< 0.2	1.51	< 2	110	< 0.5	< 2	0.70	< 0.5	21	41	21	7.01	< 10	< 1	0.02	10	0.61	330	< 1
S-10	225	229	< 0.2	1.27	< 2	90	< 0.5	< 2	0.58	< 0.5	18	36	20	6.99	< 10	< 1	0.01	< 10	0.53	255	< 1
S-11	225	229	< 0.2	1.33	< 2	100	< 0.5	< 2	0.80	< 0.5	13	13	13	3.27	< 10	< 1	0.03	10	0.48	350	< 1
S-12	225	229	< 0.2	0.95	< 2	70	< 0.5	< 2	0.59	< 0.5	9	13	6	2.34	< 10	< 1	0.01	< 10	0.32	435	< 1
S-13	225	229	< 0.2	1.04	< 2	100	< 0.5	< 2	0.59	< 0.5	12	24	9	5.15	< 10	< 1	0.01	< 10	0.38	195	< 1
S-14	225	229	< 0.2	1.09	< 2	80	< 0.5	< 2	0.68	< 0.5	16	38	15	6.89	< 10	< 1	0.02	10	0.43	325	< 1
S-15	225	229	< 0.2	1.11	< 2	110	< 0.5	< 2	0.77	< 0.5	18	49	15	9.02	< 10	< 1	0.04	10	0.49	335	< 1
S-16	225	229	< 0.2	0.67	2	80	< 0.5	2	0.73	< 0.5	9	16	7	6.51	< 10	< 1	0.04	20	0.33	320	1
S-17	225	229	< 0.2	0.70	< 2	90	< 0.5	< 2	0.81	< 0.5	9	17	8	5.44	< 10	< 1	0.04	30	0.35	295	1
S-18	225	229	< 0.2	0.84	2	110	< 0.5	< 2	0.71	< 0.5	9	15	9	5.04	< 10	< 1	0.06	20	0.39	340	1
S-19	225	229	< 0.2	0.87	2	110	< 0.5	< 2	0.84	< 0.5	8	11	9	2.89	< 10	< 1	0.06	30	0.39	300	1
S-20	225	229	< 0.2	0.92	< 2	100	< 0.5	< 2	0.83	< 0.5	9	12	9	3.73	< 10	< 1	0.05	20	0.40	325	< 1
S-21	225	229	< 0.2	0.79	2	80	< 0.5	< 2	1.35	< 0.5	13	18	10	7.79	< 10	< 1	0.04	30	0.45	320	1
S-22A	225	229	< 0.2	0.91	< 2	100	< 0.5	2	1.25	< 0.5	12	14	11	5.88	< 10	< 1	0.06	30	0.52	320	< 1
S-22B	225	229	< 0.2	0.96	< 2	110	< 0.5	< 2	1.40	< 0.5	13	16	12	5.98	< 10	< 1	0.06	30	0.54	345	< 1
S-23	225	229	< 0.2	0.89	< 2	100	< 0.5	< 2	1.43	< 0.5	12	15	11	5.23	< 10	< 1	0.06	30	0.52	340	1
S-24	225	229	< 0.2	0.74	< 2	60	< 0.5	< 2	0.57	< 0.5	9	31	6	5.71	< 10	< 1	0.02	10	0.32	280	< 1
S-25	225	229	< 0.2	0.72	< 2	50	< 0.5	< 2	0.14	< 0.5	6	15	8	1.38	< 10	< 1	0.03	< 10	0.26	260	< 1
S-26	225	229	< 0.2	0.68	2	70	< 0.5	< 2	0.44	< 0.5	8	22	6	2.63	< 10	< 1	0.02	10	0.33	325	< 1
S-27	225	229	< 0.2	0.91	< 2	110	< 0.5	< 2	0.97	< 0.5	11	23	8	5.62	< 10	< 1	0.03	10	0.36	315	1
S-28	225	229	< 0.2	0.94	< 2	70	< 0.5	< 2	1.22	< 0.5	15	25	12	7.30	< 10	< 1	0.04	20	0.50	315	1
S-29	225	229	< 0.2	0.69	4	70	< 0.5	2	0.81	< 0.5	11	18	7	8.00	< 10	< 1	0.04	20	0.34	350	1
S-30	225	229	< 0.2	0.70	< 2	60	< 0.5	< 2	1.34	< 0.5	13	23	10	10.25	< 10	1	0.05	40	0.39	360	1
S-31	225	229	< 0.2	0.80	< 2	130	< 0.5	< 2	0.90	< 0.5	11	29	8	5.58	< 10	< 1	0.03	10	0.47	385	1
S-32	225	229	< 0.2	1.09	< 2	110	< 0.5	< 2	0.64	< 0.5	10	21	10	3.09	< 10	< 1	0.03	10	0.37	225	1
S-33	225	229	< 0.2	1.23	< 2	160	< 0.5	< 2	0.71	< 0.5	16	26	19	4.09	< 10	< 1	0.03	10	0.45	370	1
S-34	225	229	< 0.2	1.07	< 2	80	< 0.5	< 2	0.22	< 0.5	8	23	9	1.83	< 10	< 1	0.03	< 10	0.34	315	< 1
S-35	225	229	< 0.2	0.99	< 2	80	< 0.5	< 2	0.26	< 0.5	6	20	8	2.06	< 10	< 1	0.03	10	0.29	255	< 1
S-36	225	229	< 0.2	0.87	< 2	80	< 0.5	< 2	0.78	< 0.5	10	16	9	3.71	< 10	< 1	0.04	10	0.41	330	< 1
S-37	225	229	< 0.2	0.69	2	60	< 0.5	< 2	0.48	< 0.5	7	21	5	2.12	< 10	< 1	0.02	10	0.32	250	< 1
S-38	225	229	< 0.2	0.88	2	80	< 0.5	2	0.78	< 0.5	17	42	10	11.50	< 10	< 1	0.03	10	0.39	310	< 1
S-39	225	229	< 0.2	1.25	< 2	120	< 0.5	2	1.14	< 0.5	19	29	13	8.55	< 10	< 1	0.06	10	0.60	310	< 1

CERTIFICATION: Hart Bichler

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

To: TERRAMIN RESEARCH LABS LTD

14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182-S
Comments:

Page Number :2-A
Total Pages :2
Certificate Date: 31-AUG-97
Invoice No. : I9739568
P.O. Number :
Account :DUC

CERTIFICATE OF ANALYSIS A9739568

SAMPLE	PREP CODE		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
S-40	225	229	< 0.2	0.62	< 2	80	< 0.5	2	0.86	< 0.5	9	14	6	5.05	< 10	< 1	0.04	20	0.39	315	1
S-41	225	229	< 0.2	0.63	< 2	50	< 0.5	< 2	0.51	< 0.5	6	11	4	1.58	< 10	< 1	0.03	10	0.31	135	< 1
S-42	225	229	< 0.2	0.88	< 2	190	< 0.5	< 2	0.94	< 0.5	8	16	10	2.50	< 10	< 1	0.07	20	0.56	505	2
S-43	225	229	< 0.2	0.65	2	90	< 0.5	2	0.61	< 0.5	10	48	8	6.42	< 10	< 1	0.03	10	0.39	305	1
S-44	225	229	< 0.2	1.37	< 2	70	< 0.5	< 2	1.47	< 0.5	21	22	16	7.80	< 10	< 1	0.03	20	0.59	355	1
S-45	225	229	< 0.2	1.20	< 2	120	< 0.5	< 2	0.76	< 0.5	20	26	17	6.65	< 10	< 1	0.03	10	0.47	435	< 1
S-46	225	229	< 0.2	1.10	< 2	130	< 0.5	2	0.87	< 0.5	13	25	11	6.32	< 10	< 1	0.04	10	0.41	350	< 1
S-47	225	229	< 0.2	0.73	< 2	100	< 0.5	< 2	0.68	< 0.5	6	11	4	2.64	< 10	< 1	0.06	20	0.35	380	1
S-48	225	229	< 0.2	0.46	4	60	< 0.5	< 2	0.78	< 0.5	4	11	2	1.39	< 10	< 1	0.03	10	0.37	300	< 1
S-49	225	229	< 0.2	0.73	< 2	130	< 0.5	< 2	1.32	< 0.5	7	12	6	2.03	< 10	< 1	0.05	10	0.67	280	1
S-50	225	229	< 0.2	0.83	2	110	< 0.5	< 2	0.46	< 0.5	7	15	5	3.81	< 10	< 1	0.06	20	0.35	985	1
S-51	225	229	< 0.2	0.78	2	90	< 0.5	< 2	0.29	< 0.5	5	16	6	1.60	< 10	< 1	0.03	20	0.29	325	1
S-52	225	229	< 0.2	1.14	< 2	510	< 0.5	< 2	2.76	< 0.5	19	18	23	5.12	< 10	< 1	0.08	10	1.08	305	1
S-53	225	229	< 0.2	0.85	2	50	< 0.5	< 2	0.90	< 0.5	15	17	9	4.64	< 10	< 1	0.01	10	0.41	265	< 1
S-54	225	229	< 0.2	0.70	< 2	40	< 0.5	2	0.76	< 0.5	19	18	6	7.45	< 10	< 1	0.01	10	0.44	565	< 1
S-55	225	229	< 0.2	1.06	< 2	80	< 0.5	< 2	1.20	< 0.5	15	14	12	4.66	< 10	< 1	0.04	20	0.47	405	< 1
S-56	225	229	< 0.2	2.00	< 2	140	< 0.5	< 2	1.13	< 0.5	23	11	23	3.75	< 10	< 1	0.04	10	0.64	260	< 1
S-57	225	229	< 0.2	1.63	< 2	70	< 0.5	2	0.69	< 0.5	20	21	20	6.85	< 10	< 1	0.03	< 10	0.47	305	< 1
S-58	225	229	< 0.2	1.03	2	90	< 0.5	2	0.94	< 0.5	16	31	16	8.77	< 10	< 1	0.06	10	0.55	350	< 1
S-59	225	229	< 0.2	0.86	< 2	80	< 0.5	2	1.24	< 0.5	15	22	12	6.41	< 10	< 1	0.05	20	0.53	320	1
S-60	225	229	0.2	1.74	< 2	100	0.5	2	1.08	< 0.5	17	26	20	3.76	< 10	< 1	0.08	10	0.63	1290	1

CERTIFICATION: ____________

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

To: TERRAMIN RESEARCH LABS LTD
14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182-S
Comments:

Certificate Date: 31-AUG-97
Invoice No. : I9739568
P.O. Number :
Account :DUC

CERTIFICATE OF ANALYSIS A9739568

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
S-01	225	229	0.06	31	2720	6	< 2	2	117	0.12	< 10	< 10	234	< 10	72
S-02	225	229	0.03	15	1730	2	< 2	1	44	0.11	< 10	< 10	146	< 10	52
S-03	225	229	0.04	18	3060	2	< 2	1	70	0.07	< 10	< 10	171	< 10	40
S-04	225	229	0.05	17	3220	4	< 2	1	80	0.10	< 10	< 10	230	< 10	54
S-05	225	229	0.05	18	2210	4	2	1	59	0.13	< 10	< 10	380	< 10	56
S-06	225	229	0.04	18	1580	16	< 2	1	58	0.09	< 10	< 10	125	< 10	66
S-07	225	229	0.04	17	1770	6	2	1	78	0.17	< 10	< 10	175	< 10	40
S-08	225	229	0.04	28	1560	6	< 2	2	76	0.15	< 10	< 10	354	< 10	64
S-09	225	229	0.04	27	1730	6	< 2	2	79	0.13	< 10	< 10	327	< 10	64
S-10	225	229	0.03	23	1530	4	< 2	1	80	0.10	< 10	< 10	349	< 10	58
S-11	225	229	0.03	13	2520	< 2	< 2	1	87	0.07	< 10	< 10	117	< 10	52
S-12	225	229	0.03	9	1520	< 2	< 2	1	48	0.07	< 10	< 10	76	< 10	42
S-13	225	229	0.04	13	1540	< 2	< 2	1	47	0.12	< 10	< 10	233	< 10	52
S-14	225	229	0.05	19	1840	2	< 2	1	50	0.12	< 10	< 10	309	< 10	54
S-15	225	229	0.05	21	1680	6	< 2	1	53	0.15	< 10	< 10	414	< 10	58
S-16	225	229	0.02	8	2770	2	< 2	1	34	0.10	< 10	< 10	194	< 10	48
S-17	225	229	0.02	9	3120	2	< 2	1	37	0.07	< 10	< 10	159	< 10	42
S-18	225	229	0.02	9	2410	2	< 2	1	38	0.09	< 10	< 10	135	< 10	44
S-19	225	229	0.01	10	3090	< 2	< 2	1	43	0.06	< 10	< 10	61	< 10	36
S-20	225	229	0.02	10	3180	< 2	< 2	1	43	0.06	< 10	< 10	93	< 10	42
S-21	225	229	0.04	9	4940	4	< 2	1	66	0.08	< 10	< 10	268	< 10	62
S-22A	225	229	0.03	9	4540	2	< 2	1	67	0.09	< 10	< 10	182	< 10	56
S-22B	225	229	0.03	10	5180	2	< 2	1	75	0.08	< 10	< 10	186	< 10	56
S-23	225	229	0.03	11	5340	2	< 2	1	69	0.08	< 10	< 10	149	< 10	50
S-24	225	229	0.02	14	1670	2	< 2	1	29	0.11	< 10	< 10	217	< 10	50
S-25	225	229	0.01	14	410	2	< 2	1	11	0.03	< 10	< 10	19	< 10	42
S-26	225	229	0.01	14	1160	2	< 2	1	19	0.06	< 10	< 10	86	< 10	38
S-27	225	229	0.04	12	3030	6	< 2	1	43	0.05	< 10	< 10	181	< 10	58
S-28	225	229	0.04	13	3830	6	< 2	1	66	0.11	< 10	< 10	271	< 10	54
S-29	225	229	0.03	9	2690	4	< 2	1	30	0.11	< 10	< 10	289	< 10	54
S-30	225	229	0.03	10	4110	6	< 2	1	41	0.08	< 10	< 10	403	< 10	84
S-31	225	229	0.03	16	1290	6	< 2	1	32	0.09	< 10	< 10	228	< 10	44
S-32	225	229	0.02	17	1600	4	< 2	1	31	0.08	< 10	< 10	98	< 10	44
S-33	225	229	0.03	23	1980	6	< 2	2	37	0.08	< 10	< 10	139	< 10	42
S-34	225	229	0.01	18	490	6	< 2	2	13	0.05	< 10	< 10	31	< 10	48
S-35	225	229	0.01	14	470	2	< 2	1	13	0.06	< 10	< 10	41	< 10	44
S-36	225	229	0.02	11	2460	2	< 2	1	42	0.10	< 10	< 10	115	< 10	40
S-37	225	229	0.01	13	1090	2	< 2	1	23	0.08	< 10	< 10	58	< 10	36
S-38	225	229	0.05	15	2070	6	< 2	1	44	0.15	< 10	< 10	475	< 10	68
S-39	225	229	0.05	15	2950	2	< 2	1	62	0.11	< 10	< 10	334	< 10	72

CERTIFICATION: Hart Bichler

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

To: TERRAMIN RESEARCH LABS LTD

14 - 2235 30TH AVE. N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182-S
Comments:

Page Number : 2-E
Total Pages : 2
Certificate Date: 31-AUG-97
Invoice No. : I9739568
P.O. Number :
Account : DUC

CERTIFICATE OF ANALYSIS A9739568

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
S-40	225	229	0.02	8	2900	2	< 2	1	34	0.09	< 10	< 10	141	< 10	46
S-41	225	229	0.01	9	1560	< 2	< 2	1	24	0.07	< 10	< 10	40	< 10	28
S-42	225	229	0.02	16	1010	8	< 2	1	36	0.09	< 10	< 10	40	< 10	78
S-43	225	229	0.02	19	1020	4	< 2	1	22	0.14	< 10	< 10	205	< 10	52
S-44	225	229	0.05	14	5300	2	< 2	1	75	0.09	< 10	< 10	295	< 10	84
S-45	225	229	0.04	17	2240	8	2	1	44	0.12	< 10	< 10	258	< 10	74
S-46	225	229	0.05	14	2560	6	< 2	1	56	0.09	< 10	< 10	203	< 10	48
S-47	225	229	0.01	9	1200	2	< 2	1	33	0.09	< 10	< 10	41	< 10	58
S-48	225	229	0.01	8	610	< 2	< 2	1	30	0.06	< 10	< 10	24	< 10	46
S-49	225	229	0.02	13	950	6	< 2	1	42	0.07	< 10	< 10	34	< 10	46
S-50	225	229	0.02	10	1110	2	< 2	1	27	0.11	< 10	< 10	55	< 10	70
S-51	225	229	0.01	14	500	< 2	< 2	1	15	0.05	< 10	< 10	26	< 10	56
S-52	225	229	0.08	18	3750	8	< 2	1	127	0.07	< 10	< 10	157	< 10	56
S-53	225	229	0.03	10	3450	2	< 2	< 1	43	0.07	< 10	< 10	212	< 10	46
S-54	225	229	0.03	8	2870	< 2	< 2	1	35	0.11	< 10	< 10	304	< 10	68
S-55	225	229	0.03	12	4380	2	< 2	1	69	0.08	< 10	< 10	149	< 10	50
S-56	225	229	0.04	12	3260	< 2	< 2	1	191	0.07	< 10	< 10	144	< 10	58
S-57	225	229	0.04	15	1820	2	< 2	1	47	0.14	< 10	< 10	321	< 10	72
S-58	225	229	0.05	19	2920	2	< 2	2	47	0.11	< 10	< 10	282	< 10	76
S-59	225	229	0.05	13	3930	2	< 2	1	62	0.10	< 10	< 10	209	< 10	58
S-60	225	229	0.04	25	3050	18	< 2	1	56	0.05	< 10	< 10	93	< 10	122

CERTIFICATION:

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

26 BT Resource Development
7203 Keewatin St. S.W.
Calgary, Alberta
T2V 2M6

Ed Kruchkowski

Date: Sept. 2, 1997

Job No: 97-182

Project:

12 ICP analysis (sub-contracted)

Signed: ______________

14, 2235 30th Avenue N.E., Calgary, AB, T2E 7C7
Phone: (403)250-9460 Fax: (403)291-7064

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

To: TERRAMIN RESEARCH LABS LTD

14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

A9737270

Comments:

CERTIFICATE A9737270

(DUC) - TERRAMIN RESEARCH LABS LTD.

Project: 97-182
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 18-AUG-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
225	12	Run as received
229	12	ICP - AQ Digestion charge

* NOTE 1:

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

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2118	12	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
2119	12	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	12	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	12	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	12	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	12	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	12	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	12	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	12	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	12	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	12	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	12	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	12	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	12	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	12	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	12	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	12	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	12	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	12	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	12	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	12	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	12	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	12	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	12	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	12	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	12	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	12	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	12	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	12	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	12	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	12	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	12	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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

To: TERRAMIN RESEARCH LABS LTD
14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182
Comments:

Page Number : 1-A
Total Pages : 1
Certificate Date: 18-AUG-97
Invoice No. : I9737270
P.O. Number :
Account : DUC

CERTIFICATE OF ANALYSIS A9737270

SAMPLE	PREP CODE		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
941128(10)NONMAG	225	229	< 0.2	1.58	< 2	50	< 0.5	< 2	2.67	< 0.5	9	4	12	1.45	< 10	< 1	0.05	10	0.67	190	1
941128(10)MAG	225	229	0.4	1.20	< 2	20	< 0.5	< 2	0.55	< 0.5	106	546	102	>15.00	20	2	0.05	< 10	1.46	410	7
941128(10)WEEKLY	225	229	< 0.2	1.11	2	50	< 0.5	< 2	0.91	< 0.5	42	12	22	6.32	< 10	< 1	0.06	< 10	4.04	970	1
946284(13)NONMAG	225	229	< 0.2	1.66	< 2	20	< 0.5	< 2	0.83	< 0.5	36	1	33	2.63	< 10	< 1	0.04	< 10	0.83	110	1
946284(13)MAG	225	229	< 0.2	1.05	8	< 10	< 0.5	< 2	1.09	< 0.5	35	74	25	>15.00	10	1	0.01	< 10	0.60	125	2
946284(13)WEEKLY	225	229	0.2	1.72	< 2	10	< 0.5	< 2	0.52	< 0.5	73	3	59	4.37	10	< 1	0.04	< 10	1.26	150	1
9617134(14)NONMG	225	229	< 0.2	1.43	< 2	10	< 0.5	< 2	4.39	< 0.5	72	< 1	6	1.99	< 10	< 1	0.04	30	0.80	85	< 1
9617134(14)MAG	225	229	0.2	0.91	6	< 10	< 0.5	< 2	0.34	< 0.5	46	64	4	>15.00	< 10	1	0.03	< 10	0.78	90	5
9617134(14)WEEKY	225	229	< 0.2	1.42	< 2	10	< 0.5	< 2	0.78	< 0.5	72	2	16	3.17	< 10	< 1	0.06	< 10	1.33	110	1
964372(15)NONMAG	225	229	< 0.2	1.23	< 2	20	< 0.5	< 2	1.42	< 0.5	30	10	18	1.00	< 10	< 1	0.05	< 10	0.57	65	1
964372(15)MAG	225	229	0.2	0.84	10	< 10	< 0.5	< 2	0.64	< 0.5	22	598	2	>15.00	10	1	0.04	< 10	0.69	120	4
964372(15)WEEKLY	225	229	< 0.2	1.14	< 2	30	< 0.5	< 2	0.88	< 0.5	24	41	17	1.71	< 10	< 1	0.10	< 10	0.95	120	1

CERTIFICATION: HartBichler

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

To: TERRAMIN RESEARCH LABS LTD
14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182
Comments:

[illegible] :1-B
Tot[illegible]ges :1
Cer[illegible]ate Date: 18-AUG-97
Invoice No. : I9737270
P.O. Number :
Account : DUC

CERTIFICATE OF ANALYSIS A9737270

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
941128(10)NONMAG	225	229	0.16	8	7100	12	< 2	1	189	0.03	< 10	< 10	11	< 10	20
941128(10)MAG	225	229	0.03	162	540	8	< 2	1	49	0.19	< 10	10	1530	< 10	120
941128(10)WEEKLY	225	229	0.07	31	1260	6	< 2	1	65	0.10	< 10	< 10	28	< 10	56
946284(13)NONMAG	225	229	0.10	12	1190	2	< 2	3	124	0.11	< 10	< 10	63	< 10	28
946284(13)MAG	225	229	< 0.01	16	40	6	< 2	3	27	0.55	< 10	10	1230	< 10	38
946284(13)WEEKLY	225	229	0.04	26	210	8	< 2	3	48	0.25	< 10	< 10	124	< 10	44
9617134(14)NONMG	225	229	0.09	4	>10000	26	< 2	1	205	0.03	< 10	< 10	33	< 10	120
9617134(14)MAG	225	229	< 0.01	6	310	6	< 2	1	18	0.21	< 10	< 10	791	< 10	24
9617134(14)WEEKY	225	229	0.05	9	1180	28	< 2	1	40	0.13	< 10	< 10	63	< 10	138
964372(15)NONMAG	225	229	0.07	65	2080	< 2	< 2	< 1	116	0.05	< 10	< 10	14	< 10	8
964372(15)MAG	225	229	< 0.01	129	50	2	< 2	1	25	0.40	< 10	10	685	< 10	28
964372(15)WEEKLY	225	229	0.05	67	170	< 2	< 2	1	51	0.22	< 10	< 10	35	< 10	12

CERTIFICATION:

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

26 BT Resource Development
7203 Keewatin St. S.W.
Calgary, Alberta
T2V 2M6

Ed Kruchkowski

Date: Aug. 21, 1997

Job No: 97-182

Project:

Major Element Analysis
61 Silt
29 Rock
15 Core

Signed: ____________

14, 2235 30th Avenue N.E., Calgary, AB, T2E 7C7
Phone: (403)250-9460 Fax: (403)291-7064

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

To: TERRAMIN RESEARCH LABS LTD

14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

A9735593

Comments: ATTN:

CERTIFICATE A9735593

(DUC) - TERRAMIN RESEARCH LABS LTD.

Project: 97-182
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 11-AUG-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
214	44	Rcvd as pulp; mesh size checked
229	44	ICP - AQ Digestion charge

* NOTE 1:

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

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2118	44	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
2119	44	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	44	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	44	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	44	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	44	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	44	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	44	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	44	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	44	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	44	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	44	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	44	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	44	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	44	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	44	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	44	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	44	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	44	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	44	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	44	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	44	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	44	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	44	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	44	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	44	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	44	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	44	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	44	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	44	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	44	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	44	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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

To: TERRAMIN RESEARCH LABS LTD
14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182
Comments: ATTN:

Pa… :1-A
Tot… …ges :2
Cer… …te Date: 11-AUG-97
Invoice No. : I9735593
P.O. Number :
Account :DUC

CERTIFICATE OF ANALYSIS A9735593

SAMPLE	PREP CODE	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
R01	214 229	< 0.2	1.56	< 2	420	< 0.5	< 2	0.96	< 0.5	25	21	17	5.74	10	< 1	0.47	10	0.94	145	3
R02	214 229	< 0.2	2.11	< 2	360	< 0.5	2	1.10	< 0.5	26	86	17	4.91	10	< 1	0.80	30	1.23	210	3
R03	214 229	< 0.2	2.40	< 2	70	< 0.5	< 2	2.98	< 0.5	46	19	47	5.21	10	< 1	0.15	30	1.48	200	1
R04	214 229	< 0.2	2.43	< 2	110	< 0.5	< 2	3.03	< 0.5	35	16	70	7.41	10	< 1	0.13	40	1.47	400	1
R05	214 229	< 0.2	2.51	< 2	470	< 0.5	< 2	1.82	< 0.5	27	30	19	5.40	10	< 1	0.59	40	1.00	325	2
R06	214 229	< 0.2	2.78	< 2	90	< 0.5	< 2	1.35	< 0.5	55	25	494	7.72	10	< 1	0.08	< 10	1.50	305	1
R07	214 229	< 0.2	4.09	< 2	60	< 0.5	< 2	2.19	< 0.5	55	177	398	7.63	10	< 1	0.06	< 10	1.93	335	2
R08	214 229	< 0.2	3.09	< 2	30	< 0.5	< 2	1.92	< 0.5	43	121	148	8.49	10	< 1	0.04	< 10	1.37	280	3
R09	214 229	< 0.2	3.16	< 2	30	< 0.5	< 2	1.78	< 0.5	42	116	255	8.46	10	< 1	0.04	< 10	1.17	245	2
R10	214 229	< 0.2	3.01	2	50	< 0.5	< 2	1.59	< 0.5	44	21	50	7.95	10	< 1	0.09	< 10	1.30	235	2
R11	214 229	< 0.2	2.86	2	100	< 0.5	4	1.34	< 0.5	50	15	71	8.15	10	< 1	0.06	< 10	1.29	270	1
R12	214 229	< 0.2	7.67	20	150	< 0.5	< 2	4.03	< 0.5	30	85	329	5.26	10	< 1	0.06	< 10	0.77	175	3
R13	214 229	< 0.2	3.68	8	40	< 0.5	2	1.46	< 0.5	25	18	26	3.63	10	< 1	0.08	< 10	1.54	195	2
R14	214 229	< 0.2	3.33	4	30	< 0.5	< 2	0.98	< 0.5	33	22	29	5.37	10	< 1	0.04	< 10	1.01	195	1
R15	214 229	< 0.2	1.52	< 2	210	0.5	< 2	1.75	< 0.5	14	18	15	6.18	10	< 1	0.66	90	1.10	1365	4
R16	214 229	< 0.2	2.08	< 2	130	< 0.5	< 2	2.56	< 0.5	28	10	48	5.56	10	< 1	0.15	50	1.45	385	1
R17	214 229	< 0.2	1.33	< 2	630	< 0.5	< 2	2.26	< 0.5	14	18	28	5.72	10	< 1	0.59	60	1.13	375	3
R18	214 229	< 0.2	0.79	< 2	80	< 0.5	< 2	0.19	< 0.5	< 1	39	3	2.63	< 10	< 1	0.15	20	0.04	375	5
R19	214 229	< 0.2	0.64	< 2	80	< 0.5	< 2	0.58	< 0.5	< 1	16	1	3.52	< 10	< 1	0.12	40	0.20	885	6
R20	214 229	< 0.2	2.04	8	30	6.0	< 2	2.35	< 0.5	1	39	3	1.69	10	< 1	0.18	90	0.12	630	4
R21	214 229	< 0.2	2.44	6	20	3.0	< 2	2.16	< 0.5	< 1	24	2	0.98	< 10	< 1	0.37	30	0.09	425	3
R22	214 229	< 0.2	3.04	10	< 10	< 0.5	4	3.76	< 0.5	73	34	281	4.21	10	< 1	0.10	10	0.62	100	3
R23	214 229	< 0.2	5.08	14	< 10	< 0.5	< 2	4.07	< 0.5	14	66	42	1.62	10	< 1	0.01	40	0.18	90	5
R24	214 229	< 0.2	2.64	6	170	< 0.5	2	1.35	< 0.5	31	402	64	3.68	10	< 1	1.36	10	2.51	320	1
R25	214 229	0.2	2.98	< 2	120	< 0.5	< 2	1.46	< 0.5	47	33	5	9.21	10	< 1	0.07	< 10	0.51	150	3
R26	214 229	< 0.2	1.57	< 2	70	< 0.5	< 2	0.92	< 0.5	28	25	27	8.34	10	< 1	0.04	< 10	0.41	125	2
R27	214 229	< 0.2	1.06	< 2	60	< 0.5	< 2	1.08	< 0.5	22	30	17	5.90	< 10	< 1	0.09	< 10	0.61	210	3
R28	214 229	< 0.2	0.55	< 2	70	0.5	< 2	0.19	< 0.5	< 1	48	< 1	2.69	< 10	< 1	0.10	80	0.13	675	4
R29	214 229	< 0.2	0.45	2	60	0.5	< 2	0.23	< 0.5	< 1	51	< 1	2.49	< 10	< 1	0.11	70	0.27	470	4
96-3-50-01	214 229	< 0.2	2.70	4	30	0.5	< 2	1.91	< 0.5	27	38	30	6.59	10	< 1	0.08	10	1.46	615	4
96-3-31-02	214 229	< 0.2	4.33	10	100	< 0.5	< 2	2.20	< 0.5	48	327	17	8.24	10	< 1	0.47	< 10	1.88	675	2
96-3-564-03	214 229	< 0.2	3.40	8	40	0.5	< 2	1.91	< 0.5	94	391	53	5.73	10	< 1	0.14	< 10	1.65	700	1
96-3-526-04	214 229	< 0.2	3.28	6	550	< 0.5	< 2	1.51	< 0.5	38	72	67	6.25	10	< 1	1.44	20	2.45	655	2
96-3-66.74-05	214 229	< 0.2	2.48	6	270	< 0.5	< 2	2.53	< 0.5	23	160	13	3.22	< 10	< 1	0.23	20	1.73	530	2
96-3-100.6-06	214 229	< 0.2	1.45	8	50	0.5	< 2	1.63	< 0.5	28	236	42	1.97	< 10	< 1	0.19	30	0.54	255	3
96-3-58.4-07	214 229	< 0.2	4.13	12	340	< 0.5	< 2	1.98	< 0.5	34	476	22	6.49	10	< 1	1.17	< 10	1.39	595	4
96-3-54.3-08	214 229	< 0.2	1.60	8	60	0.5	< 2	2.29	< 0.5	3	36	1	0.99	< 10	< 1	0.07	30	0.22	140	3
96-3-186-09	214 229	< 0.2	2.04	6	40	1.0	< 2	1.36	< 0.5	1	26	6	1.01	< 10	< 1	0.14	60	0.07	200	3
94-1-12.8-10	214 229	< 0.2	1.84	4	70	< 0.5	< 2	2.52	< 0.5	36	86	42	6.14	10	< 1	0.07	10	1.53	355	1
96-4-22-11	214 229	< 0.2	0.48	< 2	200	< 0.5	< 2	2.81	< 0.5	38	28	35	11.90	10	1	0.06	60	2.68	1305	2

CERTIFICATION: [signature]

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

To: TERRAMIN RESEARCH LABS LTD.

14 - 2235 30TH AVE. N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182
Comments: ATTN:

Certificate Date: 11-AUG-97
Invoice No. : I9735593
P.O. Number :
Account : DUC

CERTIFICATE OF ANALYSIS A9735593

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
R01	214	229	0.10	14	1370	< 2	< 2	3	89	0.20	< 10	< 10	242	< 10	30
R02	214	229	0.04	40	1360	2	< 2	3	78	0.30	< 10	< 10	167	< 10	80
R03	214	229	0.16	19	5300	6	< 2	5	124	0.10	< 10	< 10	202	< 10	32
R04	214	229	0.17	13	6890	< 2	< 2	8	157	0.06	< 10	< 10	227	< 10	40
R05	214	229	0.09	18	1070	< 2	2	4	197	0.37	< 10	< 10	189	< 10	50
R06	214	229	0.09	151	120	< 2	2	12	112	0.42	< 10	< 10	532	< 10	30
R07	214	229	0.35	140	160	< 2	2	5	370	0.17	< 10	< 10	355	< 10	32
R08	214	229	0.35	83	770	< 2	2	5	251	0.17	< 10	< 10	482	< 10	36
R09	214	229	0.36	93	70	< 2	< 2	4	262	0.23	< 10	< 10	453	< 10	32
R10	214	229	0.27	22	570	< 2	2	7	174	0.35	< 10	< 10	421	< 10	36
R11	214	229	0.14	28	800	< 2	< 2	7	110	0.40	< 10	< 10	416	< 10	44
R12	214	229	0.66	98	120	< 2	2	5	615	0.14	< 10	< 10	344	< 10	36
R13	214	229	0.23	19	80	< 2	2	2	471	0.34	< 10	< 10	138	< 10	40
R14	214	229	0.24	19	110	2	2	1	222	0.15	< 10	< 10	240	< 10	16
R15	214	229	0.13	14	2240	< 2	< 2	5	67	0.20	< 10	< 10	78	< 10	114
R16	214	229	0.10	6	7380	2	2	4	72	0.06	< 10	< 10	122	< 10	46
R17	214	229	0.06	4	4010	2	< 2	4	70	0.05	< 10	< 10	126	< 10	98
R18	214	229	0.22	1	470	4	< 2	< 1	31	0.14	< 10	< 10	4	< 10	68
R19	214	229	0.06	< 1	360	2	< 2	1	24	0.03	< 10	< 10	1	< 10	86
R20	214	229	0.03	5	130	< 2	2	< 1	693	0.04	< 10	< 10	6	< 10	30
R21	214	229	0.03	1	80	< 2	2	< 1	53	0.03	< 10	< 10	5	< 10	34
R22	214	229	0.01	81	2050	10	2	4	17	0.27	< 10	< 10	73	< 10	8
R23	214	229	0.15	12	560	< 2	2	1	216	0.11	< 10	< 10	25	< 10	4
R24	214	229	0.18	164	1060	10	2	5	69	0.46	< 10	< 10	89	< 10	94
R25	214	229	0.32	5	260	< 2	< 2	5	217	0.25	< 10	< 10	584	< 10	18
R26	214	229	0.20	4	740	< 2	< 2	4	121	0.17	< 10	< 10	444	< 10	20
R27	214	229	0.17	5	1650	< 2	< 2	4	92	0.15	< 10	< 10	298	< 10	32
R28	214	229	0.06	1	370	2	< 2	< 1	6	0.08	< 10	< 10	4	< 10	18
R29	214	229	0.06	1	340	6	< 2	< 1	9	0.10	< 10	< 10	9	< 10	116
96-3-50-01	214	229	0.05	8	2050	20	2	3	53	0.17	< 10	< 10	77	< 10	86
96-3-31-02	214	229	0.02	236	1000	14	< 2	18	64	0.30	< 10	< 10	210	< 10	74
96-3-564-03	214	229	0.04	218	1030	16	< 2	11	38	0.36	< 10	< 10	139	< 10	78
96-3-526-04	214	229	0.15	83	930	2	2	6	55	0.38	< 10	< 10	128	< 10	70
96-3-66.74-05	214	229	0.33	143	1390	6	2	8	204	0.24	< 10	< 10	70	< 10	40
96-3-100.6-06	214	229	0.15	130	950	4	< 2	9	76	0.22	< 10	< 10	71	< 10	18
96-3-58.4-07	214	229	0.09	205	870	20	< 2	13	69	0.37	< 10	< 10	150	< 10	86
96-3-54.3-08	214	229	0.07	4	2080	6	< 2	< 1	90	0.09	< 10	< 10	7	< 10	22
96-3-186-09	214	229	0.08	1	110	4	< 2	< 1	28	0.08	< 10	< 10	7	< 10	28
94-1-12.8-10	214	229	0.23	38	5360	20	2	2	190	0.08	< 10	< 10	226	< 10	50
96-4-22-11	214	229	0.07	6	9030	< 2	< 2	5	103	0.02	< 10	< 10	196	< 10	128

CERTIFICATION: Hart Bichler

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

To: TERRAMIN RESEARCH LABS LTD.

14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182
Comments: ATTN:

Page Number :2-A
Total Pages :2
Certificate Date: 11-AUG-97
Invoice No. :I9735593
P.O. Number :
Account :DUC

CERTIFICATE OF ANALYSIS A9735593

SAMPLE	PREP CODE		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
96-5-18.3-12	214	229	< 0.2	2.63	2	50	< 0.5	< 2	3.62	< 0.5	38	14	47	6.04	10	< 1	0.14	30	1.90	250	2
94-6-28.4-13	214	229	< 0.2	2.02	< 2	30	< 0.5	< 2	0.99	< 0.5	46	16	39	9.17	10	< 1	0.06	< 10	1.04	170	1
96-1-71.34-14	214	229	< 0.2	2.03	< 2	20	< 0.5	< 2	2.82	< 0.5	54	16	5	7.32	10	< 1	0.08	10	1.14	140	1
96-4-37.2-15	214	229	< 0.2	1.64	< 2	30	< 0.5	< 2	1.60	< 0.5	26	117	16	5.43	10	< 1	0.10	< 10	0.91	140	2

CERTIFICATION: [signature]

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

To: TERRAMIN RESEARCH LABS LTD

14 - 2235 30TH AVE. N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182
Comments: ATTN:

Page Number :2-B
Total Pages :2
Certificate Date: 11-AUG-97
Invoice No. : I9735593
P.O. Number :
Account : DUC

CERTIFICATE OF ANALYSIS A9735593

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
96-5-18.3-12	214	229	0.22	5	9390	< 2	2	4	221	0.05	< 10	< 10	241	< 10	32
94-6-28.4-13	214	229	0.11	14	640	14	< 2	4	128	0.36	< 10	< 10	474	< 10	38
96-1-71.34-14	214	229	0.15	4	5840	26	< 2	3	167	0.07	< 10	< 10	258	< 10	124
96-4-37.2-15	214	229	0.12	83	1300	< 2	2	1	134	0.16	< 10	< 10	147	< 10	18

CERTIFICATION: ________________

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

To: TERRAMIN RESEARCH LABS LTD.

14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

A9735596

Comments:

CERTIFICATE A9735596

(DUC) - TERRAMIN RESEARCH LABS LTD.

Project: 97-182
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 12-AUG-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	6	Pulp; prepped on other workorder
297	6	Meta-borate fusion charge

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2501	6	Ce ppm: ICP-MS	ICP-MS	0.5	10000
2502	6	Dy ppm: ICP-MS	ICP-MS	0.1	1000
2503	6	Er ppm: ICP-MS	ICP-MS	0.1	1000
2504	6	Eu ppm: ICP-MS	ICP-MS	0.1	1000
2505	6	Gd ppm: ICP-MS	ICP-MS	0.1	1000
2506	6	Ho ppm: IPC-MS	ICP-MS	0.1	1000
2507	6	La ppm: ICP-MS	ICP-MS	0.5	10000
2508	6	Lu ppm: ICP-MS	ICP-MS	0.1	1000
2509	6	Nd ppm: ICP-MS	ICP-MS	0.5	1000
2510	6	Pr ppm: ICP-MS	ICP-MS	0.1	1000
2511	6	Sm ppm: ICP-MS	ICP-MS	0.1	1000
2512	6	Tb ppm: ICP-MS	ICP-MS	0.1	1000
2550	6	Th ppm: ICP-MS	ICP-MS	1	1000
2513	6	Tm ppm: ICP-MS	ICP-MS	0.1	1000
2549	6	U ppm: ICP-MS	ICP-MS	0.5	1000
2514	6	Yb ppm: ICP-MS	ICP-MS	0.1	1000

REE Chondrite Normalization Plots

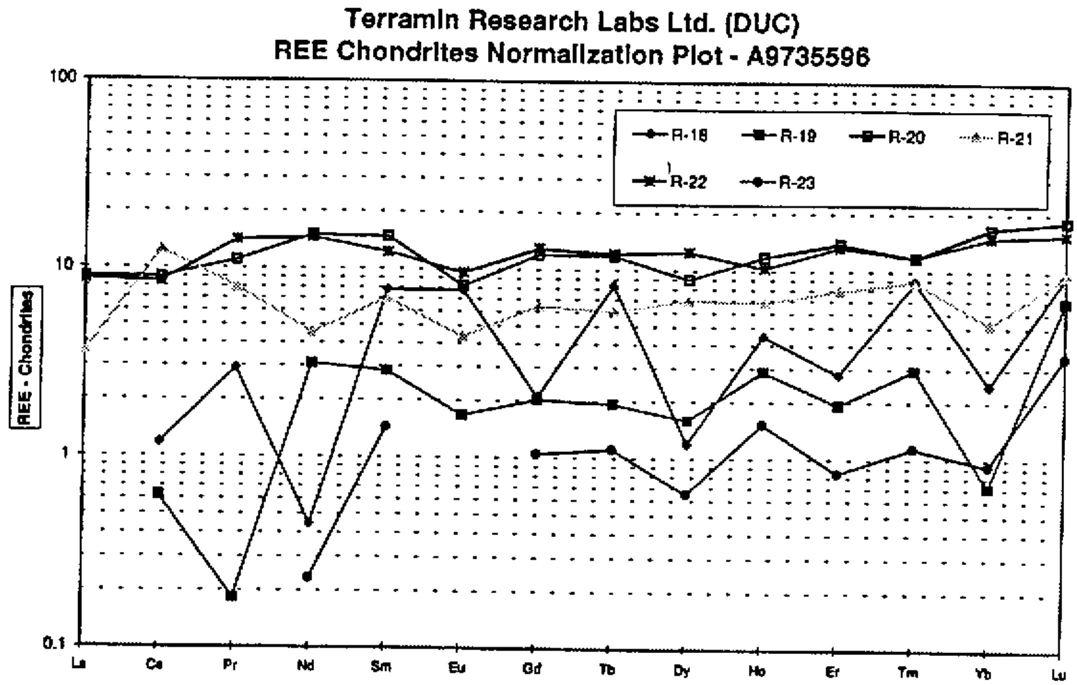
Prepared for

Terramin Research Labs Ltd.

Rare Earth Element (REE) concentration data is typically ratioed against a standard set, which is representative of the concentrations of the rare earth elements found in chondritic meteorites. This allows easier interpretation of the data by smoothing out fluctuations due to natural abundance variations and exposing those anomalies due to geological processes. The Chondrite reference values used in these plots are listed in the table below (based on N. Nakamura (1974) in Geochimica et Cosmochimica Acta, Volume 38, p. 757-775).

Chondrite Plot Reference Values

Element	Chondrite Concentration (ppm)
La	0.328
Ce	0.865
Pr	0.123
Nd	0.630
Sm	0.203
Eu	0.077
Gd	0.276
Tb	0.052
Dy	0.343
Ho	0.078
Er	0.225
Tm	0.034
Yb	0.220
Lu	0.034



Please Note that Element Concentrations Less than the Detection Limit are not plotted on this graph

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

To: TERRAMIN RESEARCH LABS LTD

14 - 2235 30TH AVE, N.E.
CALGARY, ALBERTA
T2E 7C7

Project : 97-182
Comments:

Total [illegible] s :1
Certific[illegible] Date: 12-AUG-97
Invoice No. : I9735596
P.O. Number :
Account : DUC

CERTIFICATE OF ANALYSIS A9735596

SAMPLE	PREP CODE		Ce ppm	Dy ppm	Er ppm	Eu ppm	Gd ppm	Ho ppm	La ppm	Lu ppm	Nd ppm	Pr ppm	Sm ppm	Tb ppm	Th ppm	Tm ppm	U ppm	Yb ppm
R-18	299	297	1.0	0.4	0.6	0.6	0.6	0.3	< 0.5	0.3	0.3	0.4	1.6	0.4	35	0.3	0.2	0.5
R-19	299	297	0.5	0.5	0.4	0.1	0.6	0.2	< 0.5	0.2	1.9	< 0.1	0.6	0.1	3	0.1	1.2	0.2
R-20	299	297	7.7	3.1	3.1	0.6	3.3	0.9	2.9	0.6	9.4	1.4	3.0	0.6	5	0.4	0.3	3.7
R-21	299	297	10.7	2.4	1.8	0.3	1.8	0.5	1.2	0.3	2.9	1.0	1.4	0.3	2	0.3	0.5	1.1
R-22	299	297	7.3	4.3	3.0	0.7	3.6	0.8	2.8	0.5	9.1	1.7	2.5	0.6	1	0.4	0.1	3.3
R-23	299	297	< 0.5	0.2	0.2	< 0.1	0.3	0.1	< 0.5	0.1	0.1	< 0.1	0.3	0.1	2	< 0.1	0.1	0.2

CERTIFICATION: [signature]

TERRAMIN RESEARCH LABS Ltd.

Job No: 97-182

Client: 26 BT Resources Dev't.
Project:

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
S- 1	40.9	14.4	7.775	4.363	1.645	0.589	17.88	0.261	7.34	4.6	99.66
S- 2	49.2	10.6	6.007	3.308	1.402	0.763	15.44	0.244	6.61	6.2	99.75
S- 3	49.4	11.1	8.214	4.064	1.672	0.759	16.02	0.223	5.74	2.4	99.64
S- 4	42.8	11.0	8.639	4.379	1.550	0.612	20.02	0.278	7.84	2.2	99.25
S- 5	34.0	10.2	7.257	4.048	1.271	0.466	29.74	0.373	11.51	1.2	100.08
S- 6	50.5	10.2	6.552	3.843	1.148	1.050	14.30	0.256	5.37	6.4	99.60
S- 7	46.2	10.0	9.343	4.946	1.442	0.737	15.73	0.214	5.40	5.6	99.63
S- 8	33.4	10.8	7.336	4.536	1.202	0.419	27.89	0.374	11.84	2.0	99.73
S- 9	34.7	10.8	6.725	4.143	1.170	0.486	26.74	0.364	11.68	3.0	99.72
S- 10	32.3	11.0	6.632	4.048	1.247	0.416	28.46	0.391	13.18	2.4	100.02
S- 11	48.8	14.5	7.190	3.308	2.224	0.688	13.36	0.221	5.29	3.8	99.39
S- 12	45.8	12.7	7.788	3.890	1.968	0.635	14.44	0.307	9.01	3.2	99.67
S- 13	38.5	11.3	7.217	4.032	1.550	0.516	22.45	0.350	11.51	2.4	99.86
S- 14	34.4	10.2	6.858	4.095	1.299	0.511	26.46	0.377	13.68	1.8	99.71
S- 15	28.9	9.3	6.127	3.969	1.086	0.512	33.75	0.479	15.01	0.8	99.87
S- 16	43.8	9.1	4.266	2.394	1.820	1.019	25.45	0.425	10.17	0.8	99.27
S- 17	49.6	9.6	4.559	2.536	1.955	1.075	21.02	0.378	8.01	0.8	99.59
S- 18	49.4	10.2	4.054	2.237	2.103	1.159	20.45	0.355	8.34	1.4	99.71
S- 19	61.8	11.0	4.412	2.174	2.521	1.458	10.93	0.188	2.40	2.4	99.25
S- 20	55.6	11.3	4.904	2.599	2.332	1.374	14.30	0.238	4.32	2.8	99.81
S- 21	39.4	8.9	5.781	3.008	1.523	0.687	29.17	0.420	10.68	0.6	100.10
S- 22 A	48.3	11.1	5.994	2.993	2.170	1.060	18.73	0.275	7.34	1.8	99.85
S- 22 B	47.1	11.1	5.954	2.961	2.062	1.011	20.31	0.296	6.64	2.0	99.43
S- 23	51.5	11.1	5.941	2.977	2.346	1.187	16.45	0.258	6.19	1.6	99.64
S- 24	47.9	8.7	4.226	2.756	1.204	0.770	23.02	0.386	10.68	0.2	99.84
S- 25	81.1	8.3	0.853	0.769	1.415	1.076	3.30	0.065	0.47	2.6	99.93
S- 26	63.3	9.4	3.442	2.095	1.550	1.050	12.05	0.236	4.97	1.6	99.76
S- 27	46.2	10.8	7.044	3.481	1.739	0.813	19.59	0.292	7.67	2.4	100.00
S- 28	44.9	10.0	6.007	3.292	1.712	0.839	23.02	0.314	8.84	0.8	99.76
S- 29	43.6	8.9	4.306	2.473	1.779	1.036	26.17	0.391	10.17	0.6	99.44
S- 30	34.0	7.2	4.824	2.678	1.088	0.582	35.89	0.492	13.51	-0.2	100.06
S- 31	50.1	9.3	5.011	2.993	1.402	0.977	20.02	0.289	7.84	2.0	99.84
S- 32	63.3	10.4	4.306	2.315	1.685	1.083	10.01	0.142	2.47	4.0	99.71
S- 33	60.3	10.6	4.785	2.567	1.564	1.016	12.38	0.170	2.92	3.4	99.70
S- 34	53.3	9.8	1.174	0.978	1.631	1.374	4.63	0.090	0.73	4.4	78.10
S- 35	72.9	9.8	1.382	0.969	1.698	1.530	5.96	0.102	1.05	4.2	99.66
S- 36	61.6	10.8	4.665	2.363	2.009	1.154	12.53	0.195	3.32	1.0	99.60
S- 37	69.1	8.9	2.897	1.780	1.510	1.066	10.17	0.192	3.05	1.0	99.63
S- 38	30.4	8.9	5.462	3.229	1.180	0.604	36.75	0.473	13.84	-0.8	99.99
S- 39	29.9	10.0	7.137	4.143	1.388	0.554	31.60	0.434	13.34	1.2	99.76

YMH

TERRAMIN RESEARCH LABS Ltd.

Job No: 97-182

Client: 26 BT Resources Dev't.
Project:

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
S- 40	49.8	10.0	5.436	2.914	2.211	1.193	21.74	0.350	5.89	0.2	99.78
S- 41	70.8	9.6	3.615	1.953	1.887	1.169	7.28	0.125	1.85	1.0	99.31
S- 42	72.5	9.3	2.725	1.685	2.022	1.771	6.59	0.154	1.12	2.0	99.83
S- 43	53.7	8.3	3.961	2.504	1.564	1.094	20.88	0.338	7.06	0.6	100.00
S- 44	28.9	11.7	8.679	4.631	1.564	0.334	29.03	0.403	12.84	1.8	99.87
S- 45	41.7	11.9	7.283	4.143	1.618	0.713	20.45	0.303	8.17	3.2	99.49
S- 46	42.8	11.7	7.762	3.733	1.820	0.805	21.59	0.309	6.14	2.8	99.45
S- 47	67.2	9.4	3.296	1.733	2.359	1.771	9.77	0.227	2.17	1.8	99.73
S- 48	77.6	7.2	2.326	1.199	1.618	1.101	4.96	0.121	1.25	2.0	99.40
S- 49	72.3	8.7	3.881	1.985	1.914	1.735	5.21	0.096	0.88	2.8	99.49
S- 50	67.4	9.6	2.419	1.436	2.292	1.747	9.72	0.309	1.82	2.8	99.56
S- 51	76.6	8.9	1.502	0.951	1.847	1.494	4.10	0.110	0.80	3.0	99.26
S- 52	45.8	11.7	10.46	4.977	2.089	0.881	15.73	0.201	4.50	3.6	99.93
S- 53	39.4	14.4	7.496	3.339	2.116	0.448	21.16	0.288	10.01	1.2	99.77
S- 54	33.4	10.6	6.712	4.001	1.591	0.436	28.89	0.413	12.68	0.6	99.26
S- 55	51.5	12.5	7.203	3.150	2.076	0.745	14.73	0.219	4.04	3.2	99.38
S- 56	46.4	17.8	8.639	3.134	2.238	0.483	12.87	0.167	3.79	4.4	99.89
S- 57	36.1	12.8	7.562	4.253	1.591	0.519	23.17	0.293	9.51	4.2	100.09
S- 58	38.7	10.4	7.190	4.284	1.698	0.777	24.74	0.347	9.67	1.8	99.62
S- 59	44.5	11.0	8.200	4.363	2.184	0.895	20.45	0.292	6.37	1.4	99.60
S- 60	41.3	11.5	6.805	3.481	1.577	1.163	12.48	0.290	3.00	17.8	99.41
R- 1	38.1	14.0	10.69	6.348	1.995	1.051	19.16	0.217	6.92	1.2	99.63
R- 2	45.8	15.9	8.891	4.962	2.763	1.783	14.44	0.192	3.70	1.2	99.58
R- 3	37.9	15.5	10.71	6.127	2.683	0.790	17.16	0.169	7.06	2.0	100.05
R- 4	35.5	13.6	10.30	5.922	1.982	0.509	21.74	0.262	6.81	3.2	99.82
R- 5	42.4	16.8	10.70	4.836	2.844	1.203	15.44	0.218	3.59	1.6	99.59
R- 6	35.9	14.2	12.39	7.749	0.793	0.451	20.45	0.192	4.80	2.8	99.73
R- 7	37.2	12.7	13.01	10.63	0.848	0.153	19.59	0.169	3.34	2.2	99.82
R- 8	34.2	12.3	14.09	9.451	0.957	0.124	22.59	0.199	5.25	0.6	99.77
R- 9	36.4	12.3	13.29	8.852	0.987	0.111	22.31	0.196	4.39	0.6	99.37
R- 10	37.2	14.5	11.36	6.867	1.564	0.298	20.59	0.195	5.39	2.0	100.03
R- 11	36.1	14.2	11.08	7.151	1.402	0.249	21.45	0.208	5.24	2.8	99.90
R- 12	42.4	18.5	12.65	5.765	1.388	0.161	14.30	0.120	3.00	1.6	99.85
R- 13	41.1	20.0	8.918	4.851	2.629	0.574	13.11	0.168	4.65	3.8	99.80
R- 14	39.1	21.5	9.835	4.615	2.292	0.241	15.13	0.129	3.42	3.0	99.34
R- 15	53.3	14.9	3.283	2.363	4.421	3.326	13.24	0.229	1.92	2.6	99.57
R- 16	40.9	14.9	8.320	5.324	3.141	1.088	17.45	0.253	5.65	3.0	100.00
R- 17	44.7	14.9	8.838	4.111	3.720	0.997	15.73	0.284	4.94	1.4	99.65
R- 18	60.5	16.8	1.595	0.455	6.632	5.145	6.48	0.164	0.53	1.2	99.55
R- 19	61.2	16.6	0.901	0.347	6.120	5.266	6.68	0.132	0.35	2.0	99.59

TERRAMIN RESEARCH LABS Ltd.

Job No: 97-182

Client: 26 BT Resources Dev't.
Project:

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
R- 20	58.8	19.8	5.090	0.235	4.934	4.483	4.40	0.142	0.10	1.8	99.84
R- 21	57.8	22.3	3.230	0.228	4.448	6.411	2.20	0.072	0.08	2.8	99.52
R- 22	38.5	16.1	17.54	5.324	0.972	0.994	10.32	0.059	4.72	5.0	99.50
R- 23	44.5	15.3	20.20	5.088	0.836	0.182	11.74	0.130	0.50	0.8	99.27
R- 24	42.1	12.8	11.86	11.20	1.483	2.338	13.74	0.199	2.25	1.4	99.45
R- 25	32.5	12.8	13.22	8.206	0.957	0.225	24.02	0.178	6.29	1.0	99.46
R- 26	33.4	12.5	12.09	7.686	1.155	0.167	25.03	0.204	6.56	0.8	99.52
R- 27	34.4	12.8	11.87	6.993	1.820	0.353	21.02	0.245	9.67	0.2	99.46
R- 28	64.0	17.0	0.316	0.227	6.336	5.350	4.49	0.096	0.58	1.2	99.56
R- 29	63.5	16.6	0.290	0.515	6.187	5.736	5.03	0.127	0.58	0.8	99.42
96-3-50- 1	43.8	16.4	8.120	4.300	3.087	1.832	15.59	0.169	3.69	2.6	99.67
96-3-31- 2	45.1	16.6	6.260	4.284	0.553	2.049	18.88	0.229	1.95	3.6	99.56
96-3-564- 3	46.8	16.4	7.230	5.025	2.629	1.374	14.87	0.198	1.73	3.6	99.94
96-3-526- 4	38.1	14.5	7.456	8.380	1.739	2.374	19.31	0.298	3.10	4.0	99.27
-3-66.74- 5	42.8	15.1	12.27	9.892	1.995	0.850	13.11	0.232	1.62	1.4	99.26
96-3-100.6- 6	50.7	15.7	7.841	4.851	4.152	1.386	11.67	0.186	1.62	1.0	99.08
96-3-58.4- 7	52.2	16.4	4.731	3.056	0.930	3.507	14.30	0.225	1.72	2.6	99.69
6-3-54.3- 8	53.0	19.1	9.835	2.221	5.055	0.893	6.09	0.152	1.45	1.6	99.43
6-3-18.6- 9	63.3	16.6	2.286	0.317	5.918	4.181	2.55	0.079	0.27	4.0	99.53
96-4-22- 11	30.6	8.1	11.43	9.230	1.442	0.165	31.46	0.453	6.82	0.0	99.71
6-5-18.3- 12	34.7	15.3	11.64	7.513	1.928	0.509	18.88	0.192	6.27	2.4	99.28
4-1-12.8- 10	39.8	16.6	11.87	7.119	2.265	0.371	17.45	0.199	3.02	1.0	99.70
94-6-28.4- 13	31.0	12.3	11.12	8.017	1.361	0.348	25.74	0.227	7.09	2.0	99.20
-1-71.34- 14	34.0	13.6	13.56	7.214	1.415	0.806	21.59	0.200	5.92	1.2	99.52
6-4-37.2- 15	39.1	14.4	14.22	8.364	1.901	0.975	15.87	0.203	3.42	1.4	99.86

TERRAMIN RESEARCH LABS Ltd.

Job No: 97-182

Client: 26 BT Resources Dev't.
Project:

Sample Number		SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
94-1-12.8	mag	14.3	6.4	2.538	4.741	0.441	0.110	63.35	0.403	8.84	-0.4	100.78
9 -1-12.8	weak mag	30.4	6.2	7.097	12.08	0.714	0.167	29.32	0.581	13.68	-0.8	99.44
9 -1-12.8	non-mag	48.3	18.1	15.42	5.765	2.723	0.386	6.86	0.124	1.07	0.8	99.62
94-6-28.4	mag	10.1	4.9	3.748	1.890	0.166	0.055	67.21	0.330	12.18	-0.8	99.74
9 -6-28.4	weak mag	30.2	9.3	8.891	7.797	0.874	0.222	26.60	0.520	13.68	0.3	98.25
9 -6-28.4	non-mag	43.4	12.8	14.89	9.844	1.712	0.383	12.94	0.185	2.50	1.2	99.92
96-1-71.34	mag	8.1	5.7	2.100	2.394	0.272	0.152	71.50	0.399	12.01	-1.8	100.82
9 -1-71.34	weak mag	30.2	9.3	10.81	8.238	0.744	0.277	25.03	0.497	13.51	0.6	99.11
9 -1-71.34	non-mag	45.1	14.2	19.01	7.860	1.631	0.865	8.37	0.114	1.37	2.0	100.51
96-4-37.2	mag	15.6	5.7	4.785	3.481	0.473	0.227	61.49	0.405	9.01	-1.6	99.55
9 -4-37.2	weak mag	40.6	8.7	16.21	11.34	1.026	0.431	14.16	0.350	6.34	0.4	99.59
9 -4-37.2	non-mag	48.8	14.7	15.95	8.427	2.022	1.046	6.66	0.132	1.23	1.4	100.38

	Mag %	Para Mag %	Non Mag %
9 -1-12.8	19.57	12.27	68.16
9 -6-28.4	20.47	6.25	73.28
96-1-71.34	22.56	9.76	67.68
96-4-37.2	19.14	7.49	73.37

TERRAMIN RESEARCH LABS Ltd.

ib No: 97-217

Client: 26 BT Resources
Project:

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
R- 30	64.4	17.0	0.213	0.429	6.497	5.676	3.65	0.150	0.58	1.2	99.78
R- 31	63.7	17.8	0.340	0.519	7.481	4.892	4.10	0.168	0.58	0.4	99.99
R- 32	61.6	17.4	1.335	0.406	6.241	5.459	6.13	0.148	0.42	0.6	99.72
R- 33	63.7	18.1	0.283	0.184	6.403	5.676	4.15	0.101	0.37	0.8	99.84
R- 34	44.7	16.4	10.185	5.206	3.410	1.880	13.34	0.183	3.45	1.0	99.80
R- 35	49.4	16.2	8.450	3.250	1.082	6.423	11.74	0.085	2.10	1.2	99.99
R- 36	44.9	15.7	12.773	4.808	2.157	1.229	13.46	0.094	3.65	1.2	99.98
R- 37	42.1	14.9	19.726	5.272	1.469	0.872	7.85	0.071	3.67	3.6	99.59
R- 38	46.0	17.0	9.877	4.178	3.262	2.061	12.58	0.141	3.30	1.4	99.79
R- 39	44.5	17.2	9.527	4.178	3.357	1.530	13.44	0.174	3.24	2.8	99.92
R- 40	45.8	13.8	19.026	5.554	1.041	2.314	8.71	0.143	1.43	2.2	99.99
R- 41	50.3	13.2	18.887	4.941	0.661	4.254	5.94	0.261	0.50	1.0	99.93
R- 42	42.8	8.3	17.488	16.016	0.851	0.260	11.14	0.159	1.25	1.6	99.85
R- 43	61.2	17.2	1.031	0.501	7.131	4.374	7.29	0.159	0.30	0.6	99.75
R- 44	61.0	18.7	3.232	0.144	5.742	4.471	4.59	0.110	0.08	1.2	99.24
R- 45	42.1	12.5	21.265	8.721	1.092	0.828	9.10	0.158	1.88	2.2	99.85
R- 46	47.5	16.6	8.758	4.891	3.303	1.940	12.58	0.185	2.72	1.0	99.49
R- 47	47.9	19.6	8.730	3.333	3.842	2.277	9.90	0.201	2.29	1.2	99.33
R- 48	59.5	21.2	2.420	0.091	6.268	3.639	4.00	0.154	0.03	1.6	98.83
R- 49	52.6	16.2	13.878	3.183	2.763	2.434	5.50	0.092	0.50	2.6	99.82
R- 50	55.2	20.0	5.316	1.353	5.729	2.723	6.75	0.159	0.95	1.4	99.59
R- 51	44.3	16.1	11.150	5.422	2.763	1.446	13.84	0.185	3.50	0.8	99.44
R- 52	40.2	13.8	12.759	5.587	2.467	1.005	16.23	0.241	4.84	1.8	98.93
R- 53	48.3	15.5	8.534	4.327	4.327	0.809	13.84	0.227	2.90	0.6	99.40
R- 54	44.5	15.7	12.591	6.582	2.305	1.350	11.56	0.160	3.67	1.6	99.99
R- 55	41.7	14.5	11.206	6.334	2.211	1.152	16.61	0.203	5.17	0.8	99.94
R- 56	43.6	15.3	10.576	5.886	2.615	0.844	14.85	0.216	4.17	0.4	98.49
R- 57	42.6	14.5	11.780	6.052	2.413	0.483	15.48	0.208	4.50	0.8	98.83
R- 58	39.8	11.1	10.912	8.356	1.348	0.157	21.90	0.247	4.67	1.6	100.12
R- 59	39.6	11.9	11.864	8.340	1.469	0.129	21.39	0.222	4.84	0.0	99.73
R- 60	37.6	8.3	10.702	9.965	0.822	0.148	25.04	0.256	5.84	1.2	99.93
R- 61	38.3	9.4	10.786	10.130	1.213	0.142	22.53	0.252	7.01	0.4	100.19
R- 62	36.4	6.8	10.674	11.308	0.755	0.099	27.06	0.263	6.00	0.4	99.72
R- 63	38.9	9.3	11.094	9.417	1.120	0.123	22.65	0.243	6.51	0.2	99.54
R- 64	37.9	9.6	11.864	9.102	1.116	0.121	24.16	0.239	5.67	0.2	99.97
R- 65	37.9	7.4	10.968	10.495	0.876	0.113	24.16	0.258	7.67	-0.4	99.37
R- 66	44.1	18.1	13.696	4.941	2.696	0.258	11.48	0.127	3.67	1.0	100.06
R- 67	46.2	19.8	11.850	4.079	2.507	0.207	12.11	0.105	2.49	0.6	99.98
R- 68	45.3	15.9	11.346	5.621	2.386	0.200	13.97	0.172	4.84	0.2	99.94
R- 69	42.6	13.8	11.905	6.765	1.847	0.163	18.50	0.178	3.84	0.0	99.55

TERRAMIN RESEARCH LABS Ltd.

ob No: 97-217

Client: 26 BT Resources
Project:

Sample Number	SiO_2 %	Al_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	Fe_2O_3 %	MnO %	TiO_2 %	LOI %	Total %
R- 70	41.9	13.2	13.179	7.478	1.375	0.143	18.88	0.168	3.67	0.0	100.04
R- 71	42.4	14.0	13.095	7.030	1.496	0.171	18.00	0.165	3.67	0.2	100.15
R- 72	44.5	14.5	11.010	5.886	2.534	0.234	15.98	0.200	4.67	0.4	99.95
R- 73	41.9	11.3	10.814	6.615	2.305	0.204	19.63	0.280	5.50	-0.6	98.01
R- 74	40.0	12.1	11.290	8.041	1.537	0.160	21.02	0.204	5.00	0.4	99.74
R- 74 A	41.1	11.9	11.430	7.494	1.914	0.137	19.51	0.221	5.84	-0.4	99.11
R- 75	34.9	3.6	11.360	10.495	0.388	0.027	29.57	0.328	9.17	-1.0	98.80
R- 76	40.2	15.9	12.143	6.516	1.698	0.128	18.75	0.169	4.00	0.6	100.09
R- 77	40.4	13.8	13.808	7.594	1.361	0.112	18.12	0.168	3.67	0.8	99.85
R- 78	41.5	15.3	11.864	6.085	2.022	0.135	16.23	0.174	5.34	1.0	99.65
R- 79	42.6	13.8	12.227	5.471	2.305	1.374	15.48	0.234	4.17	2.2	99.82
R- 80	37.9	12.7	15.949	6.814	1.060	0.360	18.50	0.187	4.67	1.8	99.86
R- 81	40.6	13.6	12.507	7.146	1.631	0.742	18.00	0.234	3.84	1.6	99.93
R- 82	43.8	18.9	11.122	4.062	2.709	1.301	12.11	0.276	2.75	2.8	99.87
R- 83	42.6	12.1	17.767	8.771	1.388	0.759	11.90	0.225	2.17	2.2	99.84
R- 84	44.3	26.4	10.241	2.089	2.615	2.555	5.66	0.071	1.08	4.6	99.64
R- 85	41.5	20.8	12.311	3.681	2.669	1.579	10.99	0.127	2.20	3.6	99.43
R- 85 A	61.4	15.9	1.875	0.391	5.945	4.916	7.89	0.254	0.53	0.6	99.66
R- 86	63.3	16.4	0.494	0.744	6.336	4.326	6.19	0.096	0.33	1.4	99.67
R- 87	43.8	15.9	10.814	5.272	2.790	1.031	14.72	0.315	4.67	0.8	100.13
R- 88	43.2	16.4	11.766	5.902	2.224	0.742	13.97	0.169	4.84	0.2	99.45
R- 89	41.3	10.6	10.842	11.308	0.971	0.417	19.51	0.230	2.75	1.4	99.29
R- 90	41.7	17.0	12.451	5.272	2.130	1.554	13.59	0.161	4.34	1.4	99.61
R- 91	60.7	16.2	0.476	0.313	6.363	5.182	7.74	0.198	0.55	1.6	99.41
R- 92	60.3	16.4	0.473	0.254	6.700	5.374	7.45	0.187	0.52	1.8	99.51
R- 93	63.1	17.9	0.190	0.098	7.953	4.314	3.30	0.112	0.18	1.8	98.99
R- 94	64.6	17.8	0.478	0.313	7.549	5.447	2.39	0.143	0.32	0.6	99.59
R- 95	63.1	17.4	0.481	0.313	7.050	5.772	3.74	0.141	0.30	0.8	99.07
R- 96	61.8	17.6	0.845	0.484	6.740	5.314	4.43	0.121	0.72	1.0	99.04
R- 97	64.0	17.2	0.369	0.419	7.252	5.218	3.30	0.130	0.48	0.6	98.92
R- 98	44.7	13.0	11.542	10.313	1.766	0.366	13.72	0.236	2.07	2.2	99.95
R- 99	49.0	25.7	11.682	2.106	3.114	0.517	5.42	0.071	1.10	1.2	99.89
R- 100	38.1	11.3	11.276	10.230	1.537	0.145	20.26	0.222	6.67	-0.4	99.35
R- 101	41.9	15.1	11.598	7.428	2.278	0.192	16.23	0.185	5.17	-0.4	99.72
R- 102	46.8	16.8	7.163	4.012	3.586	2.615	12.96	0.207	3.30	2.0	99.50
R- 103	47.9	15.1	8.072	4.178	3.262	1.687	13.46	0.173	3.64	1.6	99.10
R- 104	58.4	19.6	3.316	0.338	4.947	5.627	4.92	0.128	0.38	2.0	99.70
R- 105	57.8	18.9	3.456	0.914	5.405	4.567	5.29	0.134	0.40	2.0	98.80
R- 106	42.6	15.9	9.107	4.974	2.062	2.133	14.35	0.205	3.54	3.2	98.00
R- 107	57.5	20.0	2.658	0.623	5.392	5.374	4.76	0.158	0.28	3.2	100.01

Appendix III

Petrographic Study Report (Vancouver Petrographics Ltd., Drill Core)

Vancouver Petrographics Ltd.
8080 GLOVER ROAD, LANGLEY, B.C. V1M 3S3
PHONE (604) 888-1323 • FAX (604) 888-3642
email: vanpetro@vancouver.net

Invoice 970419
July 3, 1997

Report For: E. R. Kruchkowski,
23 Templeside Bay, N.E.,
Calgary, Alberta
T1Y 3L6
Tel: 403-285-3449
Fax: 403-291-4495

Samples:	96-3-50	96-3-31	96-3-56.9	96-3-52.6
	96-3-66.77	96-3-100.6	96-3-58.4	96-3-54.3
	96-3-18.6	94-1-12.8	94-4-22	94-5-18.3
	94-6-28.4	96-1-71.34	96-4-37.2	(15 polished T.S.)

Note: No detailed descriptions field relationship was included in sample submission and Vancouver Petrographic staff were not involved in sample collection.

Summary: These specimens are from the drilling of a magnetite anomaly north of Prince George, British Columbia. The anomaly appears to be related to the presence of magnetite within coarse grained, foliated "syenite". Field description of the core samples identified the main intrusive, altered country rock, possibly hornfelsed volcanics and alaskite. The petrographic examination identified the rock types, alteration and magnetite/rutile mineralization. Detail petrographic descriptions are attached, rock names are summarized below:

1) 96-3-50 - Finely crystalline saussuritized hornblende monzodiorite
2) 96-3-31 - Intensely saussuritized, chloritized and potassic altered diorite breccia
3) 96-3-56.9 - Saussuritized and chloritized hornfels breccia (late stage epidote and hornblende)
4) 96-3-32.6 - Orthoclase-biotite-hornblende hornfels (monzodiorite hornfels)
5) 96-3-66.77 - Moderately sericitized and saussuritized hornblende diorite
6) 96-3-100.6 - Potassic altered (orthoclase), intensely chloritzed hornfels breccia (developed in diorite?)
7) 96-3-58.4 - Intensely chloritized, weakly epidotized hornfels breccia
8) 96-3-54.3 - Weakly chloritized and epidotized, moderately saussuritzed monzodiorite (monzogabbro)

9) 96-3-18.6 - Pegmatitic (sphene- [agerine-augite]-zircon) syenite breccia
10) 94-1-12.8 - Slightly saussuritized, chloritized and uralitized coarse grained augite diorite
11) 94-4-22 - Augite gabbronorite
12) 94-5-18.3 - Moderately chloritized and saussuritized augite diorite
13) 94-6-28.4 - Intensely chloritzed augite diorite
14) 96-1-71.34 - Ilmenite bearing, intensely sericitized augit diorite
15) 96-4-37.2 - Moderately chloritized, sericitized and epidotized augite diorite

These rocks are characterized by a lack of potassium feldspar development with the exception of 96-3-18.6, 96-3-31, 96-3-32.6 and 96-3-100.6. Several samples can best be described as hornfels and hornfels breccias. A more detailed study might focus on the correlation of hornfelsic textures and mineral assemblages in respect to distance from the main igneous contact. Many of the augite diorite samples contain abundant ilmenite with accessory rutile.

If you have any questions regarding the attached petrographic descriptions or would like other specific lines of inquiry addressed, please call me at 970-6402.

Yours truly,

J.T. (Jo) Shearer, M.Sc., P.Geo.

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(1) SPECIMEN NUMBER: 96-3-50

HANDSPECIMEN DESCRIPTION:
Diamond drillcore, Medium grey green, Porphyritic, Fine grained hypidiomorphic groundmass enclosing sparse subhedral phenocrysts of altered feldspar, Phenocrysts have a corroded appearance, Moderate potassium feldspar development in groundmass, Moderately magnetic, No carbonate alteration, Massive appearance with some apple green epidote along fractures,

FIELDROCK NAME: Finely crystalline chloritic (?) porphyritic monzodiorite

THINSECTION EXAMINATION:

ESTIMATED MODE:
9% Hornblende (porphyroblasts)
34% Plagioclase
18% Saussurite (& sericite)
16% Orthoclase
2% Magnetite
1% Hematite
1% Epidote
1% Calcite
19% Hornblende (finer grained)
7% Chlorite
2% Garnet

Plagioclase forms subeuhedral laths up to 1.4mm in length. Plagioclase is altered by small epidote grains, orthoclase and fine grained calcite. Orthoclase forms subeuhedral crystals up to 0.2mm in length. Saussurite has developed throughout the specimen. Plagioclase is too altered to determine composition but it appears the original plagioclase was relatively calcic. There are also some very altered plagioclase ghost phenocrysts >3mm in length totally replaced by saussurite.

Epidote forms small anhedral accessory grains up to 0.03mm across distributed relatively uniformly throughout the specimen.

Calcite occurs as 0.1mm rhombs mainly replacing hornblende.

The very large, dark green hornblende crystals (>3mm in diameter) noted in handspecimen are composed of composite grains of hornblende associated with small euhedral red garnet 0.05mm in diameter and chlorite along the cluster margins. Some clusters are slightly replaced by hornblende and epidote. One cluster has zoned hornblende crystals.

Abundant finer grained hornblende occurs as stubby crystals averaging 0.3mm in length and also in slender elongate grains up to 0.8mm in length throughout the rock separate from the large cluster groups.

Magnetite forms spongy, subrectangular grains up to 0.06mm across. Commonly magnetite grains are rimmed with a thin layer of chlorite. Some of the magnetite grains have been replaced by hematite.

<u>Rock Name: Fine crystalline, saussuritzed hornblende monzodiorite</u>

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(2) SPECIMEN NUMBER: 96-3-31

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, Medium to dark grey, Aphanitic to altered fine crystalline, Fracturing has created a vuggy appearance with some open spaces reaching 20mm x 10mm x 15mm, Ghost outlines of feldspar phenocrysts, Hairline fractures coated with clay and silica alteration, No carbonate present, Epidote occurs in minor amounts lining some of the open spaces along fractures, Moderately to strongly magnetic, Patchy areas of potassium feldspar development, Overall breccia character with rounded fragments >30mm in length.

FIELDROCK NAME: Potassic and clay altered chloritic hornfels breccia (plagioclase relicts)

THINSECTION EXAMINATION:

ESTIMATED MODE:

32% Saussurite (replacing plagioclase)
12% Orthoclase
2% Quartz (in veinlets)
6% Magnetite
2% Hematite
35% Chlorite
3% Epidote
8% Hornblende

Thin magnetite rims outline square to rectangular (up to 0.8mm in length) shaped ghost structures now composed entirely of a fine grained assemblage of saussurite suggestive of a parent rock which was medium crystalline.

Orthoclase is concentrated in one fragment with only minor irregular orthoclase grains up to 0.5mm distributed throughout the remainder of the specimen.

Hornblende, commonly replaced by chlorite occurs abundantly throughout all fragments and concentration of hornblende and magnetite define the large fragment boundaries. A particularly dense cluster of relict hornblende (2.6mm in diameter) is now completely replaced by radiating bundles of fibrous chlorite.

Epidote commonly forms small isolated grains 0.05mm but occasional epidote occurs in ragged grains up to 0.2mm in length. Occasionally epidote is concentrated in a small area where it forms lenses up to 3mm in length and 1mm wide.

Rock Name: Intensely saussuritized, chloritized and potassic altered diorite breccia

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(3) SPECIMEN NUMBER: 96-3-56-9

HANDSPECIMEN DESCRIPTION:
Diamond drillcore, Medium grey to greenish grey brecciated and porphyritic altered volcanic, Spheroidal shaped altered and corroded retrograde phenocrysts set in an aphanitic matrix, Reaction rims are observed around the rims of the phenocrysts, In some isolated areas fine grained subhedral feldspar phenocrysts occur, Potassium feldspar development is weak, Carbonate is absent, Vugs occur around some of the breccia fragments, Some chlorite and epidote content, Weakly magnetic.

FIELDROCK NAME: Brecciated hornfels

THINSECTION EXAMINATION:

ESTIMATED MODE:
% Plagioclase (completely replaced)
12% Hornblende (fibrous aggregates)
25%+ Chlorite
5% Epidote
51% Groundmass (saussuritized and chloritized)
5% Carbonaceous material
1% Magnetite
<1% Hematite
1% Cavities

The large spheroidal structures are composed mainly of green fibrous to radiating needle-like bundles of chloritized hornblende. Associated epidote is up to 0.2mm in diameter and forms rounded grains within the reaction rim or as part of the reaction rim. The outer part of the spheroidal structures is made up of fine grained saussurite.
Epidote also occurs throughout the sample in subeuhedral grains up to 0.3mm in length and as 0.05mm wide veinlets. The bulk of the specimen is a very fine grained assemblage: (saussuritized and chloritized groundmass).
Often plagioclase (?) ghosts were observed - rectangular areas up to 0.8mm in length outlined by magnetite and carbonaceous material rims.
Slightly coarser grained chlorite is also found between the plagioclase ghosts. Some parts of the slide contain intense interstitial chlorite. One fragment is composed of layers of coarse epidote (up to 0.4mm wide) and very low birefringent chlorite (up to 2.1mm wide).

Magnetite forms irregular, ragged grains up to 0.1mm ;in length disseminated throughout the groundmass in association with larger non-reflecting masses (carbonaceous material). Exsolution lamellae of hematite is common in the larger magnetite grains. No magnetite is associated with the hornblende filled structures.

Rock Name: Saussuritized and chloritized hornfels breccia
(late stage epidote and hornblende)

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(4) SPECIMEN NUMBER: 96-3-52.6

HANDSPECIMEN DESCRIPTION:
Diamond drillcore, Dark brownish charcoal grey coloured, Fractured and altered porphyritic volcanic (?), Mafic hornblende have altered rims that exhibit jagged indistinct crystal boundaries, Moderate potassium feldspar alteration of fine grained granular groundmass, Non-magnetic to weakly magnetic, Carbonate is absent, Open spaces occur along hairline fractures but are <1mm wide along the length of the fracture

FIELDROCK NAME: Hornfelsed porphyritic volcanic

THINSECTION EXAMINATION:

ESTIMATED MODE:
26% Plagioclase
3% Sericite
20% Orthoclase
18% Biotite
29% Hornblende
3% Magnetite
<1% Hematite

Plagioclase forms small clusters up to 0.2mm in diameter. Individual grains are <0.1mm. Minor sericite development has replaced some plagioclase. Plagioclase composition is about An_{42}.
Hornblende forms most of the large rounded structures so prominent in handspecimen and is also distributed abundantly throughout the specimen closely associated with biotite.
Hornblende also forms 0.2 anhedral grains which are interlocked to aggregates up to 9.0mm across. Biotite occurs as flakes up to 0.35mm in length closely associated with hornblende.
Orthoclase occurs as cloudy to clear anhedral inter-stage grains up to 0.15mm in length arranged in a roughly linear pattern (rectilinear) in narrow lines around the concentrations of hornblende and biotite. These lines are between 0.5 to 1.0mm wide. Minor sericite and biotite have replaced some of the orthoclase.
Magnetite forms irregular shaped grains up to 0.15mm in length associated with and replacing anhedral hornblende grains. Exsolution lamellae of hematite in the magnetite is common.
This rock is intermediate (less altered - metasomatized) than 96-3-56.9. Perhaps the main intrusive contact is farther away.

Rock Name: Orthoclase-biotite hornblende hornfels
(monzodiorite hornfels)

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(5) SPECIMEN NUMBER: 96-3-66.77

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, Dark charcoal grey coloured, Massive fine to medium grained (anhedral) intrusive texture, Very weak foliation due to larger feldspar and mafic crystals showing an alignment parallel to the core axis, Moderately magnetic, Carbonate is absent, Chlorite alteration and druzy quartz occur on some fracture surfaces (55° to core axis), Very fine grained magnetite is disseminated throughout, Strongly magnetic, No potassium feldspar content.

FIELDROCK NAME: Fine grained, slightly foliated diorite

THINSECTION EXAMINATION:

ESTIMATED MODE:

15% Plagioclase phenocrysts
10% Sericite
4% Biotite
17% Saussurite (replacing plagioclase)
8% Chlorite
32% Hornblende
6% Augite
2% Calcite
2% Rutile
3% Magnetite
1% Cavities

Biotite forms large flakes up to 0.6mm in length often associated with sericite and as a minor constituent of the hornblende-rich areas. Hornblende is the dominant mafic mineral in this specimen. Hornblende forms dark brown (strongly pleochroic in brown) anhedral equigranular grains averaging about 0.2mm in diameter. In parts of the slide, hornblende is slightly elongated. The large "mafic clots" observed in the handspecimen are commonly coarse poikioblastic hornblende and biotite which appear to replace augite. A few of the "mafic clots" are mainly composed of only slightly altered interlocking anhedral augite grains averaging 0.3mm in diameter. Many of the "mafic clots" are cored by a cavity.

Augite appears to be an early stage mineral which has undergone retrograde metamorphism.

Magnetite forms irregular subrectangular to skeletal grains up to 0.15mm in length containing common exsolition lamellae of hematite.

Hematite also occurs as skeletal rods within opaque but non-reflecting material (probably carbonaceous material). This carbonaceous material often occurs in the mafic clots, cavities and rutile. Some rutile masses have small inclusions of chalcopyrite up to 0.02mm. Rutile appears to be a late stage mineral mainly replacing augite.
Plagioclase forms rounded grains up to 0.1mm. Plagioclase composition is about An_{54}. Parts of the slide exhibit almost complete replacement of plagioclase by saussurite development. Sericite and chlorite occur as large subrectangular patches perhaps reflecting a coarse plagioclase phase perhaps contemporaneous with augite.

Rock Name: Moderately sericitized and saussuritized hornblende diorite

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(6) SPECIMEN NUMBER: 96-3-100.6

HANDSPECIMEN DESCRIPTION:
Diamond drillcore, Charcoal grey with mottled appearance due to lighter coloured breccia fragments, Quartz rich fragments up to 30mm long x 10mm wide are set in an aphanitic siliceous matrix, Weak to moderate potassium feldspar development along with sericite (?) alteration occurs along the breccia fragment boundaries and within and around the fragment edges with smaller feldspathic fragments,

FIELDROCK NAME: Diorite hornfels breccia

THINSECTION EXAMINATION:

ESTIMATED MODE:

10% Plagioclase (partially replaced by saussurite & sericite)
25% Saussurite
8% Orthoclase
12% Sericite
33% Chlorite
10% "Groundmass" (fine grained plagioclase, quartz & saussurite)
2% Epidote

Orthoclase occurs as ragged grains up to 0.4mm within the shear matrix between angular breccia fragments. Orthoclase has partially to completely replaced some of the smaller <1mm in diameter fragments.
Highly altered plagioclase forms 0.4mm long needle-like crystals within the body of most fragments. Some fragments are more altered than others. These plagioclase crystals are now ghost structures outlined by irregular magnetite, hematite and grain sized changes in alteration development.
Chlorite forms small rounded aggregates up to 0.1mm in diameter distributed throughout the fragments. Intense chlorite development has occurred in the breccia matrix. Chlorite rims fragments up to 0.6mm wide and forms lenses up to >3mm in diameter.
Epidote forms aggregates up to 0.5mm across composed of individual anhedral crystals 0.05mm in diameter.
Magnetite forms small rounded, ragged grains averaging 0.03mm in diameter.
Hematite occurs in similar shaped grains. Both are confined to being sparsely disseminated throughout the fragments.

Rock Name: Potassic altered (orthoclase), epidotized, intensely chloritized hornfels breccia (development in diorite?)

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(7) SPECIMEN NUMBER: 96-3-58.4

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, dark greenish grey, Mainly fine grained, Prominent mafic-rich rounded (retrograde) structures distributed (crowded) throughout, Traces of potassium feldspar, Disseminated hematite throughout, Strongly magnetic.

FIELDROCK NAME: Chloritized, "retrograde" porphyritic hornfels breccia

THINSECTION EXAMINATION:

ESTIMATED MODE:

34% Chlorite
23% Sericite
% Plagioclase (totally replaced)
32% Saussurite
2% Ilmenite
3% Magnetite
2% Hematite
1% Orthoclase
% Groundmass (saussurite, chlorite, sericite)
2% Epidote
1% Quartz

Rectangular ghost structures up to 1.5mm in length now composed entirely of a chlorite core and saussurite outer envelope reflect primary plagioclase phenocrysts. Some fragments also have needle-like ghost outlines of replaced plagioclase.

One rounded fragment type contains well rounded detrital quartz grains up to 0.1mm in diameter in association with light brown fine grained lithic clasts up to 0.4mm in diameter. In this fragment the framework grains are relatively loosely packed framework supported. The matrix appears cherty.

Chlorite is pervasive throughout, usually as very fine grained aggregates. Chlorite in rare instances forms layered lenses up to 1.7mm wide suggesting open space filling along a former cavity.

Epidote forms spherical aggregates up to 0.8mm in diameter.

Magnetite occurs as abundant small grains less than 0.03mm in length mainly with the saussuritized groundmass. Linear hematite exsolution lines are common. Occasionally larger grains of hematite (up to 0.1mm in diameter) were observed within the altered plagioclase ghosts.

Hematite grains commonly have a skeletal appearance.

One fragment contains subeuhedral ilmenite crystals up to 0.3mm in length which contain inclusions of pyrite and chalcopyrite.
The chalcopyrite is associated with late stage epidote.

Rock Name: Intensely chloritized, weakly epidotized hornfelsed breccia

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(8) SPECIMEN NUMBER: 96-3-54.3

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, Light grey coloured, Very fine grained equigranular, Banded, Massive with minor alteration, Possible weak chlorite alteration of fine grained mafic constituents, Non-magnetic, Moderate potassium feldspar along the more feldspar rich bands.

FIELDROCK NAME: Banded granodiorite

THINSECTION EXAMINATION:

ESTIMATED MODE:

22% Plagioclase
27% Saussurite
6% Chlorite
11% Orthoclase
10% Quartz (hairline veinlets)
12% Sericite
3% Ilmenite
9% Epidote

Orthoclase forms ragged grains up to 0.1mm with pronounced poikioblastic texture sparsely disseminated throughout. There is a small concentration of orthoclase in the plagioclase-rich bands.

Hornblende occurs as rounded anhedral grains up to 0.2mm in diameter throughout the specimen but concentrated into bands. (dark bands in handspecimen). However the main contrast in the colour of the layers is the abundance of saussurite. Essentially the lighter layers have more intense saussurite development.

Plagioclase forms corroded, ragged grains up to 0.3mm in length. Most plagioclase grains are altered by saussurite, minor chlorite and isolated epidote grains. Plagioclase composition appears to be about An_{45} to An_{55}.

Epidote is mainly observed as small clusters up to 0.4mm in length composed of individual grains averaging 0.1mm in diameter.

Quartz forms hairline veinlets and rounded and corroded grains associated with plagioclase.

Ilmenite forms rounded, smooth grains up to 0.07mm across. Traces of lamelar exsolution of hematite is common. Small epidote grains are often associated with ilmenite.

Rock Name: Weakly chloritized and epidotized, moderately saussuritized monzodiorite (or monzogabbro)

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(9) SPECIMEN NUMBER: 96-3-18.6

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, Cream coloured intensely fractured and bleached coarse grained, Mottled appearance with greyish coloured feldspar crystals and crystal fragments, (Brecciation adjacent to fractures), Vuggy openings along fractures and fracture intersections, Potassium feldspar crystals and fragments have a ghost like appearance due to indistinct crystal edges, Magnetite is not distributed evenly throughout rock but as randomly distributed interstitial patches around breccia fragments, new fracture intersections, Overall the rock is weakly magnetic, Fractures and breccia fragments voids healed with drusy quartz.

FIELDROCK NAME: Altered brecciated syenite

THINSECTION EXAMINATION:

ESTIMATED MODE:
48% Orthoclase
8% Chlorite
2% Epidote
11% Agerine-augite
10% Cavities (drusy)
Trace Zircon
8% Sphene ($CaTiSiO_5$)
7% Quartz
4% Rutile
1% Hematite
Trace Magnetite
1% Ilmenite

Pronounced fine breccia texture in thinsection.
Orthoclase forms a fine grained lineated mosaic making up most of the breccia fragments.
Sphene forms coarse fresh unaltered subeuhedral crystals up to 1.7mm in length. Many sphene crystals have spongy rims of ilmenite. Sphene is intimately associated with coarse crystalline agerine-augite. The coarseness of these two minerals suggests a pegmatitic or skarn environment. They are both late stage minerals in this rock. The fractures and micro fractures of the agerine-augite is altered to brown-red rutile (perhaps partly titanaugite). A few of the smaller agerine-augite grains are almost completely replaced by rutile.
Quartz forms a halo enclosing the cluster of coarse sphene and agerine-augite.
Magnetite forms rare ragged grains up to 0.03mm in diameter on the edges of the agerine-augite crystals.

Rutile forms large subeuhedral grains up to 0.6mm in length associated with irregular ilmenite grains.
Chlorite forms irregular flaky grains up to 0.1mm in length along the edges of large fragments.
Fluorescent orange zircon was noted in the section off-cut but appears to have been plucked out or is smaller than the sawblade width during manufacture of the polished thinsection.

Rock Name: Pegmatitic (sphene-[agerine-augite]-zircon) syenite breccia.

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(10) SPECIMEN NUMBER: 94-1-12.8

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, Dark grey medium to coarse grained equigranular intrusive, Speckled appearance due to white to translucent feldspar, Mafics appear to make up >50% of the rock by volume, Strongly magnetic with magnetite occurring as grains, Some very fine grained blebs of disseminated pyrrhotite(?), No carbonate alteration, The rock has a massive appearance with minor fracturing.

FIELDROCK NAME: Hornblende diorite

THINSECTION EXAMINATION:

ESTIMATED MODE:
19% Augite
38% Plagioclase
7% Saussurite
8% Hornblende
7% Chlorite
2% Magnetite
5% Ilmenite
Trace Pyrrhotite
2% Pyrite
10% Quartz
3% Biotite

Plagioclase forms large grains in excess of 3mm in length. Plagioclase composition is about An_{67} (labradorite). Minor saussurite has developed in the plagioclase mainly along thin hairlines. Saussurite and chlorite also form small lenses up to 0.8mm.

Hornblende occurs as irregularly shaped brown grains mainly as an alteration of the early stage augite.

Augite forms large subeuhedral grains up to >3mm in length. (7mm) which commonly have rims of hornblende and chlorite. Minor schiller inclusions are exhibited by rare grains. Minor biotite flakes are associated with ilmenite masses.

Skeletal ilmenite is closely associated with the development of secondary hornblende. Ilmenite forms grains up to 0.4mm in length. A later phase of ilmenite encloses augite grains to form masses up to several mm in length.

Pyrite grains up to 0.2mm in diameter occur associated with augite grains. Small rounded inclusions of chalcopyrite and pyrrhotite up to 0.015mm in diameter are common in pyrite. Pyrrhotite also forms large grains up to 1.8mm in length along the edges of augite grains.

Rock Name: Slightly saussuritized, chloritized and uralitized, coarse grained augite diorite

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(11) SPECIMEN NUMBER: 94-4-22

HANDSPECIMEN DESCRIPTION:

Charcoal grey massive, Coarse grained, Mafic rich intrusive, White feldspar phenocrysts occur on blade like crystals up to 7mm long by 3mm wide, Both mafic and feldspar grains are interlocked exhibiting both euhedral and anhedral textures, The rock is strongly magnetic with magnetite occurring in an interlocking mosaic, Disseminated specks of pyrrhotite (?) distributed evenly throughout rock, Weak chlorite (?) alteration along hairline fractures, No carbonate

FIELDROCK NAME:

THINSECTION EXAMINATION:

ESTIMATED MODE:

15% Plagioclase
2% Saussurite
54% Augite
2% Chlorite
12% Ilmenite
5% Magnetite
2% Biotite
Trace Apatite
8% Quartz
<1% Sphene
1% Rutile

Plagioclase forms coarse crystals up to 1.9mm in length that have been slightly altered by saussurite. Albite twinning has largely been obliterated. Plagioclase composition is about An_{54}. Quartz forms irregular grains interstitial to coarse augite grains. Plagioclase also forms large patches (up to 6.5mm) without other minerals.

The bulk of the rock is composed of augite creating an interlocking mosaic. Augite grain size averages approximately 1.0mm in length. Many augite grains have apatite inclusions. The basic pyroxene pattern is modified by the curvalinear texture of abundant magnetite and ilmenite. Ilmenite grains are up to 0.6mm across and commonly coalesce into a rough grid textures along the pyroxene grain boundaries. Pyrite forms small grains up to 0.1mm along the edges and as inclusions in large ilmenite grains. Minor sphene has intergrown with some of the ilmenite. Red rutile forms thin rims along many of the ilmenite masses associated with minor biotite. Magnetite forms rounded grains up to 0.05mm often disseminated throughout the augite grains.

Rock Name: Augite gabbronorite

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(12) SPECIMEN NUMBER: 94-5-18.3

HANDSPECIMEN DESCRIPTION:
Diamond drillcore, Dark grey to speckled, Coarse grained porphyritic intrusive, Interlocked anhedral grains of mafic minerals and magnetite, Large blades of white to translucent feldspar phenocrysts, Blades to 10mm long by 2mm wide, Most feldspar phenocrysts are euhedral, Strongly magnetic with magnetite as interstitial filling between mafics in matrix, Some reddish coloured hematitic alteration of magnetite, Weak to moderate chlorite alteration, weak carbonate alteration, Rusty weathering fracture surfaces, No potassium feldspar content.

FIELDROCK NAME:

THINSECTION EXAMINATION:

ESTIMATED MODE:
18% Plagioclase
13% Saussurite
36% Augite (agerine)
2% Hornblende
6% Ilmenite
2% Hematite
3% Calcite
2% Magnetite
2% Rutile
4% Biotite
6% Chlorite
3% Sphene
3% Quartz

Plagioclase forms large euhedral laths, many much greater than 3mm in length. Much of the plagioclase is altered by patchy saussurite development.
Hornblende and biotite occur as narrow irregular lenses closely associated with ilmenite and magnetite grains. Occasionally hornblende will completely rim earlier augite. Augite forms the bulk of the specimen and occurs mainly as elongate interlocking grains averaging about 1.2mm in length.
Minor red rutile forms irregular masses centered on ilmenite-hematite grains. Ilmenite occurs in subrectangular grains up to 1.5mm in length. Often the ilmenite is skeletal in outline with abundant exsolution lamellae hematite and magnetite. Lamellar twinning is distinctive. Pyrite also forms irregular lenses up to 3mm in length with hematite inclusions common.

Sphene forms euhedral prisms but also distinctive large sheets containing a mesh texture of ilmenite and hematite.

Rock Name: Moderately chloritized and saussuritized augite diorite
(containing rutile, sphene and ilmenite)

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(13) SPECIMEN NUMBER: 94-6-28.4

HANDSPECIMEN DESCRIPTION:
Diamond drillcore, Dark brownish charcoal grey, Medium grained to coarse crystalline intrusive, Feldspar crystals have a wide variety of shapes and textures from euhedral crystals and blades to ragged edged, Strongly magnetic with magnetite being interlocked with mafic minerals, Hematite alteration of magnetite, Rusty oxide alteration of mafics is scattered throughout the rock, No carbonate alteration, Trace development of potassium feldspar, Hematite exsolution in ilmenite, Chlorite filling shear veinlet.

FIELDROCK NAME: Pyroxene diorite

THINSECTION EXAMINATION:

ESTIMATED MODE:
5% Plagioclase (mostly replaced by chlorite)
6% Sericite
39% Augite
4% Ilmenite
3% Hematite
2% Magnetite
1% Rutile
29% Chlorite
8% Biotite
Trace Orthoclase
3% Hornblende

Plagioclase forms coarse crystals up to 1.5mm in length. Most of the plagioclase has been replaced by fibrous chlorite. Less frequently plagioclase is replaced mainly by sericite with minor chlorite. Alteration of plagioclase is too intense to determine plagioclase composition. Augite forms rounded grains up to 2.1mm in length. Augite has been highly altered by hornblende inclusions and fibrous chlorite. Augite has also been replaced by rounded grains of ilmenite which range up to 1.2mm across. Ilmenite contains numerous exsolution lamellae of hematite and magnetite. Chlorite has not affected ilmenite although the host augite in some cases has been completely replaced by chlorite.
Rutile appears to also have replaced pyroxene and forms lenses up to 1.7mm in length closely associated with ilmenite grains and fine grained biotite.
Occasionally brown hornblende surrounds and replaces some of the augite.

Rock Name: Intensely chloritized augite diorite

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(14) SPECIMEN NUMBER: 96-1-71.34

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, Charcoal grey, speckled by white feldspar, Mafic minerals make up >60% of rock by volume, Medium to coarse grained intrusive with porphyritic patches, Feldspar crystals are often blade shaped and range to 5mm long, Magnetism is strong with magnetite being a major component interlocked with mafic minerals, Pyrite and ilmenite is disseminated throughout the rock as interstitial filling between mafic mineral grains, No carbonate or potassium feldspar development.

FIELDROCK NAME: Ilmenite bearing chloritized pyroxenite (melanogabbro)

THINSECTION EXAMINATION:

ESTIMATED MODE:

9% Plagioclase
31% Sericite
34% Augite
1% Hornblende
2% Biotite
11% Ilmenite
4% Pyrrhotite
2% Pyrite
1% Magnetite
4% Apatite
1% Chlorite

Plagioclase forms coarse grained crystals up to <3mm in length. Sericite has replaced almost all of the plagioclase in this sample. Sericitization is too intense to make an accurate determination of plagioclase composition.

Apatite is unusually abundant in this specimen. Apatite forms normal small euhedral crystals 0.1mm in diameter but apatite also occurs in this specimen as long laths up to 1.8mm in length. Apatite is often enclosed by irregular lenses of ilmenite several mm in length. Ilmenite is characterized by hematite lamellar exsolution lines. Pyrite forms smaller grains up to 0.2mm wide along the edges of the larger ilmenite grains. Pyrrhotite also was noted in contact with ilmenite. Magnetite forms small ragged (early stage) grains less than 0.1mm across associated with apatite and sericite alteration.

Augite is rounded anhedral in shape and coarse grained (up to 3.5mm in diameter). Augite commonly has numerous inclusions of apatite, pyrite and is slightly altered by chlorite and sericite. The ilmenite layers-lenses tend to have finer grained augite associated with an average grain size of 1.2mm in diameter.

Rock Name: Ilmenite bearing, intensely sericitized augite diorite

-- PETROGRAPHIC DESCRIPTION --

FOR: E. R. Kruchkowski, Calgary

(15) SPECIMEN NUMBER: 96-4-37.2

HANDSPECIMEN DESCRIPTION:

Diamond drillcore, Dark grey medium to coarse grained hypidiomorphic equigranular (for the most part) intrusive, A few inclusions of partially absorbed fragments from country rock(?), Strongly magnetic with magnetite grains constituting a major component, A few very fine grained specks of pyrite and ilmenite are disseminated throughout the rock, Moderate chlorite alteration of fragments, Carbonate alteration is limited to coatings on fracture surfaces, No potassium feldspar development.

FIELDROCK NAME: Intrusive (diorite) breccia

THINSECTION EXAMINATION:

ESTIMATED MODE:
16% Sericite
12% Plagioclase
3% Hornblende
37% Augite
2% Biotite
10% Chlorite
7% Epidote
2% Pyrite
9% Ilmenite
1% Magnetite
1% Pyrrhotite
<1% Apatite
Trace Calcite

Augite forms rounded grains up to 2.0mm which contain abundant small inclusions of hornblende and biotite, ilmenite, magnetite and apatite.

Ilmenite forms large (up to 1.4mm) smooth boundaried grains commonly distributed along the edges of the augite grains. Ilmenite contains traces of small pyrite inclusions but pyrite also forms large isolated grains up to 0.8mm across often occurring around the edges of augite grains.

Plagioclase relicts (ghosts) indicate that originally plagioclase formed coarse subeuhedral laths well in excess of 2.0mm. Plagioclase is now largely replaced by sericite. However, in one limited section of the specimen chlorite is the main alteration mineral of plagioclase.

Narrow discontinuous fractures up to 0.05mm wide are filled with sparry calcite and fibrous chlorite.

Epidote forms small anhedral grains on one side of the specimen along the edge of the partially reabsorbed fragment.

Rock Name: Moderately chloritized, sericitized and epidotized augite diorite
(with partly absorbed fragments)

Appendix IV

Petrographic Study Report (Vancouver Petrographics Ltd., Surface Samples)

Remarks concerning 15 polished thin sections prepared from drillcore samples derived from property north of Prince George.

Sample 96-3-50	Hornblende monzodiorite or diorite
Sample 96-3-31	Very intensely altered rock, primary rock not possible to determine
Sample 96-3-56.9	Very strongly altered rock, possibly hornfels
Sample 96-3-32.6	Hornfels, primary rock not possible to determine.
Sample 96-3-66.77	Hornfels (typical hornfelsic texture), not a hornblende diorite (lack of interlocking texture)
Sample 96-3-100.6	Very strongly altered rock, possibly hornfels; primary rock not possible to determine
Sample 96-3-58.4	Very strongly altered (possibly hornfelsed) intermediate? tuff? breccia.
Sample 96-3-54.3	Moderately sericitized, epidotized, and chloritized intermediate volcanics?
Sample 96-3-18.6	K-feldspar is not a primary but clearly a secondary mineral so the rock can not be a syenite. The primary rock most likely was an anorthosite.
Sample 94-1-12.8	In previous petrographic report the plagioclase has been determined as labradorite so the rock is a gabbro instead of diorite.
Sample 94-4-22	The rock is not a gabronorite since it has no orthopyroxene, the rock is a gabbro; the sample contains 2-3% apatite and less quartz (1-3%)
Sample 94-5-18.3	Plagioclase composition was determined (using optical method of Michel-Levy) as labradorite (55% anorthite) so the rock is not a diorite ,but a gabbro. The rock has 3-5 % apatite (not shown in previous rep.)
Sample 94-6-28.4	Plagioclase composition was determined as labradorite (58-59% anorthite) so the rock is a gabbro.
Sample 96-1-41.34	Most likely a gabbro since it has similar texture and mineral compositon as the other samples determined as gabbro. Plagioclase is too altered to determine its composition. The rock contains 3-4% apatite.

Sample 96-4-37.2 About 60% of thin section is composed of gabbro ? (plagioclase is too altered to determine its composition).
The remaining 40% of the sample is of pyroxene bearing hornfels.

Occurrence mode of ore minerals which include ilmenite with less abundant rutile, magnetite and hematite

Sample no.	Occurrence mode
96-3-66.77	50% interstitial (in spaces between nonopaque mineral grains) 50% within mineral grains
96-3-54.3	60-65% interstitial 35-40% within mineral grains
96-3-18.1	Large sphene crystals and its fragments sticks within much finer grained felsic assemblage dominated by K-feldspar
94-1-12.8	90% interstitial 5-10% within mineral grains
94-4-22	90-95% interstitial 5-10% within mineral grains
94-5-18.3	85-90% interstitial 10-15% within mineral grains
94-6-28.4	75-80% interstitial 20-25% within mineral grains
96-1-41.34	92-97% interstitial 3-5% within mineral grains
96-4-37.2	gabbro part of thin section: 90-95% interstitial 5-10% within mineral grains

The last 6 samples (all gabbro) look by far the most promising as a titanium ore. They contain 8 to 12 % ilmenite (in small part altered to rutile) which form grains and patches located mainly in spaces between nonopaque mineral grains. Their sizes range from 0.2 to 1.0 mm and occasionally up to 2.0 mm.

Petrographic report for:
E.Kruchkowski
23 Templeside Bay N.E.
Calgary, Alberta

November 20, 1997

Samples: R-31, R-58

Sample R-31 **Very strongly K-feldspar altered anorthosite/gabbro.**

The rock is dominated by interlocking grains of plagioclase with much less aegirine-augite. Plagioclase is almost entirely replaced by K-feldspar and some aegirine-augite is replaced by biotite, uralite (secondary amphibole-hornblende, actinolite) and chlorite. The rock most likely is an anorthosite/gabbro as indicated by the presence of aegirine-augite; plagioclase composition was not determined due to strong, pervasive K-feldspar alteration. Ore minerals are represented by 0.5-1.0% ilmenite of which approximately half occurs within and half between mineral grains.

Very strongly K-feldspar altered plagioclase	85-90%
aegirine-augite	10-12%
biotite	0.5%
uralite	0.5%
chlorite	0.3%
apatite	trace
ilmenite	0.5-1.0%
hematite, limonite	minor

Plagioclase form interlocking subhedral to euhedral grains ranging in size from 0.5 to 6.0 mm with most grains falling in 2-4 mm range. Characteristic albite twinning is still recognisable in most grains. Plagioclase is almost entirely replaced by K-feldspar (95-97% of plagioclase) forming pseudoperthitic, spotty appearance. Presence of K-feldspar was determined by staining offcut with sodium cobaltinitrite.

Aegirine-augite (sodium bearing pyroxene) form mostly elongated prismatic crystals up to 2 mm in length, small amount of aegirine-augite forms acicular radiating aggregates.

Biotite, uralite (secondary amphiboles of hornblende and actinolite composition) and chlorite represent alteration products after aegirine-augite.

Apatite forms several scattered rounded grains 0.03-0.1 mm across.

Ilmenite occurs as disseminated mostly equant grains 0.05-0.5 mm across of which half occurs within and half between mineral grains.

Sample R-58 **Fine-grained gabbro**

The rock is a fine-grained gabbro composed of augite with lesser plagioclase, ilmenite and magnetite. Plagioclase composition was determined (using optical method of Michel-Levy) as labradorite. Small part of augite is replaced by biotite. Ilmenite and magnetite occur as primary minerals forming patches located between augite and plagioclase grains.

augite	55-60%
plagioclase (labradorite)	25-30%
ilmenite	7-8%
magnetite	7-8%
biotite	3-5%
rutile	0.5%
pyrite	<0.1%
chalcopyrite	one grain
limonite-hematite stain	minor

Augite occurs as mosaic of anhedral to subhedral grains averaging 1-2 mm in size, small part of augite is replaced by irregular patches of biotite 0.1-1.0 mm in size.

Plagioclase forms slightly interlocking grains measuring 1-2 mm in length. Characteristic albite twinning is well preserved in most grains and was used to determine plagioclase composition by Michel-Levy method. Maximum extinction angle of albite twins measured to the (010) composition plane yielded 35 degrees which translate to plagioclase with 60% anorthite (labradorite).

Ilmenite and magnetite occur in this sample as primary minerals, they are intimately associated forming irregular patches ranging widely in size from 0.1 to 2.0 mm. The bulk of ilmenite and magnetite (95-97%) occur between augite and plagioclase grains. Small part of ilmenite is replaced by rutile; one patch of rutile contains small (0.04 mm across) chalcopyrite grain. Pyrite occurs as several small rounded grains not associated with ilmenite.

Alojzy (Alex) Walus, M.Sc.
Phone: (604) 581-8126

Appendix V

Drill Logs DDH 96-1 to 3, 94-1 and 4 to 6

DDH - 96 - 1 (4)

Depth (meters)	Rock type and Description
0 - 16.55	Overburden
16.55 - 53.8	**Gabbro** Very coarse grained, mafic rich intrusive - Gabbro, approximately 50-60% coarse subhedral pyroxenes and biotite in white feldspar groundmass - Minor local xenoliths up to 10 cm of dark fine grained material - Strong local epidote alteration both as veinlets up to 1-2 cm as well as interstitial grains to the feldspar/mafic minerals - Weak calcite veinlets, some at low angles to core axis - Some at 45 deg. to C.A. - Weak banding in intrusive (alignment of mafics) at about 30-40 deg. to C.A. - Minor fine grained pyrrhotite approximately 1-2% - Intrusive is strongly magnetite
29.42 - 30.94	- Sheared intrusive with slickenides at 30.5 - Minor clay along shears @ 30.94 - 3 cm wide gouge zone, great increase in epidote in vicinity of fault - Below 30.94, the intrusive is epidote rich up to 33.8 in a locally brecciated weakly sheared rock - Epidote forms up to 15% of the zone from 29.28 to 33.88 m Below 33.8, Much less epidote alteration, generally along micro fracture approximately 1-2% @46.64 - 47.2, Narrow pink K-feldspar veinlets from 1-3 cm wide (2 veinlets) From 47.56, Increase in epidote content as well as pyrrhotite to 2-3% at 51.0 m -Local, narrow magnetite veinlets
53.8 - 60.3	**Alteration Zone** - Pale green epidote rich with strong calcite veinlet stockwork up to 20% - Local blue-green chlorite after mafics - Minor fracture with clay along fractures - Zone appears to consist of inter-mixed intrusive and highly calcareous rocks - Epidote approximately 5-10% At 52.4m, Narrow 4 cm shear zone with pyrite in gouge

- Weathers rusty
- Shear at 45 deg. to C.A.

@58.6 - 59.3 - Pyrite/possible pyrrhotite vein as coarsely crystalline veins at 25 deg. to C.A.
- Sulfides approximately 30% of section.

@59.3 - 60.3m, Calcite forms up to 30% of zone as veins up to 4 cm

At 60.15m, Zone of pink K-feldspar up to 10 cm wide

60.3 - 63.5 **Gabbro**

@60.3 - 61.3m, Strong pyrite mineralization up to 5% overall
- Strong chlorite alteration, minor epidote
- Strong magnetite mineralization up to 20% on lower contact

63.5 - 64.5 **Pyroclastic**
- Rock is highly brecciated with chlorite
- epidote alteration along fracturing, minor coarse pyrite at upper contact
- fine calcite veinlets along fractures
- pyroclastic is a dark grey tuff, possible andesite with angular fragments < 1 mm in fine grained ground mass

64.5 - 66.3 **Alteration Zone**
- Epidote rich with abundant feldspar and local calcite

@64.9 - 65.2m, Pyrite-epidote-calcite rich zone, vuggy, weakly sheared, pyrite approximately 10%
- Local patches of magnetite up to 1 m in feldspar rich sections

66.3 - 91.46 **Gabbro**
- Mafic rich, minor epidote and chlorite alteration, epidote occurs along fine fractures approximately 2-3% of rock
- Minor calcite veinlets
- Values from coarsely crystalline sections to medium grained foliated sections with foliation at 30% to C.A.
- Local blebs of magnetite in coarsely crystalline sections up to 10% with blebs approximately 1-2 mm

At 76.67m, Narrow feldspar rich veinlets up to 2 cm
- Local patches of epidote alteration
- Fine grained, foliated sections contain 60-65% mafic

E.O.H. 91.46 m

DDH - 96 -2

Depth (meters)	Rock type and Description
0 - 2.44	**Overburden**
2.44 - 47.56	**Hornfels** - Unit is dark blue grey rock with remnant bedding (possible banding)
At 15.24	- Rock is highly broken with abundant clay along fractures as well as narrow shear planes at 45 deg. to C.A. - Rock is weakly calcareous
15.85 - 18.29	- Rock has veinlets and patches of skarn assemblage minerals (epidote, minor garnet as coarse individual crystals and chlorite after mafics) - Rock is weakly magnetic
11.58 - 13.7	- Coarse grained pyroxenes mixed with epidote and occasional patches of pinkish fine grained garnet - Strong chlorite alteration along the mafic component
At 11.3	- Narrow 10 cm wide shear with gouge at 10 deg. to C.A. - Unit is limonitic on fractures
24.39 - 25.76	- Black wispy patches in dark grey rock - Patches are highly magnetic and up to 1 cm in length
26.53 - 27.29	- Fine grained, pinkish garnet forms up to 25% of rock
26.21 - 34.75	- Rock is vuggy with epidote lining walls of vugs up to 2 cm across - Numerous fine veinlets of epidote as well - Minor narrow calcite veinlets
32.5 - 32.7	- Shear zone with white clay filling veins in fractures (possible talc)
From 34.75	- Unit becomes more dense, generally mottles from a dense fine grained uniform blue grey color to a green/black grey peppered texture (strong alteration of feldspars to clay) - Rock no longer is magnetic - Has strong chlorite alteration
47.56 - 54.57	**Syenite** - Generally fine grained ground mass with epidote replacing medium sized feldspars

117.02-118.15 **Syenite**

- Upper contact at 45 deg.
- Fine to medium grained, locally porphyritic minor minute talc on epidote filled micro-veinlets

118.75-119.51 **Hornfels**

- Zone of mixed syenite/hornfels
- Appears to contain fragments of hornfels in pale green medium grained syenite (approximately 50% each)

119.75-122.25 **Syenite**

- Same as above

122.25-126.21 **Mixed Zone**

- Zone of mixed syenite/hornfels with angular fragments of black hornfels in pale green medium grained syenite
- Locally highly brecciated with talc along fractures

126.21-129.87 **Syenite**

- Section in middle o dyke is porphyritic for approximately 0.4 m
- Upper and lower sections consist of fine grained equigranular rock
- Upper section contains abundant epidote in small vugs as well as strong talc veining along fractures up to 5 mm

129.87-137.80 **Mixed Zone**

- Same as 126.21 - 129.87, highly sheared

137.8-140.85 **Syenite**

140.85-146.64 **Mixed Zone**

- Mixed zone as above
- Small fault zone at 141.61 m for 0.3 m
- Highly sheared

146.64-148.78 **Syenite**

- Pale grey, medium grained, abundant epidote along fractures

148.78-152.43 **Mixed Zone**

- Same as above
- Local fracturing with talc on fractures

E.O.H. 152.43

@87.20 - 87.5, Crackle zone with abundant talc along fractures
- Rock is same as 54.57 - 75.76 and 76.76 - 82.31
- Weakly magnetic
- Pinkish section of very fine grained garnets

90.24 - 94.51 **Syenite**
- Medium grained with fine grained section along lower contact
- Minor epidote veinlets
- Abundant epidote alteration of feldspars
- Sharp lower contact at 45 deg. to C.A.

At 92.07m, Narrow clay filled shear

94.5 - 105.49 **Hornfels**
- Same as above,. just below syenite
- Zone of strong garnet and epidote for approximately 2 m
- Late fractures with talc
- Minor limonite on fractures

From 99.69m, Zone of medium grained syenite with abundant angular fragments of country rock
- Local strong patchy epidote material with fragments, could be unaltered volcanic?
- Locally brecciated with talc along fractures

105.49-105.79 **Syenite**
- Pink coarse grained syenite
- Upper contact exhibits 4 cm baked zone

105.79-110.06 **Hornfels**
- Highly broken , limonitic on fractures

110.06-111.89 **Fault Zone**
Hornfels
- Strong faulted, gouge and clay, highly weathered, sheared

111.89-114.02 **Syenite**
- Fine grained equigranular, minute talc filled fractures
- Limonitic on fractures

114.02-117.02 **Hornfels**
- Strong fracturing with white talc along fractures
- Local abundant brown garnet, local strong chlorite alteration

- Rock is grey with an indistinct contact at the upper end but exhibiting a chill margin at the lower contact

54.57 - 75.76 **Hornfels**

- Below the dyke, the rock shows porphyroblastic growth of pyroxenes up to 1 cm
- Strong chlorite alteration of mafics

@54.57 - 57, Crackle brecciation with talc along fractures
- Fractures approximately 5% of zone
- Locally vuggy with epidote lining walls of vugs
- Local areas of pink, fine grained garnet along with epidote, abundant clay on fractures
- Locally exhibits rounded inclusion of white colors in black matrix
- Inclusions appear to be start of feldspar porphyroblasts

@ 71 m - Blebs of magnetite in hornfels

@64.9 - 66.3m, Locally brecciated with epidote veinlets forming stockwork in fractures
- Minor minute veinlets with talc
- Locally rusty on fractures

At 67.53m, Narrow shear zone at 10 deg. to C.A.

At 72.7m, Narrow rusty shear zone rocks are broken in area of shearing

@75.46 - 75.76m, Zone of fracturing with fine grained, uniform dense rock with talc filling fractures.

75.76 - 76.76 **Syenite**

- Fine grained, uniform dense rock with talc filling fractures, minute micro-fractures.

76.76 - 82.31 **Hornfels**

- Same as 54.57 - 75.76
- Local minute fractures with talc

82.31 - 86.13 **Syenite**

- Varies from medium grained to very fine grained
- At upper contact chill margin approximately 10 cm at 45 deg. to C.A.
- Bottom contact also displays chill margin
- Local very minute epidote veinlets

86.13 - 90.24 **Hornfels**

DDH - 96 -3

Depth (meters)	Rock type and Description
0 - 6.40	**Overburden**
6.4 - 10.06	**Biotite Schist (Hornfels)** - Thinly banded with schisosity @ 45 deg. to C.A. - Highly weathered and broken, rusty - Where fresh, the rock appears to be blue-grey
10.06 - 19.96	**Gabbro** - Rock is a leucosyenite porphyry with poorly zoned feldspar phenocrysts up to 1 cm in fine grained matrix phenocrysts approximately 40% - Minor coarse blebs and discontinuous tiny veinlets of magnetite @14.18, 14.69,15.54 and 17.56 Narrow biotite schist xenoliths At 14.48m, Narrow zone with 2% sphalerite? and light green mineral (arsenic stain) - Zone approximately 10 cm wide
19.96 - 20.7	**Biotite Schist (Hornfels)** - Blue-grey, thinly banded
20.7 - 23.6	**Gabbro** - Same as above, minor 0.4 m section of hornfels at 21.64 m - No magnetism exhibited by hornfels - Minor chlorite alteration of biotite
23.6 - 27.4	**Hornfels** - Foliated biotite schist, altered to hornfels - Minor calcite along micro-veinlets - Rusty, minor syenite stringers and veinlets
27.4 - 30.4	**Gabbro** - Same as above, minor small xenoliths
30.4 - 33.38	**Hornfels** - Locally altered to dense, very fine grained rock with local remnant schistosity, very rusty along fractures

- Minor chlorite alteration

33.8 - 48.2	**Mixed Zone** **Hornfels/Gabbro** - Zone of approximately 60% gabbro and 40% hornfelsed schist, local abundant biotite and pyroxene up to 70% over 0.3 m sections - Locally very rusty along fractures in section particularly the hornfels - No readilly apparent magnetism
48.2 - 48.9	**Fault Zone** - Abundant gouge at 48.2 - 48.35, then highly broken with clay on fractures
48.9 - 52.6	**Hornfels** - Highly altered to pale grey/white rock, strong feldspar alteration with minor biotite, rusty along fractures
52.6 - 53.3	**Amphibolite** - Coarse crystalline amphibole with 1 cm dark feldspar as euhedral phenocrysts, rusty - Mafics approximately 80% of rock
53.3 - 53.4	**Fault Zone** - Gouge and clay
53.4 - 83.68	**Hornfels** - Grey, very fine grained, generally uniform rock with local patches containing biotite @ 57 - 57.4 - Broken core, rusty on fractures @ 58.84 - 59.4 - Highly broken, clay and limonite on fractures @ 60.18 - 60.72 - Fault, some gouge, abundant clay, rusty @ 61.4 - 61.7 - Shear zone with strong clay, highly limonitic @ 63.1 - 63.7 - Mafic-rich section, very rusty, very fine grained pyrrhotite? @ 66.16 - 66.36 - Narrow gabbro dyke From 66.36 - 83.68 - Variably hornfels altered biotite schist At 69.8 - 70.4 - Narrow gabbro dyke At 71 - 71.76 - Weakly brecciated and sheared with CaCo3 veinlets From 71.76 - Down the hole, carbonaceous mafic-rich to 73.78, then more highly feldspar altered From 74.69 - 83.68 - Highly broken core, with clay on fractures
83.68 - 88.1	**Amphibolite** - Mafic rich, locally foliated at 20 deg. to C.A.

- Locally, intrusive appearance, other places looks like schist
- Locally highly broken, occasional limonite on fractures
- Minor chlorite alteration, strongly magnetic

88.1 - 89.6 **Gabbro**
- Weakly foliated, strongly magnetic, medium grained, pink with strong chlorite alteration, mafics approximately 20% of rock

89.6 - 90.2 **Amphibolite**
- Strongly magnetic, 75% mafics as coarse grained crystals

90.2 - 91.46 **gabbro**
- Pink, 10% mafics (biotite altered to light green chlorite)
- Up to 5% bleb of magnetite

E.O.H. 91.46

DDH - 94 -1

Depth (meters)	Rock type and Description
0 - 4.87	**Overburden**
4.87 - 30.5	**Gabbro** **(Biotite Rich)** - Coarse grained, weakly foliated - Mafic (biotite) up to 50% of rock, strongly magnetic, traces fine grained pyrite or pyrrhotite - Fine grained magnetite approximately 10% locally limonitic on fractures near surface - Local fine grained sections up to 0.3 m - Local wispy blebs of magnetite up to 5 mm - Fracturing at 45 deg., locally at sub-vertical angles
	E.O.H. 30.5 m

DDH - 94 -4

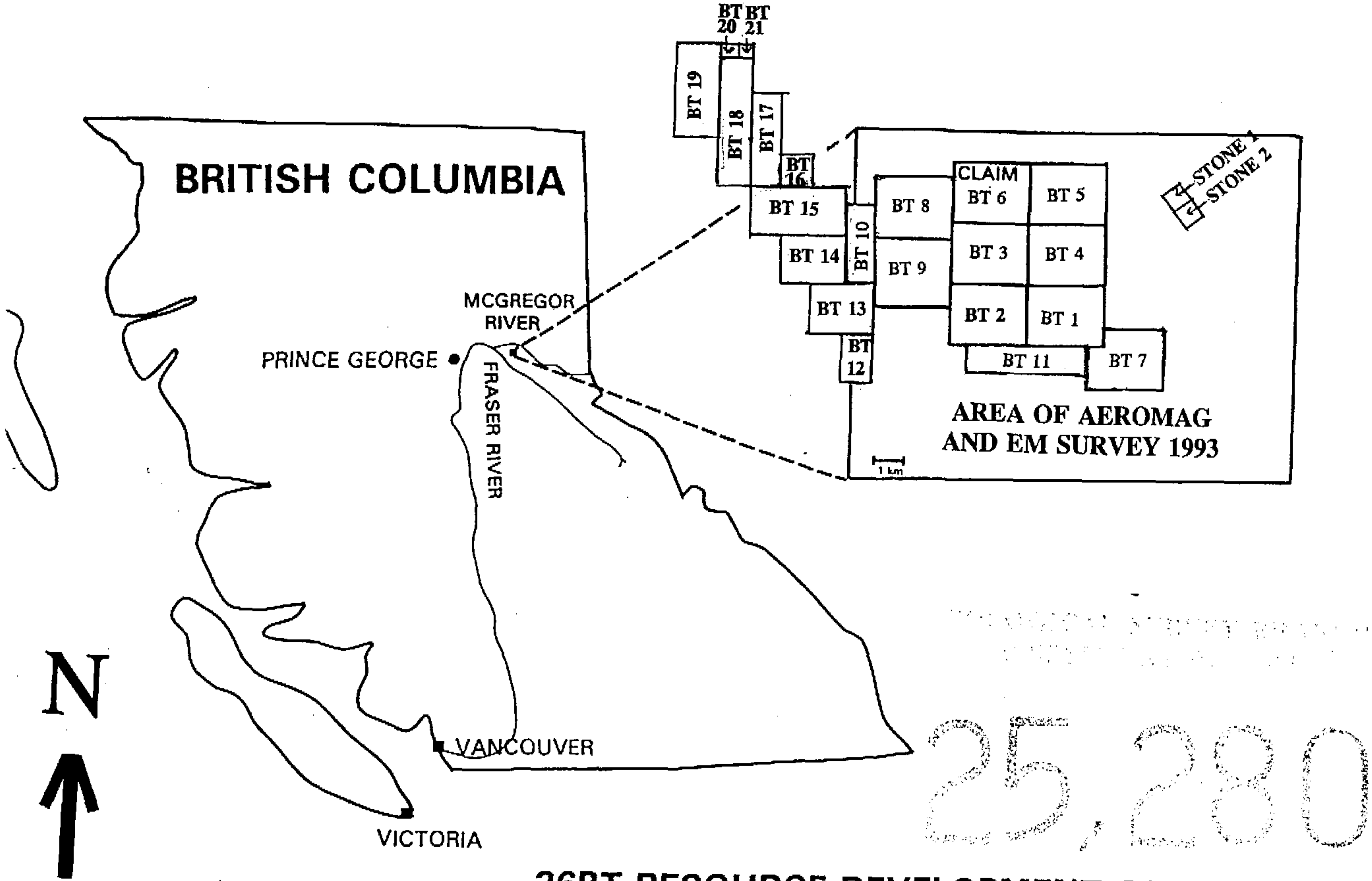
Depth (meters)	Rock type and Description
0 -7.62	**Overburden**
7.62 - 30.5	**Gabbro** - Mafic rich coarse grained - First 2 m limonitic and fractures probably clay alteration on fractures - Mafics biotite with hornblende (approximately 60% mafics) @12.5-12.8 - Shear zone clay rich - Various, weakly to strongly magnetic (12-15% probably) @17.68-20.73 - Local sections of coarse biotite phenocrysts - biotite sometimes 1-2 cm in size - 21.95 sample (thin section)

DDH - 94 -5

Depth (meters)	Rock type and Description
0 - 3.05	**Overburden**
3.05 - 3.66	**Gabbro** - Coarse grained mafic rich gabbro, non-foliated - Exhibits no magnetism
3.66 - 4.49	**Alaskite** - Coarse grained - white to pink, no mafics
4.49 - 30.5	**Gabbro** - Mix zone, coarse grained, equigranular to pegmatitic phase with hornblendes up to 2 cm long - In pegmatitic phase mafics, 40% in coarse zone, 50%, weakly sheared @4.49 - 8.5 - Local section of pale green alteration @8.84 - 9.15 - Alaskite stringer @18.29m, Thin section sample - epidote alteration @ 21.95 - 22.55 - Narrow section with minor blebs of magnetite - Weakly magnetic whole zone

DDH - 94 -6

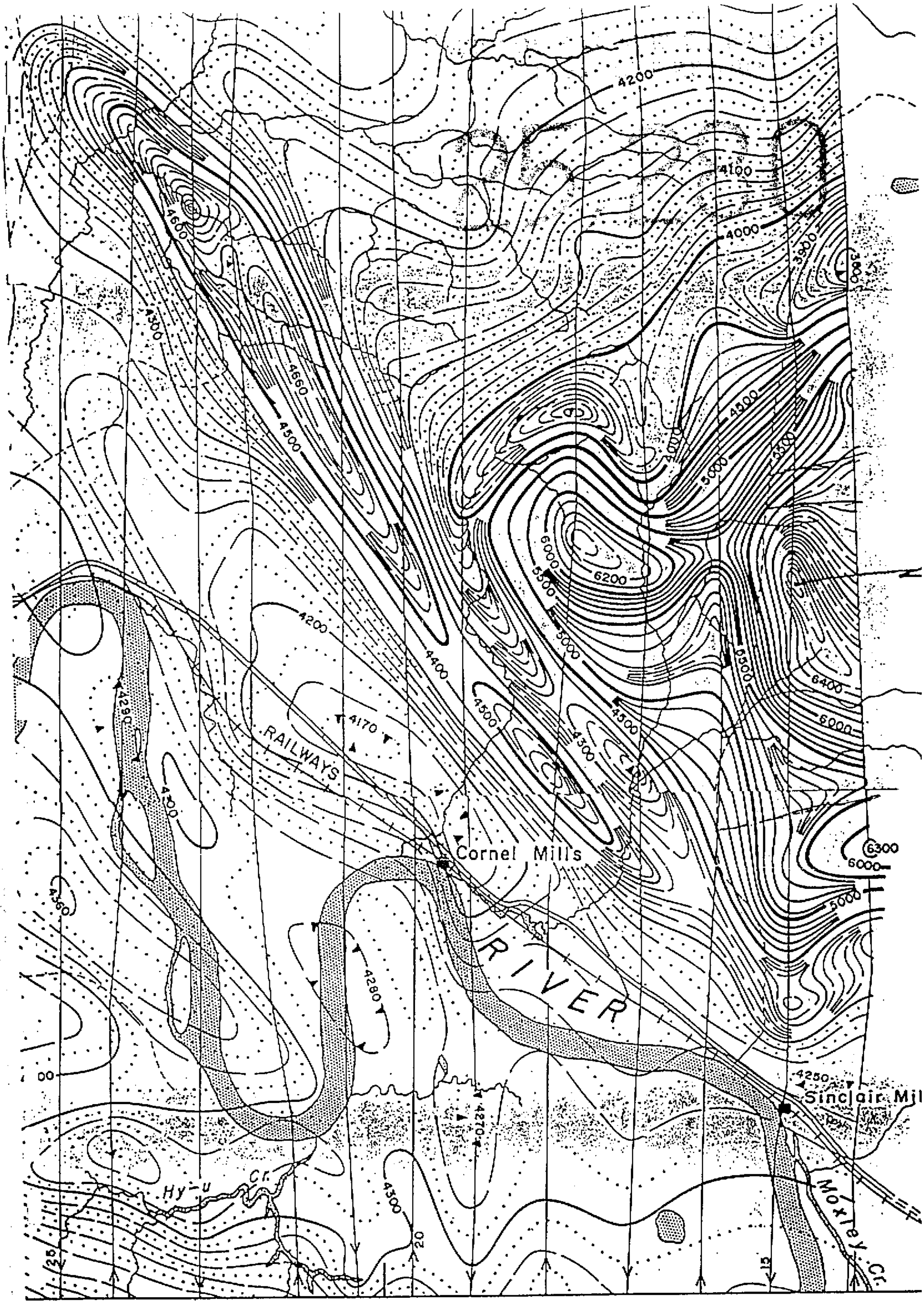
Depth (meters)	Rock type and Description
0 - 1.24	**Overburden**
1.21 - 1.67	**Gabbro** - Green alteration, along fractures and veinlets - Coarse grained mafics 50-60% - Weakly magnetic
1.67 - 2.49	**Alaskite** - Narrow dyke, coarse grained, highly weathered - No mafics, sheared with abundant clay
2.49 - 4.27	**Gabbro** - Same as above
4.27 - 4.88	**Alaskite** - Same as above
4.88 - 5.18	**Gabbro** - Same as above
5.18 - 6.09	**Alaskite** - Predominantly Alaskite with minor syenite section
6.09 - 10.06	**Gabbro** - Weakly sheared, pervasive green epidote altemation - Coarse grained, epidote alteration both as patches and narrow veinlets - Minor fractures filled with talc
10.06 - 10.40	**Alaskite** - White medium grained weak chlorite alteration minute
10.40 - 30.5	**Gabbro** - Same as above, increase of magnetism down the hole @28.35m, Thin section sample E.O.H. 30.5 m



26BT RESOURCE DEVELOPMENT COMPANY LTD.

FIGURE 1
AREA OF AEROMAG AND EM SURVEY 1993

CALGARY ALBERTA



Joins Map 1535 G, "Hutton"

40'

MAP 1536G

FIGURE 2
AEROMAGNETIC MAP 1536G

June - 5
1961

SINCLAIR MILLS

BRITISH COLUMBIA

(2)

Magnetic
Geophysics Divisi
Department of M

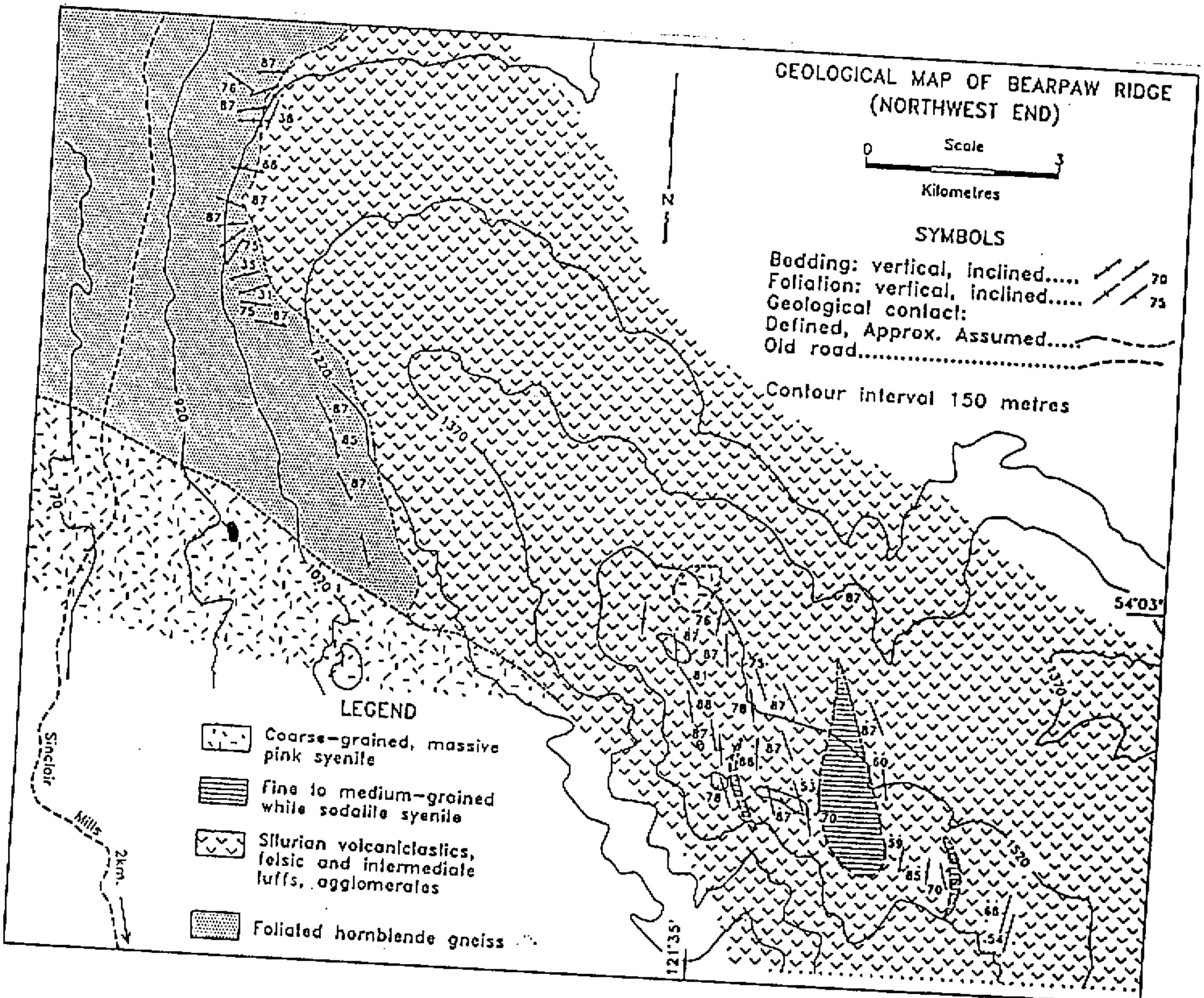


FIGURE 3
GEOLOGICAL MAP OF BEARPAW RIDGE

25,280 (3)

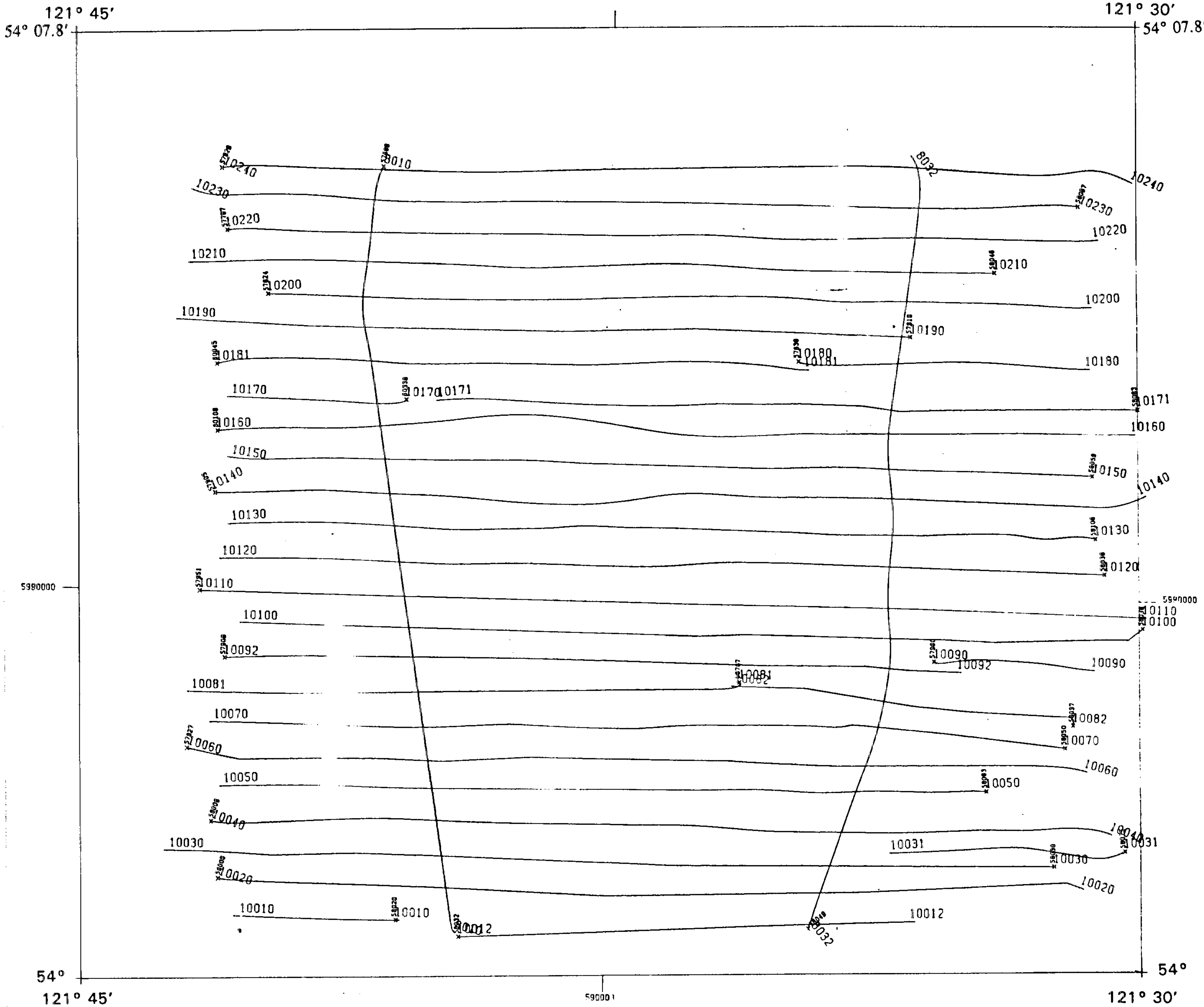


FIGURE 4
FLIGHT LINE LOCATION MAP

KM 1.5 1.0 0.5 0.0 -0.5

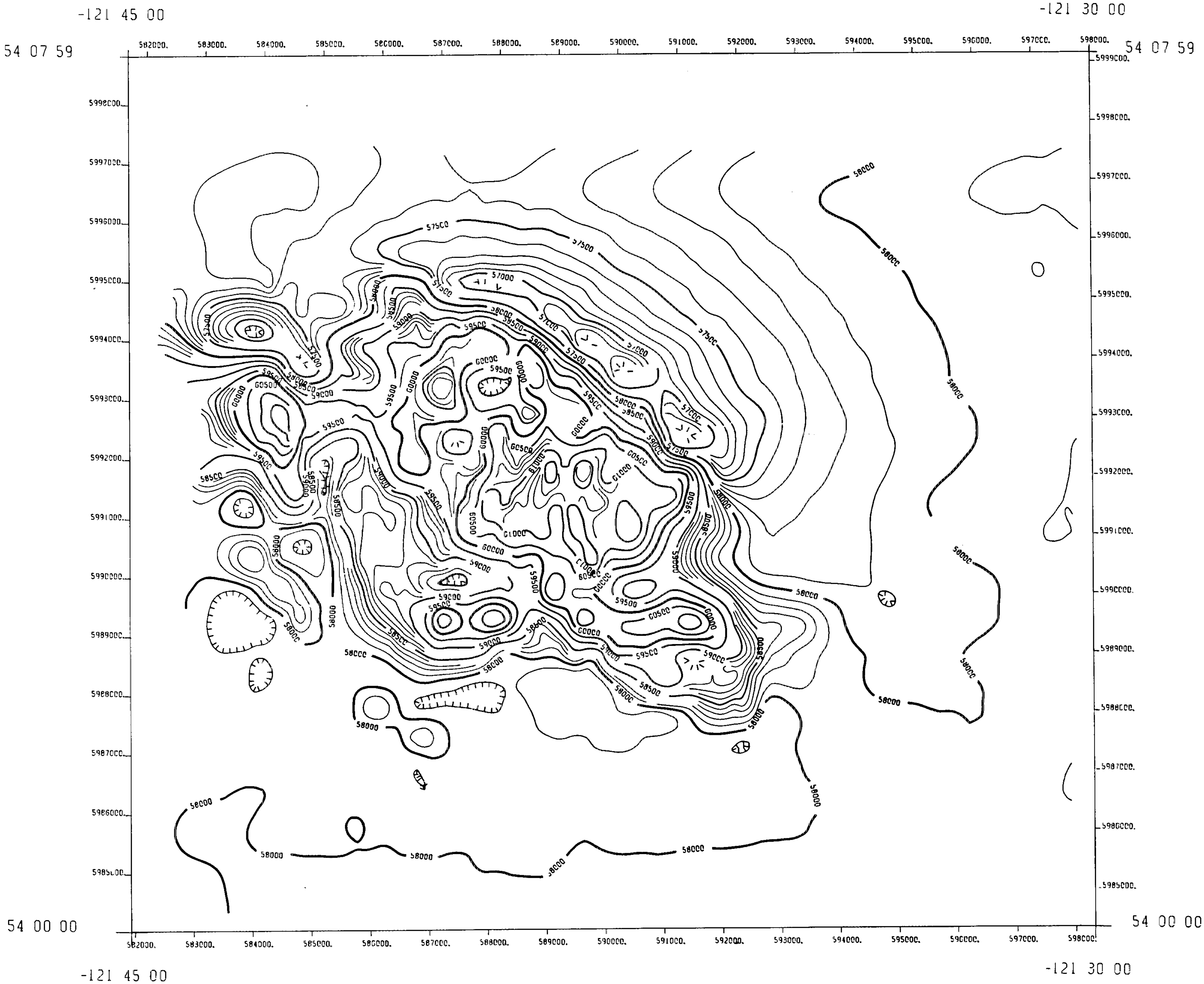
MILES 1.0 0.5 0.0 -0.5

Prince George

Profile Locations

SCALE 1 TO 50000

(4)



Commonwealth Geophysical

Explanation
2000 nT
500 nT
100 nT
Field Low

SONISEIS Naveo
6620 Crowchild Trail SW
Calgary, Alberta, Canada, T3E 5R8
PH(403)246-9150, FAX(403)242-9678

-0.5 0.0 0.5 1.0 1.5 KM

-0.5 0.0 0.5 1.0 MILES

SCALE 1 TO 50000
CONTOUR INT. 100.00

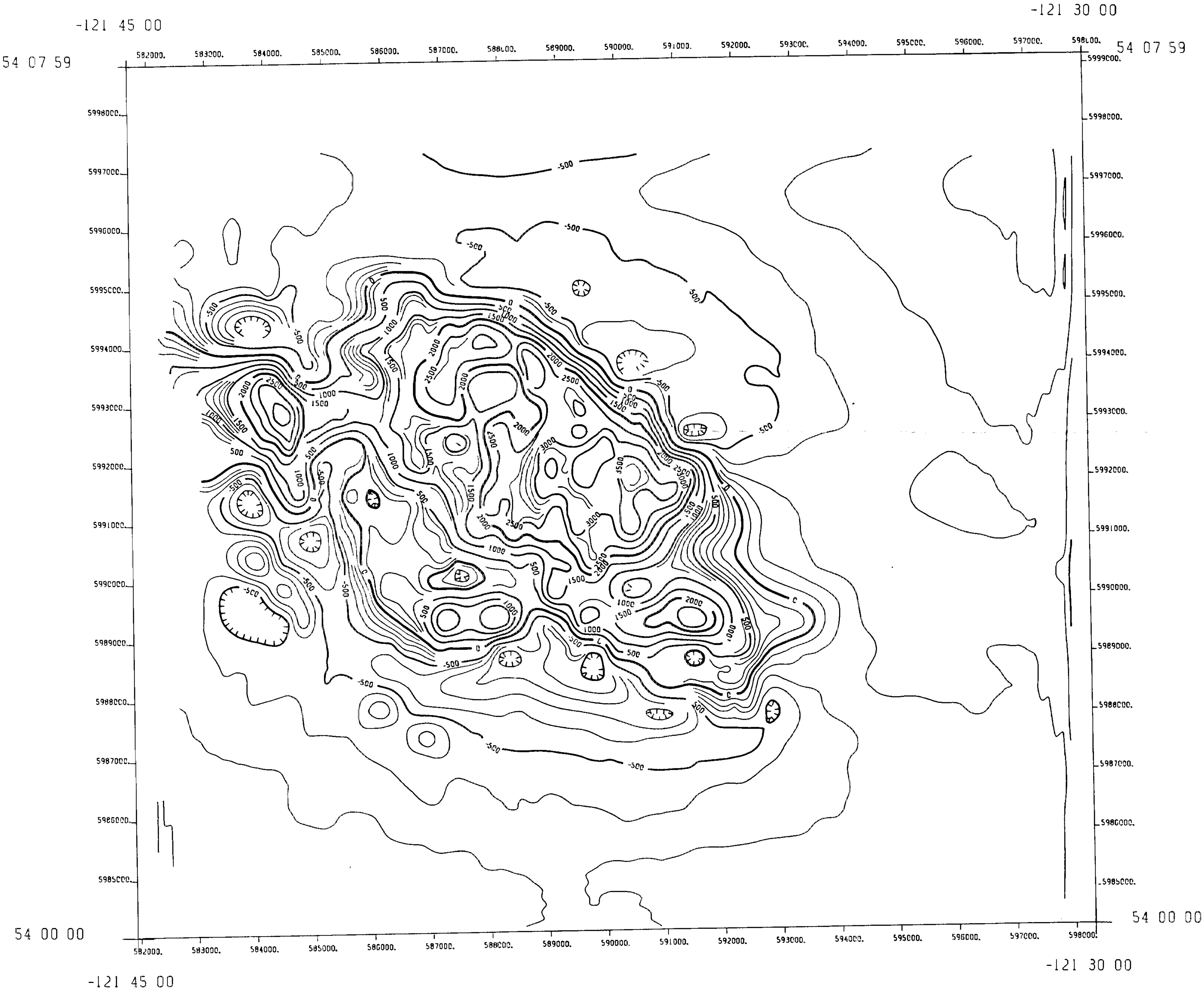
2681 Resources Ltd., Total Field

FIGURE 5
TOTAL MAGNETIC FIELD - CONSTANT CONTOUR INTERVAL

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25 280

(5)



Commonwealth Geophysical

Explanation

2000 nT
500 nT
100 nT
Field Low

-0.5 0.0 0.5 1.0 1.5 KM

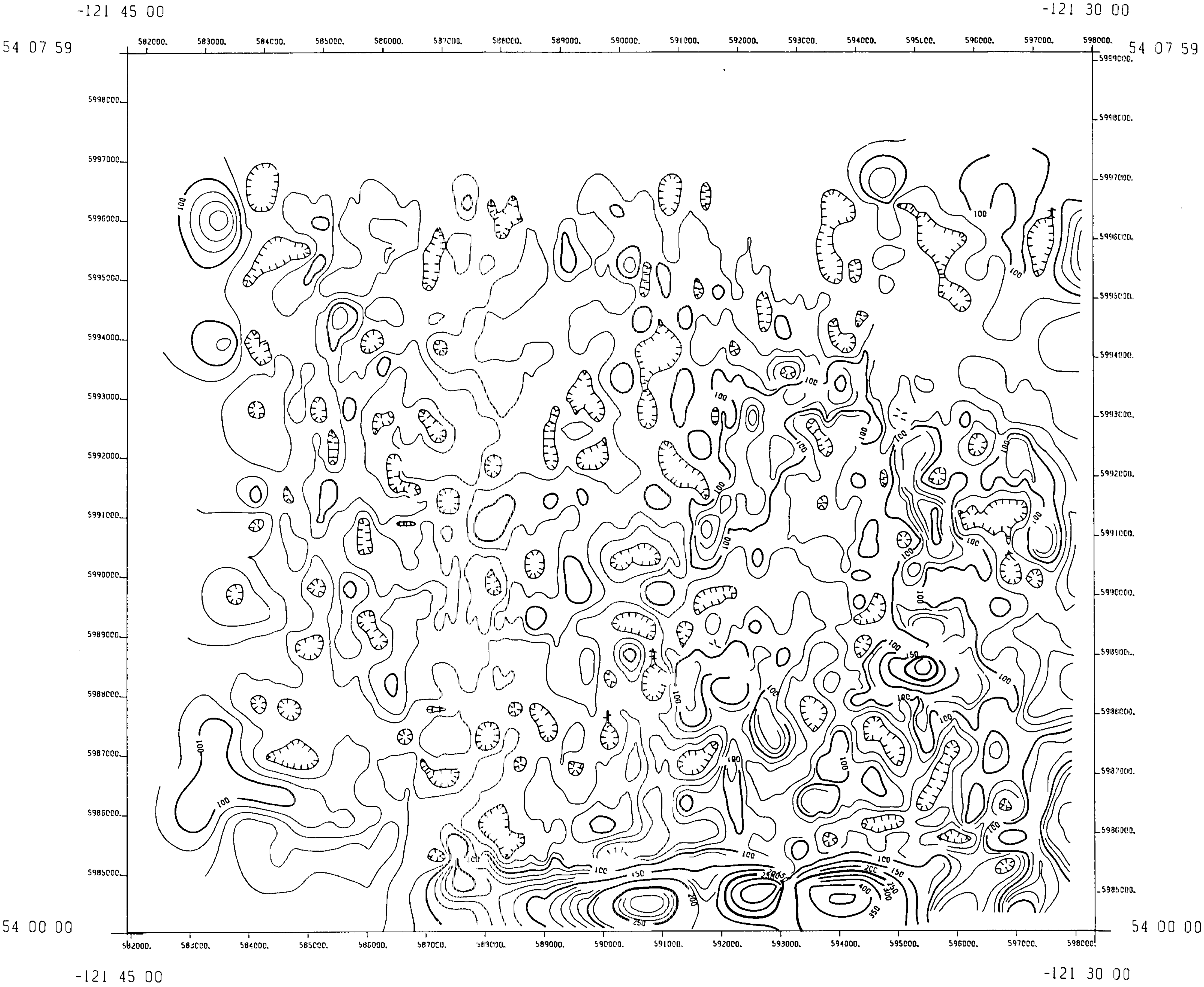
-0.5 0.0 0.5 1.0 MILES

SCALE 1 TO 50000
CONTOUR INT. 100.00

26BT Resources Ltd., Total Field (RTP)

FIGURE 6

TOTAL MAGNETIC FIELD REDUCED TO THE POLE - CONSTANT CONTOUR INTERVAL, 100 nT



Commonwealth Geophysical

Explanation
250 m
50 m
10 m
Elevation Low

SCHISCES Nevex
6620 Crowchild Trail SW
Calgary, Alberta, Canada, T3E 5R8
PH:(403)246-9150, FAX:(403)242-9670

-0.5 0.0 0.5 1.0 1.5 KM

-0.5 0.0 0.5 1.0 MILES

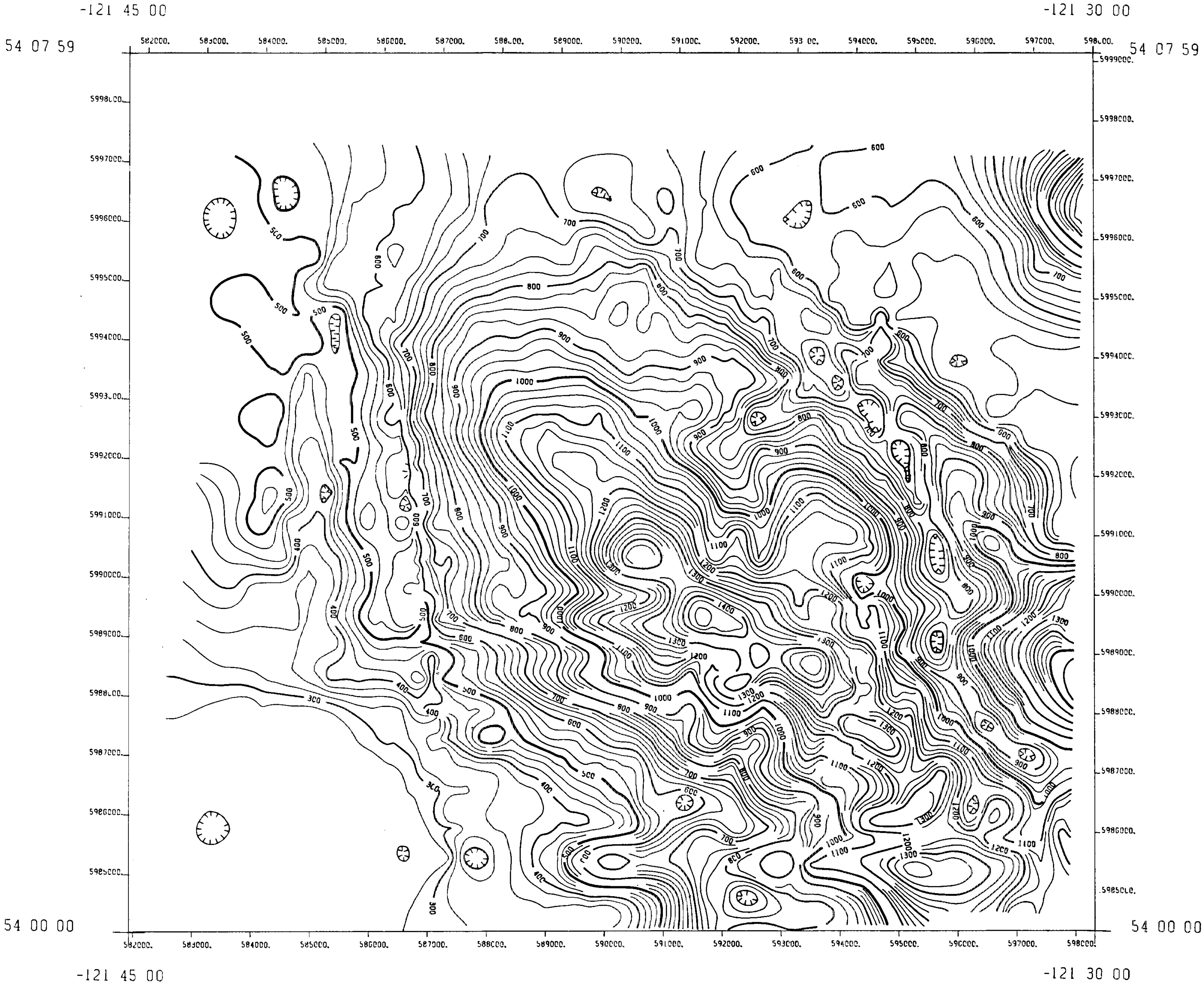
SCALE 1 TO 50000
CONTOUR INT. 10.00

26BT Resources Ltd., Radar Altimeter

FIGURE 7

MAP OF RADAR ALTIMETER DATA - CONSTANT CONTOUR INTERVAL

7



Commonwealth Geophysical

Explanation
1000 m
100 m
25 m
Elevation Low

SONISCIS ...
6620 Crowchild Trail SW
Calgary, Alberta, Canada, T3E 5R8
PH(403)246-9150, FAX(403)242-9676

-0.5 0.0 0.5 1.0 1.5 KM
-0.5 0.0 0.5 1.0 MILES

SCALE 1 TO 50000
CONTOUR INT. 25.00

26BT Resources Ltd., Ground Elevation

FIGURE 8

MAP OF GROUND ELEVATION DATA - CONSTANT CONTOUR INTERVAL

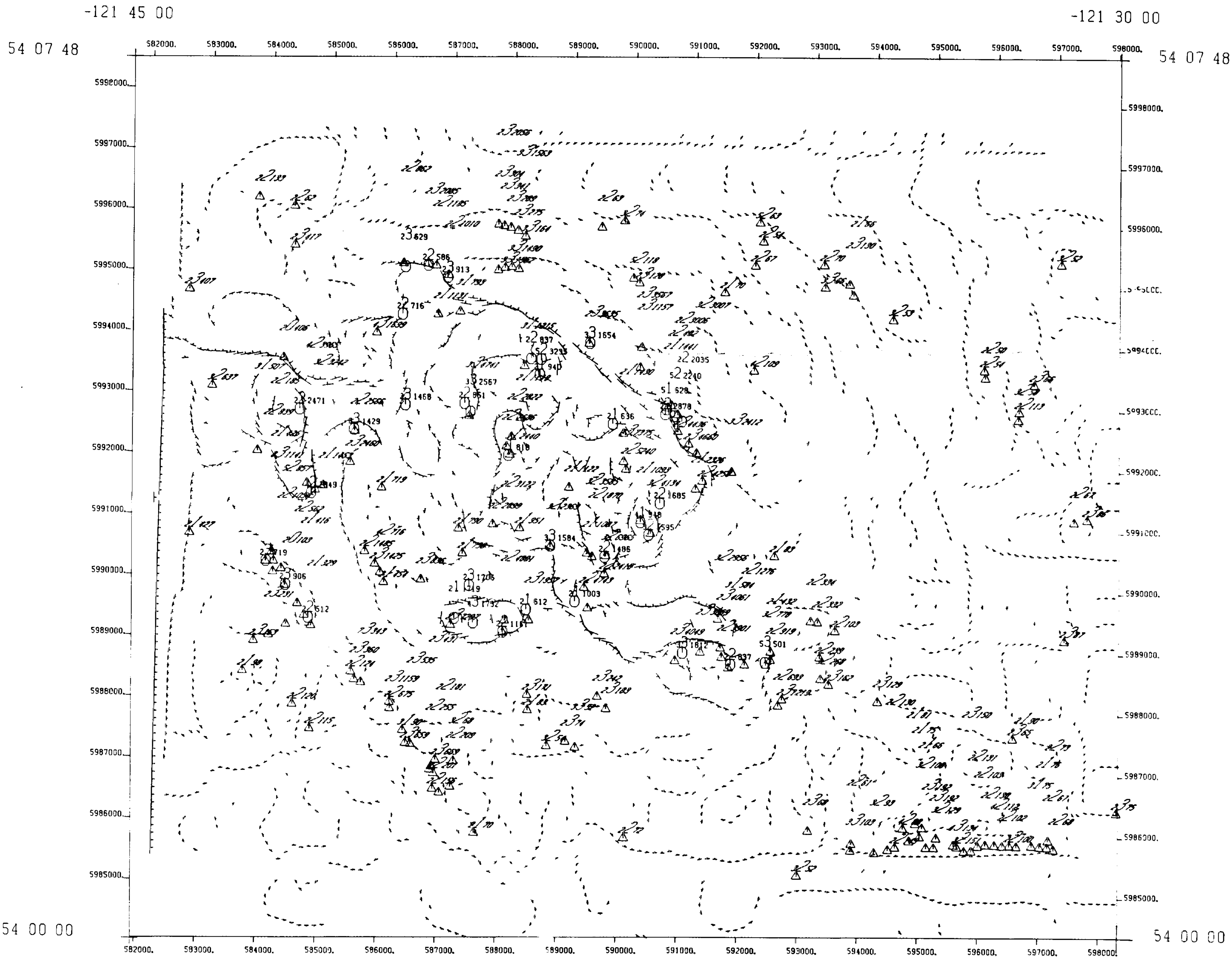


FIGURE 9
MAP OF SOURCE EDGES, AND DEPTHS FROM TWO-DIMENSIONAL WERNER DECONVOLUTION (MAGDEP2D)

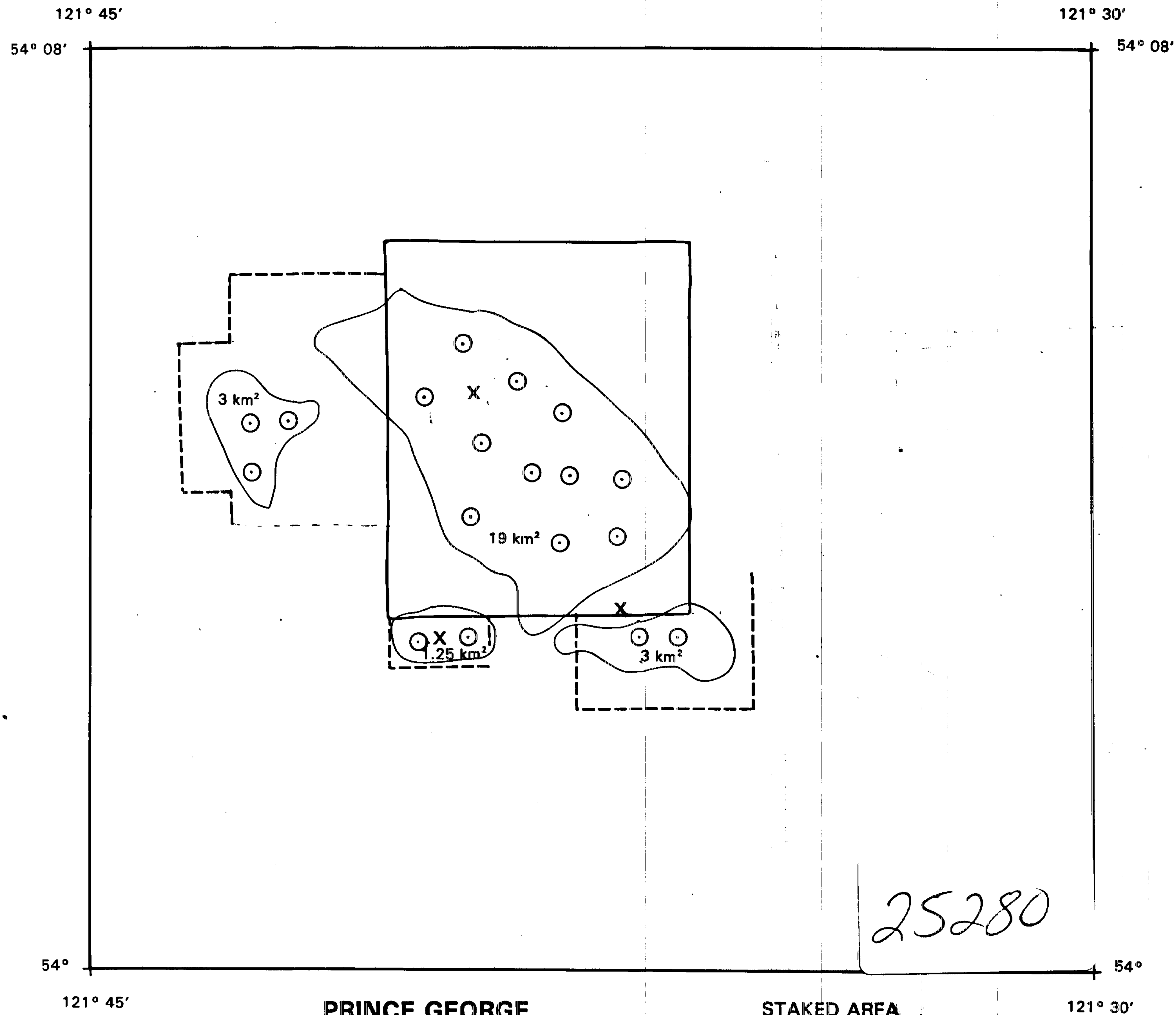
-0.5 0.0 0.5 1.0 1.5 KM

-0.5 0.0 0.5 1.0 MILES

PRINCE GEORGE

SCALE 1 TO 50000

25,280



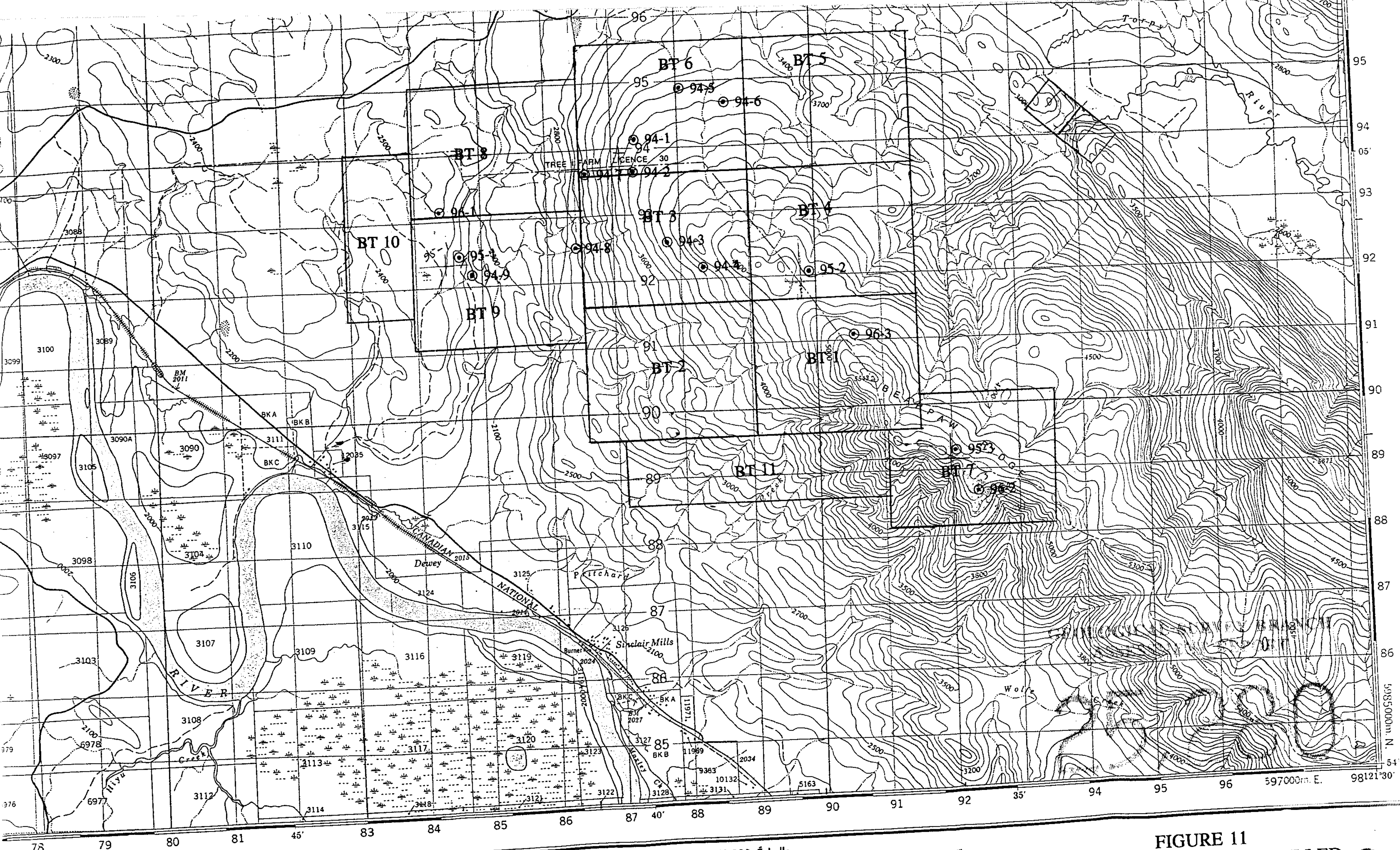
PRINCE GEORGE

INTERPRETATION OVERLAY

FIGURE 10

COMPILATION/INTERPRETATION OF RESULTS OF AEROMAGNETIC SURVEY

STAKED AREA
AREA TO BE STAKED
⊙ SHALLOW SAMPLE SITE (18)
X DEEP SAMPLE SITE (3)



SINCLAIR MILLS

CARIBOO LAND DISTRICT

FIGURE 11

LOCATION OF HOLES DRILLED

11

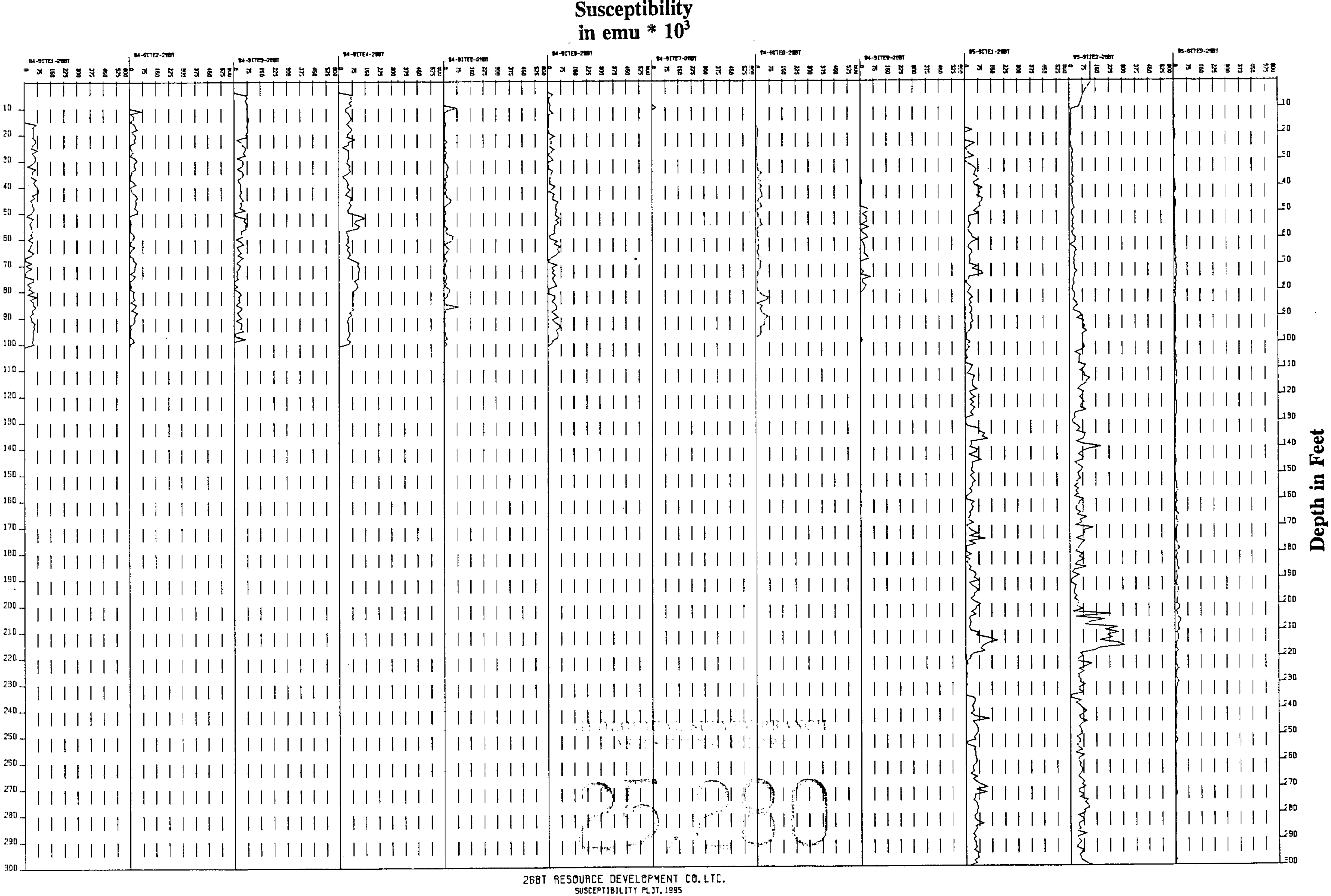


FIGURE 12
SUSCEPTIBILITY PLOT
Susceptibility in emu X 10^3 (top)
vs depth in feet for twelve drill
holes and two boulders.

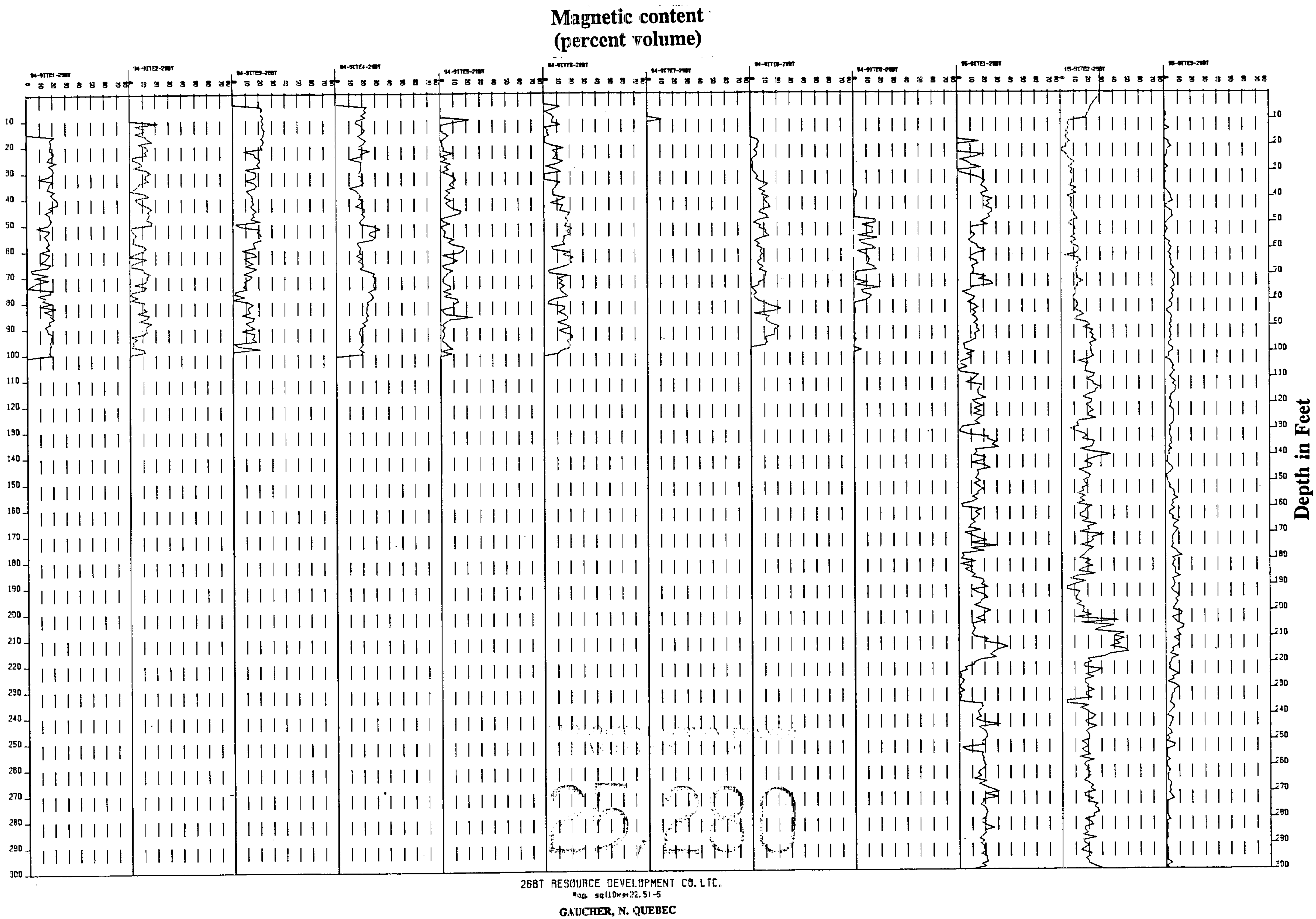
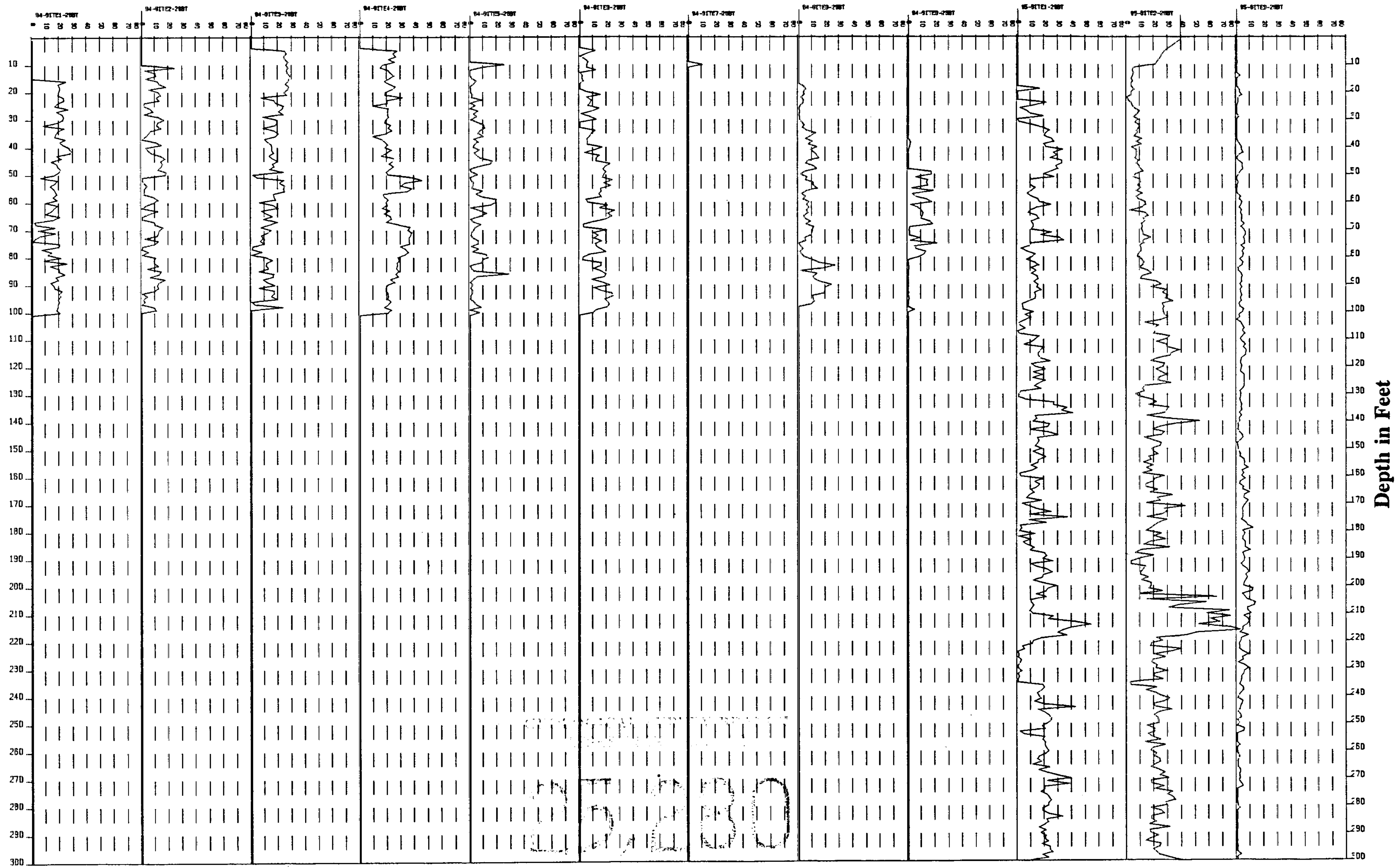


FIGURE 13

MAGNETITE CONTENT (VOLUME) GAUCHER, N. QUEBEC

Magnetic content in percent by volume (top) vs depth in feet for twelve holes, as computed from the relationship established in N. Quebec.

Magnetic content
(volume percent)



26BT RESOURCE DEVELOPMENT CO. LTD.

BATH, MINNESOTA

FIGURE 14
MAGNETITE CONTENT (VOLUME) BATH, MINNESOTA
Magnetite content is percent by volume (top) vs depth in feet for twelve holes and two boulders calculated from the relationship established in Minnesota.

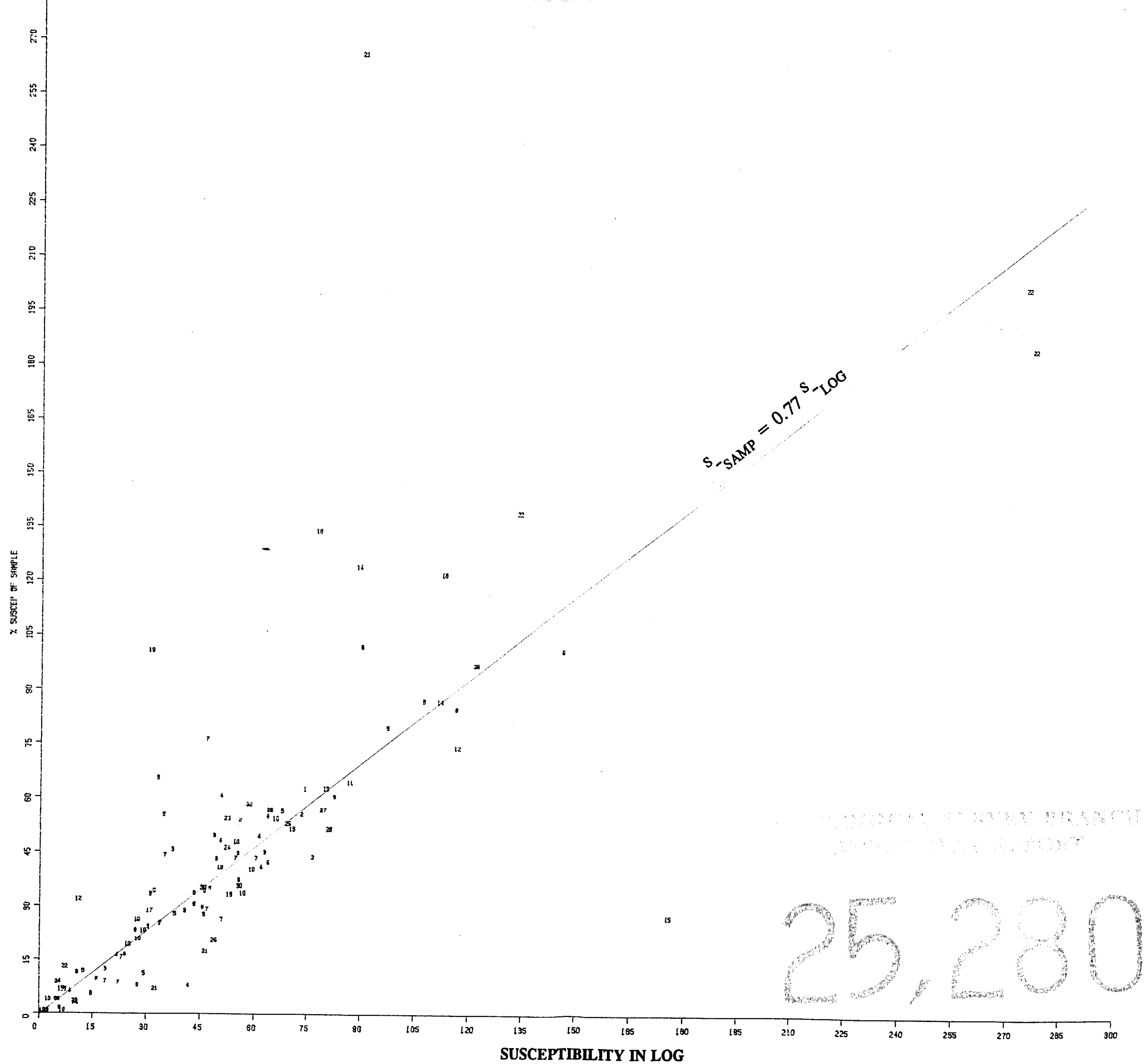


FIGURE 15
SAMPLE SUSCEPTIBILITY VS LOG SUSCEPTIBILITY
Plot of sample value (measured in lab) vs log
(measured in field) for susceptibility of core sample.

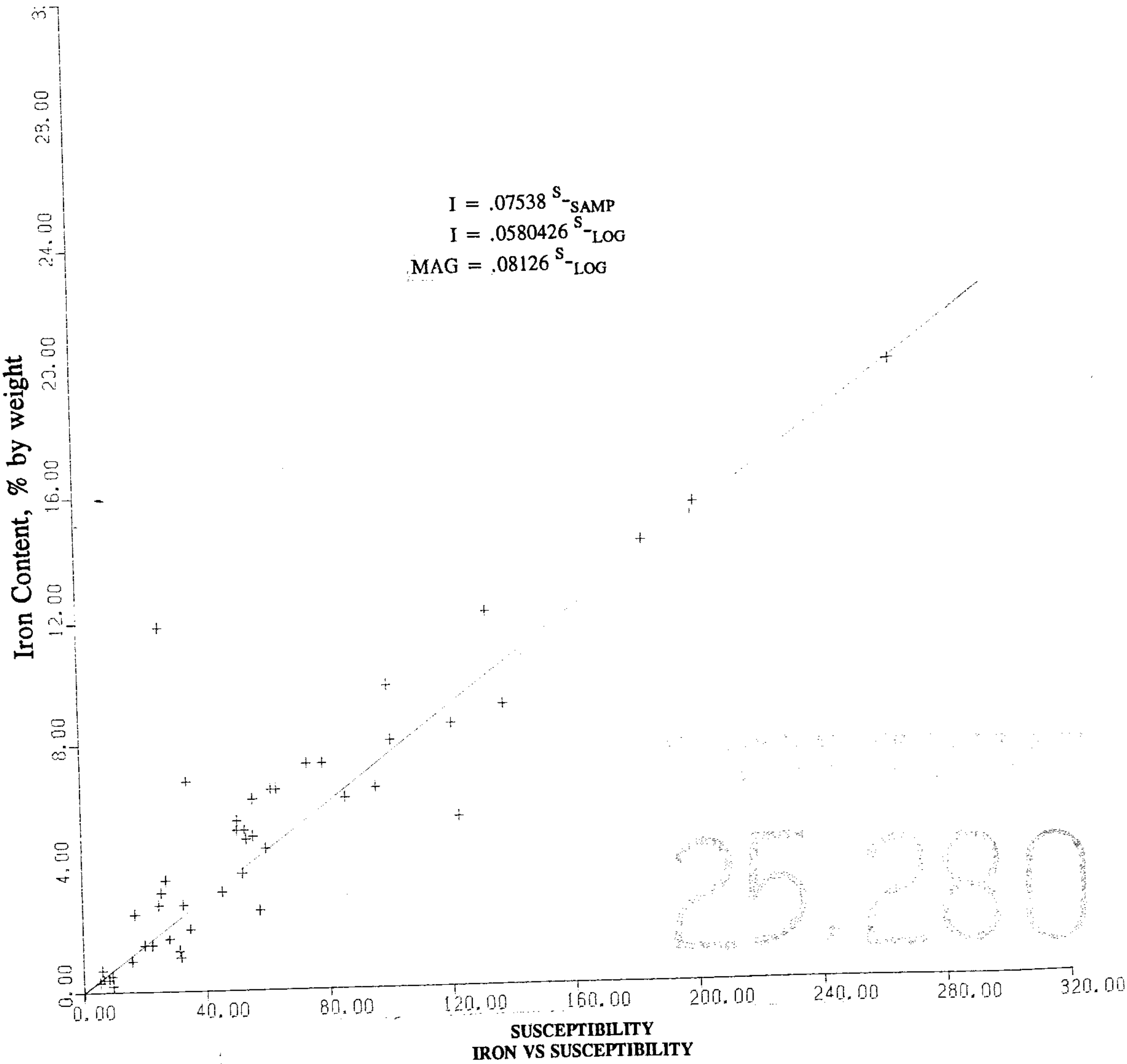


FIGURE 16
IRON CONTENT BY WEIGHT VS SAMPLE SUSCEPTIBILITY

16

FIGURE 17
MAGNETITE CONTENT ESTIMATED FROM SUSCEPTIBILITY
USING EQUATION DERIVED FROM CORE SAMPLE ANALYSIS

(17)

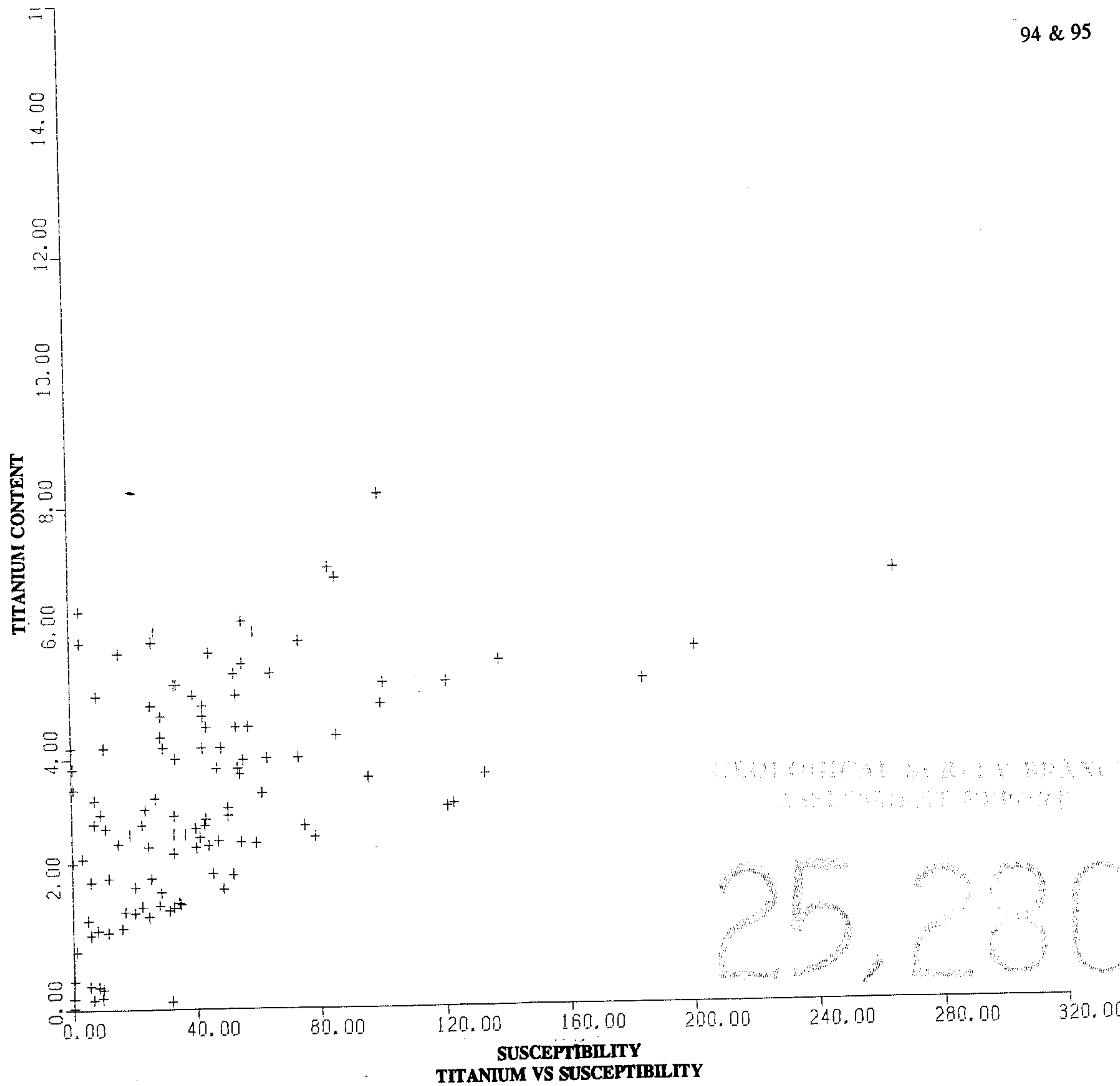
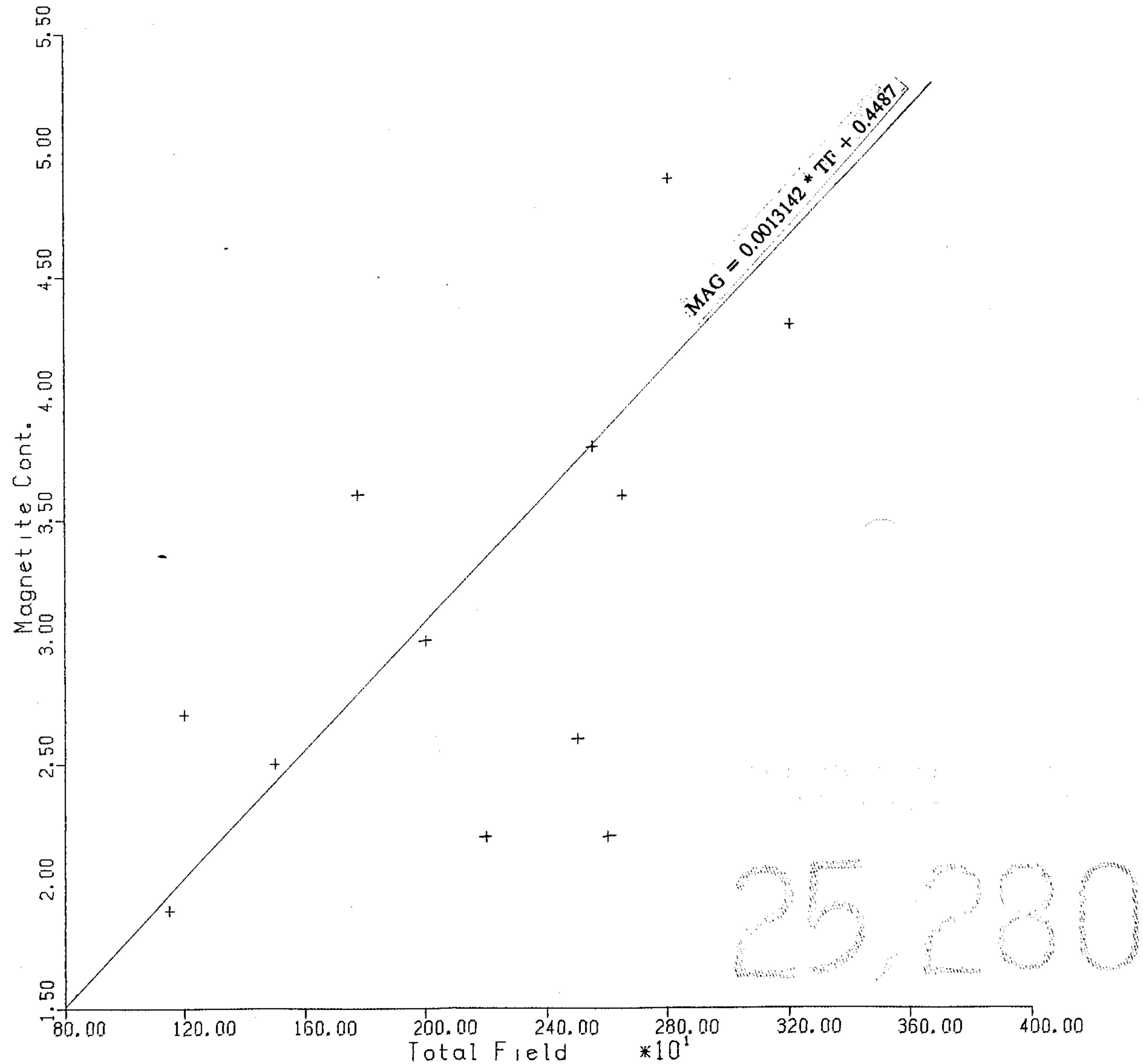


FIGURE 18
TITANIUM OXIDE CONTENT BY WEIGHT VS SAMPLE SUSCEPTIBILITY

(18)



Magnetite vs Total Field

FIGURE 19

MAGNETITE CONTENT VS TOTAL FIELD FOR TWELVE HOLES.
NOTE TWO POINTS LOCATED ON TOTAL FIELD AXIS.

(19)

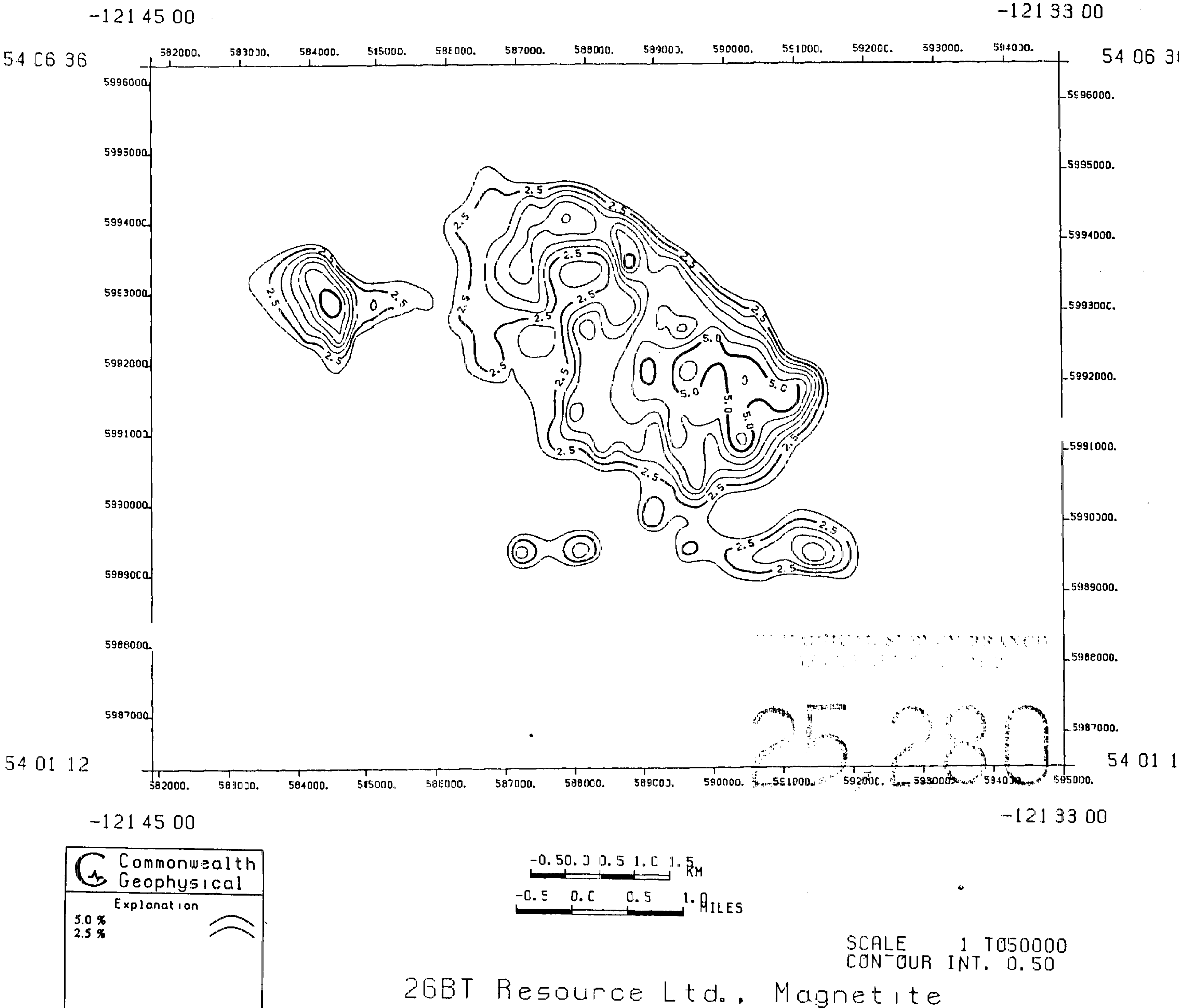


FIGURE 20
ESTIMATED AVERAGE MAGNETITE CONTENT
COMPUTED FROM THE MAGNETIC FIELD

(20)

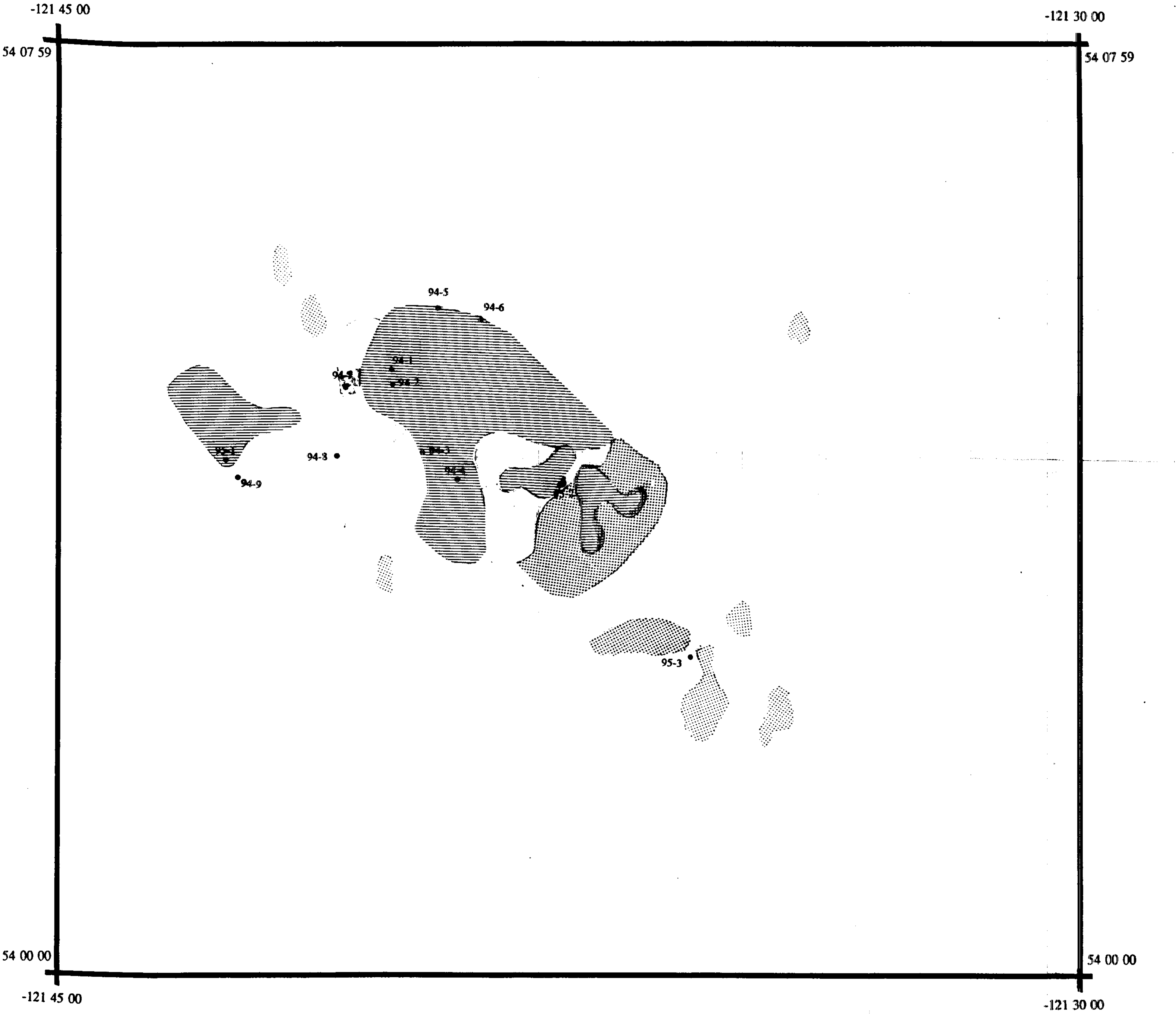
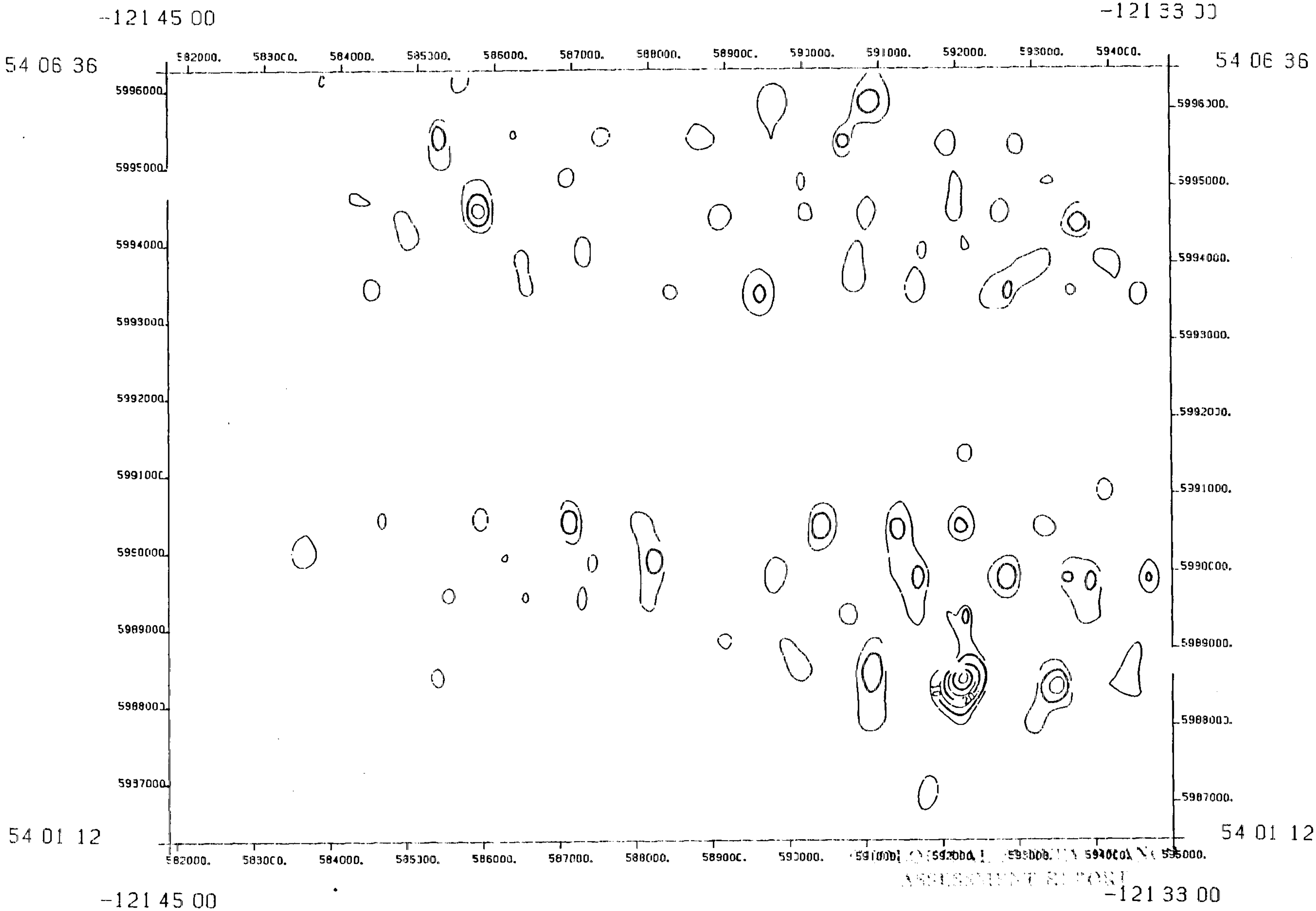


FIGURE 20A
DEPTH OF MAGNETITE FROM MAGDEP PROFILE INTERPRETATION AND HOLE INFORMATION. EM anomolies are also shown.



ASSESSMENT REPORT

25,280

-0.5 0.0 0.5 1.0 1.5 KM

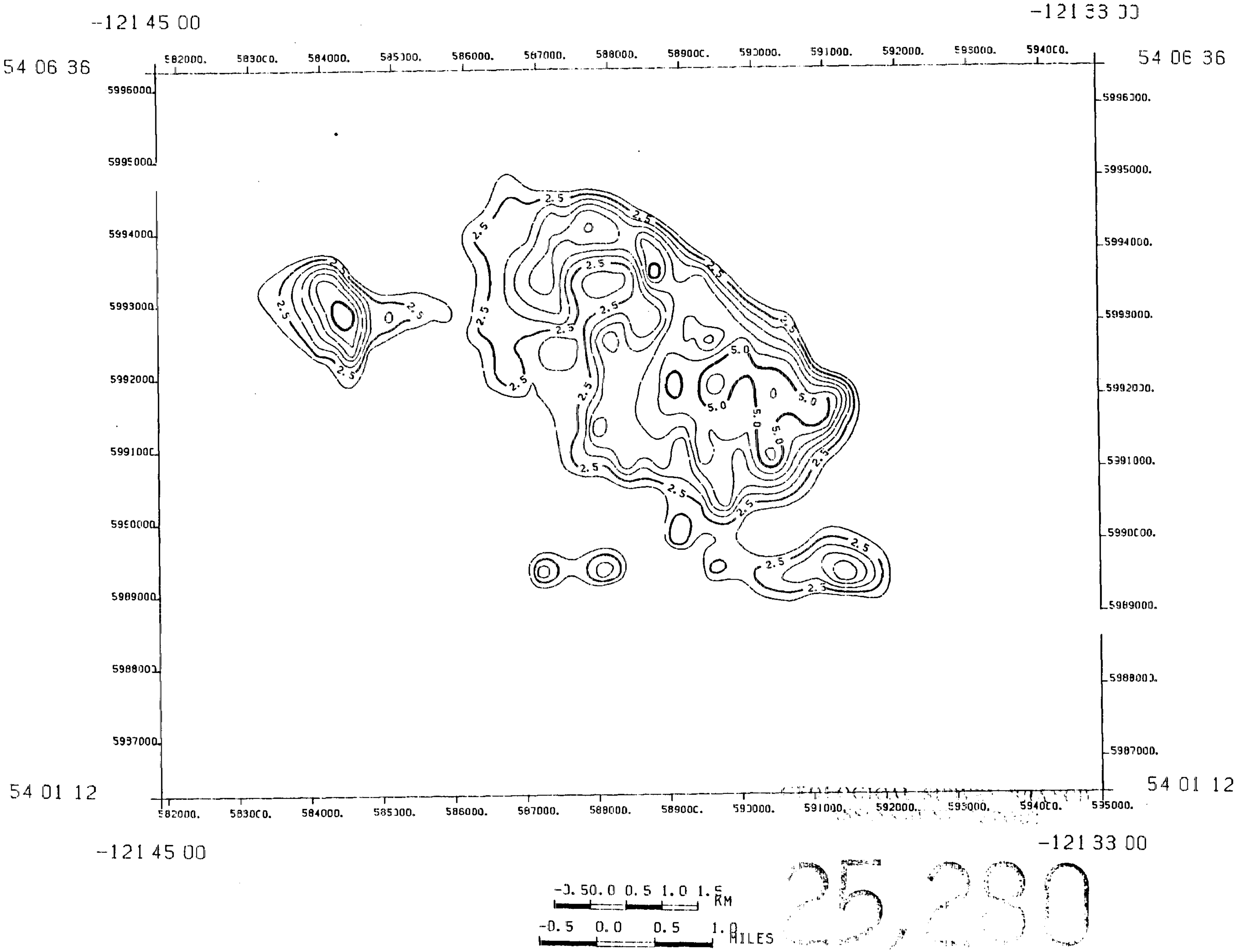
-0.5 0.0 0.5 1.0 MILES

SCALE 1 TO50000
CONTOUR INT. 5.00

26BT Resources Ltd., VLF-EM

(22)

FIGURE 20B
VLF - EM TOTAL FIELD IN PERCENT

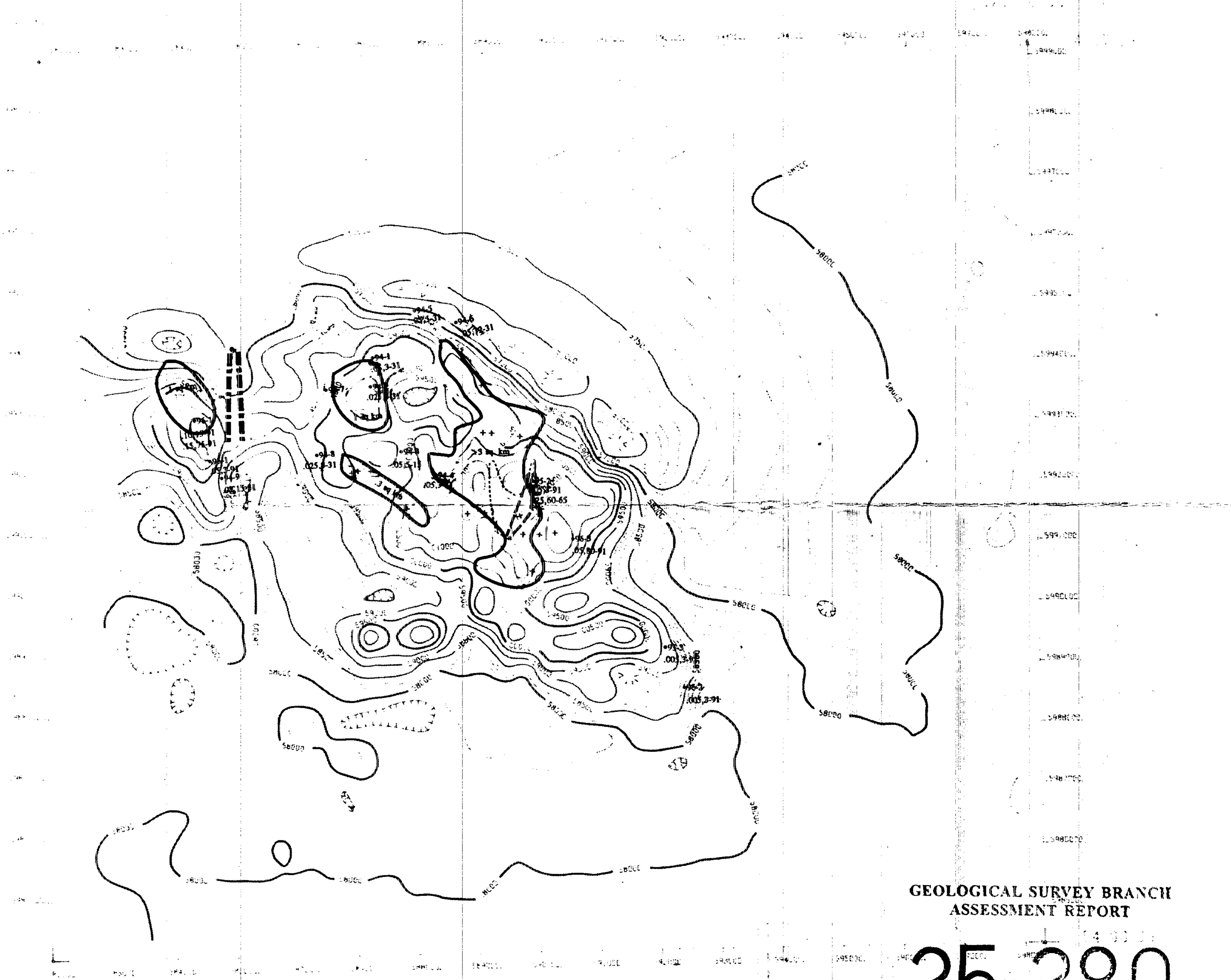


25,280

SCALE 1 TO50000
CONTOUR INT. 0.50

26BT Resources Ltd., Magnetite Cont. in %

FIGURE 20C
MAGNETITE CONTENT FROM
(TOTAL MAGNETIC FIELD REDUCED TO THE POLE)



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,280

FIGURE 21
PROBALBE ORE AREAS

SCALE 1 TO 50000
CONTOUR INT. 100.00

-0.5 0.0 0.5 1.0 1.5 KM

-0.5 0.0 0.5 1.0 MILES

Commonwealth Geophysical

Explanation

2000 nT
500 nT
100 nT
Field Low

6620 Crowchild Trail SW
Calgary, Alberta, Canada, T3E 5R8
Ph:(403)246-9190, FAX:(403)242-9670

2GBT Resources Ltd.,

\+ source on surface

sus = .5 (model)

sus = .3 (model)

sus > .2 (MAGDEP)

EM anomaly

x, y-z sus in emu for depth range in m

NOTE: Susceptibilities are plotted only for sources within 100 m of the surface and when greater than .199.

(24)

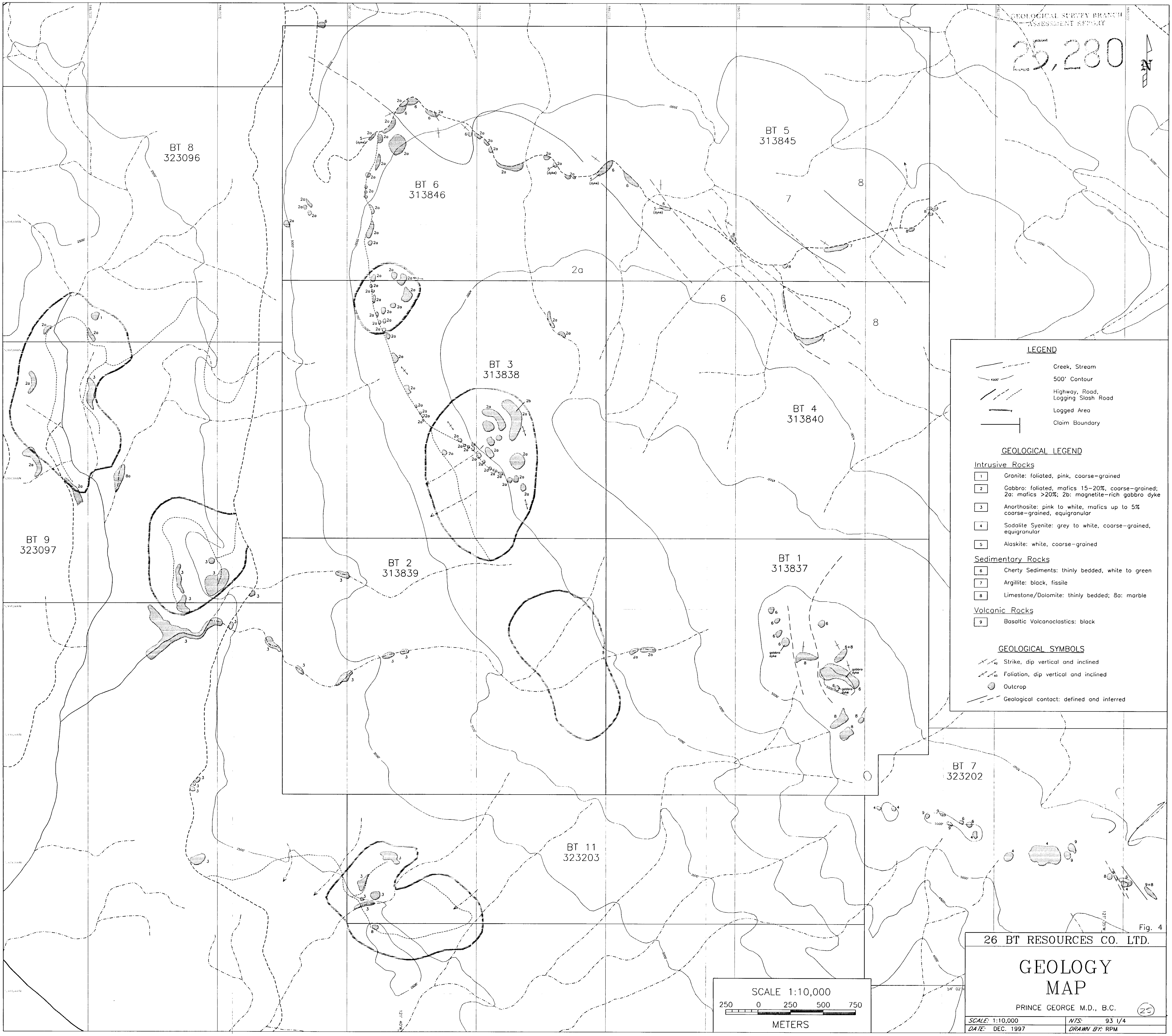


Fig. 4

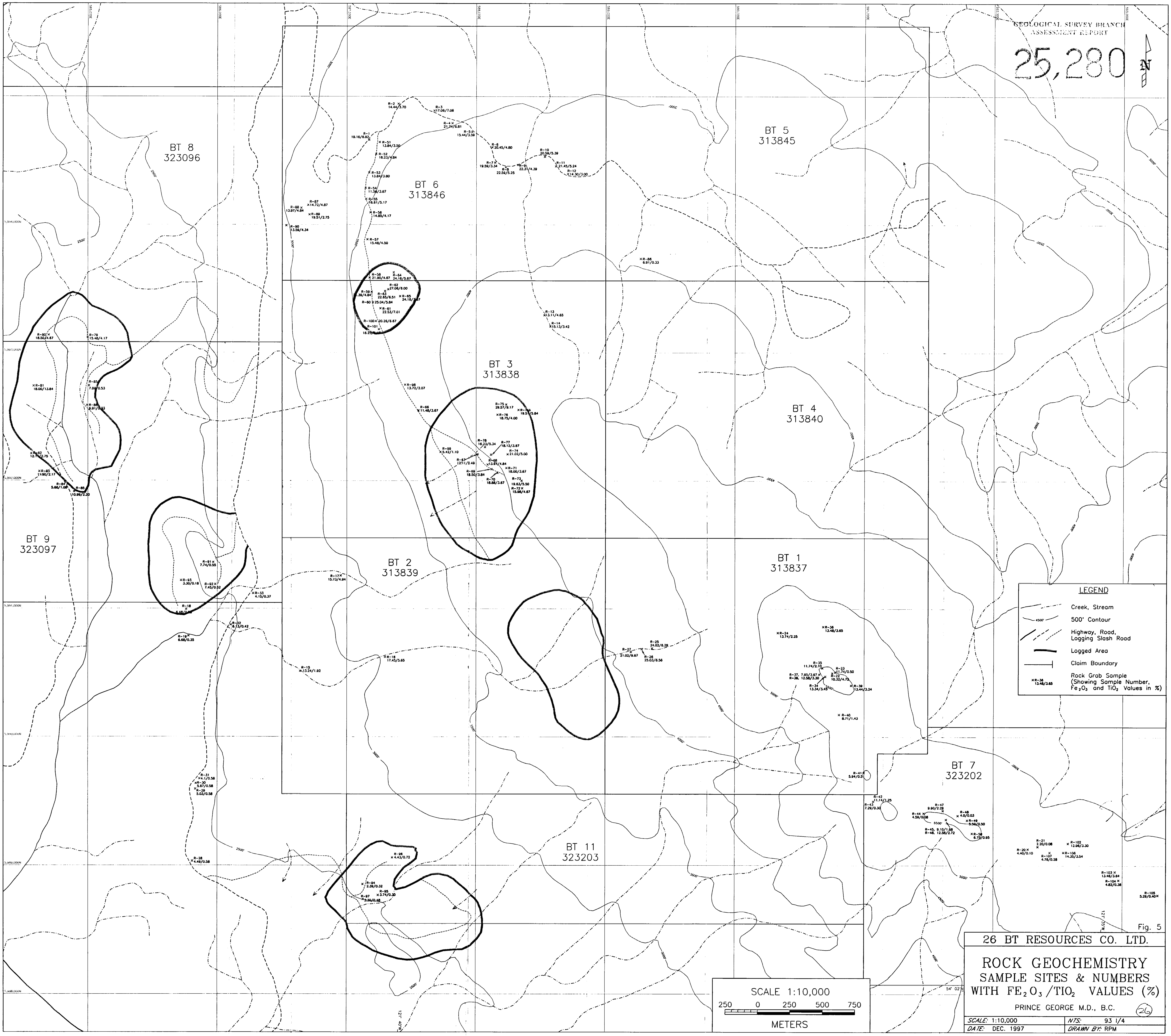
26 BT RESOURCES CO. LTD.

GEOLOGY MAP

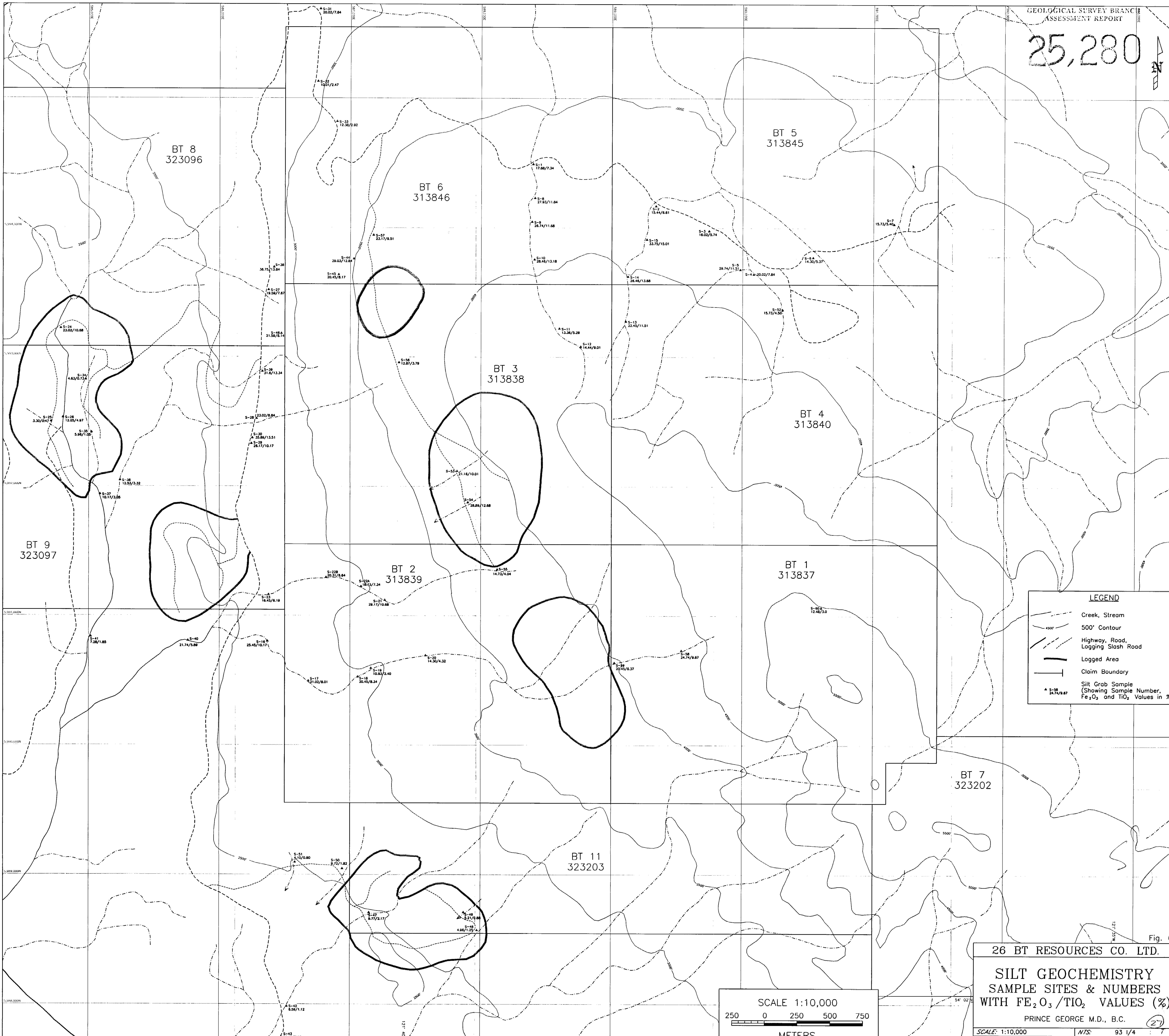
PRINCE GEORGE M.D., B.C.

(25)

SCALE: 1:10,000	NTS: 93 I/4
DATE: DEC. 1997	DRAWN BY: RPM



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
25,280
N
BT 8
323096
BT 9
323097
BT 6
313846
BT 5
313845
BT 3
313838
BT 4
313840
BT 2
313839
BT 1
313837
BT 7
323202
BT 11
323203
LEGEND
Creek, Stream
500' Contour
Highway, Road, Logging Slash Road
Logged Area
Claim Boundary
Rock Grab Sample (Showing Sample Number, Fe2O3 and TiO2 Values in %)
SCALE 1:10,000
250 0 250 500 750
METERS
Fig. 5
26 BT RESOURCES CO. LTD.
ROCK GEOCHEMISTRY
SAMPLE SITES & NUMBERS
WITH FE2O3/TIO2 VALUES (%)
PRINCE GEORGE M.D., B.C.
26
SCALE: 1:10,000
NTS: 93 I/4
DATE: DEC. 1997
DRAWN BY: RPM


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
25,280
N
BT 8
323096
BT 6
313846
BT 5
313845
BT 3
313838
BT 4
313840
BT 9
323097
BT 2
313839
BT 1
313837
BT 7
323202
BT 11
323203
LEGEND
Creek, Stream
500' Contour
Highway, Road, Logging Slash Road
Logged Area
Claim Boundary
Silt Grab Sample (Showing Sample Number, Fe_2O_3 and TiO_2 Values in %)
SCALE 1:10,000
250 0 250 500 750
METERS
Fig. 6
26 BT RESOURCES CO. LTD.
SILT GEOCHEMISTRY
SAMPLE SITES & NUMBERS
WITH FE_2O_3/TIO_2 VALUES (%)
PRINCE GEORGE M.D., B.C.
SCALE: 1:10,000
NTS: 93 I/4
DATE: DEC. 1997
DRAWN BY: RPM