GEOCHEMICAL ASSESSMENT REPORT

of the precious metal potential of the

SHRED 1,2,3, & 4 and BIRD 43,44,45 claims

Owned and Operated by

BP MINERALS LIMITED

Omineca Mining Division
NTS 94D 9

Located approximately 17 km northwest of the airstrip at Johanson Lake

Long.126°16', Lat.56°42'

Dr. S.J. Hoffman
Geochemist
BP Minerals Limited

September 29, 1981

BPVR 81-6

GEOCHEMICAL ASSESSMENT REPORT OF THE PRECIOUS METAL POTENTIAL OF THE SHRED AND BIRD CLAIMS

Summary

The BIRD and SHRED claims were assessed for their precious metal potential in 1981. A belt of ultramafic intrusions following along a major tectonic linear, the NIK lineament, extending 7 km along a northwestern trend through the center of both claim groups was found to be associated with gold, minor silver, and copper and nickel enrichment. A zone of complex geology, intersecting major structures, anomalous geochemistry and geophysics (magnetics and IP) and copper and massive sulphide mineral occurrences in an area 2.4 km north-south by 1.8 km east-west, appears to be the focus of attention and should be evaluated in greater detail in 1982.

Recommendations

1. All available samples lying within the North Canyon Creek nickel linear be analyzed for a multielement suite, including nickel, iron, manganese, aluminum, magnesium, calcium, barium, bismuth, titanium, cobalt, mercury and vanadium. Assuming the entire belt is evaluated, a total of 1,400 samples would be analyzed along lines spaced 100 metres apart at a 50 metre sample interval.

2. A geophysical survey comprising magnetics, IP, and resistivity should be conducted at 100 metre intervals within the center of the area of interest. A total of 45 line km is necessary to complete the evaluation. Extension of the survey area northwestward would depend on favourable results from the geochemical survey.

3. It is anticipated that drill targets will be defined as a consequence of geochemically anomalous zones coinciding with geophysical anomalies. Prior to diamond drilling, a program of deep overburden drilling may be necessary to locate surface expressions of mineralized zones suggested by geophysical anomalies if overburden conditions appear unfavourable for the soil survey of recommendation 1.

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GEOCHEMICAL ASSESSMENT REPORT OF THE PRECIOUS METAL POTENTIAL OF THE SHRED AND BIRD CLAIMS

Introduction

The SHRED and BIRD claims were evaluated over a 3 day period (July 17-19, 1981) by a two man geological and geochemical field party. The SHRED claims were first acquired in 1976 to evaluate the copper and molybdenum potential of the ground. In recent years exploration emphasis has shifted to precious metals and in view of the occurrence of massive sulphide lenses within the claim group, it was decided to evaluate geochemical anomalies near the claim northern boundary by a rock chip geochemical study and in the south by reanalysis of existing samples for lead, nickel, iron, gold, silver and arsenic. This report summarizes results from that work. Results from a two man technical visit on September 18, 1980 on the BIRD claims are also included in this report.

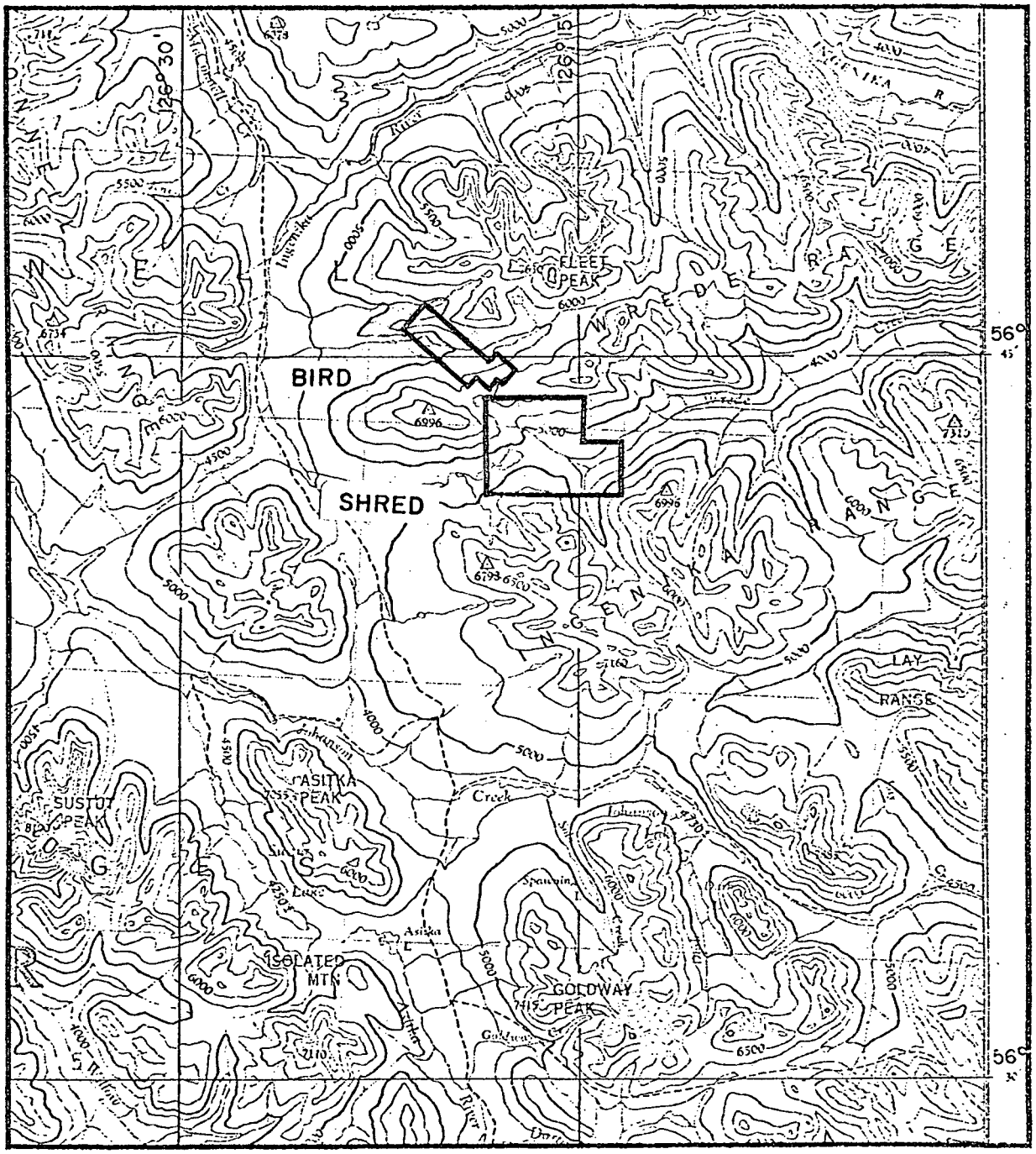
Location and Access

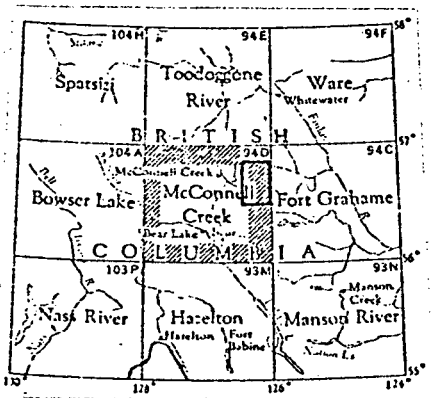
The SHRED and BIRD claims lie within the Omineca Mining Division, 15 and 18 km respectively, NNW of the airstrip at Johanson Lake, B.C. (Figure 1).

Access to the claims is by helicopter from Johanson Lake located on the Omineca highway from Fort St. James.

General Geology

The SHRED and BIRD claims lie within the "Quesnel Trough", a northwest trending linear belt of Mesozoic volcanic and sedimentary units separating late Palezoic rocks of the Pinchi Geanticline in the west from Proterozoic and Paleozoic metasediments of the Omineca Geanticline in the east. The claims are underlain by Takla Group, fine to coarse grained pyroclastic and flow andesites, with intercalated argillite and limestone. Plugs and dykes of diorite and syenite intrude volcanic units near the center of the property along a major structural zone labelled the NIK lineament which trends northwestward through the center of both claim groups. Monzonite and monzodiorite stocks mark the eastern boundary of the claim groups and are part of the Fleet Peak batholith. Numerous plugs and lenses of serpentinized pyroxenite-dunite and gabbro intrude the





BP Minerals Limited

TOODOGGONE - MESILINKA, B.C.
SHRED, BIRD CLAIMS

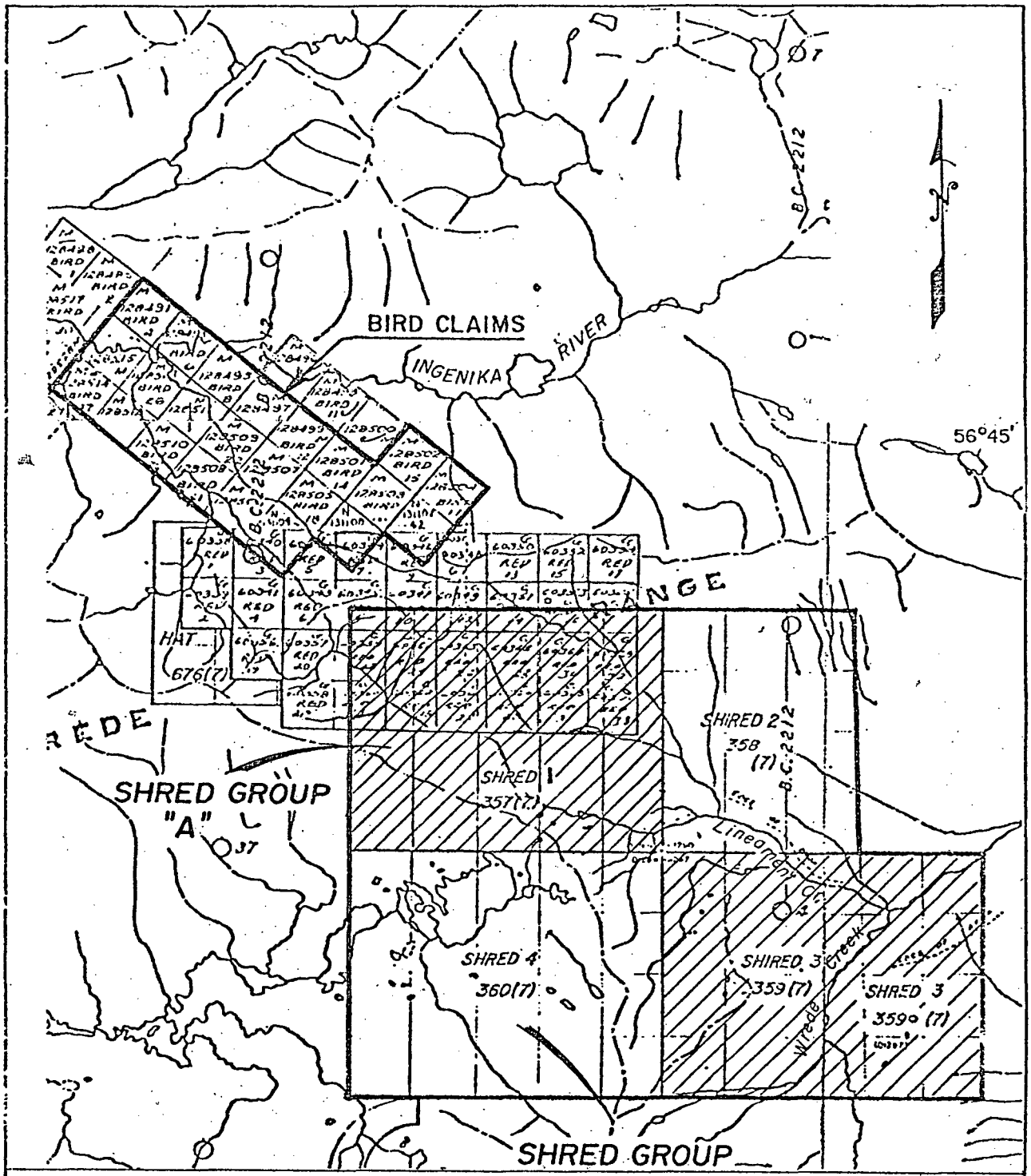
SCALE 1" = 250,000		NTS 94 D	FIG. 1
505 - 81 - 8	DATE SEPT. 1981	PROJ. 505	
To accompany report: BPVR 81-6			

NIK lineament and represent one of its more outstanding features.

Intense structural preparation combined with strong copper-molybdenum overburden geochemical anomalies have attracted exploration interest to the area. Prominent gossans associated with up to 10% pyrite are developed along the NIK lineament. Minor chalcopyrite characterizes several intrusive complexes and enclosing country rocks. Chalcocite and/or bornite have been identified in sheared, volcanic and ultramafic units. At the east end of the SHRED claims three small massive sulphide lenses (magnetite, pyrite, pyrrhotite, chalcopyrite) cut serpentinized peridotite. Winkie drilling in 1980 located an additional massive sulphide lens in a large boulder.

Sampling Procedures

Rock chip samples comprising approximately 500 grams of cm^3 chips were taken from bedrock or locally derived talus boulders on a contour traverse of the topographically highest portion of the claim group. The number was written on an orange flag and left on site to facilitate future followup. Samples were analyzed by Acme Analytical Laboratories in Vancouver for gold, mercury, nickel, arsenic, silver, copper, iron, manganese



METRES
0 50 100 150 200 250

BP Minerals Limited

LAND STATUS
BIRD & SHRED CLAIMS
TOODOGGONE PROJECT

SCALE 1:50,000		NTS 94 D/9, 16	PLAN 2
505-81-7	DATE SEPT. 1981	PROJ. 505	
To accompany report: BPVR 81-6			

lead and zinc using an aqua regio digestion. Their analytical procedures are summarized in Appendix 1.

Archive soil samples from the SHRED claims only were selected to evaluate the precious metal potential of ground near the serpentinized peridotite and dunite. The analytical procedures used by Vangeochem Laboratories Limited of Vancouver for lead, nickel, iron, gold, silver and arsenic are also given in Appendix 1.

Land Status

A. BIRD Claims

1. BIRD 42 (#311107) - 1 claim - recorded Aug. 23, 1974 (20.9 hectares)
2. BIRD 43 (#311108) - 1 claim - recorded Aug. 23, 1974 (20.9 hectares)
3. BIRD 44 (#311189) - 1 claim - recorded Aug. 23, 1974 (20.9 hectares)

B. SHRED Claims

1. SHRED 1 (#357(7)) - 20 units - recorded July 19, 1976 (500 hectares)
2. SHRED 2 (#358(7)) - 20 units - recorded July 19, 1976 (300 hectares)
3. SHRED 3 (#359(7)) - 12 units - recorded July 19, 1976 (500 hectares)
4. SHRED 4 (#360(7)) - 20 units - recorded July 19, 1976 (500 hectares)

Description of Results

A. Introduction

Stream sediment (Figure 3) and soil (Figure 4) results for the SHRED claims are described prior to the rock chip geochemistry which evaluates both the BIRD and SHRED claims. A symbol notation has been used to emphasize anomalous conditions which are plotted with the largest symbol. Choice of symbol size of the geochemical legend in the upper right corner of each map is based on the distribution of values on the histogram plotted immediately above the title block.

B. Stream Sediments

1. Introduction

Sixty six stream sediment samples were reanlyzed (Figure 3A) on the SHRED claims.

2. Lead (Figure 3B)

The distribution of lead is relatively featureless. A maximum value of 32 ppm is found north of a monzonite-diorite intrusion. The survey indicates the SHRED claims have a low potential for significant lead mineralization.

3. Nickel (Figure 3C)

Two distinct populations are apparent. One having nickel values exceeding 200 ppm is found near outcrops of ultramafic rocks along North Canyon Creek, Lineament Creek and Wrede Creek. The nickel distribution is outstanding by virtue of its highlighting the NIK lineament with only one sample immediately north of Wine Lake and outside of the NIK lineament falling into the same category. It is assumed that ultramafic units will be found updrainage of that site (890353). The lower population reflects a mix of volcanic and acidic intrusive rock types.

4. Silver (Figure 3D)

Most silver values are less than 0.3 ppm. However, a cluster of silver values in the 0.7 - 0.9 ppm range are found east of a metavolcanic unit and east of the previously mentioned monzonite diorite intrusion, near the high lead value.

5. Gold (Figure 3E)

Gold content of stream sediments averages about 15 to 20 ppb. Four samples exceeding 25 ppb are considered anomalous. Two of these lie along Lineament Creek, one is found along North Canyon Creek, and the last is associated with the monzonite-diorite intrusion of the

high lead value.

6. Arsenic (Figure 3F)

Distribution of enhanced arsenic values characterizes the monzonite-diorite and metavolcanic units to the north of that intrusion. The maximum arsenic value of 80 ppm is about 5X average background. Highest arsenic values appear spatially related to the above rock types, suggesting a genetic affiliation.

7. Iron (Figure 3G)

Iron content of stream sediments was determined to identify false anomalies and map bedrock. Abnormal scavenging by hydrous iron oxides is not to be expected. Bedrock units do not yield significantly different iron concentrations to be useful as a mapping aid in available drainage samples.

C. Soils

1. Introduction

One hundred and fifty soil samples were re-analyzed, the traverse lines testing areas of copper and/or molybdenum anomalies reported previously (BCDM Report 6369, see also Figure 6 of this report for summary).

Of particular interest are zones near the ultramafic intrusions which are known to contain massive sulphide lenses.

2. Lead (Figure 4B)

The lead concentration fluctuates over a very narrow range of values (11-25 ppm accounts for 95% of the samples). Two populations are evident. However, no clear relationship can be defined between rock type and soil lead content. The maximum lead value of 28 ppm is not thought indicative of a mineralization.

3. Nickel (Figure 4C)

The nickel content of soils is greatest in proximity to ultramafic plutons or areas where ultramafic plutons could be expected to subcrop. In this regard the nickel distribution of values exceeding 66 ppm probably reflect areas having an ultramafic association.

4. Silver (Figure 4D)

Areas of silver accumulation are found south of North Canyon Creek, south of Wine Lake, and near the silver stream sediment anomaly. Silver contents suggest the possibilty of a silver association with other types of

base or precious metal occurrences.

5. Gold (Figure 4E)

Several samples on SHRED contain in excess of 100 ppb gold. These tend to be near or coincident with enhanced nickel and/or silver values. Most of the higher gold values also tend to be within 100 metres of a major fault predicted to underly North Canyon Creek or Lineament Creek.

6. Arsenic (Figure 4F)

Unlike arsenic in-stream-sediments, the soil arsenic distribution is realtively featureless, most values averaging 15 ppm or less. High values are widely dispersed.

7. Iron (Figure 4G)

The iron content varies in a relatively systematic fashion suggesting lithologic rather than pedogenic control on levels. Highest iron values lie along the NIK lineament, particularly near or overlying ultramafic units.

D. Rock chips

1. Introduction

Fifty four rock chip samples were taken: 23 on the SHRED claims and 31 on or near the BIRD claims (Figure 5A).

2. Lead (Figure 5B)

Lead levels of 1 to 8 ppm do not define anomalous or lithologically significant trends.

3. Nickel (Figure 5C)

The rock chip nickel distribution continues to show the presence of ultramafic units extending along the NIK lineament northwest of North Canyon Creek. Values exceeding 38 ppm nickel can differentiate ultramafic from non ultrmafic associations on both SHRED and BIRD.

4. Silver (Figure 5D)

Higher silver values are found in association with silicified and pyritized (gossanized) ash tuff units on SHRED. BIRD is not associated with silver anomalies.

5. Arsenic (Figure 5E)

Arsenic levels are slightly higher on BIRD than SHRED, but overall, the concentration range is low (3-17 ppm for 95% of the samples). Clear trends relating to lithology or suggesting occurrences of arsenic-bearing minerals are not apparent.

6. Gold (Figure 5F)

Gold levels above 20 ppb are classified as anomalous. Four clusters of anomalous values characterize gossanized zones within ash tuff units. The gold is probably associated with pyrite. Ultramafic units are not enhanced in gold content.

7. Iron (Figure 5G)

The iron content of rock chips varies considerably on both claim groups. High values are due to collection of ultramafic rocks or samples rich in pyrite.

8. Copper (Figure 5H)

With the exception of two occurrences of malachite staining on the BIRD claims all samples represent background levels of copper in bedrock. Highest values are associated

with ultramafic units along a northwestern extension of North Canyon Creek. Gossanized samples are not enriched in copper.

9. Zinc (Figure 5I)

The zinc distribution contrasts with that of copper in exhibiting highest values on SHRED in the east along Lineament Creek. Enhanced zinc contents appear to build towards the northern part of the BIRD claims.

10. Manganese (Figure 5J)

The manganese pattern parallels that of zinc.

11. Mercury (Figure 5K)

Mercury values are low. Only four samples exceed the detection limit of 5 ppb and contain 10 ppb mercury.

Discussion of Results

The ground evaluation of BIRD and SHRED was undertaken to assess the precious metal potential of both claim groups adjacent to a prominent gossan (the RED claims - gossan) and associated with extensive copper and molybdenum geochemical anomalies (BCDM Assessment Report 6369). The present study did not have as an objective the explanation of the copper and molybdenum-rich zones in soils. It suggests a significant gold potential on SHRED associated with massive sulphide near ultramafic units and a silver association with the gold.

The most outstanding geochemical distribution is the very high nickel contents associated with the north-westerly trend of the NIK lineament above North Canyon Creek. Enhanced nickel levels are often accompanied by enhanced gold values and, in view of the particulate nature of gold in soils, the full extent of the nickel anomalies should be checked for a gold ($\pm$ silver) potential, in association with massive sulphide occurrences. Nickel geochemistry suggests a wider extent to the ultramafic units than mapped. Current lithological boundaries were positioned, in part, with reference to magnetic data. Field checking has confirmed a non magnetic character to some of the ultramafic units to support the geochemical proposal.

The nickel anomaly reflects the NIK lineament, a major structural zone which controled emplacement of ultramafic and acidic intrusions. A second splay of the NIK lineament along Lineament Creek appears to reflect a second generation of faulting. Although sampling is limited, Lineament Creek is associated with zinc and manganese enrichment compared to the copper, nickel, (gold and silver?) along North Canyon Creek.

Bedrock chip sampling on SHRED identified ultramafic units on the northwestern corner of the claim group which continues through RED claims and onto the BIRD property. The overall length of the favourable zone (structure, rock type, geochemically enhanced Ni, Cu, Au, $\pm$ Ag) is 7 km and its average width is 1 km.

Figure 6 is an updated summary of geochemical anomalies on the SHRED and BIRD claims. It can be seen that copper anomalies 2, 4, 5, 6, 7, and 8 lie within the nickel-rich zone. Molybdenum enrichment is present with copper anomalies 2, 4, 5, 6 and 7 and the element is interpreted to have been introduced during periods of acidic intrusion. High zinc values associated with Lineament Creek (copper anomaly 3) appears to crosscut the nickel-rich zone within copper anomalies 4, 5, and 7.

The area between 80N and 160N and 180E and 240E (grid system in feet, not metres) represents a zone where geochemical enrichment, structural and geological complexity, high magnetic and chargeability factors in bedrock, and copper and massive sulphide occurrences coincide. It represents the centre of a future program of exploration.

Conclusions

Field work in 1981 extended the prospective zone for gold associated with nickel and copper enrichment to a zone 1 km wide and 7 km long across the SHRED, RED, and BIRD claims. Highest gold and silver values are located within a 4 km^2 block of ground at the intersection of the North Canyon Creek and Lineament Creek fault systems interpreted to underly both valleys. The rock geochemical survey on BIRD and SHRED confirmed a different geochemical behavior adjacent to both faults but did not locate sources for copper or molybdenum (or gold) which might explain the outstanding soil anomalies lying downslope in overburden covered valleys.

Appendix 1

Analytical procedures

Acme

Vangeochem

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone : 253 - 3158

GEOCHEMICAL LABORATORY METHODOLOGY - 1981

SAMPLE PREPARATION

1. Soil samples are dried at 60°C and sieved to -80 mesh.
2. Rock samples are pulverized to -100 mesh.

Geochemical Analysis for Ag*, Bi*, Cd*, Co, Cu, Fe, Mn, Mo, Ni, Pb, Sb*, V, Zn

0.5 gram samples are digested hot dilute aqua regia in a boiling water bath and diluted to 10 ml with dimineralized water.

All the above elements are determined in the acid solution by Atomic Absorption.

* demotes background correction.

Geochemical Analysis for Au

10.0 gram samples that have been ignited overnite at 600°C are digested with hot dilute aqua regia, and the clear solution obtained is extracted with Methyl Isobutyl Ketone.

Au is determined in the MIBK extract by Atomic Absorption using background correction (Detection Limit = 5 ppb direct AA and 1 ppb graphite AA.)

Geochemical Analysis for Au, Pd, Pt, Rh

10.0 - 30.0 gram samples are subjected to Fire assay preconcentration techniques to produce silver beads.

The silver beads are dissolved and Au, Pd, Pt, and Rh are determined in the solution by Atomic Absorption.

Geochemical Analysis for As

0.5 gram samples are digested with hot dilute aqua regia and diluted to 10 ml.

As is determined in the solution by Graphite Furnace Atomic Absorption.

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone : 253 - 3158

Geochemical Analysis of Hg

Digestion

A .50 gram sample is digested with aqua regia and diluted with 20% HCl.

Determination

Hg in the solution is determinated by cold vapour AA using F & J Scientific Hg assembly. An aliquot is added to stannous chloride-hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it determined by AA.

Oxalic Acid Leach of Rock, Soil & Silt Samples

A .50 gram sample is digested hot with 10 mls 5% oxalic acid solution. The oxalic acid will dissolve Fe and Mn from their oxided of M - 1 fraction (but not from magnetite & ilmenite) limonites and clays. The following metals are analysed by atomic absorption : Cu, Zn, Pb, Ni, Mo, Fe & Mn.

Cold HCl Acid Extraction

A .50 gram sample is leached with 10 ml 5% HCl solution at room temperature for 2 hours with ocasional shaking. Copper is dissolved from the organic and surface layers of clay fractions.

EDTA Extraction

A .50 gram sample is leached at room temperature for 4 hours with 10 mls of 2.5% EDTA solution.

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Telephone : 253 - 3158

Multi Element Analysis by ICP

Digestion of Sample

0.5 gram samples are digested with hot aqua regia for one hour and the sample is diluted to 10 ml. The diluted sample is aspirated by ICP and the analytical results are printed by Telex, either in percent or ppm as shown.

Please Note : This digestion is partial for Al, Ca, La, Mg, P Ti, W and very little Ba is dissolved.

Report Format

```
HO/22N  385ØW
EGC

BURN # 1 GE16      15:46    3FEB1981

  IS
1357

 MO      CU      PB      ZN      AG      NI      CO      MN      FE%     AS
3.92    41.5    9.ØØ     136    .332    15.3    5.7Ø     312   3.167   5.73

 U       IS      TH      IS      CD      SB      BI       V      CA%     P%
4.11    .371    .424    1Ø73    .96Ø    1.94    4.51    52.7   1.1Ø7   .2Ø6

 LA      IN      MG%     BA%     TI%      B      AL%     IS      IS      W
22.1    3.5Ø    .2589   .Ø184   .ØØ14   -.Ø5    1.72Ø     Ø    3.Ø6    .276

*O/M1
EGC

BURN # 1  GE16      15:48    3FEB1981
  1358
  .563   29.3     34.6      171    .154    33.4    11.5     794   2.536   8.77
  3.57   .Ø44     2.79      765    1.Ø8    .635    4.25    54.8   .6452   .1Ø9
  6.42   2.88     .6ØØ8    .Ø252   .Ø753   -.37    1.944     Ø    2.32   -.61
```

Code :

HO, *O, EGC	Computer Intructions.
/22N 3850 W	Sample Number.
/M1	ACME Geochem standard for quality control.
15:46 3FEB1981	Time and Date of Analysis.
BURN # 1 GE16	Geochem Computer Program.
IS	Internal Standard.

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone : 253 - 3158

Interpretation of Results

Stamdard M-1 is a certified geochem standard used to monitor the results. M-1 has the following analysis.

1.	Mo	: in ppm	M1	2.	ppm
2.	Cu	: in ppm	M1	28.	ppm
3.	Pb	: in ppm	M1	38.	ppm
4.	Zn	: in ppm	M1	180.	ppm
5.	Ag	: in ppm	M1	0.3	ppm
6.	Ni	: in ppm	M1	32.	ppm
7.	Co	: in ppm	M1	12.	ppm
8.	Mn	: in ppm	M1	800.	ppm
9.	Fe	: in %	M1	2.5	%
10.	As	: in ppm	M1	8.	ppm
11.	U	: in ppm	M1	3.	ppm
12.	IS	: Internal Standard.			Ag channel
13.	Th	: in ppm	M1	3.	ppm
14.	IS	: Internal Standard.			
15.	Cd	: in ppm	M1	2.	ppm
16.	Sb	: in ppm	M1	3.	ppm
17.	Bi	: in ppm	M1	2.	ppm
18.	V	: in ppm	M1	54.	ppm
19.	Ca	: in %	M1	0.62	%
20.	P	: in %	M1	0.11	%
21.	La	: in ppm	M1	8.	ppm
22.	In	: in ppm	M1	2.	ppm
23.	Mg	: in %	M1	0.67	%
24.	Ba	: in %	M1	0.023	%
25.	Ti	: in %	M1	0.07	%
26.	B	: in ppm	M1	12.	ppm
27.	Al	: in %	M1	1.9	%
28.	IS	: Internal Standard.			— Cr
29.	IS	: Internal Standard.			— Nb
30.	W	: in ppm	M1	1.	ppm

Notes:

1. Zinc over 5000 ppm interferes on W channel.
2. Iron over 1. % interferes on In and Sb channel.

Monitoring of Results:

If analysis of standard M-1 is different than the certification, then compensate (add or subtract) samples appropriately.

Standardization:

Complete set of USGS standards, Canadian Certified Reference Materials and 72 specpure metals from Johnson Matthey.

VGC

986-5211

VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 604-XXXXXXXX
V7P 2S3

TO: BP Canada Ltd.
3rd Floor, 900 W. Pender St.
Vancouver, B.C. V6C 1L1

FROM: Vangeochem Lab Ltd.
1521 Pemberton Ave.
North V ncouver, B.C. V7P 2S3

SUBJECT: Analytical procedure used to determine hot acid soluble arsenic in geochemical silt, soil, lake sediments and rock samples.

For Report # 81-20-001

1. Sample Preparation

(a) Geochemical soil, silt, lake sediments or rock samples were received in the laboratory in wet-strength 3½ x 6½ Kraft paper bags and rock samples in 4" x 6" Kraft paper bags.

(b) The wet samples were dried in a ventilated oven.

(c) The dried soil and silt samples were sifted by hands using a 8" diameter 80-mesh stainless steel sieves. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a nwq bag for analysis later.

(d) The dried rock samples were crushed by using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for later analysis.

2. Method of Digestion

(a) 0.25 gram of the minus 80-mesh sample was used. Samples were weighed out by using a top-loading balance.

(b) Samples were heated in a sand bath with concentrated perchloric acid (70 - 72% $HCLO_4$ by weight) at a medium heat for four hours.

(c) The digested samples were diluted with demineralized water.

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3. Method of Analysis

(a) Potassium iodide and stannous chloride in HCL were added to the digested samples.

(b) Zinc metal was introduced and the arsenic in solution was gassed off as arsene through a glass wool scrubber plug saturated with lead acetate and into a solution of silver diethyldithiocarbamate in chloroform with l-ephedrine, forming a red complex with the silver diethyldithiocarbamate.

(c) The concentration of the arsenic was determined colorimetrically by comparing the intensity of the color of the red complex with a set of known standards prepared in a similar fashion as the samples.

4. The analyses were supervised or determined by Mr. Eddie Tang or Mr. Conway Chun and their laboratory staff.

Eddie Tang
VANGEOCHEM LAB LTD.

VGC

VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA V7P 2S3 604-986-5211

To; BP Canada Ltd.
3rd Floor, 900 W. Pender St.
Vancouver, B.C. V6C 1L1

From: Vangeochem Lab Ltd.
1521 Pemberton Avenue
North Vancouver, B.C. V7P 2S3

Subject: Analytical procedure used to determine Aqua Regia soluble gold in geochemical samples.

For Report # 81-20-001

1. Method of Sample Preparation

(a) Geochemical soil, silt ot rock samples were received in the laboratory in wet-strength 4 x 6 Kraft paper bags or rock samples sometimes in 8" x 12" plastic bags.

(b) The dried soil and silt samples were sifted by hands using a 8" diameter 80-mesh stainless steel sieve. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a new bag for analysis later.

(c) The dried rock samples were crushed by using a jaw crusher and pulverized to 100 - mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for later analysis.

2. Method of Digestion

(a) 5.00 - 10.00 grams of the minus 80-mesh samples were used. Samples were weighed out by using a top-loading balance into beakers.

(b) 20 ml of Aqua Regia (3:1 HCL : HNO_3) were used to digest the samples over a hot plate vigorously.

(c) The digested samples were filtered and the washed pulps were discarded and the filtrate was reduced to about 5 ml.

(d) The Au comples ions were extracted into diisobutyl ketone and thiourea medium. (Anion exchange liquids "Aliquot 336").

... 2

(e) Separate Funnels were used to separate the organic layer.

3. Method of Detection

The gold analyses were detected by using a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode Lamp. The results were read out on a strip chart recorder. A hydrogen lamp was used to correct any background interferences. The gold values in parts per billion were calculated by comparing them with a set of gold standards.

4. The analyses were supervised or determined by Mr. Conway Chun or Mr. Eddie Tang and his laboratory staff.

Eddie Tang
VANGEOCHEM LAB LTD.

ET: jl

VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 604-986-5211
V7P 2S3

To: BP Canada Ltd.
3rd Floor, 900 W. Pender St.
Vancouver, B.C. V6C 1L1

From: Vangeochem Lab Ltd.
1521 Pemberton Avenue
North Vancouver, B.C. V7P 2S3

Subject: Analytical procedure used to determine hot acid soluble Pb, Ni, Ag & Fe in geochemical silt, soil, and rock samples.

For Report # 81-20-001

1. Sample Preparation

(a) Geochemical rock, silt, and soil samples were shipped to the lab by the above client. The rock samples were either stored in 8" x 13" plastic bags or in 4" x 9" cotton mailing bags. The silt and soil samples were stored in the wet-strength 3½" x 6½" Kraft paper bags.

(b) The wet samples were dried in a ventilated oven over-night.

(c) The dried soil or silt samples were sifted by hands, using a 8" diameter 80-mesh stainless steel sieve. The plus 80-mesh fraction materials were rejected and the minus 80-mesh fraction materials were transferred into coin envelopes for analyses later.

(d) The dried rock samples were crushed by a jaw crusher and pulverized by using a disc mill to minus 100-mesh. The pulverized samples were stored in the 4" x 6" paper bags for later analysis.

.....2

2. Method of Digestion

(a) 0.50 gram of the minus 80-mesh samples was used. Samples were weighed out by using a top-loading balance.

(b) Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of the concentrated acids respectively.)

(c) The digested samples were diluted with demineralized water to a fixed volume and shaken.

3. Method of Analysis

Pb, Ni, Ag & Fe analyses were determined by using a Techtron Atomic Absorption Spectrophotometer Model AA4 with their respective hollow cathode lamps. The digested samples were aspirated directly into an air and acetylene mixture flame. The results, in parts per million, were calculated by camparing a set of standards to calibrate the atomic absorption units.

4. Back Ground Correction

A Hydrogen continuum lamp is used to correct the Silver background interferences.

5. Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. Eddie Tang and the laboratory staff.

Eddie Tang

VANGEOCHEM LAB LTD.

ET:jl

Appendix 2

List of data

GENERAL

1,2 SAMPLE TYPE

10. Stream sediment
11. Stream water
20. Seepage (spring) sediment
21. Seepage (spring) water
30. Lake sediment - lake center
31. Lake water
32. Lake sediment - near shore
40. Bog-upper 100 cm
41. Bog-stagnant water
42. Bog-below 100 cm
43. Bog-organic material at mineral horizon interface
44. Bog-mineral horizon
50. Soil-top of the B horizon (or top of the C horizon if B horizon absent)
51. Soil-other horizons (organic-rich samples or when 2 samples taken at same hole)
52. Frost boil
53. Seepage boil
55. Deep overburden sample
56. Intermediate overburden
57. Sample (depth determined
58. in field)
59.
60. Talus fines-mid slope
61. Talus fine-in gully
62. Talus fines-base of slope
63. Talus blocks-hand sample
64. Talus block-chips
70. Biogeochemical
75. Radon-track etch
76. Radon-Alpha Meters
77. Radon-emanometers
80. Bedrock hand sample
81. Bedrock chips + hand sample
82. Float hand sample
83. Float chips + hand sample
84. Drill core specimens
85. Channel sample
86. Drill sludge
87. Drill chips
*89. High grade sample
*90. Special sample-specify
*clearly label if high grade

Special note
For keypunchers benefit, 7's should be crossed ⫩ and 0's (letter) should be slashed Ø

3,4 YEAR

5-7 PROJECT NUMBER

8 PROJECT IDENTIFICATION

Blank reconnaissance
A, B, C, etc. - properties, anomalies (List 6)

9 DUPLICATE SAMPLES

*Star both samples (collect 1 in 30)

10,11 SAMPLER IDENTIFICATION
+12 (List 7)

12-15 SAMPLE NUMBER
or
13-15 leave out all numbers ending in 00 and 50

17,18 UTM ZONE

see NTS map sheets; for properties use
XX Property-feet
YY Property-meters
ZZ Property-other

19-24 EAST COORDINATE

25-31 NORTH COORDINATE

34-38 MAP SHEET NUMBER

STREAM SEDIMENTS

40 SAMPLE ENVIRONMENT

1. Next to bank
2. Behind boulders
3. Among roots below stream bank
4. Middle of stream
5. Among grass or reeds of creek bed
6. Bar in creek
7. Middle-very wide, shallow creek
8. Base of slope
9. Composite across stream
A. Soil

42 PRECIPITATE

1. Record colour (report presence of precipitate in immediate vicinity in stream bed. If heavy precipitate, sample separately).

43 OVERBURDEN TRANSPORT

L. Local
E. Extensive
U. Unknown
M. Mixed local & extensive

45 OVERBURDEN ORIGIN

1. Till-angular boulders
2. Outwash-sandy, rounded boulders
3. Lake sediment-sand/silt
4. Alluvium-stream deposit
5. Peat-bog
6. Colluvium*
7. Lake sediment-clay
8. Talus
9. Residual
A. Frost boil*
B. Seepage boil*
C. Boulder field*
D. Gravel*
E. Soil*

*use only if former origin cannot be identified

46 BEDROCK

M. Mineralized
P. Present within 100m-200m upslope
D. Present within 100m-200m downslope
B. Underlies sample site
G. Gossan
F. Fe surface stains
R. Radioactivity

47,48 pH

49 SAMPLE TEXTURE

Ø. Organic-decomposed
1. Clay
2. Silt and fine sand
3. Sand
4. Gravel
5. Frozen
6. Cemented
7. Precipitate
8. Twigs or undecomposed organic matter

50-52 AVERAGE WIDTH OF STREAM-M

decimal point in col 51 (or col 52 if stream > 10 m wide)

53-55 AVERAGE DEPTH OF STREAM-CM

56 STREAM VELOCITY

1. Dry
2. Stagnant
3. Slow
4. Moderate
5. Fast
6. Turbulent

57 INDICATE AS TRIBUTARY

R. Stream enters on right looking down main stream
L. Stream enters on left looking down main stream

58-60 LOCAL BEDROCK COMPOSITION

Estimate-use lists 1-4

61 COLOUR-STREAM SEDIMENTS

1. Colour noted in information

63-66 CONDUCTIVITY-WATER

67 CONTAMINATION

Blank-none
P. possible
D. definite

68 ORGANIC FRACTION

1. Minor amount of undecomposed twigs, leaves, etc.
2. Large amount of undecomposed twigs, leaves, etc.
3. Minor amount of well-decomposed vegetation
4. Large amount of well-decomposed vegetation
5. Mosses
6. Some sediment grains coated in organic matter
7. All sediment grains coated in organic matter
8. Looks like lake sediment material

69 MINERAL FRACTION

1. Primarily light coloured silicate minerals
2. Primarily carbonate sand
3. Minor, but notable content of mafic minerals, resustates etc.
4. High proportion of mafics, resistates

71 GAMMA SOLID ANGLE

1. Ridge
2. Flat surface (2π)
3. Base of section (3π)
4. Deep gullies (4π)
5. A
6. B
7. C
8. D

72-75 GAMMA COUNT AT SAMPLE SITE

76 ROCK

*If bedrock is influencing scint counts

77,78 APPROXIMATE SLOPE ANGLE

79,80 APPROXIMATE SLOPE DIRECTION

SOILS

40 SITE TOPOGRAPHY

1. Hill Top
2. Gentle slope
3. Steep slope > 20°
4. Base of slope
5. Valley floor
6. Depression
7. Level
8. Rolling
9. Bog

41 SAMPLE ENVIRONMENT

1. Tundra-hummocky
2. Tundra-dry
3. Tundra-swampy
4. Grassland, meadows
5. Peat mounds
6. Bog in depression
7. Forest-coniferous
8. Forest-deciduous
9. Forest-mixed
A. Alder or willows
B. Cultivated land
C. Desert, semi-arid
D. Barren
E. Talus fan
F. Bank soil-stream
G. Bank soil-lake
H. Road cut

42 SITE DRAINAGE

1. Dry
2. Moist
3. Wet
4. Saturated

43 OVERBURDEN TRANSPORT

L. Local
E. Extensive
U. Unknown
M. Mixed - two sources

44 WATER MOVEMENT

S. Seepage

45 OVERBURDEN ORIGIN

1. Till-angular boulders
2. Outwash-sandy, rounded boulders
3. Lake sediment-sand/silt
4. Alluvium-stream deposit
5. Peat-bog
6. Colluvium
7. Lake sediment-clay
8. Talus
9. Residual
A. Frost boil*
B. Seepage boil*
C. Boulder field*
D. Gravel*

*Use only if formed origin cannot be identified

46 BEDROCK

M. Mineralized
P. Present within 100m-200m upslope
D. Present within 100m-200m downslope
B. Underlies sample site
G. Gossan
F. Fe surface stains
R. Radioactivity

48 pH

49 SAMPLE TEXTURE

Ø Organic muck
1. Fibrous, peaty organic matter
2. Very sandy
3. Sandy
4. Sand-silt
5. Sand-silt-clay
6. Silt
7. Silt-clay
8. Clay
9. Gravel

50,51 TOP OF SAMPLE INTERVAL-CM

52-54 BOTTOM OF SAMPLE INTERVAL-CM

55,56 SOIL HORIZON

LH. Leaf, humus layer, undecomposed vegetation lying on the ground surface (do not sample)
AH. Dark grey to black, organic-rich mineral horizon usually no deeper than 15 cm from the surface (do not sample)
AE. Grey to white (occasionally brown) leached mineral horizon near ground surface, usually sandy; accompanied by BF or BT horizon at depth (no not sample)
BH. Black, organic-rich mineral horizon at depths greater than 15 cm (do not sample)
BF. Red brown, iron-rich horizon
BT. Brown, clay-rich horizon
BG. Horizon which is water-saturated most of the year, identified by red brown mottles
BM. Brown horizon which is only slightly different in appearance from underlying parent material
C1, C2, C3, etc.-Parent material for soil
CA. White calcium carbonate precipitate in C horizon
Ø1, Ø2, Ø3 etc.-Bog samples at various depths
TF. Talus fines

57 SOIL TYPE

C. Chernozem-prairie soil usually under grassland or meadow, thick Ah >10cm, CA horizon at depth
S. Solonetz-saline soil, high content of NaCl
L. Luvisol-BT horizon diagnostic
P. Podzol-BF horizon diagnostic
B. Brunisol-BM horizon is only B horizon of profile
R. Regosol-little or no soil development. No B soil horizon, only LH (maybe) and C horizon
G. Gleysol-BG horizon diagnostic
Ø. Organic soil-bog vegetation-no mineral matter

58-60 LOCAL BEDROCK COMPOSITION

Estimate-use lists 1-4

61-66 COLOUR

Munsell notation or abbreviation

67 CONTAMINATION

Blank-none
P. possible
D. definite

68-69 % COARSE FRAGMENTS

70 SHAPE OF COARSE FRAGMENTS

A. Angular
B. Rounded
S. Subrounded, subangular
M. Mixed above types

71 GAMMA SOLID ANGLE

1. Ridge
2. Flat surface (2π)
3. Base of section (3π)
4. Deep gullies (4π)
5. A
6. B
7. C
8. D

72-75 GAMMA COUNT AT SAMPLE SITE

Scint reading at ground level over hole

76 ROCK

*If bedrock is influencing scint counts

77,78 APPROXIMATE SLOPE ANGLE

79,80 APPROXIMATE SLOPE DIRECTION

LIST 1

1-- INTRUSIVE ROCKS

-1- QUARTZ RICH
--1 Granite
--2 Quartz Monzonite
--3 Granodiorite
--4 Quartz diorite
-2- INTERMEDIATE
--1 Syenite
--2 Monzonite
--3 Diorite
--4 Gabbro
-3- FELDSPATHOID RICH
--1 Nepheline syenite
--2 Nepheline monzonite
-40 ULTRABASIC
-50 CARBONATITES
-60 SPECIAL TYPES
--1 Pegmatite
--2 Aplite
--3 Lamprophyre
--4 Trap
--5 Felsite
--6 Intrusion breccia
--7 Diabase

LIST 2

2-- VOLCANIC ROCKS

-0- UNDIFFERENTIATED
-1- BASALT
-2- ANDESITE
-3- DACITE
-4- RHYOLITE
-5- QUARTZ LATITE
-6- LATITE
-7- TRACHYTE
-8- PHONOLITE
-9- NEPHELINE LATITE
--1 Fine grained flows
--2 Prophyritic flows
--3 Crystal tuffs
--4 Ash tuffs
--5 Lapilli tuffs
--6 Agglomerate
--7 Lapilli breccia
--8 Block breccia
--9 Turbidite

LIST 3

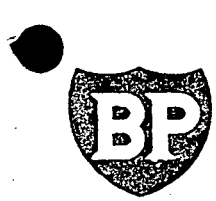
3-- SEDIMENTARY ROCKS

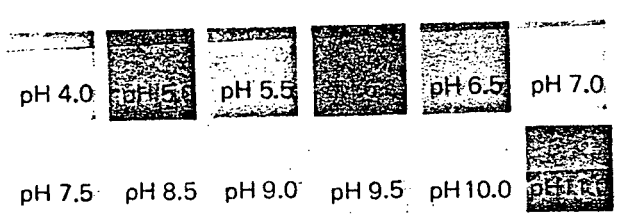
-1- ARENACEOUS
--1 Siltstone
--2 Mudstone
--3 Greywake
--4 Sandstone
--5 Quartzite
--6 Conglomerate
-2- ARGILLACEOUS
--1 Shale
--2 Argillite
-3- CALCAREOUS
--1 Limestone
--2 Dolomite
-4- CHEMICAL PRECIPITATE
--1 Chert
--2 Marble
--3 Iron formation

LIST 4

4-- METAMORPHIC ROCKS

-1- FINE GRAINED CONTACT
-2- PHANERITIC
--1 Meta quartzite
--2 Marble
--3 Soapstone
--4 Hornfels
--5 Serpentine
--6 Skarn
--7 Amphibolite
--8 Eclogite
-3- MECHANICAL
--1 Mylonite
--2 Flaser
--3 Augen
--4 Ultramylonite
-40 SLATE
-50 PHYLLITE
-60 SCHIST
-7- GNEISS*
-8- MIGMATITE*
--1 *Granite
--2 Monzonite
--3 Granodiorite
--4 Conglomerate
--5 Sandstone
--6 Augen
--7 Granulite
--8 Quartz diorite
--9 Diorite
--0 Amphibolite





SOIL SAMPLE CODING KEY

	RECORD NUMBER
1	1937
2	1938
3	1939
4	1940
5	1941
6	1942
	1943
	SAMPLE TYPE
	YEAR
	PROJECT CODE
	PROPERTY CODE 1
	DUPLICATE NOTATION
	SAMPLE NUMBER
	ZONE
	UTM EAST
	UTM NORTH
	NTS MAP SHEET
	PROPERTY CODE 2
	SITE TOPOGRAPHY
	SAMPLE ENVIRONMENT
	SITE DRAINAGE
	OVERBURDEN TRANSPORT
	WATER MOVEMENT
	OVERBURDEN ORIGIN
	BEDROCK EXPOSURE
	pH
	SAMPLE TEXTURE
	TOP OF SAMPLE INTERVAL-CM
	BOTTOM OF SAMPLE INTERVAL-CM
	SOIL HORIZON
	SOIL TYPE
	GEOLOGY
	SOIL COLOUR
	CONTAMINATION
	% COARSE FRAGMENTS
	SHAPE OF COARSE FRAGMENTS
	GAMMA SOLID ANGLE
	SCINTILLOMETER READING-cps
	OUTCROP
	SLOPE ANGLE & DIRECTION
	ppm U
	ppm Cu
	ppm Pb
	ppm Co
	ppm Ni
	ppm Mo
	ppm Mn
	% Fe

STREAM & SEEPAGE SEDIMENT SAMPLE CODING KEY

	RECORD NUMBER
1	
2	
3	
4	
5	
6	
	SAMPLE TYPE
	YEAR
	PROJECT CODE
	PROPERTY CODE 1
	DUPLICATE NOTATION
	SAMPLE NUMBER
	ZONE
	UTM EAST
	UTM NORTH
	NTS MAP SHEET
	PROPERTY CODE 2
	SAMPLE ENVIRONMENT
	PRECIPITATE
	OVERBURDEN TRANSPORT
	OVERBURDEN ORIGIN
	BEDROCK
	pH
	SAMPLE TEXTURE
	AVERAGE WIDTH OF STREAM-M
	AVERAGE DEPTH OF STREAM-CM
	STREAM VELOCITY
	INDICATE AS TRIBUTARY
	GEOLOGY
	COLOUR-STREAM SEDIMENTS
	CONDUCTIVITY-WATER
	CONTAMINATION
	ORGANIC FRACTION
	MINERAL FRACTION
	GAMMA SOLID ANGLE
	SCINTILLOMETER READING-cps
	OUTCROP
	DIRECTION AND SLOPE OF STREAM FLOW
	ppm U
	ppm Cu
	ppm Pb
	ppm Co
	ppm Ni
	ppm Mo
	ppm Mn
	% Fe

	TYPE	ID	E	N	NTS								Pb	Ni	Fe	Ag	Au	As
1	10815051	180283	6668986290008		94D09	.5 153	142				1	4 S	16	44	4.5	0.4	20	4
2	10815051	180300	XX6685056286710		94D09	.5 103	143				1	8 E	16	21	3.4	0.1	0	20
3	10815051	180306	XX6685056287160		94D09	.60053	143				1	12 E	18	24	3.6	0.0	0	10
4	10815051	180310	XX6687406286770		94D09	.4 123	143				1	7 E	10	24	2.8	0.0	0	15
5	10815051	180435	XX6680806289007		94D09	1 303	443				1	2NE	20	410	3.7	0.0	0	2
6	10815051	180440	6680496289288		94D09	2 14	414				1	4SE	16	280	4.0	0.0	0	4
7	10815051	180510	6686076288364		94D09	.8 103	443				1	3NE	20	470	4.0	0.3	10	2
8	10815051	180512	6686196288730		94D09	.30053	443				1	5 E	20	450	5.0	0.0	0	4
9	10815051	890724	6674876288250		94D09	0200103	413			10YR44	2	02NW	10	24	2.4	0.4	0	10
10	10815051	890735	6676596289482		94D09	0200104	613			10YR44	02	01SE	16	320	3.8	0.2	0	10
11	10815051	890740	6674886289690		94D09	0050104	143			10YR44	2	05SE	15	62	5.0	0.4	50	4
12	10815051	890742	6675016289773		94D09	0050252	143				2	02SE	15	33	4.0	0.4	20	10
13	10815051	890747	6674496289813		94D09	.80073	2 2				1	05E	11	37	3.6	0.5	0	4
14	20815051	890758	6673816288808		94D09	0030022691131				10YR32	1	02NE	10	25	3.1	0.1	10	35
15	10815051	890763	6673706288234		94D09	0100052	1141			10YR32	1	02NE	15	34	4.0	0.8	0	25
16	10815051	890774	096673696288145		94D09	0.30043	1441		224	GREY	1	05NE	20	47	3.6	0.8	0	40
17	10815051	890791	6655906288232		94D09	0010753	4121			10YR44		03N	14	27	4.5	0.4		
18	10815051	890817	6659636287510		94D09	0.20053	4121				1	05N	15	24	5.0	0.0	10	10
19	10815051	890820	6660216287158		94D09	0.20001	6131			10YR44	1	10NW	15	27	4.0	0.0	20	30
20	20815051	890824	6662156287330		94D09	0.70001	1121			10YR44	1	0	11	23	3.5	0.0	0	4
21	10815051	890828	6659126288119		94D09	0.2010358	1131			10YR53	1	05NW	16	22	3.8	0.0	20	25
22	10815051	890846	6685696288628		94D09	0.2005367	1121			10YR44	1	05E	19	440	4.5	0.1	10	4
23	20815051	890847	6685976288693		94D09	0.2005170	1121			10YR44	1	05E	11	360	4.0	0.0	0	2
24	10815051	890853	6651966288988		94D09	00201547031			2243	3	3	10E	14	350	6.0	0.2	0	2
25	10815051	891063	096677806287500		94D09	0.1010	706131			10YR44	1	10E	10	25	3.8	0.1	0	60
26	10815051	891077	096679756287995		94D09	0.20053	1131			10YR31	1	05E	9	85	2.8	0.6	0	10
27	20815051	891091	6686226286752		94D09	0.90033	2421		224	10YR44	1	2NE	10	23	2.5	0.1	0	4
28	10815051	891092	6686666286740		94D09	0010053	242		122	10YR44	1	02NE	10	25	3.6	0.0	0	15
29	10815051	891097	6684576287493		94D09	0020053	3121		224		2	5E	10	21	3.8	0.0	0	0
30	20815051	891098	6684446287604		94D09	0010023	382					20N	18	24	4.5	0.2	0	0
31	10815051	891100	6684706287808		94D09	0010023	3221			10YR44	1	02NE	12	24	3.9	0.1	0	0
32	20815051	901072	6682386288933		94D09	0.10.5380843		1			1	5N	22	750	5.5	0.0	10	2
33	10815051	950242	6671316288043		94D09	0.3 22	612				1	15N	16	37	4.0	0.0	0	60
34	10815051	950244	6668426288172		94D09	0.6 33	643	2	222		1	2N	32	72	6.0	0.0	10	50
35	10815051	950246	6669196288315		94D09	1.0 53	643	2	223		2	10NE	15	31	2.8	0.2	0	35
36	10815051	950251	6671156289098		94D09	3.0 10370643		2	123		3	10NE	15	450	4.0	0.0	0	2
37	10815051	950253	6671936289715		94D09	0.7 3360644					1	10 E	11	58	4.0	0.4	0	4
38	10815051	950254	6673446289879		94D09	0.8 53706131					1	10 E	13	43	4.0	0.1	30	4
39	10815051	950255	6670826290348		94D09	1.5 5 60363					2	10 E	15	36	5.5	0.0	10	10
40	10815051	950257	6668446290653		94D09	2.0 83	643	2	224		3	10SE	16	36	5.0	0.0	20	4
41	10815051	950259	6668556290004		94D09	0.9 10365442					2	10 E	14	39	3.7	0.1	0	4
42	10815051	950260	6669216289295		94D09	2.0 10370644		2	123		3	5 E	16	290	5.0	0.0	0	35
43	10815051	950264	6669476288805		94D09	0.3 5270644		2	123	10YR21	1	5N	11	25	3.5	0.0	0	40
44	10815051	950272	6669676287747		94D09	0.4 32	643	2	123		1	10SE	15	34	4.5	0.2	10	10
45	10815051	950274	6668856287557		94D09	0.4 53	642				1	10NW	18	40	6.5	0.1	20	20
46	10815051	950277	6667576287817		94D09	3.0 5370644			123		2	10N	19	39	4.5	0.0	30	20
47	10815051	950288	6666296289969		94D09	0.7 5365642					1	5 E	10	42	3.9	0.5	10	15
48	10815051	950289	6665706290056		94D09	0.8 3367642					1	5 E	12	83	5.0	0.2	10	10
49	10815051	950290	6663286290041		94D09	0.8 3365644					1	5 E	14	57	3.9	0.0	0	4
50	10815051	950291	6663276289433		94D09	2.0 10467643		2	123		2	5 E	10	125	5.0	0.0	10	15
51	10815051	950293	6663726288517		94D09	1.0 303706421					2	5NE	17	40	3.7	0.2	10	60
52	10815051	950295	096665326288204		94D09	1.0 5375644		2	123		2	5NW	15	51	4.5	0.0	0	35
53	10815051	950298	6663956287927		94D09	1.0 3372644			123		2	10NW	14	34	4.5	0.0	10	35
54	10815051	950299	6663766287718		94D09	0.7 5365642		2	123		1	5NW	11	35	2.4	0.0	10	40
55	10815051	950304	6663066287812		94D09	1.0 7467644		2	224		2	15NE	16	25	3.8	0.0	0	4
56	10815051	950305	6661386288103		94D09	1.0 5367644					2	5NE	16	37	4.1	0.0	0	50
57	10815051	950310	6661886288762		94D09	1.0 3365644					2	2 W	15	25	3.2	0.0	10	10
58	10815051	950312	6661916289152		94D09	0.3 53706401			225	BK	1	25W	18	34	5.0	0.0	20	80

59	10815051	950317	6659526289952	94D09	1.0	10467643				2	5	E		18	290	4.5	0.0	20	25
60	10815051	950318	6659136289788	94D09	1.0	143				2	15	SE		16	48	4.5	0.0	30	2
61	10815051	950340	6684546289309	94D09	.4	54	1421			1	15	E		15	27	3.4	0.0	20	4
62	10815051	950343	6682686289389	94D09	.8	54	1421	I		1	10	E		15	27	2.2	0.6	0	60
63	10815051	950357	6652276290097	94D09	2.0	10	613			3	5	E		22	300	5.0	0.0	10	35
64	10815051	950358	6654366289461	94D09	.7	54	6431	I	225	1	15	E		21	28	4.0	0.0	0	45
65	10815051	950360	6656606289448	94D09	1.5	54	6411	I	225	1	10	E		14	14	1.1	0.0	0	4
66	10815051	950361	6655276290000	94D09	1.0	105	643			2	5	E		17	240	4.0	0.0	0	25

1	50815051	140082	6673826289192	94D09	252	26	40215	20BBM	DBR	501	2	N	19	37	5.0	0.0	0	15
2	50815051	140083	6674436289198	94D09	752	21	52220	25BBM	REBR	40			14	17	3.5	0.0	0	2
3	50815051	140084	6674436289259	94D09	751	21	40220	25BBM	REBR	80			18	24	4.5	0.0	0	4
4	50815051	140085	6674366289320	94D09	251	11	38220	25B3M	DBR	70	2	N	20	26	4.5	0.0	10	4
5	50815051	140086	6674306289381	94D09	251	21	36215	20BBM	REBR	801	4	N	22	33	6.0	0.0	0	2
6	50815051	140087	6674276289442	94D09	251	11	48210	20BBM	GY		2	S	21	64	4.5	0.0	0	10
7	50815051	140088	6674246289502	94D09	251121		43210	20BBM	DREBR	70	2	NE	20	45	6.5	0.0	0	10
8	50815051	140089	6674236289563	94D09	251321		52325	30LBT	BRGY	10	8	S	22	830	7.0	0.0	60	2
9	50815051	140090	6674216289624	94D09	252	21	53210	15BBM	REBR	501	1	S	19	82	5.0	0.0		
10	50815051	140091	6674186289685	94D09	252	21	40210	15BBM	REBR		1	S	19	360	5.0	0.0	0	2
11	50815051	140092	6674156289746	94D09	752	21	48210	20BBM	REBR	60			18	210	4.0	0.0	0	2
12	50815051	140093	6674126289807	94D09	753321		46415	20LBT	LBR				17	26	5.5	0.0	40	4
13	50815051	140094	6674126289868	94D09	753321		46415	20LBT	LBR				24	38	6.5	0.0	50	10
14	50815051	140095	6674126289929	94D09	753	21	47210	20BBM	DBR	501			20	38	4.0	0.0	0	4
15	50815051	160154	6655536290097	94D09	753		20	25BBM		201			22	60	5.0	0.0		30
16	50815051	160157	6657366290097	94D09	753	1	25	35PBF		401			21	250	4.0	0.0		35
17	50815051	160158	6657976290097	94D09	753	1	20	25PBF		301			20	52	5.5	0.0		4
18	50815051	160159	6658586290097	94D09	753	1	25	30PBF		401			18	31	5.0	0.0	0	4
19	50815051	160160	6659196290097	94D09	753	1	25	30BBM		301			19	114	5.5	0.0	0	45
20	50815051	160161	6659796290097	94D09	753	1	30	35PBF		301			24	36	5.0	0.0	0	4
21	50815051	160162	6660406290097	94D09	753	1	30	35BBM		501			21	40	5.0	0.0	0	2
22	50815051	160163	6661016290097	94D09	75211		30	35PBF		401			22	44	6.5	0.2		2
23	50815051	160164	6661626290097	94D09	75112		35	40PBF		401			20	36	5.5	0.0	0	4
24	50815051	160165	6662236290097	94D09	752	1	30	35PBF		501			18	28	5.0	0.0	0	2
25	50815051	160166	6662846290097	94D09	75011		35	40PBF		401			21	31	5.0	0.0	0	2
26	50815051	160167	6663456290097	94D09	75011		35	40PBF		501			23	27	4.5	0.0		4
27	50815051	160168	6664066290097	94D09	751	2	25	30BBM		40			20	25	4.5	0.0	0	4
28	50815051	160169	6664676290097	94D09	75	1	30	35PBF		401			20	32	4.5	0.0	0	4
29	50815051	160170	6665286290097	94D09	751	1	30	35PBF		501			15	38	4.5	0.0	0	10
30	50815051	160171	6665896290097	94D09	751	2	25	30BBM		40			16	28	4.5	0.0		4
31	50815051	160172	6666506290097	94D09	751422		725	30BBM		70			15	28	3.7	0.1		4
32	50815051	160173	6667116290097	94D09	752	1	30	35PBF		401			17	30	3.9	0.0	10	4
33	50815051	160174	6667726290097	94D09	251	1	15	20PBF		50110		E	19	27	4.5	0.1	0	10
34	50815051	160175	6668336290097	94D09	251	1	20	25PBF		30105		S	19	31	5.0	0.0	20	4
35	50815051	160176	6668946290097	94D09	35142		40	45BBM			25	S	18	30	4.5	0.0	0	4
36	50815051	180336	6676806289137	94D09	321	16	335	40BBF	MBR	20140		S	20	39	4.5	0.0	0	10
37	50815051	180337	6676776289076	94D09	321	162	320	25BBF	DBR	50140		N	21	26	4.5	0.0	20	15
38	50815051	180338	6676716289015	94D09	3211162		320	25PBF	RBR	20140		N	20	39	6.5	0.0	10	10
39	50815051	180339	6676656288954	94D09	3211162		320	25PBF	RBR	10125		SE	16	27	4.5	0.0	0	4
40	50815051	180340	6676596288893	94D09	721111		310	20PBF	RBR	81			19	28	5.0	0.1	10	10
41	50815051	180341	6676566288832	94D09	721111		310	20PBF	RBR	101			16	18	5.5	0.0	10	15
42	50815051	180342	6676536288771	94D09	221111		310	20PBF	RBR	81	5	N	27	30	6.0	0.0	10	35
43	50815051	180343	6676506288710	94D09	821111		320	30BBF	RBR	81			19	35	6.0	0.0	10	10
44	50815051	180344	6676476288649	94D09	221111		310	20BBF	RBR	71	7	E	19	30	6.5	0.3	0	10
45	50815051	180345	6676416288588	94D09	221111		310	20PBF	RBR	51	7	SW	18	17	4.0	0.0	0	2
46	50815051	180346	6676386288527	94D09	821111		320	25BBF	RBR	51	3	NW	20	38	7.0	0.1	0	15
47	50815051	180347	6676356288466	94D09	221111		310	20PBF	RBR	81	5	W	23	79	7.5	0.0	10	4
48	50815051	180348	6676256288405	94D09	721111		310	20PBF	RBR	201			17	84	4.5	0.0	0	4
49	50815051	180349	6676226288344	94D09	821111		310	20BBF	RBR	201	2	E	15	15	5.0	0.0	0	10
50	50815051	180350	6677026288344	94D09	821111		310	20BBF	RBR	151			13	16	4.0	0.0	0	10
51	50815051	180351	6676926288283	94D09	722	11	320	25BBF	RBR	2			15	20	3.8	0.3	0	15
52	50815051	180352	6676866288222	94D09	221111		310	25PBF	RBR	8115		W	16	18	5.5	0.0	0	20
53	50815051	180353	6676806288161	94D09	221111		310	20PBF	RBR	20110		W	18	20	5.0	0.0	20	10
54	50815051	180354	6676716288100	94D09	221111		320	30BBF	RBR	8118		N	30	20	5.5	0.0	10	15
55	50815051	180355	6676656288039	94D09	321116		315	25PBF	RBR	10125		N	15	14	5.0	0.0	0	15
56	50815051	180356	6676596287978	94D09	321116		320	25PBF	RBR	30125		N	19	23	6.0	0.0	0	15
57	50815051	180357	6676566287918	94D09	321	16	320	25PBF	RBR	8122		N	19	25	5.0	0.1	10	10
58	50815051	180384	6679556289182	94D09	121111		310	20BBF	RBR	41	8	S	20	220	10.0	0.0	10	10

59	50815051	180385	66795662891 18	94D09	321	16	325	30BBM		MBR	2	25SE			22		670	4.5	0.6	40	2
60	50815051	180386	66796162890 57	94D09	321	216	665	70BAE		GY	5	25 N			14		220	5.0	0.4	20	4
61	50815051	180387	66796162889 97	94D09	321	119	310	20PBF		RBR	2	14ONE			22		430	5.0	0.2	40	10
62	50815051	180388	66796462889 39	94D09	321	216	320	30BBM		MBR	8	125NE			18		560	7.5	0.2	300	10
63	50815051	180389	66796762888 78	94D09	321	216	510	20BBF		RBR		222 N			16		230	5.5	0.0	0	4
64	50815051	180390	66796762888 17	94D09	721	111	315	20PBF		RBR	61				16		190	5.0	0.2	0	10
65	50815051	180391	66796762887 56	94D09	221	111	310	20PBF		RBR	81	7NE			17		135	5.0	0.5	0	10
66	50815051	180392	66797062886 95	94D09	721	511	320	25PBF		RBR	51				12		175	4.0	0.2	0	4
67	50815051	180393	66797362886 34	94D09	721	511	325	30BBF		RBR	51				16		200	4.5	0.2	0	10
68	50815051	180394	66797362885 73	94D09	221	11	620	30PBF		RBR	151	8 N			11		50	3.9	0.4	0	15
69	50815051	180396	66797662884 48	94D09	221	111	310	20PBF		RBR		8 N			14		140	5.0	0.2	10	10
70	50815051	180397	66797962883 90	94D09	221	111	310	20BBF		RBR	51	5 S			16		119	6.0	0.1	0	4
71	50815051	180398	66798262883 32	94D09	2211	112	310	20PBF		RBR	51	10 E			15		68	5.0	0.3	0	10
72	50815051	180399	66798262882 59	94D09	221	111	310	20PBF		RBR	71	10 N			19		18	4.5	0.0	10	4
73	50815051	180400	66798562882 07	94D09	221	111	310	20PBF		RBR	151	5NE			16		35	5.0	0.2	10	10
74	50815051	180401	66798862881 46	94D09	321	111	310	20BBF		RBR	151	22NE			15		28	4.0	0.1	0	10
75	50815051	180402	66799162880 85	94D09	221	11	310	20BBF		RBR	21	1ONE			15		175	5:0	0.0	0	10
76	50815051	180403	66799162880 24	94D09	221	111	310	20BBF		RBR	201	18NE			15		22	4.0	0.2	0	15
77	50815051	180404	66799162879 63	94D09	221	111	310	20BBF		RBR	61	8SE			15		64	5.0	0.0	10	15
78	50815051	180405	66799162879 18	94D09	221	16	310	20BBF		RBR	101	6 E			12		48	3.7	0.0	10	4
79	50815051	180406	66799462878 63	94D09	321	116	310	20BBF		RBR	51	25 N			15		36	3.8	0.4	0	2
80	50815051	180407	66799462878 20	94D09	221	16	310	20BBF		RBR	101	7 E			20		17	3.6	0.4	30	4
81	50815051	180408	66799762877 68	94D09	221	16	320	30BBM		RBR	101	15NE			16		32	5.5	0.0	0	30
82	50815051	180409	66799762877 19	94D09	221	116	310	20PBF		RBR	201	8NE			16		30	6.0	0.3	10	25
83	50815051	190088	66508662873 69	94D09	261	16	35210	20BBM		M BR	801	4 N			19		17	4.0	0.4	0	2
84	50815051	190089	66508662874 91	94D09	262	16	58225	35BBM		M BR	751	3 N			17		24	3.9	0.1	0	15
85	50815051	190090	66508962876 13	94D09	762	16	55220	35BBM		M BR	901				19		20	3.9	0.4	0	4
86	50815051	190091	66508962877 35	94D09	772	16	57225	35BBM		M BR	401				18		25	4.0	0.4	0	20
87	50815051	190092	66509362878 57	94D09	72	16	55220	35BBM	224	M BR	501				18		29	5.5	0.0	0	0
88	50815051	190093	66509662880 09	94D09	562	16	392	4 10BBM		M BR	801				22		15	6.0	0.2	70	15
89	50815051	190094	66509662881 00	94D09	562	16	412	6 12BBM		M BR	901				26		18	4.0	0.2	0	4
90	50815051	230477	66547762884 51	94D09	552		9	15BM		MEDBRM	60			30	27	65	15				
91	50815051	230478	66547762883 29	94D09	741		4	25		REDBRN				48	22	45	16				
92	50815051	230479	66547762882 07	94D09	271		4	25		MEDBRN			10N	45	20	38	10				
93	50815051	230480	66547762880 85	94D09	271		4	30		REDBRN			10N	94	23	40	11				
94	50815051	230481	66548362879 63	94D09	742		7	35		MEDBRN				225	24	63	22				
95	50815051	230482	66549262878 41	94D09	272		5	30		MEDBRN			10N	140	17	49	19				
96	50815051	230483	66549862877 19	94D09	242		5	25		MEDBRN			10N	372	27	115	21				
97	50815051	230484	66551362875 97	94D09	271		5	25		MEDBRN			10N	78	24	58	16				
98	50815051	230485	66552262874 76	94D09	271		7	30		MEDBRN			10N	127	17	45	15				
99	50815051	230486	66553162873 57	94D09	271		5	30		MEDBRN			15N	158	20	55	17				
100	50815051	230487	66579762884 36	94D09	742		7	30		DRKBRN				55	25	80	30				
101	50815051	230488	66579462883 59	94D09	271		7	30		REDBRN			5S	30	24	60	18				
102	50815051	230489	66579462882 47	94D09	741		4	30		REDBRN				100	25	45	20				
103	50815051	230490	66579462881 19	94D09	271		4	30		REDBRN			20N	75	25	40	21				
104	50815051	230491	66579462879 94	94D09	271		7	30		LTBRWN			10N	200	25	74	24				
105	50815051	230492	66579462878 75	94D09	271		4	35		REDBRN			10N	104	24	45	18				
106	50815051	230493	66579462877 53	94D09	272		5	25		MEDBRN	50		10N	140	25	70	23				
107	50815051	230494	66579462876 31	94D09	371		7	35		MEDBRN			25N	96	20	55	15				
108	50815051	230495	66579462875 09	94D09	372		6	35		DRKBRN			20N	147	20	65	15				
109	50815051	230496	66579462873 87	94D09	341		5	35BM		MEDBRN	60		25N	72	22	48	12				
110	50815051	230497	66601962884 20	94D09	271		7	35		REDBRN			5N	20	27	90	18				
111	50815051	230498	66601962882 99	94D09	271		7	30		REDBRN			15S	82	20	50	25				
112	50815051	230499	66597962881 77	94D09	271		4	30		REDBRN			15S	40	24	43	20				
113	50815051	230500	66597962880 61	94D09	371		4	20		REDBRN			25N	50	22	60	22				
114	50815051	230501	66597962879 42	94D09	271		4	30		REDBRN			20N	45	25	55	25				
115	50815051	230502	66597962878 17	94D09	772		4	25		REDBRN				55	23	44	18				
116	50815051	230503	66597962876 98	94D09	371		4	30		REDBRN			25N	35	20	45	15				

117	5081505I	230504	6659796287570	94D09	271	5	35	MEDBRN	10N	75	20	39	18
118	5081505I	230505	6659796287451	94D09	341	4	30	MEDBRN	25N	140	21	61	22
119	5081505I	230506	6659796287332	94D09	341	4	35	REDBRN	25N	43	21	34	15
120	5081505I	230507	6662086287354	94D09	341	4	30	MEDBRN	25N	40	22	46	17
121	5081505I	230508	6662086287476	94D09	341	4	25	MEDBRN	25N	57	20	40	18
122	5081505I	230509	6662086287597	94D09	341	4	30	REDBRN	25N	37	26	42	17
123	5081505I	230510	6662086287719	94D09	341	4	15	MEDBRN	25N	67	25	35	11
124	5081505I	230511	6662086287841	94D09	272	5	30	REDBRN	10N	100	30	32	15
125	5081505I	230512	6662086287963	94D09	271	5	30	REDBRN	10N	43	25	45	17
126	5081505I	230513	6662086288085	94D09	742	8	40	MEDBRN		132	23	56	22
127	5081505I	230514	6662026288207	94D09	742	8	40	LITBRN		184	27	67	37
128	5081505I	230515	6661996288329	94D09	742	4	30	REDBRN		32	24	30	17
129	5081505I	230516	6661936288451	94D09	71	4		MEDBRN	5N	30	18	88	18
130	5081505I	230517	6656446288451	94D09	271	4	30	MEDBRN	5N	31	18	41	18
131	5081505I	230518	6656446288390	94D09	271	4	30	MEDBRN	10N	66	31	75	23
132	5081505I	230519	6656446288329	94D09	271	4	25	REDBRN	5W	34	31	84	20
133	5081505I	230520	6656446288268	94D09	772	4	25	MEDBRN		95	30	55	20
134	5081505I	230521	6656446288207	94D09	271	4	20	MEDBRN	5N	65	24	38	15
135	5081505I	230522	6656446288146	94D09	271	4	20	REDBRN	5N	50	28	53	22
136	5081505I	230523	6656446288085	94D09	271	4	30	REDBRN	15N	21	27	64	25
137	5081505I	230524	6656446288024	94D09	271	4	25	REDBRN	10N	22	24	58	22
138	5081505I	230525	6656446287963	94D09	271	4	25	REDBRN	10S	100	20	45	16
139	5081505I	230526	6656446287902	94D09	271	4	30	REDBRN	10N	55	22	30	17
140	5081505I	230527	6656446287841	94D09	271	4	30	REDBRN	15N	67	23	41	15
141	5081505I	230528	6656446287780	94D09	273	4	30	REDBRN	10N	27	21	35	15
142	5081505I	230529	6656446287719	94D09	242	5	45	LITBRN	10N	70	23	48	20
143	5081505I	230530	6656446287658	94D09	271	5	35	LITBRN	15N	66	23	45	20
144	5081505I	230531	6656446287597	94D09	272	5	40	LITBRN	20N	192	25	85	22
145	5081505I	230532	6656446287537	94D09	271	4	30	LITBRN	15N	95	24	50	25
146	5081505I	230533	6656446287476	94D09	271	4	25	LITBRN	15N	43	22	57	16
147	5081505I	230534	6656446287415	94D09	273	5	40	LITBRN	15N	71	16	32	20
148	5081505I	230535	6659196287415	94D09	242	5	35	MEDBRN	20N	233	24	83	30
149	5081505I	230536	6659196287476	94D09	271	4	30	REDBRN	20N	100	24	66	22
150	5081505I	230537	6659196287537	94D09	271	5	25	LITBRN	20N	175	28	73	25
151	5081505I	230538	6659196287597	94D09	371	4	25	LITBRN	25N	65	28	76	17
152	5081505I	230539	6659196287658	94D09	271	7	25	LITBRN	10N	200	27	77	29
153	5081505I	230540	6659196287719	94D09	271	7	35	LITBRN	10N	168	28	86	27
154	5081505I	230541	6659196287780	94D09	271	4	25	REDBRN	20N	27	26	42	15
155	5081505I	230542	6659196287841	94D09	271	5	25BM	LITBRN	20N	45	30	72	44
156	5081505I	230543	6659196287902	94D09	271	5	35	REDBRN	15N	26	19	33	15
157	5081505I	230544	6659196287963	94D09	271	5	25	REDBRN	10N	25	20	36	14
158	5081505I	230545	6659196288024	94D09	271	5	35	MEDBRN	10N	15	23	65	15
159	5081505I	230546	6659196288085	94D09	271	5	40	REDBRN	10N	111	20	47	30
160	5081505I	230547	6659196288146	94D09	271	4	30	REDBRN	15N	102	26	110	39
161	5081505I	230548	6659196288207	94D09	271	4	25	REDBRN	10N	23	25	63	32
162	5081505I	230549	6659196288268	94D09	742	4	30	MEDBRN		118	25	60	27
163	5081505I	230550	6659196288329	94D09	271	4	30	REDBRN	10N	90	24	48	22
164	5081505I	230551	6659196288390	94D09	771	4	25	REDBRN		37	23	50	15
165	5081505I	230552	6659196288451	94D09	271	4	30	MEDBRN	10N	30	26	74	26
166	5081505I	230553	6661116288451	94D09	741	4	30	REDBRN		73	25	35	18
167	5081505I	230554	6661116288390	94D09	741	4	30	MEDBRN		35	25	110	22
168	5081505I	230555	6661116288329	94D09	871	4	30	REDBRN	10W	38	24	59	23
169	5081505I	230556	6661116288268	94D09	871	4	30	REDBRN	20W	35	20	42	17
170	5081505I	230557	6661116288207	94D09	871	4	30	REDBRN	15W	54	26	45	22
171	5081505I	230558	6661116288146	94D09	871	5	25	REDBRN	15S	52	27	77	25
172	5081505I	230559	6661116288085	94D09	871	4	25	REDBRN	10S	45	30	73	24
173	5081505I	230560	6661116288024	94D09	871	4	30	REDBRN	30N	55	26	45	18
174	5081505I	230561	6661116287963	94D09	171	4	30	REDBRN	5N	50	26	55	24

175	50815051	230562	6661116287902	94D09	171		5	35	REDBRN		10N	25	22	47	19							
176	50815051	230563	6661116287841	94D09	871		4	30	REDBRN		25S	131	21	52	26							
177	50815051	230564	6661116287780	94D09	743		4	35	LITBRN			75	17	48	19							
178	50815051	230565	6661116287719	94D09	242		5	35	REDBRN		15N	77	22	42	22							
179	50815051	230566	6661116287658	94D09	242		5	35	MEDBRN		20N	83	20	45	20							
180	50815051	230567	6661116287597	94D09	271		5	30	MEDBRN		20N	55	23	50	18							
181	50815051	230568	6661116287537	94D09	242		5	25	MEDBRN		20N	88	25	49	21							
182	50815051	230569	6661116287476	94D09	241		7	40	REDBRN		20N	95	27	77	23							
183	50815051	230570	6661116287415	94D09	341		4	35	REDBRN		30N	71	28	43	15							
184	50815051	230571	6663766287445	94D09	341		7	30	REDBRN		30N	38	24	42	17							
185	50815051	230572	6663766287506	94D09	341		7	30BM	MEDBRN		30N	35	24	53	15							
186	50815051	230573	6663766287567	94D09	341		7	40	REDBRN		35N	75	26	83	21							
187	50815051	230574	6663766287628	94D09	341		4	30	REDBRN		25N	44	23	57	20							
188	50815051	230575	6663766287689	94D09	341		4	15	MEDBRN		30N	174	27	95	31							
189	50815051	230576	6663766287750	94D09	242		5	35	MEDBRN		15N	150	27	86	31							
190	50815051	230577	6663766287811	94D09	772		4	30	REDBRN			47	29	58	22							
191	50815051	230578	6663766287872	94D09	771		4	20	REDBRN			48	30	65	21							
192	50815051	230579	6663766287933	94D09	272		5	40	MEDBRN		10N	227	27	75	32							
193	50815051	230580	6663766287994	94D09	272		5	30	MEDBRN		5N	140	28	95	40							
194	50815051	230581	6663766288055	94D09	772		5	30	MEDBRN			72	29	87	29							
195	50815051	230582	6663766288116	94D09	773		5	35	REDBRN			38	23	57	20							
196	50815051	230583	6663766288177	94D09	741		7	30	REDBRN			46	22	50	22							
197	50815051	230584	6663766288238	94D09	741		7	25	REDBRN			89	26	60	21							
198	50815051	230585	6663766288299	94D09	741		7	25	REDBRN			56	24	54	25							
199	50815051	230586	6663766288359	94D09	741		7	35	REDBRN			82	30	63	32							
200	50815051	230587	6663766288420	94D09	241		7	35	REDBRN		10N	65	27	66	23							
201	50815051	890743	6675586289807	94D09	751	21	52310020BBM		10YR44	20	0000		14		28	4.0	0.3	0	10			
202	50815051	890745	6674436290112	94D09	751	21	53310025BBM		10YR44		0000		10		35	4.5	0.7	10	10			
203	50815051	890746	6673216290112	94D09	251	12	55315020BBM		10YR44	45	10S		15		30	5.0	0.5	0	4			
204	50815051	890748	6673186289990	94D09	551	23	61710015BBM224		10YR44	70	0000		14		35	5.0	0.1	20	10			
205	50815051	890749	6673186289868	94D09	251	11	56215020BBM224		75YR44	25	120N		11		40	3.5	0.5	10	4			
206	50815051	890750	6673216289746	94D09	251	14	56210020BBM224		75YR44	30	20S		12		69	4.0	0.5	10	4			
207	50815051	890751	6673216289624	94D09	551	41	12543100 15BBM124		10YR44	50	10000		14		164	4.5	0.6	0	4			
208	50815051	890752	6673216289502	94D09	721	11	56305020BBM		10YR44	25	10000		15		56	5.0	0.4	10	10			
209	50815051	890753	6673216289381	94D09	721	11	54305010BBM		75YR44	30	10000		16		31	6.0	0.2	40	4			
210	50815051	890754	6673216289259	94D09	821	11	54305010BBM		75YR44	35	10000		17		20	4.0	0.5	10	4			
211	50815051	890755	6673216289137	94D09	821	11	53310025BBM		10YR44	15	05SE		16		20	7.5	1.2	430	15			
212	50815051	890756	6673216289015	94D09	821	19	58315035BBM		75YR44	60	10000		17		250	4.5	0.6	10	2			
213	50815051	890757	6673216288893	94D09	821	11	48305015BBM		10YR44	30			17		17	2.5	0.1	50	4			
214	50815051	890759	6673216288771	94D09	821	21	67310025BBM		10YR44	20	05E		10		19	3.3	0.6	0	2			
215	50815051	890760	6673216288649	94D09	821	21	59215030BBM		10YR44	10	05NE		15		20	3.7	0.2	0	4			
216	50815051	890761	6673216288527	94D09	821	12	60305020BBM		10YR44	15	10NE		17		20	5.5	0.5	10	10			
217	50815051	890762	6673216288405	94D09	821	19	55310020BBM		10YR43	25	105NE		18		40	7.0	0.5	0	4			
218	50815051	890764	6673216288283	94D09	721	21	58310020BBM		10YR44	20	0000		16		30	5.0	0.6	0	2			
219	50815051	890765	6673216288161	94D09	221	21	59300015PBF		75YR44	20	10NE		15		24	5.0	0.7	0	20			
220	50815051	890766	6673216288039	94D09	221	21	52325035BBM		10YR44	25	10NE		17		19	5.0	0.2	0	4			
221	50815051	890767	6673216287918	94D09	251	11	55310020BBM		10YR44	20	10SE		12		23	4.5	0.4	0	10			
222	50815051	890768	6673216287796	94D09	251	19	50315030BBM		10YR44	30	110SE		15		20	4.5	0.5	30	15			
223	50815051	890769	6673216287674	94D09	251	11	54315025PBF		75YR44	25	110SE		14		27	5.0	0.5	0	15			
224	50815051	890770	6673216287552	94D09	322	11	66340055LBT		10YR44	25	125NE		14		44	5.5	0.7	0	30			
225	50815051	890790	6653096288283	94D09	721	21	61310020BBM		75YR44	10	0000		9		26	3.5	0.4	0	4			
226	50815051	890792	6653096288161	94D09	821	11	70210030 BH		10YR22	20	0000		20		40	6.0	0.9	10	30			
227	50815051	890793	6653156288039	94D09	721	19	60310020BBM310		75YR44	30	0000		11		35	4.5	0.2	10	45			
228	50815051	890794	6653246287918	94D09	251	19	62710025BBM		75YR44	40	105N		15		24	5.0	0.8	0	10			
229	50815051	890795	6653336287796	94D09	251	19	51710030BBM		75YR44	80	110N		18		16	6.0	0.3	0	4			
230	50815051	890796	6653366287674	94D09	251	11	67720035PBF		75YR44	75	110NW		10		24	4.0	0.0	20	4			
231	50815051	890797	6653396287552	94D09	251	10	50710030BBM		10YR44	70	105NW		16		11	6.5	0.7	50	50			
232	50815051	890799	6653426287308	94D09	252	19	69240060GBG		10YR44	05	10N		18		26	5.0	0.1	30	50			

233	50815051	900901	6669856290539	94D09	451	11	48210	20BBM22434	10YR44	701	5S		9	33	3.9	0.1	10	4
234	50815051	900902	6669856290417	94D09	251	11	57210	20BBM	10YR44	501	5S		11	29	5.0	0.2	0	10
235	50815051	900903	6669856290295	94D09	231	11	56210	20BBM	10YR44	501	2S		12	40	4.5	0.0	0	4
236	50815051	900905	6669886290051	94D09	451	11	47210	20BBM	10YR44	6013	0N		12	28	5.0	0.0	20	10
237	50815051	900906	6669906289929	94D09	851	11	57210	20BBM	10YR44	501	2S		14	34	5.0	0.1	20	10
238	50815051	900907	6669916289807	94D09	51	11	53210	20BBM	10YR44	501	2S		16	370	3.9	0.0	0	2
239	50815051	900908	6669936289685	94D09	51	11	64310	20BBM	10YR44	501	2S		16	175	5.5	0.0	0	15
240	50815051	900909	6669966289563	94D09	31	11	58210	20BBM	10YR33	101	2S		17	310	5.0	0.0	0	4
241	50815051	900910	6669996289442	94D09	231	11	58210	20BBM123	75YR32	101	1S		15	390	6.0	0.0	0	4
242	50815051	900911	6670026289320	94D09	231	19	25921	0 20BBM1233	10YR33	51	1N		10	35	4.5	0.1	10	2
243	50815051	900912	6670056289198	94D09	851	19	27232	0 30BBM331	10YR44	501	1S		10	23	6.5	0.2	0	20
244	50815051	900913	6670086289076	94D09	832	19	25931	0 20BBM331	10YR44	301	1N		14	28	4.0	0.0	0	15
245	50815051	900914	6670116288954	94D09	831	19	26521	0 20BBM123	10YR44	501	1N		16	28	5.0	0.0	0	30
246	50815051	900915	6670146288832	94D09	831	19	26021	0 20BBM331	10YR44	501	1N		15	43	6.0	0.0	0	30
247	50815051	900917	6670166288588	94D09	851	19	26121	0 20 12335	10YR44	901	1N		19	47	6.0	0.0	0	10
248	50815051	900918	6670166288466	94D09	851	19	27021	0 20BBM123	10YR44	501	1N		28	28	4.5	0.0	0	35
249	50815051	900919	6670166288344	94D09	851	11	59210	20BBM123	10YR44	301	2N		11	19	3.7	0.0		4
250	50815051	900920	6670166288222	94D09	831	11	60210	20BBM123	10YR44	301	3N		10	23	3.8	0.0	0	10
251	50815051	900921	6670166288100	94D09	831	11	58210	20BBM123	10YR44	301	3N		11	22	4.5	0.2	0	20
252	50815051	900922	6670166287978	94D09	251	19	24631	0 20BBM123	10YR72	951	2N		9	6	1.9	0.3	0	2
253	50815051	900923	6670166287857	94D09	431	19	27221	5 25BBM12335	10YR21	951	2NW		21	20	5.5	0.2	20	50
254	50815051	900924	6670166287735	94D09	452	16	26351	0 20LBT123	10YR53	1	5N		19	46	6.0	0.0	0	30
255	50815051	901202	6687236288161	94D09	251	24	7021	0 20BBM	10YR44	20	2W		12	35	3.9	0.0	10	10
256	50815051	901203	6688456288161	94D09	251	24	6621	0 20BBM	10YR44	20	2NW		15	27	4.5	0.0	10	10
257	50815051	901204	6689676288161	94D09	251	26	5731	0 20BBM	10YR44	201	4NW		15	29	4.0	0.0	0	4
258	50815051	901205	6690886288161	94D09	251	19	24921	0 20BBM225	10YR44	501	1W		17	26	6.0	0.0	0	4
259	50815051	901206	6692106288161	94D09	251	19	25221	0 20BBM2253	10YR44	701	1W		14	138	7.5	0.0	10	4
260	50815051	901207	6693326288161	94D09	251	11	6771	0 20BBM	10YR44	75	1N		14	27	4.0	0.0	0	10
261	50815051	901208	6694546288161	94D09	251	11	57210	20GBG	10YR54	50	1N		10	12	2.3	0.0	10	2

									Mo	Cu	Pb	Zn	Ni	U	Mn	Fe
1	8381505B	272219	6657676291468	94D09	SILICIFIED ASH	224	TUFF		0	50	3	21	3	2	128	2.3
2	8981505B	272220	6656836291472	94D09	SILICIFIED ASH	224	TUFF		2	89	1	32	6	2	170	2.7
3	8381505B	272221	6656196291480	94D09	SILICIFIED ASH	224	TUFF		2	79	4	13	3	2	107	3.0
4	8381505B	272222	6655846291460	94D09	CRYSTAL ASH TUFF	223			0	28	5	50	4	1	504	2.0
5	8381505B	272223	6655206291478	94D09	SILICIFIED ASH	224	TUFF		1	19	5	27	5	2	93	2.8
6	8381505B	272224	6654356291480	94D09	SILICIFIED ASH	224	TUFF		3	15	4	36	5	3	226	3.6
7	8181505B	272225	6653356291459	94D09		123			0	47	3	19	4	1	83	2.0
8	8181505B	272226	6652436291467	94D09	SILICIFIED ASH	224	TUFF		2	12	2	59	5	1	312	2.3
9	8181505B	272227	6651616291472	94D09	ANDESITE ASH	224	TUFF		6	12	5	44	3	2	472	2.0
10	8981505B	272228	6650716291478	94D09	ANDESITE ASH	224	TUFF		4	24	2	46	3	0	283	2.1
11	8181505B	272229	6649736291486	94D09	ANDESITE CRYSTAL	223	TUFF		1	68	2	27	9	3	230	2.7
12	8381505B	272230	6648836291494	94D09	SILICIFIED ASH	224	TUFF		2	14	2	48	6	4	363	3.1
13	8381505B	272231	6647756291517	94D09	SILICIFIED ASH	224	TUFF		1	14	5	28	1	2	288	4.1
14	8381505B	272232	6646636291503	94D09	SILICIFIED	123	DIORITE		0	3	1	24	4	0	184	2.2
15	8181505B	272233	6646656291457	94D09	ANDESITE ASH	224	TUFF		1	23	7	50	11	1	311	2.5
16	8181505B	272234	6647526291432	94D09	ANDESITE ASH	224	TUFF		1	51	4	32	7	0	381	2.1
17	8181505B	272235	6648626291403	94D09	SILICIFIED ASH	224	TUFF		1	13	2	43	12	4	408	3.8
18	8981505B	272236	6649416291367	94D09	ANDESITE ASH	224	TUFF		2	72	4	28	13	2	250	3.0
19	8981505B	272237	6650146291338	94D09	SILICIFIED ASH	224	TUFF		0	7	5	38	8	0	298	2.5
20	8981505B	272238	6651416291303	94D09	SILICIFIED ASH	224	TUFF		1	190	5	67	4	2	475	5.2
21	8181505B	272239	6645236291499	94D09	ANDESITE ASH	224	TUFF		0	93	3	68	27	1	547	2.7
22	8181505B	272240	6644206291535	94D09	ANDESITE ASH	224	TUFF		1	23	4	63	15	4	613	4.0
23	8181505B	272241	6640656291387	94D09	DIORITE	123			0	157	4	44	146	3	305	2.8
24	8381505B	272242	6640656291387	94D09	GABBRO	124			1	145	2	44	249	2	384	3.4
25	8181505B	272243	6641496291290	94D09	GABBRO	124			1	294	3	37	217	4	314	2.7
26	8181505B	272244	6641896291196	94D09	ANDESITE ASH	224	TUFF		0	25	4	50	10	1	391	3.3
27	8181505B	625416	6640656291387	94D09	DIORITE	123			1	179	8	88	7	3	649	2.8
28	8180991C	BMO284	106655406291440	94D09	BIRD	SIL	C PYROCK		1	14	8	50	12		660	1.8
29	8180991C	BMO285	106643406291570	94D09	BIRD	TUF	ISITE BX		7	134	2	120	20		960	8.0
30	8180991C	BMO286	106643406291570	94D09	BIRD	TUF	ISITE CLASTS		5	34	2	112	18		1020	3.2
31	8181505C	272245	6644216290980	94D09	PERIDOTITE	24			3	27	0	55	729	5	693	5.8
32	8381505C	272246	6648426290973	94D09	SILICIFIED ASH	224	TUFF		8	560	6	22	33	5	337	4.6
33	8381505C	272247	6649106290903	94D09	SILICIFIED ASH	224	TUFF		13	258	4	33	12	4	198	3.9
34	8381505C	272248	6649146290808	94D09	ANDESITE ASH	224	TUFF		4	105	5	19	19	5	153	5.1
35	8181505C	272249	6649286290720	94D09	ANDESITE ASH	224	TUFF		3	48	4	4	4	0	130	2.9
36	8381505C	272250	6650006290665	94D09	DIORITE OR	123	CRYSTAL TUFF		1	105	3	41	22	5	504	4.8
37	8181505C	272251	6650466290634	94D09	HORNBLENDE	124	GABBRO		1	142	4	49	41	1	446	3.6
38	8381505C	272252	6651076290634	94D09	HORNBLENDE	124	GABBRO		0	73	5	52	28	1	537	2.8
39	8381505C	272253	6651676290610	94D09	DIORITE AND	123	ANDESITE ASH TUFF		5	144	6	33	10	4	330	5.9
40	8381505C	272254	6652236290564	94D09	GABBRO	124			2	191	0	45	50	0	485	3.9
41	8181505C	272255	6652916290531	94D09	GABBRO	124			1	124	4	54	58	0	584	3.9
42	8381505C	272256	6653806290527	94D09	GABBRO	124			0	75	3	51	27	4	498	3.2
43	8381505C	272257	6654946290538	94D09	GABBRO	124			0	41	1	34	28	0	313	1.9
44	8381505C	272258	6656216290565	94D09	DIORITE	123			0	9	4	34	9	0	386	1.9
45	8181505C	272259	6657176290617	94D09	DIORITE	123			0	45	4	39	10	1	431	1.8
46	8381505C	272260	6657396290673	94D09	SILICIFIED ASH	224	TUFF		0	37	4	20	2	1	92	2.0
47	8181505C	272261	6657906290695	94D09	DIORITE +	123	ANDESITE ASH TUFF		1	54	4	83	6	4	632	3.8
48	8381505C	272262	6658936290717	94D09	ANDESITE ASH	224	TUFF, SILICIFIED		2	154	6	102	5	4	855	3.5
49	8381505C	272263	6659926290760	94D09	ANDESITE ASH	224	TUFF		2	123	4	146	6	4	593	5.4
50	8181505C	272264	6659386290809	94D09	ANDESITE ASH	224	TUFF + DIORITE		3	58	3	47	4	3	281	4.2
51	8381505C	272265	6659226290885	94D09	SILICIFIED ASH	224	TUFF		0	17	4	103	5	1	807	1.9
52	8381505C	272266	6658556290959	94D09	ANDESITE ASH AND	224	CRYSTAL TUFF		0	39	5	279	4	2	966	3.6
53	8381505C	272267	6657926290993	94D09	ANDESITE ASH AND	223	CRYSTAL TUFF		0	37	5	131	9	1	818	2.9
54	8381505C	272268	6657336291023	94D09	ANDESITE ASH AND	224	CRYSTAL TUFF		1	25	4	112	4	3	808	4.5

		Ag	Co	Au	As	Hg	Sb	W	Tn	Cd	Bi	V	Ba	Al%	Fe%	Mg%	Ca%
1	8381505B 272219	.0	8	40	6	5	0	1	0	0	1	37	46	.80	2.3	.65	.34
2	8981505B 272220	.2	8	30	0	5	1	1	0	0	1	20	30	.95	2.7	.91	.12
3	8381505B 272221	.0	12	10	13	5	0	0	0	0	0	50	21	.74	3.0	.67	.25
4	8381505B 272222	0.	12	5	3	5	0	0	0	0	1	43	26	1.67	2.0	1.39	.60
5	8381505B 272223	0.	8	5	11	5	0	1	0	0	0	39	17	.57	2.8	.47	.27
6	8381505B 272224	.4	6	10	11	5	3	1	0	1	0	44	19	1.30	3.6	1.29	.36
7	8181505B 272225	0.	12	10	5	5	0	0	0	0	0	24	33	.66	2.0	.46	.32
8	8181505B 272226	.0	3	10	8	5	0	0	0	1	1	41	22	1.80	2.3	1.67	.47
9	8181505B 272227	0.	5	5	8	5	0	0	0	0	0	51	65	1.21	2.0	.96	.47
10	8981505B 272228	0.	2	5	7	5	0	1	0	0	0	38	25	.83	2.1	.57	.35
11	8181505B 272229	0.	9	5	10	5	0	0	0	1	1	81	38	1.36	2.7	.93	.36
12	8381505B 272230	.0	9	5	8	10	1	1	0	0	1	52	35	1.32	3.1	1.20	.19
13	8381505B 272231	.1	16	10	12	10	3	1	0	0	0	38	27	1.09	4.1	.89	.44
14	8381505B 272232	0.	2	5	4	5	0	0	0	0	1	37	17	1.12	2.2	.95	.51
15	8181505B 272233	0.	22	5	12	5	0	0	0	1	1	58	14	1.20	2.5	1.14	.48
16	8181505B 272234	.0	8	10	6	5	0	1	0	0	1	44	29	1.49	2.1	1.24	.50
17	8181505B 272235	.1	6	5	12	5	2	0	0	1	1	76	12	2.07	3.8	2.05	.28
18	8981505B 272236	.3	53	25	8	5	0	0	0	0	0	54	12	1.21	3.0	1.04	.48
19	8981505B 272237	0.	10	5	3	5	0	0	0	0	2	42	17	1.77	2.5	1.73	.44
20	8981505B 272238	.5	28	30	27	5	4	1	0	0	0	32	26	1.09	5.2	1.06	.61
21	8181505B 272239	.1	21	55	5	5	0	0	0	1	2	78	21	2.10	2.7	2.07	.81
22	8181505B 272240	.2	14	15	17	5	0	1	0	1	1	109	55	2.24	4.0	2.03	.50
23	8181505B 272241	.1	21	5	10	5	0	0	0	1	1	76	369	1.79	2.8	1.87	.39
24	8381505B 272242	.2	31	10	12	5	0	0	1	2	2	155	858	2.83	3.4	3.19	.93
25	8181505B 272243	.1	26	5	11	10	0	0	0	1	3	117	604	2.12	2.7	2.48	.64
26	8181505B 272244	.3	10	5	5	5	3	0	1	0	1	76	179	.96	3.3	.85	.62
27	8181505B 625416	.0	15	5	5	5	0	1	0	0	1	38	236	1.10	2.8	.85	.74
28	8180991C BM0284	0.2	20	40													
29	8180991C BM0285	0.2	30	20													
30	8180991C BM0286	0.2	28	10													
31	8181505C 272245	.7	70	5	8	5	1	1	0	1	6	53	85	.54	5.8	6.31	.19
32	8381505C 272246	.5	1	40	9	5	6	2	0	1	1	132	18	3.49	4.6	2.69	.10
33	8381505C 272247	.4	1	60	8	5	3	1	0	0	0	65	28	2.23	3.9	1.65	.17
34	8381505C 272248	.5	8	45	6	5	4	1	0	0	0	94	24	1.31	5.1	1.28	.21
35	8181505C 272249	.2	2	5	11	5	0	1	0	0	0	40	30	1.02	2.9	.19	1.03
36	8381505C 272250	.2	24	5	15	5	3	1	0	1	2	171	16	2.51	4.8	2.13	.42
37	8181505C 272251	.4	27	5	11	5	0	1	0	2	2	132	64	2.11	3.6	2.16	1.28
38	8381505C 272252	.2	18	5	7	5	1	0	0	1	1	78	76	1.50	2.8	1.27	1.28
39	8381505C 272253	.6	15	25	9	5	8	0	0	1	0	107	25	2.28	5.9	1.92	.22
40	8381505C 272254	.4	28	5	8	5	0	1	0	2	2	142	47	2.25	3.9	2.28	1.31
41	8181505C 272255	.4	21	5	9	5	1	0	1	2	2	130	136	1.97	3.9	1.94	1.54
42	8381505C 272256	.2	21	5	9	5	0	1	0	1	1	105	350	1.74	3.2	1.60	1.12
43	8381505C 272257	0.	14	5	7	5	0	0	0	0	1	68	76	1.25	1.9	1.22	.93
44	8381505C 272258	0.	10	5	4	5	0	0	1	0	1	43	113	1.06	1.9	.81	.71
45	8181505C 272259	0.	10	5	3	5	0	0	2	0	1	48	104	1.10	1.8	.83	.53
46	8381505C 272260	.1	0	20	3	5	1	0	0	0	0	28	76	1.08	2.0	.73	.03
47	8181505C 272261	.2	7	25	6	10	2	1	0	1	1	95	16	2.08	3.8	1.73	.24
48	8381505C 272262	.5	7	35	9	5	1	0	0	1	1	60	41	1.83	3.5	1.52	.33
49	8381505C 272263	.8	8	25	11	5	6	0	0	1	0	120	34	2.19	5.4	1.72	.29
50	8181505C 272264	.4	0	50	8	5	5	1	1	0	0	54	36	1.68	4.2	1.00	.07
51	8381505C 272265	.2	9	25	5	5	0	1	0	0	1	25	180	1.28	1.9	.87	1.46
52	8381505C 272266	.2	20	5	14	5	2	0	0	2	1	87	34	2.06	3.6	1.60	.65
53	8381505C 272267	.2	16	10	2	5	0	0	0	1	1	42	124	1.79	2.9	1.41	.59
54	8381505C 272268	.3	19	5	12	5	3	1	0	1	1	94	24	2.11	4.5	1.82	.53

		Ti%	P%	Mn	La	In	B	Cr	Nb	
1	8381505B 272219	.19	.08	128	4	1	7	6	2	0
2	8981505B 272220	.10	.06	170	5	0	4	5	2	0
3	8381505B 272221	.26	.06	107	6	0	3	4	2	0
4	8381505B 272222	.14	.08	504	4	1	3	7	2	0
5	8381505B 272223	.24	.06	93	4	0	3	6	2	0
6	8381505B 272224	.23	.05	226	5	1	4	12	3	0
7	8181505B 272225	.10	.08	83	3	1	3	3	2	0
8	8181505B 272226	.17	.05	312	4	1	4	11	2	0
9	8181505B 272227	.24	.07	472	4	1	4	5	2	0
10	8981505B 272228	.17	.08	283	4	1	3	7	2	0
11	8181505B 272229	.23	.05	230	5	1	3	14	2	0
12	8381505B 272230	.20	.04	363	6	1	3	10	2	0
13	8381505B 272231	.23	.08	288	6	0	3	2	3	0
14	8381505B 272232	.19	.08	184	5	0	3	8	2	0
15	8181505B 272233	.28	.05	311	4	1	5	18	2	0
16	8181505B 272234	.15	.09	381	4	1	5	10	2	0
17	8181505B 272235	.24	.04	408	6	0	3	36	3	0
18	8981505B 272236	.21	.05	250	5	1	5	11	2	0
19	8981505B 272237	.14	.08	298	5	0	3	10	3	0
20	8981505B 272238	.34	.05	475	7	0	3	8	3	0
21	8181505B 272239	.18	.11	547	5	1	4	72	3	0
22	8181505B 272240	.33	.04	613	7	1	5	29	3	0
23	8181505B 272241	.17	.17	305	9	1	11	213	3	0
24	8381505B 272242	.27	.26	384	13	2	7	371	4	0
25	8181505B 272243	.23	.22	314	9	3	9	325	3	0
26	8181505B 272244	.10	.17	391	14	0	3	11	3	0
27	8181505B 625416	.12	.16	649	8	1	13	10	3	0
28	8180991C BMO284									
29	8180991C BMO285									
30	8180991C BMO286									
31	8181505C 272245	.06	.02	693	11	0	33	609	5	0
32	8381505C 272246	.17	.06	337	8	0	3	64	3	0
33	8381505C 272247	.13	.02	198	7	0	5	17	3	0
34	8381505C 272248	.21	.07	153	8	0	3	21	3	0
35	8181505C 272249	.25	.04	130	5	1	5	8	2	0
36	8381505C 272250	.35	.02	504	9	0	4	30	4	0
37	8181505C 272251	.20	.32	446	10	1	4	78	4	0
38	8381505C 272252	.19	.20	537	9	1	5	52	3	0
39	8381505C 272253	.22	.04	330	10	0	5	19	4	0
40	8381505C 272254	.20	.31	485	10	0	4	165	4	0
41	8181505C 272255	.19	.20	584	14	1	5	107	4	0
42	8381505C 272256	.17	.22	498	10	2	7	56	3	0
43	8381505C 272257	.13	.24	313	7	0	3	70	3	0
44	8381505C 272258	.07	.10	386	8	0	5	16	2	0
45	8181505C 272259	.09	.09	431	9	0	3	17	2	0
46	8381505C 272260	.07	.01	92	5	0	2	4	1	0
47	8181505C 272261	.22	.03	632	7	1	5	16	3	0
48	8381505C 272262	.17	.04	855	7	1	5	10	3	0
49	8381505C 272263	.22	.06	593	14	0	4	13	4	0
50	8181505C 272264	.20	.06	281	6	0	3	8	3	0
51	8381505C 272265	.02	.08	807	8	2	3	11	3	0
52	8381505C 272266	.29	.06	966	8	1	6	18	3	0
53	8381505C 272267	.10	.08	818	8	0	4	16	3	0
54	8381505C 272268	.29	.06	808	8	0	5	10	3	0

Appendix 3

Statement of Costs

A. BIRD claims

1. Geological Mapping and Geochemical Survey

B.E. Marten - 1/2 day, September 18, 1980	$ 86.00
M.D. Bradley - 1/2 day, September 18, 1980	60.00
S.J. Hoffman - 1/2 day, July 17, 1981	123.00
M.D. Smith - 1/2 day, July 17, 1981	93.50

2. Food and accommodations

2 man day @ $30/man day	60.00

3. Helicopter support

September 18, 1981 - 1.0 hour	408.60
July 17, 1981 - 1.0 hour	494.00

4. Preparation of metric basemap,

-xerox reduction of report maps
-blackline printing

75.00

5. Drafting (L. Glaser) 40.00

6. Computing (UBC) 42.00
Keypunching (Elan Data Makers) 10.72

7. Sample analysis (Acme Analytical) 352.11

8. Report preparation - 1/2 day

(S.J. Hoffman, J.L. Gravel) 176.25

TOTAL: $2,021.18

P.A.C. contribution 200.00

TOTAL: $2,221.18

Apply $800 to BIRD 42 and 43 and $600 to BIRD 44.

B. SHRED claims

1.	Geological Mapping and Geochemical Survey	
	S.J. Hoffman - 2½ days, July 17, 18, 19	$ 615.00
	M.D. Smith - 2½ days, July 17, 18, 19	467.00
2.	Food and accomodations	
	5 man days @ $30/man day	150.00
	Supplies	29.47
3.	Helicopter support	1284.20
	Smithers Air Services (50% of invoice)	358.60
	Transport to and from field	213.28
4.	Preparation of metric basemap, xerox reduction of report maps, blackline printing	510.07
5.	Drafting (L. Glaser)	137.00
6.	Computing (UBC)	572.10
	Keypunching (Elan Data Makers)	86.45
	Digitizing (Tetrad)	40.60
	Computer Processing (CSC Canada) @ $1/rock chip sample	21.00
7.	Sample analysis	
	Vangeochem	2739.00
	Acme	261.24
8.	Report preparation	
	2 days - S.J. Hoffman and J.L. Gravel	705.00
	TOTAL:	$8,190.51

Apportionment based on work

		P.A.C. Contribution	TOTAL
SHRED Group A 61%	4996.21	0.00	4996.21
Group B 39%	3194.30	900.00	4094.30

Apply $1000 to BP Minerals Limited P.A.C.

SHRED Group A work credit of $4000 applied to SHRED 1 to maintain land in good standing until July 19, 1982.

SHRED Group B work credit of $4000 applied to SHRED 4 to maintain land in good standing until July 19, 1982.

Appendix 4

Statement of Qualifications

Dr. S.J. Hoffman

Geochemist

BP Minerals Limited

List of Qualifications - S.J. Hoffman

BSc 1969 - McGill University (Hons Geology and Chemistry)

MSc 1972 - The University of British Columbia (Geochemistry)

PhD 1976 - The University of British Columbia (Geochemistry)

List of Publications

1. Hoffman, S.J., 1972

Geochemical dispersion in bedrock and glacial overburden around a copper property in south central British Columbia. MSc thesis, unpublished, U.B.C., 209 pp.

2. Hoffman, S.J. and Fletcher, W.K., 1972

Distribution of copper at the Dansey-Rayfield River property, south central British Columbia.
J. Geoch. Expl. 1, 163-180.

3. Hoffman, S.J. and Waskett-Myers, M.J., 1974

Determination of molybdenum in soils and sediments with a modified zinc dithiol procedure.
J. Geoch. Expl. 3, 61-66.

4. Hoffman, S.J., 1974

Pebble Cards - A record of the coarse fraction of stream sediments for geochemical exploration.
J. Geoch. Expl. 3, 387-388.

5. Hoffman, S.J. and Fletcher, W.K., 1976

Reconnaissance geochemistry on the Nechako Plateau, B.C., using lake sediments.
J. Geoch. Expl. 5, 101-114.

6. Hoffman, S.J., 1976

Mineral Exploration of the Nechako Plateau, central British Columbia, using lake sediment geochemistry.
PhD thesis, unpublished, U.B.C., 347 pp.

7. Hoffman, S.J., 1977

Talus fine sampling as a regional geochemical exploration technique in mountainous regions.
J. Geoch. Expl. 7, 349-360.

8. Hoffman, S.J. and Fletcher, W.K., 1979

Sequential extraction of copper, zinc, iron manganese and molybdenum from soils and sediments.
In Geochemical Exploration 1978, Proceedings of the Seventh International Geochemical Exploration symposium, Golden, Colorado, 289-299.

9. Hoffman, S.J. and Fletcher, W.K., 1981

Detailed lake sediment sampling of anomalous lakes on the Nechako Plateau, central British Columbia - Comparison of trace metal distributions in Capoose and Fish Lakes.
J. Geochemical Exploration 14, 221-224.

10. Hoffman, S.J. and Fletcher, W.K., 1981

Organic matter scavenging of copper, zinc, molybdenum, iron, and manganese, estimated by a sodium hypochlorite extraction (pH 9.5).
J. Geochemical Exploration 15, 549-562.

11. Hoffman, S.J., Arnold, P.M. and Zink, E.W., 1981

Rapid field determination of copper by anodic stripping voltammetry (ASV).
In press, Encyclopedia of Earth Sciences.

12. Hoffman, S.J., 1981

Lake sediment geochemistry.
In press, Encyclopedia of Earth Sciences.

13. Hoffman, S.J., 1981

Geochemical exploration for unconformity-type uranium deposits in permafrost terrain - Hornby Bay basin, Northwest Territories, Canada. In preparation.

List Of Memberships

1. Geological Association of Canada, since 1967.
2. Canadian Institute of Mining and Metallurgy, since 1973.
3. Association of Exploration Geochemists, since 1973.
4. American Society of Agronomy, since 1973.

Other Qualifications

1. Instructor on methods of geochemical exploration for the B.C. Department of Mines prospecting shcool, May 1977 - 1981 (5 years)
2. Instructor, Short course on Geochemical Exploration in the Canadian Shield, McGill University, January 1979.

3. Speaker, CIM in Prince George, B.C. on "Lake Sediment Geochemistry", May, 1977.

4. Speaker, Geosciences Council, Yellowknife on "Lake Sedimentary Geochemistry, Hornby Bay area", December 1978, and also December 1980.

5. Instructor, Short course on Geochemical Exploration (computer and statistical applications), Northwest Mining Association, Spokane, Washington, December 1979.

6. Council member, Association of Exploration Geochemists, 1980-1982.

7. Chairman, GOLD-81 Symposium. Precious Metals in the Northern Cordillera: April 12-15, 1981. Co-sponsored by the Association of Exploration Geochemists and the Cordilleran Section of the Geological Association of Canada.

8. Business Editor, Proceedings of the GOLD-81 Symposium (to be published early 1982).

LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

BP Minerals Limited

BIRD-SHRED CLAIMS

TOODOGGONE PROJECT. B.C.

STREAM SEDIMENT SAMPLE LOCATIONS

SHR NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 3A
REPORT NO BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

6290000 6289000 6288000 6287000

LEAD

LEGEND - PPM

<12.0	○
12.0-16.0	•
16.0-17.0	●
17.0-21.0	●
21.0-23.0	●
23.0-28.0	●
>28.0	● XXX

LEGEND

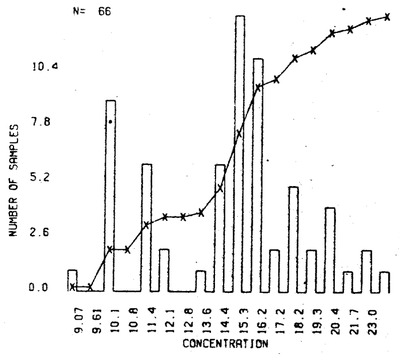
8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

9621



BP Minerals Limited

BIRD-SHRED CLAIMS

TOODOGGONE PROJECT, B.C.

LEAD (PPM) IN STREAM SEDIMENTS

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C
REPORT NO. BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES
TO ACCOMPANY REPORT:	FIG. 3B

METRES 0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

6294000 6290000 6286000 6282000 6278000

NICKEL

LEGEND - PPM

<40.0	○
40.0-48.0	·
48.0-66.0	•
66.0-100	●
100-200	●
200-400	●
>400	● XXX

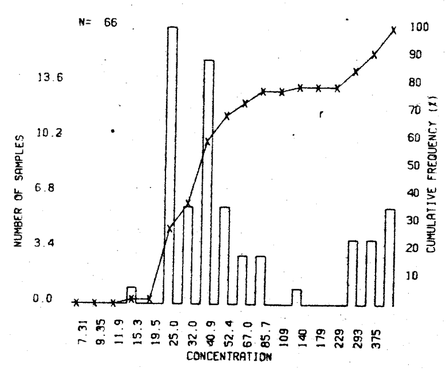
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT. B.C.

NICKEL (PPM) IN STREAM SEDIMENTS

DWG NO 505-81-8	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 3C
REPORT NO BPVR 81-8	NTS 940/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

6240000 6241000 6242000 6243000 6244000 6245000 6246000 6247000 6248000 6249000

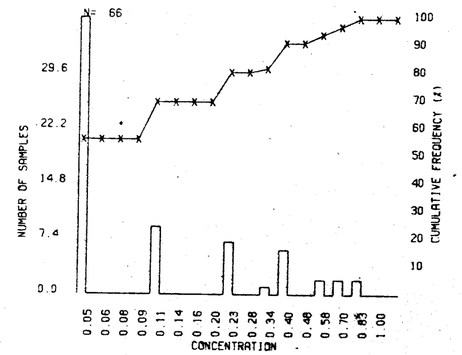
SILVER
LEGEND - PPM

<0.30	○
0.30-0.50	•
0.50-0.70	●
0.70-0.90	●
0.90-1.20	●
>1.20	XXX

LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred
Approx. Limit of Outcrop
Fault



BP Minerals Limited

BIRD-SHRED CLAIMS
TODDOGGONE PROJECT, B.C.
SILVER (PPM) IN STREAM SEDIMENTS

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C
REPORT NO BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES
TO ACCOMPANY REPORT	FIG. 3D

METRES
0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

GOLD

LEGEND - PPB

<25.0	○
25.0-35.0	•
35.0-50.0	●
50.0-70.0	●
70.0-100	●
>100	● XXX

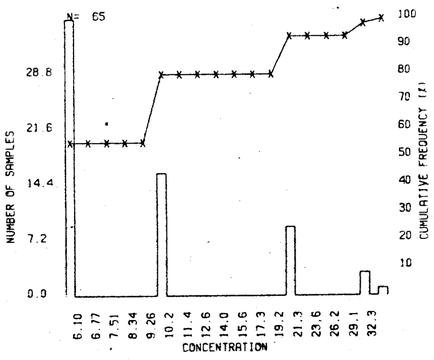
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT. B.C.

GOLD (PPB) IN STREAM SEDIMENTS

DWG NO SDS-81-6	DATE AUGUST 1981 PROJECT SDS-B.C	FIG. 3E
REPORT NO BPVR 81-6	NTS 940/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

ARSENIC

LEGEND - PPM

<10.0	○
10.0-20.0	●
20.0-30.0	●
30.0-40.0	●
40.0-50.0	●
>50.0	● PPM

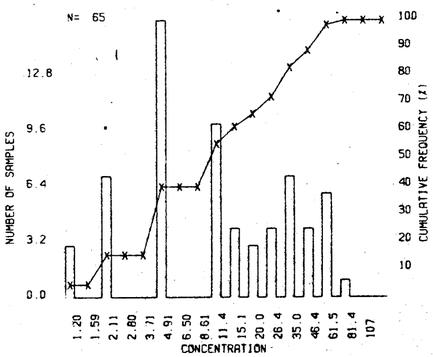
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



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BIRD-SHRED CLAIMS

TODDOGGONE PROJECT. B.C.

ARSENIC (PPM) IN STREAM SEDIMENTS

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 3F
REPORT NO BPVR 81-6	NTS 940/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT:		

METRES 0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

6291000 6290000 6289000 6288000 6287000

IRON

LEGEND - %

<3.10	○
3.10-3.60	•
3.60-5.00	●
5.00-5.50	●
5.50-6.50	●
6.50-7.50	●
>7.50	●

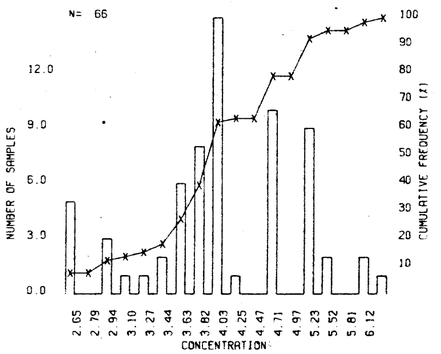
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



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BIRD-SHRED CLAIMS

TODDOGGONE PROJECT. B.C.

IRON (%) IN STREAM SEDIMENTS

DWG NO. BDS-BI-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 3G
REPORT NO. BPVR BI-6	NTS 940/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT:		

METRES 0 100 200 300 400 500 600 700 800 900 1000

6284000 6283000 6282000 6281000 6280000 6279000

662000 663000 664000 665000 666000 667000 668000 669000

LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

WINE LAKE

North Canyon Creek

Easement

METRES
0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT. B.C.

SOIL SAMPLE LOCATION MAP

DWG NO 505-81-6 | DATE AUGUST 1981 PROJECT 505-B.C

REPORT NO BPVR 81-6 | NTS 94D/9.16 SCALE 1 CM=200 METRES

FIG. 4A

TO ACCOMPANY REPORT

LEAD

LEGEND - PPM

<15.0	o
15.0-16.0	•
16.0-17.0	•
17.0-19.0	●
19.0-21.0	●
21.0-23.0	●
>23.0	● MAX

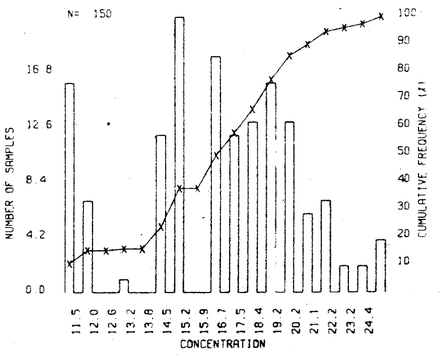
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

LEAD (PPM) IN SOIL SAMPLES

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG 4B
REPORT NO BPVR 81-6	NTS 940/9,16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES
0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

NICKEL

LEGEND - PPM

<40.0	○
40.0-48.0	·
48.0-66.0	•
66.0-100	●
100-200	●
200-400	●
>400	● XXX

LEGEND

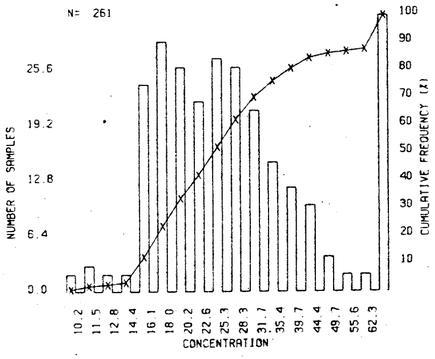
8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

N= 261



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BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

NICKEL (PPM) IN SOIL SAMPLES

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 4C
REPORT NO BPVR 81-6	NTS 940/9,16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

6291000 6290000 6289000 6288000

SILVER

LEGEND - PPM

<0.30	o
0.30-0.50	•
0.50-0.70	●
0.70-0.90	●
0.90-1.20	●
>1.20	● XXX

LEGEND

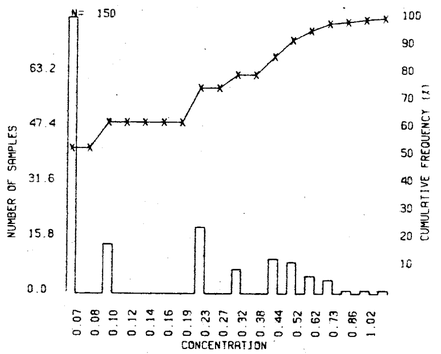
8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9621



BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

SILVER (PPM) IN SOIL SAMPLES

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG 4D
REPORT NO BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES
0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

GOLD

LEGEND - PPB

<25.0 ○

25.0-35.0 •

35.0-50.0 ●

50.0-70.0 ●

70.0-100 ●

>100 ● XXX

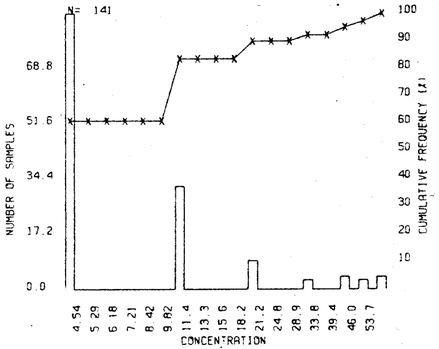
LEGEND

- 8 OVERBURDEN
- 7 QUARTZ DIORITE
- 6 MONZONITE, DIORITE
- 5 SYENITE PORPHYRY
- 4 PYROXENITE, PERIDOTITE, GABBRO
- 3 METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
- 2 PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
- 1 ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

GOLD (PPB) IN SOIL SAMPLES

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B C	FIG. 4E
REPORT NO BPVM 81-6	NTS 940/9,16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

ARSENIC

LEGEND - PPM

<10.0

10.0-20.0

20.0-30.0

30.0-40.0

40.0-50.0

>50.0 XXX

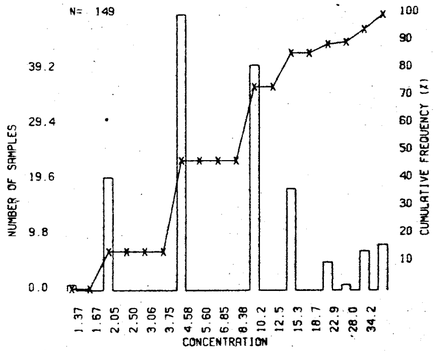
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

ARSENIC (PPM) IN SOIL SAMPLES

DWG NO. 505-81-8	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 4F
REPORT NO. BPMR 81-8	NTS 94D/9.16 SCALE 1 CM=100 METRES	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

662000 663000 664000 665000 666000 667000 668000 669000

6284000 6283000 6282000 6281000 6280000 6279000 6278000

IRON

LEGEND - %

<3.10	o
3.10-3.60	·
3.60-5.00	•
5.00-5.50	●
5.50-6.50	●
6.50-7.50	●
>7.50	● XXX

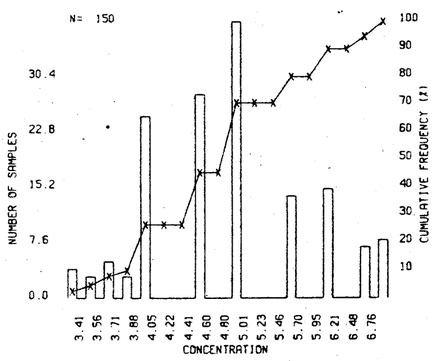
LEGEND

- 8 OVERBURDEN
- 7 QUARTZ DIORITE
- 6 MONZONITE, DIORITE
- 5 SYENITE PORPHYRY
- 4 PYROXENITE, PERIDOTITE, GABBRO
- 3 METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
- 2 PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
- 1 ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



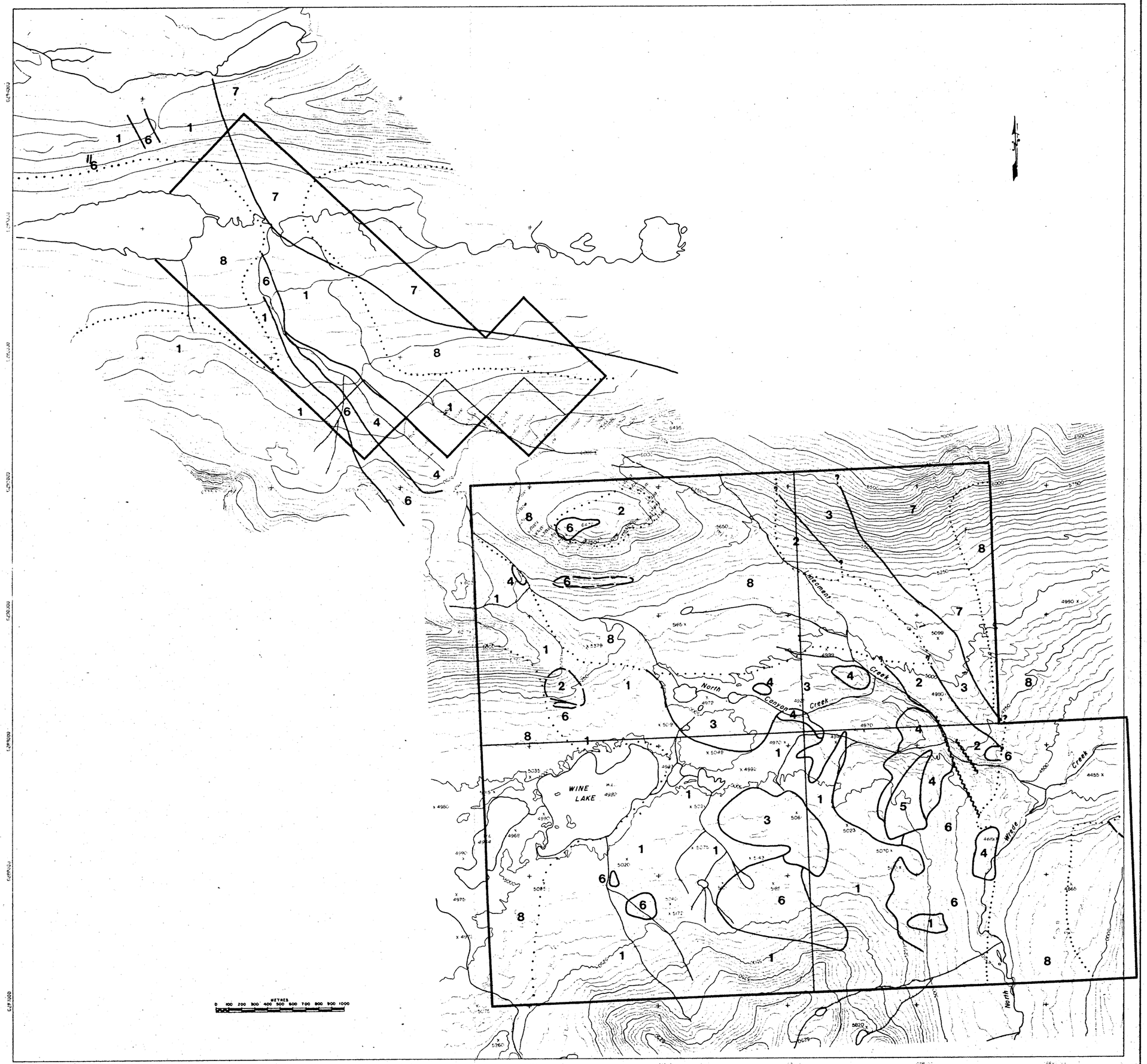
BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT. B.C.

IRON (%) IN SOIL SAMPLES

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 4G
REPORT NO BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		



LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

ROCK CHIP SAMPLE LOCATION

DWG NO 505-81-6
REPORT NO BPVR 81-5
TO ACCOMPANY REPORT

DATE AUGUST 1981 PROJECT 505-B.C.

NTS 94D/9.16 SCALE 1 CM=200 METRES

FIG. 5A

LEAD

LEGEND - PPM

<3.00	o
3.00-5.00	•
5.00-7.00	●
>7.00	● MAX

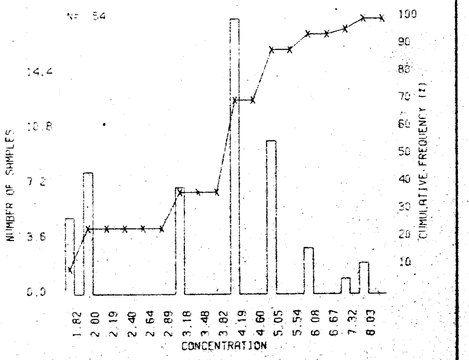
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



METRES
0 100 200 300 400 500 600 700 800 900 1000

WINE LAKE

North Canyon Creek

Wrede Creek

BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

LEAD (PPM) IN ROCK CHIP SAMPLES

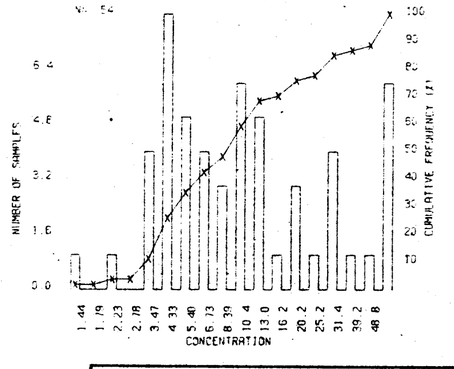
DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 58
REPORT NO BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

NICKEL
LEGEND - PPM
<6.00
6.00-12.0
12.0-19.0
19.0-38.0
38.0-100
100-220
>220

LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred
Approx. Limit of Outcrop
Fault



BP Minerals Limited
BIRD-SHRED CLAIMS
TODDOGGONE PROJECT, B.C.
NICKEL (PPM) IN ROCK CHIP SAMPLES

DWN. NO. SDS-81-6	DATE AUGUST 1981 PROJECT 505-B.C.	FIG. 5C
REPORT NO. BPVR 81-6	NTS 940/9.16 SCALE 1 CM=200 METRES	
TO ASSESSMENT REPORT		

METRES
0 100 200 300 400 500 600 700 800 900 1000

652000 653000 654000 655000 656000 657000 658000

SILVER

LEGEND - PPM

<0.20	
0.20-0.30	•
0.30-0.40	•
0.40-0.50	•
0.50-0.60	•
0.60-0.70	•
>0.70	XXX

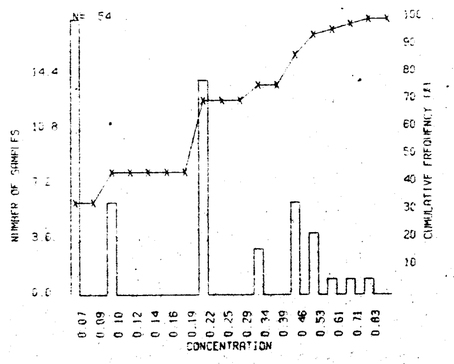
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

SILVER (PPM) IN ROCK CHIP SAMPLES

505-81-8	DATE AUGUST 1981 PROJECT 505-B.C.
REPORT NO. GPVR 81-6	NTS 940/9,16 SCALE 1 CM=200 METRES
TO ACCOMPANY REPORT	

FIG. 5D

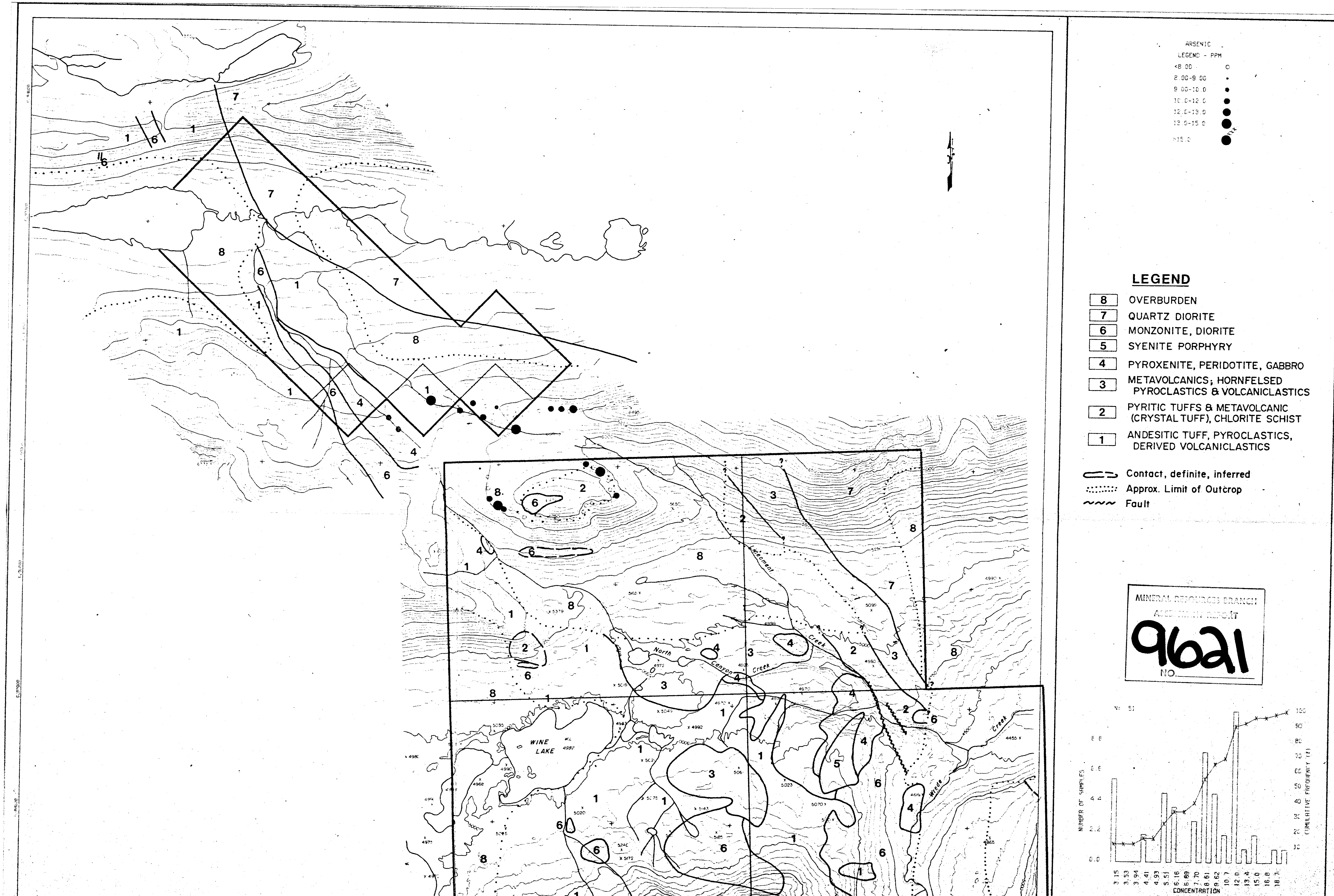
METRES
0 100 200 300 400 500 600 700 800 900 1000

WINE LAKE

North Canyon Creek

Lateral Moraine

Wrede Creek



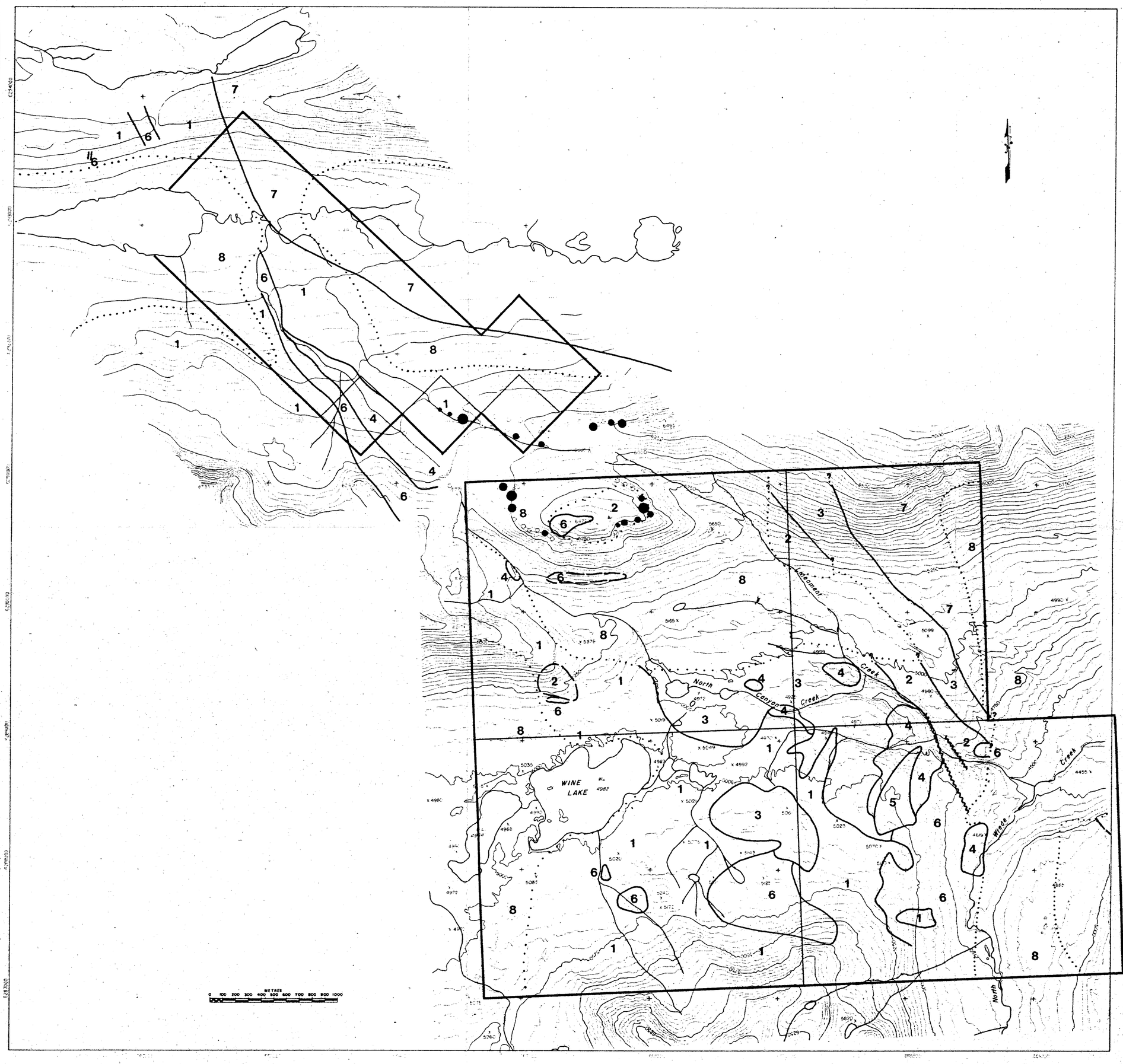
BP Minerals Limited

BIRD-SHRED CLAIMS

TODOGGONE PROJECT, B.C.

ARSENIC (PPM) IN ROCK CHIP SAMPLES

DWG. NO. 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 5E
REPORT NO. BPVR 81-6	NTS 94D/9,16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

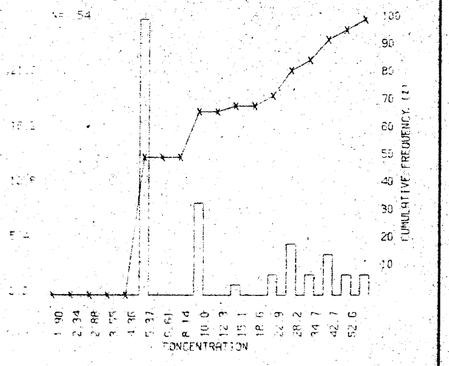


METRES
0 100 200 300 400 500 600 700 800 900 1000

LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred
Approx. Limit of Outcrop
Fault



BP Minerals Limited

BIRD-SHRED CLAIMS
TODDOGGONE PROJECT, B.C.
GOLD(PPB) IN ROCK CHIPS

DWG NO 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C.	FIG. 5F
REPORT NO BPVR 81-8	NTS 94D/9,16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

IRON

LEGEND - PERCENT

<3.00	○
3.00-3.60	•
3.60-3.90	•
3.90-4.20	•
4.20-5.00	•
5.00-5.40	•
>5.40	•

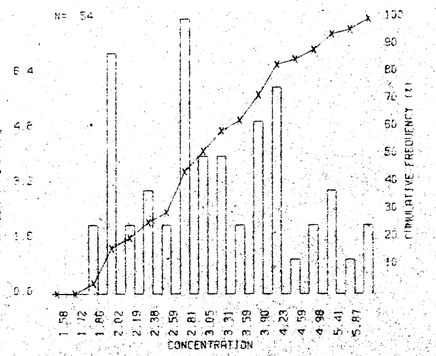
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



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BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

IRON (PERCENT) IN ROCK CHIP SAMPLES

DWG NO. 505-81-8	DATE AUGUST 1981 PROJECT 505-B.C.	FIG. 5G
REPORT NO. BPVB 81-8	NTS 94D/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

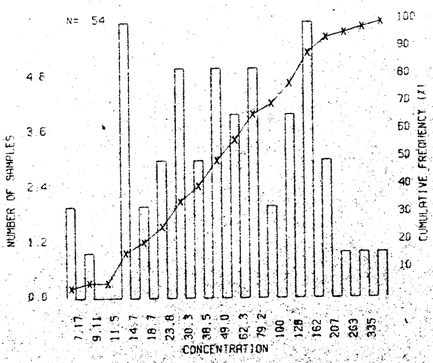
COPPER
LEGEND - PPM

<39.0	○
39.0-63.0	•
63.0-102	●
102-165	●
165-210	●
210-340	●
>340	●

LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred
Approx. Limit of Outcrop
Fault



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BIRD-SHRED CLAIMS
TOODDGONE PROJECT, B.C.
COPPER (PPM) IN ROCK CHIP SAMPLES

DWG NO 505-81-8	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 5H
REPORT NO BPVR 81-8 TO ASSESSMENT REPORT	NTS 94O/9.16 SCALE 1 CM=200 METRES	

METRES
0 100 200 300 400 500 600 700 800 900 1000

ZINC

LEGEND - PPM

<43.0	o
43.0-49.0	•
49.0-56.0	•
56.0-72.0	•
72.0-107	•
107-139	•
>139	XXX

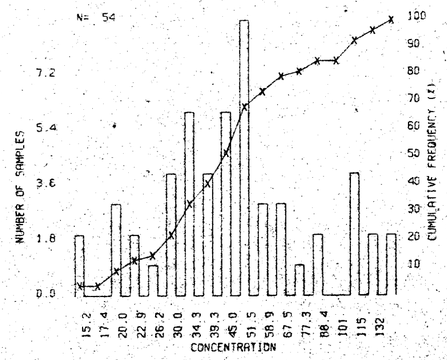
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



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BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

ZINC (PPM) IN ROCK CHIP SAMPLES

DWG NO. 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 51
REPORT NO. BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

Lakement

North Canyon Creek

WINE LAKE

Wade Creek

North

MANGANESE

LEGEND - PPM

<374	○
374-487	•
487-555	•
555-634	•
634-723	•
723-815	•
>815	XXX

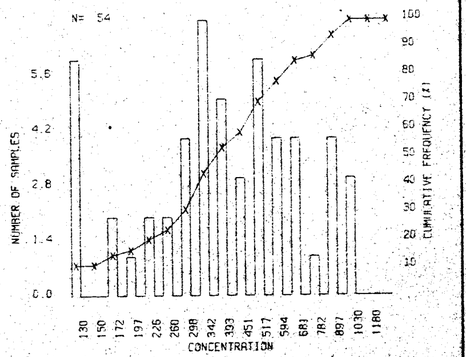
LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault



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BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

MANGANESE (PPM) IN ROCK CHIP SAMPLES

DWG NO 505-BI-6	DATE AUGUST 1981 PROJECT 505-B.C	FIG. 5J
REPORT NO BPVR BI-6	NTS 94D/9.16 SCALE 1 CM=200 METRES.	
TO ACCOMPANY REPORT		

METRES 0 100 200 300 400 500 600 700 800 900 1000

MERCURY

LEGEND - PPM

<2.50 Cr

2.50-7.50 Cr

7.50-12.5 Cr

>12.5 Cr

LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

N= 51

NUMBER OF SAMPLES

CUMULATIVE FREQUENCY (%)

CONCENTRATION

METRES
0 100 200 300 400 500 600 700 800 900 1000

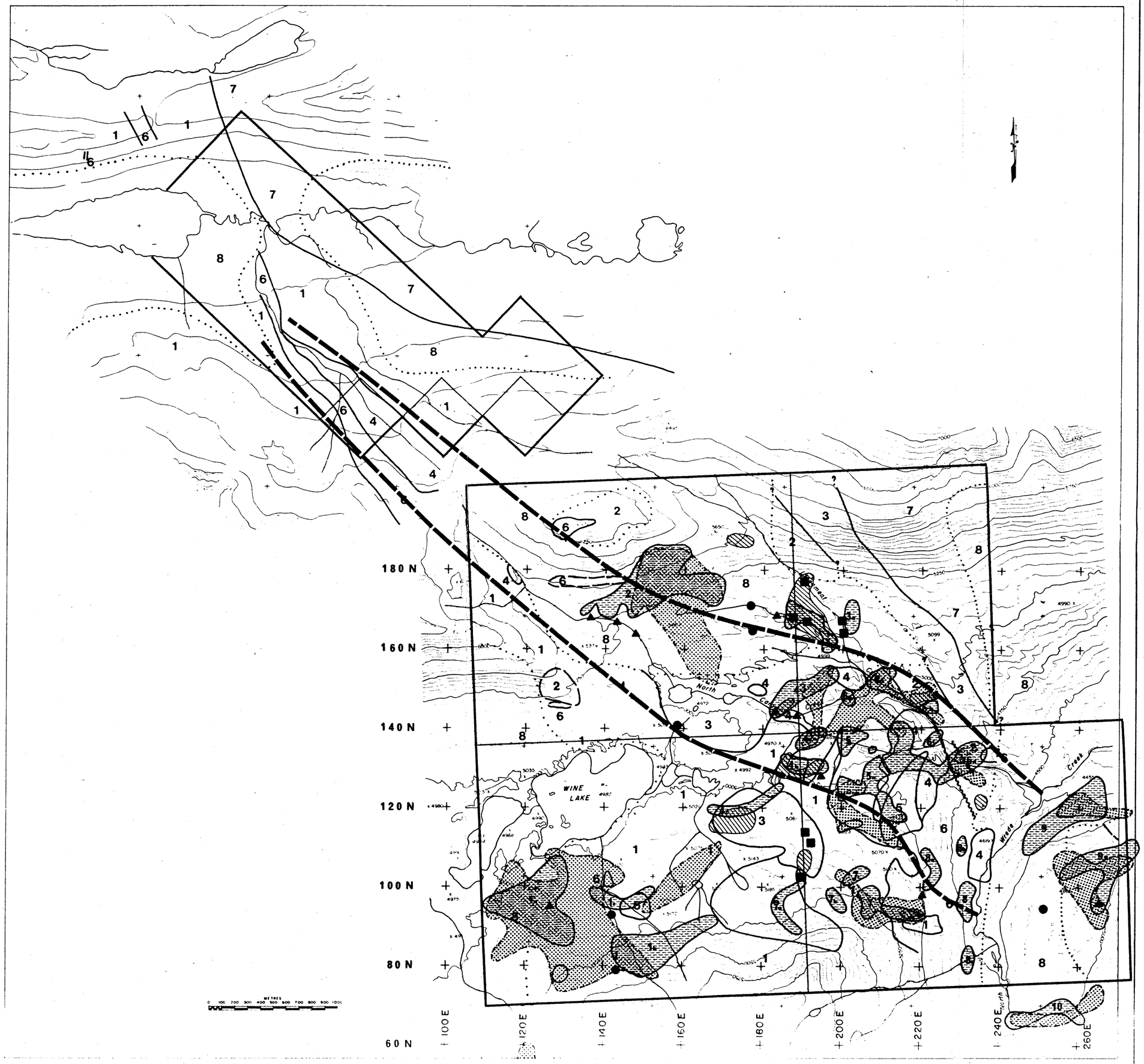
BP Minerals Limited

BIRD-SHRED CLAIMS

TODDOGGONE PROJECT, B.C.

MERCURY (PPB) IN ROCK CHIPS

FILE NO. 505-81-6	DATE AUGUST 1981 PROJECT 505-B.C.	FIG. 5K
REPORT NO. BPVR 81-6	NTS 94D/9.16 SCALE 1 CM=200 METRES	
TO ACCOMPANY REPORT		



LEGEND

8	OVERBURDEN
7	QUARTZ DIORITE
6	MONZONITE, DIORITE
5	SYENITE PORPHYRY
4	PYROXENITE, PERIDOTITE, GABBRO
3	METAVOLCANICS; HORNFELSED PYROCLASTICS & VOLCANICLASTICS
2	PYRITIC TUFFS & METAVOLCANIC (CRYSTAL TUFF), CHLORITE SCHIST
1	ANDESITIC TUFF, PYROCLASTICS, DERIVED VOLCANICLASTICS

Contact, definite, inferred

Approx. Limit of Outcrop

Fault

GEOCHEMICAL LEGEND

Soils and Talus Fines	Stream Sediments
Mo values > 4.6ppm	Mo values > 10ppm
Cu values > 103ppm	Cu values > 460ppm
Zn values > 100ppm	Zn values > 141ppm

Zone of high Au (Ag) potential (indicated by enhanced Ni content of soils, stream sediment and rocks)

BP Minerals Limited

BIRD-SHRED CLAIMS
TOODOGGONE PROJECT, B.C.
GEOCHEMICAL ANOMALY SUMMARY

505-BIRD	DATE OCT 1981	PROJECT 505	6
BPVH-BIRD	NTS 94 D/9	SCALE 1:20,000	