

REPORT ON PHASES I AND II  
GEOLOGY AND GEOCHEMISTRY  
HOLT PROPERTY (HOLT 1 TO 15)

NTS 92 B/12 and 92 B/13  
48°43'N LATITUDE 123°51'W LONGITUDE  
VICTORIA MINING DIVISION

FOR  
NEXUS RESOURCE CORPORATION  
GOLDENROD RESOURCES & TECHNOLOGY INC.

MAY 15, 1987

DALE A. SKETCHLEY, M.Sc  
MIKE H. GUNNING, B.Sc

PART 1 OF 4  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

SUB-RECORDER  
RECEIVED  
MAY 20 1987  
M.R. # ..... \$.....  
VANCOUVER, B.C.

FILMED

16,059



C. DRILLING (Details in report submitted as per section 8 of regulations.) (The itemized cost statement must be part of the report.)	COST
D. GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL (Details in report submitted as per section 5, 6, or 7 of regulations.) (The itemized cost statement must be part of the report.) (State type of work in space below)	
Geological, geochemical	16,200.00
TOTAL OF C AND D	16,200.00

Where the above statement requires a technical report as per section C of the Mineral Act Regulations, the author of the report shall complete both copies of the ASSESSMENT REPORT TITLE PAGE AND SUMMARY form and include the completed forms in the assessment reports.

Who was the operator (provided the financing)?  
 Name Goldenrod Resources & Technology Inc. and Nexus Resource Corporation  
 Address 1002 - 475 Howe St. Vancouver, B.C. V6C 2B3

Portable Assessment Credits (PAC) Withdrawal Request		AMOUNT
Amount to be withdrawn from owner(s) or operator(s) account(s):		
Name of Owner/Operator		
[May be no more than 30 per cent of value of the approved work submitted as assessment work in C and (or) D.]	1. ....	
	2. ....	
	3. ....	
TOTAL WITHDRAWAL		
TOTAL OF C AND (OR) D PLUS PAC WITHDRAWAL		

I wish to apply \$ 15,800 of this work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record number.)

Holt 1	1626(2)	20 units	2 years	@ \$100/unit	= \$ 4,000.00
Holt 2	1627(2)	15	2	@ "	= 3,000.00
Holt 3	1628(2)	18	2	@ "	= 3,600.00
Holt 4	1629(2)	20	2	@ "	= 4,000.00
Holt 5	1630(2)	8 "	2 "	@ "	= 1,600.00

Value of work to be credited to portable assessment credit (PAC) account(s).  
 (May only be credited from the approved value of C and (or) D not applied to claims.) \$16,200.00

Name	AMOUNT
Name of owner/operator 1. ....	
2. ....	
3. ....	

I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the *Mineral Act*. I further acknowledge and understand that if the statements made, or information given, in this Statement of Exploration and Development are found to be false and the exploration and development has not been performed, as alleged in this Statement of Exploration and Development, then the work reported on this statement will be cancelled and the subject mineral claim(s) may, as a result, forfeit to and vest back to the Province.

  
 Signature of Applicant



MINERAL ACT

STATEMENT OF EXPLORATION AND DEVELOPMENT

Goldenrod Resources & Technology  
and Nexus Resource Corporation /Inc.

t. J.S. Getsinger (Name) Agent for \*Guy Royer (Name)  
 #301 - 409 Granville St. (Address) 1002 - 475 Howe St. (Address)  
 Vancouver, B.C. (Address) Vancouver, B.C. (Address)  
 V6C 1T2 (Postal Code) 687-7938 (Telephone Number) V6C 1T2 (Postal Code) 682-8567 (Telephone Number)  
 Valid subsisting F.M.C. No. 296277 Valid subsisting F.M.C. No. Goldenrod 296727 GOLRET  
 Nexus 296728 NEXREC  
 Royer 296093

STATE THAT

1. I have done, or caused to be done, work on the Holt 6,7,8,9, 15\*(Royer) "Holt East Group"  
 (Goldenrod 50%: Nexus 50%) Claim(s)  
 Record No(s) 1631(2), 1632(2), 1633(2), 1634(2), 1833(2) - Total Units: 81  
 Situate at Holt Creek, NTS 92B/12 in the Victoria Mining Division.  
 to the value of at least \$16,200.00 dollars. Work was done from the 15th day  
 of July 19 86, to the 20th day of February 19 87

2. The following work was done in the 12 months in which such work is required to be done:

[COMPLETE APPROPRIATE SECTION(S) A, B, C, D, FOLLOWING]

A. PHYSICAL (Trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails.)

(Give details as required by section 13 of regulations.)

	COST
TOTAL PHYSICAL	

I wish to apply \$ \_\_\_\_\_ of physical work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record number.)

B. PROSPECTING (Details in report submitted as per section 9 of regulations.)  
(The itemized cost statement must be part of the report.)

COST

I wish to apply \$ \_\_\_\_\_ of this prospecting work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record number.)

C. DRILLING (Details in report submitted as per section 8 of regulations.) (The itemized cost statement must be part of the report.)	COST
D. GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL (Details in report submitted as per section 5, 6, or 7 of regulations.) (The itemized cost statement must be part of the report.) (State type of work in space below.)	
Geological, geochemical, geophysical	16,200.00
TOTAL OF C AND D	16,200.00

Where the above statement requires a technical report as per section C of the Mineral Act Regulations, the author of the report shall complete both copies of the ASSESSMENT REPORT TITLE PAGE AND SUMMARY form and include the completed forms in the assessment reports.

Who was the operator (provided the financing)?

Name Goldenrod Resources & Technology Inc.  
Nexus Resource Corporation

Address 1002 - 475 Howe St.  
Vancouver, B.C. V6C 2B3

Portable Assessment Credits (PAC) Withdrawal Request		AMOUNT
Amount to be withdrawn from owner(s) or operator(s) account(s):		
Name of Owner/Operator		
[May be no more than 30 per cent of value of the approved work submitted as assessment work in C and (or) D.]	1. ....	
	2. ....	
	3. ....	
TOTAL WITHDRAWAL		
TOTAL OF C AND (OR) D PLUS PAC WITHDRAWAL		

I wish to apply \$ 15,800.00 of this work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record number.)

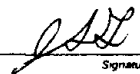
Holt 6	1631(2)	16 units	2 years	@	\$100/unit	\$ 3,200.00
Holt 7	1632(2)	20	2	@	"	4,000.00
Holt 8	1633(2)	20	2	@	"	4,000.00
Holt 9	1634(2)	10	2	@	"	2,000.00
Holt 15	1833(2)	15	2	@	"	3,000.00

Value of work to be credited to portable assessment credit (PAC) account(s).  
[May only be credited from the approved value of C and (or) D not applied to claims.]

\$ 16,200.00

Name	AMOUNT
Name of owner/operator	
1. ....	
2. ....	
3. ....	

I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the Mineral Act. I further acknowledge and understand that if the statements made, or information given, in this Statement of Exploration and Development are found to be false and the exploration and development has not been performed, as alleged in this Statement of Exploration and Development, then the work reported on this statement will be cancelled and the subject mineral claim(s) may, as a result, forfeit to and vest back to the Province.

  
Signature of Applicant



MINERAL ACT

# STATEMENT OF EXPLORATION AND DEVELOPMENT

Inc.

<p>J.S. Getsinger <small>(Name)</small></p> <p>#301 - 409 Granville St. <small>(Address)</small></p> <p>Vancouver, B.C. <small>(Address)</small></p> <p>V6C 1T2                      687-7938 <small>(Postal Code)                      (Telephone Number)</small></p> <p>Valid subsisting F.M.C. No. 296277</p>		<p>Goldenrod Resources &amp; Technology Nexus Resource Corporation *Guy Royer <small>Name</small></p> <p>1002 - 475 Howe St. <small>(Address)</small></p> <p>Vancouver, B.C. <small>(Address)</small></p> <p>V6C 2B3                      682-8567 <small>(Postal Code)                      (Telephone Number)</small></p> <p>Valid subsisting F.M.C. No. Goldenrod 296727 GOLRET Nexus 296728 NEXREC Royer 296093</p>	
--	--	---	--

STATE THAT

1. I have done, or caused to be done, work on the Holt 10-13, 14\*: "Holt West Group"  
Goldenrod 50%: Nexus 50% (\*Royer) Claim(s)

Record No(s) 1635(2), 1636(2), 1637(2), 1638(2), 1832(2): Total Units 92

Situate at NTS 92B/12 & 92B/13 in the Victoria Mining Division,

to the value of at least \$18,400 dollars. Work was done from the 15th day  
of July 19 86 to the 20th day of February 19 87

2. The following work was done in the 12 months in which such work is required to be done:

[COMPLETE APPROPRIATE SECTION(S) A, B, C, D, FOLLOWING]

A. PHYSICAL

(Trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails.)

(Give details as required by section 13 of regulations.)

	COST
<b>TOTAL PHYSICAL</b>	

I wish to apply \$ ..... of physical work to the claims listed below.  
(State number of years to be applied to each claim, its month of record, and identify each claim by name and record number.)

.....

.....

B. PROSPECTING

(Details in report submitted as per section 9 of regulations.)  
(The itemized cost statement must be part of the report.)

	COST

I wish to apply \$ ..... of this prospecting work to the claims listed below.  
(State number of years to be applied to each claim, its month of record, and identify each claim by name and record number.)

.....

.....

(For C. and D. sections, please turn over.)

C. DRILLING (Details in report submitted as per section 8 of regulations.) (The itemized cost statement must be part of the report.)	COST
D. GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL (Details in report submitted as per section 5, 6, or 7 of regulations.) (The itemized cost statement must be part of the report.) (State type of work in space below.)	
Geological, geochemical, geophysical	18,400.00
TOTAL OF C AND D	18,400.00

Where the above statement requires a technical report as per section C of the Mineral Act Regulations, the author of the report shall complete both copies of the ASSESSMENT REPORT TITLE PAGE AND SUMMARY form and include the completed forms in the assessment reports.

Who was the operator (provided the financing)?  
 Name Goldenrod Resources & Technology Inc. and Nexus Resource Corporation  
 Address 1002 - 475 Howe St.  
 Vancouver, B.C. V6C 2B3

Portable Assessment Credits (PAC) Withdrawal Request		AMOUNT
Amount to be withdrawn from owner(s) or operator(s) account(s):		
Name of Owner/Operator		
[May be no more than 30 per cent of value of the approved work submitted as assessment work in C and (or) D.]	1.	
	2.	
	3.	
TOTAL WITHDRAWAL		
TOTAL OF C AND (OR) D PLUS PAC WITHDRAWAL		

I wish to apply \$ 18,400.00 of this work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record number.)

Holt 10	1635(2)	20 units	2 years	@	\$100/unit	\$ 4,000.00
Holt 11	1636(2)	20	2	@	"	4,000.00
Holt 12	1637(2)	12	2	@	"	2,400.00
Holt 13	1638(2)	20	2	@	"	4,000.00
Holt 14	1832(2)	20 "	2 "	@	"	4,000.00

Value of work to be credited to portable assessment credit (PAC) account(s).

[May only be credited from the approved value of C and (or) D not applied to claims.]

\$18,400.00

Name	AMOUNT
Name of owner/operator 1.	
2.	
3.	

I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the *Mineral Act*. I further acknowledge and understand that if the statements made, or information given, in this Statement of Exploration and Development are found to be false and the exploration and development has not been performed, as alleged in this Statement of Exploration and Development, then the work reported on this statement will be cancelled and the subject mineral claim(s) may, as a result, forfeit to and vest back to the Province.

  
Signature of Applicant



## SUMMARY

Exploration Phases I and II of the Holt property were conducted from September 23, 1986 to February 28, 1987. The Holt property consists of three groups: Lois Group (Holt 1 to 5 claims); Holt East Group (Holt 6 to 9 and 15 claims); Holt West Group (Holt 10 to 14 claims). Work consisted of prospecting, rock, stream sediment and soil sampling, and geological mapping (1:10,000 and 1:2,500).

The property is underlain predominantly by volcanic and sedimentary rocks of the Sicker Group exposed in a northwest-southeast trending syncline. Lesser amounts of Triassic Karmutsen Formation and Jurassic Bonanza Group volcanic rocks, Jurassic Island Intrusions and Cretaceous Nanaimo Group sedimentary rocks are present also.

The prospecting, rock sampling and regional geological mapping delineated three areas (A, B and C) that required additional work. Grid A was established over a stratigraphic interval of the Sicker Group that is favourable for volcanogenic massive sulphide type mineralization. Numerous float boulders and several outcrops of jasper associated with epidotized mafic volcanic rock were discovered in an area with pyritic black shale. In addition, an angular float boulder containing abundant pyrite in a siliceous matrix returned 15.09 g/tonne (0.440 oz/ton) Au and 11.2 ppm Ag.

Sampling of the "B" soil horizon on Grid A returned elevated Au, Ag, As and Ba values. Up to 300 ppb Au, 1.0 ppm Ag and 50 ppm As occur in localized zones related to pyritic black shales. Well-defined Ba anomalies of up to 1160 ppm are related to a green chert horizon that can be traced the full length of Grid A.





Grid B was established over an area of the Karmutsen Formation that contains several quartz-ankerite veins surrounded by well-developed carbonate alteration envelopes. One of these veins contains freibergite, malachite and azurite; it returned 3600.0 g/tonne (105.00 oz/ton) Ag and 150 ppb Au. The veins are several hundred metres from a small body of feldspar porphyry that is surrounded by carbonate altered rock, which returned 9.2 ppm Ag. On Grid B, "B" horizon soil sampling returned values of up to 88 ppm Ag and 490 ppm Cu that are related to the Ag-bearing vein.

Grid C was established over an area of the Sicker Group that contains a chalcopyrite-bearing shear zone which returned 3.16% Cu, 490 ppb Au and 10.4 ppm Ag. Sampling of the "B" soil horizon on Grid C did not return any significant values.



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1. Holt Property Claim Information



## INTRODUCTION

This report documents exploration Phases I and II conducted on the Holt property by MPH Consulting Limited at the request of Nexus Resource Corporation and Goldenrod Resources & Technology Inc. The Holt property consists of the Lois Group (Holt 1 to 5 claims), the Holt East Group (Holt 6 to 9 and 15 claims) and the Holt West Group (Holt 10 to 14 claims). The work was conducted from September 23, 1986 to February 28, 1987 under the supervision of Dale A. Sketchley, M.Sc. and M.H. Gunning, B.Sc. Work consisted of prospecting, rock, stream sediment and soil sampling and geological mapping.

The prospecting, rock and stream sediment sampling and geological mapping covered the Holt 1-15 claims (63.5 km<sup>2</sup>). Data is presented on two 1:10,000 scale topographic survey maps which cover 110 km<sup>2</sup>. A total of 425 rock samples and 134 stream sediment samples was taken and analyzed for Au by AAS and an additional 30 elements by ICPS. Twenty of the rock samples were submitted for whole rock analysis; eleven for thin section interpretation.

Three flagged grids were established on areas requiring more work. Grid A, on the western half of the property, has an 8.6 km baseline and 45.5 km of grid lines. Grid B, on the eastern half of the property, comprises 8.05 km of grid lines and a 0.9 km baseline. Grid C, on the central portion of the property, has a 0.3 km baseline and 1 km of grid lines.

Geological mapping at a scale 1:2,500 was conducted on Grid A (45 km<sup>2</sup>) and Grid B (0.5 km<sup>2</sup>). Sampling of the "B" soil horizon was conducted on all grids. A total of 2692 samples was taken on Grid A; 321 on Grid B; 55 on Grid C.



Two trenches, 500 and 250 m in length, were excavated on Grid A. Both were geologically mapped at a scale of 1:500. A total of 39 rock samples was taken and analyzed for Au by AAS and an additional 30 elements by ICPS.



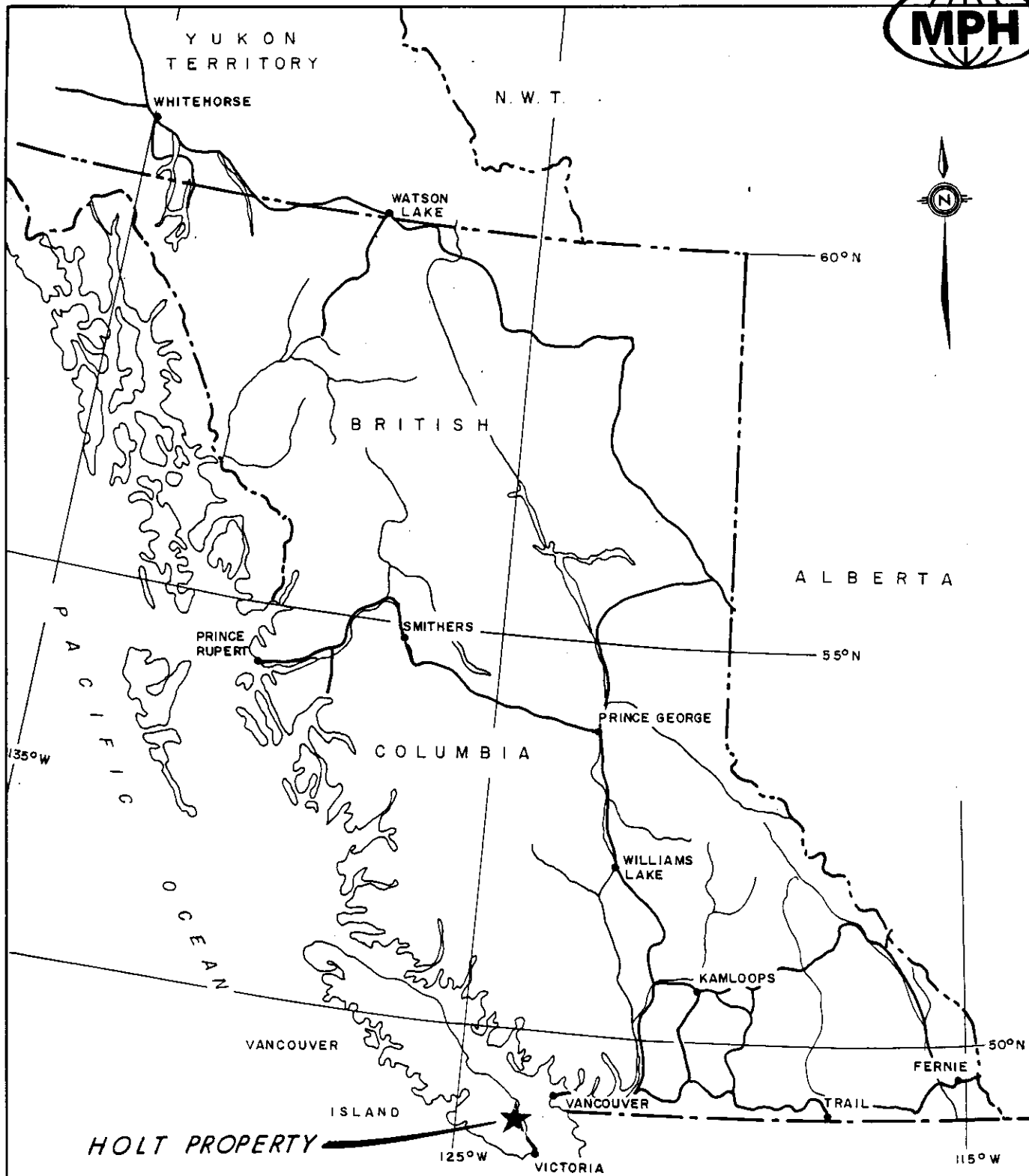
## 2.0 PROPERTY LOCATION, ACCESS AND TITLE

The Holt property is on Koksilah Ridge, 10 km southwest of Duncan, B.C. and is centered at approximately  $48^{\circ}43'$  north latitude and  $123^{\circ}51'$  west longitude on NTS map sheets 92B/12 and 92B/13. The property is in the Victoria Mining Division, in southeastern Vancouver Island, British Columbia (Fig. 1).

Topographic relief on the Holt property is about 600 m (200 to over 800 m above sea level). Approximately two thirds of the claims have been logged. The property is entirely within MacMillan Bloedel's Shawnigan Lake Division, which is within the area of the Esquimalt and Nanaimo Railway Land Grant.

Access to the Holt property is via MacMillan Bloedel's Shawnigan Lake Division main haul road from Duncan or numerous all-weather gravel roads from Duncan and Shawnigan Lake. Old logging roads suitable for 4WD vehicles provide access to all areas of the property.

The Holt property consists of Holt 1 to 15 claims, totalling 254 units, (Fig. 2). It was divided into three groups on February 20, 1987 by Notice to Group. Pertinent information is summarized in Table 1.



**HOLT PROPERTY**

NEXUS RESOURCE CORPORATION  
GOLDENROD RESOURCES & TECHNOLOGY INC.

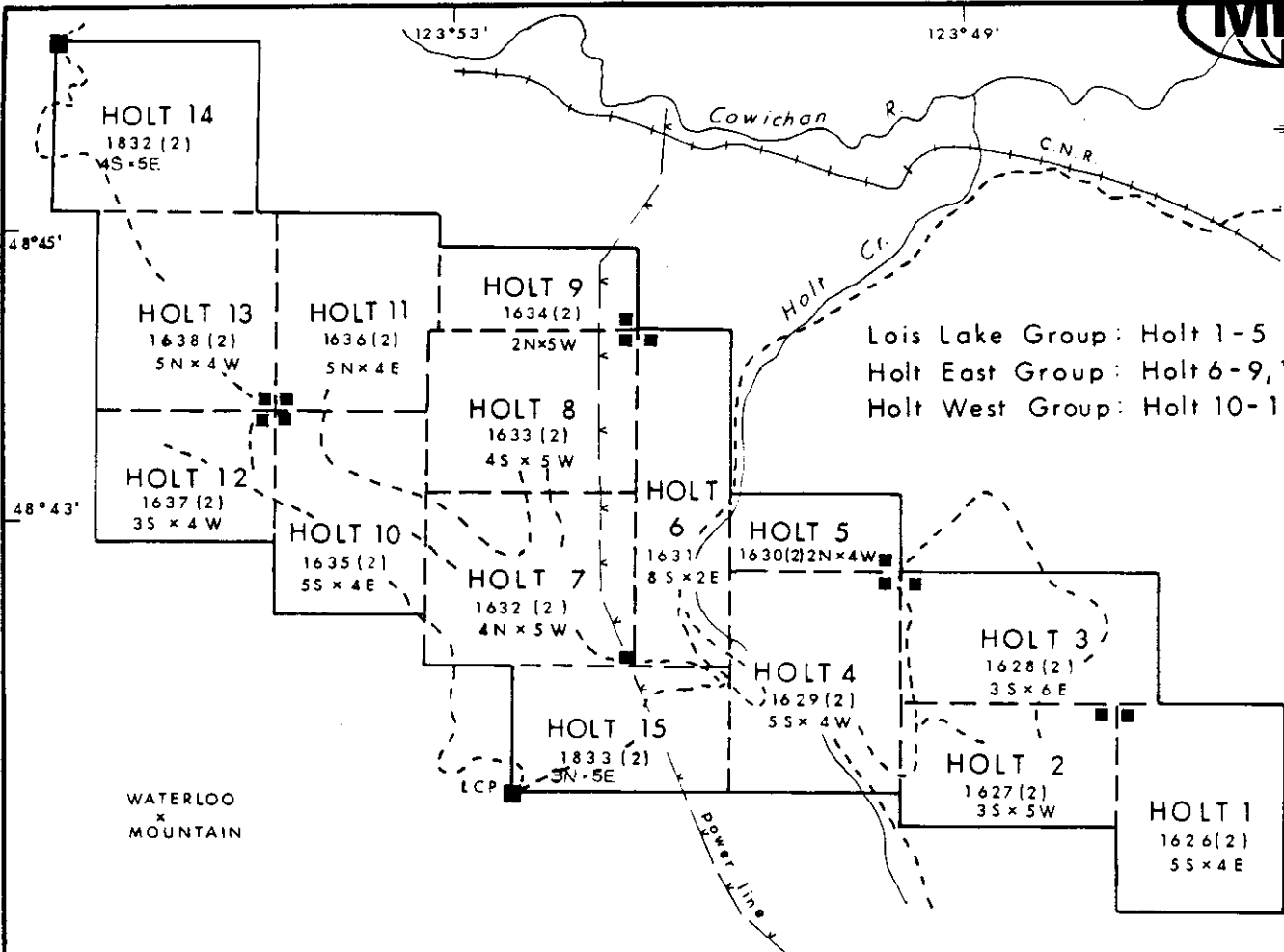
**GENERAL LOCATION MAP  
HOLT PROPERTY  
VICTORIA MINING DIVISION**

Project No: V 226	By: T. N.
Scale: 1 : 8 000 000	Drawn: J. S.
Drawing No: 1	Date: FEBRUARY 1987.



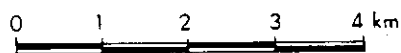
**MPH Consulting Limited**





Lois Lake Group: Holt 1-5  
 Holt East Group: Holt 6-9, 15  
 Holt West Group: Holt 10-14

WATERLOO  
 MOUNTAIN



NEXUS RESOURCE CORPORATION  
 GOLDENROD RESOURCES & TECHNOLOGY INC.

**CLAIM LOCATION**  
**HOLT PROPERTY**  
 VICTORIA MINING DIVISION

Project No:	V 226	By:	M.G.
Scale:	1 : 80 000	Drawn:	J. S.
Drawing No:	2	Date:	FEBRUARY 1987.



**MPH Consulting Limited**



Table 1. Holt Property Claim Information

Claim	Record No.	Units	Anniversary Date	Year Registered
LOIS GROUP				
Holt 1	1626 (2)	20	February 20, 1989	1986
Holt 2	1627 (2)	15	February 20, 1989	1986
Holt 3	1628 (2)	18	February 20, 1989	1986
Holt 4	1629 (2)	20	February 20, 1989	1986
Holt 5	1630 (2)	8	February 20, 1989	1986
HOLT EAST GROUP				
Holt 6	1631 (2)	16	February 20, 1989	1986
Holt 7	1632 (2)	20	February 20, 1989	1986
Holt 8	1633 (2)	20	February 20, 1989	1986
Holt 9	1634 (2)	10	February 20, 1989	1986
Holt 15	1833 (2)	15	February 12, 1990	1987
HOLT WEST GROUP				
Holt 10	1635 (2)	20	February 20, 1989	1986
Holt 11	1636 (2)	20	February 20, 1989	1986
Holt 12	1637 (2)	12	February 20, 1989	1986
Holt 13	1638 (2)	20	February 20, 1989	1986
Holt 14	1832 (2)	20	February 4, 1990	1987

All claims are owned by Nexus Resource Corporation (50%) and Goldenrod Resources & Technology Inc. (50%).



### 3.0 PREVIOUS WORK

Government geological work in the area has been performed by Clapp (1912 and 1917) and Muller (1977 and 1980a).

There is no previously known exploration work on the Holt property. However, it is adjacent to, and extends northwest along strike from, the King Solomon property, which has been extensively explored and produced from 1904 to 1916 (Neale and Hawkins, 1986).

## 4.0 REGIONAL GEOLOGY

The Duncan - Cowichan Lake area is underlain by a west-northwest trending belt of Paleozoic Sicker Group volcanic and sedimentary rocks with minor Triassic Karmutsen Formation mafic volcanic rocks; Jurassic Island Intrusions are locally common. Cretaceous Nanaimo Group sedimentary rocks are exposed east of Cowichan Lake. South of Cowichan Lake, extensive exposures of Early Jurassic Bonanza group mafic volcanic rocks occur, along with rocks of Karmutsen Formation, Upper Triassic Quatsino Formation and Island Intrusions (Fig. 3).

### 4.1 ROCK UNITS

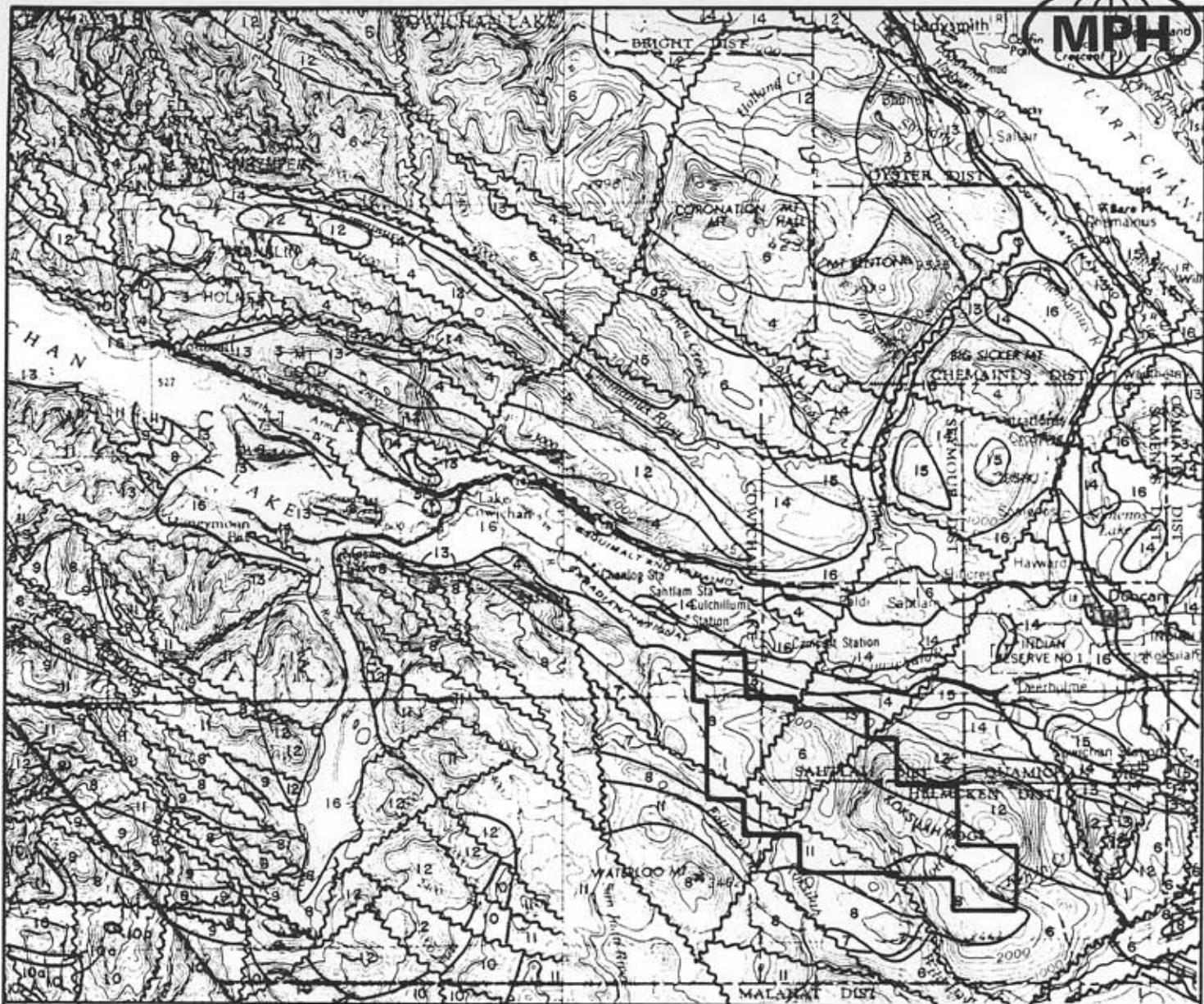
#### **Wark-Colquitz Gneiss Complex**

Wark Gneiss (Unit 1) consists of irregularly foliated to massive biotite-hornblende diorite and quartz diorite, whereas Colquitz Gneiss (Unit 2) consists of well-foliated biotite-hornblende quartz diorite to granodiorite. The gneisses are interlayered locally. K-Ar dating indicates recrystallization of the gneisses is related to early Jurassic plutonism that produced the Island Intrusions. U-Pb dating of zircons suggests early Paleozoic or Precambrian rocks are the protoliths of the Wark and Colquitz Gneisses (Muller 1981).

The Wark-Colquitz Gneiss Complex is exposed in the vicinity of Victoria, where it appears to form the basement of the Insular Belt.

#### **Sicker Group**

Muller (1980a) proposed the following subdivision of Sicker Group rocks: Nitinat Formation, Myra Formation, Sediment-Sill Unit and



**QUATERNARY**

16 Glacial and alluvial deposits.

**UPPER CRETACEOUS**

Nanaimo Group

15 Extension - Protection Fm.: sandstone, conglomerate; minor siltstone, shale, coal.

14 Haslam Fm.: shale, siltstone, minor sandstone

13 Comox Fm.: sandstone, conglomerate, minor siltstone, shale, coal.

**JURASSIC**

Lower to Middle Jurassic

12 Island Intrusions: granodiorite, quartz diorite

Lower Jurassic

11 Bonanza Group: basaltic to rhyolitic tuff, breccia, flows, sills, and dykes; minor argillite, greywacke.

**UPPER PALEOZOIC AND ? OR TRIASSIC AND JURASSIC**

10 Westcoast Complex: quartz diorite, diorite, tonalite, amphibolite, agmatite, minor metavolcanic and metasedimentary rocks. 10a: recrystallized limestone, skarn.

**TRIASSIC**

Middle ? and Upper Triassic

Vancouver Group

9 Quatsino Fm.: limestone

8 Karmutsen Fm.: pillow basalt, breccia, tuff, minor flows.

**PALEOZOIC**

Sicker Group

**PENNSYLVANIAN AND PERMIAN**

7 Buttle Lake Fm.: limestone, chert, greywacke, argillite.

**PENNSYLVANIAN AND MISSISSIPPIAN**

6 Sediment - Sill Unit: argillite, greywacke, chert, diabase sills.

**LOWER DEVONIAN AND OLDER**

5 Saltspring Intrusions: meta-granodiorite, meta-quartz porphyry, quartz-sericite schist.

4 Myra Fm.: well bedded felsic tuff and breccia, argillite, rhyodacite in flows and sills, minor basic tuff, quartz-sericite schist, phyllite, massive sulphides.

3 Nitinat Fm.: pillow lava and breccia of augite (uralite) porphyry, basic tuff, minor chlorite-actinolite schist.

**LOWER PALEOZOIC (OR YOUNGER ?)**

2 Colquitz gneiss: quartz-feldspar gneiss

1 Wark gneiss: massive and gneissic metadiorite, metagabbro, amphibolite.



**REGIONAL GEOLOGY MAP  
HOLT PROPERTY**

VICTORIA MINING DIVISION

Project No. V 226	By: T. N.
Scale: 1:250 000	Drawn: J. S.
Drawing No. 3	Date: FEBRUARY 1987.



**MPH Consulting Limited**

Buttle Lake Formation.

The **Nitinat Formation** (Unit 3) consists of mafic volcanic rocks, dominantly flow-breccias, with minor massive flows, and rare pillow basalt and agglomerate. Medium-grained, massive basaltic tuff is locally interbedded with the flows. Flow-breccia clasts contain uralite phenocrysts and black or white amygdules. Petrographic studies show that the uralite is replacing clinopyroxene. Uralitized gabbroic to dioritic rocks underlie and intrude the volcanic rocks; they are believed to represent coeval intrusions. The Nitinat Formation is distinguished from the Karmutsen Formation by a lack of pillow basalt, an abundance of uralite phenocrysts and a higher metamorphic grade.

The **Myra Formation** (Unit 4) overlies the Nitinat Formation, possibly with minor unconformity. The type locality of the Myra Formation is Myra Creek, at the south end of Buttle Lake, 160 km northwest of Duncan. The formation consists of volcanoclastic rocks composed of rhyodacitic or rhyolitic tuff, lapilli tuff and breccia, with minor quartz porphyry, mafic flows and argillite. Westmin Resources Ltd.'s Buttle Lake massive sulphide (Cu-Zn-Pb-Au-Ag) deposits (Myra, Lynx, Price and H-W) are hosted by the Myra Formation.

In the Nitinat-Cameron River area the Myra Formation comprises a lower massive to widely banded basaltic tuff and breccia unit, a middle thinly banded pelitic albite-trachyte tuff and argillite unit, and an upper thick-bedded, medium-grained albite-trachyte tuff and breccia unit.

North of Cowichan Lake, Fyles (1955) located a thick sequence of massive green volcanic rocks (Nitinat Formation), overlain by several metres of coarse breccia containing fragments of amygdaloidal volcanic rock and a "marker" unit composed of thin-

bedded, cherty tuffs. Overlying (?) the marker unit are grey to black feldspathic tuffs, argillaceous sedimentary rocks and minor breccias. Muller (1980a) correlates the marker unit with the lower unit of the Myra Formation, and the overlying tuffs and sedimentary rocks with the middle unit and probably the upper unit.

In the Mount Sicker area, the Myra Formation consists of well-bedded, felsic tuff and breccia interbedded with black argillite and minor greywacke. Breccia fragments are often epidotized. The rocks have been transformed to quartz-chlorite-sericite schist in steep isoclinal folds.

Muller (1980a) estimated the thickness of the Nitinat Formation at about 2000 m and that of the Myra Formation at 750 to 1000 m. Fyles' (1955) work indicates a thickness of at least 1500 m for the Nitinat Formation, and at least 1000 m for the Myra Formation in the Cowichan Lake area. Both the Nitinat and Myra Formations were dated as Devonian and/or older by Muller (1980a).

The **Saltspring Intrusions** (Unit 5) are fine- to medium-grained, light coloured meta-granite or granodiorite. Indistinct gneissic bands and agmatitic textures occur throughout. The Saltspring Intrusions are exposed mainly on Saltspring Island. They have gradational contacts with the Tye Quartz Porphyry and are considered to be comagmatic with it. The Tye Quartz Porphyry is a rhyolite, which occurs as crosscutting sills and flows (?) within the Myra Formation. Dating of the Saltspring Intrusions indicates a minimum age of late Silurian (Brandon et al 1986).

The **Sediment-Sill Unit** (Unit 6) encompasses sedimentary rocks, transitional from Myra Formation to Buttle Lake Formation, that contain abundant diabase and gabbro sills. The upper and lower contacts are poorly defined. Sedimentary rocks are bedded to

massive silicified or cherty argillite and siltstone. The sills are composed of a fine-grained greenish black rock that may contain feldspar phenocrysts up to 1 cm, commonly clustered in rosettes. The sedimentary rocks are Mississippian in age while the sills may represent feeders to Triassic Karmutsen Formation volcanic rocks.

The **Buttle Lake Formation** (Unit 7) consists of a basal green and maroon tuff and/or breccia overlain by coarse-grained crinoidal and calcarenitic limestone, fine-grained limestone with chert nodules and minor dolomitic limestone. Lesser amounts of argillite, siltstone, greywacke or chert may be present also.

Southeast of Lake Cowichan, the Buttle Lake Formation consists of laminated, calcareous grey siltstone, black argillite with lenses of coarse-grained calcarenite, minor bedded crinoidal limestone and lenses and nodules of chert.

The Buttle Lake Formation is up to 466 m thick. Its age, on the basis of fossil dating, appears to be Middle Pennsylvanian, but could possibly be as young as Early Permian (Muller 1980a; Brandon et al 1986).

### **Vancouver Group**

**Karmutsen Formation** volcanic rocks (Unit 8) paraconformably overlie Buttle Lake Formation, forming the base of the Vancouver Group. They are the thickest and most widespread rocks on Vancouver Island. The formation consists of dark grey to black pillow basalt, massive basalt and pillow breccia. Flows are commonly aphanitic and amygdaloidal. Pillow basalt generally occurs near the base of the formation.



Karmutsen Formation rocks are generally relatively undeformed compared to Sicker Group rocks. They are dated as Upper Triassic and older.

Massive to bedded limestone of the **Quatsino Formation** (Unit 9) is widespread in the area south of Cowichan Lake. The limestone is black to dark grey and fine-grained to micro-crystalline. In the vicinity of intrusive rocks, coarse-grained marble is recognized. Most of the economic skarn deposits on Vancouver Island are hosted by Quatsino limestone. Fossils indicate an Upper Triassic age (Muller and Carson 1969).

The **Parsons Bay Formation** overlies Quatsino limestone, or locally, Karmutsen volcanic rocks. The Quatsino limestone is composed of interbedded calcareous black argillite and greywacke and sandy to shaly limestone. It is included within the Quatsino formation within the report map-area. The Quatsino and Parsons Bay Formations are considered to represent near and offshore basin facies, respectively, in the quiescent Karmutsen rift archipelago (Muller 1981).

### **Westcoast Complex**

The **Westcoast Complex** (Unit 10) comprises a variety of plutonic and metamorphic mafic crystalline rocks, including amphibolite, diorite and quartz diorite with homogeneous, agmatitic or gneissic textures. Metamorphosed Karmutsen Formation and/or Sicker Group rocks grade locally into the complex and are probably its protolith. The mobilized granitoid portion of the complex is believed to be the source of the Island Intrusions and, indirectly, Bonanza Group volcanic rocks. (Muller 1981, 1982). Small bodies of recrystallized limestone (Unit 10a) found within the complex are probably derived from the Quatsino Formation and less so from the Buttle Lake Formation.

### **Bonanza Group**

**Bonanza Group** (Unit 11) stratigraphy varies considerably as it represents several different eruptive centres of a volcanic arc. Dominant lithologies are basalt and rhyolite with minor andesite, dacite tuff and breccia intercalated with marine argillite and greywacke. South of Cowichan Lake, the Bonanza Group is comprised of dark brown, maroon and grey massive tuff, volcanic breccia, and massive or plagiophyric flows (Muller 1982). Bonanza Group volcanic rocks are considered to be extrusive equivalents of the Early Jurassic Island Intrusions.

### **Island Intrusions**

Exposures of **Island Intrusions** (Unit 12) consisting mainly of quartz diorite and lesser biotite-hornblende granodiorite occur throughout the area, they are Middle to Upper Jurassic in age. Contacts with Sicker and Bonanza Group volcanic rocks are characterized by transitional zones of gneissic rocks and migmatite; contacts with Karmutsen Formation volcanic rocks are sharp and well-defined. Skarn zones are reported at the contact of Island Intrusion rocks with Quatsino Formation limestone and less so with Buttle Lake Formation limestone.

### **Nanaimo Group**

Upper Cretaceous Nanaimo Group sedimentary rocks are scattered throughout the area. Extensive exposures occur in the Chemainus and Cowichan River valleys. The formations present comprise the basal portions of the group.

The **Comox Formation** (Unit 13) consists mainly of quartzofeldspathic sandstone and lesser conglomerate. Numerous intercalations of carbonaceous and fossiliferous shale and coal

are characteristic.

The **Haslam Formation** (Unit 14) is characterized by massive to bedded fossiliferous sandy shale, siltstone and shaly sandstone.

The **Extension-Protection Formation** (Unit 15) consists of interbedded coarse clastic conglomerate, pebbly sandstone and arkosic sandstone. Minor shale and coal are reported.

#### 4.2 STRUCTURE

Sicker Group volcanic and sedimentary rocks are exposed in the Buttle Lake Arch, Cowichan-Horne Lake Arch and Nanoose Uplift. These are north-northwesterly trending uplifts that are probably the oldest structural elements in southern Vancouver Island. Uplift occurred prior to the late Cretaceous and possibly the Mesozoic (Muller and Carson 1969).

Asymmetric southwest-verging anticlinal structures characterized by subvertical southwest limbs and moderately dipping northeast limbs are reported at Buttle Lake, the Cameron-Nitinat River area and north of Cowichan Lake. Intense shearing and metamorphism to chlorite-actinolite and chlorite-sericite schist occurs in steep, overturned folds. K-Ar dating indicates folding occurred in the Jurassic although circumstantial evidence for an earlier orogeny also exists. Overlying Buttle Lake Formation limestones are relatively undeformed except where they are thin.

Karmutsen Formation volcanic rocks locally conform to the attitude of underlying Myra and Buttle Lake Formations (Muller 1980a). Vancouver Group rocks are not as intensely folded; only gentle monoclinal and domal structures have been mapped.

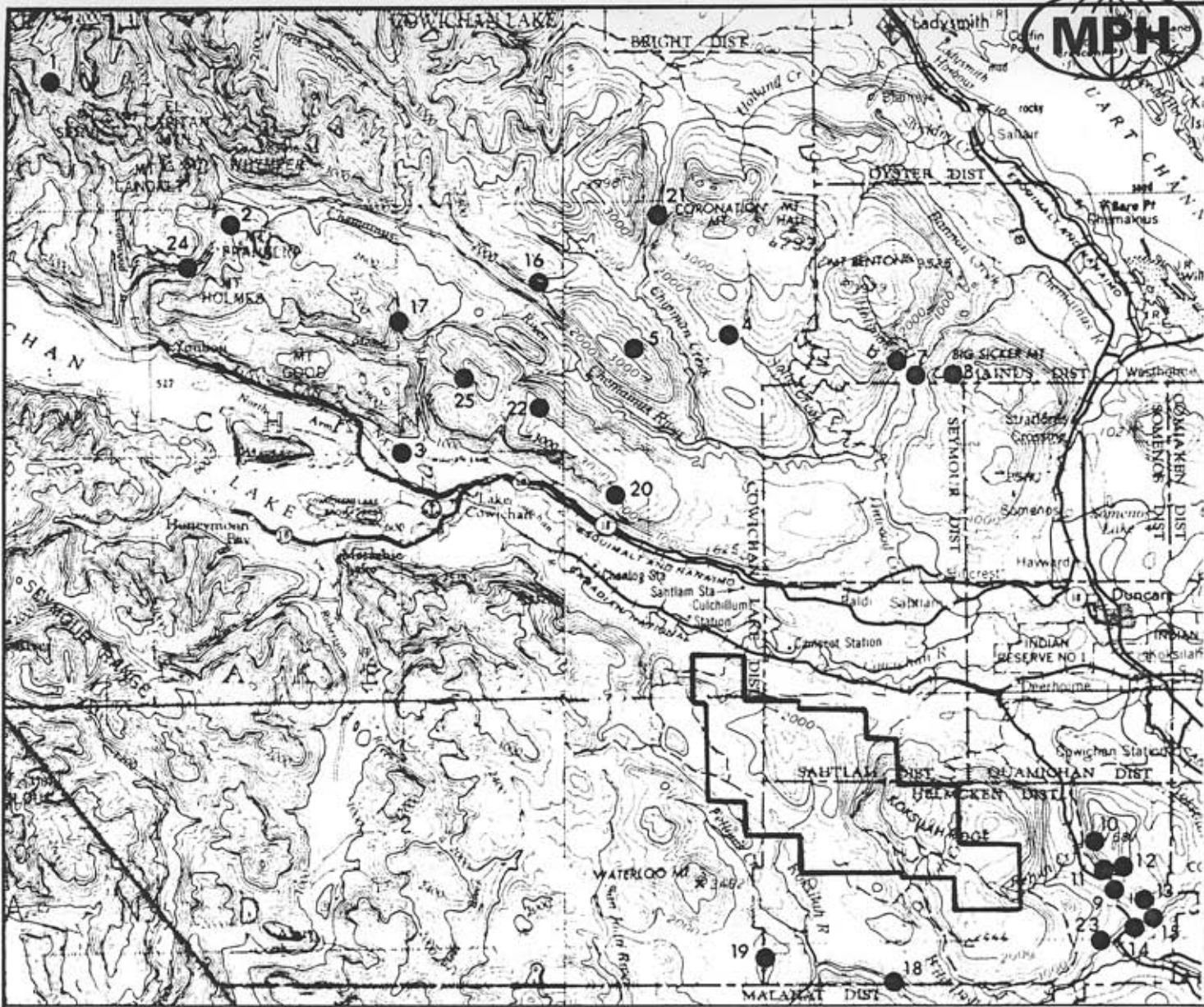
Early Mesozoic faulting occurred in the area prior to emplacement of Island Intrusions. Extensive west-northwest trending faulting occurred during the Tertiary; it is best illustrated by large displacements of Nanaimo Group sediments. Late northeasterly trending tear-faults offset the Tertiary faults in the Cowichan Valley and Saltspring Island area.

#### 4.3 ECONOMIC SETTING

The Holt property is adjacent to, and extends northwest along strike from, the King Solomon property (Fig. 4). Production from the King Solomon, Viva and Bluebell Mines during the period 1904-1916 yielded about 900 tonnes of ore with recovery of at least 46,815 kg Cu and 12,069 g Ag (5.2% Cu, 13.4 g/tonne Ag). The deposits contain skarn type mineralization.

The Holt property is partly underlain by rocks of the Upper Paleozoic Sicker Group, which is host to the Buttle Lake, Thistle, Lara and Twin J volcanogenic massive sulphide deposits. Westmin Resources Ltd.'s Buttle Lake deposits contain total reserves of 14.74 million tonnes grading 5.43% Zn, 2.12% Cu, 2.40 g/tonne Au, 41.1 g/tonne Ag and 0.34% Pb (Walker 1983). The deposits, 160 km northwest of the Holt property, consist of massive sulphide mineralization hosted by pyritic rhyolitic to rhyodacitic volcanic and pyroclastic rocks of the Myra Formation of the Sicker Group.

Nexus Resources Corporation's Thistle Mine produced 6278 tonnes of ore yielding 85,844 g Au, 65,938 g Ag and 309,088 kg Cu from 1938 to 1942 (Neale 1984). The deposit, 70 km northwest of the Holt property, consists of disseminated and massive sulphide mineralization hosted by mafic volcanic rocks correlative with the Sediment-Sill Unit and/or Myra Formation of the Sicker Group.



GOLD OCCURRENCES

- 1. Amore
- 2. Comego
- 3. Meade Ck.
- 4. Lara
- 5. Chem

OTHER OCCURRENCES

- 20. Hill 60
- 21. Lady
- 22. Stanley Cr.
- 23. Humes Arsenic
- 24. Rocky
- 25. Meady

BASE METAL OCCURRENCES, DEPOSITS

- 6. Pauper
- 7. Copper Canyon
- 8. Twin J
- 9. King Solomon
- 10. Dora - Mabel
- 11. Bluebell
- 12. Viva
- 13. Finlay
- 14. W.A.E.
- 15. Fallside
- 16. Pogo
- 17. Candy
- 18. Robertson
- 19. Metal



NEXUS RESOURCE CORPORATION  
GOLDENROD RESOURCES & TECHNOLOGY INC.

MINERAL OCCURRENCES  
LOCATION MAP  
HOLT PROPERTY

Project No. V 226	By: T. N.
Scale: 1:250 000	Drawn: J. S.
Drawing No. 4	Date: FEBRUARY 1987.



MPH Consulting Limited

Corporation Falconbridge Copper's Twin J Mine is 25 km north-northwest of the Holt Property (Fig. 4). The Twin J Mine produced 277,395 tonnes grading 7.5% Zn, 3.4% Cu, 5.14 g/tonne Au, 105 g/tonne Ag and minor Pb between 1898 and 1964. Present reserves are reported as 317,520 tonnes grading 6.6% Zn, 1.5% Cu, 4.11 g/tonne Au, 140.6 g/tonne Ag and 0.65% Pb (Neale 1984). Massive sulphide mineralization occurs in quartz-sericite schists correlative with the Myra Formation.

Nine kilometres northwest along strike from the Twin J Mine is Abermin Corporation's recently discovered Lara deposit (Fig. 4). A zone averaging 4.54% Zn, 0.79% Cu, 4.11 g/tonne Au, 92.6 g/tonne Ag and 0.83% Pb has been traced for 1500 m along depths averaging 150 m and over widths averaging 6.2 m. The mineralization is stratiform and is hosted by a rhyolite porphyry of the Sicker Group.

Mn-rich deposits, believed to be submarine exhalites associated with massive sulphide type mineralization, are locally common within Sicker Group rocks north and east of the Holt property.

Sicker Group rocks also contain high-grade gold-quartz veins and structurally controlled gold-bearing quartz-carbonate alteration zones. Recent work by Reward Resources Ltd. on the Yellow property and by Westmin Resources Ltd. on the Debbie property, 80 km northwest of the Holt property, have returned results of up to 48 g/tonne over 13.4 m. Grades of up to 105 g/tonne over 1 m have been returned from recent work by Corporation Falconbridge Copper on the Heather property, 50 km northwest of the Holt property.

Rocks underlying the Holt property may contain mineralization of the types found in other areas of the Sicker Group. The location of known mineral occurrences within the Sicker Group in the area that surrounds the Holt property is given in Figure 4.



## 5.0 1986/1987 PHASES I AND II EXPLORATION PROGRAM

Exploration phases I and II of the Holt property were conducted from September 23, 1986 to February 28, 1987. The purpose of this work was to evaluate the economic potential of an area underlain by Sicker Group rocks. Phases I and II consisted of prospecting, rock, stream sediment and soil sampling, and geological mapping. Prior to this work, only preliminary prospecting and rock sampling was done in conjunction with staking.

The prospecting, rock sampling and regional geological mapping delineated three areas (A, B and C) that required additional work. Area A contains volcanic stratigraphy favourable for stratiform polymetallic massive sulphide mineralization, where a Au-bearing (15.09 g/tonne = 0.440 oz/ton) float boulder was found; area B a Ag-bearing vein (3600.0 g/tonne = 105.00 oz/ton); area C a Cu-bearing shearing zone (3.16% Cu, 490 ppb Au).

Flagged grids were established in all areas prior to follow-up work, which was concentrated on area A (Figs. 5 and 6). On Grid A detailed geological mapping, soil sampling and trenching were completed. On Grid B, detailed geological mapping and soil sampling were completed; on Grid C only soil sampling was done.

## 5.1 PROPERTY GEOLOGY

The following description of property geology is based on geological mapping performed by MPH Consulting Limited personnel between September 1986 and February 1987. Property geology (1:10,000) is presented in Figures 7 and 8. Detailed mapping (1:2,500) on Grids A and B is presented in Figures 9 to 13.

The Holt property is underlain mostly by rocks of the Paleozoic Sicker Group exposed in a northwest-southeast trending syncline. Muller (1980a) mapped the Sicker Group rocks as the Sediment-Sill Unit. Rocks of the Triassic Karmutsen Formation (Vancouver Group) and Jurassic Bonanza Group underlie the southern portion of the claims where they are in fault contact with Sicker Group rocks. On the north side of the claims the Koksilah stock (Jurassic Island Intrusions) intrudes Sicker Group rocks. Cretaceous Nanaimo Group rocks also crop out on the north side of the claims where they unconformably overlie Sicker Group and Koksilah stock rocks.

Although glacial deposits cover most of the property, glaciated bedrock is close to surface and outcrop is locally abundant, especially on logging roads.

### 5.1.1. Rock Units

#### **Sicker Group (Map Units 1 to 5)**

Sicker Group rocks exposed on the Holt property are volcanic, volcanoclastic and sedimentary rocks that are subdivided into units correlated with: 1) Nitinat Formation, 2) Nitinat Formation to Myra Formation and/or Sediment-Sill Unit 3) Myra Formation, 4) Buttle Lake Formation and 5) diabase sills of the Sediment-Sill Unit (Muller 1980a). The diabase sills represent



feeders to Karmutsen Formation volcanic rocks.

### Unit 1

Rocks correlated with Nitinat Formation (Unit 1) form a sequence of volcanic, volcanoclastic and minor sedimentary rocks. The unit crops out on the northeastern, north-central, and western portions of the claim group on the northeastern and southwestern limbs of the syncline. Best exposures are on logging road cuts or in logged areas.

Unit 1 is subdivided into six varieties that represent a transition from flows to volcanoclastic rocks, which generally fine upwards. The lowest part of the unit (1a) is characterized by massive pyroxene porphyritic basalt. Dark green-black uraltized clinopyroxene phenocrysts (Muller 1980a), up to 1 cm in diameter in a medium green aphanitic to very fine-grained matrix, comprise 5 to 20% of the rock. A petrographic analysis was conducted on sample 4728 (Appendix III); whole rock analyses on samples 4727, 4728 and 4729 (Appendix V). Subunit 1a crops out in the northeastern and north-central parts of the claim group.

Thermal metamorphism of the pyroxene porphyry, adjacent to the Koksilah stock (Unit 8), has resulted in an amphibolite gneiss (1b). Within several hundred metres of the contact, mafic phenocrysts have been transformed into dark green-black lenses up to 1 cm thick by several centimetres in diameter that are set in a light green matrix. A sample of the amphibolite gneiss was submitted for petrographic analysis (4412; Appendix III). Up to 500 metres from the contact a weak foliation is present locally. Epidote veins and patches of pervasive epidotization are locally abundant. Subunit 1b is best observed in logging road cuts in the eastern portion of the claim group.

Massive lithic, crystal mafic lapilli tuff (1c) overlies the pyroxene porphyry. This subunit, which is locally agglomeratic, is composed of fragments of pyroxene crystals, and clasts of pyroxene porphyry and amygdaloidal mafic volcanic. Green chert lapilli and fragments of feldspar crystals are rarely observed. In the northeastern and north-central portion of the claim group, pyroxene crystals and pyroxene porphyritic clasts are more abundant, whereas in the western portion clasts of amygdaloidal mafic volcanic predominate. A petrographic analysis was conducted on samples 3409 and 4406 (Appendix III); whole rock analyses on samples 4724, 4725 and 4726 (Appendix V).

Feldspar porphyritic basalt (1d) was observed only in a road cut in northeast Holt 12 where it is associated with irregular masses of green chert, and bedded green chert, tuffaceous chert and mafic tuff. The rock is composed of five to ten percent white feldspar laths, up to 3 mm long, in a medium green aphanitic to very fine-grained matrix. Feldspar porphyritic basalt is tentatively included in Unit 1 as it occurs in an area with outcrops of lapilli tuff. It probably represents a flow or coeval intrusion.

Massive, very fine- to fine-grained, medium to dark green mafic tuff (1e) overlies the lapilli tuff. The nature of this unit is generally difficult to discern because of its massive and fine-grained character; however, occasional coarser lithic grains, poor bedding and chert beds are useful identifiers. Blocks of tuff of similar composition may be present locally. Samples 4719 and 4720 were submitted for whole rock analyses (Appendix III). Subunit 1e is best observed in the western portion of the claim group.

Bedded green chert, tuffaceous chert and mafic tuff (1f) are locally common within volcanoclastic rocks of Unit 1. The chert generally weathers whitish whereas the tuff weathers dark green-brown. Beds are generally up to several centimetres thick but may

be locally thicker. The tuffaceous rocks are generally fine-grained. Bedded cherts and tuffs were observed in the northwestern part of the claim group.

It is possible that some bedded rocks may belong to younger rock units that have been juxtaposed adjacent to Unit 1 rocks by faulting or folding.

Although contacts between subunits were not observed they are probably gradational for volcanoclastic rocks and sharp for volcanic rocks and intrusions. The thickness of the unit can only be crudely estimated. The base is unknown, there are probably many faults present and in addition no marker units. Bearing these uncertainties in mind, the thickness of exposed rocks is estimated to be about 500 to 1000 m. The thickest exposure is on the west-central portion of the claim.

## **Unit 2**

Rocks correlated with the Nitinat to Myra Formation and/or Sediment-Sill Unit transition (Unit 2) are a sequence of volcanic, sedimentary and minor volcanoclastic rocks. The unit crops out in the west-central and southeast portions of the claims on the northeast and southwest limbs of the syncline. Best exposures are on logging roads, stream cuts and less so in logged areas.

Unit 2 is subdivided into nine varieties that represent textural and colour variations of a transition from volcanic to sedimentary rocks. The lower part of the unit is characterized by porphyritic (2a), amygdaloidal (2b), pillowed (2c) and massive (2d) basalt. More than one textural variety is generally present in any given locality.

Exposures are medium to dark green and weather medium to dark green-brown. Porphyritic varieties are characterized by pyroxene and/or feldspar phenocrysts, up to 3 mm in diameter in an aphanitic to fine-grained matrix, that comprises up to ten percent of the rock. Amygdaloidal varieties contain 5-20% dark green-black amygdules up to 1 cm in diameter. Weathered amygdaloidal rocks are conspicuously pockmarked.

Pillowed basalt is characterized by pillows about 0.5 to 0.75 m in diameter, with classical shapes; however, it is not uncommon to see larger lobate forms. Occasionally large pillow-like forms up to several metres in diameter are observed. Amygdules are generally common within pillows. In one locality, western Holt 11 claim, a zone of variolites occurs adjacent to pillow selvages. A sample of this rock was submitted for petrographic analysis (4717; Appendix III).

Epidotization and hematization are locally abundant in volcanic rocks of Unit 2, particularly where jasper is present. Epidotization occurs around fractures and as irregular pervasive patches. In pillowed basalt epidotization occurs in a wide zone adjacent to pillow selvages. In one locality, Holt 7 claim, epidotization is accompanied by malachite staining on fractures. Hematization is most abundant on and adjacent to fractures; less commonly it occurs pervasively throughout pillowed basalt.

Bedded to massive, fine-grained mafic tuff to massive lithic mafic lapilli tuff (2c) is also observed in Unit 2. This variety is uncommon and appears to be interbedded with the lower basalt and upper chert package.

The upper part of Unit 2 is characterized by bedded jasper (2f), green chert (2g), black argillite to chert (2h), rare chert breccia (2i) and limestone (2j). These rocks are interbedded with

and lie above the lower basalt package.

Jasper (2f) varies from a dull maroon to a bright red colour. The maroon varieties are generally homogenous, whereas the bright red varieties vary from homogeneous to heterogeneous. Heterogeneous varieties contain irregular blebs (1-5 mm) of bright red jasper in a duller red quartz-rich matrix (60% of rock) with up to ten percent specular hematite and minor magnetite. Jasper is commonly crosscut by randomly oriented quartz-veinlets that rarely contain pyrite, chalcopyrite and magnetite. Locally, pyrite and rarely chalcopyrite also occur in fractures. Jasper generally occurs as lenses up to 0.2 m by 1.0 m, irregular blobs tens of centimetres in diameter and uncommonly as beds up to several metres thick.

White to light green chert (2g) is transitional to and interbedded with jasper where it is commonly laminated. It also occurs as beds intercalated with basalt or interbedded with black argillite to chert.

Bedded to massive black argillite to chert (2h) are common in the upper part of Unit 2, forming a conspicuous marker horizon that helps to define the unit. These rocks weather white to rusty brown. Up to 15% pyrite is locally abundant as disseminations and less so as fracture fillings. Quartz veinlets, which may contain pyrite, are also locally common. A sample of pyritic black chert was submitted for petrographic analysis (9301; Appendix III).

Black argillite and green chert breccia (2i) are rarely observed in Unit 2. These rocks are generally highly weathered and crumbly making their original nature hard to discern. They are mottled with varying shades of brown-green to grey-black. Argillite and chert clasts up to 3 cm in diameter, comprising ten to fifty percent of the rock, are set in a matrix which appears to be rich in feldspar crystals(?).



Light grey, massive, fine-grained limestone (2j) occurs in the upper portion of Unit 2. It was observed in only one locality, adjacent to pervasively silicified tuffs, within Holt 7 claim.

Unit 2 is best exposed along a narrow belt trending northwest-southeast across the western part of the claim group where it forms part of the southwest limb of the syncline. Black argillite and chert also outcrop on the southeastern part of the claim group where they are part of the southern limb of the syncline.

Contacts between varieties are gradationally interbedded. The lower contact is not exposed but is probably fairly abrupt considering the change in rock types from Unit 1 to Unit 2 (volcaniclastic rocks to flows). The upper contact is probably gradationally interbedded considering the similar nature of Unit 3 and the upper part of Unit 2. The unit is estimated to be about 200 m thick.

### Unit 3

Rocks correlated with Myra Formation are a sequence of well-bedded volcaniclastic rocks. The unit crops out on the east-central portion of the claim group where it forms the core of the syncline. Best exposures are in logged areas and road cuts.

Unit 3 is subdivided into three varieties that represent textural variations. The unit is characterized by light green weathering, well-bedded medium green chert, cherty tuff, and tuffaceous chert (3a) interbedded with massive to bedded, fine to coarse-grained medium green mafic tuff (3b). A petrographic analysis was conducted on sample 4415; (Appendix III); whole rock analysis on sample 4418 (Appendix V) of Unit 3b. Although these rock types are commonly interbedded either one may predominate in a given area. Beds of agglomeratic lapilli tuff, up to several metres

thick, characterized by blocks of pyroxene porphyry up to 75 cm in diameter, are rarely observed in Unit 3.

Thermal metamorphism of Unit 3, adjacent to the Koksilah stock, has resulted in an amphibolite gneiss (1c). Within several hundred metres of the contact, mafic tuffaceous layers are recrystallized, although bedding is preserved. Skarnification of individual layers is also locally common adjacent to the contact. Individual beds up to several centimetres thick and tens of centimetres long are altered to pink garnet surrounded by diopside. Narrow quartz veins (<3 mm) commonly occur in the core of these altered zones. A sample of this rock was submitted for petrographic analysis (3452; Appendix III).

Unit 3 is best exposed on the east central part of the claim group. The lower contact of Unit 3 is gradational with either Units 1 or 2. The upper part of the unit is not exposed. Thickness is estimated to be at least 500 metres.

#### **Unit 4**

Sedimentary rocks (Unit 4), correlated with Buttle Lake Formation, crop out in the southwest part of the claim group. Exposures are sparse, and restricted to logging road cuts.

Unit 4 is subdivided into grey limestone (4a) and black argillite to chert (4b). Grey limestone is rarely observed on the claim group but is very common to the northwest. It is massive to well-bedded and generally recrystallized. Crinoid columnals are generally abundant. Limestone occurs as thin beds within black argillite and chert or as massive outcrops. Black argillite to chert is generally well-bedded and commonly calcareous.

Unit 4 occurs as a fault-bounded wedge of rocks that trends northwest-southeast across the south western part of the claim group. Further to the northwest Unit 4 appears to be in conformable contact with underlying rock units of the Sicker Group. If this is so then the unit forms the southwestern limb of a northwest-southeast trending anticline that crosses Holt 13 claim.

#### Unit 5

Intrusive rocks (Unit 5) correlated with the Sediment-Sill Unit are composed of diabase (5b) and minor diorite (5a). The unit crops out extensively in the west-central portion of the claim group where it is interlayered with units 1 and 2. Outcrops are low and rounded and best exposed in logged areas and road cuts.

Diorite (5a) is generally massive, light green-grey and medium grained (1-3 mm). It is composed of approximately 70% plagioclase, commonly saussuritized, and 30% pyroxene, generally chloritized. Local areas are well-foliated, particularly adjacent to diabase. Whole rock analyses were conducted on samples 4713 and 4714 (Appendix V).

Irregular and unoriented syenite(?) dykes, mostly <1 cm but occasionally to 20 cm, are locally abundant. They are medium grained (1-3 mm) and composed of 50-90%, white to pink potassium(?) feldspar and 10-50% chloritized mafic minerals (hornblende?). Epidote veins, up to 1 cm, with narrow envelopes of epidotized diorite are locally abundant also.

Diorite forms irregular areas, less than ten metres in diameter, that are surrounded by diabase. Contacts are sharp and locally are crosscut by narrow irregular dykes of chilled diabase. The best exposures of diorite are in southeastern Holt 11 and western



Holt 6 claims.

Diabase (5a) weathers dark green to brown and is generally massive and fine-grained (<1 mm). Plagioclase phenocrysts, up to 2 mm long, are rarely observed. Contacts with enclosing rocks are generally marked by a narrow zone of foliated or chilled diabase. A petrographic analysis was conducted on sample 3456 (Appendix III); whole rock analyses on samples 4721, 4722 and 4723 (Appendix V).

Epidote veins up to 1 cm wide with narrow envelopes of epidotized rock are locally abundant. Epidotization also occurs as irregular patches up to 1 m in diameter. In some cases chalcopyrite, pyrite and quartz veining accompany the epidotization. It is not unusual to note malachite in and adjacent to quartz veins containing sulphides where there is no visible alteration.

Diabase occurs as a sequence of sills interlayered with sedimentary and volcanic rocks of Units 2 and 3. The sills are generally less than a few tens of metres thick; however, an extremely thick sill or several closely spaced sills, totalling at least several hundreds of metres thick, occupies the core of the major syncline that crosses the property.

#### **Unit 6**

Rocks correlated with the Karmutsen Formation (Unit 6) are a sequence of mafic volcanic rocks that crop out along the entire southern edge of the claim group. Outcrops are low, rounded and best exposed in logged areas and on road cuts.

Unit 6 is subdivided into three varieties, based on textural variations. The unit is characterized by massive (6a) and pillowed (6b) basalt with minor basaltic lapilli tuff (6c).



Pillowed basalt is probably more common than indicated as pillows are generally difficult to recognize in most outcrops. Samples 4715, 4716 and 4717 were submitted for whole rock analyses (Appendix V).

Fresh exposures are dark green-black and characteristically weather medium to dark orange brown. Rocks are generally aphanitic to fine-grained with locally abundant pyroxene phenocrysts up to several millimetres in diameter. In lapilli tuffs clasts dominate the rock, are generally irregular and less than 1 cm in diameter.

Pillowed basalt is characterized by irregular to well-formed pillows up to 1 m in diameter. Selvages are less than 1 cm thick. Interstices are lined with chlorite and filled with masses of quartz + chlorite, up to 30 cm in diameter.

Most outcrops are crosscut by calcite + quartz + hematite veins and irregular, discontinuous chlorite-filled fractures. Hematite coated fractures are also locally abundant. Epidote veins with associated alteration are rare.

On the southeast side of the claim group, Unit 6 is in fault contact with Units 1, 2, and 3. The contact between Unit 6 and Unit 4, on the southwest side of the claims, is not exposed.

#### **Unit 7**

Volcanic rocks correlated with the Bonanza Group (Unit 7) underlie a small area of the south-central part of the claim group (southeast Holt 4 claim). Exposures occur along road and stream cuts.

The unit is subdivided into two varieties; massive maroon feldspar porphyry (7a) and massive maroon to medium green agglomeratic lapilli tuff (7b). The feldspar porphyry contains 5-20% feldspar phenocrysts, up to 2 mm long, in an aphanitic to very fine-grained matrix. The agglomeratic lapilli tuff contains locally abundant blocks of feldspar porphyry, up to 30 cm in diameter, in a lapilli tuff matrix of similar composition. Hematization is variable yielding a mottled maroon and green colour. The contact with Unit 6 is not exposed; it may be a fault.

### Unit 8

Unit 8 contains rocks belonging to the Island Intrusions that are represented by the Koksilah stock and related intrusions. The Koksilah stock crops out along a narrow belt on the northeastern edge of the claims. Outcrops are low, rounded and sometimes cliff forming, with best exposures in logged areas and on road cuts. Smaller intrusive bodies, tens of metres in diameter and associated with Koksilah stock, crop out throughout the claim group, but are most common closer to the stock.

Unit 8 is subdivided into three varieties that represent a transition from equigranular to porphyritic rocks. Most of the unit comprises quartz diorite (8a) that forms the Koksilah stock. Uncommon feldspar hornblende porphyritic quartz diorite (8b) is found within and adjacent to the stock. Feldspar hornblende porphyry (8c) occurs as irregular bodies away from the stock. Rare pink to white aplite dykes (8d) and narrow pegmatite veins crosscut the quartz diorite.

Quartz diorite (8a) is generally massive, light to medium grey, equigranular and medium-grained (1-5 mm). It is composed of 65-80% feldspar (dominantly plagioclase), 10-20% mafic minerals (chloritized hornblende + biotite + pyroxene), 10-15% quartz with

trace to 1% magnetite and accessory minerals. It is possible that potassic feldspar is locally more abundant implying some rocks are granodiorite. Sample 4710 was submitted for whole rock analysis (Appendix V).

Xenoliths, up to 30 cm in diameter are locally abundant near contacts. They are fine-grained (<1 mm) and composed mostly (80%) of mafic minerals with lesser feldspar.

Feldspar-hornblende porphyritic quartz diorite (8b) is generally massive and medium grey with medium-grained phenocrysts occurring in a fine-grained matrix. Rare xenoliths of quartz diorite are present. Feldspar phenocrysts are up to 4 mm in diameter and comprise 15-25% of the rock. Hornblende phenocrysts are of a similar size but comprise only 5%. Traces of magnetite and accessory minerals are present also.

Feldspar-hornblende porphyry (8c) is generally massive and medium grey to pink with medium-grained phenocrysts occurring in an aphanitic to very fine-grained matrix. Rare xenoliths of country rock are noted. Feldspar phenocrysts are up to 4 mm in diameter and comprise 15-25% of the rock. Hornblende phenocrysts are less abundant (<5%) and smaller (<2 mm). Quartz phenocrysts are rarely observed. Petrographic analyses were conducted on samples 4711 and 4712 (Appendix III).

Subunit 8c can be distinguished from subunit 8b by a finer-grained ground mass. Subunit 8b occurs within the Koksilah stock, near its margins, whereas subunit 8c is enclosed by Sicker Group, Karmutsen Formation and Bonanza Formation rocks.

Chlorite and epidote-filled fractures with envelopes up to 10 cm wide of saussuritized and/or argillic altered rock are locally abundant in quartz diorite. Potassic alteration occurring as

pervasive patches and envelopes around fractures is locally abundant in feldspar-hornblende porphyry and less so in quartz diorite. Disseminated pyrite is also locally abundant in feldspar-hornblende porphyry.

Contacts between varieties of Unit 8 and country rocks are sharp. Feldspar-hornblende porphyritic quartz diorite crosscuts quartz diorite. The relationship between feldspar-hornblende porphyry and quartz diorite / porphyritic quartz diorite is uncertain. The feldspar porphyry may be later or earlier.

### **Unit 9**

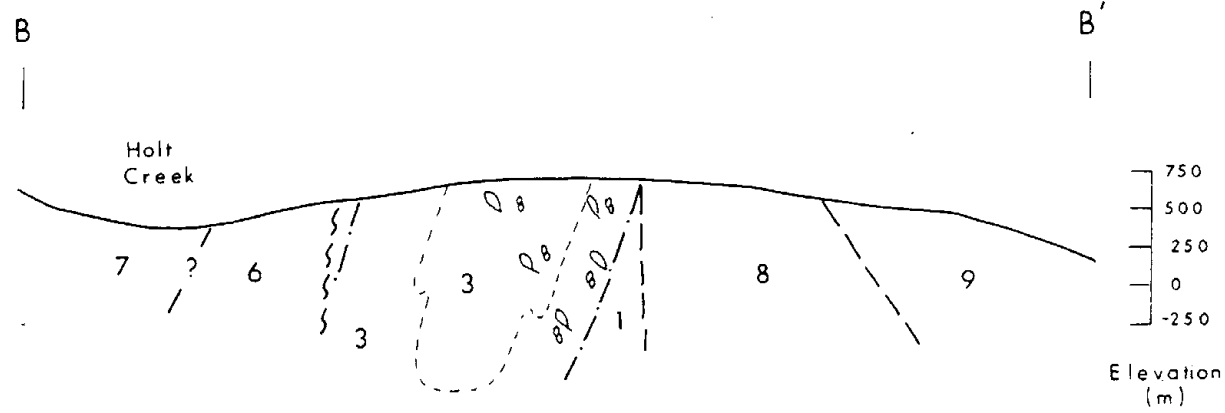
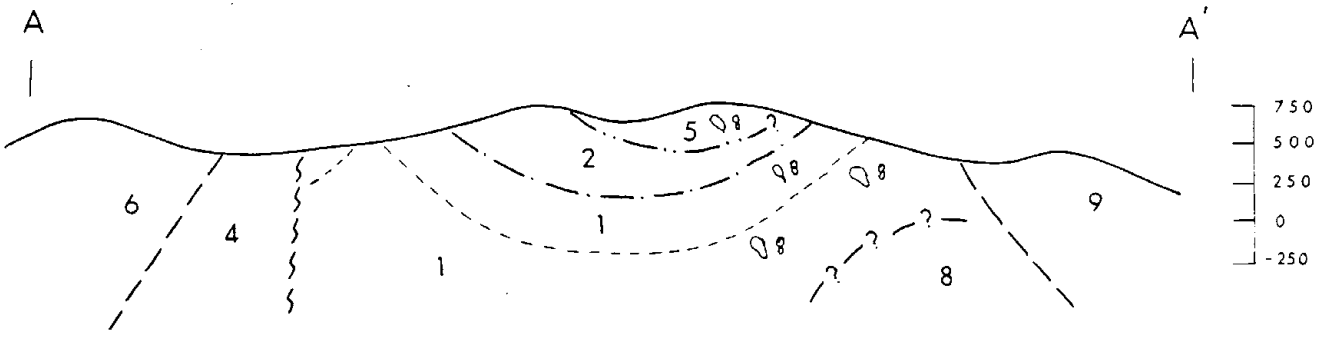
Unit 9 consists of sedimentary rocks correlated with the Cretaceous Nanaimo Group which unconformably overlies Unit 1 of the Sicker Group and Unit 8 (Koksilah stock). Unit 9 underlies a small area in the north-central portion of the claim group (northern Holt 6 and northeastern Holt 9 claims) where it is exposed on logging roads. The unit consists of an interbedded succession of mudstone, sandstone and conglomerate. Fossils are present locally.

#### **5.1.2 Structure**

At least two phases of folding are noted on the Holt property: Phase 1 folds are northwest-southeast trending with moderately northwest plunging fold axes whereas Phase 2 folds trend north-south with moderately north-plunging fold axes.

Phase 1 folding is dominated by a major syncline that crosses the property from northwest to southeast (Figs. 7 and 8). On the west half of the property the syncline is open (Fig. 16), and well-defined by bedding attitudes. However, on the east half of the property the syncline is poorly defined; it appears to be

SW

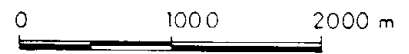


\* Line of section = 045°

**LEGEND**

- 9 MUDSTONE, SILTSTONE, SANDSTONE AND CONGLOMERATE
- 8 QUARTZ DIORITE, GRANODIORITE
- 7 MAROON TUFFS AND FLOWS
- 6 MAFIC FLOWS AND TUFFS
- 5 DIABASE, DIORITE
- 4 LIMESTONE
- 3 MAFIC BEDDED TUFFS AND CHERTS
- 2 MAFIC FLOWS, BEDDED TUFFS AND CHERTS
- 1 MAFIC FLOWS AND TUFFS

- APPROXIMATE CONTACT
- .-.- GRADATIONAL CONTACT
- .-.-.- INTERBEDDED CONTACT



NEXUS RESOURCE CORPORATION  
GOLDENROD RESOURCES & TECHNOLOGY INC.

**REGIONAL CROSS SECTIONS  
HOLT PROJECT**

VICTORIA MINING DIVISION

Project No: V 226	By: D S
Scale: 1:50 000	Drawn: J S
Drawing No: 16	Date: FEBRUARY 1987

**MPH Consulting Limited**

overtuned with a steeply southwest-dipping axial plane (Fig. 16). The syncline is inferred from the trace of Unit 2 black argillite and chert along the southeast edge of the property and bedding attitudes. A near vertical cleavage that parallels bedding is common. This suggests small scale isoclinal folding on the northeast limb of the syncline.

Phase 1 folding is also marked by a major anticline that is inferred to cross the western portion of the property parallel to the syncline. The structure is poorly defined, being inferred from bedding attitudes and the appearance of Unit 6 (younger rocks) to the west.

A major northwest-southeast trending fault is exposed along the southern portion of the property. It is inferred from discontinuous stratigraphy, topographic lows and on the east half of the property, a zone up to 500 m wide where shearing is commonly noted. On the southwest side of the property the fault juxtaposes Unit 5 against Units 1 and 2, whereas Unit 6 is juxtaposed against Unit 2 and 3 on the southeast side of the property (Fig. 16). Movement is dominantly dip slip with the southern block displaced down relative to the block underlying the Holt property.

A prominent airphoto linear trends southwest-northeast across the property, west of Holt Creek. No offset is noted along this linear; however, Trench 1 is in close proximity to it.

## 5.2 Geochemistry

### 5.2.1 Procedures

Samples collected for geochemical analyses are composed of rock, stream sediment or soil. Most rock samples are grabs obtained from outcrop; a few are from float. Stream sediment samples were obtained from material in active or dry stream beds. This material is generally a mixture of clay, silt and sand with minor organics. Soil samples are of "B" horizon material dug from a depth of 10 to 40 cm. This material is generally a reddish brown mixture of clay and silt with minor sand.

All samples were submitted to Rossbacher Laboratory Ltd., Burnaby, B.C. They were analyzed for Au by atomic absorption spectrometry (AAS), and a 30 element suite by Inductively Coupled Plasma Spectrometry (ICPS), after digestion with aqua regia. The ICPS analyses were done by Chemex Labs Ltd. prior to January 26, 1987 and by Acme Analytical Laboratories Ltd. after January 26, 1987. For samples analyzed by Chemex the 30 elements are: Al, Ag, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Sb, Sr, Ti, Tl, U, V, W and Zn. Elements analyzed for by Acme included Au, Th and B, but exclude Be, Ga and Tl. Check analyses, using standard assaying procedures, were done on some samples with elevated Au, Ag and/or Pb values. Laboratory methods are given in Appendix IV; analyses in Appendix V.

### 5.2.2 Mineralization and Rock Geochemistry

#### Holt West Half

A total of 300 rock samples was taken on the west half of the Holt property (Fig. 17). Two hundred and two of these were in the Holt East Group; 98 in the Holt West Group. Thirty-nine of the rock



samples taken on the Holt East Group were obtained from Trenches #1 and #2. Mineralization accompanied by elevated analytical values is noted on Figure 7.

The most significant mineralization on the west half of the property is on Grid A near 10N/0E. This area is underlain by mafic volcanic rocks of Unit 2. Initial interest was caused by two angular, pyritic float boulders with elevated Au concentrations. Sample 4471 returned 15.09 g/tonne (0.440 oz/ton) Au, 11.2 ppm Ag, 256 ppm Pb and 182 ppm Zn; sample 8563 1140 ppb Au and 3.4 ppm Ag. Sample 4471 is intensely silicified and has a well-developed boxwork texture. Sample 8563 is a mafic volcanic rock with pyrite occurring as disseminations and in a band up to 3 cm wide. Trench #1 was dug in the area underlying the float boulders.

Another significant zone of mineralization occurs on Grid A near 3S/1E where rusty, black argillaceous chert crops out. The argillaceous chert contains 5-10% fine-grained pyrite along narrow fractures. Sample 14671 returned 7.2 ppm Ag; sample 14672 5.8 ppm Ag; sample 14673 4.8 ppm Ag. The argillaceous chert can be traced for 6 km along Grid A. It appears to lie within or near the top of bedded green chert found at top of Unit 2. Sample 4701 was taken from cherty argillite near 20N/0E; it returned 260 ppb Au, 1.0 ppm Ag, 132 ppm Cu, 44 ppm Pb and 125 ppm As.

Lenses of jasper occur sporadically throughout a well-defined horizon of dark green, commonly pillowed, basaltic flows of Unit 2. The jasper-bearing rocks can be followed for 8 km along Grid A. The jasper may contain fine-grained pyrite and rarely chalcopryrite. A chalcopryrite-bearing jasper lens in a road cut at 8N/6W returned 1.36% Cu and 170 ppb Au. It occurs in epidotized mafic volcanic rocks where malachite is locally common along fractures.

Disseminated to blebby chalcopyrite occurs in patches for 3 m along a 30 cm wide shear zone near 2+50N/0E on Grid C. The shear zone trends northwest-southeast and dips steeply west. It is exposed along a stream cut in massive mafic volcanic rocks of Unit 2. Sample 4454 returned 3.16% Cu, 490 ppb Au, 10.4 ppm Ag and 218 ppm Zn.

Several mineralized zones occur near or in diabase sills (Unit 5) within mafic volcanic rocks of Unit 2. The most significant of these occurs in a road cut on Holt 11 claim where a localized area of epidotized diabase contains disseminated to massive pyrite and chalcopyrite with traces of azurite. Sample 2736 returned 2.36% Cu, 110 ppb Au and 8.6 ppm Ag.

Other mineralized zones occurring near the diabase sills that returned elevated based and/or precious metal values commonly contain quartz-veins and/or silicified zones. On the Holt 11 claim five showings of this type were found. Sample 14941 from a quartz vein returned 4969 ppm Cu, 90 ppb Au and 5.6 ppm Cu. Sample 2805 from a silicified mafic tuff with quartz veins returned 900 ppb Au. Sample 14954 from a silicified zone with pyrite, malachite and azurite returned 3128 ppm Cu and 0.6 ppm Ag. Sample 4730 from a quartz-vein returned 188 ppm Cu. An epidotized zone nearby returned 260 ppb Au from sample 4732.

On the Holt 8 claim a quartz-vein returned 426 ppm Cu from sample 2722, 2265 ppm Cu and 1.2 ppm Ag from sample 2723 and 326 ppm Cu from sample 2724.

Localized gossans occur in several localities on the west half of the Holt property (northwestern Holt 9 and northern Holt 6 claims). They are related to zones of carbonate alteration in mafic volcanic rocks of Unit 1; however, they contain minor sulphide mineralization and did not return elevated base or

precious metal values.

### **Holt East Half**

A total of 125 rock samples was taken on the east half of the Holt property in the Lois Group (Fig. 18). Mineralization accompanied by elevated analytical values is noted on Figure 8.

The most significant zone of mineralization on the east half of the property is associated with quartz/ankerite veins in mafic volcanic rocks of Unit 6 exposed in a road cut on Grid B at 2N/0E. Four vuggy quartz-ankerite veins, 10-30 cm wide and surrounded by carbonate alteration envelopes up to 0.5 m wide, trend north to northeast and dip moderately to steeply southeast. The southern most vein occurs in a 1 m wide clay gouge zone and contains disseminated to blebby freibergite with minor malachite and azurite. Sample 4477 returned 3600 g/tonne (105 oz/ton) Ag, 150 ppb Au, >9999 ppm Cu, 9530 ppm Sb, 2992 ppm Zn and 795 ppm As. Sample 4478 returned 20.4 ppm Ag, 264 ppm Cu, 182 ppm Zn, 32 ppm Pb, 25 ppm As and 20 ppb Sb. Several smaller quartz-ankerite veins occur near 2N/1+25E; however, they did not return any elevated base or precious metal values.

The veins are several hundred metres southeast of a small body of feldspar porphyry that is surrounded by carbonate altered rock. Sample 9302 was obtained from this zone; it returned 9.2 ppm Ag, 20 ppb Au and 196 ppm Cu.

Several quartz veins with pyrite and pyrrhotite were discovered in a road cut in southwestern Holt 5. Sample 4321 returned 250 ppm Cu.

A localized gossan was found in southern Holt 1. It is related to carbonate alteration; however, sulphide content is minimal.



Sample 3461 returned 18 ppm Pb and 152 ppm Zn.

### **Trenching**

Two trenches were dug in the central portion of Grid A. Trench #1 is along line 10N and is about 500 m long, whereas Trench #2 is near 8N/0E and is about 250 m long (Figs. 7, 9, 10, 14 and 15).

Trench #1 was intended to follow-up the Au-bearing pyritic float boulders (samples 4471 and 8563) found near 10N/0E. A total of 35 rock samples was taken. Nine of these returned elevated Au values. These samples are: 14688 = 40 ppb Au; 14697 = 30 ppb Au; 14698 = 150 ppb Au; 14919 = 110 ppb Au; 14920 = 220 ppb Au; 14700 = 20 ppb Au. All of these samples are from a zone 40 m wide characterized by intensely silicified mafic volcanic rock with very fine-grained pyrite occurring as disseminations to 2 cm wide bands. Chalcopyrite was not observed.

A second 25 m wide zone of intensely silicified mafic volcanic rock was also found in the trench, but returned only a few slightly elevated Au values. These samples are: 14924 = 50 ppb Au; 14925 = 20 ppb Au; 14926 = 30 ppb Au.

Sulphide mineralization is generally confined to the two zones discussed. The host rock is dark grey to green amygdaloidal basaltic flows.

Trench #2 was intended to look for extensions to the mineralization in Trench #1. A total of four rock samples was taken; all returned elevated Au values. These samples are: 14942 = 60 ppb Au; 14943 = 50 ppb Au; 14947 = 1400 ppb Au; 14948 = 30 ppb Au. The samples are from a narrow zone of well-mineralized green to black chert and silicified basalt flows with 5-10% fine-grained, disseminated to blebby pyrite. The host rock is dark

grey to green amygdaloidal basalt flows with minor interbedded sections of basaltic tuff.

### 5.2.3 Stream Sediment Geochemistry

A total of 134 stream sediment samples was taken on the Holt property. Thirty-two of these are on the Holt West Group; 48 on the Holt East Group; 54 on the Lois Group. Three samples returned greater than 40 ppb Au. Sample 14731 was taken from a small stream in a well-forested area on Holt 1; it returned 110 ppb Au. Follow up work in this area is warranted. Sample 4343 was taken from a large stream draining a swampy area on Holt 4 claim. It returned 50 ppb Au. Sample 4312 was taken from a small stream on Holt 4 claim. The sample returned 50 ppb gold; rock sampling in the area did not produce any significant results.

### 5.2.4 Soil Geochemistry

#### Grid A

Grid A baseline is 8.6 km long with a bearing of 315°. A total of 86 flagged lines, 100 m apart, crosscut the baseline at 90°, extending up to 400 m northeast and 700 m southwest (Fig. 5). A total of 2692 "B" horizon soil samples was taken at 25 m intervals on 45.5 km of line. A total of 1568 samples are in the Holt East Group; 1124 in the Holt West Group. All samples were analyzed for Au by AAS and a 30 element suite by ICPS. Au/Ag data is presented in Figures 19, 21, 23 and 25; As/Ba data in Figures 20, 22, 24 and 26.

Threshold values and highlighted intervals for anomalous Au, Ag and As data have been visually estimated as most of the data is at detection limits. These values are:

Au : Threshold = 10 ppb  
First interval = 10-50 ppb  
Second interval = >50 ppb

Ag : Threshold = 0.4 ppm  
First interval = 0.4- ppm  
Second interval = >1.0 ppm

As : Threshold = 15 ppm  
First interval = >15 ppm

A statistical analysis of the Ba data is given in Appendix VI; this analysis was used to determine threshold values and contour intervals for plotting purposes. The threshold for anomalous Ba content in soils was chosen at the break between background and anomalous populations on a histogram with extremely anomalous samples removed. Contour intervals are defined as threshold plus one, two and three standard deviations of the truncated data set. These values are:

Ba : Threshold = 125 ppm  
First contour = 195 ppm  
Second contour = 265 ppm  
Third contour = 335 ppm

Elevated Au concentration in the soils on Grid A is not significant. There are no well-defined zones; only isolated values of up to 300 ppb occur. Several slightly elevated Au values occur around lines 18 to 20N from 0 to 2W.

Elevated Ag and As concentrations in the soils on Grid A are also not appreciable. However, there are several zones where the soil contains up to 1.0 ppm Ag and 50 ppm As. These zones occur around lines 5 to 6S from 0 to 1W, lines 18 to 20N from 0 to 3W, lines 26

to 30N from 0 to 3W and on line 73N from 0 to 3E.

Geological mapping indicates the zones of elevated Au, Ag and As concentrations in soils are related to a pyritic black, argillite horizon in Unit 2.

Ba concentrations in the soils on Grid A typically range from 50 to 120 ppm. However, there is a linear zone on the southwest side of the grid, which extends along its entire length, where Ba concentrations range from 125 ppm to 1160 ppm. Areas where this trend is most pronounced are lines 9S to 11S, 1S to 3N, 16N to 20N, 26N to 29N, 49N to 51N and 56N to 57N. Geological mapping indicates elevated Ba concentrations in soils are related to a horizon of well-bedded green chert that occurs in the upper portion of Unit 2. Although the Ba anomalies are not economically significant they provide a useful geochemical signature where there is no outcrop.

#### **Grid B**

Grid B baseline is 0.9 km long with a bearing of  $0^{\circ}$ . A total of 19 flagged lines, 30 m apart, cross the baseline at  $45^{\circ}$ , extending up to 300 m southwest and 200 m northeast (Fig. 6). A total of 327 "B" horizon soil samples was taken at 20 m intervals on 8.05 km of line. All samples were analyzed for Au by AAS and a 30 element suite by ICPS. Au/Ag data is presented in Figure 29; Cu/Zn data in Figure 30.

Threshold values and highlighted intervals for anomalous Au and Ag data have been visually estimated as most of the data is at detection limits. These values are:

Au : Threshold = 10 ppm

Ag : Threshold = 0.4 ppm

First interval = 0.4- ppm

Second interval = >2.0 ppm

A statistical analysis of the Cu and Zn data is given in Appendix VI. This analysis has been used to determine threshold values and contour intervals for plotting purposes. Thresholds for Cu and Zn content in soils have been chosen at the break between background and anomalous populations on histograms with extremely anomalous samples removed. Contour intervals are defined as threshold plus one, two and three standard deviations of the truncated data set. These values are:

Cu : Threshold = 75 ppm

First contour = 115 ppm

Second contour = 160 ppm

Third contour = 200 ppm

Zn : Threshold = 85 ppm

First contour = 135 ppm

Second contour = 185 ppm

Au concentration in soils is not significant; only one sample returned an elevated value of 30 ppb (1N/0E).

Ag, Cu and Zn concentrations in the soils on Grid B are sporadically elevated on line 1N to 4N from 1W to 1E in the vicinity of the Ag-bearing vein. Elsewhere only isolated values occur. The highest Ag value is 88 ppm and occurs at 2N/0+00E where the Ag-bearing vein outcrops. The highest Cu value of 410 ppm also occurs here. All remaining Ag values are less than 2.4 ppm. The highest Zn value of 614 ppm occurs at 4N/1+25W.



### Grid C

Grid C baseline is 0.3 km long with a bearing of  $315^{\circ}$ . A total of 7 lines, 50 m apart, cross the baseline at  $90^{\circ}$ , extending 80 m southwest and 80 m northeast (Fig. 6). A total of 55 "B" horizon soil samples was taken at 15 m intervals on 1 km of line. All samples were analyzed for Au by AAS and a 30 element suite by ICPS. Au, Ag, Cu and Zn data is presented in Figure 31. Only one elevated value was returned (176 ppm Cu). It is unrelated to the shear zone.

## 6.0 CONCLUSIONS

The Holt property is underlain predominantly by volcanic and sedimentary rocks of the Paleozoic Sicker Group exposed in a northwest-southeast trending syncline. Lesser amounts of Triassic Karmutsen Formation and Jurassic Island Intrusions and Cretaceous Nanaimo Group sedimentary rocks are present also.

The Sicker Group comprises a basal unit of pyroxene porphyritic flows and volcanoclastic rocks, an intermediate unit of mafic flows and cherty sedimentary rocks characterized by jasper pods and beds, an overlying unit of cherty volcanoclastic and sedimentary rocks, and an uppermost unit of argillite, chert and limestone. The intermediate and overlying units are intruded by numerous diabase sills. The basal unit correlates with the Nitinat Formation; the intermediate and overlying units to the Myra Formation and Sediment-Sill Unit; the uppermost unit to the Buttle Lake Formation (Muller 1980a).

Grid A was established over a stratigraphic interval of the Sicker Group that contains jasper associated with epidotized mafic volcanic rock and pyritic black cherty argillite. The argillite contains elevated concentrations of Au, Ag and As. Soils overlying the argillite have sporadic highs of Au and zones of elevated Ag and As. A green chert horizon, interbedded with the argillite, contains elevated Ba concentrations, which are related to well-defined Ba soil anomalies. A pyritic siliceous float boulder on the southern portion of the grid returned 15.09 g/tonne (0.440 oz/ton) Au and 11.2 ppm Ag. The boulder was derived from an underlying zone of altered mafic volcanic rocks with disseminated to massive pyrite.

Grid B was established over an area of the Karmutsen Formation that contains several quartz-ankerite veins with well-developed carbonate alteration envelopes. One of these veins contains over 3600.0 g/tonne (105.00 oz/ton) Ag. A zone of elevated Ag and Cu occurs in soils surrounding the vein. A small body of feldspar porphyry that is surrounded by carbonate altered volcanic rock outcrops. The quartz-ankerite veins may be related to this intrusive body.

Grid C was established over an area of the Sicker Group that contains a narrow-shear zone with chalcopyrite. Soils overlying the zone are not elevated in Cu or Au implying it is localized.

Several localized zones with pyrite, chalcopyrite and/or malachite occur near or within diabase sills within the Sicker Group. They are probably related to contact metasomatism along the sill contacts.

Numerous localized skarn zones occur near the Koksilah stock. They are related to contact metasomatism along the stock contact; however, they do not contain economic mineralization.

**CERTIFICATE**

I, Dale A. Sketchley, do hereby certify:

1. That I am a graduate of the University of British Columbia in Honours Geology-Geophysics (B.Sc. 1975) and Geology (M.Sc. 1986).
2. That I have practised within the geological profession for the past fourteen years.
3. That I am a member of the Geological Association of Canada and the Canadian Institute of Mining and Metallurgy.
4. That the opinions, conclusions and recommendations contained herein are based on field work conducted on the property from September 23 to December 15, 1986 and supervised by me.
5. That I do not own direct, indirect, or contingent interests in the subject property or shares or securities of Nexus Resource Corporation, Goldenrod Resources and Technology Inc. or associated companies.



Dale A. Sketchley, M.Sc.

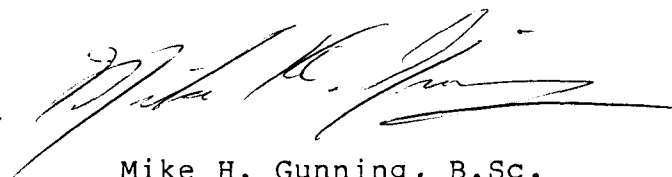
Vancouver, B.C.

May 15, 1987

**CERTIFICATE**

I, Mike H. Gunning, do hereby certify:

1. That I am a graduate of the University of British Columbia in the Honours Geology Program (B.Sc., 1986).
2. That I have practised within the geological profession for the past five years.
3. That the opinions, conclusions and recommendations contained herein are based on field work conducted on the property from January 5 to February 28, 1987 and supervised by me.
4. That I do not own direct, indirect, or contingent interests in the subject property or shares or securities of Nexus Resource Corporation, Goldenrod Resources & Technology Inc. or associated companies.



Mike H. Gunning, B.Sc.

Vancouver, B.C.

May 15, 1987

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Appendix I

LIST OF PERSONNEL

and

STATEMENT OF EXPENDITURES





**List of Personnel and  
Statement of Expenditures:  
Lois Group; Phases I & II**

Work was conducted on the Lois Group consisting of the Holt 1 through 5 claims from September 23 to December 19, 1987.

<u>Personnel</u>	<u>No.</u> <u>Days</u>	<u>Per</u> <u>Day</u>		
T.G. Hawkins, P.Geol.	1	\$475	\$	475
D.A. Sketchley, M.Sc.	20	350		7,000
J.S. Getsinger, Ph.D.	1	350		350
T. Hayes, Field Supervisor	2	250		500
M. Gunning, B.Sc.	5	200		1,000
R. Kelly, Field Tech.	2	150		300
H. MacIsaac, Field Tech.	13.5	150		2,025
T. Naciuk, B.Sc.	15	150		2,250
T. Wilkinson, Field Asst.	4	150		600
D. McBeth, B.Sc.	1	150		150
G. Royer, Field Asst.	3	150		<u>450</u>
				\$15,100
<u>Food and Accommodation</u>	66	45		2,970
<u>Equipment Rental</u>				
4WD Truck	30	90		2,700
Rock Saw	3	15		<u>45</u>
				2,745
<u>Disbursements</u>				
Analysis-rocks, silts, soils, assays				5,667.90
Personnel expenses				594.16
Misc. Expenses				897.56
Custom Topographic Map				<u>3,168.00</u>
				10,327.62
Administration @ 15% (on \$10,327.62)				<u>1,549.43</u>
			Total	<u><u>\$32,692.05</u></u>



**List of Personnel and  
Statement of Expenditures:  
Holt East Group; Phases I & II**

Work was conducted on the Holt East Group consisting of the Holt 6 through 9, and Holt 15 claims from September 23rd to February 20, 1987. Reconnaissance geological work was carried out on the Holt 15 claim from February 12th to 20th, 1987.

<u>Personnel</u>	<u>No.</u> <u>Days</u>	<u>Per</u> <u>Day</u>		
T.G. Hawkins, P.Geol.	2	\$475	\$	950
D.A. Sketchley, M.Sc.	20	350		7,000
J.S. Getsinger, Ph.D.	2.07	350		725
T. Hayes, Field Supervisor	3	250		750
B. Thomae, B.Sc.	.5	250		125
G. Cope, B.Sc.	.5	350		175
M. Gunning, B.Sc.	10	200		2,000
J. Elliott, Field Tech.	5	150		750
S. Hawkins, Field Tech.	7	150		1,050
H. MacIsaac, Field Tech.	10	150		1,500
T. Naciuk, Geol. Asst.	10	150		1,500
D. McBeth, Geol. Asst.	2	150		300
E. Ackerly, Field Tech.	2	150		300
G. Royer, Geol. Asst.	10	150		1,500
S. Whitefield, Field Tech.	7	150		<u>1,050</u>
				\$19,675.00
<u>Food and Accommodation</u>	87	45		3,915.00
<u>Equipment Rental</u>				
4WD Truck	40	90		3,600
Rock Saw	5	15		75
Gas Plugger	1	30		<u>30</u>
				3,705.00
<u>Disbursements</u>				
Analysis-rocks, silts, soils, assays				20,278.80
Personnel expenses				594.16
Misc. expenses				<u>877.59</u>
				21,750.59
Administration @ 15% (on \$21,750.59)				<u>3,262.59</u>
				<u><u>\$52,308.18</u></u>



**List of Personnel and  
Statement of Expenditures:  
Holt West Group; Phases I & II**

Work was conducted on the Holt West Group consisting of the Holt 10 through 14 claims from September 23rd to February 20, 1987. Reconnaissance geological work was carried out on the Holt 14 claim from January 18 to February 20, 1987.

<u>Personnel</u>	<u>No.</u> <u>Days</u>	<u>Per</u> <u>Day</u>		
T.G. Hawkins, P.Geol.	2	\$475	\$	950
D.A. Sketchley, M.Sc.	16	350		5,600
J.S. Getsinger, Ph.D.	1	350		350
T. Hayes, Field Supervisor	2.08	250		520
M. Gunning, B.Sc.	8	200		1,600
J. Elliott, Field Tech.	3	150		450
S. Hawkins, Field Tech.	7	150		1,050
H. MacIsaac, Field Tech.	10	150		1,500
T. Naciuk, Geol. Asst.	13	150		1,950
D. McBeth, Geol. Asst.	2	150		300
G. Royer, Geol. Asst.	6	150		900
S. Whitefield, Field Tech.	7	150		<u>1,050</u>
				\$16,220.00
<u>Food and Accommodation</u>	64	45		2,880.00
<u>Equipment Rental</u>				
4WD Truck	37	90		3,330
Rock Saw	3	15		<u>45</u>
				3,375.00
<u>Disbursements</u>				
Analysis-rocks, silts, soils, assays				13,513.40
Personnel expenses				594.16
Misc. expenses				887.64
Custom Topographic Map				<u>3,168.00</u>
				18,163.28
Administration @ 15% (on \$18,163.28)				<u>2,724.49</u>
				<u>\$43,362.77</u>

Appendix II

ROCK SAMPLE DESCRIPTIONS

ROCK SAMPLE DESCRIPTIONS AND LITHOGEOCHEMICAL RESULTS

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
732	Location: SE Holt 5 Rock Type: Cherty Tuff.  From outcrop, light to dark grey banded very fine grained cherty tuff. Too fine to distinguish minerals. Light and dark banding suggest differences in amount of silicification (chertiness). Lighter bands are slightly more cherty. Less than 3% disseminated and fracture fill pyrite.	5	0.2	153	82	10Pb
733	Location: Extreme, S, E Holt 5 Rock Type: Cherty Tuff.  From outcrop, light to dark grey banded very fine grained cherty tuff. Too fine to distinguish minerals. Light and dark bedding suggest differences in amount of silicification (chertiness). Lighter bands are slightly more cherty. Less than 3% dissemination and fracture fill pyrite. Minor crosscutting veinlets of quartz-epidote less than 1mm wide.	5	<0.2	114	44	6Pb
734	Location: NW Holt 4 Rock Type: Lapilli Tuff.  From outcrop, mottled, medium green-grey, slightly altered, with continuous subparallel quartz veinlets and sub-angular to subrounded clasts, cherty lapilli tuff. 2 to 4% fine grained disseminated and fracture fill pyrite. Veins are 0.3 to 1mm wide and clasts are 1 to 5mm long.	5	<0.2	176	32	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
735	Location: Slightly S, Extremely E Holt 2, ~1.5km of Lois Lake Rock Type: Coarse Grained Tuff.  From outcrop, dark green-grey crudely banded mafic coarse grained tuff. Fracture fill and disseminated pyrite averaging 2 to 4%. Trace pyrrhotite. Occurs in area proximal to coarse lapilli and agglomeritic lapilli tuffs. Banding apparent in outcrop only. Sub-angular to angular mafic fragments are oriented. Pyrite mineralization may be epigenetic. Minor crosscutting quartz veinlets are less than 1mm wide.	5	0.2	217	34	
736	Location: Near NW Corner, Holt 4 Rock Type: Silt.  Flowing, relatively straight stream (possible fault). Sample taken below road.	5	<0.2	87	60	10Pb
737	Location: Slightly S, E Holt 2, S of Lois Lake Rock Type: Silt.  Flowing stream parallel to road.	5	<0.2	165	152	18Pb
738	Location: Slightly S, E Holt 2 S of Lois Lake Rock Type: Silt.  Flowing stream parallel to road.	5	0.2	29	112	12Pb
739	Location: NE Holt 8, ~100m E of powerline Rock Type: Massive Sulphide.  From outcrop, dark green, mafic, porphyritic, sheared, strongly mineralized volcanic? 50% mafic matrix, 5 to 15% hornblende, 5 to 15% quartz, 10 to 20% pyrite, ~5% magnetite and trace chalcopyrite. Outcrop strongly weathered rusty earthy colour. Mineralization probably secondary. Sample is from shear zone.	5	0.4	72	60	18Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
740	Location: NE Holt 8, ~100m E of power line Rock Type: Sericitized, Chloritized, Altered Feldspar, Hornblende, Porphyry.  From outcrop, white, pink and green, bleached, weathered, altered, sheared FHP. 95% feldspar, 4-6% chlorite, trace of talc, sericite and disseminated pyrite.	5	0.6	12	34	360Ba
741	Location: Slightly N, Extremely E Holt 8 Rock Type: Altered Feldspar Hornblende Porphyry.  From outcrop 5 to 10cm x 15m, pale mottled green, altered, weathered, porphyritic (now chlorite, goethite), feldspar hornblende porphyry. The groundmass is strongly altered to clay, sericite, goethite unidentified. Trace disseminated pyrite. Rusty weathered surface is probably due to the alteration of mafics and oxidation of pyrite.	5	0.4	8	40	320Ba
742	Location: Central E, Holt 6 Rock Type: Diabase.  Float near extensive outcrop. Medium grey-green fine grained (<3mm) crystalline intrusive diabase with mafics >70% and quartz <5%. Often associated with coarser grained diorite. Pyrite 4-6% disseminated and filling fractures. Pyrite mainly associated with epidote-quartz vein (2.5cm wide) and may be epigenetic.	5	0.2	78	14	6Pb
743	Location: S, Extremely W, Holt 6 L1S - 1+75E, Grid A Rock Type: Diabase.  Outcrop 2 x 2m of dark grey-green, very fine grained, silicified, intrusive diabase with mafics >90% and quartz <5%. Epidote veinlets parallel to Fe weathering bands. Possibly hematitic alteration. Slightly magnetic.	5	0.2	150	62	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
744	Location: N, Extremely W (on claim line) Rock Type: Mafic Porphyry.  From small outcrop, dark green-grey altered hornblende feldspar. Rock is crosscut by quartz-epidote veinlets 1 to 3mm wide. Mineralization is probably primary, trace pyrrhotite and pyrite disseminated and in 0.5 x 5mm veinlets. Rock is adjacent to FHP dyke.	5	0.2	84	26	
745	Location: Slightly N, Extremely W Rock Type: Cherty Tuff.  Float black very fine grained cherty tuff. Trace of pyrite in veinlets and fractures. Minor Mn-Fe staining. Rock fractures along bedding planes.	5	0.4	16	60	12Pb
746	Location: SW Holt 8, L27N-1+30W Grid A Rock Type: Argillite.  From 2m outcrop, of black quartz veined argillite. Trace disseminated pyrite. Strong Fe-Mn staining on weathered rock.	5	0.2	19	24	
747	Location: SW Holt 8, L26N, 0+75E Grid A Rock Type: Argillite.  Float from road construction, although it is assumed to be local. Black argillaceous matrix ~95% and ~5 to 10% oxidized material. Sparse fine grained disseminated pyrite. Rock shows heavy oxidation and some possible schistosity.	5	0.8	43	96	75As
748	Location: Extreme S, W Holt 8, L23 - 0+50W, Grid A Rock Type: Argillite.  From roadbed outcrop. ~95% argillaceous matrix ~5% quartz veins. 2 to 4% pyrite in very fine grained disseminations and fracture fillings. Cross-cutting quartz veins less than 1mm wide.	5	0.2	41	96	35As



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
749	Location: Extremely N, W, Holt 7 L21N, 1+25W. Rock Type: Argillite.  From outcrop. ~95% argillaceous matrix ~5% quartz veins. 2 to 4% pyrite in very fine grained disseminations and fracture filling. Crosscutting quartz veins less than 1mm wide.	5	0.4	18	396	80As
750	Location: NW Holt 7, L19N-3+75W Rock Type: Maroon Banded Jasper Inter- bedded with Grey Chert.  From outcrop 2 x 5m, banded maroon and dark grey, cherty, jasperoidal rock. Trace pyrite and pyrrhotite occur in a very fine grained disseminated state. Bedding 1 to 5cm wide.	5	0.2	36	26	
851	Location: S, Central Holt 1 Rock Type: Silt.	5	0.2	43	76	200Ba
852	Location: S, Central Holt 1 Rock Type: Argillite.  Small outcrop less than 1m square of black argillite. Trace disseminated pyrite.	5	2.0	42	156	652Pb
853	Location: Slightly N, Extremely W Holt 4, Holt Creek 70m N of bridge Rock Type: Quartz Sheared Chert.  5m outcrop of white and green aphanitic chert. Very slightly chlorite. Trace fine grain disseminated and fracture fill pyrite. Fe stains on weathered surface.	5	0.2	39	36	48Pb
854	Location: SW, Holt 4 Rock Type: Mafic Flow Material.  Outcrop 20m diameter and locally ex- tensive. Altered and sheared dark green mafic flow material. Trace disseminated pyrite. Sampled for background values associated with positive Bonanza values.	5	0.2	10	62	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
855	Location: SW, Holt 4 Rock Type: Silt.	5	0.2	39	56	120Ba
856	Location: NE Holt 7, L11N+25N - 1+25E Grid A Rock Type: Chert.  Float ~50cm x 30cm x 40cm of angular chert. Up to 25% massive pyrite. Probably a local rock.	1140	3.4	427	168	
857	Location: NE Holt 7, L11N+25N - 0+75E, Grid A Rock Type: Maroon Chert in Argillite.  Small outcrop less than 30cm; minor pyrite.	5	0.4	35	36	430Ba
858	Location: NE Holt 7, L11N-0+50E Grid A Rock Type: Fine Grain Tuff.  Outcrop 1 x 1m of medium grey-green fine grain tuff. Pyrite 4 to 8% occurs as fine grains in vein 1.5 to 2cm thick.	20	0.2	1	28	6Pb
859	Location: Slightly NE, Holt 7 Baseline at 10+36N, Grid A Rock Type: Quartz Shear in Fine Grain Tuff.  Outcrop. White quartz vein or shear is approximately 3cm wide in a zone less than 20cm, hosted in a green fine grain tuff. Up to 3% pyrite in quartz vein.	30	0.6	139	36	290Ba
860	Location: Slightly NE, Holt 7 Baseline at 10+50N, Grid A Rock Type: Fine Grain Tuff.  Outcrop traceable over 10m. Medium green fine grained tuff with stringers and disseminated pyrite averaging 3 to 5%.	10	0.4	112	54	
861	Location: Slightly NE, Holt 7, S of Baseline 10+36N, Grid A Rock Type: Quartz.  Quartz float common; probably local. Sample less than 1m.	5	1.6	490	6	20Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
862	Location: Very NW, Holt 11 Rock Type: Diabase.  Outcrop (2.4m) of dark green-black fine grained (<3mm) intrusive diabase with mafics >70% and quartz <5%. Relatively large feldspar intergrowths for a diabase. Slightly magnetic. Trace, fine grained, disseminated pyrite and pyrrhotite.	5	0.2	58	96	
863	Location: Very NW, Holt 11 Rock Type: Altered Feldspar Porphyry.  Outcrop traceable over 50m. Light grey silicified, slightly chloritized feldspar porphyry with a trace of fine grained disseminated pyrite. Weathered surface appears gossanous.	5	0.2	11	24	240Ba
864	Location: Very NW, Holt 11 Rock Type: Altered Feldspar Porphyry.  Outcrop traceable over 50m. Light grey silicified, slightly chloritized feldspar porphyry with a trace of fine grained disseminated pyrite. Weathered surface appears gossanous.	5	0.2	2	40	200Ba
865	Location: Very NW, Holt 11 Rock Type: Chlorite Schist.  Large outcrop traceable over 80m, of medium to dark green feldspar, quartz, chlorite, hornblende schist. Trace fine grained disseminated pyrite. Sample from shear zone. Shear lacks much quartz veining and sulphides.	5	0.2	<1	88	
1311	Location: Slightly S, Extreme W Holt 3 Rock Type: Andesite.  From outcrop, light green quartz veined volcanic rock. Pyrite up to 1% finely disseminated in narrow quartz veins.	5	0.6	105	56	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
1312	Location: NW Holt 2 Rock Type: Black Altered Rock.  From outcrop, black and orange gossan zone with 2% disseminated pyrite. Weathered surface rusty. (goethite).	5	0.4	46	136	
1313	Location: NW Holt 2 Rock Type: Andesite.  From outcrop, light green fine grained volcanic. Up to 3% disseminated pyrite seen on broken fresh surface.	5	0.4	14	26	
1314	Location: Extreme S, Slightly E Holt 1 Rock Type: Silt.  Dry drainage strikes NE and dips 40%.	5	0.2	33	38	
1315	Location: S, Extremely E, Holt 1 Rock Type: Silt.  Main drainage is only 1m wide. Flow is due East.	5	0.2	32	50	150Ba
1316	Location: SE Holt 1 Rock Type: Argillite.  From outcrop, black quartz veined argillite. Disseminated pyrite up to 1%.	5	0.6	30	1349	35As 210Pb
1317	Location: SE Holt 1 Rock Type: Argillite.  From outcrop, black quartz veined argillite. Disseminated pyrite up to 1%. Gossan zone.	5	0.4	61	72	20As 10Pb
1318	Location: SE Holt 1 Rock Type: Argillite.  From outcrop, black quartz veined argillite. Disseminated pyrite up to 1%. Black argillite in contact with grey volcanic. 3m wide fracture gossan zone.	5	0.2	45	84	50As 14Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
1319	Location: SE Holt 1 Rock Type: Argillite.  From outcrop, black quartz veined argillite. Disseminated pyrite up to 1%. Grossan zone along road. Pyrite pods in black argillite.	5	0.4	37	48	250Ba 18Pb
1320	Location: SE Holt 7, L2N-0+75W Grid A Rock Type: Tuff.  From outcrop, light to medium green, fine grained, brecciated tuff. Fractured rock seems brecciated with clast sizes from 1 to 15mm.	5	<0.2	100	104	
1321	Location: SE Holt 7, L3N-0+75W Grid A Rock Type: Lithic Tuff.  From outcrop, medium green slightly chloritized and epidotized lithic tuff. Large and small (1mm to 15mm) lithic fragments making up tuff agglomerate. Epidote and chlorite replacement. Trace pyrite found in a lithic fragment.	5	<0.2	91	110	14Pb
1322	Location: SE Holt 7, L3N-1+25W Grid A Rock Type: Cherty Tuff.  From outcrop, green aphanitic laminated cherty tuff. Chert ~50%. Microfractures offset 2-6mm.	5	<0.2	49	64	
1323	Location: SE Holt 7, L4N-2W, Grid A Rock Type: Andesite.  From outcrop, medium green, altered, amygdaloidal andesite flow rock. Carbonate-quartz veining. Epidote amygdules and slightly epidotized and chloritized throughout.	5	<0.2	24	44	
1324	Location: SE Holt 7, L3N-1+50W Grid A Rock Type: Cherty Tuff.  From outcrop, laminated aphanitic cherty tuff with approximately 50% chert. Weathered surface is rusty with manganese and iron oxide stains.	5	<0.2	21	110	10Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
1325	Location: Near Central Holt 7, L6N-1+50W, Grid A Rock Type: Diabase.  From outcrop, dark green, fine grained (<2mm), intrusive, slightly epidotized and chloritized diabase with mafics >70% and quartz <5%. Slightly magnetic.	5	<0.2	106	90	6Pb
1326	Location: Near Central Holt 7, L7N-1+50W, Grid A Rock Type: Diabase.  From outcrop, dark green, fine grained (<2mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. Slightly magnetic.	5	<0.2	77	104	14Pb
1327	Location: Near Central Holt 7, L7N-1+75W, Grid A Rock Type: Mafic Lithic Tuff.  Green slightly epidotized and chloritized, quartz veined lithic mafic tuff. A large 4cm quartz vein sampled.	5	<0.2	20	44	6Pb
1328	Location: Near Central Holt 7, L8N-2W, Grid A Rock Type: Diabase.  From outcrop, dark green, fine grained (<2mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. The rock is very magnetic and contains about 1% sulphides as chalcopyrite and pyrite dissemination.	5	<0.2	28	128	12Pb
1329	Location: Near Central Holt 7, R8N-2+25W, Grid A Rock Type: Silt.	5	<0.2	62	160	110Pb 36Pb
1330	Location: Near Central Holt 7 Rock Type: Diabase.  From outcrop, dark green, fine grained (<3mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. Moderately magnetic. Up to 1% pyrite disseminated throughout.	5	<0.2	105	128	10Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
1331	Location: Near Central Holt 7, L9N 1+75W Rock Type: Diabase.  From outcrop, dark green, fine grained (<3mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. Moderately magnetic. Up to 1% pyrite disseminated throughout. Slightly hematized. Slickenslides present.	5	<0.2	64	104	
1332	Location: Near Central Holt 7, L9N 1+75W Rock Type: Diabase.  From outcrop, dark green, fine grained (<3mm), intrusive, diabase with mafics >70% and quartz <5%. Moderately magnetic. Up to 1% pyrite disseminated throughout. Quartz veins present.	5	<0.2	6	94	14Pb
1333	Location: Near Central Holt 7, L6N 1+50W, Grid A Rock Type: Diabase.  From outcrop, dark green, fine grained (<2mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. Slightly magnetic. Slightly hematized.	5	<0.2	58	90	8Pb
1334	Location: NW Holt 7, L16N-5W Grid A Rock Type: Diabase.  Float, green, very coarse, grained diorite.	5	<0.2	71	62	
1335	Location: NW Holt 7, L19N - 5+25W Grid A Rock Type: Diabase.  Float, dark green, fine grained (<2mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. Slightly magnetic.	5	<0.2	85	62	
1336	Location: Central, Very E, Holt 10 Rock Type: Silt.					
1337	Location: Central, E Holt 10 Rock Type: Silt.	5	<0.2	80	78	220Ba

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
1338	Location: Central E Rock Type: Diabase.  From outcrop, dark green, fine grained (<2mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. Slightly magnetic.	5	<0.2	174	94	
1339	Location: Central, Slightly E Holt 10 Rock Type: Diabase.  From outcrop, dark green, fine grained (<2mm), intrusive, slightly epidotized and chloritized, diabase with mafics >70% and quartz <5%. Slightly magnetic.	5	<0.2	60	74	
1340	Location: Central, Slightly E, Holt 10 Rock Type: Fine Grain Tuff.  From outcrop, medium green, moderately altered, slightly sheared, quartz veined tuff. Epidotized and chloritized.	5	<0.2	51	70	16Pb
1341	Location: S Holt 5 / N Holt 4 Rock Type: Lapilli Tuff.  From outcrop, medium green rusty and dark altered, "gossanous" lapilli tuff. Trace chalcopyrite.	5	<0.2	118	104	
1342	Location: S Holt 5 / N Holt 4 Rock Type: Diabase.  Float, dark grey-black fine grained (<3mm) intrusive diabase with mafics >70% and quartz <5% disseminated throughout.	5	<0.2	144	68	
1343	Location: S Holt 5 / N Holt 4 Rock Type: Diabase.  Float, dark grey-black fine grained (<3mm) intrusive diabase with mafics >70% and quartz <5% disseminated throughout.	5	<0.2	197	90	



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
1344	Location: S Holt 5 / N Holt 4 Rock Type: Diabase.  Outcrop, dark grey-black fine grained (<3mm) intrusive diabase with mafics >70% and quartz <5% disseminated throughout. slightly brecciated.	5	<0.2	175	98	
1345	Location: S Holt 5 / N Holt 4 Rock Type: Basalt.  From outcrop, rusty and dark, quartz veined basalt. Outcrop is iron stained i.e. rusty.	5	<0.2	211	84	
1346	Location: S Holt 5 / N Holt 4 Rock Type: Feldspar Hornblende Porphyry.  From outcrop, brown, mainly feldspar, hornblende porphyry. Phenocrysts are 1 to 3mm long. Rusted crystals within the rock. (goethite 2%).	5	<0.2	24	76	
1347	Location: S Holt 5 / N Holt 4 Rock Type: Quartz Chlorite Schist.  From outcrop, dark and rusty to green intensely altered to chlorite, epidote and quartz, quartz veined schist.	5	<0.2	167	100	
1348	Location: Grid A - L19N at Mainline. Rock Type: Basalt.  Float, dark grey-black fine grained basalt. Sample is rusty and has slickensides. Pyrite as disseminated globs and stringers up to 1%.	5	<0.2	71	70	12Pb
1349	Location: Holt 4; NE of Holt Creek Rock Type: Diabase.  From outcrop, dark green-grey fine grained (<2mm) intrusive diabase with mafics >70% and quartz <5%. Weathered surface has a granular appearance. No visible sulphides but the rock is iron stained.	5	<0.2	141	68	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
1350	Location: Holt 4; NE of Holt Creek Rock Type: Quartz Vein in Brecciated Tuff.  From outcrop, white quartz in green silicified brecciated tuff. Vein 2cm wide. Rusty rock but no mineralization seen.	5	<0.2	23	50	
2701	Location: Holt 4; NE of Holt Creek Rock Type: Diabase.  From outcrop, dark green-grey fine grained (<2mm) intrusive diabase with mafics >70% and quartz <5%. Weathered surface has a granular appearance. No visible sulphides but the rock is iron stained. Slightly magnetic.	5	<0.2	54	64	
2702	Location: Holt 4; NE of Holt Creek Rock Type: Coarse Grain Diabase.  From outcrop, dark grey-green up to 4mm grained intrusive diabase with mafics >70% and quartz <5%. Moderately magnetic, about 5% magnetite.	5	<0.2	26	102	120Pb
2703	Location: Holt 4; NE of Holt Creek Rock Type: Diabase.  From outcrop, dark grey-green fine grained (<3mm) intrusive with mafics >70% and quartz <5%. Slightly epidotized. 1% magnetite.	5	<0.2	80	68	10Pb
2704	Location: Holt 4; NE of Holt Creek Rock Type: Quartz Vein in Diabase.  From outcrop, good quartz and epidote vein stockwork up to 0.5m wide. Pyrite <1% disseminated in veins.	5	<0.2	5	62	
2705	Location: Holt 4; NE of Holt Creek Rock Type: Fine Grain Tuff.  From outcrop 2m x 4m, grey, strongly silicified, cherty, tuffaceous rock. Pyrite stringers.	5	<0.2	70	34	64Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2706	Location: Holt 4; NE of Holt Creek Rock Type: Cherty Tuff.  Outcrop of grey-green strongly silicified, slightly sheared, aphanitic cherty tuff. Pyrite stringers and disseminated in quartz veins, up to 1%.	5	<0.2	37	62	6Pb
2707	Location: Holt 4; NE of Holt Creek Rock Type: Chlorite Schist.  Float, green chloritized, slightly epidotized, slightly rusty (goethite), calcite veined, schist. Angular float likely rolled from hill above.	5	<0.2	65	76	
2708	Location: Holt 4; NE of Holt Creek Rock Type: Silt.	5	0.4	65	96	22Pb
2709	Location: Holt 4; NE of Holt Creek Rock Type: Silt.	5	<0.2	76	70	140Ba 12Pb
2711	Location: Central Holt 7 Rock Type: Altered Maroon Basalt.  Float, strongly "hematized" and slightly epidotized, quartz-carbonate veined very fine grained basalt. Angular float boulder.	5	0.6	55	68	10Pb
2712	Location: Central Holt 7 Rock Type: Feldspar Hornblende Porphyry.  From outcrop, pink and green felsic porphyry. In contact with a tuff. Pyrite disseminated <1%. Pink feldspars.	5	0.2	<1	64	110Pb
2713	Location: Central Holt 7 Rock Type: Chert.  Float, green aphanitic chert. Massive pyrite stringers and disseminated globs up to 1%. Rusty weathered surface of rock in river. Geothite 1%.	5	0.2	25	70	10Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2714	Location: Central Holt 7 Rock Type: Altered Maroon Basalt.  From outcrop, maroon and black hematized calcite-carbonate veined basalt. Outcrop 2 to 3m wide which goes from very red-maroon N end to quartz-carbonate veined and black-red S end.	5	<0.2	14	74	12Pb
2715	Location: Central Holt 7 Rock Type: Hematized and Calcified Basalt.  From float, maroon, green and white, epidotized, slightly chloritized quartz carbonate veined fine grained basalt.	5	<0.2	98	32	
2716	Location: Central Holt 7 Rock Type: Feldspar Porphyry.  From outcrop, dark grey mafic groundmass with feldspar phenocrysts (30%).	5	<0.2	18	70	
2717	Location: Central Slightly N Holt 7 Rock Type: Silt.	5	<0.2	65	78	120Ba 10Pb
2718	Location: Central Slightly N Holt 7 Rock Type: Jasper.  Float in creek, very red definitely a jasper.	5	0.6	21	18	
2719	Location: Central, Slightly N Holt 8 Rock Type: Altered Feldspar Hornblende Porphyry.  From outcrop 5 to 10cm x 15m, pale mottled green, altered, weathered, relict porphyritic (now chlorite, goethite), feldspar hornblende porphyry. The groundmass is strongly altered to clay, sericite, goethite identified. Trace disseminated pyrite. Rusty weathered surface is probably due to the alteration of mafics and oxidation of pyrite.	5	0.4	8	40	320Ba
2720	Location: Central, Slightly E, Holt 8 Rock Type: Lapilli Tuff.  Outcrop, Medium green moderately epidotized quartz veined lapilli tuff.	5	<0.2	137	32	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2721	Location: Central, Holt 8 Rock Type: Stained Lapilli Tuff.  Outcrop. Altered, Fe-Mn stained, red and green coloured, chloritized, lapilli tuff. Stockwork quartz-carbonate veining. Possible spring here. Very rusty outcrop.	5	<0.2	108	48	330Ba
2722	Location: Central, Slightly E, Holt 8 Rock Type: Diabase.  2 x 4m outcrop of dark green fine grained (<3mm) intrusive diabase with >70% mafics and <5% quartz. Small vein sample of trace chalcopyrite and pyrite in diabase host. Vein is 4mm wide with 2mm sulphide grains.	5	<0.2	426	34	
2723	Location: Central, Slightly E Holt Rock Type: Diabase.  Outcrop of green fine-rained (<3mm) intrusive diabase with >70% mafics and <5% quartz. 2% malachite and chalcopyrite in quartz vein, 2cm x 0.45cm vein.	5	1.2	2265	66	
2724	Location: Central, Slightly E Holt 8 Rock Type: Diabase.  From outcrop dark grey fine grained <3mm, slightly chloritized, intrusive diabase with mafic >70% and quartz <5%. Strongly weathered red and Fe and Mn stained Py disseminated in fractures up 1%. Slightly to moderately magnetic, 2% magnetite.	5	<0.2	326	48	
2725	Location: Central, Slightly E Holt 8 Rock Type: Feldspar Hornblende Porphyry.  From outcrop, felsic brown, white and pink, coarse grained up to 4mm, feldspar, hornblende, quartz porphyritic stock intrusion with associated contact aureole. Pink feldspar.	5	<0.2	2	50	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2726	Location: Central, Slightly E Holt 8 Rock Type: Diabase.  From outcrop dark grey fine grained <3mm, slightly chloritized, intrusive diabase with mafic >70% and quartz <5%. Strongly weathered red and Fe and Mn stained Py disseminated in fractures up 1%. Slightly to moderately magnetic, 2% magnetite.	50	2.0	2745	66	
2727	Location: Slightly NE, Holt 7 Rock Type: Silt.	5	0.2	79	100	24Pb
2728	Location: W, Holt 7/8 Rock Type: Black Chert.	5	<0.2	44	170	
2729	Location: Central Holt 8 Rock Type: Jasper.  Float. Black and red aphanitic siliceous chert and jasper. Trace to 1% magnetite and hematite.	5	0.2	110	12	
2730	Location: W, Holt 7/18 Rock Type: Banded Chert.  From outcrop, red and white aphanitic chert and jasper. Looks layered. Contacts green lapilli tuff.	5	<0.2	12	10	
2731	Location: N, Central Holt 11 Rock Type: Diabase.  Subcrop boulders. Dark green-black fine grained (<3mm) intrusive diabase with mafics >70% and quartz <5%. Chlorite veins with <1% pyrite and sphalerite, as disseminated fine grained sulphides.	5	<0.2	24	98	140Ba
2732	Location: N, Central Holt 11 Rock Type: Diabase.  From outcrop dark green-black slightly chloritized fine grained (<3mm) intrusive diabase with mafics >70% and quartz <5%. Iron stained on weathered surface.	5	<0.2	104	80	260Ba

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2733	Location: N, Central Holt 11 Rock Type: Silt.  From small stream.	5	0.2	91	122	
2734	Location: N, Central Holt 11 Rock Type: Diorite.  From outcrop green and white coarse grained dyke? of diorite through diabase.	5	<0.2	16	22	
2736	Location: Slightly NW Holt 11 Rock Type: Altered Mineralized Diabase.  Outcrop 1m x 1m metallic and olive green altered massive sulphide. 20% chalcopyrite, 20% pyrite and epidote is the principal remaining rock component. Near diorite and may be a mineralized contact aureole.	110	8.6	>9999	56	
2737	Location: NW, Holt 11 Rock Type: Silt.	5	0.2	50	80	12Pb
2738	Location: NW Holt 11 Rock Type: Quartz-Epidote Vein in Diabase.  From outcrop with vein 6cm wide, white and olive green quartz and epidote in vein hosted by a diabase.	5	<0.2	309	22	
2739	Location: NW Holt 11 Rock Type: Diabase.  Subcrop boulders 0.8 meters square, dark green-grey fine-grained (<3mm) intrusive diabase with mafics <70%, quartz <5% and disseminated pyrite 1%.	5	<0.2	258	112	
2740	Location: NW Holt 11 Rock Type: Quartz Vein.  White quartz vein 6cm wide in a 4m x 7m outcrop of diabase.	5	<0.2	92	20	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2741	Location: N, Extremely E, Holt 11 Rock Type: Silicified Diabase.  Float 20cm long. Silicified almost cherty light to medium grey-green rock. Massive stringers and stringers of pyrite throughout, up to 5%. Slightly chloritized.	5	<0.2	560	178	
2742	Location: N, Extremely W Holt 11 Rock Type: Chloritized Rock.  From outcrop 2m wide, green extremely chloritized shear?, slightly pyritized up to 1%, schist. The protolith may have been diabase. Weathered rock is green, red and rusty. (goethite).	5	0.2	335	210	
2743	Location: N, Extremely E Holt 13 Rock Type: Chert.  Float. Silvery and white-grey, slightly chloritized, quartz-cherty boulders, with up to 20% pyrite stringers. and disseminated.	5	<0.2	34	26	
2744	Location: N, Extremely E Holt 13 Rock Type: Jasper-maroon Cherty Volcanic.  Float. Red and maroon intensely silicified aphanitic chert and fine grained volcanic.	5	<0.2	34	26	
2745	Location: N, Very E, Holt 13 Rock Type: Altered Volcanic.  From 2mm square outcrop, dark green, altered-slightly epidotized, fine grain (<3mm) intrusive diabase with mafics >70% and quartz <5%. Trace pyrite and chalcopyrite with trace malachite evident on rock surface.	5	<0.2	28	46	
2746	Location: N, Very E, Holt 13 Rock Type: Altered Volcanic.  From 2m square outcrop maroon and green very chloritized, schisty fine grained volcanic. 1% disseminated, fine grain pyrite.	5	<0.2	122	124	



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2747	Location: NW Holt 13 Rock Type: Silt.  Silt from river to road junction. Sample may be contaminated by road sediment.	5	0.2	26	50	130Ba
2748	Location: N, Central Holt 6 Rock Type: Quartz Vein from Diabase.  Outcrop 1m square. White massive quartz.	5	0.2	139	10	
2749	Location: NW Holt 6 Rock Type: Skarn.  From outcrop, pastel grey-green fine grained calc-silicate minor to 1% fine grain disseminated pyrite. Weathered surface bright orange.	5	0.2	<1	52	260Ba
2750	Location: NW Holt 6 Rock Type: Skarn-Like Altered Rock.  From outcrop 2 x 3m, medium to dark green 90% calc-silicates and 10% hornblende? Up to 1% fine grained disseminated pyrite. Rusty weathered surface.	5	0.2	<1	46	
2801	Location: Very NE, Holt 10 Rock Type: Andesite Flow.  From 5m square outcrop, good exposure of a medium to dark grey-green andesite with a faint porphyritic to amygdaloidal texture. Matrix is partially silicified. Green cherts are interbedded and outcrops of quartz diorite are common. 2 to 5% fine grain, evenly disseminated pyrite. Stratigraphically above chert.	5	0.2	47	117	
2802	Location: Very NE, Holt 10 Rock Type: Cherty Argillite.  30m outcrop along road. Good quarry-type exposure of very black, cherty argillite interbedded with green volcanic flows and green bedded chert. Folding is common. Beds dip 55 NE and strike 130. 5 to 10% layer parallel fracture filled pyritized.	5	0.2	54	63	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2803	Location: NW, Holt 7 Rock Type: Cherty Argillite.  30m outcrop along road. Good quarry-type exposure of very black, cherty argillite interbedded with green volcanic flows and green bedded chert. Folding is common. Beds dip 55 NE and strike 130 . 5 to 10% layer parallel fracture filled pyrite.	20	0.2	48	57	
2804	Location: Slightly SE, Holt 11 Rock Type: Cherty Argillite.  Outcrop. Good quarry-type exposure of very black, cherty argillite interbedded with green volcanic flows and green bedded chert. Folding is common. Beds dip 55 NE and strike 130 . 5 to 10% layer parallel fracture filled pyrite.	10	0.2	48	57	
2805	Location: Slightly SE, Holt 11 Rock Type: Andesite with Quartz Veining.  From outcrop. Good quarry exposure of aphanitic to slightly hornblende porphyritic andesite which is partially silicified and crosscut by quartz veins. 2 to 5% disseminated blebs and grains of pyrite.	900	0.2	28	45	
2806	Location: Slightly SE, Holt 11 Rock Type: Cherty Argillite.  From outcrop, poor exposure in quarry of dark grey-green, black aphanitic, cherty argillite. Bedding is indistinct. 5 to 10% parallel to bedding, fracture filling pyrite.	5	0.1	12	37	31As
2807	Location: Central, Very W, Holt 11 Rock Type: Quartz Vein.  From well exposed 5m square outcrop in road, white, 1cm to 10cm wide quartz vein hosted in black, aphanitic to amygdaloidal basaltic flow rocks. Vein is vertical and strikes NE. Trace fine grain pyrite.	5	0.1	82	21	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
2808	Location: Slightly NW, Holt 11 Rock Type: Andesite Flow Rock.  Abundant float on road of partially silicified (brecciated and epidotized in places) dark grey, aphanitic andesite flow rock. Original textures are obscured. 5 to 10% syngenetic pyrite as disseminated stringers and grains.	5	0.2	38	76	57As
2809	Location: E of powerline Rock Type: Silicified Andesite.  Silicified andesite. Well exposed, 5m square outcrop after blasting. Locally pervasively silicified andesite flow rock. Textures are "blurred" with greater than 90% silica replacement. Trace pyrite grains and blebs.	5	0.1	7	26	
3451	Location: Rock Type: Granodiorite (Koksilah Stock).  From outcrop, grey, massive, grain size averages 3mm, hornblende granodiorite. Minor saussauritized feldspars. Minor chlorite. Trace fine grain disseminated pyrite and magnetite.	30	0.2	8	74	
3452	Location: Extremely NW, Holt 5 Rock Type: Mafic Tuff.  From outcrop, dark green fine grained massive to laminated moderately chloritized and epidotized mafic tuff. Trace disseminated and small stringers of pyrite. Small "skarn" zones up to 2cm wide along bedding (may be some other alteration type), with diopside and andradite? Occurrence size forms approximately 10 to 20% of rock, otherwise small and restricted.	5	0.2	96	28	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3453	Location: N, Extremely E, Holt 10 Rock Type: Quartz Vein.  20m wide vein exposed for several meters in outcrop. White bullish, slightly calcic with inclusions of chert/argillite fragments quartz vein. Trace disseminated pyrite. Boxwork from calcite weathering is common.	5	0.2	29	24	
3454	Location: N, Extremely E, Holt 10 Rock Type: Chert.  Several pieces of float presumably from adjacent outcrop. Black with brown very fine grained, thinly bedded localized ash component chert. 1% disseminated, locally common pyrite. Weathered surface covered with Fe-Mn oxides.	5	<0.2	50		
3455	Location: N, Extremely E, Holt 10 Rock Type: Argillite.  Local concentration of float maybe subcrop. Black-brown stained very fine grain, local slickenslide surfaces with graphite, argillite. Trace disseminated pyrite. Fe-Mn oxide stained.	5	<0.2	26	102	40Pb
3456	Location: N, Extremely E, Holt 10 Rock Type: Diabase.  From outcrop, dark grey-black fine grained (<3mm), mafics ~5% and felsics ~94%, intrusive diabase. 1% Ti oxides. Trace fine grained disseminated pyrite.	20	0.2	68	118	
3457	Location: NE, Holt 1 Rock Type: Silt.  Poorly flowing stream. Drains granodiorite near contact with mafic tuffs.	5	<0.2	33	106	30Pb
3458	Location: Central, Holt 1 Rock Type: Silt.  Stream gully, with swampy spots, draining contact area. Large percentage of organics.	5	<0.2	29	154	32Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3459	Location: Central, Slightly W, Holt 1 Rock Type: Silt.  Stream gully, with swampy spots, draining contact area. Sample high in sand.	5	<0.2	32	66	
3460	Location: Central, Far W, Holt 1 Rock Type: Tuff.  Mafic monolithic fine grain agglomeritic tuff. Outcrop 25m across of dark green strongly chloritized, slightly epidotized, quartz-carbonate veined mostly fine grained mafic agglomeritic tuff. Veins up to 2cm form an irregular stockwork.	5	0.2	34	52	
3461	Location: Slightly SW, Holt 1 Rock Type: Altered Feldspar Porphyry or Crystal Tuff.  Outcrop in ditch is 2 x 8m. Light translucent green strongly chloritized and sericitized, sheared, porphyritic rock. Relict feldspar phenocrysts up to 2mm in a fine grained groundmass. Soft white non-calcite veinlets with occasional pink purple "staining" are locally common. 1% disseminated fine grain <0.5mm pyrite.	5	<0.2	7	152	
3462	Location: Slightly SW, Holt 1 Rock Type: Silt.  Good flowing stream but sparse silty sediment. Mostly basalt till in stream cut.	5	0.2	75	102	
3463	Location: S, Central, Holt 1 Rock Type: Silt.  Good flowing stream in gully but sparse silt.	20	<0.2	30	76	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3464	Location: Slightly N, Central, Holt 3 Rock Type: Laminated Mafic Tuff.  From 3m x 3m outcrop, dark green, generally fine grained, well bedded (laminated), strongly chloritized, slightly epidotized, moderately silicified. Skarn zones up to 3cm wide occur along bedding. They commonly have a clear quartz vein (~2mm wide) in core and are composed dominantly of a very hard pink material andradite? and hard light green mineral diopside? Rock may be slightly metamorphosed. Trace fine grain disseminated pyrite.	5	0.2	113	18	
3465	Location: NW, Holt 2 Rock Type: Feldspar Porphyry.  From 1 x 3cm outcrop in ditch. Whitish light grey coarse grained (<4mm) feldspar porphyry, in a fine grained matrix. Finely disseminated pyrite up to 1%. Small hornblende phenocrysts may have been present but sample has weathered leaving Fe-Mn oxides.	5	0.4	15	18	
3466	Location: Central, Slightly W, Holt 2 Rock Type: Silt.  Well defined stream cut with flowing water and little silt. Look under moss at side of stream.	5	<0.2	73	94	22Pb
3467	Location: Central, Slightly W, Holt 2 Rock Type: Sheared Mafic Tuff.  From outcrop exposed in ditch for ~2m (10 to 20cm wide). Very rusty weathered sample mostly goethite, relict plagioclase and chlorite, sheared mafic tuff.	5	0.2	33	20	
3468	Location: Central, Slightly W, Holt 2 Rock Type: Sheared Mafic Tuff.  From outcrop exposed in ditch for ~2m (10 to 20cm wide). Very rusty weathered sample mostly goethite, relict plagioclase and chlorite, sheared mafic tuff.	5	0.2	29	14	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3469	Location: Very SE, Holt 11 Rock Type: Chloritic Mafic Tuff.  From outcrop, dark green moderately chloritized and epidotized, hematite coated fracture surfaces, fine grained and massive, mafic tuff. 1% pyrite and trace malachite.	5	0.4	1440	86	
3470	Location: Extreme NW, Holt 9 Rock Type: Altered Mafic Tuff.  From outcrop <1 x 1m in road cut. Light green moderately chloritized, sericitized and carbonatized (ankerite), goethitic weathered mafic tuff. Abundant diabase sills nearby. The weathered rock is rusty brown coloured.	5	0.2	25	74	35As
3471	Location: Extreme NW, Holt Rock Type: Altered Mafic Tuff.  From outcrop <1 x 1m in road cut. Light green moderately chloritized, sericitized and carbonatized (ankerite), goethitic weathered mafic tuff. Abundant diabase sills nearby. The weathered rock is rusty brown coloured.	5	0.2	33	60	80As 10Sb
3472	Location: Central Holt 7 Rock Type: Jasper Pod in Mafic Volcanic.  Float sample with localized pod (~20cm diameter) from 15 x 10m quarry. Mottled green and red, banded chert. 1% chalcopyrite occurs as disseminations and fracture fillings in bright red jasper. Trace fine grain disseminated pyrite in green chert. Sample cut by calcite veinlets.	5	0.8	2027	14	
3473	Location: Central, Slightly S, Holt 7 Rock Type: Chert Pod.  Outcrop sample from localized pod (<20cm diameters) in road quarry (15 x 10m). Mottled green and white moderately chloritized and epidotized chert pod in a host of epidotized mafic volcanic.	5	0.2	82	32	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3474	Location: Central, Slightly S, Holt 7 Rock Type: Mafic Volcanic.  From 15 x 10m outcrop in quarry. Dark green, massive, fine to medium grained slightly epidotized and chloritized quartz-carbonate veined mafic volcanic (flow?).	5	0.2	97	74	120As
3475	Location: Central, Slightly S, Holt 7 Rock Type: Jasper Pod in Mafic Volcanic.  Float 15 x 10m from quarry. Mottled red, green and white, slightly chloritized pod of bright red jasper with pale green banded chert. Sample cut by calcite veins. 3% chalcopyrite occurs as fracture fillings and veinlets and disseminations in bright red jasper and less so within the host - mafic volcanic.	170	1.0	>9999	36	
3476	Location: Central, Slightly S, Holt 7 Rock Type: Maroon Jasper.  Outcrop sample of 30cm pod from road quarry. Pod of maroon chert, with occasional blebs (<1cm) of bright red jasper, in epidotized fine to medium grained mafic volcanic rock. Calcite veinlets common.	5	0.2	86	4	
3477	Location: Central, Slightly S, Holt 7 Rock Type: Jasper and Light Green Chert.  Outcrop 15 x 10m quarry with localized chert pods. Extremely silicified blebs of red jasper and light green chert, hosted in moderately epidotized, fine to medium grained mafic volcanic. Trace malachite associated with light green chert.	5	0.4	384	26	30As



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3478	Location: Central, Slightly W, Holt 7 Rock Type: Epidotized Mafic Volcanic Rock.  Outcrop from 15 x 10m quarry. Localized area sampled, <1m. Olive to medium green strongly epidotized, moderately chloritized, calcite veined mafic volcanic rock. Epidotization associated with jasper and surrounding malachite.	5	0.2	142	30	
3479	Location: Central, Slightly S, Holt 7 Rock Type: Epidotized Mafic Volcanic Rock.  Outcrop from 15 x 10m quarry. Localized area sampled, <1m. Olive to medium green strongly epidotized, moderately chloritized, calcite veined mafic volcanic rock. Epidotization associated with jasper and surrounding malachite.	5	0.2	171	12	
3480	Location: Central, Slightly S, Holt 7 Rock Type: Jasper in Epidotized Mafic Volcanic Rock.  Float from 15 x 10m road quarry with localized pod (<20cm) of mottled maroon jasper and olive green epidotized mafic volcanic rock. There are irregular bands of maroon jasper within the epidotized mafic volcanic rock. Trace chalcopryrite occurs as disseminations and fracture fillings associated with calcite veinlets.	5	0.2	61	4	
3481	Location: Central, Slightly S, Holt 7 Rock Type: Epidotized Mafic Volcanic.  From outcrop in 15 x 10m road quarry. Olive green, strongly epidotized, slightly chloritized, calcite veined mafic volcanic. Areas of epidotization are irregular but commonly occur as bands approximately 10cm across, that cut massive fine to medium-grained mafic volcanic rock. Epidotization is commonly associated with calcite veins.	5	0.2	75	36	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3482	Location: Slightly S, Extremely W Holt 11 Rock Type: Red Jasper.  Outcrop. Lense 20cm x 50cm of red jasper hosted by epidotized mafic volcanic rock.	5	0.2	14	8	
3483	Location: Central, Holt 4 Rock Type: Argillite.  Outcrop 5m x 0.5m in ditch of black fine grained argillite interbedded with tuffs. Weathered surface is rusty brown. Trace disseminated pyrite.	5	0.2	77	70	30As
3484	Location: Central, Holt 4 Rock Type: Silt.  From flowing stream that drains the Karmutsen-Sicker contact. Abundant outcrop probably Karmutsen-mafic volcanics with pillows? Sample has organics and silt.	5	0.2	14	8	
3485	Location: Slightly SE, Holt 4 Rock Type: Mafic Volcanic.  From 50m x 5m outcrop along road cut of rusty, very weathered, carbonatized (ankerite), Fe-Mn oxide coated, mafic volcanic.	5	0.2	111	90	
3486	Location: SE, Holt 4 Rock Type: Mafic Volcanic.  From 50 x 5m outcrop along road cut of rusty, very weathered carbonatized (ankerite), Fe-Mn oxide coated, mafic volcanic.	5	0.4	114	134	
3487	Location: Slightly SE, Holt 4 Rock Type: Cherty "Phyllitic" Tuff.  From outcrop quarry section 5 x 5m. Good exposure of rusty brown weathered and medium green unweathered, thinly bedded, strongly chloritized cherty tuff. Bedding planes of protolith have a noticeable "phyllitic sheen". Mn-Fe oxide coated outcrop.	5	0.2	36	22	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3488	Location: Slightly SE, Holt 4 Rock Type: Silt.  Dry stream bed with lots of sand but minor silt.	5	0.2	38	38	30As
3489	Location: Central, Holt 4 Rock Type: Silt.  Dry stream bed with lots of sand but minor silt.	5	0.2	37	30	
3490	Location: Overly Extreme SW, Holt 2 Rock Type: Silt.  Flowing stream with very little silt.	5	0.2	46	68	265As 120Ba
3491	Location: SE of Holt 4 Rock Type: Silt.	5	0.2	37	36	
3492	Location: Central, Extreme W Holt 11 Rock Type: Amygdaloidal Volcanic.  From outcrop of green-grey, slightly to moderately altered, quartz-feldspar-hornblende bearing docite.	5	0.2	87	56	
3493	Location: Extreme NW, Holt 9 Rock Type: Schistose Tuff.  Outcrop. Yellow and white, moderately altered, calcareous, chloritic, quartz - feldspar muscovite tuff.	5	<0.2	73	46	30As
3494	Location: Extremely S, Slightly W Holt 11 Rock Type: Tuff.  Blue-grey, slightly altered, quartz and feldspar felsic bearing tuff.	5	<0.2	47	64	60As
3495	Location: NE, Holt 11 Rock Type: Tuffaceous Chert.  From outcrop of green-grey, slightly chloritic, extremely siliceous, bedded chert.	5	<0.2	32	58	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
3496	Location: SE Holt 11 Rock Type: Diabase.  From outcrop of medium grey, slightly altered, hornblende and pyroxene bearing fine grained gabbro.	5	<0.2	42	32	
3497	Location: Central, Slightly E, Holt 11 Rock Type: Diabase Intruding Diorite.  From outcrop of mottled white and grey medium grained quartz bearing diorite with an injected dark grey mafic fine-grained dyke. Trace of fine grained pyrite in dyke.	5	<0.2	287	18	220As
3498	Location: Extremely SE, Holt 12 Rock Type: Pillow Basalt.  From outcrop of medium grey, aphanitic, very mafic volcanic.	5	<0.2	126	62	
3499	Location: S, Extreme W, Holt 10 Rock Type: Pillow Basalt.  From outcrop of medium green-grey, slightly chloritized and calcareous, very silicified and heavily veined strongly altered basalt.	5	<0.2	342	52	
3500	Location: Slightly S, Extremely E Holt 12 Rock Type: Lapilli Tuff.  From outcrop of medium to dark grey, slightly altered, mafic fragmented tuff, in a cherty groundmass.	5	<0.2	83	98	
4301	Location: NW, Holt 6 Rock Type: Silt.	5	0.8	56	94	240Ba
4302	Location: Central, Slightly W, Holt 4 Rock Type: Green Chert.  From outcrop of pure green quartz 1% pyrite.	5	0.2	31	26	
4303	Location: Slightly N, Far W, Holt 4 Rock Type: Silt.	5	0.2	44	68	140Ba

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4304	Location: Slightly SW, Holt 3 Rock Type: From Outcrop of Fine-Grained Tuff.  Green, strongly altered, chloritized, sericitized, ferruginous, feldspathic tuff.	5	0.2	134	58	
4305	Location: Slightly SW, Holt 3 Rock Type: From Outcrop of Feldspar Hornblende Porphyry.  From outcrop of brown and white, ferruginous quartz-amphibole-feldspar bearing porphyry. Trace of pyrite.	5	0.2	82	30	
4306	Location: Central, Slightly W, Holt 3 Rock Type: From Outcrop of Tuffaceous Chlorite-Schist.  Green, very chloritic, slightly siliceous schist. 4% pyrite.	5	0.2	70	22	
4307	Location: Central, Slightly W, Holt 3 Rock Type: From Outcrop of Tuff.  Green fine grained tuff.	5	0.2	52	12	
4308	Location: N, Slightly W, Holt 3 Rock Type: From Outcrop of Chlorite Schist.  Green tuffaceous very chloritic schist.	5	0.2	101	30	
4309	Location: N, Slightly W, Holt 3 Rock Type: From Outcrop of Chlorite Schist.  Green, very chloritic rock.	5	0.2	96	20	
4310	Location: Holt 7 Rock Type: From Float Boulder of Green Chert.  Pure white quartz vein enclosed by chert. 1-2% pyrite.	5	0.2	13	22	400Ba
4311	Location: Holt 4 Rock Type: Silt.	5	0.2	43	48	
4312	Location: Holt 4 Rock Type: Silt.	50	0.2	36	46	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4313	Location: Holt 4 Rock Type: From Outcrop of Chlorite Schist.  Green, very chloritic, slightly siliceous schist. Less than 1% pyrite.	5	0.2	69	42	
4314	Location: Holt 4 Rock Type: From Outcrop of Chlorite Schist.  Green, chloritic, siliceous, slightly epidotized schist with 1% pyrite.	5	0.2	<1	66	
4315	Location: Central Holt 4 Rock Type: From Boulder of Quartz-Chlorite Schist.  Light green, very siliceous, slightly chloritic schist.	5	0.2	124	30	
4316	Location: Central Holt 4 Rock Type: From Boulder of Chlorite Schist.  Green, calcareous, chlorite-rich schist with 1-2% pyrite as disseminations and in stockwork stringers.	5	0.2	95	66	
4317	Location: Central, Slightly E Holt 4 Rock Type: From Boulder of Diabase.  Green and white altered, chloritized, epidotized, hornblende-feldspar-pyroxene bearing, fine-grained gabbro with 1% chalcopyrite and 1% magnetite.	5	0.2	127	52	270Ba
4318	Location: Central, Slightly E Holt 4 Rock Type: Tuff.  From outcrop of green, fine-grained, strongly altered, epidotized, chloritized, feldspar tuff.	5	0.2	61	36	
4319	Location: Central Holt 4 Rock Type: Sheared Tuff.  From outcrop of green and rusty, chloritized ferruginous feldspathic tuff. Rusty pyrite (?).	5	0.2	121	74	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4320	Location: Central, Slightly E, Holt 4 Rock Type: Tuff.  From boulder of moderately altered, strongly chloritized greenish felsic tuff. 1% for both pyrite and pyrrhotite.	5	0.2	101	14	
4321	Location: Central, Slightly E Holt 4 Rock Type: Quartz Vein.  From boulder of fine-grained tuff which contains a chloritic quartz vein with 2% pyrite.	5	0.2	250	22	
4322	Location: Central, Slightly E Holt 4 Rock Type: Tuff.  From boulder of green, moderately altered, chloritized, calcareous, hornblende-feldspar, fine grained tuff.	5	0.2	112	52	290Ba
4323	Location: Slightly NE, Holt 4 Rock Type: Tuff.  From outcrop of quartz and epidote veined, green, moderately altered quartz-hornblende-feldspar tuff with <1% pyrite.	5	0.2	58	62	
4324	Location: NE, Holt 4 Rock Type: Tuff.  From outcrop of green, slightly, altered, feldspar-hornblende tuff with <1% pyrite.	5	0.2	95	34	
4325	Location: Moderately N, W Holt 9 Rock Type: Altered Diabase.  From float boulder of strongly altered, epidotized, chloritized, fine grained quartz gabbro. Pyrite <1%.	5	0.2	8	30	
4326	Location: Central, Holt 9 Rock Type: Silt.	5	0.4	104	74	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4327	Location: Central, Holt 9 Rock Type: Chlorite Schist.  Green, calcareous, chloritic, amphibolitic, felsic schist with 1% pyrite.	5	0.2	107	28	
4328	Location: Central, Holt 9 Rock Type: Silt.	5	0.2	124	60	
4329	Location: Central, Holt 9 Rock Type: Silt.	5	0.4	62	58	130Ba
4331	Location: Central, Holt 9 Rock Type: Silt.	5	0.2	37	46	
4332	Location: Central, Holt 9 Rock Type: Quartz Vein.  From float of green and white pure quartz.	5	0.2	<1	20	
4333	Location: NE, Holt 9 Rock Type: Diabase.  From float of green, moderately altered, epidotized and chloritized, fine-grained feldspar-hornblende-quartz gabbro. Pyrite is 2% as is magnetite.	5	0.2	24	126	
4334	Location: N, Slightly E, Holt 8 Rock Type: Silt.	5	<0.2	86	48	
4335	Location: N, Slightly E, Holt 8 Rock Type: Silt.	5	<0.2	66	108	
4336	Location: Central, Holt 6 Rock Type: Silt.	5	<0.2	68	74	
4337	Location: Central, Slightly W, Rock Type: Mafic Rock Boulder.	5	<0.2	35	54	
4338	Location: Very S, Central, Holt 8 Rock Type: Silt.	5	<0.2	96	70	
4339	Location: N, Slightly E, Holt 7 Rock Type: Silt.	5	<0.2	55	56	
4340	Location: N, Central, Holt 7 Rock Type: Silt.	5	<0.2	81	50	3792Mn
4341	Location: Central, Holt 8 Rock Type: Silt.	5	<0.2	100	68	



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4342	Location: SW, Holt 11 Rock Type: Silt.	5	<0.2	68	46	
4343	Location: NW, Holt 10 Rock Type: Silt	60	<0.2	68	50	
4344	Location: Slight SW, Holt 11 Rock Type: Silt.	5	<0.2	79	68	
4345	Location: Holt 3 Rock Type: Silt.	5	<0.2	107	64	
4346	Location: NE, Holt 11 Rock Type: Silt.	5	<0.2	110	130	1739Mn
4347	Location: NE, Holt 11 Rock Type: Silt.	5	<0.2	74	60	
4348	Location: Very N, Slightly E Holt 10 Rock Type: Silt.	5	<0.2	62	42	
4349	Location: N, Central, Holt 10 Rock Type: Silt.	5	<0.2	90	52	
4350	Location: Central, Holt 10 Rock Type: Silt.	5	<0.2	43	124	>9999Mn 1430P
4401	Location: Holt 6 Rock Type: Diabase.  Outcrop of medium grey, slightly altered, quartz-feldspar-hornblende bearing, fine grained gabbro. Trace pyrite.	5	<0.2	39	78	
4402	Location: Holt 6 Rock Type: Diabase.  From outcrop of mottled black and pale green, moderately altered, epidotized, chloritized, hornblende-feldspar bearing, fine grained gabbro.	5	<0.2	155	92	
4403	Location: Holt 6 Rock Type: Brecciated Chert.  From outcrop of mottled green-black, fragmented chert in a mafic, slightly altered, fine-grained matrix.	5	<0.2	75	38	As25

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4404	Location: Holt 4 Rock Type: Argillite.  From outcrop of black, quartz veined, slightly graphitic, finely bedded sediment.	5	<0.2	26	50	140As 320Ba
4405	Location: Holt 4 Rock Type: Argillaceous Tuff.  Calcareous, slightly graphitic, dark green-grey, argillaceous chert with a few mafic grains.	5	<0.2	37	46	
4406	Location: Holt 2 Rock Type: Lapilli Tuff.  From outcrop of green-grey, slightly altered, calcareous and chloritic, fragmental chert in a fine-grained groundmass.	5	<0.2	104	88	
4407	Location: Holt 4 Rock Type: Altered Diorite.  From outcrop of mottled black and green, strongly altered, calcareous and chloritic, quartz-veined, intermediate igneous rock.	5	<0.2	120	72	100As
4408	Location: Holt 4 Rock Type: Argillaceous Cherty Tuff.  From outcrop of light green-grey, slightly altered, chloritic, cherty, amphibole-feldspar bearing tuff.	5	<0.2	10	62	35As 100Ba
4409	Location: Holt 6 Rock Type: Granite.  From boulder of medium-grained, equigranular, very felsic salmon pink, quartz bearing plutonic rock.	5	<0.2	7	48	100Ba
4410	Location: Extreme N, Slightly E, Holt 1 Rock Type: Diabase.  From outcrop of black, unaltered, feldspathic, fine-grained diorite with 4% pyrrhotite and trace magnetite.	5	<0.2	6	22	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4411	Location: Slightly NE, Holt 1 Rock Type: Granite.  From outcrop of virtually identical rock as #4409.	5	<0.2	4	6	
4412	Location: Slightly NE, Holt 1 Rock Type: Amphibolitic Gneiss.  From outcrop of medium-grained, green-grey, very mafic, well foliated rock of amphibolitic composition with faint alteration and few felsics.	5	<0.2	76	22	
4413	Location: Slightly S, Far E, Holt 2 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of slightly altered, chloritic, mottled pink and green, quartz-feldspar hornblende porphyry.	5	<0.2	5	42	
4414	Location: Holt 1 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of slightly altered, dull green-grey, feldspar-hornblende-quartz porphyry. Trace hematite.	5	<0.2	15	54	
4415	Location: Central Holt 4 Rock Type: Tuff.  From outcrop of green-grey, slightly altered, chloritized feldspar - hornblende, cherty tuff.	5	<0.2	117	34	
4416	Location: Central Holt 3 Rock Type: Bedded Tuff.  From outcrop of black, slightly graphitic, argillaceous, very cherty tuff.	5	<0.2	88	10	
4417	Location: S, Holt 3 Rock Type: Medium-Grained Tuff.  From outcrop of dark grey, quartz-feldspar-hornblende tuff.	5	<0.2	78	20	160Ba

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4418	Location: Central, Slightly W Holt 2 Rock Type: Bedded Chert.  From outcrop of banded, grey, slightly graphitic, quartz-veined chert. Trace of disseminated pyrite.	5	<0.2	27	32	70As
4419	Location: NW Holt 2 Rock Type: Lapilli Tuff.  From outcrop of green, slightly altered, mafic and cherty, fragmental tuff.	5	<0.2	65	40	60As
4420	Location: Central, Slightly W Holt 2 Rock Type: Cherty Argillite.  From outcrop of black, argillaceous, graphitic, quartz veined, siliceous argillite. Trace of fine grained pyrite.	5	<0.2	48	90	35As
4421	Location: Holt 2 Rock Type: Talc Schist.  From outcrop of blue-grey calcareous, chloritic, mafic, talcose schist.	5	<0.2	36	8	35Zn
4422	Location: Extreme S, Central Holt 2 Rock Type: Pillow Basalt.  Outcrop. Dark grey to black, slightly calcareous, very mafic, pyroxene-amphibole bearing basalt. Trace of disseminated pyrrhotite.	5	<0.2	175	80	40As
4423	Location: Very SE, Holt 11 Rock Type: Diorite.  From outcrop of mesocratic medium-grained, quartz veined, hornblende-augite bearing diorite.	5	<0.2	27	58	
4424	Location: Central, Extreme W, Holt 11 Rock Type: Altered Tuff.  From outcrop of melanocratic, moderately altered, chloritized, epidotized, feldspar-quartz-hornblende bearing tuff.	5	<0.2	66	42	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4425	Location: Central, Extreme W, Holt 11 L56N-2+50W, Grid A Rock Type: Fine Grained Tuff.  From outcrop of dark green-grey, moderately altered, slightly cherty with jasper, fine-grained tuff.	5	<0.2	39	50	
4426	Location: Slightly N,W, Holt 11 Rock Type: Feldspar Porphyry.  From outcrop, dark green to grey, unaltered feldspar - hornblende - quartz porphyry.	5	<0.2	4	48	
4427	Location: Holt 11 Rock Type: Fine-Grained Tuff.  From outcrop of dark grey to black, slightly altered, very cherty tuff.	5	<0.2	63	36	
4428	Location: Holt 12 Rock Type: Cherty Argillite.  From outcrop of black unaltered siliceous argillite.	5	<0.2	50	82	
4429	Location: Slightly S, Very W, Holt 8 Rock Type: Banded Chert.  From outcrop of pale white to dark grey chert.	5	<0.2	25	32	
4430	Location: Far S, Slightly E Holt 3 Rock Type: Diabase.  Outcrop of dark grey, unaltered, hornblende-feldspar-quartz-pyroxene bearing, fine-grained gabbro. Trace pyrite and magnetite.	5	<0.2	122	26	
4431	Location: Central, Far W, Holt 6 Rock Type: Diorite.  From outcrop of mottled white, green, grey, unaltered to slightly altered, medium grained, intermediate plutonic.	5	<0.2	38	34	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4432	Location: Extreme S, Slightly E Holt 3 Rock Type: Diabase.  From outcrop of dark grey, unaltered, hornblende-quartz-feldspar bearing, fine grained gabbro.	5	<0.2	147	32	
4433	Location: Central, Far W, Holt 6 Rock Type: Diabase.  From outcrop of medium green-grey, moderately altered, hornblende-feldspar-greenstone bearing, fine-grained gabbro.	5	<0.2	116	98	
4434	Location: Central, Far W, Holt 6 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of dark green, mottled, unaltered rock composed of 40% phenocrysts of a sub-equal mafic and felsic composition, in a matrix with a colour index of 35.	5	<0.2	10	60	
4435	Location: Central, Far W, Holt 6 Rock Type: Altered Chlorite Schist.  From outcrop of medium green, moderately altered, calcareous, chloritic, hornblende-quartz schist.	5	<0.2	29	60	
4436	Location: Far S, Slightly E, Holt 3 Rock Type: Cherty Tuff.  From outcrop of black, unaltered, hornblende - feldspar - quartz veined cherty tuff. Trace pyrite.	5	<0.2	77	36	
4437	Location: NW, Holt 7 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of light green, mottled, unaltered rock, composed of 20% phenocrysts of a sub-equal mafic and felsic composition in a matrix with a colour index of 20. Quartz veins are common. Nodules of disseminated pyrite = 2%.	5	<0.2	56	30	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4438	Location: N, Slightly E, Holt 8 Rock Type: Amygdaloidal Basalt.  From outcrop of black rock, with amygdules infilled by epidote and calcite, in a matrix with a colour index of 50. About 10% of rock composed of amygdules.	5	<0.2	83	50	
4439	Location: Slightly SE, Holt 3 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of mottled light pink and light green, slightly altered rock, composed of 30%(?) phenocrysts of a dominantly felsic composition in a matrix with a colour index of 25.	5	<0.2	14	56	
4440	Location: S, Slightly E, Holt 9 Rock Type: Diabase.  From outcrop of slightly altered, black, amphibole-feldspar-quartz bearing fine grained gabbro.	5	<0.2	93	24	
4441	Location: NE, Holt 8 Rock Type: Altered Feldspar-Hornblende Porphyry.  From outcrop of mottled, pink and green, strongly altered, kaolinitized, chloritized, rock with only 40% original composition of a sub-equal mafic and felsic component. Rock is from a shear zone.	5	<0.2	3	50	
4442	Location: SW, Holt 8 Rock Type: Porphyritic Mafic Gneiss  From outcrop of green grey to black, altered, chloritized, epidotized, pyroxene-amphibole-feldspar bearing mafic porphyry.	5	<0.2	35	62	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4443	Location: Slightly SE, Holt 2 Rock Type: Porphyritic Mafic Gneiss  From outcrop of green grey to black, altered, chloritized, epidotized, pyroxene-amphibole-feldspar bearing mafic porphyry. Trace of pyrite and pyrrhotite.	5	<0.2	70	50	
4444	Location: NE, Holt 8 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of light pink to green to black, unaltered rock, composed of phenocrysts and a matrix of a sub-equal mafic and felsic composition.	5	<0.2	11	44	
4445	Location: N, Slightly E, Holt 8 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of light grey, slightly altered rock composed of 35% phenocrysts of a predominantly felsic composition in a matrix with a colour index of 20.	5	<0.2	5	56	
4446	Location: N, Slightly E, Holt 8 Rock Type: Mafic Lapilli Tuff.  From outcrop of mottled, grey to black, moderately altered, chloritized, amphibole - pyroxene-feldspar tuff.	5	<0.2	9	28	
4447	Location: W, Holt 8 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of mottled, white to pink to maroon, hematite altered rock, composed of approx. 60% felsic and 25% mafic minerals.	5	<0.2	12	18	
4448	Location: Central Holt 5 Rock Type: Tuffaceous Chert.  From outcrop of mainly felsic tuffaceous layers composing 15% of rock, embedded in a pure cherty matrix. Trace of fine-grained pyrite.	5	<0.2	136	40	



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4449	Location: Central, Slightly W, Holt 1 Rock Type: Silicified Feldspar-Hornblende Porphyry.  From outcrop of mottled, white and green, strongly silicified, chloritized, altered, bleached, porphyritic rock; no mafics remain. Trace of fine grained pyrite.	5	<0.2	27	92	
4450	Location: Central, Holt 1 Rock Type: Argillite.  From outcrop of black, quartz veined graphitic argillite. Pyrite in fractures and quartz veins, is 3-5% of rock.	5	<0.2	134	702	
4451	Location: Slightly NW, Holt 1 Rock Type: Foliated Tuff.  From outcrop of dark green, metamorphosed tuff, containing garnet, epidote, chlorite, quartz and feldspar. Trace of fine grained pyrite.	5	<0.2	53	30	
4452	Location: Extreme NW, Holt 1 Rock Type: Bedded Tuff.  From outcrop of banded, light to dark green-grey, moderately altered, chloritic, epidotized, hornblende-quartz-feldspar tuff. Pyrite is <3% as disseminated cubes.	5	<0.2	158	30	
4453	Location: SE, Holt 6 Rock Type: Chert and Cherty Tuff.  From float - quartz almost wholly. Approx. 2-4% disseminated and nodular pyrite.	10	<0.2	26	12	
4454	Location: SE, Holt 6 Rock Type: Chlorite Schist.  From outcrop of green rock of a mainly chlorite and quartz composition. Trace chalcopyrite and 3-5% pyrite. Rock is from a shear zone 10cms wide.	490	10.4	>9999	218	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4455	Location: Slightly SE, Holt 6 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of mottled grey, slightly altered, very feldspathic rock with a colour index of 70. Approx ~2% pyrite in fracture fillings.	5	<0.2	77	36	
4456	Location: Slightly S, Central Holt 6 Rock Type: Bull Quartz  From outcrop of white quartz vein with a bit of chlorite. Trace malachite.	5	<0.2	16	24	
4457	Location: Slightly S, Central Holt 6 Rock Type: Argillite.  From outcrop of grey to black, graphitic quartz veined argillite. Trace pyrite in fracture fillings.	5	<0.2	77	104	
4458	Location: Slightly SE, Holt 6 Rock Type: Diabase.  From outcrop of dark grey, moderately altered, epidotized and chloritized, pyroxene-hornblende-feldspar-magnetite bearing, fine-grained gabbro. Pyrite approx. 2% in cubes up to 2mms long.	5	<0.2	37	82	
4459	Location: Slight S, Central Holt 6 Rock Type: Cherty Tuff.  From outcrop of milky grey, siliceous, chloritized, feldspar tuff. 2% pyrite in veins with trace of chalcopryrite.	5	<0.2	441	458	
4460	Location: Central, Holt 6 Rock Type: Diabase Skarn.  From outcrop. Pink green to dark green, metamorphosed, fine-grained gabbro with garnet and epidote in addition to pyroxene, amphibole and feldspar; colour index of 60. Trace chalcopryrite.	5	<0.2	100	458	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4461	Location: Slightly NW, Holt 4 Rock Type: Quartz Vein.  From outcrop, pure white quartz.	5	<0.2	28	36	
4462	Location: Central, Holt 4 Rock Type: Quartz Vein.  From outcrop, white iron-stained quartz.	5	<0.2	6	36	
4463	Location: Central, Moderately E Holt 13 Rock Type: Chlorite Schist.  From outcrop, dark green, hornblende-quartz-feldspar bearing, green schist. Trace pyrite disseminated and in fracture fillings.	5	<0.2	84	64	
4464	Location: Central, Moderately E Holt 13 Rock Type: Quartz Epidote Vein.  From outcrop, greenish white, quartz-chert-epidote vein. Trace pyrite fine grained and disseminated.	5	<0.2	29	34	
4465	Location: Slightly NE, Holt 12 Rock Type: Silt Sample.	5	<0.2	80	120	120Ba
4466	Location: Slightly NW, Holt 12 Rock Type: Argillite.  From outcrop of black, cherty, slightly graphitic argillite. Pyrite composed 3-5% of rock.	5	1.2	32	62	
4467	Location: Slightly NW, Holt 12 Rock Type: Argillite.  From outcrop of grey, slightly graphitic, sheared, argillite. Pyrite composes 2-5% of rock.	5	1.0	82	58	
4468	Location: NW Holt 12 Rock Type: Silt.	5	<0.2	63	80	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4469	Location: Rock Type: Quartz Vein.  From outcrop of lapilli tuff which is grey and composed 4/5 of quartz with chlorite, hornblende, epidote and feldspar. Trace malachite.	5	<0.2	29	60	130Ba
4470	Location: Central, Very N, Holt 13 Rock Type: Jasper.  From float, i.e. boulder of hematized jasper which is very red.	5	<0.2	65	88	
4471	Location: Moderately N, Central Holt 7 Rock Type: Quartz Vein.  From float boulder which is rusty, mottled white, and of an oxidized silica composition. Pyrite and various oxides compose 5% of rock.	13,200	11.2	35	182	256Pb
4472	Location: Central, Slightly W, Holt 8 Rock Type: Tuffaceous Chert.  From outcrop of cherty tuff which is green-grey and 2/3 quartz with a little chlorite and feldspar. Trace pyrite which is in tiny cubes.	40	<0.2	18	38	
4473	Location: Central, Slightly W, Holt 8 Rock Type: Laminated Chert.  From outcrop of dark green to black, graphitic, chloritic chert. Up to 5% pyrite; it occurs in laminae parallel to bedding.	20	<0.2	74	118	250Ba
4474	Location: Central, Slightly W, Holt 8 Rock Type: Jasper  From float, boulder of red hematized jasper. Pyrite composes 3-5% of rock.	10	<0.2	20	14	
4475	Location: Central, Slightly W, Holt 8 Rock Type: Jasperoid Chert.  From outcrop of mottled red and black, graphitic chert. Trace of pyrite.	5	<0.2	37	38	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4476	Location: S, Central Holt 4 Rock Type: Altered Andesite.  From boulder of dark green, moderately altered, epidotized and chloritized, intermediate volcanic with a colour index of 40. Trace pyrite and sphalerite.	5	<0.2	120	232	
4477	Location: Extreme S, very E, Holt 4 Rock Type: Quartz Vein.  From small outcrop of calcareous, iron-stained quartz. Malachite = 4%; Azurite = 1%.	150	>200	>9999	2992	9530Sb
4478	Location: Extreme S, Far E, Holt 4 Rock Type: Altered Andesite.  From outcrop of strongly altered (ie. epidotized and chloritized), light to medium greenish/blue, intermediate volcanic. Almost no unaltered mafics remain. Trace of pyrite.	5	20.5	264	182	20Sb
4479	Location: Extreme S, Far E, Holt 4 Rock Type: Skarn.  From outcrop of banded white pink, green, metamorphic rock. Much chlorite, epidote and garnet in addition to quartz and feldspar. Trace pyrite.	5	1.8	85	82	70Ba
4480	Location: NW Holt 5 Rock Type: Skarn Vein in Interbedded Cherts and Tuffs.  From outcrop of pink, light to dark green intercalated skarn, cherts and tuffs. Skarn is composed of garnet, epidote and quartz. Chert is slightly chloritic whilst tuffs contain mainly felsic minerals. Trace disseminated pyrite.	5	<0.2	78	36	
4481	Location: NW Holt 5 Rock Type: Chloritic Chert.  From outcrop of dark green, chloritized quartz rich rock. Trace of fine-grained nodular pyrite.	5	<0.2	109	50	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4482	Location: NW Holt 5 Rock Type: Quartz Vein.  From outcrop of milky white, slightly chloritic bull quartz. Traces of fine-grained disseminated pyrite.	5	<0.2	25	28	
4483	Location: NW Holt 5 Rock Type: Fine Grained Tuff.  From outcrop of dark grey to black siliceous tuff with only a small mafic component. Trace pyrite.	5	<0.2	24	42	
4484	Location: NW Holt 5 Rock Type: Bedded Tuff.  From outcrop of dark grey to black, moderately altered (chloritized), mainly felsic tuffs. Pyrite 2-4%, as fracture fillings and dissemination.	5	<0.2	137	46	
4485	Location: N, Central Holt 5 Rock Type: Quartz Vein.  From outcrop of mottled white, pink and green chloritic and manganiferous quartz with rhodonite (?). 4% pyrite with trace chalcopyrite.	5	<0.2	166	40	
4486	Location: NW, Holt 6 Rock Type: Skarn Veinlet.  Mottled pink, white, green, garnet, quartz and epidote bearing skarn. 3% pyrite.	5	0.2	232	26	
4487	Location: Extreme NW, Holt 5 Rock Type: Skarn Vein in Bedded Tuffs.  From outcrop of pink, light to dark green, epidote, chlorite, garnet, hornblende, feldspar-quartz bearing skarn. 2% pyrite in fracture fillings and disseminations.	5	0.2	232	26	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4488	Location: Extreme NW, Holt 5 Rock Type: Quartz-Epidote Vein in Tuff.  From outcrop of fine-grained tuff hosting a quartz-epidote vein. Tuff is dark grey and slightly altered and is composed of chlorite, hornblende and feldspar. Pyrite is present in fracture fillings and is 2-4% of rock.	5	0.2	114	88	
4489	Location: NW, Holt 5 Rock Type: Skarn Vein in Tuffs.  From outcrop of greenish-grey, moderately altered, feldspar-hornblende chlorite tuffs hosting a skarn of quartz, garnet and epidote. Trace pyrite and chalcopyrite.	5	<0.2	113	32	
4490	Location: NW, Holt 7 L20N-2+75W Grid A Rock Type: Bedded Cherts.  From outcrop of graphitic, chloritic, olive green to dark grey chert.	5	<0.2	25	42	170Ba
4491	Location: Extreme N, Slightly W Holt 7, L20N-50W, Grid A Rock Type: Black Chert.  From outcrop of mottled white, dark grey to black, graphitic chert. Traces of manganese and iron oxides.	5	<0.2	105	160	62Pb
4492	Location: NW Holt 13 Rock Type: Silt.	5	0.2	67	118	
4493	Location: NW Holt 13 Rock Type: Jasper.  From float boulder of mottled, red maroon magnetic jasper. 3% pyrite cubes.	10	<0.2	<1	12	
4494	Location: NW Holt 13 Rock Type: Feldspar Porphyry.  From outcrop of mottled light green, moderately altered (epidotized and iron stained), quartz-feldspar porphyry. Trace of fine-grained pyrite.	5	<0.2	75	24	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4495	Location: NW Holt 13 Rock Type: Jasper Vein in Chlorite Schist.  Red jasper vein in medium green quartz-chlorite, hematite-hornblende schist. 3-5% pyrite, trace chalcopyrite. Jasper veins can be traced 3 metres across creek.	5	<0.2	227	66	
4496	Location: NW Holt 13 Rock Type: Chlorite Schist.  From float boulder of dark green, strongly silicified feldspar-chlorite schist. 4-7% pyrite disseminated in cubes up to 1mm long and in sparse aggregates.	10	0.2	556	140	
4497	Location: Extreme NW, Holt 14 Rock Type: Silt.	5	0.2	118	118	
4498	Location: SE Holt 6 Rock Type: Chlorite Schist.  From outcrop of medium green quartz-feldspar - chlorite schist. 2-4% pyrite.	5	<0.2	168	100	170Ba
4499	Location: Extreme NW, Holt 14 Rock Type: Silt.	5	0.2	51	58	
4500	Location: S, Extreme E, Holt 6 Rock Type: Argillite.  From outcrop of black, graphitic, siliceous, argillite. 2% pyrite disseminated and in fracture fillings.	5	<0.2	58	124	390Ba
4702	Location: Slightly NW, Holt 7 Rock Type: Jasperoid Chert.  Maroon and milky grey, graphitic interbedded jasper and chert.	5	0.2	68	8	
4703	Location: Slightly NW, Holt 7 Rock Type: Jasper  From outcrop of jasper which occurs as a pod in chert.	5	<0.2	12	8	



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4704	Location: N, Slightly W, Holt 7 Rock Type: Argillite.  From outcrop of black, siliceous, slightly graphitic, oxidized argillite. 5% pyrite; it is most abundant in oxidized zones as stringers.	5	0.4	26	30	140As
4705	Location: SW, Holt 8 Rock Type: Silt.	5	0.2	43	66	Ba160
4706	Location: Slightly SE, Holt 7 Rock Type: Jasperoidal Chert.  Float boulder of red, iron-stained and argillaceous jasperoidal chert. Trace-5% pyrite which is disseminated and in fracture fillings. Trace chalcopyrite.	5	0.2	10	6	595As
4707	Location: Slightly Se, Holt 7 Rock Type: Jasperoidal Chert.  Outcrop of red, iron-stained and argillaceous jasperoidal chert. Trace-5% pyrite which is disseminated and in fracture fillings. Trace chalcopyrite.	5	0.2	6	4	
4708	Location: Slightly SE, Holt 7 Rock Type: Jasperoidal Chert.  Outcrop of red, iron-stained and argillaceous jasperoidal chert. Trace-5% pyrite which is disseminated and in fracture fillings. Trace chalcopyrite. More weathered.	5	0.2	51	4	
4709	Location: Central, Slightly E Holt 7 Rock Type: Quartz Vein.  From outcrop of calcareous quartz material which is milky white. Trace disseminated pyrite.	5	0.2	12	2	
4710	Location: N, Central Holt 3 Rock Type: Granodiorite.  From outcrop of white and black medium grained granitoid rock with a colour index of 20.	5	0.2	3	20	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4711	Location: Slightly SW, Holt 6 Rock Type: Diorite.  From outcrop of white and black, medium grained, intermediate plutonic rock with a colour index of 40.	5	0.2	19	60	
4712	Location: Very S, Slightly W, Holt 11 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of dark green, mottled rock composed of phenocrysts and a matrix of sub-equal mafic and felsic composition.	5	0.2	21	42	
4713	Location: Slightly NE, Holt 11 Rock Type: Epidote Veins in Diabase/Diorite.  From outcrop of fine to medium-grained intermediate plutonic rock.	5	0.2	10	20	
4714	Location: W, Central Holt 6 Rock Type: Rock  Outcrop.	5	0.2	158	18	
4715	Location: Central Holt 2 Rock Type: Pillow Basalt.  Outcrop of Karmutsen mafic volcanics.	5	0.2	142	6	
4716	Location: Central, Far W, Holt 2 Rock Type: Rock  Outcrop.	5	0.2	149	70	
4717	Location: Extreme S, Central Holt 7 Rock Type: Basalt.  Outcrop of pillow basalt.	5	0.2	146	58	
4718	Location: Central Holt 4 Rock Type: Tuff.  Outcrop of bedded tuff.	5	0.2	99	26	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4719	Location: Central Holt 13 Rock Type: Bedded Tuff.  Outcrop of bedded tuff.	5	0.4	106	70	
4720	Location: Rock Type: Mafic Tuff.  Outcrop of mafic tuff.	5	0.2	40	68	
4721	Location: Central, Far W, Holt 6 Rock Type: Rock.  Outcrop of dark, manganiferous rock with epidote veins.	5	0.2	352	50	
4722	Location: Extreme NW, Holt 9 Rock Type: Diabase.  Outcrop of very fine-grained diabase.	5	0.2	77	68	
4723	Location: NW, Holt 7 Rock Type: Mafic Porphyry.  Outcrop of mafic porphyry.	5	0.2	79	74	
4724	Location: N, Slightly E, Holt 8 Rock Type: Lapilli Tuff.  Outcrop of foliated, fine-grained lapilli tuff.	5	<0.2	73	40	
4725	Location: Extreme NW, Holt 10 Rock Type: Lapilli Tuff.  Outcrop of lapilli mafic tuff.	5	0.2	-0.4	147	
4726	Location: Central W, Holt 10 Rock Type: Lapilli Tuff.  Outcrop of medium green lapilli tuff.	5	0.2	134	70	
4727	Location: Far S, Slightly E Holt 9 Rock Type: Crystal Tuff.  Outcrop of hornblende crystal tuff.	5	0.2	62	38	
4728	Location: N, Holt 1 Rock Type: Lapilli Tuff.  Outcrop of lapilli Tuff.	5	0.2	138	60	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4729	Location: S, Extreme E, Holt 11 Rock Type: Mafic Porphyry.  Outcrop of mafic porphyry.	5	0.2	84	30	
4730	Location: Moderately S, Extreme E Holt 11 Rock Type: Quartz Vein.  From outcrop of white quartz vein in diabase.	10	<0.2	188	16	
4731	Location: Central W, Holt 8 Rock Type: Lapilli Tuff.  From outcrop of mottled green tuff with lapilli fragments mainly of mafic composition; as is the matrix.	5	<0.2	94	44	
4732	Location: Central W, Holt 8 Rock Type: Diabase.  From outcrop of green grey, moderately epidote altered, mainly mafic diabase. Mafics (pyroxene and amphiboles) compose 3/4 of rock.		<0.2	20	14	
4733	Location: W, Holt 6 Rock Type: Diabase.  From outcrop of black and green epidote veined diabase; it has a very mafic composition. A bit of magnetite.	5	<0.2	135	64	
4734	Location: Slightly SE, Holt 2 Rock Type: Coarse Grained Tuff.  From outcrop of dark grey, slightly altered, quartz, calcite, hornblende, feldspar tuff. Trace pyrite.	5	<0.2	56	78	
4735	Location: Slightly NW, Holt 4 Rock Type: Diabase (?).  From outcrop of slightly altered, calcareous, quartz - feldspar - hornblende diabase. Trace of fine grained tuff.	5	<0.2	13	60	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4736	Location: Slightly S, Far W, Holt 6 Rock Type: Diorite.  Outcrop of mottled white green-grey, feldspar and hornblende bearing, (with a little quartz and pyroxene) Diorite.	5	<0.2	162	32	
4737	Location: Very S, Slightly W, Holt 8 Rock Type: Interbedded Chert-Tuff.  From outcrop of medium grey, slightly altered and graphitic chert with intercalated feldspar-hornblende rich tuff. Trace of fine grained pyrite.	5	<0.2	42	66	
4738	Location: Central, Far E, Holt 2 Rock Type: Feldspar-Hornblende Porphyry.  From outcrop of mottled white and green-grey, slightly altered, quartz - hornblende-feldspar porphyry.	5	<0.2	61	60	
4739	Location: Central, Far E, Holt 2 Rock Type: Coarse Lapilli Tuff.  From outcrop of mottled green-grey to black, slightly altered, chloritic and calcareous, quartz - feldspar - hornblende lapilli tuff.	5	<0.2	83	46	
4740	Location: S, Holt 3 Rock Type: Feldspar-Hornblende Porphyry.  From mottled green-grey-white outcrop of slightly altered quartz-feldspar - hornblende porphyry.	5	<0.2	12	80	
4741	Location: Far S, Moderately E Holt 3 Rock Type: Coarse Grained Lapilli Tuff.  From outcrop of dark green-grey, moderately altered, quartz, hornblende, feldspar lapilli tuff.	5	<0.2	82	32	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4742	Location: Extreme S, Slightly E Holt 3. Moderately S, Holt 11. Rock Type: Granodiorite.  From outcrop of mottled black and pink, felsic, hornblende bearing medium grained granitoid rock.	5	<0.2	33	324	
4743	Location: Slightly N, Far W, Holt 4 Rock Type: Fine Grained Tuff.  Outcrop of slightly altered feldspar-quartz-hornblende, dark grey tuff.	5	<0.2	111	42	
4744	Location: Slightly N, Far W, Holt 4 Rock Type: Fine Grained Tuff.  From outcrop of dark grey, moderately altered, calcareous, feldspar-quartz-hornblende tuff. Trace of pyrrhotite.	5	<0.2	87	30	
4745	Location: NW Holt 4 Rock Type: Mafic Porphyritic Agglomerate.  From outcrop of dark grey, strongly altered, chloritic and calcareous hornblende pyroxene - feldspar-quartz agglomerate.	5	<0.2	77	50	
4746	Location: Extremely NW, Holt 12 Rock Type: Coarse Lapilli Tuff.  From outcrop of light medium grey, slightly altered, cherty, hornblende-feldspar bearing lapilli with much fine-grained tuff.	5	<0.2	122	62	
4747	Location: SE Holt 13 Rock Type: Feldspar Hornblende Porphyry.  From outcrop of dark grey porphyry with fragments of feldspar, hornblende and quartz in a matrix with a colour index of approx. 50.	5	<0.2	101	82	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
4748	Location: Central Holt 13 Rock Type: Bedded Tuff.  From outcrop of green-grey to brown, slightly altered, very cherty tuff.	5	<0.2	80	56	
4749	Location: Overly Extreme N, Central Holt 13 Rock Type: Argillite.  From outcrop of black, slightly graphitic argillite with 3% sulphides; pyrite.	51	<0.2	45	94	160Ba
4750	Location: N, Holt 13 Rock Type: Cherty Tuff.  From outcrop of black, graphitic, quartz veined siliceous tuff. Trace of disseminated pyrite.	5	<0.2	31	66	40Pb
9301	Location: Extreme SW, Holt 8 Rock Type: Rock.  Outcrop.	10 20	1.6 0.4	30 17	130 30	52Pb 34Pb
9302	Location: SW Corner, Holt 12 Rock Type: Pyritic Chert.  From outcrop of pure black siliceous chert. Pyrite ~5% - disseminated.	10	1.6	64	190	36Pb
9303	Location: SE Corner, Holt 4 Rock Type: Rock.  Outcrop.	20	9.2	196	70	
9304	Location: SE Corner, Holt 6 Rock Type: Black Shale.  From black, aphanitic, well-bedded outcrop with 5% pyrite.	10	0.2	25	60	
9305	Location: NE Corner, Holt 8 Rock Type: Rock.  Outcrop.	10	0.2	33	100	
9306	Location: W Side, Holt 4 Rock Type: Rock.  Outcrop.	10	0.2	113	30	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
9307	Location: SE Holt 6 Rock Type: Silt.	10	0.2	97	80	
9308	Location: Extremely SW, Holt 12 Rock Type: Silt.	10	0.2	130	100	
9309	Location: N, Extreme E, Holt 8 Rock Type: Silt.	10	0.2	45	60	
9310	Location: Extreme NW, Holt 6 Rock Type: Silt.	10	0.2	47	60	
9311	Location: Extremely SW, Holt 12 Rock Type: Silt.	10	0.2	162	100	
9312	Location: Slightly N, Extreme E Holt 1 Rock Type: Silt.	10	0.2	17	15	
9313	Location: Extreme S, Slightly W Holt 7 Rock Type: Silt.	10	0.2	34	70	
9314	Location: Extreme S, Far W, Holt 7 Rock Type: Silt.	10	0.2	43	60	
9315	Location: N, Central Holt 5 Rock Type: Silt.	10	0.2	55	60	
9316	Location: Overly Extreme NW, Holt 5 Rock Type: Silt.	10	0.2	49	50	
9317	Location: N, Slightly W, Holt 5 Rock Type: Silt.	10	0.2	59	60	
9318	Location: N, Holt 4, E Holt 6 Rock Type: Silt.	10	0.2	29	50	
9319	Location: Overly Extreme NE, Holt 6 Rock Type: Silt.	10	0.2	26	50	
9320	Location: W, Central Holt 4 Rock Type: Silt.	10	0.2	51	60	
9321	Location: Extreme N, Central Holt 9 Rock Type: Silt.	10	0.2	49	80	
9322	Location: N, Holt 5 Rock Type: Silt.	10	0.2	42	60	



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
9323	Location: N, Extreme E, Holt 6 Rock Type: Silt.	10	0.2	26	50	
9324	Location: Overly Extreme SW, Holt 2 Rock Type: Silt.	10	0.2	59	90	
9325	Location: Extremely N, Central Holt 2 Rock Type: Silt.	10	0.2	51	100	
9326	Location: Extremely N, Central Holt 6 Rock Type: Silt.	10	0.2	27	70	
9327	Location: N, Extreme E, Holt Rock Type: Silt.	10	0.2	32	60	
9328	Location: Holt 7 Rock Type: Silt.	10	0.2	53	70	
9329	Location: Central, Extremely E Holt 12 Rock Type: Silt.	10	0.2	46	80	
9330	Location: Extreme N, Central Holt 9 Rock Type: Silt.	10	0.2	63	80	40Pb
14652	Location: Holt 7, SE Corner, intersection of powerline and mainline road. Rock Type: Chlorite Epidote Schist.  Float. Green schist with stock work quartz carbonate veins. Trace of 1% disseminated pyrite.	5	<0.2	23	20	
14653	Location: Holt 7, SE Corner, on mainline at intersection with powerline. Rock Type: Chlorite Schist.  From outcrop, dark green and maroon, fine grained altered volcanic. Iron oxides, i.e. slight rusty appearance. Hematized?	5	0.4	102	70	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14654	Location: Holt 7, SE Corner, on A grid at approx. 15-0+25W Rock Type: Quartz-Carbonate Vein in Tuff.  Float. White veins within a dark black mafic tuff. Small rounded rock up to 4% disseminated pyrite.	70	1.2	170	108	175As
14655	Location: Holt 7, SE Corner on A Grid at approx. 15-0+25W Rock Type: Schisty Tuff.  Float. Dark black, chloritized tuff. Trace disseminated pyrite.					
14656	Location: Holt 7, Extreme SE Corner beside Holt 7 LCP at road intersection. Rock Type: Mafic Tuff.  Float. Black fine-grained tuff. Up to 3% disseminated pyrite. Large angular float, may be subcrop.	5	0.2	222	56	
14657	Location: Holt Grid A, L5N-3+50W, Rock Type: Banded (Compositionally Layered Chert).  From outcrop. Medium to dark grey thinly banded chert. A distinct white weathering surface is common. No visible sulphides. A very continuous horizon of <800m). Horizon strikes ~120° and dips ~70°N. Unit is interbedded with green andesitic flows and sometimes is overlain by black shale and bedded tuffs.	5	0.2	34	36	
14658	Location: ~L4N-1W Rock Type: Banded (Compositionally Layered Chert).  From outcrop. Medium to dark grey thinly banded chert. A distinct white weathering surface is common. No visible sulphides. A very continuous horizon of <800m). Horizon strikes ~120° and dips ~70°N. Unit is interbedded with green andesitic flows and sometimes is overlain by black shale and bedded tuffs.	5	0.2	104	22	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14659	Location: Holt Grid A ~L4N-1W Rock Type: Rock	5	0.2	16	50	
14660	Location: Holt Grid A ~L4N-2W Rock Type: Rock	5	0.2	53	76	
14661	Location: Holt Grid A ~LON-1+75W Rock Type: Rock	5	0.2	4	56	
14662	Location: ~L7N-4W Rock Type: Banded (Compositionally Layered Chert).	5	0.2	12	34	
	From outcrop. Medium to dark grey thinly banded chert. A distinct white weathering surface is common. No visible sulphides. A very continuous horizon of <800m). Horizon strikes ~120° and dips ~70°N. Unit is interbedded with green andesitic flows and sometimes is overlain by black shale and bedded tuffs.					
14663	Location: Holt Grid A, L5N-0+25W Rock Type: Black Shale.	5	0.2	36	72	
	From outcrop. Black, aphanitic, well fractured shale, with a very distinct white weathered surface. It is interbedded with light grey, laminated siltstones. The unit strikes ~110° and dips north. It appears to overlie the chert horizon? Trace pyrite mineralized as disseminated blebs and grains is seen throughout. May be a "marker horizon" overlying chert beds.					
14664	Location: Holt Grid A, L10+50N - 0+30W Rock Type: Silicified Pyroxene Porphyritic Volcanic.	5	0.2	40	60	
	From outcrop. Light grey-green, fine grained to faintly pyroxene porphyritic, slightly silicified, andesitic to basaltic flow rock. Regionally this rock overlies the chert and pillow horizons. Approx. 3-5% disseminated to blebby pyrite. Continuous outcrop on road for +20m.					

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14665	Location: Holt 7, Grid A ~L10N-0+50W Rock Type: Banded Grey-Green Chert.  Outcrop. Medium grey-green bedded (1-3cm) to thinly laminated chert. Weathers to white. Unit continuous on a kilometer scale. Unit overlies pillows and in places is interbedded with thin volcanic flows/tuffs.	5	0.2	8	50	
14666	Location: Holt 7, Grid A, ~L9N-1+75E Rock Type: Quartz Vein Stockwork.  Outcrop. White to light grey, quartz vein stockwork zone (~20cm wide) hosted in green volcanic flows or tuffs. No visible Sulphides, vein attitude is 080°/ 70°. The ~20cm wide zone is continuous across outcrop for ~10m.	5	0.2	75	6	
14667	Location: Holt 8, Grid A, ~L20N-0+50E Rock Type: Black Chert.  Outcrop. Good exposure along road of a black amorphous chert with indistinct bedding. This chert appears to be interbedded with the well layered, grey-green chert horizon. Approx. 3 to 5% pyrite as disseminated grains and blebs. Likely syngenetic. Horizon may be ~20m thick. This horizon likely correlative with black chert found near line 5S-1E.	5	0.2	44	78	
14668	Location: NW Holt 7, Grid A ~L17N-2+25W Rock Type: Grey-Green Banded Chert.  Outcrop. Good exposure on road of the well bedded, medium grey-green chert horizon. White weathering surfaces are common, and here the chert is folded producing variable bed attitudes. No visible sulphides. Continuous outcrop on road for ~10m.	5	0.2	62	28	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14669	Location: S, Holt 6 Grid A, ~L5S-1E Rock Type: Black Chert.	10	0.8	24	40	130As

Outcrop. Good exposure of a well bedded (1 to 5cm) black chert sequence. The beds strike  $110^{\circ}$  and dip  $\sim 30^{\circ}$ N. Folding deforms bed attitudes. The horizon overlies pillows and is interbedded within a grey-green chert horizon. There is 10 to 20% massive bands, stringers and blebs of fine grained pyrite; some appear to be syngenetic mineralization rather than the epigenetic vein filling zones present. Outcrop is approx. 10m long and horizon is  $\sim 2$ m thick as exposed. This outcrop may be correlative with the black cherty (pyritiferous) unit found on road near L19N.

14670	Location: S, Holt 6 Grid A, ~L5S-1E Rock Type: Black Chert.	5	4.2	106	14	225As
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Outcrop. Good exposure of a well bedded (1 to 5cm) black chert sequence. The beds strike  $110^{\circ}$  and dip  $\sim 30^{\circ}$ N. Folding deforms bed attitudes. The horizon overlies pillows and is interbedded within a grey-green chert horizon. There is 10 to 20% massive bands, stringers and blebs of fine grained pyrite; some appear to be syngenetic mineralization rather than the epigenetic vein filling zones present. Outcrop is approx. 10m long and horizon is  $\sim 2$ m thick as exposed. This outcrop may be correlative with the black cherty (pyritiferous) unit found on road near L19N.

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14671	Location: S, Holt 6 Grid A, ~L5S-1E Rock Type: Black Chert.	5	7.2	288	28	405As

Outcrop. Good exposure of a well bedded (1 to 5cm) black chert sequence. The beds strike  $110^{\circ}$  and dip  $\sim 30^{\circ}$ N. Folding deforms bed attitudes. The horizon overlies pillows and is interbedded within a grey-green chert horizon. There is 10 to 20% massive bands, stringers and blebs of fine grained pyrite, some appear to be syngenetic mineralization rather than the epigenetic vein filling zones present. Outcrop is approx. 10m long and horizon is  $\sim 2$ m thick as exposed. This outcrop may be correlative with the black cherty (pyritiferous) unit found on road near L19N.

14672	Location: Central W, Holt 11, Grid A ~L57N - 1+75W Rock Type: Grey-Green Bedded Chert.	5	0.2	64	54	
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Outcrop. Very continuous horizon of well bedded (0.5 to 3cm) to thinly laminated, medium grey-green, amorphous chert that often weathers to a distinct white colour. Folding is common but regionally bed attitudes are consistently  $110-130^{\circ}/40-60^{\circ}$ N. The horizon is  $\sim 100$ m thick and is overlain by bedded tuffs and underlain by pillowed, epidotized basalts with jasper. Interbedded flows are common at the base of the chert horizon. No visible sulphides. The horizon is continuous for at least 7km, (i.e. L12S to L57N).

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14673	Location: Central W, Holt 11, Grid A ~L56N - 1+50W Rock Type: Grey-Green Bedded Chert.  Outcrop. Very continuous horizon of well bedded (0.5 to 3cm) to thinly laminated, medium grey-green, amorphous chert that often weathers to a distinct white colour. Folding is common but regionally bed attitudes are consistently 110-130°/40-60°N. The horizon is ~100m thick and is overlain by bedded tuffs and underlain by pillowed, epidotized basalts with jasper. Interbedded flows are common at the base of the chert horizon. No visible sulphides. The horizon is continuous for at least 7km, (i.e. L12S to L57N).	5	0.2	29	10	
14674	Location: Central W, Holt 11, Grid A ~L54N - 1+25W Rock Type: Grey-Green Bedded Chert.  Outcrop. Very continuous horizon of well bedded (0.5 to 3cm) to thinly laminated, medium grey-green, amorphous chert that often weathers to a distinct white colour. Folding is common but regionally bed attitudes are consistently 110-130°/40-60°N. The horizon is ~100m thick and is overlain by bedded tuffs and underlain by pillowed, epidotized basalts with jasper. Interbedded flows are common at the base of the chert horizon. No visible sulphides. The horizon is continuous for at least 7km, (i.e. L12S to L57N).	5	0.2	107	66	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
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14675	Location: Central W, Holt 11, Grid A ~L52N - 1+75W	5	0.2	5	12	
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Rock Type: Grey-Green Bedded Chert.

Outcrop. Very continuous horizon of well bedded (0.5 to 3cm) to thinly laminated, medium grey-green, amorphous chert that often weathers to a distinct white colour. Folding is common but regionally bed attitudes are consistently 110-130°/40-60°N. The horizon is ~100m thick and is overlain by bedded tuffs and underlain by pillowed, epidotized basalts with jasper. Interbedded flows are common at the base of the chert horizon. No visible sulphides. The horizon is continuous for at least 7km, (i.e. L12S to L57N).

14676	Location: Central W, Holt 11, Grid A ~L50N - 2W	5	0.2	20	28	
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Rock Type: Grey-Green Bedded Chert.

Outcrop. Very continuous horizon of well bedded (0.5 to 3cm) to thinly laminated, medium grey-green, amorphous chert that often weathers to a distinct white colour. Folding is common but regionally bed attitudes are consistently 110-130°/40-60°N. The horizon is ~100m thick and is overlain by bedded tuffs and underlain by pillowed, epidotized basalts with jasper. Interbedded flows are common at the base of the chert horizon. No visible sulphides. The horizon is continuous for at least 7km, (i.e. L12S to L57N).



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14677	Location: Central W, Holt 11, Grid A ~L49N - 2+50W Rock Type: Grey-Green Bedded Chert.  Outcrop. Very continuous horizon of well bedded (0.5 to 3cm) to thinly laminated, medium grey-green, amorphous chert that often weathers to a distinct white colour. Folding is common but regionally bed attitudes are consistently 110-130°/40-60°N. The horizon is ~100m thick and is overlain by bedded tuffs and underlain by pillowed, epidotized basalts with jasper. Interbedded flows are common at the base of the chert horizon. No visible sulphides. The horizon is continuous for at least 7km, (i.e. L12S to L57N).	5	0.2	39	42	
14678	Location: S, Holt 6 Grid A, ~L5S-1E Rock Type: Black Chert.  Outcrop. Good exposure of a well bedded (1 to 5cm) black chert sequence. The beds strike 110° and dip ~30°N. Folding deforms bed attitudes. The horizon overlies pillows and is interbedded within a grey-green chert horizon. There is 10 to 20% massive bands, stringers and blebs of fine grained pyrite; some appear to be syngenetic mineralization rather than the epigenetic vein filling zones present. Outcrop is approx. 10m long and horizon is ~2m thick as exposed. This outcrop may be correlative with the black cherty (pyritiferous) unit found on road near L19N.	5	5.8	185	12	290As

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14679	Location: S, Holt 6 Grid A, ~L5S-1E Rock Type: Black Chert.	5	4,8	203	58	320As

Outcrop. Good exposure of a well bedded (1 to 5cm) black chert sequence. The beds strike  $110^{\circ}$  and dip  $\sim 30^{\circ}$ N. Folding deforms bed attitudes. The horizon overlies pillows and is interbedded within a grey-green chert horizon. There is 10 to 20% massive bands, stringers and blebs of fine grained pyrite; some appear to be syngenetic mineralization rather than the epigenetic vein filling zones present. Outcrop is approx. 10m long and horizon is  $\sim 2$ m thick as exposed. This outcrop may be correlative with the black cherty (pyritiferous) unit found on road near L19N.

14680	Location: S, Holt 6 Grid A, ~L5S-1E Rock Type: Black Chert.	5	3,8	241	24	215As
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Outcrop. Good exposure of a well bedded (1 to 5cm) black chert sequence. The beds strike  $110^{\circ}$  and dip  $\sim 30^{\circ}$ N. Folding deforms bed attitudes. The horizon overlies pillows and is interbedded within a grey-green chert horizon. There is 10 to 20% massive bands, stringers and blebs of fine grained pyrite; some appear to be syngenetic mineralization rather than the epigenetic vein filling zones present. Outcrop is approx. 10m long and horizon is  $\sim 2$ m thick as exposed. This outcrop may be correlative with the black cherty (pyritiferous) unit found on road near L19N.

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14681	Location: Holt 7, Grid A, Trench #1 ~L11N - 0+75E Rock Type: Amygdaloidal Flow (andesite).  Outcrop. Well exposed rock in trench of a medium to light grey, medium grained, and strongly quartz-amygdaloidal, andesite flow rock. Amygdules are often black and up to 5mm and <1% of rock. Silicification is possible and may have "blurred" the textures. Approximately 10% pyrite most common as disseminated fine grains throughout. Minor small blebs and stringers are present. The outcrop is 5m long.	5	0.4	53	26	
14682	Location: Holt 7, Grid A, Trench #1 ~L11N - 0+75E Rock Type: Amygdaloidal Flow (andesite).  Outcrop. Well exposed rock in trench of a medium to light grey, medium grained, and strongly quartz-amygdaloidal, andesite flow rock. Amygdules are often black and up to 5mm and <1% of rock. Silicification is possible and may have "blurred" the textures. Approximately 10% pyrite most common as disseminated fine grains throughout. Minor small blebs and stringers are present. The outcrop is 5m long.	5	0.8	325	38	
14683	Location: Holt 7, Grid A, Trench #1 ~L11N - 0+75E Rock Type: Altered Flow Rock (andesite)  Outcrop in trench. Poor exposure of a zone of rusty-coloured, well weathered and well altered (silicified), light grey andesite flow rock. Up to 20% disseminated grains and stringers of pyrite. Outcrop 3m long.	5	1.4	77	6	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14684	Location: Holt 7, Grid A, Trench #1 ~L11N - 0+75E Rock Type: Amygdaloidal Flow (andesite).  Outcrop. Well exposed rock in trench of a medium to light grey, medium grained, and strongly quartz-amygdaloidal, andesite flow rock. Amygdules are often black and up to 5mm and <1% of rock. Silicification is possible and may have "blurred" the textures. Approximately 10% pyrite most common as disseminated fine grains throughout. Minor small blebs and stringers are present. The outcrop is 5m long.	5	1.0	30	76	
14685	Location: Holt 7, Grid A, Trench #1 ~L11N - 0+75E Rock Type: Amygdaloidal Flow (andesite).  Outcrop. Well exposed rock in trench of a medium to light grey, medium grained and strongly quartz-amygdaloidal, andesite flow rock. Amygdules are often black and up to 5mm and <1% of rock. Silicification is possible and may have "blurred" the textures. Approximately 10% pyrite most common as disseminated fine grains throughout. Minor small blebs and stringers are present. The outcrop is 5m long.	5	4.2	123	26	
14686	Location: Holt 7, Grid A, Trench #1 ~L10N - 0+75E Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of an ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rock. Silicification is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be stratabound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%.	5	0.8	56	28	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14687	Location: Holt 7, Grid A, Trench #1 ~L10N - 0+75E Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of an ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rock. Silicification is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be stratabound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%.	5	0.8	100	34	
14688	Location: Holt 7, Grid A, Trench #1 ~L10N - 0+75E Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of an ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rock. Silicification is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be stratabound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%.	40	1.6	53	14	
14689	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Andesite Flow Rock.  A 20m long outcrop shows good exposure towards the end of the trench of the more common, medium grey-green, aphanitic flow rocks. Alteration is not present. Pyrite mineralization is decreased to ~1 to 5% as disseminated grains throughout.	5	1.0	106	52	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14690	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Andesite Flow Rock.  A 20m long outcrop shows good exposure towards the end of the trench of the more common, medium grey-green, aphanitic flow rocks. Alteration is not present. Pyrite mineralization is decreased to ~1 to 5% as disseminated grains throughout.	5	0.2	202	60	
14691	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Andesite Flow Rock.  A 20m long outcrop shows good exposure towards the end of the trench of the more common, medium grey-green, aphanitic flow rocks. Alteration is decreased to ~1 to 5% disseminated grains throughout.	5	0.4	270	70	
14692	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Andesite Flow Rock.  A 20m long outcrop shows good exposure towards the end of the trench of the more common, medium grey-green, aphanitic flow rocks. Alteration is decreased to ~1 to 5% disseminated grains throughout.	5	0.6	115	56	
14693	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Andesite Flow Rock.  A 20m long outcrop shows good exposure towards the end of the trench of the more common, medium grey-green, aphanitic flow rocks. Alteration is not present. Pyrite mineralization is decreased to ~1 to 5% disseminated grains throughout.	5	0.2	88	40	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14694	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Andesite Flow Rock.  A 20m long outcrop shows good exposure towards the end of the trench of the more common, medium grey-green, aphanitic flow rocks. Alteration is not present. Pyrite mineralization is decreased to ~1 to 5% disseminated grains throughout.	5	0.2	66	30	
14695	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Andesite Flow Rock.  A 20m long outcrop shows good exposure towards the end of the trench of the more common, medium grey-green, aphanitic flow rocks. Alteration is not present. Pyrite mineralization is decreased to ~1 to 5% disseminated grains throughout.	5	0.4	124	66	
14696	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Altered Flow Rocks.  Outcrop ~5m long with good exposure of a narrow zone of highly altered rock within the medium green, aphanitic, andesitic flow rocks. Silicification is pervasive and amygdaloidal textures are obscured. Disseminated pyrite ~10 to 15%.	5	0.2	79	10	
14697	Location: Holt 7, Grid A, Trench #1 ~L10N - 0+75E Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of a ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rock. Silicification is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be strata-bound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%.	30	2.0	28	8	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14698	Location: Holt 7, Grid A, Trench #1 ~L10N - O+75E Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of a ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rock. Silicification is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be grains, isolated blebs and narrow stringers of pyrite ~15 to 20%.	150	2.4	41	6	
14699	Location: Holt 7, Grid A, Trench #1 ~L10N - O+75E Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of a ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rock. Silicification is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be stratabound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%.	5	0.8	94	20	
14700	Location: Holt 7, Grid A, Trench #1 ~L10N Rock Type: Amygdaloidal Flow (andesite).  Outcrop of well exposed rock of a medium to light grey, medium grained, and strongly quartz amygdaloidal, andesitic flow rock. Amygdules are often black, <5mm and <1% rock is slightly silicified. Disseminated fine grained, minor blebs of and stringers of pyrite up to ~10%.	20	0.6	51	32	
14701	Location: Central, Extreme E, Holt 12 at mainline road. Rock Type: Silt.	5	0.2	49	78	1684Mn



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14702	Location: Central, Holt 10 at mainline road Rock Type: Silt.	5	0.4	86	74	7283Mn 1090P
14703	Location: Central, Slightly E, Holt 10 at mainline road. Rock Type: Silt.	5	<0.2	59	58	1219Mn
14704	Location: Slightly S & W, Holt 10 of mainline road. Rock Type: Silt.	5	<0.2	14	110	1420P 6707Mn
14705	Location: N, Central Holt 7 L11N - 5E Grid A Rock Type: Pyritized Black Chert.  Float. Black quartz veined chert. Up to 3% disseminated and stringers of pyrite. Found on road near culvert.	5	<0.2	28	26	40As
14706	Location: NE, Holt 6 at mainline rd. Rock Type: Silt.	5	<0.2	32	70	
14707	Location: NE, Holt 6 at mainline rd. Rock Type: Silt.	5	<0.2	33	50	
14708	Location: NW Corner, Holt 5 near mainline road. Rock Type: Silt.  From well flowing stream 0.5m wide. Sample from active stream sediment which is gravelly silt.	5	<0.2	75	92	
14709	Location: N, Central Holt 4 near rd. Rock Type: Silt.	5	0.2	111	78	
14710	Location: N, Central Holt 4 near rd. Rock Type: Silt.	5	<0.2	63	70	
14711	Location: NE, Holt 4 Rock Type: Silt.	5	0.2	50	82	7852Mn
14712	Location: NE Holt 4 Rock Type: Silt.	5	0.4	63	72	4657Mn 1070P
14713	Location: S, Central, E Holt 4 Rock Type: Silt.	5	0.2	92	118	30As
14714	Location: Central E, Holt 4 Rock Type: Silt.	5	0.4	111	76	5827Mn 1340P

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14715	Location: Central W, Holt 3 Rock Type: Silt.	5	<0.2	57	44	
14716	Location: Central W, Holt 2 Rock Type: Silt.	5	<0.2	76	140	
14717	Location: Central W, Holt 2 Rock Type: Silt.  Flowing stream.	5	<0.2	70	84	1065Mn
14718	Location: Central W, Holt 2 Rock Type: Silt.	5	<0.2	79	78	1189Mn
14719	Location: Central, Slightly W, Holt 2 Rock Type: Silt.	5	<0.2	69	106	300Ba 1106Mn
14720	Location: Central Holt 2 Rock Type: Silt.	5	<0.2	62	110	180Ba
14721	Location: N, Central Holt 2 Rock Type: Silt.	5	0.2	48	122	240Ba >1000Mn
14722	Location: N, Central Holt 2 Rock Type: Silt.	5	<0.2	54	88	140Ba 6964Mn
14723	Location: Extreme S, Central Holt 1 Rock Type: Silt.	5	<0.2	58	60	100Ba 1438Mn
14724	Location: Extreme S, E Holt 1 Rock Type: Silt.	5	<0.2	54	50	140Ba
14725	Location: Extreme S, E Holt 1 Rock Type: Silt	5	<0.2	52	52	110Ba
14726	Location: NE Holt 4 Rock Type: Feldspar Hornblende Porphyry.  Dark grey-green porphyritic intrusive. Phenocrysts of feldspar and hornblende up to 3mm long. Stringers of pyrite up to 2%.	5	<0.2	11	24	1650P
14727	Location: Extreme S, Central Holt 1 Rock Type: Dark Basalt.  Outcrop. Blue-black, fine grained comminuted basalt. Manganese stained. Ankerite and calcite veins pervasive.	5	0.2	191	74	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14728	Location: Central E, Holt 4 Rock Type: Chlorite Schist.  Outcrop. Green strongly altered and sheared, strongly chloritized (up to 90%). Large outcrop of schist on NW side of river. Silt sample 14713 taken nearby.	5	<0.2	20	16	
14729	Location: Central NW, Holt 13 Rock Type: Siliceous (Quartz)  From outcrop, grey-white quartz rich rock.	5	0.2	11	18	
14730	Location: S, Central Holt 1 Rock Type: Silt  Active sediment. May be mixed with local road sediment. 10% clay fraction 10% organics, 80% gravel.	5	<0.2	38	78	280Ba 1095Mn
14731	Location: Slightly S, Central Holt 1 Rock Type: Silt.  Dry stream in mature forest. Some exposed rocks with soily stream sediment.	110	<0.2	21	32	1706Mn
14732	Location: S, Central Holt 1 Rock Type: Silt.  Dry stream in mature forest. Some exposed rocks with soily stream sediment.	5	0.4	48	52	5585Mn
14733	Location: S, Central Holt 1 Rock Type: Silt.  Bar sediment 30% clay. Flowing stream, active sediment. Sample 4450 located here too.	5	0.2	56	130	510Ba 1821Mn
14734	Location: SE, Holt 1 Rock Type: Silt.	5	0.2	33	62	120Ba 3697Mn
14735	Location: Extreme E, S Holt 1 Rock Type: Silt.  Flowing stream. Active sediment. Stream 1m wide and strikes 140°	5	<0.2	29	56	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14736	Location: S, Central Holt 7 Rock Type: Silt.  Active stream sediment. 1-2m wide flow. 10% clay in gravel. River strikes 048°.	5	0.2	78	60	100Ba
14737	Location: SW Holt 7 Rock Type: Silt.  Active stream sediment, 1-2m wide stream. 10% clay in gravel. Strikes 048°.	5	0.2	72	60	
14738	Location: Se Holt 12 Rock Type: Silt.  Dry swampy area. Gravel with 30% clay fraction. Could be soil or wash sediment.	5	0.4	65	92	1514Mn
14739	Location: SW Holt 12 Rock Type: Silt.  No flowing water. Gravel bar in center of 040° striking stream.	5	0.4	133	86	1364Mn
14740	Location: Slightly SW, Holt 12 Rock Type: Silt.  From small 0.2m wide flowing stream. Strikes 045°. Gravel wash 15% clay.	5	0.4	96	88	1094Mn
14741	Location: Slightly N, Central Holt 12 Rock Type: Silt.  From swampy ground gravel and clay sample. Many old roads in and behind this location.	5	0.2	50	2	
14742	Location: SW Holt 13 Rock Type: Silt.  From large swamp mainly half decomposed vegetable matter, not much lithic material at all.	5	0.2	13	60	190Ba
14743	Location: N, Central Holt 6 Rock Type: Silt.  From well flowing 2m wide stream. Good gravelly sample ~15% clay.	5	0.4	43	58	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14744	Location: Extreme N, E, Holt 9 Rock Type: Silt.  From dry stream bed. "Soily" sample.	5	0.2	39	118	190Ba 1396Mn
14745	Location: Extreme N, Slightly E, Holt 9 Rock Type: Silt.  From dry stream bed. Gravelly soil silt.	5	<0.2	36	66	120Ba
14746	Location: Extreme N, Central E Holt 9 Rock Type: Silt.  From active sediment in flowing stream. Good sample 10-15% clay. Flowing stream.	5	<0.2	36	92	130Ba
14747	Location: Extreme N, Central Holt 9 Rock Type: Silt.  Flowing stream.	5	<0.2	69	72	
14748	Location: Extreme N, Central W Holt 9 Rock Type: Silt.  From dry stream bed. Good gravelly silt sample with 10 to 15% clay.	5	<0.2	65	56	110Ba
14749	Location: Extreme N, Slightly W Holt 9 Rock Type: Silt.  From dry stream bed. Sample composed of vegetable matter and gravel. Clay fraction difficult to guess (~<15% clay).	5	<0.2	38	58	
14750	Location: NE Corner, Holt 11 Rock Type: Silt.  Good gravelly sample with approx. 10% clay.	5	<0.2	56	44	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14901	Location: S Central Holt 14 ~L73+50N -OW Grid A Rock Type: Jasper.  From float, could be outcrop on road bed. Rusty maroon-red with 2% quartz in veins and trace of pyrite as scattered grains <1mm. Grain size indistinguishable. Angular boulder with an occurrence size 0.75 x 0.5m.	5	0.2	4	12	
14902	Location: S Holt 14, Grid A ~L73N - 1+50E Rock Type: Jasper  Blob of jasper (0.5m x 0.75m) within outcrop (2.0 x 0.5m) on road bed. Bright red aphanitic quartz veined jasper in outcrop of dark green, moderately epidotized mafic volcanic.	5	0.2	59	14	
14903	Location: S Holt 14, Grid A ~L73N - 1+50E Rock Type: Quartz Vein.  From outcrop (0.15 x 0.75m) of quartz with 5% chlorite. Pod of white quartz occurring in foliated mafic volcanic (?) of chlorite schist.	5	0.2	9	10	
14904	Location: SE Holt 4, L15N - 1+35W Grid A Rock Type: Basalt (Karmutsen).  From outcrop 25m in diameter, dark green chloritized aphanitic, fine grained to pillowed flow basalt. Area of prominent outcrop coinciding with linear magnetic anomaly (1000+) that probably represents a single flow. Rock is noticeably more magnetic than others in area. Outcrop surface is highly weathered orange-brown small pyroxene phenocrysts (<1mm) comprise several percent of rock.	5	0.2	198	92	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14905	Location: SE Holt 4, Grid B L15N - 0+50W Rock Type: Basalt.  Aphanitic to fine grained, pillowed basaltic flow rock. Pyroxene phenocrysts are 2-5% of rock. Noteable magnetism.	5	0.2	183	76	
14906	Location: SE Holt 4, Grid B L10N - 0W Rock Type: Basalt.  Aphanitic to fine grained, pillowed basaltic flow rock. Pyroxene phenocrysts are 2-5% of rock. Noteable magnetism.	5	0.2	206	124	
14907	Location: Extreme SE Corner, Holt 4 10m S of L4N - 0+75E Rock Type: Carbonate Altered Basalt.  From 1m diameter outcrop on road bed of 0.2 to 0.4m wide zone of grey-brown carbonate altered basalt that surrounds stock work of ankerite veinlets. Weathered surface is orange-brown. Sample crosscuts 5mm wide calcite vein. Relict pyroxene phenocrysts comprise several percent of rock. The rock is not totally carbonate altered. Groundmass is aphanitic to fine grained.	5	4.2	140	118	
14908	Location: Extreme SE Corner, Holt 4 Between L5N-0+50E and L4N-0+75SE. Rock Type: Carbonate Altered Basalt.  From 0.5m wide zone of grey carbonate altered, finely porphyritic, aphanitic, calcite veined, basalt that surrounds 0.2m wide sheared zone (crumbly). This outcrop is several meters in diameter on road cut. Sample crosscuts goethite coated fractures. Sample is totally carbonate altered. The "pheno-crysts" are really only a relict texture. The weathered surface is orange-brown.	5	6.0	200	126	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14909	Location: Extreme SE Corner, Holt 4 ~50NE of L2N=1E, Grid B Rock Type: Carbonatized Feldspar Hornblende Porphyry.	5	0,8	11	74	
	From outcrop, on road bed less than 0.5m in diameter, strongly carbonatized, slightly sericitized, feldspar, hornblende, quartz porphyry. Weathered rock is orange-brown. Relict feldspar phenocrysts are <4x2mm and the hornblende phenocrysts are <2x1mm. The groundmass is aphanitic.					
14910	Location: N Central Holt 7, ~10m NE of L10+60N on baseline of Grid A Rock Type: Pyritic Chert.	40	0.4	42	36	
	From float boulder approximately 10cm x 10cm x 15cm. Dark grey quartz veined pyritized chert. Pyrite occurs as very fine grained disseminations in patchy concentrations causing grey colour in chert. These concentrations sometimes crosscut by very narrow <1mm pyrite stringers. Veins up to 1mm wide.					
14911	Location: Extreme S, Holt 14, 200m N of L73+50N along baseline, Grid A. Rock Type: Pyritic Chert.	5	0.4	63	30	
	Float. Dark grey, bedded chert with very fine-grained disseminated pyrite throughout that is particularly abundant in and around the clay layers. Bedding is observed as 5 to 20mm wide chert beds separated by clay layers up to 2mm. Chert beds are of irregular thickness. Sample is highly weathered rusty brown. Boulder is 15cm x 20cm x 20cm.					



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14912	Location: NE Holt 7, Trench 1 L11N, Grid A Rock Type: Amygdaloidal Flow (andesite).  From outcrop, medium grey-green, aphanitic to slightly amygdaloidal andesitic flow rock. Slightly silicified. Some rusty weathered rock is present. Finely disseminated and narrow massive bands of pyrite up to 10%.	5	1.0	92	74	
14913	Location: Slightly NE, Holt 7, Trench 1 L11N, Grid A Rock Type: Amygdaloidal Flow (andesite).  From outcrop, medium grey-green, aphanitic to slightly amygdaloidal andesitic flow rock. Slightly silicified. Some rusty weathered rock is present. Finely disseminated and narrow massive bands of pyrite up to 10%.	5	0.4	87	30	
14914	Location: Slightly NE, Holt 7, Trench 1 L11N, Grid A Rock Type: Green Chert.  Outcrop, good exposure of dark green, completely aphanitic, non-banded chert. No alteration or weathering is noteable. Finely disseminated, 5 to 10%, probably syngentic, pyrite. This chert is a small horizon within the package composed primarily of andesitic flows which overlies the banded chert horizon.	5	0.4	161	64	
14915	Location: Slightly NE, Holt 7, Trench 1 L10N, Grid A Rock Type: Andesite-Basalt Flow.  Outcrop (30m) showing good exposure of very dark green, aphanitic andesite to basaltic flows. Rock here is darker than at the beginning of the trench (west). Pyrite mineralization is approximately 3 to 5% as disseminations, blebs and stringers.	5	0.4	182	84	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14916	Location: Slightly NE, Holt 7, Trench 1 L10N Rock Type: Green Chert.  Exposed outcrop of dark green, completely aphanitic, non-banded chert that lies within the flow package as a narrow horizon. Pyrite mineralization is approximately 1 to 3% as disseminations and stringers.	5	0.6	109	64	
14918	Location: Slightly NE Holt 7, Trench 1 L10N Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of an ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rocks. Silicifications is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be strata-bound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%. A massive, 2cm wide band of >90% pyrite is present.	190	6	86	26	52Pb
14919	Location: Slightly NE Holt 7, Trench 1 L10N Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of an ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rocks. Silicifications is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be strata-bound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%. A massive, 2cm wide band of >90% pyrite is present.	110	1.8	69	20	14Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14920	Location: Trench #1, L10N Rock Type: Intensely Altered Flow.  Outcrop showing good exposure of an ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rocks. Silicifications is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be strata-bound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%. A massive, 2cm wide band of >90% pyrite is present.					
14921	Location: Slightly NE, Holt 7 Trench 1 L11N, Grid A Rock Type: Amygdaloidal Flow (andesite).  From outcrop, medium grey-green, aphanitic to slightly amygdaloidal andesitic flow rock. Slightly silicified. Some rusty weathered rock is present. Finely disseminated and narrow massive bands of pyrite up to 10%. Outcrop is 5m in diameter.	5	0.4	45	8	28Pb
14922	Location: Slightly NE, Holt 7 Trench 1 L11N, Grid A Rock Type: Amygdaloidal Flow (andesite).  From outcrop, medium grey-green aphanitic to slightly amygdaloidal andesitic flow rock. Slightly silicified. Some rusty weathered rock is present. Finely disseminated and narrow massive bands of pyrite up to 10%. Outcrop is 5m in diameter.	5	0.2	103	40	
14923	Location: Slightly NE, Holt 7 Trench 1 L11N, Grid A Rock Type: Amygdaloidal Flow (andesite).  From outcrop, medium grey-green, aphanitic to slightly amygdaloidal andesitic flow rock. Slightly silicified. Some rusty weathered rock is present. Finely disseminated and narrow massive bands of pyrite up to 10%. Outcrop is 5m in diameter.	5	0.2	41	28	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14924	Location: Slightly NE, Holt 7, Trench 1 L11N, Grid A Rock Type: Green Chert.  Outcrop, good exposure of dark green, completely aphanitic, non-banded chert. No alteration or weathering is noteable. Finely disseminated, 5 to 10%, probably syngentic, pyrite. This chert is a small horizon within the package composed primarily of andesitic flows which overlies the banded chert horizon.	50	0.2	145	8	10Pb
14925	Location: Slightly NE, Holt 7, Trench 1 L11N, Grid A Rock Type: Green Chert.  Outcrop, good exposure of dark green, completely aphanitic, non-banded chert. No alteration or weathering is noteable. Finely disseminated, 5 to 10%, probably syngentic, pyrite. This chert is a small horizon within the package composed primarily of andesitic flows which overlies the banded chert horizon.	20	0.2	188	4	
14926	Location: Slightly NE, Holt 7, Trench 1 L11N, Grid A Rock Type: Green Chert.  Outcrop, good exposure of dark green, completely aphanitic, non-banded chert. No alteration or weathering is noteable. Finely disseminated, 5 to 10%, probably syngentic, pyrite. This chert is a small horizon within the package composed primarily of andesitic flows which overlies the banded chert horizon.	30	0.2	178	4	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14927	Location: Slightly NE Holt 7, Trench 1 L10N Rock Type: Intensely Altered Flow (andesite).  Outcrop showing good exposure of an ~20m wide zone of intensely altered, fine grained to aphanitic, slightly amygdaloidal flow rocks. Silicifications is locally pervasive to make rock look like a large quartz vein. Carbonate alteration is much less pervasive. Alteration may be strata-bound controlled. Disseminated grains, isolated blebs and narrow stringers of pyrite ~15 to 20%. A massive, 2cm wide band of >90% pyrite is present.	390	1.4	141	42	10Pb
14929	Location: SW Holt 8, ~L26N-1W, Grid A Rock Type: Cherty Argillite.  Outcrop showing good exposure of a well bedded, very dark green to black, aphanitic, highly weathered cherty argillite. Pyrite mineralization makes up 10 to 15% of the rock as fracture filling which are generally layer parallel. The mineralization may be syngenetic?? The unit strikes ~120° and dips ~40°E and appears to fall near the top of the bedded green chert horizon. The outcrop is continuous for 20m on road and is approximately 5m thick.	5	0.6	60	154	26Pb
14930	Location: SW Holt 8, ~L26N-1W, Grid A Rock Type: Cherty Argillite.  Outcrop showing good exposure of a well bedded, very dark green to black, aphanitic, highly weathered cherty argillite. Pyrite mineralization makes up 10 to 15% of the rock as fracture filling which are generally layer parallel. The unit strikes ~120° and dips ~40°E and appears to fall near the top of the bedded green chert horizon. The outcrop is continuous for 20m on road and is approximately 5m thick.	5	1.4	58	124	40Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14931	Location: N, Extreme E, Holt 10 L29N - 2+50W, Grid A Rock Type: Argillaceous Chert.  From outcrop, dark bluish-grey-green, aphanitic, argillaceous, and is rather hard (likely siliceous). It is often poorly bedded and much is heavily Fe-Mn stained. Visible sulphides (pyrite) approximately 2 to 3% disseminated with grain size <1mm. Small outcrop approximately 15 square meters. Sample is similar to 14932.	5	0.1	58	94	12Pb
14932	Location: NE Holt 10, L33N-4W, Grid A Rock Type: Argillaceous Chert.  Outcrop quite extensive approximately 400 square meters. Dark green-black, aphanitic sediment, very argillaceous and much of it is very soft. Bedding is usually quite indistinct. Traces of pyrite are ubiquitous in spots. The outcrop is quite rusty, implying sulphides may have weathered out. Adjacent is quite well bedded chert. This rock is in contact with medium grained diorite. Pyrite is disseminated sporadically throughout the rock. This sample is similar to 14931.	5	0.1	52	73	
14933	Location: Extreme N, Slightly E Holt 10, L36N-3+60W Grid A Rock Type: Diorite.  Small outcrop approximately 7 square meters. Dark green, medium grained diorite. The hornblende crystals measure 2-4mm long and comprise about 35%. The plagioclase is of similar dimensions and comprise about 55%. Fe and Mn oxides about 8%. There is a hint of metamorphic foliation. The weathered surface is heavily Fe-Mn stained. Disseminated pyrite is 1 to 2% and grain size is <1mm. Mineralization of pyrite is relatively rare in the diorite.	5	0.1	81	112	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14934	Location: Slightly S, Central Holt 11 L45N-0+75E, Grid A. Rock Type: Diorite.  From outcrop, dark green, equigranular diorite. Hornblende ~40%, plagioclase ~50%, Fe-Mn oxides ~7% of rock. Disseminated pyrite throughout the rock up to 1mm and 1 to 2%. Sample is similar to 14933.	5	0.1	109	26	
14935	Location: NE Holt 13, L16N-0+85E Grid A Rock Type: Argillaceous Chert.  From outcrop, light to medium green, argillaceous chert. Much of the rock has a hardness less than 6 implying an impure chert. Fe-Mn oxides are sporadically distributed. Pyrite up to 2% disseminated randomly throughout the rock.	5	0.1	19	129	
14936	Location: NE Holt 10, L30N-2+50W Grid A Rock Type: Silicified Volcanic.  Outcrop showing good exposure of a light grey, highly silicified volcanic rock with no original textures. Quartz veins are common. Approximately 1 to 2% evenly disseminated very fine grained pyrite.	5	0.2	32	43	16Pb
14937	Location: NE Holt 10, L33N-4W Grid A Rock Type: Partially Silicified Volcanic.  Outcrop showing good exposure of medium to dark grey-green volcanic or andesitic flow rock. Quartz veining is common. Disseminated, stringers and blebs of pyrite averaging 2 to 5%. This volcanic flow occurs above or within a green chert unit.	5	0.1	66	69	16Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14938	Location: NW Holt 14, Near LCP of Holt 14 along roadcut. Rock Type: Altered Mafic Tuff.  From outcrop, the rock is quite weathered and rusty with Fe and Mn oxides. The lapilli fragments are dark green to black and are 1mm or less in length. Secondary albite is often abundant. The matrix is grey to medium green moderately chloritized. Disseminated sulphides (pyrite) up to 2% with minor pyrrhotite and chalcopyrite exist. Rock is found slightly west of the LCP and thus slightly off the claim.	5	0.2	72	102	
14939	Location: Extreme S, Holt 14 L73N-0+75E, Grid A Rock Type: Argillaceous Chert.  From outcrop, black, argillaceous, aphanitic chert. Well layered bedding planes are easily discernable. Much of the rock can be scratched with a knife. It is often very rusty. Disseminated sulphides mainly pyrite exist up to 2%. Trace chalcopyrite exists. The sample appears to be subcrop rather than a true outcrop.	5	0.1	50	64	11Pb
14940	Location: Central, Moderately W Holt 11, L55N-1E, Grid A Rock Type: Andesite.  Float. Medium grey, medium to fine-grained, slightly quartz amygdaloidal, andesite flow rock. Slight quartz silicification of groundmass. 20 to 30% pyrite, 1 to 2% chalcopyrite, trace pyrrhotite as disseminated grains and blobs in parallel bands to bedding. Lies stratigraphically above chert.	5	0.3	837	69	13Pb



Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14941	Location: Central, Moderately W Holt 11, L55N-0+25E, Grid A Rock Type: Quartz Vein.  Float. White quartz vein material with comb and stockwork textures. The host appears to be light grey volcanics. Coarse-grained pyrite up to 10%. Occurs stratigraphically above chert.	90	5.6	4969	49	
14942	Location: Slightly N, E Holt 7, Trench 2, L8N-1E, Grid A I.P. Road Test #2 1+25E Rock Type: Cherty Argillite.  Poorly exposed outcrop, in trench of dark grey to black, well-oxidized and weathered cherty argillite. Quartz veinlets are abundant, as are fractures. Unit appears within amygdaloidal volcanic flows. 1 to 2% pyrite along fracture surfaces.	60	1.2	137	54	55Pb
14943	Location: Slightly N, E Holt 7, Trench 2, L8N-1E, Grid A I.P. Road Test #2 1+25E Rock Type: Cherty Argillite.  Poorly exposed outcrop, in trench of dark grey to black, well-oxidized and weathered cherty argillite. Quartz veinlets are abundant, as are fractures. Unit appears within amygdaloidal volcanic flows. 1 to 2% pyrite along fracture surfaces.	50	1.2	156	59	58Pb
14944	Location: Slightly N, Extreme E Holt 7, around L6N, Grid A, East of powerline. Rock Type: Silicified Volcanic.  Good outcrop exposure (post TNT) of a light to medium grey, highly silicified, very resistant (hard), aphanitic volcanic flow rock. Relict amygdaloidal porphyritic textures vaguely noticeable. Faint layering present. Outcrop is 10 square meters.	280	0.1	25	26	

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14945	Location: Slightly N, Extreme E Holt 7, around L6N, Grid A, East of powerline. Rock Type: Silicified Volcanic.  Good outcrop exposure (post TNT) of a light to medium grey highly silicified, very resistant (hard), aphanitic volcanic flow rock. Relict amygdaloidal porphyritic textures vaguely noticeable. Faint layering present. Outcrop is 10 square meters.	5	0.1	11	29	
14946	Location: Central, Slightly E, Holt 7 L5N-0+25E, Grid A. Rock Type: Totally Silicified Rock.  From 5m square outcrop with good exposure (after blasting) of an extremely silicified rock whose protolith is inferred to be volcanic. Not likely quartz vein material. Trace to 1% pyrite as disseminated grains and blebs.	5	0.1	20	2	
14947	Location: Slightly N, E Holt 7 Trench 2, L8N-1E, Grid A I.R. road test #2 1+30E Rock Type: Silicified Volcanic.  5m of outcrop poorly exposed in trench of a fine-grained to aphanitic, silicified, mottled texture, andesite flow rock with relict amygdaloidal textures. Rock appears within primarily massive black basalt. 2 to 5% blebs and stringers of pyrite.	1400	0.6	141	13	17Pb
14948	Location: Slightly N, E Holt 7 Trench 2, L8N-1E, Grid A I.R. road test #2 1+30E Rock Type: Silicified Volcanic.  5m of outcrop poorly exposed in trench of a fine-grained to aphanitic, silicified, mottled texture, andesite flow rock with relict amygdaloidal textures. Rock appears within primarily massive black basalt. 2 to 5% blebs and stringers of pyrite.	30	0.3	114	12	12Pb

Sample No.	Description	Au ppb	Ag ppm	Cu ppm	Zn ppm	Other ppm
14951	Location: Almost Central, Slightly NW Holt 11, Top of Ridge. Rock Type: Fine-Grained Tuff.  Outcrop. Dark grey-green tuff. Mn-Fe stained. Narrow band of intense weathering.	5	0.2	125	58	
14952	Location: N, Slightly E, Holt 11 (below mineralization above creek) Rock Type: Quartz Vein.  From outcrop, white >90% quartz hosted in green fine-grained tuff. Scattered veins in outcrop.	5	0.2	8	12	
14953	Location: NE, Holt 12 Rock Type: Fine-Grained Tuff.  Small outcrop. Green mafic fine grained tuff with fine-grained disseminated pyrite, <1%.	5	0.2	79	78	390Ba
14954	Location: Slightly N, E Holt 11 Rock Type: Silicified Fine-Grained Tuff.  1m x 2m outcrop, olive-medium green silicified fine-grain tuff. Greater than 90% quartz, 2% malachite and azurite and <1% pyrite. Narrow band of silicification within fine-grain tuff host. Fractures contain blebs of pyrite, malachite and azurite with trace chalcopyrite.	5	0.6	3128	22	
14955	Location: NW Holt 8 Rock Type: Brecciated Quartz Vein.  From outcrop 0.3m x 1m. White brecciated quartz vein in mafic diabase host. Leucoxene alteration blebs. No visible sulphides.	5	0.2	40	18	

Appendix III

THIN SECTION DESCRIPTIONS

## SUMMARY OF PETROGRAPHY, HOLT CLAIMS

Thirteen rocks from the Holt claims were selected for petrographic analysis, in order to identify rock types and interpret textures and alteration assemblages. They represent a variety of rock types including felsic to mafic volcanic and volcanoclastic rocks, most of which have been subjected to some degree of metamorphism and/or hydrothermal alteration.

Textures and reaction assemblages indicate changes involving significant increase in  $H_2O$  (and in some cases  $CO_2$ ) consistent with regional greenschist facies metamorphism and/or extensive hydrothermal alteration. Alteration minerals include common sericite, chlorite, epidote, and calcite, and local actinolite. Two calc-silicate rocks with garnet-diopside-hornblende assemblages suggest higher temperatures, perhaps associated with an intrusive contact.

Opaque minerals present in this suite of rocks include primary(?) magnetite, possible chromite, and secondary fracture pyrite, with alteration to hydrous iron oxides.

Samples identified as volcanic in origin include two in the felsic to intermediate compositional range (V226-4434 and V226-14729), and three in the mafic range. Volcanoclastic rocks include two or three possible tuffs (V226-4728, V226-4406, and V226-4717) and one epiclastic sediment (V226-4415). Metamorphic rocks are represented by two samples of calc-silicate hornfels(?) (V226-4412 and V226-3452) and one carbonate-talc schist (V226-4421).

A pyritic quartz vein (V226-4471) and pyritic chert (V226-9301) were also collected.

The following table summarizes rock types, alteration (including metamorphic minerals), and mineralization (including opaque minerals, identified in hand specimen where possible) for 13 thin section samples described in detail in the appendix.

HOLT PROJECT - V226

SUMMARY TABLE OF PETROGRAPHIC SAMPLES

Sample:	V226-4434 (NCM)
Rock type:	Felsic to intermediate feldspar porphyry
Alteration:	Sericite, chlorite, epidote, calcite
Mineralization:	Magnetite (3-4%)
Sample:	V226-4415 (D59)
Rock type:	Greywacke greenstone/mafic epiclastic
Alteration:	Chlorite epidote
Mineralization:	Fine-grained opaques (2-3%)
Sample:	V226-4412 (3)
Rock type:	Calc-silicate amphibolite, possibly metatuff
Alteration:	Garnet-hornblende-diopside; epidote, chlorite, calcite
Mineralization:	Opagues (3-4%)
Sample:	V226-4728 (4)
Rock type:	Meta-pyroxene porphyry (crystal tuff?)
Alteration:	Uralitization of pyroxene; chlorite, epidote; calcite veins
Mineralization:	-
Sample:	V226-4421 (27)
Rock type:	Carbonate-talc schist (from fault zone?)
Alteration:	Calcite Mg-carbonate(?), talc
Mineralization:	Magnetite ( chromite?), fine-grained opaques (5-10%)
Sample:	V226-4406 (32)
Rock type:	Crystal-lithic tuff
Alteration:	Calcite, chlorite, saussurite
Mineralization:	Pyrite ( 2%)
Sample:	V226-14729 (38)
Rock type:	Felsic volcanic feldspar porphyry (albitite?)
Alteration:	Chlorite, muscovite, quartz-calcite veins
Mineralization:	Fine-grained opaques (1-2%)
Sample:	V226-3499 (44)
Rock type:	Epidote-altered mafic volcanic
Alteration:	Chlorite, calcite, epidote
Mineralization:	Fine-grained opaques ( 1%)
Sample:	V226-4717 (85)
Rock type:	Altered lithic hyaloclastite
Alteration:	Glass to palagonite; quartz, chlorite, calcite, sericite
Mineralization:	-

Sample: V226-3452  
Rock type: Garnet-diopside-hornblende calc-silicate  
Alteration: Garnet, quartz, diopside, calcite, hornblende; prehnite  
veins  
Mineralization: Fine-grained opaques (pyrite?) ( 3%)

Sample: V226-3456  
Rock type: Altered diabase  
Alteration: Pyroxene to chlorite sphene ilmenite(?); calcite  
Mineralization: Ilmenite(?), fine-grained opaques (5%)

Sample: V226-4471  
Rock type: Pyritic quartz vein  
Alteration: Hydrous iron oxides (5-10%), sericite  
Mineralization: Pyrite (relict), ( 5%)

Sample: V226-9301  
Rock type: Pyritic chert  
Alteration: Hydrous iron oxides  
Mineralization: Fracture pyrite (5-10%)

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD

For Nexus/Goldenrod Date 87-02-28  
 Project V226 - HOLT Collector Terry Naciuk  
 Sample V226-NCM (4434) Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Felsic to intermediate feldspar porphyry

Hand Specimen: Feldspar porphyry with 25% euhedral to subhedral white to pink feldspar phenocrysts (1-2mm), and abundant microphenocrysts in a fine-grained, grey-green groundmass which may be chloritized. Feldspar also may be altered, sericitized. Irregular fractures show local microbrecciation and associated magnetite (2%) and epidote. Up to 5% open-space fractures and vugs (<1 mm) look like weathered out veinlets and mineral grains rather than original vesicles.

THIN SECTION (Polished No):

% (Approx.) MINERALS

- 50-60% Feldspar - plagioclase - subhedral phenocrysts (25%), with sericitized Carlsbad and some albite twins; zoned, concentric and patchy; also as microphenocrysts and groundmass (possibly also some alkali feldspar) - sericitized, saussuritized
- 5-10% Chlorite - alteration throughout, very fine-grained, and on fractures
- 10-15% Sericite - replacing plagioclase, amphibole
- <3% Pyroxene pseudomorphs - blocky shape, replaced by chlorite, and magnetite
- <5% Amphibole pseudomorphs (1x2 mm) - chlorite, feldspar, sericite, quartz
- 2- 3% Epidote - fine-grained, replacing plagioclase, amphibole
- <1% Apatite - subhedral grains, accessory
- 3- 4% Magnetite(?) - opaque black grains, magnetic; some in pyroxene shape
- 5% Calcite - replacing plagioclase
- 1 fragment Lithic volcanic fragments - sparse, <5 mm (mainly felted plagioclase laths)

Rock Textures/Structures: Porphyritic, somewhat glomeroporphyritic; some fractures are filled with chlorite

Protolith: Intermediate volcanic porphyry

Alteration/Mineralization: Sericitization, chlorite alteration

Conditions of Formation: Volcanic eruption, followed by minimal hydrothermal alteration.



PETROGRAPHIC REPORT

by J.S. Getsinger, PhD \_\_\_\_\_

For Nexus/Goldenrod  
 Project V226 - HOLT  
 Sample V226-D59 (4415)

Date 87-02-28  
 Collector Terry Naciuk  
 Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Greywacke greenstone

Hand Specimen: Greywacke. Fine-grained, light greenish-grey bed about 1 cm thick is interlayered with medium to coarse-grained, poorly sorted greywacke with angular to subangular, grey and black fine-grained crystal and lithic(?) clasts (<0.5 to >2 mm). Matrix is pale greenish-grey cement(?) between darker greenish-grey grains. No reaction in HCl; non-magnetic. Lighter, finer-grained layer is buckle-folded with microfractures perpendicular to bedding.

THIN SECTION (Polished No):

% (Approx.) MINERALS

45-50%	Plagioclase - albite twinning (poor), angular to subhedral grains, somewhat saussuritized
15-20%	Amphibole (actinolite) - pale green, low extinction angle, elongate grains, altered to chlorite
10%	Pyroxene(?) - blocky crystal shapes, pseudomorphed by pale chlorite
10-20%	Chlorite - colourless to pale green, alteration product of actinolite, pyroxene(?), and matrix
5-10%	Clinozoisite - medium-high relief, anomalous blue to grey birefringence; higher birefringence in veinlets (epidote). Alteration product of plagioclase, pyroxene(?)
2- 3%	Opagues - finely disseminated dust and sparse grains
<1%	Iron oxide stain - rusty orange

Rock Textures/Structures: Bedding and clastic textures show sedimentary origin of rock. There is some recrystallization of chlorite along planes of microfracturing parallel to axial plane of small buckle folds (perpendicular to bedding). Larger grains are mainly crystal clasts rather than lithic fragments.

Protolith: Intermediate to mafic epiclastic volcanoclastic (greywacke) possibly derived from crystal tuff.

Alteration/Mineralization: Rock is recrystallized to chlorite (± epidote) metamorphic grade but not significantly altered or mineralized.

Conditions of Formation: Epiclastic volcanoclastic environment of deposition. Recrystallized to lower greenschist (chlorite) metamorphic facies.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD \_\_\_\_\_

For Nexus/Goldenrod Date 87-02-28  
 Project V226 - HOLT Collector Terry Naciuk  
 Sample V226-3 (4412) Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Calc-silicate amphibolite, possibly metatuff

Hand Specimen: Compositionally layered and foliated light and dark green calc-silicate rock. Layers (2-10 mm) are discontinuous, lensoidal, and possibly isoclinally folded in part, although compositional differences are apparently primary. Light-coloured layers (50%) are light greenish grey to epidote-green, with rectangular to hexagonal megacrysts (1-3 mm) (former phenocrysts?) pseudomorphed by fine-grained epidote(?). Stringers (<0.5 mm thick by up to 5 mm long) of reddish-brown mineral may be garnet; they occur mainly within light green layers and in pressure shadows of megacrysts. Dark green layers are composed mainly of elongate, preferentially oriented green hornblende and rectangular whitish grains which may be plagioclase. Lighter layers react weakly in HCl indicating some calcite. Non-magnetic.

THIN SECTION (Polished No):

% (Approx.) MINERALS

- <5% Amphibole (brown hornblende) phenocrysts (or porphyroclasts?): Z' to C = 16°; X = pale yellow-brown, Y = olive brown, Z = olive brown, Z = Y > X
- 20% Amphibole (blue-green hornblende) in foliation: X = pale yellow; Y = green; Z = blue-green; Y ≥ Z > X; forms rims of brown amphibole, and is aligned on foliation
- 15-25% Feldspar (plagioclase?): untwinned megacrysts may show snowball (rotated) texture with inclusions of green hornblende; also as fine-grained groundmass with epidote
- 5-10% Quartz(?) - (and/or feldspar?) - interstitial to clinopyroxene; and as part of fine-grained groundmass
- 5% Garnet - brown, high relief, mainly isotropic (probably grossular)
- 5% Clinopyroxene - diopside (+) 2V = -45°; palest green pleochroism; replacing amphibole
- 15-25% Epidote - replacing amphibole and/or pyroxene, and as fine-grained masses
- <5% Chlorite - green, replacing other mafic minerals
- <5% Calcite - late, minor
- 3- 4% Opaques - blocky and elongate grains and abundant finely disseminated opaque dust

(continued)

**P.2 Sample V226-3 continued**

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**Rock Textures/Structures:** Compositional layering, uneven and lensoidal, with megacrysts, is subparallel to foliation; layers may be isoclinally folded, at least flattened; some evidence for late local kinking.

**Protolith:** Crystal tuff, calcareous mafic (andesitic to basaltic). Remnant euhedral megacrysts (amphibole, feldspar) and uneven layering suggest tuffaceous origin.

**Alteration/Mineralization:** Alteration is typically metamorphic; no obvious mineralization was noted.

**Conditions of Formation:** Volcaniclastic environment of deposition. Metamorphism to amphibolite facies(?), or dynamic contact metamorphism, followed by retrogression to chlorite and epidote.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD

For Nexus/Goldenrod

Date 87-02-28

Project V226 - HOLT

Collector Terry Naciuk

Sample V226-4 (4728)

Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Meta-pyroxene porphyry

Hand Specimen: Light green layered/foliated rock with (40-50%) dark green pyroxene megacrysts up to 5 mm (av. 3-4 mm); cut face reveals blocky rectangular to octagonal cross sections of euhedral to subhedral pyroxene shape. Patchy colouring suggests they are partially altered and/or pseudomorphed. Groundmass is fine-grained and lighter green, smeared around larger grains forming layering/foliation. Some of the pyroxene megacrysts are fractured with epidote in the fracture. White veinlets are calcite ± quartz.

THIN SECTION (Polished No ):

% (Approx.) MINERALS

- 30-40% Pyroxene - euhedral to subhedral (rectangular to octagonal) phenocrysts (40%) up to 5 mm, partly broken in foliated groundmass; pyroxene is largely replaced by pale green amphibole; relict grains may be orthopyroxene
- 25-30% Amphibole (actinolite) - pale green, fibrous, replacing pyroxene:  $Z' \text{ to } C = 16^\circ$ ,  $Z = \text{pale blue-green}$ ,  $Y = \text{pale green}$ ;  $X = \text{colourless}$ ,  $Z \geq Y > X$ . Biref. = 0.015
- 5-10% Epidote - clinozoisite to pistacite, replacing pyroxene and in fine-grained groundmass
- 50% Chlorite-epidote-feldspar groundmass - fine-grained
- <5% Calcite veins

Rock Textures/Structures: Phenocrysts of pyroxene up to 5 mm in foliated groundmass with patchy replacement by pale green amphibole.

Protolith: Mafic volcanic pyroxene porphyry or crystal tuff.

Alteration/Mineralization: Alteration is mainly retrograde metamorphic (uralitization of pyroxene).

Conditions of Formation: Mafic volcanoclastic/volcanic environment, with subsequent deformation, and greenschist facies metamorphism involving addition of water.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD

For Nexus/Goldenrod Date 87-02-28  
 Project V226 - HOLT Collector Terry Naciuk  
 Sample V226-17 (4421) Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Carbonate-talc schist

Hand Specimen: Sample size: 4 x 5 x 13 cm, with cut face 4 x 13 cm. Thin layers (1-2 mm) of rusty creamy calcite (vigorous reaction to HCl) in greenish talc-bearing to grey graphitic(?) phyllite are tightly folded and partially transposed parallel to foliation (parallel to long dimension of sample). Soft greenish flaky mineral feels like talc (scratches easily with fingernail); darker flaky mineral(s) may be serpentine, chlorite, and/or some graphite. Flaked rock adheres readily to magnet indicating abundant fine-grained magnetite. Cut face reveals abundant rounded light-coloured grains (which fizz in HCl) dotted around lensoidal fine-grained black patches (which scratch with fingernail).

THIN SECTION (Polished No):

% (Approx.) MINERALS

- 30-40% Calcite - relatively coarse-grained calcite spheroids (20%) and stringers are surrounded by matrix of fine-grained talc(?). Possibly some higher relief carbonate as well (dolomite, magnesite). Calcite veinlets crosscut talc matrix.
- 50-60% Talc - fine grained, medium-high birefringent, colourless phyllosilicate forms foliated matrix around calcite balls. Grains with lower birefringence, high (+) relief, and uniaxial(-) figure are sections perpendicular to c-axis
- <1% Feldspar(?) - low birefringence, low relief
- <2% Chlorite (or serpentine) - rare, as alteration of opaques; grey birefringence, nearly colourless
- 5-10% Opaques - semi-opaque reddish-brown broken grain (5 mm) looks like chromite but may be magnetite; other grains are smaller. Very finely disseminated black opaque dust may be graphite ± magnetite.

Rock Textures/Structures: Replacement textures. Patterns in trails of opaques suggest former metamorphic porphyroblasts with inclusions.

Protolith: Possibly an ultramafic such as pyroxenite.

Alteration/Mineralization: Calcite could be from intense carbonate alteration; talc may be metamorphosed ultramafic (olivine or Mg-pyroxene plus water goes to talc), or result of magnesium metasomatism; chromite/magnetite appears to be primary.

Conditions of Formation: Metamorphism or hydrothermal alteration involving an increase of CO<sub>2</sub>, H<sub>2</sub>O; severe deformation. May be from fault zone.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD \_\_\_\_\_

For Nexus/Goldenrod  
 Project V226 - HOLT  
 Sample V226-32 (4406)

Date 87-02-28  
 Collector Terry Naciuk  
 Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Volcaniclastic/crystal-lithic tuff

Hand Specimen: Green volcaniclastic breccia, unsorted, with lithic fragments (subrounded to angular) up to 1 cm; possible white crystal fragments (1-2 mm); and interstitial fine-grained greenish-grey groundmass. Lithic fragments may be granitic(?), but mostly fine-grained greenish-grey volcanics and/or volcaniclastic rocks. Thin calcite veins (1 mm) crosscut section; other areas react weakly to HCl. Fine, sparsely disseminated pyrite ( $\pm$  chalcopyrite?) is less than 1%. Fragments are rimmed by light green material.

THIN SECTION (Polished No):

% (Approx.) MINERALS

- 40% Plagioclase - large phenocrysts; synneis twinning; occurs as smaller grains in groundmass, and as felted laths in lithic fragments
- 15-20% Calcite - late alteration of plagioclase
- 5% Saussurite - fine-grained sericite epidote  $\pm$  calcite  $\pm$  feldspar alteration of plagioclase
- 10-15% Chlorite - fills vesicles; green colours; blue birefringence
- 10% Lithic fragments - volcanic, vesicular porphyritic basalt, with chlorite-filled amygdules; rounded
- 5% Glass(?) - isotropic; brown dusty in plane polarized light; rounded forms and interstitial lenses between crystal and lithic fragments; remnant groundmass; somewhat devitrified
- <2% Opaques - fine-grained material
- <5% Calcite - veins

Rock Textures/Structures: Fragmental volcaniclastic with volcanic lithic fragments, plagioclase phenocrysts, and areas of partially devitrified glass(?)

Protolith: Intermediate to mafic volcanic/volcaniclastic.

Alteration/Mineralization: Calcite alteration, chlorite alteration.

Conditions of Formation: Volcaniclastic environment. Relatively undeformed. Alteration is similar to retrograde or greenschist facies metamorphism.

**PETROGRAPHIC REPORT**

by J.S. Getsinger, PhD

For Nexus/Goldenrod

Date 87-02-28

Project V226 - HOLT

Collector Terry Naciuk

Sample V226-38 (14729)

Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Felsic volcanic feldspar porphyry

Hand Specimen: Light tan to grey, fine-grained crystalline rock with less than 5% white rectangular (feldspar?) phenocrysts (1-2 mm) and about 20% finer-grained feldspar ( $\pm$  quartz?) microphenocrysts; with about 1% thin flakes of chlorite up to 1 mm and possibly 5% much finer-grained chlorite, all in an aphanitic tan to grey groundmass. White veinlets <0.5 mm react weakly in HCl, indicating some calcite. Limonitic dendrites occur on some fractures, extending into the rock for about 2-3 mm.

THIN SECTION (Polished No):

% (Approx.) MINERALS

5-10%	Plagioclase (albite?) - phenocrysts, euhedral to subhedral, with Carlsbad and albite twins ( $X'$ to $a = 13^\circ$ ); may have (-) relief
50-60%	Plagioclase ( $\pm$ alkali feldspar?) - felted mass of stubby feldspar laths making up most of groundmass; common Carlsbad, less common albite twins
20-25%	Quartz - fine-grained, in groundmass, and in veinlets; uniaxial(-)
5-10%	Chlorite ( $\pm$ biotite?) - green phyllosilicate; biref. grey to anomalous blue; rimmed with muscovite; may be replacing biotite.
5%	Muscovite - colourless, medium-high biref. mica
<5%	Calcite - replacing feldspar, and along veinlets
1- 2%	Opaque - black grains less than 0.5 mm, associated with veinlets/fractures; could be magnetite; also sparsely disseminated fine black grains.

Rock Textures/Structures: Sparse phenocrysts in fine-grained groundmass; minor quartz veinlets with some calcite. Mostly random texture, with hint of preferred orientation of elongate minerals.

Protolith: Felsic volcanic

Alteration/Mineralization: No apparent mineralization. Alteration is minimal, consisting of chlorite + muscovite replacing biotite(?), minor alteration of feldspar, and addition of quartz  $\pm$  calcite veinlets.

Conditions of Formation: Volcanic eruption or dyke.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD

For Nexus/Goldenrod  
 Project V226 - HOLT  
 Sample V226-44 (3499)

Date 87-02-28  
 Collector Terry Naciuk  
 Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Epidote-altered mafic volcanic

Hand Specimen: Dark green volcanic rock with fine-grained groundmass and about 20-30% rounded epidote-altered relict mafic phenocrysts and/or amygdules (1-3 mm), and 5-15% pinkish calcite grains (1-2 mm), rectangular to subrounded, possibly amygdules and/or relict plagioclase phenocrysts. Some open spaces are lined with epidote. Metallic grains are very small (<0.1 mm) and sparsely distributed (<<1%). Some calcite amygdules(?) have dark green rims of chlorite(?).

THIN SECTION (Polished No ):

% (Approx.) MINERALS

- 5-10% Amphibole - acicular medium-high relief needles, colourless to dirty; Z' to c = 32°
- <5% Feldspar(?) - low birefringence, low relief, poikilitic with epidote; sphene, amphibole
- 5% Quartz - uniaxial(+), late, in amygdules, mosaic
- 10-15% Epidote - yellow pleochroic, medium-high birefringence: pistacite
- 5-10% Pyroxene (clinopyroxene ± orthopyroxene?) - blocky grains, colourless, high relief, low birefringence, (+)2V = 40-50°, r>v, subhedral, pre-epidote; Z' to c = 40°; birefringence = 0.020 (low for cpx)
- 20-35% Chlorite - (a) secondary, radiating, replacing amphibole(?), pale green pleochroic pyroxene(?); grey, sheaf-like clusters, and poikilitic masses in groundmass  
 (b) rimming amygdules: anomalous blue and brown biref.
- 3% Sphene(?) - brown grains, high relief, finely distributed
- 20-25% Calcite - filling amygdules lined with chlorite and replacing relict feldspar phenocrysts
- 1% Opaques - black, blocky grains (<1 mm); somewhat brown, may be hematite replacing magnetite
- <1% Apatite - low birefringence, high relief, uniaxial(-) figure

(continued)



**P.2 Sample V226-44 continued**

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**Rock Textures/Structures:** Relict feldspar is pseudomorphed by calcite; relict pyroxene is pseudomorphed by chlorite, epidote; original texture may have been porphyritic, amygdaloidal. Amygdules are now lined with chlorite, and filled with calcite, with late epidote. In groundmass, chlorite and minor feldspar are now poikilitic with amphibole, epidote, and sphene.

**Protolith:** Mafic volcanic.

**Alteration/Mineralization:** Chlorite, calcite, epidote have replaced original pyroxene, feldspar; and filled amygdules.

**Conditions of Formation:** Mafic volcanic has undergone hydrothermal alteration (and/or metamorphism) involving increase of  $H_2O$ ,  $CO_2$ , equivalent to greenschist facies metamorphism.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD

For Nexus/Goldenrod

Date 87-02-28

Project V226 - HOLT

Collector Terry Naciuk

Sample V226-85 (4717)

Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Altered lithic hyaloclastite

Hand Specimen: Dark green, coarse-grained (up to 1-2 cm) volcanoclastic with about 20% angular lithic fragments of light grey, aphanitic, felsic volcanic rock and 25 to 30% subrounded balls (0.5 to 15 mm) of grey to white, partly devitrified, somewhat perlitic glass(?). Rock contains abundant calcite (reacts strongly in HCl); and is non-magnetic. Minerals include chlorite, epidote, calcite. Matrix surrounding grey glassy areas also shows concentric textures but is dark green.

THIN SECTION (Polished No):

% (Approx.) MINERALS

- 25-30% Palagonite(?) - rusty-globules (appearing grey in hand specimen) with low birefringence, partly replaced by calcite and surrounded by isotropic glassy margins; may be partly replaced by clay minerals
- 50% Groundmass - rounded fragments of isotropic glass surrounded by and altered to chlorite, quartz, and calcite, and minor sericite. Glassy areas are pale greenish, with finely disseminated opaque dust in concentric patterns. Some spherulites were noted.
- 20% Volcanic lithic fragments - (1) nearly isotropic, partly devitrified glass matrix with blobby texture, and euhedral phenocrysts of relict feldspar (now calcite), and mafic grains replaced by chlorite; (2) very fine-grained, brown matrix with feldspar phenocrysts replaced by calcite, and 30% quartz-chlorite-filled amygdules.

Rock Textures/Structures: Perlitic structure (concentric curved fractures in glassy areas) is seen throughout; some isotropic glass remains, whereas some is altered to palagonite and/or devitrified.

Protolith: Intermediate to mafic lithic hyaloclastite.

Alteration/Mineralization: Alteration of glass to perlitic palagonite and of groundmass to quartz, chlorite, and calcite.

Conditions of Formation: Explosive, subaqueous eruption of intermediate to mafic magma.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD \_\_\_\_\_

For Nexus/Goldenrod Date 87-02-28  
 Project V226 - HOLT Collector Terry Naciuk  
 Sample V226-3452 Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Garnet-diopside-hornblende calc-silicate

Hand Specimen: 1 x 2 x 3 cm. Finely layered calc-silicate has interlayered dark green hornblende amphibolite (up to 1 cm layers) and light green diopside with dark reddish-brown garnet (layers less than 3 mm). Layers are crosscut by white veinlets (less than 1 mm) of quartz(?) ± calcite (local reaction to HCl). Pyrite (less than 0.5 mm) occurs within foliation planes of amphibolite and in late veins (less than 1%). Rock is non-magnetic.

THIN SECTION (Polished No ):

% (Approx.) MINERALS

- <5% Garnet - high relief, yellowish-brown, isotropic; within layers, also coarser (remobilized?) on quartz vein
- 5% Calcite - local replacement
- 15-20% Diopside - pale green (salitic) clinopyroxene; (+)2V = 50°, r>v; may occur in quartz veins
- 10% Quartz - uniaxial(+), grey, colourless, in veins, and with feldspar in groundmass
- 20% Hornblende - zoned from darker green cores to lighter green rims; cores are clouded with fine-grained opaques
- 30-40% Feldspar - untwinned or poorly twinned, saussuritized feldspar in groundmass of amphibolite, diopside, and garnet layers
- <3% Opaques - small blocky, black grains, associated with amphibolitic layers; also fine opaque dust epitaxial to cleavage in hornblende cores
- <3% Prehnite veins - bladed, radiating (bow-tie structure); colourless to palest green; biref. = 0.021; (+)2V = 40-50°; r>>v; parallel extinction; length fast.

Rock Textures/Structures: Compositional layering is parallel to metamorphic foliation; hornblende shows preferred orientation along metamorphic foliation, but some grains have premetamorphic cores; garnet occurs both in compositional layers and remobilized along quartz veins; prehnite veins are post-metamorphic, crosscutting quartz-garnet veins, but are accompanied by local shear textures, although most of the prehnite is random.

Protolith: Mixed calcareous or tuffaceous sediments

Alteration/Mineralization: Minor pyrite ± magnetite(?) associated with quartz ± garnet ± diopside skarn

Conditions of Formation: Amphibolite facies regional metamorphism or hornblende-hornfels contact metamorphism, with some remobilization of calc-silicate minerals during metamorphism yielding local garnet-diopside skarn.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD

For Nexus/Goldenrod

Date 87-02-28

Project V226 - HOLT

Collector Terry Naciuk

Sample V226-3456

Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Altered diabase

Hand Specimen: 2 x 2 x 4 cm. Dark green crystalline rock with darkest grains (1-3 mm) making up 20-25%. Long, thin greyish grains (0.5 mm x 5 mm) form mat-like texture (40-50%); they may be twinned feldspar. Superimposed on this background are tiny white angular grains (0.1 mm; 5-10%) and pale brown "wisps" (less than 0.1 mm x 5 mm; 5%). Pale green groundmass may be chlorite.

THIN SECTION (Polished No):

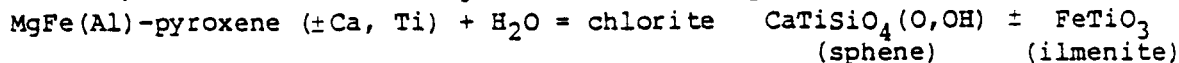
% (Approx.) MINERALS

- 40-50% Plagioclase - subhedral laths in random glomeroporphyritic textures. Carlsbad and/or albite twins; (-)2v = 80°. Not altered except for growth of chlorite between Carlsbad twins
- 30-40% Chlorite - anomalous blue birefringence; pale green pleochroism; surrounds plagioclase
- 5% Spene - brown, high relief, anhedral grains (whitish in hand specimen)
- 5% Opaques - lath-like ilmenite(?) ("wisps"); and fine-grained black(?) skeletal grains, formerly blocky subhedral
- <3% Calcite - minor

Rock Textures/Structures: Relict diabasic texture is preserved by feldspar; pyroxene(?) has been completely replaced by chlorite + spene + opaques.

Protolith: Diabase.

Alteration/Mineralization: Plagioclase remarkably unaltered.



Conditions of Formation: Intrusion of mafic basaltic magma, possibly a sill; subsequent alteration of mafic component to chlorite and iron-titanium oxides.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD \_\_\_\_\_

For Nexus/Goldenrod

Date 87-02-28

Project V226 - HOLT

Collector Terry Naciuk

Sample V226-4471

Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Quartz vein

Hand Specimen: (1 x 1.5 x 4 cm chip only.) Rusty, vuggy quartz vein material with tiny silvery sparkles in rusty areas. They may be sulphides and/or sericite.

THIN SECTION (Polished No):

% (Approx.) MINERALS

- |       |  |
|-------|--|
| 80%   | Quartz - various grain sizes, mostly sutured boundaries, undulose extinction; microcrystalline masses to comb quartz                           |
| 10%   | Sericite - colourless, fine-grained mica, medium biref., associated with microcrystalline quartz; may include some very pale green chlorite(?) |
| 5-10% | Iron oxides(?) - brown areas, golden-brown to dark brown, high relief  |
| < 5%  | Opaques - square holes, probably relict pyrite, surrounded by brown iron oxides; and fine-grained grains                                       |

Rock Textures/Structures: Variable grain size of quartz; there may be relict, silicified host rock, all quartz; vugs imply open space filling.

Alteration/Mineralization: Silicification, minor pyrite (oxidized).

Conditions of Formation: Hydrothermal vein origin.

PETROGRAPHIC REPORT

by J.S. Getsinger, PhD \_\_\_\_\_

For Nexus/Goldenrod

Date 87-02-28

Project V226 - HOLT

Collector Terry Naciuk

Sample V226-9301

Date Collected 1986

Location: Holt claims, Victoria M.D., Vancouver Island, B.C.

Rock Type: Chert with pyrite on fractures

Litho geochemistry: 20 ppb Au, 1.6 ppm Ag, 260 ppm As, 129 ppm Cr, 3.69% Fe, 1 ppm Mo, 50 ppm Pb, 130 ppm Zn.

Hand Specimen: Rusty black to grey, fractured chert with pyrite common on fractures (grain size <0.5 mm), euhedral cubes to anhedral. Rock is low-density due to open spaces along thin quartz veinlets (15% of rock). Fractures (<2 mm) filled with finely granular pyrite occur crosscutting fractured chert but are crosscut and displaced (3 mm) by open quartz veinlets (<1 mm). Pyrite (<2%), all on fractures. No layering is apparent in hand specimen.

THIN SECTION (Polished No):

% (Approx.) MINERALS

90% Quartz - in veins; and very fine-grained chert  
5-10% Pyrite - on fractures, with some reddish iron oxide.  
(Sample selected to show mineralization; pyrite is <2% of rock total)  
1- 2% Opaque dust

Rock Textures/Structures: Rock is evenly microcrystalline, probably chert. Pyrite occurs on veinlets up to 3 mm wide with quartz. Quartz-bearing microfractures occur throughout rock. No layering was observed in the chert.

## ROCK DESCRIPTION

"Fossil V226": Nanaimo Group sandstone

Fine to medium-grained, medium-well sorted, grey-beige sandstone with rust staining. The grains are subangular to angular, with <1% fragments up to 2 mm across. No reaction to HCl; may contain clay.

There is no bedding visible in hand specimen but some bioturbation is present. This rock contains a brachiopod(?) fossil (possible Rychonellid Order) and a possible cast of a Belemnite(?).

The brachiopod(?) fragment is about 1 cm across and has 1 mm ribs.

The rock is presumed to be Cretaceous as it is mapped as Nanaimo Group sediment.

**Appendix IV**

**LABORATORY METHODS**



1986.

ASSAY PREPARATION PROCEDURE.

Rosbacher Laboratory Ltd.

1. Unpack and sort core or rock samples, put in numerical order, and prepare analytical sheets and pulp bags.
2. Place samples in drying oven to dry.
3. Crush samples using jaw crusher, and cone crusher to approx. 1/8 th inch or finer
4. Using a Jones splitter, split out approx. 300 gram sample for analysis. Rebag the remaining coarse fraction, and store.
5. Dry the coarse assay fraction further if necessary.
6. pulverize assay fraction to - 150 mesh using a Ring Grinder, and forward to Assay room for analysis. Clean Ring Grinder barrel using granite grit after each sample.

# Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,  
BURNABY, B.C.  
CANADA  
TELEPHONE: 299-6910  
AREA CODE: 604

## METHODS OF ANALYSIS, 1987

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( Short description of selected methods.)

### GEOCHEMICAL:

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Gold: 10 Grams of -80 mesh soil, or -100 mesh pulverized silt or rock sample is roasted at 550 deg.C, and digested with Aqua Regia. The dissolved Gold is then extracted with Methyl Isobutyl Ketone, and the resulting solution analysed using Atomic Absorption spectroscopy.

Multi Element ICP : 0.5 Grams of sample is digested with a 3-1-2 dilute Aqua Regia mixture, and analysed using Inductively Coupled Plasma Spectroscopy.

### ASSAY:

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Gold ( A.A.): 30 gram -100 mesh sample is roasted at 550 deg C and digested with Nitric Acid, followed by a double digestion with Aqua Regia. The resulting solution is extracted using Methyl Isobutyl Ketone, and analysed using Atomic Absorption Spectroscopy.

Gold ( F.A.): 15 or 30 gram -100 mesh sample is fused using standard Fire Assay fluxes, the resulting Au/Ag/Lead button is cupelled, and the Au/Ag bead analysed using Atomic Absorption, or a Gravimetric finish.

Silver, Lead, Zinc, or Copper: a 0.5 to 5.0 gram sample is digested with the appropriate acid, or acid combination and analysed by Atomic Absorption Spectroscopy.

# Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

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TELEPHONE: 299-6910  
AREA CODE: 604

Jan. 1985

(1)

## GEOCHEMICAL ANALYTICAL METHODS CURRENTLY IN USE AT ROSSBACHER LABORATORY LTD.

### A. SAMPLE PREPARATION

1. *Geochem. Soil and Silt:* Samples are dried, and sifted to minus 80 Mesh, through stainless steel, or nylon screens.
2. *Geochem. Rock:* Samples are dried, crushed to minus  $\frac{1}{4}$  inch, split, and pulverized to minus 100 mesh.

### B. METHODS OF ANALYSIS

1. *Multi element:* (Mo, Cu, Ni, Co, Mn, Fe, Ag, Zn, Pb, Cd):  
0.5 Gram sample is digested for four hours with a 15:85 mixture of Nitric-Perchloric acid.  
The resulting extract is analyzed by Atomic Absorption spectroscopy, using Background Correction where appropriate.
2. *Antimony:*  
0.50 Gram sample is fused with Ammonium Iodide and dissolved.  
The resulting solution is extracted into TOPO/MIBK and analyzed by Atomic Absorption spectroscopy.
3. *Arsenic:*  
0.25 Gram sample is digested with Nitric-Perchloric acid.  
Arsenic from the solution is converted to arsine, which in turn reacts with silver D.D.C. The resulting solution is analyzed by colorimetry.
4. *Barium:*  
0.50 Gram sample is repeatedly digested with  $\text{HClO}_4$ - $\text{HNO}_3$  and HF.  
The solution is analyzed by Atomic Absorption spectroscopy.
5. *Biogeochemical:*  
Samples are dried, and ashed at  $550^\circ\text{C}$ . and the resulting ash analyzed as in \*1, multielement analysis.
6. *Bismuth:*  
0.50 Gram sample is digested with Nitric acid. The solution is analyzed by Atomic Absorption spectroscopy.
7. *Chromium:*  
0.25 Gram sample is fused with Sodium Peroxide. The solution is analyzed by Atomic Absorption spectroscopy.

# Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

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AREA CODE: 604

(2)

## METHOD OF ANALYSIS (CONT.)

8. *Fluorine:* 0.50 Gram sample is fused with a Carbonate Flux, and dissolved.  
The resulting solution is analyzed for Fluorine by use of an Ion Selective Electrode.
9. *Gold:* 10.0 Gram sample is roasted at 550°C. and dissolved in Aqua Regia. The resulting solution is subjected to a Methylisobutyl Ketone extraction, which extract is analyzed for Gold using Atomic Absorption spectroscopy.
10. *Mercury:* 1.00 Gram sample is digested with Nitric and Sulfuric acids. The solution is analyzed by Atomic Absorption spectroscopy, using a cold vapor generation technique.
11. *Partial Extraction and Fe/Mn oxides:* 0.50 Gram sample is extracted using one of the following: Hot or cold 0.5 N. HCL, 2.5% E.D.T.A., Ammonium Citrate, or other selected organic acids. The solution is analyzed by use of Atomic Absorption spectroscopy.
12. *pH:* An aqueous suspension of soil, or silt is prepared, and its pH is measured by use of a pH meter.
13. *Rapid Silicate Analysis:* 0.10 Gram sample is fused with Lithium Metaborate, and dissolved in  $\text{HNO}_3$ .  
The solution is analyzed by Atomic Absorption for  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{MgO}$ ,  $\text{CaO}$ ,  $\text{Na}_2\text{O}$ ,  $\text{K}_2\text{O}$ ,  $\text{TiO}_2$ ,  $\text{P}_2\text{O}_5$ , and  $\text{MnO}$ .
14. *Tin:* 0.50 Gram sample is sublimated by fusion with Ammonium Iodide, and dissolved.  
The resulting solution is extracted into TOPO/MIBK and analyzed by Atomic Absorption spectroscopy.
15. *Tungsten:* 1.00 Gram sample is sintered with a carbonate flux, and dissolved.  
The resulting extract is analyzed colorimetrically, after reduction with Stannous Chloride, by use of Potassium Thiocyanate.