Summary Report

for

Drill Program

on the

DV Property

Fort Steele Mining Division,

82 G/11W and 82 G/12E

Latitude: 49° 36' N, Longitude: 115° 28' W

for

Big B Resources Inc.
3977 Woodlands Drive
Trail, B.C.
V1R 2V6

by

Richard T. Walker
Dynamic Exploration Ltd.
656 Brookview Cresecent
Cranbrook, B.C.
V1C 4R5

Date: February 10, 2000

SUMMARY

The strata comprising the Aldridge Formation in the western Rocky Mountains differ from those exposed to the west in the Purcell Mountains in that they have facies and thickness changes, diverse lithologies and a unusual carbonate facies near the base not identified farther west. Deposition of the Aldridge Formation in the Hughes Range of the Rocky Mountains was interpreted to have been proximal to the northeastern margin of the (Belt-) Purcell Basin, a huge rift basin extending south into the United States. This basin was gradually filled with sediments over time, from the deep water lithologies of the Aldridge Formation to the shallow water facies of the Creston and Kitchener Formations. Renewed rift activity is documented by the Sheppard and Nicol Creek formations.

Two regionally prominent faults have been episodically active since the Proterozoic and have had significant influence on the stratigraphic and structural history of the Canadian portion of the Purcell Basin. The Moyie - Dibble Creek and St. Mary - Boulder Creek faults both have a northern trend immediately north of the U.S. border and undergo a change to an essentially eastward trend near Cranbrook. These faults were interpreted to define a failed rift arm (an aulocogen). The Moyie - Dibble Creek fault has been subsequently interpreted as a flexure or monocline at the northern margin of a topographic high on the eastern margin of the Purcell Basin. This high standing block is known as Montania. Facies and thickness changes described from the Aldridge Formation in the Hughes Range may reflect proximity to Montania as well as movements on the (St. Mary-) Boulder Creek and (Moyie-) Dibble Creek faults. These faults may have localized a sub-basin within the Purcell Basin, similar to the Sullivan sub-basin (the "North Star Corridor"). A stratiform Pb-Zn occurrence (the Kootenay King deposit) was identified and mined in this sub-basin, however the source of mineralization for the deposit was not identified.

The entire stratigraphic package was transported to the northeast during the Laramide Orogeny in the hanging wall of the Hosmer Thrust. Based on detailed mapping in the southern Hughes Range, the rock mass was interpreted to have been initially transported to the southwest up and over the Dibble Creek monocline where it subsequently underwent extension due to gravitational settling. Igneous intrusions having granitoid compositions (composite syenitic to monzonitic dykes, stocks and plutons) were emplaced into the stratigraphic package in the Late Cretaceous (115 Ma), constraining the latest movement on some faults (i.e. the Moyie (-Boulder Creek fault). In addition, at least one of the intrusions appears to have played a role in localizing economic mineralization (i.e. the syenite stock at the Estella mine).

Finally, there is abundant evidence of mineralized fluids which pervaded the strata comprising the southern Hughes Range, resulting in alteration and mineralization of the host rocks. The Bull River Mine is comprised of two open pits located on at least seven zones of steeply dipping sheared and fractured rock, perhaps related to the Bull Canyon Fault. In addition, minor production was documented from the Dibble Crown Grants and the Victor Vein, both interpreted by the author to be related to hydrothermal activity along and/or proximal to fault planes.

Structural mapping of the DV property supports a very strong association between areas of mineralization and major faults or fault zones. Furthermore, the association of mineralization identified to date with either variable zones of alteration and/or quartz veins along planar discontinuities such as fractures and faults, has been interpreted by the author as a result of hydrothermal activity.

A linear geophysical anomaly was identified on the G.S.C. 8465G (Fernie) mapsheet, which is actually comprised of three magnetic highs. In general, the aeromagnetic data for the region defines a rather uniform gradient from east to west which is deflected by strong magnetic closures (anomalies) coincident with granitoid intrusions (i.e. the Reade Lake, Kiakho and Wild Horse stocks). Therefore, the magnetic anomalies underlying the DV property are inferred to reflect a granitoid intrusion, probably a dyke, at depth. Numerous, smaller granitoid dykes, sills and small plugs have been reported throughout the Hughes Range.

In the spring of 1999, all available data for the DV property was reviewed and necessary work permits secured to facilitate diamond drilling key areas of the property. Target Drilling Inc. of Calgary, Alberta was mobilized on May 23 and drilling commenced on May 24. A total of 5 separate holes were attempted, four on the BOX grid (99-4, 5, 6 and 8) and one (99-7) on the DIBBLE grid. Drill holes 99-4, 5 and 8 were aborted due to poor drilling conditions, a combination of both overburden (99-4) and faulted ground (99-5 and 8). Drill hole Box 99-6 was completed to a depth of 165.8 m and hole DIBBLE 99-7 to a depth of 167.63 m.

A total of 56 samples were taken from the drill core, half of which was sent for analysis. The remaining core was stored with the uncut core at 3750 Silver Spring Drive. All 56 drill core samples and one rock sample were submitted to Eco-Tech Laboratories Ltd. in Kamloops, BC for 28 element ICP analysis.

In addition, a total of 113 GPS points were collected using a Magellan Pro-Mark X-cm receiver, subsequently differentially corrected using base station files downloaded from BC Online for the Invermere station. The data were collected to evaluate the accuracy of positions of soil and geophysical grids on the ground relative to their plotted positions. Uncertainty of plotted position relative to ground position is of particular concern on the BOX grid due to the presence of strongly magnetic gabbro intrusives underlying and immediately adjacent to the BOX Reverted Crown Grant. The differentially corrected data was not utilized in this report (except for drill locations).

TABLE OF CONTENTS

Page

Summary i
Introduction 1
Location and Access 5
Physiography and Climate 5
Claim Status 6
History 9
Regional Geology 13
  Stratigraphy 13
    Proterozoic 13
      Fort Steele Formation 13
      Aldridge Formation 13
      Creston Formation 16
      Kitchener Formation 19
    Devonian 20
      Basal Devonian Formation 20
    Intrusives 20
      Moyie Intrusives 20
      Meta-Gabbros to Meta-Diorites 21
      Granitic Intrusions 21
  Structure 22
  Mineralization 24
    Stratabound Clastic Hosted Deposits 24
      Kootenay King 24
    Vein Deposits and Occurrences 25
      Copper Veins 25
        Bull River 26
        Dibble 26
        Eagle Plume 26
        Eagle's Nest 26
        Eagle Too 27
      Lead-Zinc Veins 27
        Estella 27
        Victor 27
        Box 28
      Gold Veins 28
    Sedimentary Copper Deposits 29
Local Geology 30

Dibble Creek Fault 32
1999 Program 34
Discussion and Interpretation 35
BOX 99-6 36
DIBBLE 99-7 38
Conclusions 40
Recommendations 43
Proposed Budget 44
References 46

LIST OF FIGURES

	Page
Figure 1 - Regional Location Map	2
Figure 2 - Simplified Geology Map for eastern Purcell and western Rocky Mountains around Cranbrook	3
Figure 3 - Claim map for 82 G/11W and 82 G/12E	8
Figure 4 - Minfile Occurrence Map (modified from Geoscience Map 1995 - 2)	10
Figure 5 - Local Geology Map (modified from McMechan 1980)	14
Figure 5 - Legend for Local Geology Map	15
Figure 6 - Cu, Pb, Zn Soil Geochemistry - BOX Grid	In Back Pocket
Figure 7 - Ag, Au Soil Geochemistry - DIBBLE Grid	In Back Pocket
Figure 8 - Hole 99-6 Cross-section	In Back Pocket
Figure 9 - Hole 99-7 Cross-section	In Back Pocket

LIST OF APPENDICES

Appendix A - Statement of Qualifications
Appendix B - Statement of Expenditures
Appendix C - Drill Logs
Appendix D - Analytical Data
Appendix E - GPS Data
Appendix F - Program Related Documents
Appendix G - Figures

INTRODUCTION

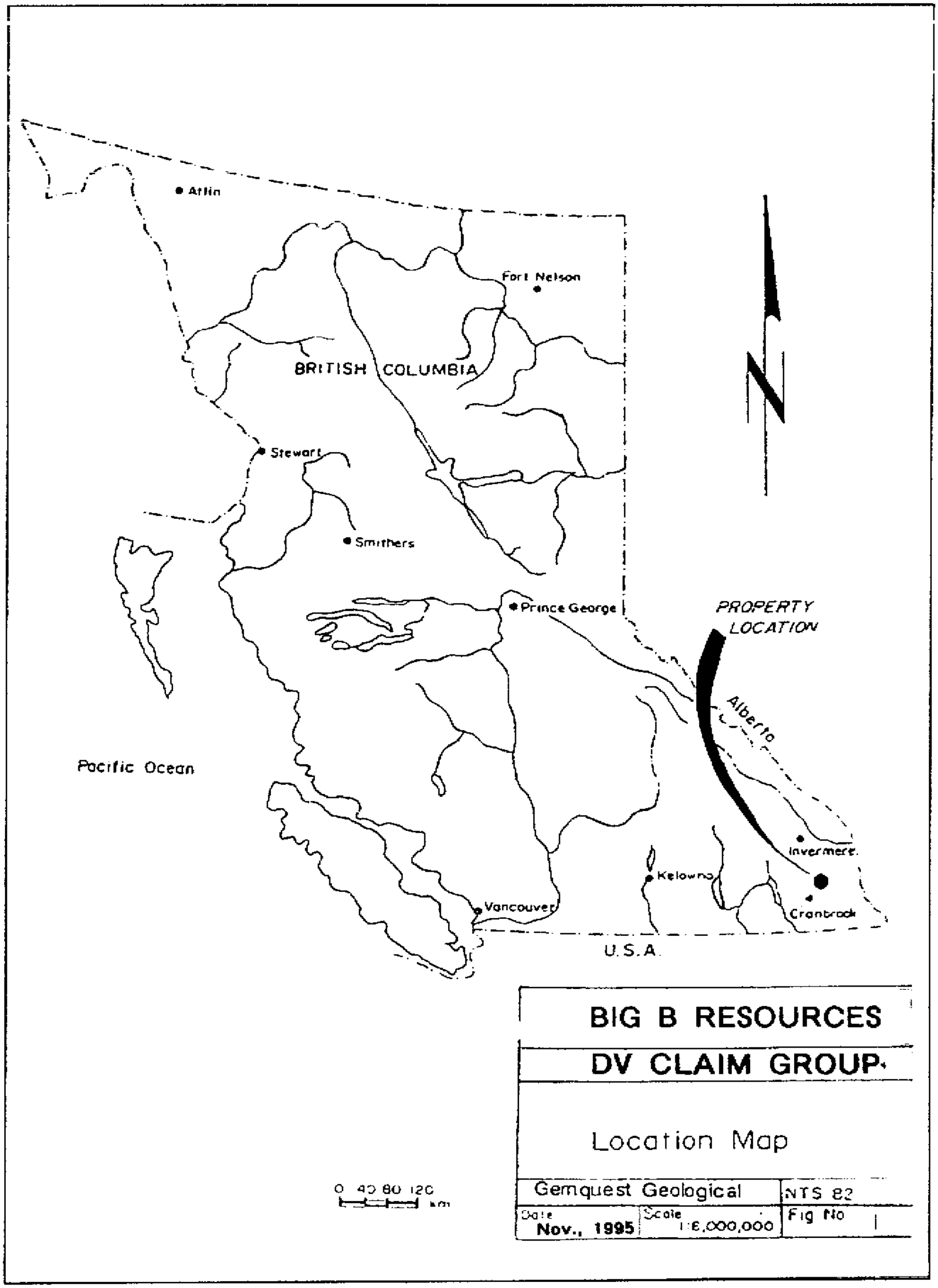
The following synopsis of the geology of the Hughes Range (Fig. 1) in the western Rocky Mountains has been taken from Höy (1993):

"... Middle Proterozoic strata of the Purcell Supergroup exposed in the Fisher Peak area (Fig. 2) consist of a turbidite sequence gradationally overlain by shallow water, dominantly intertidal deposits that periodically grade into subtidal or subaerial deposits ... Thickness variations in the lower two units (of the Purcell Supergroup) outline a north-trending basin margin that is deflected more than 200 km westward near 49°N latitude. The rectilinear shape can be ascribed to deeply rooted block faulting associated with the development of a Proterozoic continental rift ... Thickness and facies relationships in Purcell strata indicate that the St. Mary - Boulder Creek and Moyie - Dibble Creek fault systems follow a northeast-trending Proterozoic aulocogen-type structure that has been outlined further east by geophysical methods.

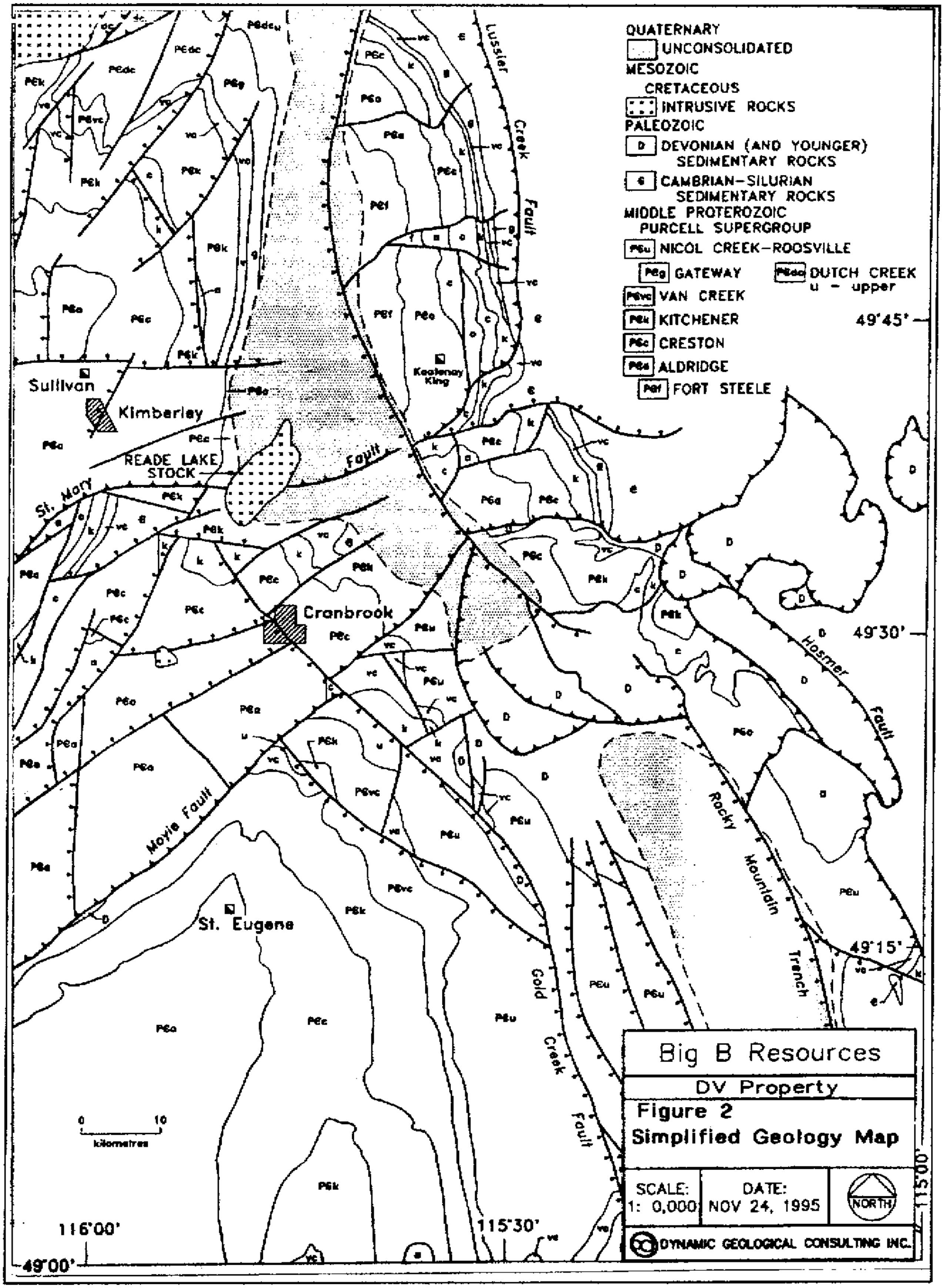
Three distinct episodes of regional metamorphism affected Purcell strata exposed in the Mt. Fisher area and the southern Purcell Mountains. The oldest metamorphic episode (1300-1350 Ma) approximately coincides with the termination of Belt - Purcell sedimentation. It was associated with east-west compression that resulted in the formation of north-trending folds, and at lower stratigraphic levels, a north-trending cleavage. A Late Proterozoic (800-900 Ma) metamorphic episode accompanied the regional uplift and block faulting (rifting?) that initiated Windermere sedimentation in the southern Purcell Mountains. Mesozoic metamorphism completely overprinted the earlier metamorphic assemblages along the Kootenay arc, in the region of intense Cretaceous-Paleocene deformation along the Dibble Creek fault, and in the upper Purcell strata north of the St. Mary - Boulder Creek fault.

The overall structural geometry of the Mt. Fisher area is controlled by the position and orientation of ramps connecting bedding-glide zones in the underlying Hosmer thrust. The thrust formed across a pre-Devonian, northwest-facing structure of crustal dimensions, the Dibble Creek monocline, that is now the locus of the Moyie - Dibble Creek fault ...

The evolution of anomalous northeast-trending structures in the region north of the Dibble Creek fault can be attributed to the southeastward displacement of the rock mass up and over the Dibble Creek monocline. Gravitational resistance to displacement up the monocline resulted in compression and the formation of northeast-trending thrust faults, folds and cleavage. After crossing the top of the monocline, the rock mass was then extended by lateral gravitational spreading, and normal displacement was induced along the pre-existing thrust faults" (McMechan 1980).



Atlin
Fort Nelson
BRITISH COLUMBIA
Stewart
Smithers
Prince George
PROPERTY LOCATION
Alberta
Pacific Ocean
Invermere
Kelowna
Cranbrook
Vancouver
U.S.A.
0 40 80 120
km
BIG B RESOURCES
DV CLAIM GROUP
Location Map
Gemquest Geological
NTS 82
Date Nov., 1995
Scale 1:6,000,000
Fig No 1


QUATERNARY
UNCONSOLIDATED
MESOZOIC
CRETACEOUS
INTRUSIVE ROCKS
PALEOZOIC
DEVONIAN (AND YOUNGER) SEDIMENTARY ROCKS
CAMBRIAN-SILURIAN SEDIMENTARY ROCKS
MIDDLE PROTEROZOIC PURCELL SUPERGROUP
NICOL CREEK-ROOSVILLE
GATEWAY
DUTCH CREEK u - upper
VAN CREEK
KITCHENER
CRESTON
ALDRIDGE
FORT STEELE
49°45'
49°30'
49°15'
49°00'
116°00'
115°30'
115°00'
Lussier Creek Fault
Sullivan
Kimberley
READE LAKE STOCK
St. Mary Fault
Kootenay King
Cranbrook
Hosmer Fault
Moyie Fault
Rocky Mountain Trench
St. Eugene
Gold Creek Fault
0 10 kilometres
Big B Resources
DV Property
Figure 2
Simplified Geology Map
SCALE: 1: 0,000
DATE: NOV 24, 1995
NORTH
DYNAMIC GEOLOGICAL CONSULTING INC.

The DV property lies in the Hughes Range of the western Rocky Mountains and comprises a portion of the stratigraphic and structural package described above. The area, including the DV property, has been previously mapped at a regional scale by Leech (1958) and McMechan (1980). In addition, detailed mapping on small grids within the DV property have been reported in previous programs (Ditson 1987, Rodgers 1988, Olfert 1986, 1984).

In the spring of 1999, all available data for the DV property was reviewed and necessary work permits secured to facilitate diamond drilling key areas of the property. Target Drilling Inc. of Calgary, Alberta was mobilized on May 23 and drilling commenced on May 24. A total of 5 separate holes were attempted, four on the BOX grid (99-4, 5, 6 and 8) and one (99-7) on the DIBBLE grid. Drill holes 99-4, 5 and 8 were aborted due to poor drilling conditions, a combination of both overburden (99-4) and faulted ground (99-5 and 8). Drill hole Box 99-6 was completed to a depth of 165.8 m and hole DIBBLE 99-7 to a depth of 167.63 m.

A total of 56 samples were taken from the drill core, half of which was sent for analysis. The remaining core was stored with the uncut core at 3750 Silver Spring Drive. All 56 drill core samples and one rock sample were submitted to Eco-Tech Laboratories Ltd. in Kamloops, BC for 28 element ICP analysis.

In addition, a total of 113 GPS points were collected using a Magellan Pro-Mark X-cm receiver, subsequently differentially corrected using base station files downloaded from BC Online for the Invermere station. The data were collected to evaluate the accuracy of positions of soil and geophysical grids on the ground relative to their plotted positions. Uncertainty of plotted position relative to ground position is of particular concern on the BOX grid due to the presence of strongly magnetic gabbro intrusives underlying and immediately adjacent to the BOX Reverted Crown Grant. The differentially corrected data (Appendix D) was not utilized in this report (except for drill locations).

LOCATION AND ACCESS

The property can be accessed by two wheel drive vehicle from Cranbrook (Fig. 2 and 3) by approximately 36 kilometres of paved and rough gravel roads to the northern claim boundary along Maus Creek, or approximately 30 kilometres of paved and dirt roads / trails to Sunken Creek and/or Horseshoe Creek on the western claim boundary. There are reasonably good trails to the headwaters of Maus Creek and over into both Sunken Creek and the unnamed valley to the northeast. In addition, there are good trails along Sunken Creek and Horseshoe Creek. Finally, access is apparently possible from the northern end of Cliff Lake, from the Tanglefoot Creek area, into the northeast portion of the claims.

The drill program was helicopter-supported so as to limit the impact on the property. Bighorn Helicopters of Cranbrook provided helicopter support for drill and crew moves for the duration of the drill program.

PHYSIOGRAPHY AND CLIMATE

The DV property is located on the eastern margin of the Rocky Mountain Trench (Fig. 2) in the Western Ranges of the Rocky Mountains. The property is characterized by moderate to high relief with elevation ranging between 915 metres (3000 feet) on the western margin of the property to 2523 metres (8280 feet) on an unnamed peak almost due north of Hungary Peak (immediately south of the property's southeast boundary). The area gets higher snowfall than the Rocky Mountain Trench and is available for exploration from early May (at lower elevations) to late October. Snow persists at higher elevations into late June.

Vegetation in the area consists of predominantly coniferous trees (Larch and Balsam) with lesser deciduous and sparse undergrowth consisting of slide alder and bushes. However, slide chutes and creeks have thicker undergrowth. The headwaters of Maus Creek and the unnamed valley to the north are sub-alpine and are comprised of larch and balsam. The south facing slopes at the headwaters of Horseshoe Creek are dry and therefore have relatively sparse tree cover and little undergrowth.

CLAIM STATUS

The DV property is located approximately 24 kilometres northeast of Cranbrook (see Fig. 2). The property consists of 125 claim units and 7 full or partial Reverted Crown Grants (Fig. 3). All claim information has been checked at the Gold Commissioners office in Cranbrook, B.C. and was current as of January 6, 2000 (see Appendix F). Pertinent claim data is tabulated below:

MODIFIED GRID CLAIMS

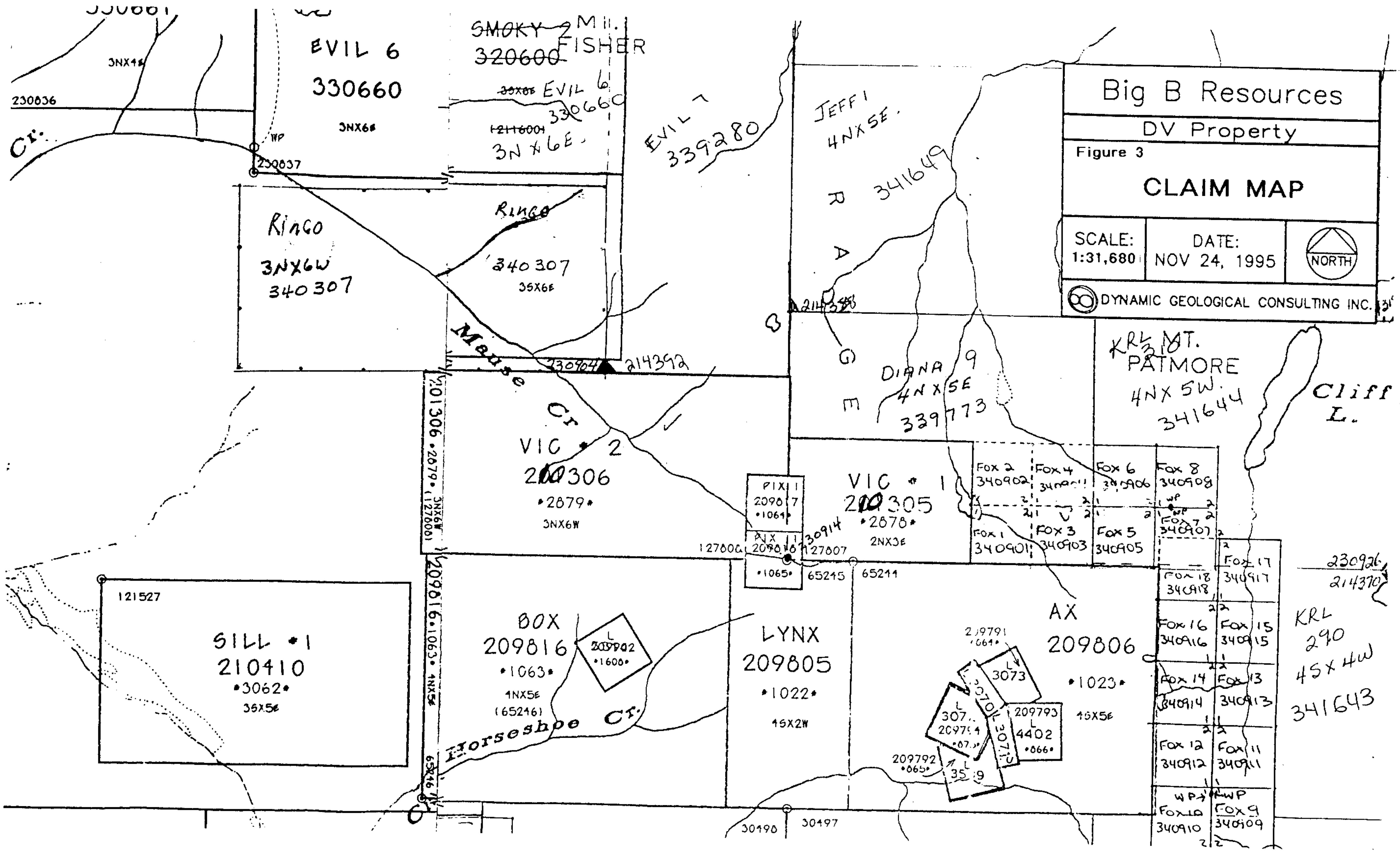
CLAIM	TENURE NO.	UNITS	RECORD DATE	EXPIRY DATE
SILL #1	210410	15	Feb. 10, 1998	Feb. 10, 2008
VIC 1	210305	6	Apr. 29, 1987	Apr. 29, 2007
VIC 2	210306	18	Apr. 29, 1987	Apr. 29, 2007
PIX 1	209817	1	July 15, 1980	July 15, 2007
PIX 2	209818	1	July 15, 1980	July 15, 2007
AX	209806	20	July 30, 1980	July 30, 2007
LYNX	209805	8	July 30, 1980	July 30, 2007
BOX	209816	20	Sept. 15, 1980	Sept. 15, 2007
RINGO	340307	18	Sept. 22, 1995	Sept. 22, 2007
	Total:	107		

TWO-POST CLAIMS

CLAIM	TENURE NO.	UNITS	RECORD DATE	EXPIRY DATE
FOX 1	340901	1	Oct. 7, 1995	Oct. 7, 2007
FOX 2	340902	1	Oct. 7, 1995	Oct. 7, 2007
FOX 3	340903	1	Oct. 7, 1995	Oct. 7, 2007
FOX 4	340904	1	Oct. 7, 1995	Oct. 7, 2007
FOX 5	340905	1	Oct. 7, 1995	Oct. 7, 2007
FOX 6	340906	1	Oct. 7, 1995	Oct. 7, 2007
FOX 7	340907	1	Oct. 7, 1995	Oct. 7, 2007
FOX 8	340908	1	Oct. 7, 1995	Oct. 7, 2007
FOX 9	340909	1	Oct. 8, 1995	Oct. 8, 2007
FOX 10	340910	1	Oct. 8, 1995	Oct. 8, 2007
FOX 11	340911	1	Oct. 8, 1995	Oct. 8, 2007
FOX 12	340912	1	Oct. 8, 1995	Oct. 8, 2007
FOX 13	340913	1	Oct. 8, 1995	Oct. 8, 2007
FOX 14	340914	1	Oct. 8, 1995	Oct. 8, 2007
FOX 15	340915	1	Oct. 8, 1995	Oct. 8, 2007
FOX 16	340916	1	Oct. 8, 1995	Oct. 8, 2007
FOX 17	340917	1	Oct. 8, 1995	Oct. 8, 2007
FOX 18	340918	1	Oct. 8, 1995	Oct. 8, 2007
	Total:	18		

REVERTED CROWN GRANTS

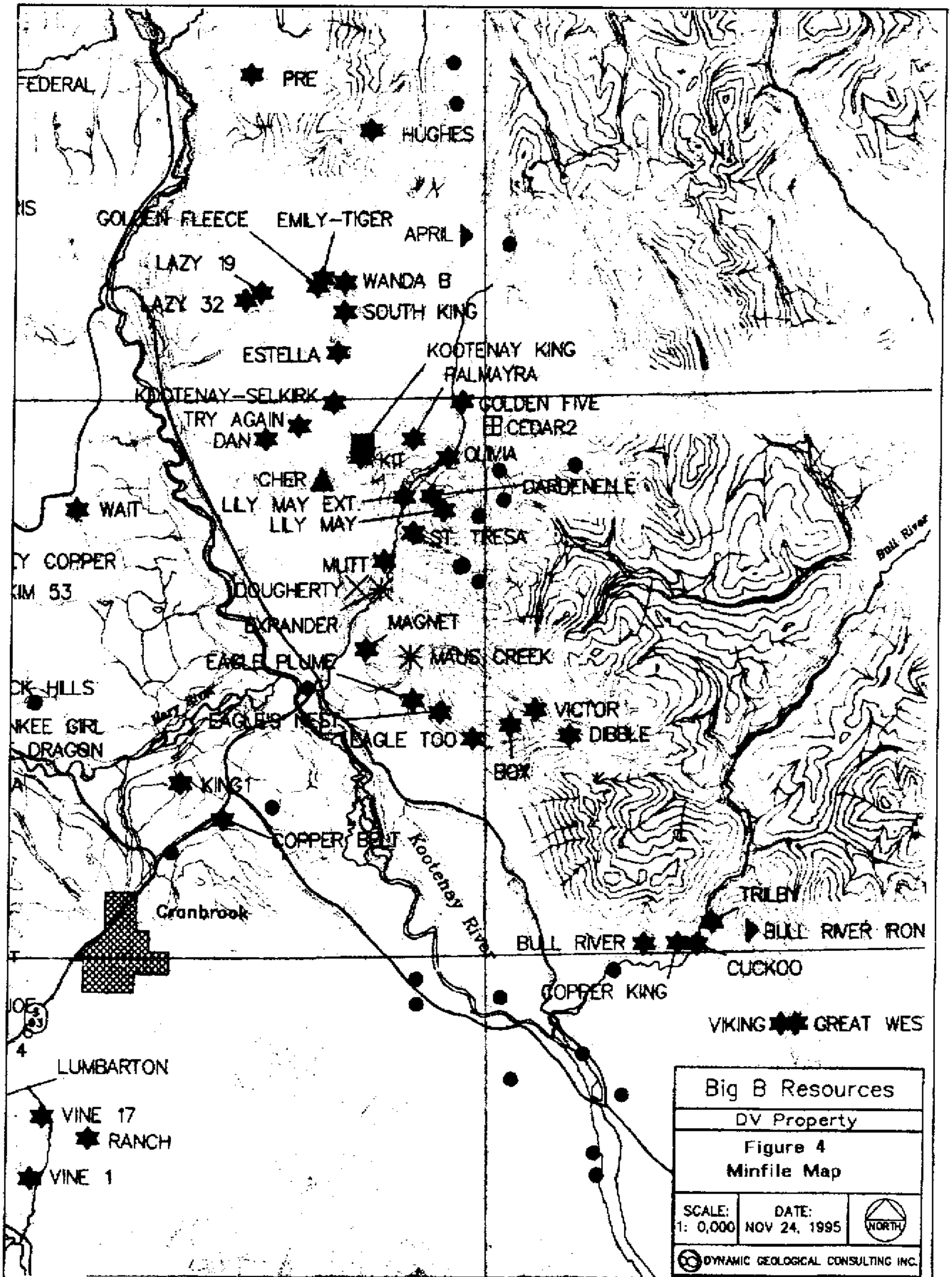
CLAIM	RECORD NO.	LOT	RECORD DATE	EXPIRY DATE
LAST CHANCE FR.	864	3070	Jan. 15, 1980	Jan. 15, 2003
BEAVER FR.	864	3073	Jan. 15, 1980	Jan. 15, 2003
FIRST EXTENSION OF LAST CHANCE	865	3071	Jan. 15, 1980	Jan. 15, 2003
FOSTER	865	3539	Jan. 15, 1980	Jan. 15, 2003
RICHMOND HILL	875	3072	Feb. 4, 1980	Feb. 4, 2007
EMERALD	866	3070	Jan. 15, 1980	Jan. 15, 2003
BIG THREE	1608	5814	Feb. 15, 1980	Feb. 15, 2007
Total:	7 Full or partial claims			


Big B Resources
DV Property
Figure 3
CLAIM MAP
SCALE: 1:31,680
DATE: NOV 24, 1995
NORTH
DYNAMIC GEOLOGICAL CONSULTING INC.
EVIL 6
330660
3NX6E
SMOKY 2
320600
FISHER
EVIL 7
339280
JEFF 1
4NX5E
341649
RINGO
3NX6W
340307
3SX6E
Mouse Cr.
VIC 2
3NX6W
DIANA 9
4NX5E
339773
MT. PATMORE
4NX5W
341644
Cliff L.
VIC 1
2NX3E
PIX
AX
209806
4SX5E
SILL 1
210410
3SX5E
BOX
209816
4NX5E
LYNX
209805
4SX2W
Horseshoe Cr.
Fox 1 340901
Fox 2 340902
Fox 3 340903
Fox 5 340905
Fox 6 340906
Fox 8 340908
Fox 9 340909
Fox 10 340910
Fox 11
Fox 12 340912
Fox 13 340913
Fox 14 340914
Fox 15 340915
Fox 16 340916
Fox 17 340917
Fox 18 340918
KRL 290
4SX4W
341643

HISTORY

The following summary of the history of the DV Property has been taken from Babcock and Babcock (1983). The occurrences are indicated on the accompanying Minfile occurrence map (Fig. 4 - modified from Geoscience Map 1995 - 2).

> The first public record of the Dibble Property on Lost Creek (now Sunken Creek), "a new mineral district", was in 1890. A highgrade sample yielded approximately 4.8 oz Au/T, 500 oz Ag/T, and 12% Cu. In 1895, four tons of handpicked ore were shipped to the smelter at Everett, Washington, returning 0.09 oz Au/T, 132 oz Ag/T, and 3% Cu. Work apparently was conducted annually until 1902, and it was in this period that more than 400 m of tunneling in six portals, plus numerous open cuts were completed. In 1969, Imperial Oil staked 40 claims and conducted geological mapping and geochemical sampling on the property. In 1972, TVI Mining and Athabasca Columbia Resources of Calgary carried out additional rock and dump sampling (65 samples of which 23 were analyzed for Cu and Ag), plus 5.4 km of flagged line, and 4.8 km of VLF-EM surveying. During 1980 and 1981 consulting geologist, C.M. Armstrong, conducted a modest field program on the property involving prospecting, stream sediment sampling, and rock geochemical sampling for F&B Silver.
>
> The first mention of the Victor Property, located at the headwaters of Maus Creek, was in 1904. The existence of Ag, Pb & Zn was recorded. A major portion of the existing tunneling was completed in the following years. In the period 1919 to 1921, a 50 TPD mill was erected, and a 7 Ton "mixed carload of ore and concentrates was shipped in the fall" of 1921. No additional tunneling has been driven since that time. Three adit drifts at about 32 m vertical intervals, aggregating more than 400m, follow a very steep dipping quartz vein normal to a precipitous mountain slope. In 1951, R. Sostad of Vancouver staked the 12 claim Victor group, and F.J. Hemsworth cut several samples of mineralized vein material in the upper and middle tunnels. The values ranged from 0.3 m with 0.02 oz Au/T, 2.0 oz Ag/T, 1.7% Pb, and 14.3% Zn, to 0.15m with 0.48 oz Au/T, 10.8 oz Ag/T, 3.9% Pb, and 23.6% Zn. In 1969, 1970, and 1971, the Victor Mining Corporation (R. Sostad, President) excavated five trenches totalling 64 m, and carried out a limited program of surveying, mapping, sampling and diamond drilling (two shallow holes totalling 64m) in the immediate mine area. G. Blaney cut 19 samples, and F.J. Hemsworth cut 40 samples in the middle and upper tunnels. No history of the Box Claim or Crown Grant L5814 prior to 1980 has been found. During 1980 and 1981 consulting geologist, C.M. Armstrong, P.Eng., conducted a modest field program at the Victor adits and a fairly detailed geochemical soil, silt and rock sampling program on the Box Claim. In 1980, nine representative chip-channel samples taken by C.M. Armstrong in the three tunnels on the Victor vein verified that some ore grade/width combinations were present. A flat-lying quartz lens, the F vein, with spotty, high grade galena


FEDERAL
PRE
HUGHES
GOLDEN FLEECE
EMILY-TIGER
APRIL
LAZY 19
WANDA B
LAZY 32
SOUTH KING
ESTELLA
KOOTENAY KING
PALMAYRA
KOOTENAY-SELKIRK
GOLDEN FIVE
TRY AGAIN
CEDAR2
DAN
KIT
OLIVIA
CHER
DARDENELLE
LILY MAY EXT.
LILY MAY
WAIT
ST. TRESA
COPPER
KIM 53
MUTT
DOUGHERTY
EXPANDER
MAGNET
Bull River
EAGLE PLUME
MAUS CREEK
HILLS
VICTOR
KEE GIRL
EAGLE'S NEST
DIBBLE
DRAGON
EAGLE TOO
BOX
KING1
COPPER BELT
Kootenay River
Cranbrook
TRILBY
BULL RIVER
BULL RIVER IRON
CUCKOO
COPPER KING
VIKING
GREAT WES
LUMBARTON
VINE 17
RANCH
VINE 1
Big B Resources
DV Property
Figure 4
Minfile Map
SCALE:
1: 0,000
DATE:
NOV 24, 1995
NORTH
DYNAMIC GEOLOGICAL CONSULTING INC.

> mineralization was located on the Box Claim near the south strike extension of the Victor vein. During the 1981 investigation of anomalous silt values from the 1980 exploration program on the Box Claim, C.M. Armstrong discovered an "occurrence of a substantial body of brecciated and healed quartzite". Local patches of massive pyrite and chalcopyrite occur in the breccia. The breccia location coincides with a major east-west fault ... During 1981 94 B zone soil samples were collected on the "Breccia Zone" and analyzed for Cu, Pb, Zn, Ag and some Cd. Analysis indicated anomalous results for all elements (sic)."

The property has been subject to considerable exploration on behalf of the present owners (Big B Resources) which includes prospecting, mapping, sampling (at least 1580 soil, 183 rock and 15 silt samples), trenching, airborne (DIGHEM) and ground geophysics (VLF-EM and one conductivity survey) and limited small diameter drilling.

Geochemical sampling has identified numerous geochemical anomalies, probably associated with veins, with highly anomalous gold, silver, lead, zinc and copper values (Sample E35 - 4.10% Cu, 111.5 oz/ton Ag and 3.758 oz/ton Au; 2,710 ppm lead and 1,710 ppm zinc). In addition, several geophysical anomalies (both VLF-EM and conductivity) have been identified, some broadly coincident with geochemical anomalies, pervasive alteration and concordant with local bedding. Others have no identifiable surface expression and are interpreted to be a result of lenses of mineralization at depth (which the small diameter drill program attempted to test but was aborted significantly short of target depth).

The DV property consists of at least three separate areas of interest, the Dibble, Victor and Box showings. The Dibble claims are underlain by upper Aldridge sediments, structurally overlain by siltstones and quartzites of the Creston Formation. The area of the showings lies between two splays of the east-trending Dibble Creek Fault. The strata consist of grey, green and red siltstones with interbedded quartzite horizons. The lithology hosting mineralization are quartz veins, of which two distinct types have been interpreted. Limited historical production took place from narrow, high grade veins (Type I), which appear to have limited lateral continuity. Recent exploration and trenching has concentrated on the wider quartz-pyrite veins (Type II) which may have greater lateral continuity, both on surface and at depth, and therefore have greater economic potential. Geophysics (VLF-EM) has failed to identify any sulfide conductors and the resulting anomalies were interpreted to represent fault zones or water-saturated shears.

The Victor area is hosted entirely by the Creston Formation on the overturned limb of a northeasterly trending anticline. The Victor vein was also the site of limited historical mining activity. Recent exploration of the Victor area has identified several geochemical anomalies (Upper Pond and Flat Veins), which have been tentatively correlated as continuations of the Victor vein, offset by faults. In his report, Armstrong (1980) stated " It is probable that the Victor structure persists to substantial depth ... In addition to sampling and mapping, both diamond drilling and tunnelling are justified to further explore the Victor vein ..."

The Box area is underlain by middle and upper Aldridge strata in fault contact with Creston

Formation to the north. Considerable prospecting and geochemical soil sampling has outlined an anomalous area extending south west from the Pic adits in a belt 1,200 m in length and 300 m wide. Two main areas have been identified having anomalous Pb and Zn values (up to 1000 ppm and 900 ppm respectively). Recent mapping and prospecting outlined an alteration zone 1,000 m by 200 m, coincident with the geochemical anomaly and concordant to the regional strike of predominantly quartzitic Aldridge strata. Alteration includes albitization, pyritization and quartz stringers with sericitic haloes and minor galena. A geophysical survey conducted in 1988 identified a south-southwest trending sub-surface conductivity anomaly at an interpreted depth of 75 m, possibly "... generated from a concentration of small, conductive lenses focussed about a larger lineation and is considered the best electromagnetic target mapped" (Pezzot 1988). Attempts to test this anomaly by drilling (three holes) were hindered by broken ground and the small size of the drill utilized. Core recovery was less than 25% and the maximum depth achieved was 28.65 m, less than half the depth required to test the anomaly. This anomaly remains untested.

A more detailed summary of recent work undertaken on the DV Property can be found in the report by Price (1989).

REGIONAL GEOLOGY

The Mount Fisher area of the Hughes Range in the Western Ranges of the Rocky Mountains was mapped by McMechan and published at a scale of 1:50,000 (McMechan, 1979 - Fig. 5). Recently, a map of the Fernie west-half map sheet was published by Höy and Carter (1988) and subsequently a geological compilation of Ministry of Energy, Mines and Petroleum Resources field work (Höy 1993). The following synopsis for the area has been derived from the above sources.

The stratigraphy of the DV property is comprised predominantly of the middle(?) and upper Aldridge Formation and the Creston Formation of the Purcell Supergroup (Fig. 6). Subordinate exposures of the Kitchener Formation of the Purcell Supergroup are present along the eastern margin of the property across the Mt. Patmore Fault and to the southeast in the footwall of the Dibble Fault, stratigraphically underlying the basal Devonian unit. This stratigraphic succession has been transported northeast in the hanging wall of the Hosmer Thrust, the structurally highest and westmost thrust fault in the southern Rocky Mountains. The stratigraphic succession has been structurally complicated by faulting

Stratigraphy

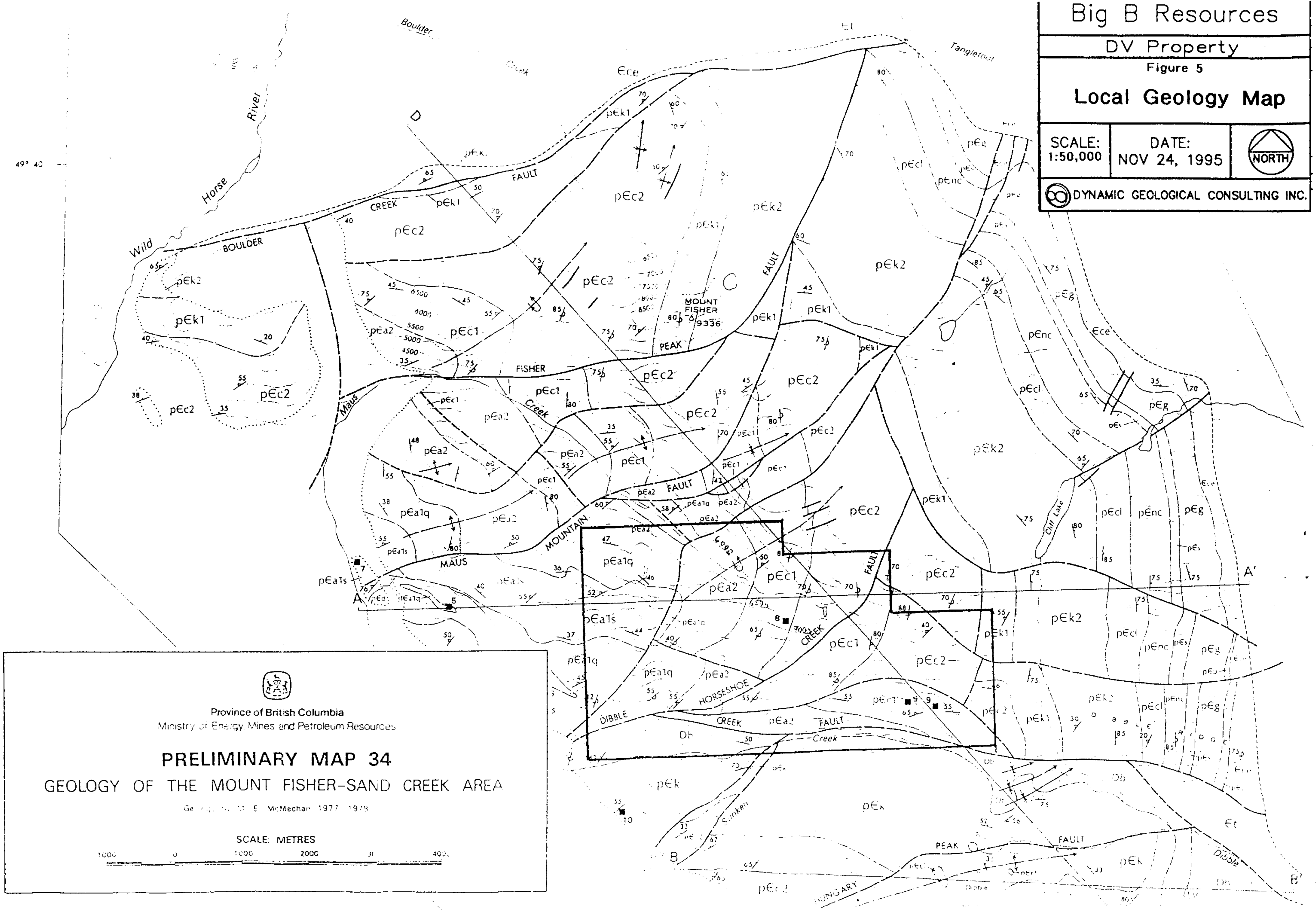
Proterozoic

Fort Steele Formation

The lowest strata of the Purcell Supergroup exposed is the Fort Steele Formation, exposed along the western slopes of the northern Hughes Range in the Rocky Mountains (Fig. 2). The Fort Steele Formation is comprised predominantly of massive quartz arenite, quartz and feldspathic wacke and siltstone. There are no known exposures of the Fort Steele Formation in or adjacent to the DV property.

Aldridge Formation

The Aldridge Formation has been sub-divided into three informal units, the lower, middle and upper Aldridge Formations (Fig. 5). Regionally, the lower Aldridge Formation is comprised of grey weathering quartz wacke and siltstone interbedded with silty argillite. In the northern Hughes Range, lower Aldridge strata (Unit A1) is distinctive with respect to lower Aldridge strata of the Purcell Mountains in that "... it is characterized by diverse lithologies, pronounced facies and thickness variations and a conspicuous carbonate unit near its base" (Höy 1993). Furthermore, the lower-middle Aldridge transition at "Sullivan time" is not recognized and regional correlations in the lower portion of the section remain uncertain. However, regional markers indicate that the upper portion of the lowest division of the Aldridge Formation exposed in the Northern Hughes Range (Unit A1) correlates with the middle part of the middle Aldridge Formation of the Purcell Mountains. Unit A1 has been subdivided into six subdivisions (A1a


Big B Resources
DV Property
Figure 5
Local Geology Map
SCALE: 1:50,000
DATE: NOV 24, 1995
NORTH
DYNAMIC GEOLOGICAL CONSULTING INC.
Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
PRELIMINARY MAP 34
GEOLOGY OF THE MOUNT FISHER–SAND CREEK AREA
SCALE: METRES
2000
MOUNT FISHER
9336
Wild Horse River
BOULDER CREEK FAULT
FISHER PEAK
MAUS MOUNTAIN FAULT
HORSESHOE CREEK
DIBBLE CREEK FAULT
PEAK FAULT
Chill Lake
Tanglefoot
49° 40
A
A'
B
B'
D
pЄc2
pЄk1
pЄk2
pЄc1
pЄa2
pЄa1q
pЄa1s
pЄnc
pЄcl
pЄg
Єce
Єt
Db

Skookumchuck Creek

Pdc1 LOWER DUTCH CREEK
Coarse quartz wacke; stromatolitic, oolitic dolomite; green siltstone-argillite couplets

Pks KITCHENER, NICOL CREEK AND VAN CREEK FORMATIONS

Pnc NICOL CREEK FORMATION
Massive to amygdaloidal basaltic to andesitic lava flows, volcanic and feldspathic sandstone, siltite

- Pnc1 Green, locally purple volcaniclastic siltite, fine wacke and tuffaceous siltstone

Pvc VAN CREEK FORMATION
Green, mauve laminated siltstone and quartz wacke; minor tuffaceous siltstone at top

Pk KITCHENER FORMATION
Grey, black dolomite, limestone; green argillite, dolomitic siltstone

- Pk2 UPPER KITCHENER
  Grey, black dolomite, limestone, molar tooth texture; siltstone, thin quartz arenite beds
- Pk1 LOWER KITCHENER
  Green, beige siltstone, argillite; dolomitic siltstone

Pc CRESTON FORMATION
Green, grey and mauve siltstone, argillite; white, green quartz arenite

- Pc3 UPPER CRESTON
  Siltstone, quartz arenite, argillite
- Pc2 MIDDLE CRESTON
  White, green and mauve quartz arenite and siltstone
- Pc1 LOWER CRESTON
  Grey, black argillite-siltstone couplets, siltstone and siliceous argillite, green siltstone

Pa ALDRIDGE FORMATION
Quartzite, quartz wacke, siltstone, argillite, silty dolomite

- Pa3 UPPER ALDRIDGE
  Rusty weathering argillite and siltstone, thinly laminated
- Pa2 MIDDLE ALDRIDGE
  Grey quartzite, quartz wacke, siltstone; argillite, rusty weathering
- Pa1 LOWER ALDRIDGE
  Rusty weathering siltstone and quartzite with interbeds of silty argillite; quartz wacke

(EAST OF TRENCH)

- Pa2a Quartzite
- Pa2s Siltstone, argillite
- Pa1a Quartzite
- Pa1s Siltstone, argillite
- Pa1sd Silty dolomite

Pf FORT STEELE FORMATION
White quartzite, grey argillaceous quartzite, argillite, grey, black dolomitic and calcareous argillite

Pg GATEWAY FORMATION
Dolomite, quartz wacke, siltstone, argillite

- Pg2 UPPER GATEWAY
  Green siltstone, argillite, dolomite
- Pg1 LOWER GATEWAY
  Quartz wacke, dolomitic sandstone, stromatolitic dolomite, oolitic dolomite, green siltstone

Psh SHEPPARD FORMATION
Sandstone and conglomerate locally at base; dolomitic quartzite, sandstone, oolitic dolomite, stromatolitic dolomite at top

Dibble Property

Legend Figure 5

SYMBOLS

Limit of Mapping or Exposure ....

Geological boundary (defined, approximate, assumed) ....

Unconformity ....

Bedding (tops known, top unknown, vertical, overturned) ....

Cleavage, schistosity ....

Mineral lineation ....

Fault (defined, approximate, assumed) ....

Thrust (teeth in direction of dip) ....

Normal (circle indicates downthrow side) ....

Fold:

through A1f), none of which have been identified in the area of the DV property.

Middle and upper Aldridge strata exposed in the Hughes Range differ from strata exposed in the Purcell Mountains in that the succession is thinner, although lithologically similar, than equivalent strata in the Purcell Mountains. Regionally, the middle Aldridge Formation is comprised of "... thick-bedded, massive to graded quartz arenite and wacke beds, thin-bedded siltstone and, minor argillite. ... The middle Aldridge in the Mount Fisher area ... comprises interbedded "quartzite", siltite and argillite. Although its base is not exposed, it is estimated to be of comparable thickness to the succession in the Moyie Lake area ", in excess of 2800 metres thick (Höy 1993). The upper part of the middle Aldridge "... comprises a number of distinct cycles of massive, grey quartz arenite beds that grade upward into an interlayered sequence of quartz wacke, siltstone and argillite, and are capped by siltstone and argillite" (Höy 1993).

There are two sub-divisions of the middle Aldridge Formation exposed on or immediately adjacent to the DV property, namely units Pa_2 (rusty weathering grey quartzite, quartz wacke and siltstone with subordinate argillite) and Pa_2q (quartzite) (Höy 1993). This differs slightly from the interpretation of McMechan (1980, 1979) in that Höy (1993) utilizes three informal subdivisions for the Aldridge Formation as opposed to two. "The contact with the upper Aldridge is placed above the last bed of massive grey quartz arenite" (Höy 1993).

The upper part of the Aldridge Formation consists mainly of rusty weathering, thin-bedded, dark to medium grey argillite, and thinly parallel-laminated light and dark grey siltite laminae (unit Pa_3 of Höy 1993). Strata of the Aldridge Formation "... grade into those of the overlying Creston Formation over a few hundred metres ... characterized by the increasing abundance of a very thin-bedded, medium-grained siltite ... The top of the Aldridge Formation was defined at the top of the last thick (greater than 10 metres) interval of grey argillite and thinly parallel-laminated siltite" (McMechan 1979). Alternatively, Höy (1993) described the contact between the upper Aldridge and Creston Formations as usually gradational and placed the contact where either green-tinted lenticular bedding or syneresis cracks become noticeable.

Creston Formation

The Creston Formation comprises dominantly green, mauve and grey siltstone, argillite and quartzite which conformably overlies upper Aldridge argillite and siltstone. McMechan (1980) sub-divided the Creston into five lithostratigraphic units (C1 - C5), described from bottom to top:

C1 - the basal unit is comprised predominantly of siltite-argillite couplets composed of light grey or green-grey siltite laminae which are gradationally or sharply overlain by dark grey argillite laminae. Syneresis (desiccation) cracks, load casts, scour-and-fill structures, ripple cross-laminations are locally abundant. This unit is approximately 150 metres in thickness.

C2 - is characterized by dark to light green siltite-argillite couplets and the general absence of quartzite lenses. The unit is also characterized by common scour-and-fill structures and rip-up debris beds with local mudcracks and ripple marks. This unit is 226 metres thick in the Maus Creek area.

C3 - is characterized by purple-purple, green-green or green-purple siltite-argillite couplets. As with unit C2, mudcracks, ripple marks, scour-and-fill structures and rip-up debris beds are locally abundant, however interbedded quartzite lenses (locally having herringbone-crossbeds) are abundant. This unit is also 226 metres thick in Maus Creek.

C4 - is comprised predominantly of coarse-grained, purple-grey, grey or green siltite, with interbedded purple and green siltite-argillite couplets with locally abundant purple colour-mottling and rippled tops. Interbedded quartzite lenses comprise approximately half of the section and are an important constituent of unit C4. Unit C4 is approximately 610 metres thick in Maus Creek.

C5 - consists of green or purple siltite-argillite couplets and green dolomitic siltite-argillite couplets with locally abundant interbedded quartzite lenses. Minor coarse-grained siltite occurs near the near of the unit. Mudcracks and ripple marks are locally abundant in the lower part of the unit but are less common in the upper part whereas ripple cross-laminated lenses of dolomite-cemented, very fine-grained quartzite are locally abundant in green siltite-argillite couplets in the upper part of the unit. This unit is also approximately 600 metres thick at Maus Creek.

Unit C5 grades upward into dolomitic siltstones and argillites of the overlying Kitchener Formation across a transition zone a few hundred metres thick. The contact between the Creston and Kitchener Formations was defined as the top of the last 10 metre thick non-dolomitic siltite and argillite interval within the transition zone. The total thickness of the Creston Formation in the DV property area is approximately 1800 metres.

In subsequent work, Höy (1993) described three main subdivisions: "... a basal silty succession of thin-bedded grey to green siltstone and argillite, a middle quartzite succession of coarser grained mauve siltstone and quartz arenite, and an upper succession of intermixed green argillaceous siltstone and minor quartz arenite. ... The basal two (C1 and C2) comprise dominantly grey and green siltite-argillite couplets, C3 and C4 include the middle, generally mauve-tinged units, and C5, the upper, dominantly green siltite unit".

The following has been paraphrased from Höy (1993):

> "The basal Creston Formation comprises several hundred metres of interlayered argillites, argillaceous siltstone and minor quartz wacke. It is generally grey to dark grey and rusty weathering near the base, but becomes green tinged upsection with increasing siltite component. Thinly laminated argillite or siltite, graded siltite-argillite couplets and lenticular-bedded siltstone are the most abundant bedforms; more massive medium-bedded quartz wacke is less common and brown-weathering silty dolomite layers are occasionally recognized. Syneresis

cracks are common in the thin-bedded argillite and argillaceous siltite units.

The thick, middle part of the Creston Formation comprises mauve or green argillite and siltstone with variable amounts of more massive quartz wacke or arenite. Siltstone-argillite couplets, up to several centimetres thick, dominate the basal section of the middle Creston and differ from units in the basal section as they are commonly purple in colour, thicker bedded and contain abundant mud cracks. Lenses of massive to graded, green, purple, or white quartzite that may contain large tangential crossbeds or wavy, irregular laminations are inter-bedded with the purple siltstone. The quartzites commonly scour the underlying siltstone and may contain numerous rip-up clasts. Coarsening-upward cycles, with massive to laminated purple and green siltstone at the base and interlayered purple siltstone and white quartzite with crossbeds, rip-up clasts, scour-and-fill structures and graded beds at the top have been described at Premier Lake.

A prominent, thick, white orthoquartzite unit occurs near the middle of the middle Creston. It is medium to thick bedded and contains broad trough and tangential crossbeds and numerous rip-up clasts. The upper part of the quartzite unit comprises a number of coarsening-upward cycles, 3 to 10 metres thick, with purple and green siltstones at the base grading up through ripple cross-laminated siltstones and quartzites to massive thick-bedded quartzite at the top. Smaller fining-upward sequences are also common in the middle quartzite interval and overlying siltstone units.

Interbedded mauve siltstone and argillaceous siltstone, white quartz arenite and minor green siltstone overlie the white quartzite unit. Small fining-upward cycles are common, with massive to cross-bedded quartzites at the base and thin-bedded, mud-cracked and rippled argillite or siltstone at the top. Rip-up clasts, mud-chip breccias and some load casts occur throughout these units.

Higher in the succession, laminated green siltstone and graded siltstone-argillite couplets become prominent. Surfaces may be mud-cracked or rippled, but these structures are less prominent than in underlying units. Small fining-upward cycles are common, with thick-bedded, white or green quartzite or more massive siltstone at the base grading up into thin-bedded siltite.

The top generally comprises pale green laminated to massive argillaceous siltstone, commonly with a dolomitic cement. Contact with the overlying Kitchener Formation is gradational and consists of a transitional zone of thin, regularly bedded siltstone-argillite that contains beds of dolomitic, buff weathering argillite. The Kitchener contact is placed at the base of the first appearance of relatively pure, thick dolomite".

Kitchener Formation

The following description has been paraphrased from Höy (1993), with minor additions from McMechan (1980):

> "The Kitchener Formation is readily divisible into lower and upper members, with the upper member further subdivisible into a lower, grey dolomitic unit and an upper interlayered dolomite, silty dolomite and siltstone unit.
>
> The lower member comprises dominantly pale green or locally grey siltstone and dolomitic siltstone interbedded with rusty to buff-weathering silty or argillaceous dolomitic layers typically 1 to 2 metres thick. The siltstone is commonly thinly laminated to thinly-bedded or consists of graded siltstone-argillite couplets. Mudcracks, lenticular beds, crossbeds, ripple marks and basal scours are common structures. Lenses of ripple cross-laminated, dolomite-cemented, very fine-grained quartzite that resemble lenticular bedded, scour-and-fill structures are locally abundant. Grey micritic limestone pods occur locally in some siltstone beds. "Dolomite" layers vary from a dark grey, argillaceous or silty dolomite to tan dolomitic siltstone. They are commonly lenticular bedded or contain discontinuous silt lenses. The thickness of the lower member is between 350 and 500 metres thick
>
> The upper member comprises dominantly dark grey, very thin- to thin-bedded argillaceous or silty limestone and dolomite overlain by a succession of calcareous or dolomitic siltstones. Graded beds, with thin dolomite layers capped by either siltstone or dark grey argillite, are common throughout the upper member. Carbonate layers are commonly finely or irregularly laminated, massive, and locally crossbedded. Molar-tooth structures are locally abundant in silty dolomite layers. Calcareous, dolomitic or non-dolomitic siltstone layers occur throughout the basal part of the upper member but predominate in the upper part. Non-dolomitic siltite and argillite layers become common in the upper 300 metres, are commonly graded with argillite cappings, locally crossbedded, and may have rippled surfaces. Syneresis cracks occur locally, particularly in the upper, more silty section, and mud cracks are uncommon. Thin oolitic layers occur near the base and top of the middle member and occasional layers of stromatolites are present throughout.
>
> In the Steeples block, dolomite occurs as massive beds with or without locally cross-laminated silty dolomitic laminae and is the dominant lithology throughout except in the upper 180 metres where dolomitic and non-dolomitic siltite and argillite predominate. Thick beds of sandy and oolitic dolomite are common between 300 and 400 metres below the top of the member. The upper member is 1175 metres thick in the Steeples block and approximately 1420 metres thick near Cliff Lake in the Fisher block".

Devonian

Basal Devonian

The basal Devonian is characterized by dolomites, sandy dolomites and dolomitic shales that weather buff, yellow, brown, or less commonly red or purple (Leech 1958). The lower portions of the basal Devonian consists of interbedded feldspathic, dolomitic sandstone, dolomite and red mudstone which rests unconformably upon Purcell Supergroup strata (Kitchener Formation) south of the Dibble Creek Fault. The unconformity cuts gently down section as it is traced west. In detail the surface is irregular and the lithology of the lowermost beds varies greatly from place to place. Conglomerate and breccia of local provenance are commonly developed at the base of this unit.

Intrusives

Moyie Intrusives

The following has been paraphrased from Höy (1993):

> "Moyie sills are restricted to the lower Aldridge, the lower part of the middle Aldridge, and to correlative rocks in the northern Hughes Range. Moyie Intrusions generally form laterally extensive sills ... (and) commonly comprise up to 30 per cent of lower and middle Aldridge successions. Their abundance decreases up-section in the middle Aldridge, as the abundance of thick-bedded A-E turbidites decreases.
>
> Moyie sills comprise dominantly gabbro and diorite ... (consisting of) dominantly hornblende and plagioclase phenocrysts, typically up to 5 millimetres in diameter, in a finer grained groundmass of plagioclase, quartz, hornblende, chlorite and epidote. Hornblende phenocrysts, commonly partially altered to chlorite and epidote, are generally subhedral to anhedral with irregular ragged terminations. Plagioclase ... is generally clouded by a fine mixture of epidote and albite (?), particularly in the more calcic cores of zoned crystals. Accessory minerals include leucoxene, commonly intergrown with magnetite, as well as tourmaline, apatite, calcite and zircon.
>
> Zircons from a fresh, massive sample ... were analyzed to determine the intrusive age of the ... Lumberton sill in the middle Aldridge. ... The upper intercept age of 1445 ± 11 Ma is interpreted to be a minimum age for emplacement of the sill. It is close to the 1433 Ma uranium-lead age of the Crossport C sill (Idaho) and a 1436 Ma potassium-argon date from a biotite in the alteration associated with the Sullivan deposit. As the Moyie sills are interpreted to have intruded during Aldridge sedimentation, the date indicates that the Sullivan deposit formed at approximately 1445 Ma and that lower and basal middle Aldridge rocks were

deposited prior to 1445 Ma".

Meta -Gabbros to Meta-Diorites

Fine- to coarse-grained, hornblende-plagioclase metagabbro to metadiorite 'sills' have intruded strata of the Aldridge, Creston and Kitchener formations in the Mount Fisher area. These 'sills' are texturally similar to the Moyie sills in textural appearance, however they are chemically and mineralogically distinct from the Moyie sills and appear to represent a later magmatic event, perhaps related to the Nicol Creek lavas (Höy 1993). Magnetostratigraphic studies suggest that the Nicol Creek lavas were extruded between 1350 and 1400 Ma (Höy 1993).

Granitic Intrusions

No granitic intrusions have been identified on or adjacent to the DV property. However, due to the strong magnetic character of these alkali granitoid bodies (Fig. 7), they are included here for their possible correlation to a distinct magnetic linear identified on regional aeromagnetic data. The following has been paraphrased from Höy (1993):

> "A small, irregular crosscutting stock is exposed in the cirque near the headwaters of Tracy Creek 10 kilometres east of Wasa Lake ... informally referred to as the Estella stock because the worked-out Estella silver-lead-zinc vein occurs near its margin. The stock is in sharp intrusive contact with middle Aldridge Formation siltstone, argillite and minor quartz wacke. The country rock is hornfelsed and locally contains abundant disseminated pyrite; it may be brecciated and cut by *quartz-carbonate-sulphide veins.*
>
> ... Its composition is highly variable and includes quartz monzonite, quartz monzodiorite and syenogranite. Its dominant phase is a porphyry with euhedral potassic feldspar phenocrysts (to 1-2 cm in length) and albite (generally 1 cm) in a fine-grained to aphanitic groundmass of quartz, feldspar and amphibole (?). Disseminated pyrite and quartz veinlets with bleached margins are common. A fine-grained equigranular phase is mineralogically similar to the groundmass of the porphyry phase.
>
> The Estella stock is interpreted to be an epizonal, volatile-rich composite intrusion that was forcibly intruded into middle Aldridge metasedimentary rocks. ... A biotite concentrate from a coarse-grained porphyritic syenite phase of the Estella stock has yielded a 115 Ma date, ... similar to the Reade Lake and Kiakho stocks; however, it should be considered the maximum age of intrusion ... Vein mineralization at the Estella mine may be related to the stock. However, lead-lead dating of galena from these veins yielded a Middle Proterozoic age. It is possible, therefore, that the Estella deposits records Proterozoic mineralization, remobilized by the Middle Cretaceous Estella stock.

A large L-shaped stock intrudes limestone and shale of the McKay Group ... near the divide between Tanglefoot Creek and the east fork of Horsethief Creek (sic. - probably meant Wild Horse Creek). ... The southern part of the stock is a pink porphyritic monzonite and quartz monzonite with medium to coarse subhedral grains of perthitic orthoclase and minor hornblende in a fine-grained groundmass of plagioclase, orthoclase and quartz. The northern part is more varied, with compositions ... ranging from almost equigranular to markedly porphyritic. Two zones of granitic rocks intrude the Gateway and Jubilee formations and the McKay Group just east of the headwaters of Wildhorse Creek. They range in composition from quartz monzonite to monzonite and minor syenite and vary from medium-grained equigranular phases to porphyritic phases. The porphyritic phases are most common, with phenocrysts of potassic feldspar, plagioclase, and less commonly hornblende in a fine to very fine grained groundmass ...

A number of small outcrops of layered monzonite or granodiorite are exposed on the east side of the trench near the mouth of the Bull River. ... Many dikes and small irregular granitic intrusions are also exposed on the east side of the trench between Lewis Creek and Wild Horse River. ... Here, weathered, rounded outcrops of pink to grey intrusive rock occur within hornfelsed siltstone and quartzite of the Fort Steele Formation. ... (The) intrusion is a quartz monzonite to monzogranite. It is porphyritic with subhedral phenocrysts of perthite, commonly overgrown by plagioclase, in a groundmass of anhedral perthite, microcline, plagioclase and quartz. Accessory minerals include apatite, biotite, sphene and opaques; minor secondary minerals include chlorite, epidote and carbonate, and probably replacements of hornblende. Porphyritic dikes of similar compositions, 1 to 2 metres thick, cut orthoquartzites of the Fort Steele Formation up to 1 kilometre south of the main intrusive zone."

Structure

Rocks of the Purcell Supergroup have been affected by several separate phases of deformation, ranging from Middle Proterozoic through to Paleocene. The North American craton underwent two phases of extension, a compressional orogeny and subsequently continental rifting followed by development of a miogeocline. Thrusting and folding associated with development of the Foreland Fold and Thrust belt took place from Cretaceous to Paleocene time and was followed by Eocene extension.

The earliest deformation was associated with extension in the Middle Proterozoic which resulted in block faulting along the margin of the Purcell Basin, coincident with deposition of the Fort Steele and Aldridge formations. Distinct changes in the character of lower Purcell strata of the Hughes Range indicate that the Boulder Creek Fault and the segment of the Rocky Mountain Trench fault north of Boulder Creek represent the eastern and northern edges of the local Purcell Basin, respectively. Dramatic southward increases in coarse-grained sediments in the Northern Hughes Range suggest proximity to growth faults near the margin of the basin. Movement along growth faults is interpreted to have ceased by upper middle to upper Aldridge time.

Voluminous extrusion of basaltic lava (Nicol Creek Formation) in the upper Purcell Supergroup has been interpreted to indicate renewed extension in the Purcell Basin. In addition, dramatic changes in the thickness of the Sheppard and Gateway formations were interpreted to reflect growth faults active during deposition of these strata. A tectonic high has been proposed in the Larchwood Lake area north of Skookumchuck. Variations in the thickness and character of the strata document facies changes which resulted "... from block faulting ..., with erosion and deposition of coarse conglomerates on and at margins of tectonic highs and shallow-water, turbulent carbonate facies deposited in adjacent small basins (Höy 1993).

A late Middle to early Upper Proterozoic (1300 to 1350 Ma) compressional event, the East Kootenay orogeny, has been interpreted based upon evidence for deformation and metamorphism prior to deposition of lower Paleozoic miogeoclinal strata. This event was associated with folding, development of a regional cleavage and granitic intrusions (i.e. 1305±52 Ma Hellroaring Creek stock). Localized high grade metamorphic areas (i.e. Mathew Creek) are related to this tectonic event which is interpreted to have terminated Belt Purcell sedimentation.

The extensional Goat River orogeny occurred during deposition of the Windermere Supergroup (800 to 900 Ma) and is characterized by large-scale block faulting during and perhaps immediately prior to deposition of strata. The Windermere Supergroup is comprised of a basal conglomerate (Toby Formation) overlain by immature clastic and carbonate sediments of the Horsethief Creek Group. The Toby Formation consists of "... predominantly conglomerates and breccias, interpreted to have been deposited in fan sequences adjacent to active fault scarps in large structural basins. Locally, up to 2000 metres of underlying Belt-Purcell rocks have been eroded from uplifted blocks, providing a sediment source ... in adjacent basins" (Höy 1993).

The earlier tectonic events may record incipient rifting, with development of block-faulted, intracratonic structural basins, whereas by early Paleozoic time continental separation had occurred as platformal and miogeoclinal sediments were deposited on a western continental margin. The Laramide orogeny (Late Jurassic to Paleocene) resulted in the horizontal, northeast directed compression of Proterozoic strata and the overlying Paleozoic miogeoclinal prism onto the North American craton. Easterly verging thrust faults and folds developed with normal faults and westerly verging back thrusts and normal faults, resulting in a complex structural pattern. Two major faults, the Boulder Creek - St. Mary and Dibble Creek - Moyie faults (Fig. 2 and 5), have had a significant role in the structural history and fabric of the region, controlling facies and thickness changes in Proterozoic and Paleozoic strata.

"The Boulder Creek fault, one of the more prominent structural features that crosses the generally north-trending structural grain, coincides approximately with a pronounced change in Purcell rocks. The St. Mary fault, the southwestern extension of the Boulder Creek fault, follows the southern edge of a late Proterozoic (Windermere) structural basin. To the south, the northeast-trending Moyie - Dibble Creek fault system coincides with the northwestern flank of Montania, a lower Paleozoic tectonic high. These prominent northeast-trending faults segment the Hosmer thrust sheet into a number of fault-bounded blocks, ... (which include the) Boulder block and Hosmer nappe on the east side. Differential movements occurred on these blocks as the Hosmer nappe first moved northeastward approximately 8 kilometres and then southeastward 12 kilometres " (Höy 1993).

A final episode of north-trending, west-dipping normal faulting took place in the Late Tertiary. The Rocky Mountain Trench is the most prominent and is a listric normal fault having dip-slip separation of at least 5 to 10 kilometres. However, strike slip separation is interpreted to be minimal based on stratigraphic correlations across the trench.

Mineralization

There are two main deposit types hosted by Purcell Supergroup strata in southern British Columbia, namely:

1) stratabound clastic-hosted deposits such as the Sullivan and Kootenay King (Fig. 2), which are syngenetic or formed immediately following deposition of the host sediments, or

2) vein deposits, which have been sub-divided by Höy (1993) into three separate types:
   a) copper veins (i.e. Bull River and Dibble)
   b) lead - zinc veins (i.e. Estella and St. Eugene), and
   c) gold veins (Perry Creek and Midway).

Stratabound Clastic-Hosted Deposits

Stratabound clastic-hosted deposits are "... concordant bodies of massive or laminated lead, zinc and iron sulphides in fine to, less commonly, medium-grained sedimentary rocks" (Höy 1993). Some deposits may have cross-cutting footwall stockworks, disseminated or vein mineralization interpreted as conduits for mineralized solutions which were subsequently deposited as the overlying stratiform deposit.

Many stratiform lead-zinc deposits have associated zoning, either vertically (commonly copper-lead-zinc-(barium)) or laterally (commonly copper-lead-zinc). Stratiform lead-zinc deposits in the Purcell Supergroup are restricted to deep water facies of the lower and middle Aldridge Formation.

Details of stratiform clastic-hosted deposits are discussed in Höy (1993) and summarized in a past property report by Price (1989).

Kootenay King (from Höy 1993)

The Kootenay King mine (Fig. 2 and 4) is a stratiform clastic-hosted deposit which produced approximately 13 260 tonnes of ore with documented recovery of 715 grams of gold, 882 kilograms of silver, 710 866 kilograms of lead and 881 383 kilograms of zinc. The deposit was a small orebody comprised of a massive lead-zinc sulphide layer hosted by strata correlated to the lower middle Aldridge Formation. The deposit was contained within the "Kootenay King" quartzite, a prominent thick-bedded quartzite interval within dominantly buff-coloured dolomitic siltstone, dolomitic argillite and dark grey argillite. The quartzite interval is up to 250 metres thick and consists of a sequence of interbedded wacke, arenite and minor argillite which becomes thicker and coarser grained to the south. An impure, fine-grained dolomitic facies near the top of the Kootenay King quartzite hosted the orebody. Mineralization included fine-grained, laminated pyrite, galena and an unusual pale grey to green sphalerite.

"The lack of either a footwall stringer zone or hangingwall alteration, and the finely laminated nature of the mineralization suggests either that the deposit is distal, well-removed from its vent source or that much of it is eroded, including evidence of a conduit in the footwall" (Höy 1993).

Vein Deposits and Occurrences

The Aldridge and Creston formations are important for vein type deposits in southern British Columbia. The Aldridge Formation is host to copper veins (adjacent to Moyie sills), lead-zinc veins (in late structures or adjacent to late felsic intrusions) and gold veins. Copper veins are most commonly hosted by the Creston Formation. Gold veins are also documented in sheared Creston Formation in Perry Creek. Metals recovered from vein deposits (primarily the Bull River, Estella, St. Eugene and Stemwinder mines) total approximately 219 400 grams gold, 198 418 kilograms silver, 7270 tonnes copper, 119 962 tonnes lead and 28 850 tonnes zinc. "Most veins carry pyrite, pyrrhotite, chalcopyrite, galena or sphalerite in a quartz-carbonate gangue. Veins hosted by Purcell Supergroup rocks are subdivided into three main types, those with copper, those with silver, lead and zinc, and those with gold as their primary commodities" (Höy 1993).

Copper Veins

Copper veins are those which carry copper as the principal commodity with variable amounts of lead, zinc, silver and gold as chalcopyrite, pyrite and pyrrhotite. Galena and sphalerite commonly occurs and tetrahedrite has been reported in a few instances. Quartz, commonly with calcite or siderite, is the principal gangue mineral and barite occurs in some veins hosted by upper Purcell Supergroup strata.

"Two groups of copper veins are recognized: those hosted by middle Aldridge or, less commonly, lower Aldridge or Fort Steele rocks and those hosted by clastic rocks of the upper Purcell Supergroup. Many of the veins in the Aldridge Formation occur in shear or fault zones that cut across lower Purcell stratigraphy. Others are associated with Moyie sills, either in metasediments immediately adjacent to a sill or in vertical fractures in sills. ...

Veins in overlying upper Purcell rocks may be largely derived from remobilization of metals originally deposited in shallow-water clastic or carbonate facies. A few of these veins are in wacke that contains finely disseminated chalcopyrite or pyrite. This disseminated mineralization may be similar to, but far less concentrated than stratabound copper occurrences ... A number of other copper vein occurrences are closely associated with small mafic or alkalic stocks or dikes" (Höy 1993).

Bull River (from Höy 1993)

The Bull River mine (Fig. 4) produced approximately 7 256 tonnes of copper, 126 000 grams of gold and 6.3 million grams of silver from approximately 450 000 tonnes of ore. The ore was produced from two open pits at an average grade of 1.46% copper, 0.232 gram per tonne gold and 11.7 grams per tonne silver. Mineralization was reported to occur in at least seven zones of steeply south dipping, sheared and fractured rock. These zones crosscut lower Aldridge siltstone and wacke at or near a contact with a Moyie Intrusive (dyke). The zones consist of one or more quartz-siderite veins with disseminated or massive pods of chalcopyrite, pyrite and pyrrhotite.

Dibble (from Minfile Number 082GNW003)

The Dibble occurrence (Fig. 4) is hosted by argillite, quartzite and argillaceous quartzite of the Lower Creston Formation in a horse within the Dibble Creek Fault. Two types of mineralized veins are present: 1) narrow quartz stringers, 1 to 8 centimetres thick with tetrahedrite, arsenopyrite, malachite, azurite and very minor chalcopyrite; and 2) wider quartz-pyrite veins from 30 to 200 centimetres thick, breccias and replacements, often in quartzite units. Alteration of wallrock from veins of the first type is slight, ranging from 10 to 30 centimetres thick whereas alteration associated with the second type is more intense, ranging from 30 to 150 centimetres thick. Production in the past occurred from veins of the first type, which strike approximately east-west and dip steeply north. Highest assays returned from samples from these veins were 4.1 per cent copper, 3822.2 grams per tonne silver, 0.01 per cent lead, 0.15 per cent zinc and 126.8 grams per tonne gold. Note: see Price (1989) for a more detailed summary of the Dibble Group showing.

Eagle Plume (from Minfile Number 082GNW025)

The Eagle Plume showing (Fig. 4) is located on the western slopes of the Hughes Range, immediately east of the Rocky Mountain Trench and is interpreted as quartz-filled hydrothermal veins. Mineralization occurs in parallel "fissure" veins hosting disseminated chalcopyrite which strike roughly east within altered limestone and schist of the Aldridge Formation.

Eagle's Nest (from Minfile Number 082GNW026)

The Eagle's Nest showing (Fig. 4) occurs south-southeast of the Eagle Plume occurrence on the western slopes of the Hughes Range, immediately east of the Rocky Mountain Trench. A 1 metre wide quartz vein within a Moyie sill carries small amounts of chalcopyrite and pyrite near the contact with host Aldridge Formation argillaceous quartzites.

Eagle Too (from Minfile Number 082GNW032)

The Eagle Too showing (Fig. 4) occurs south-southeast of the Eagle Plume and Eagle's Nest showings and north of Horseshoe Creek. Chalcopyrite and pyrite in a quartz vein are reported in argillites and quartzites of the Aldridge Formation near the contact with a Moyie sill. Copper and gold are reported to occur.

Lead-Zinc Veins

Lead-zinc veins carry lead and zinc with variable amounts of copper, silver and gold with galena, sphalerite, pyrite and pyrrhotite as the main sulphide minerals. Minor chalcopyrite, arsenopyrite and tetrahedrite may also be present. The gangue mineral is predominantly quartz, but may include quartz-calcite or less commonly quartz siderite.

"Nearly all lead-zinc vein occurrences are within the Aldridge Formation, most commonly in the middle Aldridge or in rocks correlative with the middle Aldridge rocks (Unit A1d) ... Middle Aldridge rocks are deep-water clastic facies with relatively high background metal values that provide a source for metals in the veins. They are commonly thick-bedded and competent, and hence fracture readily. In contrast with copper veins, only a few lead-zinc veins appear to be associated with the Moyie sills. ...

Despite the variety of lead-zinc deposits in Aldridge rocks, most have very similar lead isotopic ratios. These ratios are similar to those of stratiform deposits such as Sullivan and Kootenay King, indicating a common lead source, presumably the host Aldridge succession. Metals were initially deposited together with Aldridge sediments, remobilized during intrusive or later tectonic events and deposited as lead-zinc veins" (Höy 1993).

Estella (from Höy 1993)

The Estella mine (Fig. 4) is an example of a lead-zinc vein and produced a total of approximately 6393 kilograms of silver, 5181 tonnes of lead, 9834 tonnes of zinc and very minor gold from a total of 109 518 tonnes of ore. The mine is located in a lead-zinc-silver vein hosted by siltstone, argillite and wacke of the Aldridge Formation and is adjacent to a small porphyritic to equigranular composite stock. Two diorite bodies occur locally, a large, irregular body just west of the mine and another underground, interpreted to be Moyie Intrusives.

The orebody was located in a moderately to steeply southwest dipping (40° to 70°) zone of fracturing and light shearing which follows the general trend of the underground diorite contact. The ore zone ranges from 5 to 7 metres in thickness and was comprised of secondary (replacement) sphalerite, galena and pyrite accompanied by variable amounts of silica.

Victor (from Minfile Number 082GNW004)

The Victor vein (Fig. 4) is an occurrence from which limited production is documented. Lead, silver, zinc, gold and copper values have been reported from sporadic galena, sphalerite and pyrite mineralization, present as small lenticular shoots and thin streaks along the footwall. Occasional disseminations are also reported in the quartz gangue. The Victor vein is hosted by quartzites and argillites of the Lower Creston Formation which strike north-northwest and dip 70° to 75° west. Two distinct rock types have been reported, a green-grey argillaceous quartzite with minor interbedded apple green quartzite, and a silver grey-black argillite/phyllite with local silty units.

The Victor vein strikes 020° with an eastern dip ranging from 70° to vertical and can be traced on surface for over 600 metres. Polyphase quartz is present along the exposed length of the vein with occasional siliceous zones up to 4 metres thick and an alteration envelope between 10 and 30 metres thick. Three adits are present along the Victor vein system. Assays of recent samples taken along the adits returned a high of 12.9 per cent lead, 7.69 per cent zinc, 198.9 grams per tonne silver, 7.0 grams per tone gold and 0.39 per cent copper. Note: see Price (1989) for a more detailed summary of the Victor vein showing.

Box (from Minfile Number 082GNW051)

The Box showing (Fig. 4) is underlain by sediments of the Aldridge Formation in fault contact with Lower Creston Formation sediments to the north and Devonian sediments to the south. Lead, copper, zinc, gold and silver values have been reported from galena, chalcopyrite and pyrite mineralization. Spotty patches of galena are associated with quartz veins ranging from 0.5 to 2.0 metres thick within Aldridge Formation quartzites (Unit Pa_2q). The veins may be a strike extension of the Victor vein or may be similar in character and stratigraphic location. In addition, a large occurrence of brecciated and healed quartzite with patchy pyrite and chalcopyrite coincides with an east trending fault associated with the Horseshoe Creek Fault. Grab samples from bedding parallel quartz veins have returned assay values of 0.27 per cent lead, 0.17 per cent zinc, 1.52 grams per tonne gold and 3.4 grams per tonne silver. Note: see Price (1989) for a more detailed summary of the Box showing.

Gold Veins

"Although many of the copper veins and some of the lead-zinc veins contain minor gold, a number ... contain gold as their primary commodity. They are gold-quartz veins controlled by northeast-trending faults that cut Creston Formation quartzite and siltstone. Shearing and fracturing are extensive, commonly occurring in a zone several hundred metres wide on either side of the faults. Many of the veins are also associated with mafic dikes. They vary in thickness from a few centimetres to greater than 10 metres. They comprise massive, white to occasionally pink quartz, minor calcite, disseminated pyrite, and occasionally trace chalcopyrite and galena. They are commonly severely fractured or sheared and locally cut and offset by crossfaults. Others cut the prominent schistosity ... (indicating) that they formed during and immediately following deformation" (Höy 1993).

Sedimentary Copper Deposits

Although no sedimentary copper deposits have been reported in the Hughes Range, potential exists in both the Creston Formation and the carbonate facies of the Van Creek Formation (equivalent to the Siyeh Formation). However, only the Creston Formation is present in the DV Property. Copper mineralization occurs either in quartzites or in many of the red and green beds that overlie the deeper water Aldridge Formation.

> "Stratabound copper deposits and occurrences in Belt-Purcell rocks have a number of features in common with other stratabound, clastic-hosted copper deposits ... They commonly formed in a tectonically active, intracratonic setting; there appears to be only an indirect association, if any, with volcanic rocks; and the hostrocks are usually fine-grained clastic sediments, commonly green, reduced beds that immediately overlie more oxidized red beds. At Spar Lake, however, the hostrocks are white to pinkish quartzites within grey siltites. Mineralization in these deposits is stratabound, localized in specific favourable units; it is usually not strataform as it cuts across both sedimentary units and structures. Metals include copper and silver, less commonly uranium, and occasionally lead and zinc. Mineral and metal zoning is common.
>
> The Spar Lake deposit ... is in white, crossbedded quartzite of the Revett Formation. Sulphides occur as disseminations, clots and fracture fillings, commonly closely related to bedding planes, crossbeds and scour-and-fill structures. The sulphides are zoned with essentially a lower chalcopyrite zone, overlain by chalcopyrite-bornite-chalcocite, bornite-chalcocite, chalcopyrite-bornite-galena, galena-pyrite, and pyrite zones. Silver values correlate with copper values, with better grades in the thicker parts of the deposit. Evidence for structural control of mineralization includes: the spatial association with an early growth fault, the East fault; zonation of minerals and elements away from the fault; and vertical stacking of mineralized lenses in the Revett Formation" (Höy 1993).

LOCAL GEOLOGY

A profound change in facies and thickness occurs at approximately 49° 30', interpreted to have resulted from rotation and displacement along northeast-trending faults during Proterozoic and early Paleozoic time. This profound change was interpreted as a reentrant along the generally northwest trending Proterozoic Purcell Basin (McMechan 1980). Anomalously thickened turbidite sequences in the Aldridge Formation with local occurrence of coarse-grained sand and northeast to southwest transport of some of these turbidites "... strongly suggest this reentrant developed before or during deposition of the Aldridge Formation" (McMechan 1980).

Evidence for this northeast-trending reentrant, located where the right-hand, reverse St. Mary - Boulder Creek and Moyie - Dibble Creek fault systems segment the eastern limb of the Purcell Anticlinorium (Fig. 2), is apparent in isopach maps of all Purcell Supergroup subunits. Thickness variations in the overlying Windermere Supergroup, suggest that movement on the block faults defining the reentrant had ceased by Late Proterozoic time. These pre-existing zones of crustal weakness were subsequently reactivated as right-hand reverse faults during Mesozoic compression.

The Moyie - Dibble Creek Fault (discussed in a later section) is a right-lateral reverse fault with an estimated displacement of 12 kilometres. West of the Rocky Mountain Trench, the Moyie Fault is represented as a steeply northwest dipping zone of intense shearing several hundred metre wide. The footwall of the Dibble Creek Fault, east of the Rocky Mountain Trench, follows a gypsum horizon in the basal Devonian succession (Fig. 6). The St. Mary Fault, west of the Rocky Mountain Trench, is also a right lateral reverse fault with an estimated displacement of 11 kilometres. The fault is intruded by the Reade Lake stock south of Kimberley. The quartz monzonite intrusion constrains the age of displacement on the fault to earlier than 94 Ma. East of the Rocky Mountain Trench, the Boulder Creek Fault accommodates right lateral displacement of the St. Mary Fault, juxtaposing strata of the Aldridge Formation in the hangingwall against Kitchener Formation strata in the footwall. North of these faults, a thick succession of Cambrian through Silurian strata are exposed. In contrast, Devonian rocks rest unconformably on upper Purcell strata to the south.

McMechan (1980) interpreted a northwest-dipping flexure, the Dibble Creek monocline, to coincide with the northern flank of Montania, which occurred south of the Dibble Creek - Moyie fault system in pre-Devonian time. This interpretation was based on reconstruction of sub-Devonian units across the northwestern flank of Montania. Contrasting stratigraphic relationships beneath the sub-Devonian unconformity on either side of the Moyie - Dibble Creek fault system show that this fault follows the locus of a pre - Middle Devonian transverse northeast-trending structure with more than 7 km of stratigraphic separation, across which the north side moved down as the lower Paleozoic strata were being deposited. North of the flexure, presently represented by the Dibble Creek - Moyie Fault (Fig. 5 and 6), was a basin filled with lower Paleozoic rocks. These two major, right lateral reverse faults, the St. Mary - Boulder and Moyie - Dibble Creek fault systems, have been interpreted to define a structural basin north of the Dibble Creek monocline. The DV property is located in the southern half of this structural basin, overlying and north of the Dibble Creek Fault.

McMechan (1980) structurally subdivided the southern Hughes Range into 5 separate domains, separated by faults, on the basis of bedding orientation and/or folds outlined by bedding.

"Domain 1, in the western part of the (Mt. Fisher) block, is characterized by a series of faulted northeast-plunging asymmetric anticlines in Aldridge to Kitchener strata. Domain 2, in the eastern part of the block, comprises an east-facing panel of north- to northwest-striking Kitchener to Cranbrook strata. Domain 3, at the southern end of the block, is a horse of Aldridge and Creston strata that occurs along the Dibble Creek fault ... Domain 4 lies between the Bull Canyon and Dibble Creek faults and is characterized by a series of low amplitude, open, northeast-plunging folds. Domain 5 lies south of the Bull Canyon fault and is dominated by the northwest-striking Lizard segment of the Hosmer nappe structure" (McMechan 1980). The DV property lies predominantly in Domains 1 and 3, with minor overlap into Domain 2 to the east and Domain 4 south of the Dibble Creek fault.

The structural geometry of Domain 1 is dominated by a series of asymmetric anticlines. The right-way-up limbs strike west to northwest and dip moderately north to northeast. Steeply dipping to overturned beds strike northeast or southwest and dip southeast (right-way-up) or northwest (overturned). The folds generally have northwest plunging (approximately 60°) axial planes and fold axes that plunge moderately (37°) to the north-northeast. Northwest-dipping faults having left-lateral normal separation replace synclines, juxtaposing the steep forelimb of one anticline against the backlimb of the adjacent anticline. On the outcrop scale, a moderate to well developed penetrative cleavage is developed in argillaceous strata and a spaced cleavage in argillaceous quartzite and siltites.

Domain 2 is comprised of an east-facing stratigraphic succession, from Kitchener Formation on the west upward to the Cranbrook Formation to the east. Strata is moderately to steeply northeast dipping with a predominant northwest strike. The Fisher Peak and Patmore faults separate Domain 1 on the west from Domain 2 on the east. "The Patmore fault is a steep north to northwest-trending fault that represents a zone of décollement near the base of the Kitchener Formation separating the homoclinal panel of Domain 2 from the complex faulted folds of Domain 1" (McMechan 1980).

Domain 3 is a horse of upright Aldridge and Creston strata lying between the Dibble Creek Fault to the south and a splay to the north. Both bedding and cleavage strike west and dip moderately (60°) to the north, sub-parallel to the orientation of the Dibble Creek Fault.

"Domain 4 is basically a northeast-plunging monocline. The northeast-dipping upper limb is broadly folded about open, shallow (23°), northeast (046°)-plunging folds that involve both Proterozoic and Devonian strata. The northwest-dipping middle limb dips under the Dibble Creek fault and occupies the northern part of Domain 4" (McMechan 1980).

Additional structural mapping of the DV property was undertaken as part of the 1995 field program, to improve and build upon McMechan's (1979) mapping (Fig. 5) and to evaluate previously proposed drill targets with respect to the structural data. The domains defined by McMechan (1980) were used to analyze the resulting structural data. The DV property lies primarily within Domains 1 and 3, with minor overlap into Domain 2 to the east and Domain 4, south of the Dibble Creek Fault. The results and interpretations arising from structural mapping were reported in the 1995 Assessment Report (Walker 1995).

Dibble Creek Fault

The hangingwall of the Dibble Creek Fault comprises a ramp which truncates structures and stratigraphic units of the Purcell Supergroup, ranging from the Aldridge Formation to the Kitchener Formation in an eastward direction. Proterozoic strata in the hangingwall show evidence of deformation, with bedding and cleavage partially rotated into the plane of the plane. The footwall lies in a flat, following a gypsum horizon in the basal Devonian unit, therefore, strata comprising the basal Devonian unit show little or no evidence of proximity to a major, regional scale fault. The fault also separates strata showing evidence of northwest-southeast directed compression and folding around northeast-trending fold axes during southeastward displacement of the hangingwall relative to the footwall. Benvenuto and Price (1979) estimated that there has been in the order of 12 kilometres of right-lateral reverse movement along the Dibble Creek Fault. The orientation of the fault, as determined near the headwaters of Sunken Creek, suggests the fault strikes west and dips north at approximately 55°. The surface trace of the fault swings from northeast (Moyie Fault) to almost due east (Dibble Creek Fault) in the region of the Rocky Mountain Trench.

The "... Moyie - Dibble Creek Fault probably initiated as the locus of vertical adjustment between thicker and thinner parts of the (Hosmer) thrust sheet. The ... fault propagated northeastward and southwestward along the flank of the Dibble Creek monocline as a right-hand reverse fault when the direction of displacement on the Hosmer thrust changes from northeast to southwest" (McMechan 1980). At this location the fault splayed into, and its locus was controlled by, a gypsum horizon in the basal Devonian unit. Subsequent southeastward displacement of the Hosmer thrust sheet was restricted to strata lying structurally above the Dibble Creek Fault.

The Fisher Peak, Maus Creek, Tanglefoot and Horseshoe Creek faults are northwest-dipping transverse faults that have had a complex history of reverse, strike-slip, and normal displacement. Asymmetric minor folds associated with these faults generally indicate reverse dip-slip displacement while stratigraphic offset and early faults (i.e. Patmore Fault) indicate left-lateral normal slip on the Fisher Peak, Maus Mountain and Horseshoe Creek faults.

Bedding in the southern portion of Domain 1 is overturned an additional 20° due to proximity to the right-lateral Dibble Creek reverse fault. The regional cleavage is also deformed in strata proximal to the Boulder Creek, Dibble Creek and Fisher Peak faults, as evidenced by partial rotation into the plane of the faults and local development of a west-northwest plunging, folded cleavage. In contrast, folds documented in bedding proximal to the Horseshoe Creek Fault have an undeformed northwest-dipping axial planar cleavage consistent with northwest-southeast directed compression. Reverse (north to northwest side up) displacement is recorded by the minor folds adjacent to all these faults.

The major zones of crustal weakness developed during aulocogen formation were reactivated as northwest-side down structures that controlled the pattern of erosion and deposition in the Late Proterozoic and early Paleozoic and as right-hand reverse faults in the Mesozoic.

1999 PROGRAM

In the spring of 1998, all previous geochemical data was compiled from Assessment Reports filed on behalf of Big B Resources. A total of 2098 soil and 150 rock sample analyses were compiled into separate data bases for subsequent analysis. The data was collected over a number of years from the BOX, DIBBLE, FOX and ROX / SOX geochemical grids. The elements Cu, Pb and Zn were plotted for the BOX Grid (Figure 6) and Ag and Au were plotted on the DIBBLE Grid (Figure 7).

The first diamond drill hole attempted (BOX 99-4) was located at approximate UTM coordinates 609417 E, 5495177 N at an elevation of 1590 m. The azimuth of the hole was 156° and drilled at an inclination of -51° to a depth of 14.32 m. The hole was aborted due to considerable difficulty encountered drilling through overburden. As this hole was considered a lower priority hole, the decision was made to abandon the hole and move to the highest priority location north of the BOX helipad.

Hole BOX 99-5 was collared at UTM coordinates 609804.30 E, Northing: 5495520.73 N at an elevation of 1831.44 m. The azimuth of the hole was 124.5° at an inclination of -51°. Once again, considerable difficulty was encountered due to faulted and broken ground. The hole was abandoned at 17.07 m when the core bit twisted off downhole.

A second hole from this set-up (BOX 99-6) was drilled at an inclination of -65° to a depth of 165.8 m. In an attempt to ensure reaching the target depth, the hole was cased to a depth of 17.07 m (represented by core recovered from BOX 99-5). Difficult drilling was encountered to a depth of 67.97 m (repeated blocking of the core barrel with fault gouge and chips) at which point the hole was cemented in an attempt to stabilize the hole to enable deepening it further. The hole was sufficiently stabilized to enable the silicified zone to be drilled and cored to a depth of 165.8 m, at which point drilling was halted.

The fourth hole drilled (DIBBLE 99-7) was drilled at the eastern end of a distinct, low grade Ag-Au soil geochemical anomaly centred at approximately 612900 E, 5494900 N. Due to difficulty encountered in the first three holes due to the presence of unexpected faulted ground, the hole was collared and initially drilled with HQ sized rods due to the location of the hole in the Dibble Creek fault zone. The hole was subsequently downsized to NQ (at a depth of 13.71 m) due to good recovery and overall drill conditions and drilled to a depth of 167.63 m.

A fifth and final hole was attempted on the BOX grid at UTM coordinates 609615.19 E, 5495958.88 N at an elevation of 2045.77 m. The hole was drilled at an azimuth 090° and an inclination of -56°. Difficult drilling conditions were once again encountered and the hole was abandoned at a depth of 37.18 m.

In addition, a total of 113 GPS points were collected to evaluate the accuracy of soil and geophysical grids on the ground relative to their plotted positions. Uncertainty of plotted position relative to ground position is of particular concern on the BOX grid.

DISCUSSION AND INTERPRETATION

As documented in Figure 6, the are three geochemically anomalous areas in the vicinity of the BOX grid, namely, the area around the Victor adits in the Maus Creek drainage, a broad northeast trending linear anomaly centred at approximately 609750 E, 5495300 N and a third at approximately 608250E, 5495250 N. The emphasis for the 1999 drill program was the broad, northeast trending anomaly centred on the Box claim.

The geochemical anomaly is coincident with a number of sub-surface ground geophysical anomalies (both transient electromagnetic (TEM in 1988) and Max-Min (1998) surveys).

The conclusions arising from the 1988 survey were as follows:

"A number of near surface, weak conductivity lineations were mapped. These trends generally conform to the local geological strike (060°) and are most likely related to bedding planes within the Aldridge Formation argillites.

One deep conductivity anomaly was also detected. It occurs as a narrow zone extending from grid location 800 N, 25 E to 600 N, 25W. Depth to the top of this feature is some 75 metres and it appears to dip some 60° tot he northwest. This anomaly could be generated from a concentration of small, conductive lenses focused about a larger lineation and is considered the best electromagnetic target mapped".

The 1998 ground geophysical (Max-Min) survey was undertaken to gain better control and better understanding of a number of geophysical anomalies identified in an airborne (DIGHEM) survey completed in 1996 (Walker 1997). The survey partially overlapped the 1988 TEM survey.

The conclusions arising from the 1998 survey were as follows:

"... This survey confirmed the presence of a series of conductor responses in the areas highlighted by the airborne EM surveys. Many of these conductors are of moderate to low quality and are fairly discontinuous. These conductors may arise in small pods or veins, or be related to zones of electrolytic conduction in fault zones. The depth of exploration of the MaxMin system is approximately 100 metres. The coverage of this survey does not preclude the existence of a deeper seated conductive body of larger size and importance. Several of the trends such as conductor A1, A7 and B1 are of reasonable strike length and, given the expected weaker responses of silver-lead-zinc mineralization, have the potential to represent significant zones of mineralization. The primary target for follow-up is the A1 conductor, which is well correlated with a geochemistry high in lead. This zone may be tested by a drillhole designed to intersect the zone at a depth of 60 metres beneath station 100E on line 300N of grid A. A secondary target on grid A would be the A7 trend at a depth of 60 metres beneath station 540E, also on line 300N. On the southern grid the B1 conductor can be tested with a drillhole designed to intersect the zone at a depth of 70 metres beneath station 365E on line 1200N" (Walker 1999).

Two diamond drill holes were proposed due to the presence of Cu, Pb and Zn soil geochemical anomalies with both airborne EM and ground geophysical anomalies, coincident with an extensive zone of alteration (silicification, sericitization and including albitization and pyritization (Harris 1990) and brecciation on the BOX grid. A third hole was proposed to test the second of three strong magnetic closures identified by the airborne DIGHEM survey coincident with MaxMin Primary Conductor A1 underlying the uppermost, south-facing slopes of Horseshoe Creek (see Walker 1999, Figure 8).

As discussed previously under **1999 PROGRAM**, only two drill holes can be considered successful, specifically, *BOX 99-6* and *DIBBLE 99-7*.

A total of 56 samples were taken from the drill core, half of which was sent for analysis. The remaining core was stored with the uncut core at 3750 Silver Spring Drive. All 56 drill core samples and one rock sample were submitted to Eco-Tech Laboratories Ltd. in Kamloops, BC for 28 element ICP analysis.

In addition, a total of 113 GPS points were collected using a Magellan Pro-Mark X-cm receiver, subsequently differentially corrected using base station files downloaded from BC Online for the Invermere station. The data were collected to evaluate the accuracy of positions of soil and geophysical grids on the ground relative to their plotted positions. Uncertainty of plotted position relative to ground position is of particular concern on the BOX grid due to the presence of strongly magnetic gabbro intrusives underlying and immediately adjacent to the BOX Reverted Crown Grant. The differentially corrected data was not utilized in this report (except for drill locations).

BOX 99-6

This represents the first hole drilled on the BOX grid to recover significant amounts of intact drill core suitable for analysis and interpretation. In the drill core, proximity to a hypabyssal intrusive is proposed on the basis of interpreted plagioclase porphyroblasts tentatively identified in the meta-sediments in the interval 17.27 - 19.51 m. The first interval of interpreted hypabyssal felsic intrusive was identified between 76.65 and 78.00 m, in a fault zone and immediately below disrupted sediments (whether as a result of forceful intrusion or faulting is uncertain at this time). Broadly coincident with the felsic intrusion is an increase in sulphide content, predominantly pyrite (as euhedral, pristine crystals (phenocrysts or porphyroblasts) and possibly increased iron content expressed as secondary limonite, goethite and hematite).

Little visible mineralization was observed in the meta-sediments above (and possibly below) the felsic intrusive. Sulphide mineralization, predominantly pyrite with subordinate sphalerite ± chalcopyrite ± galena, hosted by the felsic intrusive was noted in the matrix and in cross-cutting veinlets. Mineralization documented by 28 element ICP analysis was low but anomalous, with elevated levels of gold, silver, copper, lead and/or zinc documented in many of the analyses.

The drill hole was collared at the northern end of the soil geochemical anomaly. Additional holes to the south along the extent of the anomalous trend should be considered. Furthermore, the hole was halted within a zone of mixed sediments and felsic intrusives with the last lithology encountered at the bottom of the hole being felsic volcanics. Only moderate structural control is available in the area and so projections are approximate but it is considered unlikely that the hole was deep enough to reach levels correlatable to the Pic Showing (located at UTM coordinates 609934.83E, 5495479.31 N at an elevation of 1749 m and may not have penetrated to levels correlatable with the trenched zone at the northern edge of the helicopter pad at 609800 E, 5495367 N at an elevation of 1795 m.

The Pic Showing reportedly returned 1.5 oz/t Ag, 0.24% Cu, 254 ppm Zn and 385 ppb gold over one metre while the "Gossan Area" adjacent to the heli-pad returned 46 ppb Au, 2.3 ppm Ag, 2,277 ppm Pb and 476 ppm Zn. In addition, the blast trench adjacent to the heli-pad was located in "gossanous clay alteration (fault gouge)" material which returned anomalous barium (778 ppm), mercury (4800 ppb) and fluorine (110 ppm) (Price 1989).

Previous petrographic interpretation of rock samples were conducted on samples from the Pic Showing and "Area B", interpreted as being "... of highly siliceous character (vein quartz or silicified rock)" and "albitites", respectively. A sample of albitite (Sample 9) was described as "... compositionally and texturally distinct from the others of the suite. It is an albitite, composed predominantly of fresh albite with accessory carbonate (indicated by XRD as siderite). It shows a granular aggregate fabric, locally approaching an igneous style meshwork texture. The coarser albite grains are set in a fine-grained felsitic matrix, which contains minute sub-opaques (rutile?) and pyrite, and is diffusely permeated by sideritic carbonate.

The origin of this rock is uncertain. It could be a form of keratophyric crystal tuff. There is no direct evidence that the albite is of secondary (replacement) origin (Harris 1990)."

Previous samples described (for which the original report is not available to the author) include the following:

"Samples X1 and X2 (from the Pic Showing) are highly siliceous (vein quartz or brecciated silicified rock). ...

Samples X3 and X5 come from within the altered zone in the B Anomaly area, within 100 - 200 m of the drill holes. X5 is a homogeneous, equigranular albitite - similar to Sample 9 of the present (1990) suite, but finer grained. Its origin is unclear, but it could be a form of porcellanite tuff. X3 is a very fine-grained albitite, showing sinuous banding and augen-like clumps of coarser albite; it has the aspect of a tuffite"

and concludes, in part, that "... They are comprised of unusually albite-rich meta-sediments (feldspathic argillitic siltstones and arkosic quartzites); albitites (of unknown, but possibly keratophyric meta-igneous or meta0tuffaceous origin) ...

This mineralogy suggests a distinctive depositional environment which may have included a tuffaceous or exhalative component. The albitites are texturally distinct from the feldspathic quartzites, and no evidence was found to indicate that they have developed by "alteration" of the latter ...

The present study does not define the spatial extent of rocks of this type on the Box property. However, it seems likely that the so-called "altered zone" is, in reality, the surface expression of this distinctive lithological package" (Harris 1990).

A review of the thin section descriptions for the 1990 samples reveals that the meta-sediments, particularly the "quartzites", have a very high abundance of albite (30 - 62%) relative to quartz (18-60%) with no foliation or preferred orientation (in a region characterized by a strong foliation). Furthermore, one sample sie described as being a white, porcellanous rock (Sample 10 - Feldspathic quartzite with 62% albite) and a second as "... typical of the white albitic-looking material in the (drill) core" (Feldspathic quartzite having 55% albite). Finally, the "coarser grained" minerals are contained within a fine felsitic matrix (having diffuse margins in Sample 4).

The albite is described as "... consisting of patches of randonly oriented, coarse, prismatic, well-twinned grains (sometimes displaying a mesh-work type texture of igneous aspect), set in a matrix or intergranular phase of minutely felsitic texture ..."(Harris 1990).

Given the broad similarity between "feldspathic" sediments and the albitite, together with the highly unusual nature of these sediments relative to middle Aldridge strata exposed elsewhere in the Rocky and Purcell mountains, it seems more likely they represent different phases or locations within a hypabyssal felsic intrusive, possibly Cretaceous in age and related to other intrusions in the area (i.e. Reade Lake stock, Wild Horse stock, etc.). Furthermore, The possibility exists that high grade mineralization may be associated with the hypabyssal felsic intrusive, similar to that mined at the Estella Mine and, arguable, the Bull River Mine.

DIBBLE 99-7

The core from this drill hole represents the first recent sub-surface information from the DIBBLE claims. Prior to this, the only sub-surface information available was by examination of adits. The area of the DIBBLE claims has not been previously mapped by the author and the location of the drill hole was determined using information from previous reports and a compilation of soil, rock and stream silt geochemistry compiled in spring 1998 (Walker 1998).

A plot of Ag-Au soil geochemistry (see Walker 1999 and Fig. 7) shows a broad Ag anomaly approximately 100-150 m in diameter centred at 612900 E, 5494850 N and a moderately well-defined E-Ne trending Au anomaly extending from 612500 E to 613200 E (700 m in length). Previous work in the vicinity of Adit 1 (613127 E, 5494983 N) identified a number of quartz veins of two general types: "1) Narrow quartz stringers with grey sulphides and sulphosalts associated with copper carbonates and containing high gold and silver" and "2) Wider quartz-pyrite veins, breccias and replacements, often in quartzite, and associated with low to moderate gold and silver grades" (Price 1989). A number of quartz veins of both types were reported in the vicinity of Adit 1, at the east end of the anomalous Au trend, including (Price 1989):

Sample #	Width	Cu %	Ag (oz/t)	Au (oz/t)	Type
E31	15 cm	0.50	17.00	0.188	1
E32	10 cm	0.93	39.70	1.370	1
E33	65 cm	30 ppm	0.540	0.059	2
E47	50 cm	382 ppm	1.8 ppm	0.0175	2
E36	20 cm	100 ppm	14 ppm	0.027	2
E35	8 cm	4.1	111.50	3.7	Sulphide Vein

Furthermore, the hole was drilled at the northern margin of Anomaly F (Olfert 1985), *defined by* Ag > 0.45 ppm and Au > 25 ppb (locally >100 ppb) in soils. Anomaly F lies at the eastern end of the geochemically anomalous trend at an elevation of 1980 m (6500') with anomaly H lying immediately south at an elevation of 1935 m (6350'). Ideally, it was believed a drill hole collared in the uppermost portion of Anomaly F might also test Anomaly H in the sub-surface.

Nine samples taken between 11.58 and 68.13 m and a tenth between 157.05 and 157.45 m) *returned anomalous* Au (> 25 ppb) *and/or* Ag (>0.45 ppm) *values (Note: using the cut-offs* defined by Olfert (1985) for **soils**). These samples probably represent Type 2 veins due to the low to moderate precious metal content. The samples represent most of the intervals bearing quartz veins, however, much of the quartz veins are associated with secondary iron (limonite, goethite and/or hematite), which might also contain elevated gold values. In addition, low but anomalous, precious metal values were also previously documented in quartzites and red siltites (iron bearing?) sampled at surface. Therefore, additional sampling of the DIBBLE core is recommended for future consideration.

The results arising from DIBBLE 99-7 appear to agree well with the surface cut-off interpreted by Olfert (1985) for Anomaly F. However, limited work on the drill core to date (comprised of describing the core and limited initial sampling) precludes any definitive conclusions. Future work on the DIBBLE claims needs to focus on the nature of the mineralization, its probable source and relationship to the host lithology or lithologies, the orientation of the quartz veins (i.e. cross-cutting or bedding concordant (dilatant) veins), surface and sub-surface continuity, average grade and potential to develop an economically viable deposit.

CONCLUSIONS

There is evidence that the DV property may be located in a sub-basin on the margin of the Proterozoic Purcell Basin. The sub-basin coincides with a reentrant controlled by two major tranverse faults episodically active from the Proterozoic (during deposition of the Aldridge Formation) to the Mesozoic (deformation associated with the Laramide orogeny). The St. Mary - Boulder Creek Fault is present to the north and the Moyie - Dibble Creek Fault comprises the southern margin of the DV property. The Dibble Creek Fault is coincident with a Proterozoic monocline, the Dibble Creek monocline, on the northern flank of a basement high-standing area referred to as Montania. Sediments that thicken and coarsen to the south, coupled with northward directed paleo-currents suggests that the DV property may have been located in a sub-basin controlled by growth faults.

There are three past producers in the immediate vicinity of the DV property, the Estella, Kootenay King and Bull River mines. The Kootenay King mine was a stratabound orebody located in a quartzite, the Kootenay King Quartzite, in a separate sub-basin. Of particular significance is the fact that the source vent for the deposit was not located and was interpreted as either eroded or distal from the resulting orebody. The Estella mine was a lead-zinc vein, located proximal to both a composite monzonite - syenite stock and two Moyie sills, one exposed in outcrop immediately west and the other in the sub-surface mine workings. The Bull River mine consists of a series of seven separate sheared and fractured zones within lower Aldridge argillites. With the exception of the host strata, mineralization identified to date on the Dibble Group appears to be broadly similar to that described in the Bull River mine. Quartz veins (with siderite) in sheared and fractured rock proximal to a major fault (Bull Canyon Fault) host disseminated or massive pods of chalcopyrite, pyrite and pyrrhotite. In the Dibble Creek area, sheared and fractured Creston strata proximal to a major fault (the Dibble Creek Fault) host disseminated or massive pods of chalcopyrite and pyrite.

The Victor vein consists of mineralization localized along an apparently minor fault which is sub-parallel to bedding. It hosts predominantly lead-zinc mineralization with significant values in gold and silver with minor copper. It has been, and is interpreted, as vein style mineralization. The source for the mineralization is presently unknown, but is interpreted to have a composite source, locally from the Creston Formation (silver and copper, probably gold) and the Aldridge Formation (lead and zinc). The Box showing has previously been interpreted as a lead-zinc vein showing (Höy 1993, Minfile) but the author believes it may have stratiform potential. There are a number of quartzite beds which comprise a significant proportion of the local stratigraphy (upper middle Aldridge), there is a relatively wide lead anomaly, the area is interpreted to be in a sub-basin of the Purcell Basin characterized by deep water clastics and is south of the Kootenay King stratiform deposit. The Kootenay King Quartzite hosted the mine and is the highest of a number of quartzites in the lower middle Aldridge Formation.

A number of geophysical conductors have been identified on the BOX claims. These may be significant with respect to quartzites of the upper middle Aldridge Formation, sericite, limonite and siderite alteration and anomalous levels of soil and rock geochemistry previously identified on the BOX claims. Furthermore, a sub-surface TEM conductor was identified and reported by Pezzot (1988) as a south-southwest trending sub-surface conductivity anomaly at an interpreted depth of 75 metres, possibly "... generated from a concentration of small, conductive lenses focused about a larger lineation ...". The two most prominent conductors (designated C9 and C10) are located west of the alteration zone mapped on the BOX claims, are sub-parallel to parallel to local stratigraphy and are associated with quartzites of the middle Aldridge Formation. Given that the strata of the immediate area strike southwest and dip northwest, these two conductors are considered to be among the best drill targets on the DV property.

Soil sample results from the 1997 field program confirmed anomalous results previously reported in the BOX claim area. However, the results extend the anomalous area westward toward the SILL # 1 claims. Strongly anomalous zinc and lead results were obtained, similar to those previously reported, however, the rock sample taken returned very anomalous cobalt values, a finding not previously reported on the DV property.

In 1998, a ground geophysical program was completed in an attempt to better understand and develop the proposed drill targets. The geophysical survey confirmed previous interpretations of northeast trending anomalies associated with the alteration zone and passing through, or proximal to, high grade mineralization identified in soil samples. Furthermore, these trends are parallel to sub-parallel to the host strata and may be stratiform in nature.

Drill results in 1999 identified a hypabyssal felsic intrusive coincident with a zone of anomalous copper, lead and zinc (± Ag ± Au), geophysical conductors and a zone of extensive alteration. Previously, Harris (1990) had proposed that the suite of samples obtained from the Box showing may represent a tuffaceous or exhalative environment.

> "They (the petrographic suite examined) are comprised of unusually albite-rich meta-sediments (feldspathic argillitic siltstones and arkosic quartzites); albitites (of unknown, but possibly keratophyric meta-igneous or meta-tuffaceous origin); chlorite-quartz rocks, possibly representing ferro-magnesian cherts; and a cryptofragmental amphibole-chlorite rock which could be a mafic meta-tuff. Several of the albitic samples contain traces of barite, associated with metamorphically remobilized (?) hairline veinlets of quartz and albite. One (Sample 9 from DDH-3) contains siderite and sphalerite, and most contain disseminated pyrite or derived limonite.
>
> This mineralogy suggests a distinctive depositional environment which may have included a tuffaceous or exhalative component. The albitites are texturally distinct from the feldspathic quartzites, and no evidence was found to indicate that they have developed from "alteration" of the latter ..." (Harris 1990).

The identification of a hypabyssal felsic intrusive is considered significant with respect to the association of Cretaceous age granitic to syenitic, strongly magnetic intrusions (Estella stock and a number of small intrusions spatially associated with the Bull River Mine) and ore grade mineralization. Sub-surface conductors identified in both the 1988 and 1996 airborne geophysical surveys may represent pods and/or lenses of mineralization, with interpreted potential for both stratiform and replacement mineralization below 100 m depth (the current extent of geophysical penetration).

In addition, as a result of an airborne geophysical program completed during the 1996 field season, it was concluded that many of the magnetic anomalies identified throughout the DV property are sub-surface equivalents of gabbros exposed at surface, identified in previous mapping programs. Magnetic anomalies were identified north and west of the BOX claims and were interpreted as sub-surface equivalents of gabbro identified at surface.

The DIBBLE area has interesting anomalies in Ag and Au, previously interpreted to be hosted by silicified quartzites and/or quartz veins trending sub-parallel to both the Dibble Fault (and its splays comprising the Dibble Fault Zone) and host strata. Previous interpretation suggested the possibility of continuity, both along strike and with depth. Therefore, there exists the possibility of enlarging the known dimensions of the vein system with additional work. Arguably the most important aspect to address in future evaluation of the property is the extent and continuity with depth. If the mineralization is hosted by veins (whether cross-cutting or bedding concordant), then testing the vein system at depth would allow evaluation of the possibility the veins coalesce with depth into a larger vein, perhaps localized in the basal root fault of the Dibble Fault Zone. If the mineralization is hosted by silicified quartzites, then greater potential for identification of a deposit may lie at deeper levels in proximity to the Dibble Fault, where the quartzites can be expected to become increasingly brecciated and silicified with mineralized fluids utilizing the fault zone as a fluid conduit.

The 1999 drill program attempted to extend mineralization identified at surface in both "narrow quartz stringers with grey sulphides and sulphosalts" and "wider quartz-pyrite veins, breccias and replacements, often in quartzite units ..." (Price 1989) in to the sub-surface. Drill hole DIBBLE 99-7 was collared approximately 15 metres east of Adit 1 in an area in which both vein types had previously been reported (Price 1989). However, little structural information was available beyond bedding orientation. DIBBLE 99-7 was therefore an exploratory hole attempting to obtain further information regarding the extent, continuity and mineralization associated with the veins. Unfortunately, the drill hole did not intersect any of the more significant veins identified and mapped at surface. Additional work is strongly recommended to better understand and evaluate the economic potential of the two coincident vein systems.

RECOMMENDATIONS

1) Undertake a differential GPS survey of all claim posts, adits, shafts, trails, roads and distinctive ground features to accurately plot them on the base map,

2) Use the 1999 (and 2000) differential GPS data to accurately register the 1988 and 1998 ground geophysical surveys and re-plot them on digital TRIM map base. Once re-plotted, have the geophysical data re-interpreted using the sub-surface drill hole data from BOX 99-6,

3) Use the Differential GPS data on distinctive features recognizable on air photos as ground control points to geocode the air photos. Once geocoded, attach the digital TRIM map to produce an orthophoto with a 20 m contour interval,

4) Given the identification of: a) a hypabyssal felsic intrusive on the BOX claims associated with the zone of alteration, b) significant magnetic deflection of compasses in the vicinity of the gabbro intrusives and c) the unexpected occurrence of numerous small faults in a fault zone at a high angle to the PIC fault, the BOX claim and immediate area should be re-mapped,

5) The location of all geochemical and/or geophysical stations encountered on, and in the immediate vicinity of, the BOX claim should be determined using a differential GPS receiver to enable accurate plotting of the data for subsequent re-interpretation,

6) Similarly, the DIBBLE claims should be re-mapped with the location of key features determined using a differential GPS receiver and plotted,

7) Additional drill locations should be identified in the course of re-mapping the BOX and DIBBLE claims. Ideally, location of proposed drill sites wouold be asisted by re-interpreted ground geophysical maps and differential GPS data,

8) Undertake additional diamond drilling to continue evaluation of the sub-surface potential of both the BOX and DIBBLE grids. At least two drill holes should be drilled on each of the BOX and DIBBLE grids, along the geochemical (and, on the BOX, geophysical) trends previously identified.

Note: Incorporation of recommendations 1 to 7 into a single program, together with pad-building, would reduce the overall program significantly due to more cost-effective sue of the helicopter. In addition, the 1999 drill program utilized a single shift on the drill. Although having a geologist on-site and available to the drillers virtually the entire shift greatly facilitated timely decisions regarding difficult drill conditions, costs were greatly increased. Helicopter costs were significantly increased for drill moves and doubled the time required for drilling. For future reference, two crews working twelve hour shifts (i.e. two per day) may be more cost effective.

PROPOSED BUDGET

GPS Survey

Geologist - 5 days at $400 / day		$ 2,000
Assistant - 5 days at $200 / day		$ 1,000
GPS Rental - 5 days at $75 / day		$ 375
- base station files		$ 150
Field Supplies - 10 man-days at $15 / day		$ 150
4WD Truck - 5 days at $75 / day		$ 375
- mileage - 500 km at $0.30 / km		$ 150
- Fuel		$ 100
Helicopter - 7.5 hours at $1,000 / hr		$ 7,500
	Sub-Total (a)	**$ 11,800**

Re-plot Ground Geophysical Surveys (1988 and 1998) with GPS data **(b)** **$ 2,000**

Orthophoto - using differential GPS data

Airphotos		$ 50
Geologist - 4 days at $400 / day		$ 1,600
Drafting - attach geocoded digital airphoto to digital TRIM map		$ 500
Plotting maps		$ 150
	Sub-Total (c)	**$ 2,300**

Geological mapping - 1:2,000 or less - Box and Dibble grids

Geologist - 10 days at $400 / day		$ 4,000
Assistant - 10 days at $200 / day		$ 2,000
Differential GPS - 10 days at $75 / day		$ 750
- base station files		$ 285
Field Supplies - 20 man-days at $15 / day		$ 300
4WD Truck - 10 days at $75 / day		$ 750
- mileage - 1000 km at $0.30 / km		$ 300
- Fuel		$ 200
Helicopter - 10 hours at $1,000 / hr		$ 10,000
Telephone		$ 200
Analyses - 50 samples at $12 / sample		$ 600
Shipping		$ 50
Drafting		$ 2,000
Food		$ 500
	Sub-Total (d)	**$ 21,935**

Drilling - Box and Dibble Grid (depth 200 metres - 4 holes each)	
Drilling - 800 metres at $90 / metre	$ 72,000
- mob / de-mob	$ 6,000
Pad Building	$ 4,000
Helicopter Support - drill moves - 20 hours at $1000 / hour	$ 20,000
- crew moves - 23 man-days at 1.5 hours / day at $1,000/hr	$ 34,500
Analyses - 100 samples at $26 / sample (28 element ICP)	$ 2,600
Shipping	$ 100
Geological Supervision - 23 days at $400 / day	$ 9,200
- Core logging / splitting - 10 days at $400 / day	$ 4,000
Field Supplies (core bags, ties, flagging, etc.) - 33 days at $15 / day	$ 495
Rock saw and spare blades	$ 350
Core rack - long term storage	$ 1,500
4WD Truck - 23 days at $75 / day	$ 1,725
- mileage - 1725 km at $0.30 / km	$ 518
- Fuel	$ 200
Final Report	$ 4,000
Sub-Total (e)	**$ 161,188**
Total (a-e)	**$ 199,223**
Contingency @ 10%	$ 20,000
Grand Total	**$ 219,223**

REFERENCES

Babcock, G.H. and Babcock, A.R. 1983. Soil Geochemical report on the DV Group within the DV Property. Internal Report for F & B Silver dated July 25, 1983, 29 pages with Appendices

Benvenuto, G.L. and Price, R.A. 1979. Structural evolution of the Hosmer thrust sheet, southeastern British Columbia, Bulletin of Canadian Petroleum Geologists, vol. 27, pp. 360-394.

Ditson, C.L., 1987. Geologic and Geochemical Report. DVB Property, Cranbrook, BC, Fort Steele Mining Division Assessment Report for Montreux Development Corp. dated December 11, 1987.

Harris, J.H. 1990. Petrographic studies and genetic implications: Box showings, Fort Steele Area, BC Internal Report for Big B Resources by Harris Exploration Services dated October 26, 1990.

Höy, T. 1993. Geology of the Purcell Supergroup in the Fernie west-half map area, southeastern British Columbia, BCMEMPR Bulletin 84, 157p. with maps.

---------- and Carter, G. 1988. Geology of the Fernie W$^1/_2$ map sheet (and part of Nelson E $^1/_2$), BCMEMPR Open File Map Number 1988-14

---------- 1982. The Purcell Supergroup in southeastern British Columbia: sedimentation, tectonics and stratiform lead-zinc deposits in Precambrian sulphide deposits, H.S. Robinson Memorial Volume, edited by R.W. Hutchinson, C.D. Spence and J.M. Franklin, Geological Association of Canada Special Paper 24, pp. 127 - 147.

KRTA Limited, 1986. A Petrographic and Fluid Inclusion study of the DV Property, Internal Report by KRTA Limited, Mineral Services Division dated November, 1986.

Leech G.B. 1958. Fernie Map-Area, West Half, British Columbia, 82G W$^1/_2$, Geological Survey of Canada Paper 58-10, 40p.

McMechan, M.E. 1980. Stratigraphy, Structure and Tectonic Implications of the Middle Proterozoic Purcell Supergroup in the Mount Fisher area, southeastern British Columbia, unpublished Ph.D. Thesis, Queen's University, 181p. with Appendices.

--------------------. 1979. *Geology of the Mount Fisher - Sand Creek area.* BCMEMPR, Preliminary map 34 with accompanying notes.

Ministry of Environment Lands and Parks. 1996. NAD27 to NAD83 Conversion in British Columbia, National Transformation Version 2 software manual with 3 disks, January 1996. 30 p plus Appendices.

Olfert, E., 1986. Geochemical and Geological Assessment Report on the DV Property, (Dibble Group), Fort Steele Mining Division, Assessment Report for F & B Silver dated February 20, 1986.

---------- 1984. Geological Report - Box claim Area, Fort Steele Mining Division, BC. Assessment Report for F & B Silver dated June 2, 1984.

Price, B.J. 1989. Brief Geological Update - DV Property, Fort Steele Mining Division, for Big B Resources, February 28, 1989, 16p. with Appendices.

Rodgers, G.M., 1988. Geological Report, DVB Property, Cranbrook, BC. Fort Steele Mining Division, Assessment Report for Montreux Development Corp. dated November 30, 1988.

Walker, R.T. 1999. Summary Report for the DV Property, Fort Steele Mining Division, Assessment Report for Big B Resources, dated May 6, 1999.

---------------. 1998. Summary Report for the DV Property, Fort Steele Mining Division, Assessment Report for Big B Resources, dated May 9, 1998.

---------------. 1997. Summary Report for the DV Property, Fort Steele Mining Division, Assessment Report for Big B Resources, dated July 30, 1997.

---------------. 1995. Geological Report on the DV Property, Fort Steele Mining Division, Assessment Report for Big B Resources, dated November 30, 1995.

Appendix A

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, Richard T. Walker, of 656 Brookview Crescent, Cranbrook, B.C., hereby certify that:

1) I am a graduate of the University of Calgary of Calgary, Alberta, having obtained a Bachelors of Science in 1986;

2) I obtained a Masters of Geology at the University of Calgary of Calgary, Alberta in 1989;

3) I am a member in good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia;

4) I am a member in good standing with the Association of Professional Engineers, Geologists and Geophysicists of Alberta;

5) I am a Fellow of the Geological Association of Canada;

6) I am a consulting geologist and Principle of Dynamic Exploration Ltd. with offices at 656 Brookview Crescent, Cranbrook, British Columbia;

7) I am the author of this report which is based on a drill program conducted on the property between May 20 and July 31, 1999 by Target Drilling. The author contracted and supervised the program on behalf of Big B Resources Inc;

8) I have no interest, direct or indirect, in Big B Resources; in any of their projects or properties nor do I expect to receive any such interest.

9) I hereby grant my permission to Big B Resources to use this report, or any portion of it, for any legal purposes normal to the business of the firm, provided the excerpts used do not materially deviate from the intent of this report as set out in the whole.

Dated at Cranbrook, British Columbia this 10th day of February, 2000.

PROFESSIONAL
PROVINCE OF
R. T. WALKER
BRITISH COLUMBIA
GEOSCIENTIST

Richard T. Walker, P.Geo, P.Geol., F.G.A.C.

Appendix B

Statement of Expenditures

STATEMENT OF EXPENDITURES

The following expenses were incurred on the DIBBLE property for the purposes of geological exploration within the period May 20, 1999 to January 12, 2000.

Target Drilling Inc. - 402 m NQ / HQ drilling		$ 48,728.28
Bighorn Helicopters		$ 47,936.75
Eco-Tech Laboratories Inc. - 56 core samples for 28 element ICP analysis		$ 1,355.96
Aon, Reed and Stenhouse - Liability Insurance for drilling		$ 900.00
Miscellaneous		$ 274.43
	Sub-Total (a)	**$ 99,195.42**
R. Walker, P.Geo., 56.45 days at $400/day		$ 22,580.00
GST (at 7%)		$ 1580.60
Equipment Rentals		
4WD Truck and fuel		$ 2,662.65
Differential GPS receiver and base station files		$ 1,272.30
Field Supplies		$ 285.00
Internet Access		$ 40.00
Disbursements		
Core Rack		$ 762.90
Drafting		$ 1,865.32
National Transformation software		$ 68.40
Pad-building		$ 2,927.70
Report cover, map pockets, etc		$ 15.00
Reproduction		$ 169.50
Rock saw and blades		$ 134.43
Shipping		$ 118.58
Telephone / Cell Phone		$ 474.93
	Sub - total (b)	**$ 34,957.31**
	Total	**$134,152.73**

Appendix C

Drill Logs

BIG B RESOURCES INC. **HOLE NO.:** **BOX 99-4** **PROPERTY:** **DV PROPERTY**

Commenced: May 26/ 99	Location: BOX	Hor. Comp.:	Hole No.: 99-4
Completed: May 26/ 99	Mining Division: Fort Steele	Vert. Comp.:	Length: 14,32 m (47 feet)
Coordinates: UTM	Core Size: 0 - 14.32 m - HQ	Logged By: Rick Walker	Elevation: 1590 m
Easting: 609417	Northing: 5495177	Date logged: July / 99	Inclination: -51° Azimuth: 156°

Interval (metres)	Core Description	Sample Number	Sample Interval (metres)	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
0 - 14.32	Casing							

BIG B RESOURCES INC. **HOLE NO.:** **BOX 99-5** **PROPERTY:** **DV PROPERTY**

Commenced: May 28 / 99	Location: BOX	Hor. Comp.: 11.38 m	Hole No.: 99-5
Completed: May 29 / 99	Mining Division: Fort Steele	Vert. Comp.: 13.27 m	Length: 17.07 m (56 feet)
Coordinates: UTM	Core Size: NQ	Logged By: Rick Walker	Elevation: 1831.44 m ASL
Easting: 609804.30 E	Northing: 5495520.73 N	Date logged: July / 99	Inclination: -51° Azimuth: 124.5°

Interval (metres)	Core Description	Sample Number	Sample Interval (metres)	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
0 - 4.27	Casing							
4.27 - 10.06	Gabbro. Strongly magnetic throughout cored interval. Under microscope, gabbro appears to be chloritized with dark green to black chlorite. Pyrite extensively to completely replaced by magnetite, large pyrite grains have skeltal appearance with bladed hornblendes preserved (poikilitically enclosed). Individual phenocrysts up to 2 mm long dimension. Appears to have been a medium to coarse-grained gabbro originally, with fine-grained replacement by secondary grains. Pyrite / secondary magnetite masses 0.3-0.8 mm diameter. Fault gouge between (1) 5.79 - 5.97m (lower contact at 75° to core axis (ca), 7.11 - 7.17 m, (2) 8.52 - 8.53 m (upper contact at 35° to ca) and (3) 10.06 - 10.15 m (at 75° to ca) Zones 1 - 3 have been altered to talc within brittle shear zones 9.1 - 9.22 - Coarser fault gouge (lower contact at 75°) - minor component hydrated to serpentine 9.22 - 10.06 m - Coarser grained gabbro with less altered pyroxenes	112601	5.05 - 5.25	5	<0.2	294	16	35

10.06 - 15	Contact lost in fault zone with poor recovery, therefore estimated at 15 m. Strongly to extensively chloritized gabbro. Overall colour dark grey to black. Fresh unaltered (macroscopically) pyrite. Very broken below 11.89 m with poor recovery. 11.89 - 15.0 m - represented by 70 cm of broken core (rounded by drill to rounded gravel). Fault gouge 10.69 - 11.45 (43% recovery)							
15 - 17.07	Sediments. Poor recovery (approx. 20%) - 40 cm of core for interval. Very broken. Gryish green (quartzose) wacke over most of interval (as represented by recovered core). No piece large enough to measure bedding or foliation. Black cubic to irregular porphyroblasts, probably Fe-Ti oxides (up to 0.5 mm in diameter). Last 12 cm of core recovered is dark grey in colour and consists of sub-wacke. Fine white laths (porphyroblasts) evident on bedding surface, probably plagioclase (incipient albitization?) S_0/ca - 50° - thick laminated (0.5 mm) to very thin bedded (1 cm) S_1 / ca - 75°	112602	17.37 - 18.0	5	<0.2	16	4	34
17.07	**End of Hole**							

BIG B RESOURCES INC.   HOLE NO.:   BOX 99-6   PROPERTY: DV PROPERTY

Commenced: May 29 / 99	Location: BOX	Hor. Comp.:	Hole No.: 99-6
Completed: June 7 / 99	Mining Division: Fort Steele	Vert. Comp.:	Length: 165.8 m
Coordinates: UTM	Core Size: 0 - 17.27 m - HQ casing 17.27 - 165.80 m - NQ	Logged By: Rick Walker	Elevation: 1831.44 m ASL
Easting: 609804.30 E	Northing: 5495520.73 N	Date logged: July / 99	Inclination: -65° Azimuth: 124.5°

Interval (metres)	Core Description	Sample Number	Sample Interval (metres)	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
0 - 17.27	HQ Casing							
17.27 - 19.51	Greenish-grey quartz wacke with plagioclase porphyroblasts. Olive green section from 18.9 - 19.53 m. Strongly iron-stained. Thick laminated to thin bedded. Minor iron staining / spotting on foliation surfaces. 18.0 - 18.36 m - 5 cm of core - probable fault zone - washed away 18.1 m - spaced cleavage / parting 1-2 cm at 20° to ca with strong iron staining 18.9 m - S_0 / ca - 51° - Strongly iron-stained bedding (S_0) surface. Plagioclase porphyroblasts form idioblastic to sub-idioblastic laths up to 0.1 mm long, preferentially developed in sub-wacke laminae / beds. 17.5 m - S_0/ca - 52°							
19.51 - 67.81	Weakly to moderately disrupted sediments. Interval consists of dark grey sub-wacke with subordinate thick laminated to thin bedded green-grey quartzitic wacke. Plagioclase porphyroblasts ubiquitous throughout, preferentially developed in sub-wacke with no preferred orientation evident. Bedding disrupted along zones slightly oblique to bedding. 27 m - S_0/ ca - 55°, 1.5 cm quartzitic wacke partially transposed into foliation (S_1)	112603	61.0 - 61.43	<5	<0.2	39	18	52

19.51 - 67.81 (cont'd)	**29.86 - 30.30 m - Felsic intrusive. Interval is grey-brown in colour with brown mm-scale vugs. Irregular quartz vein at base of interval, 0.5-1.0 cm thick (dilational with large vugs) oriented at 55° to ca, sub-parallel to S_0.** **Dolomitic wacke interbeds at 45.84 - 46.0 m, 54.3 - 54.5 m (up to 3 cm thick), and 56.45 - 56.7 m.** **33 m - S_0/ca - 56°** **36 m - S_0/ca - 66°** **43 m - S_0/ca - 60°** **43 m - S_1/ca - 56°** **Bedding increasingly disrupted downhole, with bedding dislocated and/or transposed along / into foliation. In disrupted zones, thin to thick laminae progressively transposed into foliation; thin bedded intervals boudinaged. Particularly intense up to 2 m above faults then sharply decreases below faults.** **Disrupted bedding from 57.5 - 63.70 with relatively intact zone (quartz wackes) at 61.75 - 61.90 m. 1.0 - 1.5 cm thick overturned graded beds, also basal scours and fining downward sequences.** **Very small and thin (0.5 cm parallel to S_0 and 0.3 cm thick) pyrite lenses at lithological contacts between argillite and wackes at 61.0 m** **35.81 m - S_0/ca - 52°** **40.7 m - S_0/ca - 50°** **41.8 m - S_0/ca - 45°** **44 m - S_0/ca - 47°** **50 m - S_0/ca - 50°** **54.5 m - S_0/ca - 60°** **57 m - S_0/ca - 70°** **51.7 m - S_1/ca - 56°** **62.3 m - S_1/ca - 70°** **58.3 m - S_0/ca - 83°** **60 m - S_0/ca - 70°** **61 m - S_0/ca - 70°** **61.8 m - S_0/ca - 65°** **64.3 m - S_0/ca - 42°** **67.4 m - S_0/ca - 40°** **66.5 m - S_1/ca - 60°** **43 m - S_1/ca - 65°** **S_0/S_1 - 60°** **61 m - S_1/ca - 77°** **S_0/S_1 - 60°** **Fault zones - 19.88 m, 28.15 m, 34.90 m, 36 - 36.15 m, 36.46 - 36.56 m, 37.18m, 39.50 m, 41.8 m, 43.5 m, 44.4 m, 45.84 m, 46.17 m, 56.2 m, 60.34 - 60.46 m (gouge zone), 63.70 - 63.90 m (gouge zone),**						

19.51 - 67.81 (cont'd)	66.76 - 67.2 m, 67.51 - 67.52 m (0.5 cm thick at 45° to ca and sub-parallel to S_0. Relatively intact bedding below fault at 63.90 m to 65.0 m. Small fault plane with minor gouge at 65.37 m at 65° to ca Very Broken Core - 23 - 30.78 m, 33.37 - 34.60 m, 36.46 - 40.30 m, 53.46 - 54.5 m. Iron + quartz veinlets at oblique angle to S_0 at 59.56 - 59.75 m, 60.70 - 61.10 m. Limonite / Goethite filled vug at 60.87 - 60.92 m. Transition to pyrite (both disseminated and in thin veinlets) at 61.30 m at 42° to ca (65° at 61.30 m at 42° to ca (65° to S_0). Minor oxidation (hematite) of pyrite stringers with localized felsic intrusive at 65.9-66.0 - sharp basal contact. Quartz and hematite veinlets at 70° to ca at 66.5 m (approximately 45° to S_0) Core loss between 39.32 and 43.06							
67.81 - 76.65	Disrupted Sediments. Similar to previous intervals, however increasing evidence of iron, both as limonitic coatings on fractures and/or foliations and as small pyrite lenses. Faults - 73.0 - 74.-6 m - recovered approx. 30 cm in this interval, including 5 cm of very fine clayey gouge - 74.88 -76.65 m - faults at both upper and lower ends of interval with 48 cm of intact core between so assumed faults of equivalent thickness at either end (i.e. 74.88 - 75.525 (15 cm recovery) and 76.005 - 76.65 m (5 cm recover)) Thin laminated to thin bedded, dolomitic intervals between 68.34 - 68.53 m, oriented at 20° 69.05 - 69.10 m - Disrupted hematite (iron) and quartz veins boudinaged and transposed into foiation Thin bedded dolomitic interbeds between 71.29 - 71.52 m, oriented at 30° to ca - up to 4 cm thick between 72.55 - 72.9 m Strongly iron-stained, limonitic fracture / foliation surfaces between 74.1 - 74.88 m at various orientations to ca Undeformed calcite vein 2-3 mm thick between 74.46 - 74.60 m at 25° to ca and perpendicular to S_1							

76.65 - 78.00	Hypabyssal Felsic Intrusive, in fault zone. Approximately 10 cm of gravel to cobble sized fragments recovered.							
78.00 - 83.90	Weakly to moderately disrupted sediments. Similar to interval 19.51 - 67.81 m described previously. Predominantly dark grey to black argillite with subordinate weak olive green-grey sub-wacke interbeds. Sub-wacke beds are thin-bedded and appear to be overturned (fining downward). Minor bleaching evident from 80.31 - 83.9 m (incipient silicification?). Small plagioclase (?) porphyroblasts still ubiquitous (as above). Fault with base at 80.10 m (unknown thickness, broken rock from 78.43 m down), possible two faults 78.43 - 79.165 m and 79.325 - 80.10 m if assume equivalent thicknesses. 78.4 m - S_0/ca - 70°							
83.90 - 84.30	Thin laminated to thin bedded sideritic sediments. Hematitic siderite appears to have locally replaced sediments. Sediments also have abundant white porphyroblasts (albite?) along layers. Appearance of interval is that of orange layers (bedding) with abundant small white porphyroblasts. Intensely disrupted immediately above 84.27 m (fault zone). Layering (S_0/S_1?) at 62° to ca. Local hypabyssal felsic intrusives.							
84.30 - 84.75	Fault Zone. Washed away. Minor recovery of clayey gouge.							
84.75 - 87.47	Sheared Gabbro. Upper and lower contacts broken, consists of rounded gravel to cobble sized fragments, possibly fault zones. Relict gabbro has moderately well developed foliation which is cross-cut by iron-stained fractures. Thin quartz-rich layers (silicification?) Up to 3 mm thick at 65° to ca.							
87.47 - 94.80 (cont'd)	Sheared light to medium green, Chloritized Sediments with subordinate Hypabyssal Felsic Intrusive intervals. Plagioclase (albite?) Spotting. Faults - 91.59 m - 6 cm gouge above, 4 cm below - thickness unknown. - approximately 92.50 m (end of core run in fault zone), 28 cm of gouge below, layering at 65° to ca Very broken core between 87.47 - 93.0 m.							

87.47 - 94.80	93.0 - 93.5 m - very friable, sheared sediments with little cohesion Felsic intrusive intervals - 92.30 - 92.50, 93.6 - 93.7 m. Abundant sulfides (pyrite) from 91.5 m down, locally up to 15% over 2 cm (true thickness) down to 93.0 m, then decreases to 1-3% to base of interval. 93.1-93.6 m - slickensides evident on foliation surfaces but no point of reference against which to measure them							
94.80 - 95.43	Hypabyssal Felsic Intrusive with Quartz Veins. Quartz veins up to 1 cm thick abundant over interval, spaced 0.3-2.0 cm along shear / foliation planes. Felsic intrusive is medium green in colour with ubiquitous quartz lenses and patches on mm-scale. Very sharp transition from previous interval as represented by recovered core. Change in colour of intrusive toward base of interval (basal 15 cm) to yellow-green, very friable (sheared). 94.8 m - S_1(?) - 65° 95.43 m - S_1 - 75° Slickensides at 94.95 m oriented at 40-45° to ca with core oriented so S_1(?) dipping west on surface oriented at 42° to ca and 75° to S_1(?).	112604	94.8 - 95.43	5	<0.2	143	8	271
95.43 - 96.10	Transitional contact with underlying Hypabyssal Felsic Intrusive. The interval consists of grit to cobble sized (0.4 - 4 cm) angular to rounded, yellow-green to black fragments of very fine-grained to aphanitic hypabyssal felsic intrusive in a quartz-rich (probably hybrid sedimentary and igneous) matrix. Interval has brecciated appearance with clasts / fragments oriented with long axis parallel to S_1 (?) foliation. Sharp upper sheared contact with overlying interval with up to 15-20% pyrite over upper 3 cm. Pyrite present throughout entire interval, primarily as fine disseminated grains, minor small masses of fine-grained pyrite and as fine veinlets along foliation surfaces and comprise up to 3% by volume. Development of S_1 increasingly poor toward base of interval. Fine network of very fine, randomly oriented (late stage) quartz veinlets 95.55 m - S_1/ca - 65°	112605 112606	95.43 - 95.70 95.70 - 96.10	20 20	1.4 2.6	61 74	228 82	5174 2377

96.10 - 96.85	Pyritic, hematitic hypabyssal felsic intrusive. Significant increase in proportion of sulfides (≤ 15%) with transition to extensive purple colouration interpreted to arise from incorporation of fine-grained hematite into host intrusive. Upper 13 cm of interval consists of transition from sharp upper contact with preceding interval (actually a very sharp discontinuity) through a medium to dark brown pyrite-rich (≤ 15%) interval with highly subordinate, angular hematitic intrusive fragments in a pyritic stockwork to the underlying purple coloured hematitic, intrusive with minor chalcopyrite (?). Upper contact at 75°. Fine network of very fine, randomly oriented (late stage) quartz veinlets	112607	96.10 - 96.85	75	0.6	37	26	22
96.85 - 102.33	Hypabyssal Felsic Intrusive with subordinate hematitic intervals. Intrusive has a variety of colours, ranging from yellow to yellow-green to light grey. Hematitic veins (layers) at a variety of orientations cross-cut core, ranging from very fine (mm-scale) up to 2 cm thick. Moderately abundant from 96.85 - 100.23 m and from 102.0 - 102.33 m. Hematitic veins / layers subsequently cross-cut by white quartz veins with minor pyrite and having a variety of orientations with sharp to slightly diffuse contacts. Entire interval has up to 15% sulfides (predominantly pyrite), locally over 2-3 cm but averages approximately 5% by volume. Sulfides most abundant within and/or immediately adjacent to hematitic (jasper) veins. Fault at 100.73 m - 6 cm of fine, greenish sand and iron spotting. Fine network of very fine, randomly oriented (late stage) quartz veinlets throughout interval and appear to cross-cut thicker quartz veins.	112608 112609 112610 112611 112612	96.85 - 98.14 98.14 - 99.23 99.23 - 100.08 100.08 - 100.73 101.10 - 101.77	30 20 25 15 15	0.4 0.4 <0.2 <0.2 <0.2	16 25 13 6 4	52 92 52 8 14	76 82 34 <1 <1
102.33 - 123.75 (cont'd)	Hypabyssal Felsic Intrusive. Interval is generally a tan to beige colour with local dirty green coloured patches (relict sediments?). The interval has subordinate hematite enriched intervals ranging from several mm thick to 15 cm thick, generally at an oblique angle to the ca. White quartz veins (± calcite) with only minor sulfides are present, ranging from 0.3 to 4 cm, with both sharp and diffuse contacts. The veins generally cross-cut the core but are locally discontinuous. Minor grey, glassy quartz veins are also present and are cross-cut with minor offset by white quartz veins.	112613 112614 112615 112616 112617	102.71 - 103.06 105.61 - 105.85 107.00 - 107.28 107.44 - 107.69 115.22 - 115.40	5 5 10 15 30	<0.2 <0.2 <0.2 2.6 <0.2	4 8 4 48 13	4 30 2 44 4	<1 19 <1 17 58

102.33 - 123.75	There may be an association between some grey quartz occurrences and the hematitic intervals, noted locally at 112.65 - 112.90 m, 116.50 - 116.55m, 118.30 - 118.40 m, 118.58 - 118.80 m and 120.15 - 120.50 m. Sulfides (pyrite ± chalcopyrite) are preferentially associated with hematitic intervals (as above and 106.52 - 106.57 m, 115.22 - 115.40 m and 119.0 - 119.15 m. In areas where there are more abundant sulfides in the host rock, the white quartz veins have displaced and locally concentrated the sulfides along the vein contacts. Sulfide (primarily as pyrite and chalcopyrite) varies from ≤1% disseminated grains to approximately 5% in hematitic intervals. The entire interval is then cross-cut by a fine network of very fine, generally orthogonally oriented quartz veinlets which are cross-cut, in turn, by highly subordinate light yellow coloured calcite veinlets which first appear at approximately 114 m.							
123.75 - 127.92	Annealed Fracture Zone. The hypabyssal felsic intrusive has abundant quartz-filled veinlets arranged in generally orthogonal fashion above and below an annealed shear zone between 124.52 - 124.62 at 70° to ca. Additional high strain intervals in which the rock has failed but not extensively sheared occur between 123.75 - 123.95 m, 124.14 - 124.30 m, 125.14 - 125.35 m and 126.72 - 126.93 m. The abundance of fine orthogonal fractures increases significantly in these areas. In addition, there are medium grey quartz bands which define a layering at 123.83 - 123.88 m at 55° to ca, 124.44 - 124.52 m at 60° to ca, 124.72 - 124.77 m at 50° to ca and 124.92 - 124.99 m at 45° to ca. Sulfide content (as pyrite) is generally ≤ 1% except between 125.0 - 125.14 m (3-5%), 125.48 - 125.83 m (≤ 3%) and 126.67 - 126.73 m (≤ 3%). Both grey and white quartz veins show fractures with offset. Fine network of quartz veinlets show no apparent offset.							
127.92 - 129.56 (cont'd)	Hypabyssal Felsic Intrusive with Quartz Veins. Proportion of later stage white quartz veins significantly increased. Cubic pyrite grains are less abundant but larger (≤ 3 mm in diameter) within quartz veins with fine grained masses in the felsic hypabyssal intrusive host. White quartz veins comprises 50-60% of the interval. Slight preferred orientation at 30°-40° to ca.	112618 112619	128.57 - 129.21 129.21 - 129.56	25 15	0.6 4.2	6 78	502 3304	15 394

127.92 - 129.56	Lower contact gradational with decreasing size and abundance of quartz veins into underlying interval. Interval also has ≤ 1% galena ± chalcopyrite as fine- to medium-grained masses and within minor veinlets at 129.20 - 129.56 m, associated with the base of quartz veins and contact with the underlying felsic intrusive.							
129.56 - 130.72	Hypabyssal Felsic Intrusive. Interval consists of medium beige to tan coloured intrusive with local mottled green patches (possibly assimilated sedimentary xenoliths). Lower contact has mottled green colour in transition to underlying sediments.							
129.56 - 130.72 (cont'd)	In addition, several small patches of relict sediments are present, as patchy areas up to 1.5 cm in diameter, having a medium green colour and diffuse, irregular boundaries. Similar to 127.92 - 129.56 m. Pyrite disseminated throughout interval and also in local concentrations in lens shaped masses or along fractures. Sulphides present (as pyrite) up to 1% by volume.							
130.72 - 134.63	Moderately Altered Sediments. Sedimentary character unmistakable with alternating, relatively intact wacke and sub-wacke to argillic interbeds. Wacke beds are medium greenish grey and up to 2 cm thick in structurally modified beds. Sub-wacke to argillic intervals are medium to dark green to greenish-grey and up to 10 cm thick. Pyrite present as coarse masses or as short rods up to 0.5 cm long and 0.2 mm thick parallel to sub-parallel to bedding, comprising up to 1% on average and 3% locally (over ≤ 4cm). Bedding truncated and displaced across foliation. Lower contact gradational from 134 m to 134.63 m with colour progressively turning from medium green to yellowish green and beige in patches. Contacts between patches are diffuse and irregular. Yellowish-green to yellow silica-rich intervals have abundant yellow white oval patches (incipient albitization?) with grey quartz layers / bands. 131 m - S_0 (?)/ca - 60° 132.5 m - S_0/ca - 70° 132 m - S_0/ca - 60°	112620 112621	130.91 - 132.00 132.00 - 133.00	10 <5	<0.2 <0.2	29 14	62 252	33 41

134.63 - 139.88	Hypabyssal Felsic Intrusive. Aphanitic to very fine-grained, mottled light grey to tan to green felsic intrusive. Highly subordinate white quartz veins between 139.1 - 139.56 m. No grey, glassy quartz veins. Fine network of quartz veinlets between 134.63 - 135.4 m, and 136.4 - 136.6 m. Minor yellow calcite veins. 139.0 - 139.88 - Increase in pyrite content to ≤ 1% with minor galena	112622	139.28 - 139.69	125	4.8	178	750	1399
139.88 - 165.80	Mixed Sediments and Hypabyssal Felsic Intrusives. Sediments - 139.88 - 139.96 m, 141.20 - 141.82 m, 142.40 - 142.75 m, 144.0 - 144.37 m, 145.0 - 145.68 m, 149.34 - 149.73 m, 150.3 - 150.58 m, 150.8 - 151.0 m, 153.40 - 153.62 m, 153.96 - 154.4 m, 154.8 - 156.0 m, 159.4 - 159.73 m, 162.7 - 162.85 m and 164.1 - 165.1 m. 150.8 m - S_0 (?)/ca - 40° 155.0 m - S_0 (?)/ca - 30° Felsic Intrusive - 139.96 - 141.20 m, 141.82 - 142.40 m, 142.75 - 144.0 m, 144.37 - 145.0 m, 145.68 - 149.34 m, 149.73 - 150.3 m, 150.58 - 150.8 m, 151.0 - 153.40 m, 153.62 - 153.96 m, 154.4 - 154.8 m, 156.0 - 159.4 m, 159.73 - 162.7 m, 162.85 - 164.1 m and 165.1 - 165.8 m. Fault - 161.96 - 162.04 at 30° to ca Shear - 159.65 - 159.71 at 40° to ca	112623 112624	144.30 - 145.30 154.80 - 155.80	25 15	<0.2 <0.2	5 37	20 8	15 65
165.80	End of Hole (EOH)							

BIG B RESOURCES INC.   HOLE NO.: DIBBLE 99-7   PROPERTY: DV PROPERTY

Commenced: June 8 / 99	Location: DIBBLE	Hor. Comp.:	Hole No.: 99-7
Completed: June 14 / 99	Mining Division: Fort Steele	Vert. Comp.:	Length: 167.63 M
Coordinates: UTM	Core Size: 0 - 15.24 - HQ 15.24 - 167.63 - NQ	Logged By: Rick Walker	Elevation: 1980 M
Easting: 613140 e	Northing: 5494988 n	Date logged: July / 99	Inclination: -64.5° Azimuth: 220°

Interval (metres)	Core Description	Sample Number	Sample Interval (metres)	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
0 - 12.14	Near surface, oxidized Sediments Heavily iron stained siltites. Pinkish red stained sedimnets consisting of limonite and/or goethite primarily along bedding / foliation planes. Minor component of limonite (dark orange brown) along irregular fractures up to 1 cm thick between 2.1 - 2.3 and 5.1 - 5.25 m. Strata consists of thin bedded, light green siltites (sub-wackes) and dark green (mottled) intervals of light to medium greenish grey siltites. Generally green strata overall with purple siltites from 10.31 to base of interval. Very strong foliation developed from 2.3 - 2.6 at 53° to ca and from 4.57 - 6.50 at 60° to ca, emphasized by iron staining. Iron stained fractures with up to 3 cm of pervasive infiltration of iron stain into adjacent sediments at 10.6 - 10.69 m at 45 ° (fault with clayey gouge) to ca and 10.76 - 10.87 m at 35° to ca Quartz and medium to dark orange limonite / goethite between approximately 1.2 - 1.3 m (broken interval) and 11.76 - 11.90 m (base of very strongly iron stained zone beginning at 10.33 m). Lower "vein" is lense shaped with highly irregular boundaries. Dark reddish brown limonite forms a 0.1-0.4 cm thick rind between host sediments and quartz and limonite / goethite vein. Vein oriented at highly oblique angle to host sediments.	112625 112626	0.25 - 0.80 11.58 - 11.87	5 55	<0.2 <0.2	1 2	<2 <2	22 35

0 - 12.14 (cont'd)	0.20 m - S_0/ca - 58° 3.30 m - S_0/ca - 53° 4.70 m - S_0/ca - 42° 7.25 m - S_0/ca - 55° 9.20 m - S_0/ca - 48° Faults - 2.61 - 2.75 m at 37° to ca - dark brown mud / gouge - annealed breccia - 2.5 - 2.61 m - 5.25 - 5.45 m at 15° to ca - clayey gouge - 5.66 - 5.69 m at 65° to ca - chips with minor gouge - 6.51 - 6.55 m at 60° to ca - 8.1 - 8.19 m at 45° to ca - intensely sheared with over ≤ 2 cm of fault gouge at base of zone						
12.14 - 14.33	Weakly iron stained siltites. Light purple coloured sediments from 12.14 - 13.3 m, green coloured to base of interval, thick laminated to thin bedded. Significant reduction in iron staining from previous interval. Iron staining sub-parallel to S_0 between 12.28 - 12.34 m, 2 cm thick. 1-4 cm thick zones of pervasive iron staining oriented at highly oblique angle to S_0 between 13.03 - 13.15 m at approximately 35° to ca and 80° to S_0. Between 13.23 and 13.62 m, zone of pervasive iron staining sub-parallel to S_0 then steepens up to nearly perpendicular to S_0 from 13.3 to 13.62 m. 12.34 - 12.68 m - Noted minor black porphyroblasts up to 1.5 mm thick, having sub-idioblastic, cubic to rectangular morphology. Under binocular microscope, appears to consist of a fine-grained aggregate or perhaps good cleavage. Also may have sub-metallic lustre. Highly subordinate, fine-grained pyrite visible under microscope at 4x. 12.30 m - S_0/ca - 48° 13.30 m - S_0/ca - 40° Basal portion of interval (13.96 - 14.33 m) consists of strongly iron stained strata up to 10 cm above fault and 7 cm below fault zone (oriented at 55° to ca). Fault zone consists of clayey gouge subsequently infilled with goethite and quartz vein (0.5 cm thick). Missing corE between 13.71 - 14.0 m, downsized from HQ to NQ rods.	112627	12.14 - 12.68	45	<0.2	10	<2	34
14.33 - 16.84	Dark Purple and Green Siltites. Upper 20 cm bleached below iron stained zone with minor 4 cm thick dark green siltite interval. Dark purple siltites from 14.53 - 15.0 m with 10 cm transition zone into underlying medium to dark green						

14.33 - 16.84 (cont'd)	siltites to base of interval. Strata consist of thin laminated (0.1 mm) to thin bedded (2.0 cm) alternating siltites (sub-wackes) and argillites. Beds increasingly disrupted downward through interval with thicker beds boudinaged and laminae partially transposed into the foliation. Minor interfolial folds in basal 30 cm of interval. Minor offsets ($\leq$ 1.0 cm) noted at approximately 15.5 m. Assuming same bedding / foliation relationships as at surface (i.e. steeply south dipping), then sense of displacement is south side up on fault planes oriented at 30° to 57° to ca 14.50 m - S_0/ca - 42° 16.0 m - S_0/ca - 38° 14.50 m - S_1/ca - 52° 16.0 m - S_1/ca - 52° 16.0 m - S_0/S_1 - approximately 30°							
16.84 - 19.74	Iron Stained Siltites. Medium (yellow-) green siltites (probably slightly to moderately altered) with strongly iron stained intervals between 16.84 - 17.28 m, 17.41 - 18.0 m and 18.9 - 19.74 m, which is both sub-parallel to bedding and cross-cuts S_0 at a highly obliques angle. Iron staining present as both coatings on bedding and/or foliation planes and as iron spotting within siltites. Thin irregular veinlet cross-cuts strata at 20° to ca and at high angle to S_0 (approximately 60°) with irregular zone of infiltration and iron staining up to 2 cm thick on either side and along local (i.e. permeable) horizons ➡ Fluid conduits Zones of iron staining up to 10°-15° (slightly oblique) to bedding Faults - 17.45 - 17.50 m with clayey gouge - 18.95 - 19.0 m with minor clayey gouge at 60° to ca	112628 112629	17.43 - 18.02 18.02 - 18.75	10 10	<0.2 0.2	39 1	14 <2	52 55
19.74 - 20.80	Dark Green Siltites. Similar to interval 15.10 - 16.84 m. Upper and lower 10-15 cm of interval slightly bleached at contacts with adjacent intervals 19.90 m - S_0/ca - 45°							
20.80 - 22.10	Iron Stained Siltites. Similar to interval 16.84 - 19.74 m. Iron stained from 20.8 - 21.6 and 21.93 - 22.10 m at both high angle and su-parallel to bedding. 21.51 - 21.6 m - thin dark reddish brown limonite and quartz (± medium orange goethite) veins between 0.3 - 1 cm thick.							

22.10 - 25.15	Locally iron stained, slightly bleached siltites. Weak purple to mauve coloured siltites from 22.10 - 25.0 m with medium to dark green siltites over basal 15 cm. Iron stained zone from 22.70 - 22.95 sub-parallel to bedding. Thin 2-4 cm thick iron stained intervals at 23.27 m, 23.67 m, 24.20 m, 24.38 m and 24.97 m. At 24.20 m, there is a medium-grained mass of pyrite lying along a fracture at 15°-20° to ca and approximately 60° to S_0. The fracture has a variable zone of iron infiltration between 0.5 and 2 cm thick on each side. Black sub-metallic mineral associated with both fracture and pyrite lense (possibly tennantite - tetrahedrite?), forms partial rind around pyrite (replacement relationship?). Minor pyrite over interval.	Sample B 112630	22.70 - 22.95 24.11 - 24.25	40 15	0.2 <0.2	10 34	4 <2	32 24
25.15 - 26.73	Quartz veining in Sericitic Siltites. Altered siltites due to hydration (?) resulting in filamentous masses of yellow-green sericite(?) Within altered siltites. Irregular quartz vein between 25.25 - 25.75 m. Diffuse quartz veins and lenses within filamentous sericitic, purple siltites associated with weak iron staining. Fine network of goethite (?) veinlets at base of quartz vein between 25.55 - 25.75 m. Minor, thin white and grey quartz veins between 25.91 - 26.73 m. 26.0 m - S_0/ca - 45°	112631	25.15 - 25.91	10	<0.2	3	<2	15
26.73 - 39.30	Medium Green Siltites with iron stained zones. Predominantly light to medium green siltites with minor dark green intervals (2.0 to 40 cm) and iron stained intervals as described previously at high angles to host strata between 33.80 - 34.20 m and 36.4 - 36.57 m and sub-parallel to S_0 between 27.15 - 27.30 m, 28.50 - 29.20 m, 38.44 - 38.52 m and 38.66 - 38.74 m). Two (30.95 - 32.40 m and 34.35 - 35.70 m) have upper contacts sub-parallel to S_0 and highly oblique, cross-cutting lower contacts. Irregular, diffuse quartz veins are present within the iron stained intervals between 31.39 - 31.8 m and 34.7 - 35.70 m. Dark purple siltites are present between 36.20 - 36.70 m. Quartz veins and lenses are present from 39.0 - 39.30 m but are not associated with extensive iron staining (as limonite) but with highly subordinate goethite along fractures in the	Sample C Sample D Sample A	31.39 - 31.80 31.80 - 32.20 34.70 - 35.70	35 10 45	1.6 0.4 <0.2	31 6 20	<2 <2 <2	5 15 24

26.73 - 39.30 (cont'd)	quartz and goethite spotting in host siltites above the quartz zone. 30.0 m - S_0/ca - 50° 36.5 m - S_0/ca - 45° Relatively coarse, sub-idioblastic cubic (to dodecahedral) black porpohyroblasts are present in siltites, absent to <<1%, non-magnetic with resinous lustre.							
39.30 - 46.66	Light Purple to Mauve Siltites. Similar to interval 22.10 - 25.0 m. Top 4 cm is dark purple siltite band preserved immediately below quartz vein described in previous interval. Iron stained (hematitic) intervals (as described previously) cross-cut host strata at high angle at 39.56 - 39.80 m (with quartz vein), sub-parallel to S_0 at 42.0 - 42.44, 44.14 - 44.70 m and 46.10 - 46.66 m. In addition, there are quartz veins which are not associated with iron staining and dark red brown hematite but rather dark yellow - light orange limonite veins, coated fractures and local network veinlets. Quartz associated with the limonitic intervals is white and grey. These intervals occur between 42.44 - 43.24 and 45.14 - 45.22 m. In contrast to the hematitic, iron stained intervals, the limonite + quartz intervals are competent (not friable) and are generally parallel to sub-parallel to S_0. 40.8 m - S_0/ca - 40° 42.0 m - S_0/ca - 45° 44.1 m - S_0/ca - 45°	112632 112633 112634 112635	39.56 - 39.80 42.00 - 42.44 42.44 - 43.15 44.18 - 44.70	50 15 10 5	<0.2 <0.2 <0.2 0.4	7 2 2 2	<2 <2 <2 <2	34 23 11 18
46.66 - 55.80	Locally iron stained, light green siltites. The interval consists of light green siltites (as described previously) with local iron stained intervals. The interval 46.66 - 47.69 m has quartz and limonite veins at a high angle to bedding at the base of, and in transition from, the iron stained interval from 46.2 - 46.66 m, and irregular quartz + limonite veins from 47.34 - 47.69 m. The remainder of the interval is cross-cut by numerous quartz + limonite veinlets and veins, together with fine pyritic veinlets. The quartz + limonite veins cross-cut the pyritic veinlets. Iron stained quartz veins present between 47.69 - 48.85 m, 49.63 - 50.0 m and 54.46 - 55.07 m. The intervals 47.69 - 48.85 m and 49.63 - 50.0 m are similarly bracketed by quartz + limonite intervals 47.34 - 47.69 m, 48.85 - 49.0, 49.37 - 49.63 and 50.0 - 50.41 m across relatively sharp transition zones	112636 112637 112638 112639	49.63 - 50.00 50.00 - 50.41 50.41 - 51.20 54.46 - 55.07	10 5 15 <5	<0.2 0.4 4.4 <0.2	5 5 178 4	<2 <2 <2 <2	7 21 39 38

46.66 - 55.80 (cont'd)	(0.2 - 1.0 cm). Other iron stained zones (no quartz) are present at 49.37 - 49.42 m, 52.28 - 53.32 m and 55.07 - 55.8 m. Other quartz + limonite intervals present at 51.1 - 51.35 m. Weak sulfide mineralization (<< 1%) is present between 46.66 - 47.45 and 50.41 - 52.28 m. 51.0 m - S_0/ca - 50° 53.5 m - S_0/ca - 55° 55.7 m - S_0/ca - 50°							
55.80 - 60.48	Iron stained Purple Siltites. Thin bedded, purple siltites with iron staining along bedding planes and throughout local beds. Iron staining with quartz lenses and veins between 57.02 - 59.20 m with dark red - brown hematite throughout interval. 56.58 - 56.66 - 3-4 mm thick vein at high angle to S_0 and 2 cm dextral offset along bedding. Appears to have fibrous texture perpendicular to vein margins (growth along foliation and/or bedding?) At 40° to ca, 85° to S_0. Mineral is black in colour with sub-metallic to metallic lustre, non-magnetic. Fault at 59.37 - 59.43 m at 60° - 65° to ca, 4 cm of fault chips and clayey gouge within iron stained interval from 59.35 - 59.9 m. 56.0 m - S_0/ca - 45° 57.0 m - S_0/ca - 42° 59.9 m - S_0/ca - 45°	112640 112641 112642	56.40 - 56.58 57.02 - 58.03 58.03 - 59.20	10 5 5	0.2 0.2 0.2	2 2 3	<2 <2 <2	17 9 6
60.48 - 62.0	Iron stained Green Siltites. Transition zone from purple siltites (60.48 m) through light mauve / purple and green siltites to green siltites at 61.57 m. Transition zone heavily iron stained over upper 1 m with fault at 61.36 m (1-2 cm thick with fault chips and gouge). 61.65 m - S_0/ca - 55°							
62.0 - 63.17	Purple Siltites. As described previously. Iron stained, hematitic quartz vein between 62.18 - 62.44 m with overlying limonitic interval from 62.1 - 62.18 m.	112645	62.10 - 62.44	<5	<0.2	4	<2	16
63.17 - 64.63	Green Siltite. As described previously. White quartz vein dominated interval between 64.05 - 64.63 m, no associated hematite, minor limonite. Bedding broken and offset by fine	112646	64.00 - 64.63	5	1.4	509	<2	<1

63.17 - 64.63 (cont'd)	white quartz veins between 63.320 - 63.30 m. Minor clayey gouge at upper contact. 64.0 - 64.07 m - Malachite flakes along foliation. 63.3 m - S_0/ca - 45°							
64.63 - 67.15	Purple Siltite. As described previously. White to grey quartz vein dominated section from 65.44 - 66.0 m parallel to sub-parallel to S_0 and no associated hematite and / or limonite. Thin white quartz layers and / or veins present throughout interval, up to 0.8 mm thick and cross-cut thicker, white to grey quartz veins. Upper 20 cm transitional with alternating green and purple siltites. Lower contact sharp. 66.2 m - S_0/ca - 50°							
67.15 - 69.20	Light mauve / purple and green alternating siltites. As decsribed previously. Iron free quartz veining from 67.15 - 67.78 m. Pyrite within quartz vein and along margins from 68.0 - 68.10 . Several thin white quartz veins between 67.78 - 68.5 m, slightly deformed with local sinistral offset of up to 1 cm.	112643	68.00 - 68.13	130	<0.2	2	<2	23
69.20 - 72.50	Purple Siltites. Dark purple between 69.20 - 69.50 and 71.20 - 72.50 m; light purple between 69.5 - 71.2 m. Minor, thin white quartz veins sub-parallel to S_0. 70.8 m - S_0/ca - 40°	112644	70.10 - 70.50	25	<0.2	2	<2	13
72.50 - 75.07	Light Green Siltites. As described previously. Hematitic, iron stained interval betwen 73.5 - 73.65 m and 74.9 - 75.07 m. 72.6 m - S_0/ca - 37° 74.0 m - S_0/ca - 50°							
75.07 - 84.70	Alternating Light and Dark Green Siltites. Dark green siltites between 75.07 - 76.29 m, 77.45 - 78.39 m, 79.63 - 84.24 m; light green between 76.29 - 77.45 m, 78.39 - 79.63 m and 84.24 - 84.70 m. Hematitic, iron stained intervals - 76.40 - 77.2 m and 79.5 - 79.84 m. 75.2 m - S_0/ca - 55° 82.0 m - S_0/ca - 40° 78.0 m - S_0/ca - 40° 84.5 m - S_0/ca - 30° 79.6 m - S_0/ca - 36°							

75.07 - 84.70 (cont'd)	Fault at 76.55 m with clayey gouge at 35° to ca Highly subordinate quartz + limonite veins, sub-parallel to S_0, between 75.2 - 76.3 m.							
84.70 - 85.85	Disrupted hematitic, iron stained Sediments. Light Green Siltites (as described previously). Heavily hematitic sediments with abundant hematitic spotting and hematitic layers parallel to S_1. Minor hematitic quartz veins. 84.9 m - S_1/ca - 40°							
85.85 - 86.35	Light Green-grey Siltites. Limonitic over upper 20 cm. 84.5 m - S_0/ca - 20°							
86.35 - 86.70	Disrupted hematitic, iron stained Sediments. Similar to 84.70 - 85.85 m.							
86.70 - 87.87	Alternating light and dark green Siltites. As described previously. 86.7 - 87.1 m - Alternating thick laminated to thin bedded, light and dark green siltites. 87.1 - 87.87 m - Light green limonitic siltites with minor quartz and limonitic veins.							
87.87 - 93.1	Heavily hematitic, quartz vein hosting Siltites. Dark pink-red, hematite spotted siltites with hematitic coatings on layering. Irregular hematite and quartz veins at 88.55 - 88.7 m and 91.7 - 92.76 m (represented by 75 - 80 cm of recovered core. 91.7 - 92.76 m - contains fault with clayey gouge Interval from approximately 89.4 - 92.76 m - very broken with approximately 40 - 50% core receovered, little of which remains intact.							
93.10 - 94.04	Light Green Siltite. Similar to interval 85.85 - 86.35 m. Moderately limonitic with moderate iron staining between 93.1 - 93.3 m and 93.4 - 93.5 m. Subordinate white quartz veins present with or without limonite. Hematitic iron staining between 93.85 - 93.95 m.							
94.04 - 96.80	Heavily hematitic, quartz vein hosting Siltites. Similar to 87.87 - 93.1 m. Quartz vein between approximately 94.84 -							

94.04 - 96.80 (cont'd)	95.1 m. Core very broken between 94.4 - 96.62 m with deep orange goethite coating many surfaces.							
96.80 - 98.56	Disrupted, altered Siltites. Transition from overlying interval to siltites below. Mottled, discontinuous light and dark green siltites with intervals of heavily hematitic iron staining (96.98 - 97.4 m) and annealed breccia (97.58 - 97.63 m). Moderately abundant white quartz veining at 97.63 m sub-parallel to layering (/bedding?) decreasing downward.							
98.56 - 137.00	Dark Green Siltites. Sediments consists of thin laminated to thin bedded siltites as described previously, variably dislocated and / or transposed into foliation. Short intervals of purple siltites at 124.3 - 124.94 m, 126.86 - 127.76 m (gradational at basal contact over 20 cm back into green siltites), 135.6 - 135.74 m and 135.96 - 136.20 m. Quartz veining between 98.9 - 98.98 m, 103.5 - 103.7 with hematite, 103.8 - 103.9 m with dark orange limonite / geothite at 20° to ca, 104.67 - 104.9 m hematitic spotting with quartz + hematite vein, 105.1 - 105.76 m layer parallel quartz + hematite veins up to 2 cm thick, 105.88 - 106.7 m - deformed quartz veins up to 1 cm thick with minor hematite in upper 10 - 15 cm and yellow limonite over remainder of interval, 107.75 - 108.0 m associated with both hematite and limonite, 110.85 - 111.26 m diffuse quartz veins with irregular contacts and minor hematitic spotting in bands sub-parallel to layering, 112.04 - 112.1 m vuggy quartz vein with goethite, 115.78 - 116.4 m siderite (?) veins and network veinlets (weak reaction to HCl and deep orange colour), 118.08 - 118.4 m white quartz veins cross-cutting sediments at highly oblique angles with siderite, 120.74 - 121.2 m thin white quartz veins with minor hematite spotting sub-parallel to S_0 (a minor proportion cross-cutting at a high angle). Heavily hematitic, iron stained interval from 122.75 - 123.3 m 136.54 - 137.0 m - Thin dark orange limonitic veinlets hosted by green siltites at a variety of orientations. 99.5 m - S_0/ca - 20° - (graded bedding - right-way-up) 102.5 m - S_0/ca - 55° 124.2 m - S_0/ca - 55° 107.5 m - S_0/ca - 57° 127.0 m - S_0/ca - 58° 111.8 m - S_0/ca - 55° 130.5 m - S_0/ca - 42°	112647 112648 112649	104.67 - 105.10 106.10 - 106.70 107.75 - 108.00	<5 <5 <5	<0.2 <0.2 0.2	5 5 6	<2 4 2	22 42 12

98.56 - 137.00 (cont'd)	114.4 m - S_0/ca - 55° 132.7 m - S_0/ca - 50° 118.5 m - S_0/ca - 60° 133.5 m - S_0/ca - 0° 120.5 m - S_0/ca - 55° 135.0 m - S_0/ca - 60° 121.1 m - S_0/ca - 62° 133.4 - 133.6 m - Broad, open fold hinge 124.5 m - S_1/ca - 60° 130.3 m - S_1/ca - 56° 127.0 m - S_1/ca - 62° 131.9 m - S_1/ca - 60° 128.0 m - S_1/ca - 55° 133.5 m - S_1/ca - 55° Faults - 105.15 - 105.2 m - clayey fault gouge - ≈ 105.45 - 105.76 - 10 - 15 cm of broken rock, fault chips and clayey gouge - 125.4 - 130.5 m - Very strong development of foliation - 130.5 - 131.3 m - Thicker bedded (≤ 4cm) interval inhibited development of foliation - 131.3 - 132.3 m - Highly disrupted siltites - 132.3 - 132.38 m - highly sheared interval at ≈ 45° to ca, moderately to strongly sheared to 132.51 m below fault. - ≈ 136.2 - 136.54 m - 7 cm of fault chips and clayey gouge to represent interval - 136.73 - 136.78 m - Highly sheared with very friable clayey gouge at 65° to ca							
137.00 - 139.70	Purple Siltites. As described previously. 139.55 - 139.7 m - Thin, irregular white quartz veinlets. 139.0 - 139.3 m - Broad, open fold hinge, truncated by foliation at 139.3 m. 137.2 m - S_0/ca - 57° 137.2 m - S_0/S_1 - ≈ 25° 139.1 m - S_0/ca - 35° 139.25 m - S_0/ca - 0° 139.1 m - S_1/ca - 60° 139.25 m - S_1/ca - 50°							
139.70 - 156.20	Green Siltites with short intervals of purple siltites. As described previously. Purple siltite intervals - 144.25 - 144.9 and 148.95 - 151.02 m. Quartz vein bearing intervals: 139.9 - 140.35 m - quartz vein with hematite spotting at high angle to host siltites. Lower 10 cm bleached to light green with moderately abundant hematite spotting at 140.25 m, decreasing to lower contact. 140.35 - 141.58 m - Thin white and grey quartz veins cross-	112650	141.58 - 141.98	<5	<0.2	2	<2	32

139.70 - 156.20 (cont'd)	cutting S_0, sub-parallel to S_1 with minor iron component as limonite. 141.58 - 141.98 m - White quartz vein with irregular, non-parallel boundaries cross-cutting S_0 at high angle with minor hematite. 144.2 - 144.25 m - White quartz vein with irregular margin sub-parallel to S_1. 144.98 - 145.05 m - White quartz vein with slightly irregular margins sub-parallel to S_1, 0.5 cm pistachio green altered rind along vein. 146.15 - 148.31 m - Thin white quartz veins, both with (minor) and without (predominant) limonitic iron staining sub-parallel (without) to highly oblique (with) to S_1. Quartz veins with limonite locally cross-cut quartz veins without iron. 148.76 - 148.95 m - Slightly bleached interval with irregular (slightly deformed) dark orange limonitic and quartz veins cross-cut S1. 148.95 - 150.25 m - Yellowish - white quartz veins with diffuse margin 151.72 - 151.9 m - White quartz veins without iron sub-parallel to S_1. Quartz + medium orange limonite veinlets highly oblique to S_1. 152.95 - 153.06 m - Irregular white quartz veins sub-parallel to slightly cross-cutting S_1. 155.44 - 156.24 m - Two generations of quartz veins. First is generally grey in colour and sub-parallel to one another and is cross-cut by (2nd set) irregular white quartz veins. Both sets of veins $\leq$ 0.5 cm thick. 141.5 m - S_0/ca - 42° 155.0 m - S_0/ca - 47° 145.1 m - S_0/ca - 48° 151.3 m - S_0/ca - 50° 151.3 m - S_1/ca - 50° 151.3 m - S_0/S_1 - ≈ 30° 145.1 m - S_1/ca - 42° 155.0 m - S_1/ca - 55° 147.3 m - S_1/ca - 50°							
156.20 - 158.36	Light Mauve / Purple Siltites with local iron stained intervals. Siltites as described previously with moderately well	112651	156.89 - 157.05	5	<0.2	2	<2	17

156.20 - 158.36 (cont'd)	developed foliation and fine-grained pyrite in thin (1 mm thick) bands parallel to S_1, comprising << 1% of interval by volume. 156.2 - 156.45 m and 156.89 - 157.07 m - Moderately hematite spotted with several dark orange hematitic layers / coatings parallel to S_1.	112652	157.05 - 157.45	>1000 0.046 oz/t 1.58 g/t	0.8	5	<2	23
158.36 - 160.97	Green Siltites, as described previously. Open fold evident in sediments between 158.8 - 159.0 with minor offset along S_1 (0.5 - 1.5 cm). 158.9 m - S_0/ca - 0° 160.5 m - S_0/ca - 43° 158.9 m - S_1/ca - 50° 160.3 m - S_1/ca - 45°							
160.97 - 165.68	Light Green to Mauve / Purple Siltites with quartz veins. Sediments as described previously. Quartz veins - 162.4 - 162.68 m - White quartz veins with irregular diffuse boundaries and cross-cut by medium orange iron stained quartz veins. 164.96 - 165.68 m - White quartz veins up to 10 cm thick with diffuse margins sub-parallel to S_1. Heavily hematitic, iron stained intervals from 161.27 - 161.64 m and 161.8 - 165.4 m. Fault - 165.14 - 165.23 m - 2.0 cm thick, oriented at ≈25° to ca with fault chips and clayey gouge							
165.68 - 167.63	Green Siltites. As described previously. 165.68 - 166.14 m - Quartz vein (similar to 164.96 - 165.68 m) 166.4 m - S_0/ca - 25° 166.5 m - S_0/ca - 0° 166.7 m - S_0/ca - 25° Broad, open fold between 166.4 - 166.7 m. 166.5 m - S_1/ca - 50°							
167.63	End of Hole (EOH)							

BIG B RESOURCES INC. HOLE NO.: BOX 99-8 PROPERTY: DV PROPERTY

Commenced: June 15 / 99	Location: BOX	Hor. Comp.:	Hole No.: 99-8	
Completed: June 16 / 99	Mining Division: Fort Steele	Vert. Comp.:	Length: 37.18 m	
Coordinates: UTM	Core Size: 0 - 37.18 - HQ	Logged By: Rick Walker	Elevation: 2045.77 m ASL	
Easting: 609615.19 E	Northing: 5495958.88 N	Date logged: July / 99	Inclination: -56°	Azimuth: 090°

Interval (metres)	Core Description	Sample Number	Sample Interval (metres)	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
0 - 33.87	Faulted Gabbro. Moderately to strongly magnetic. Medium grained. Coarse grained 19.51 - 20.0 m. Extensively faulted from 0 - 11.89 m; 2.85 - 3.05 m (fine silt to sand sized fault gouge), 7.5 - 7.92 m, 9.45 - 9.6 m and 12.45 - 12.8 m, 20.5 - 20.55 m, 21.0 - 21.4 m, 21.8 - 21.9 m, 23.9 - 24.1 m, 24.4 - 24.55 m, 24.69 - 24.8 m, 27.3 - 27.4 m, 28.6 - 28.65 m, 28.9 - 29.1 m, 30.8 - 30.85 m, 30.9 - 30.95 m and 31.4 - 31.7 m. Note: 21.0 - 31.7 m - Very broken core with some core loss therefore uncertain intervals. 33.1 - 33.87 m - Quartz veining at lower contact with moderately abundant hematite.							
33.87 - 37.18	Dark grey Sediments. Very broken, thick laminated to thin bedded, interbedded medium grey sub-wacke to wackes and dark grey argillites. Dark orange limonite / hematite developed on most exposed surfaces. 37.0 m - S_0/ca - 70° Fault gouge ≈ 35.8 - 36.27 m with >50% missing core.							
37.18	End of Hole							

Appendix D

Analytical Results

28-Jul-99

:O-TECH LABORATORIES LTD.
1041 East Trans Canada Highway
AMLOOPS, B.C.
2C 6T4

ione: 250-573-5700
ax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 99-277

Post-it™ Fax Note 7671 — Date: July 28 — # of pages: 3
To: Rick Walker

BIG "B" RESOURCES INC.
3977 WOODLANDS DRIVE
TRAIL, BC
V1R 2V6

ATTENTION: LORNE BABCOCK

No. of samples received: 53
Sample type: Core/Rock
PROJECT #: DV. Property
SHIPMENT #: None Given
Samples submitted by: Rick Walker

alues in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)*	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	K %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	112601		<0.2	1.95	<5	90	<5	1.33	1	69	530	294	7.19	0.27	<10	3.53	341	<1	0.02	414	1270	16	<5	<20	112	0.10	<10	131	<10	<1	35
2	112602		<0.2	1.29	<5	70	<5	0.05	<1	8	34	16	2.61	0.14	<10	0.78	172	2	0.01	14	200	4	<5	<20	2	<0.01	<10	9	<10	<1	34
3	112603		<0.2	1.76	<5	56	<5	0.14	<1	10	44	39	3.52	0.14	<10	1.12	262	3	0.02	19	540	16	<5	<20	6	<0.01	<10	14	<10	<1	52
4	112604		<0.2	0.82	30	315	10	4.92	1	86	323.	143	9.16	0.01	<10	>10	1080	5	0.02	739	770	8	30	<20	410	<0.01	<10	81	<10	<1	271
5	112605		1.4	0.06	45	20	<5	0.47	13	30	70	61	3.16	0.01	<10	0.78	152	2	0.02	74	60	228	15	<20	43	<0.01	<10	6	<10	<1	5174
6	112606		2.6	0.07	15	20	<5	0.67	7	18	125	74	2.49	<0.01	<10	0.46	181	8	0.03	23	40	62	20	<20	35	<0.01	<10	5	<10	<1	2377
7	112607		0.6	0.03	30	50	10	0.77	<1	19	127	37	>10	0.01	<10	0.38	133	12	0.01	22	<10	26	<5	<20	18	<0.01	10	21	<10	<1	22
8	112608		0.4	0.05	20	20	10	0.58	<1	20	109	16	4.78	0.01	<10	0.30	112	9	0.02	19	<10	52	<5	<20	53	<0.01	<10	6	<10	<1	78
9	112609		0.4	0.07	15	25	5	0.30	<1	11	113	25	5.47	0.01	<10	0.61	165	7	0.03	10	10	92	<5	<20	20	<0.01	<10	12	<10	<1	82
10	112610		<0.2	0.07	15	30	<5	0.37	<1	10	134	13	1.77	0.01	<10	0.21	87	8	0.03	11	50	52	<5	<20	21	<0.01	<10	4	<10	<1	34
11	112611		<0.2	0.09	10	30	<5	0.25	<1	10	168	6	1.84	0.01	<10	0.18	74	5	0.05	12	70	8	<5	<20	14	<0.01	<10	3	<10	<1	<1
12	112612		<0.2	0.06	25	20	5	0.47	<1	28	81	4	2.48	0.01	<10	0.22	91	7	0.04	29	80	14	<5	<20	47	<0.01	<10	2	<10	<1	<1
13	112613		<0.2	0.08	<5	45	<5	0.13	<1	8	123	4	1.07	0.01	<10	0.11	60	4	0.04	9	110	4	<5	<20	3	<0.01	<10	2	<10	<1	<1
14	112614		<0.2	0.20	<5	30	<5	0.31	<1	8	138	8	2.07	0.01	<10	0.32	132	8	0.03	10	60	30	<5	<20	5	<0.01	<10	23	<10	<1	19
15	112615		<0.2	0.09	15	25	<5	0.23	<1	31	107	4	1.95	0.01	<10	0.16	79	4	0.03	26	40	2	<5	<20	4	<0.01	<10	2	<10	<1	<1
16	112616		2.6	0.04	25	20	10	0.90	<1	35	110	48	4.91	<0.01	<10	0.45	128	4	0.03	31	<10	44	15	<20	53	<0.01	<10	5	<10	<1	17
17	112617		<0.2	0.04	10	30	15	0.28	<1	15	112	13	7.86	0.01	<10	0.89	228	9	0.01	14	<10	4	<5	<20	6	<0.01	<10	38	<10	<1	58
18	112618		0.6	0.06	40	30	<5	2.07	<1	9	125	6	2.48	0.02	<10	1.01	308	6	0.02	8	360	502	<5	<20	150	<0.01	<10	14	<10	<1	15
19	112619		4.2	0.06	40	25	<5	1.19	2	17	118	70	2.32	0.02	<10	0.61	125	5	0.02	20	<10	3304	40	<20	77	<0.01	<10	6	<10	<1	394
20	112620		<0.2	0.77	10	45	<5	0.08	<1	21	49	29	3.41	0.12	<10	0.85	81	24	0.02	29	310	62	<5	<20	<1	<0.01	<10	7	<10	<1	33

RESOURCES INC. ICP CERTIFICATE OF ANALYSIS AK 99-277 **ECO-TECH LABORATORIES LTD.**

#.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	K %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	.	W	Y	Zn
1	112621		<0.2	1.11	<5	55	<5	0.07	<1	13	44	14	3.06	0.11	<10	0.93	86	5	0.02	22	230	252	5	<20	<1	<0.01	<10	11	<10	<1	41
2	112622		4.8	0.09	80	25	<5	1.09	7	7	106	178	3.06	0.04	<10	0.55	198	4	0.04	10	120	750	75	<20	75	<0.01	<10	5	<10	<1	1399
3	112623		<0.2	0.15	15	30	<5	0.89	<1	13	118	5	3.33	0.11	<10	0.66	129	3	0.02	16	120	20	<5	<20	64	<0.01	<10	2	<10	<1	15
4	112624		<0.2	0.18	<5	60	<5	0.13	<1	15	36	37	3.28	0.14	<10	0.87	92	6	0.01	27	450	8	5	<20	7	<0.01	<10	2	<10	<1	65
5	112625		<0.2	0.34	<5	125	<5	0.91	<1	11	75	1	1.96	0.11	<10	0.59	369	1	0.02	13	150	<2	<5	<20	7	<0.01	<10	1	<10	<1	22
6	112626		<0.2	0.19	<5	90	5	0.25	<1	12	27	2	3.53	0.13	<10	0.66	386	3	0.01	15	530	<2	5	<20	3	<0.01	<10	2	<10	<1	36
7	112627		<0.2	0.25	<5	175	<5	0.10	<1	13	58	10	3.38	0.12	<10	0.08	302	4	0.01	15	450	<2	<5	<20	1	<0.01	<10	3	<10	<1	34
8	112628		<0.2	0.27	<6	105	<5	0.47	<1	17	25	39	3.40	0.13	<10	0.62	431	3	0.01	18	580	14	<5	<20	3	<0.01	<10	3	<10	<1	52
9	112629		0.2	0.19	<5	120	<5	0.23	<1	14	23	1	3.05	0.12	<10	1.24	298	3	0.01	15	520	<2	<5	<20	3	<0.01	<10	2	<10	<1	55
10	112630		<0.2	0.20	6	50	<5	0.61	<1	40	35	34	3.43	0.11	<10	0.81	446	3	0.01	16	460	<2	<5	<20	7	<0.01	<10	2	<10	<1	24
31	112631		<0.2	0.31	<5	160	<5	0.31	<1	6	97	3	1.61	0.10	<10	0.26	434	4	0.01	12	470	<2	<5	<20	4	<0.01	<10	2	<10	<1	15
32	112632		<0.2	0.25	<5	135	<5	0.29	<1	10	90	7	2.67	0.15	<10	0.53	191	3	0.01	14	380	<2	<5	<20	1	<0.01	<10	4	<10	<1	34
33	112633		<0.2	0.17	<5	220	<5	0.18	<1	9	88	2	2.47	0.11	<10	0.98	157	4	<0.01	13	520	<2	5	<20	10	<0.01	<10	2	<10	<1	23
34	112634		<0.2	0.08	<5	140	<5	0.40	<1	6	133	2	1.67	0.06	<10	1.00	138	4	<0.01	9	420	<2	5	<20	8	<0.01	<10	2	<10	<1	11
35	112635		0.4	0.18	<5	70	<5	0.18	<1	11	47	2	2.13	0.13	<10	0.79	160	3	<0.01	14	380	<2	<5	<20	3	<0.01	<10	2	<10	<1	18
36	112636		<0.2	0.05	<5	35	<5	0.06	<1	5	110	5	1.33	0.02	<10	0.17	140	3	0.01	9	60	<2	<5	<20	<1	<0.01	<10	1	<10	<1	7
37	112637		0.4	0.15	<5	50	<5	0.14	<1	9	61	5	2.61	0.09	<10	0.93	245	7	0.01	10	680	<2	10	<20	<1	<0.01	<10	2	<10	<1	21
38	112638		4.4	0.16	<5	90	<5	0.23	<1	12	29	178	2.60	0.10	<10	1.10	237	24	0.01	12	730	<2	30	<20	3	<0.01	<10	2	<10	<1	39
39	112639		<0.2	0.28	<5	90	<5	0.36	<1	13	84	4	3.29	0.99	<10	0.18	339	4	0.02	16	490	<2	<5	<20	2	<0.01	<10	3	<10	<1	38
40	112640		0.2	0.17	<5	70	<5	1.97	<1	10	74	2	2.27	0.11	<10	0.98	1027	3	0.01	8	480	<2	10	<20	19	<0.01	<10	2	<10	<1	17
41	112641		0.2	0.13	<5	110	<5	1.14	<1	6	105	2	1.68	0.08	<10	0.36	902	2	<0.01	6	360	<2	<5	<20	9	<0.01	<10	2	<10	<1	9
42	112642		0.2	0.12	<5	180	<5	1.12	<1	5	108	3	1.79	0.08	<10	0.51	814	5	<0.01	8	420	<2	<5	<20	10	<0.01	<10	1	<10	<1	6
43	112643		<0.2	0.16	<5	115	<5	1.68	<1	11	28	2	3.53	0.12	<10	1.00	396	3	0.01	14	530	<2	<5	<20	25	<0.01	<10	2	<10	<1	23
44	112644		<0.2	0.14	5	125	<5	1.07	<1	9	60	2	2.06	0.08	<10	0.76	455	4	0.01	8	170	<2	<5	<20	10	<0.01	<10	1	<10	<1	13
45	112645		<0.2	0.10	<5	210	<5	1.68	<1	8	118	4	2.23	0.06	<10	0.78	818	2	0.01	10	530	<2	<5	<20	17	<0.01	<10	7	<10	<1	16
46	112646		1.4	0.11	<5	125	<5	1.07	<1	3	111	509	0.76	0.06	<10	0.38	636	8	0.01	5	510	<2	10	<20	12	<0.01	<10	2	<10	<1	<1
47	112647		<0.2	0.27	<5	260	5	0.44	<1	8	68	5	2.57	0.13	<10	1.04	182	2	<0.01	15	470	<2	<5	<20	15	<0.01	<10	3	<10	<1	22
48	112648		<0.2	1.22	15	75	5	0.12	<1	15	54	6	2.23	0.09	<10	1.18	148	2	<0.01	14	490	4	10	<20	<1	<0.01	<10	7	<10	<1	42
49	112649		0.2	0.52	<5	205	<5	0.22	<1	5	139	6	1.08	0.04	<10	0.70	130	1	<0.01	9	280	2	5	<20	8	<0.01	<10	4	<10	<1	12
50	112650		<0.2	1.06	<5	100	<5	0.55	<1	9	106	2	2.08	0.08	<10	0.81	276	4	0.01	15	770	<2	10	<20	5	<0.01	<10	7	<10	<1	32
51	112651		<0.2	0.25	<5	125	<5	0.20	<1	10	70	2	2.15	0.16	<10	0.50	188	2	0.01	15	240	<2	<5	<20	8	<0.01	<10	3	<10	<1	17
52	112652		0.8	0.14	50	35	5	0.24	<1	22	37	5	3.80	0.11	<10	1.13	203	5	<0.01	24	460	<2	<5	<20	3	<0.01	<10	2	<10	<1	23
53	99-RW-DV-1		0.2	0.07	<5	55	<5	<0.01	<1	6	184	4	1.65	0.06	<10	<0.01	41	3	<0.01	10	20	<2	<5	<20	<1	<0.01	<10	<1	<10	<1	<1

BIG "B" RESOURCES INC. ICP CERTIFICATE OF ANALYSIS AK 99-277 ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)*	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	K %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
QC DATA:																															
Resplit:																															
1	112601		<0.2	1.89	<5	80	<5	1.38	<1	67	500	278	7.09	0.25	<10	3.37	334	<1	0.02	411	1300	18	<5	<20	106	0.08	<10	127	<10	<1	35
36	112636		0.2	0.06	<5	36	<5	0.06	<1	6	107	5	1.36	0.02	<10	0.17	150	3	0.01	8	70	<2	<5	<20	<1	<0.01	<10	1	<10	<1	8
Repeat:																															
1	112601		<0.2	1.89	<5	80	<5	1.32	<1	69	512	269	7.07	0.26	<10	3.37	330	<1	0.02	405	1280	18	<5	<20	104	0.08	<10	127	<10	<1	36
10	112610		0.4	0.06	20	25	<5	0.39	<1	10	134	12	1.78	0.04	<10	0.21	86	7	0.03	9	60	58	<5	<20	22	<0.01	<10	4	<10	<1	33
19	112619		4.2	0.06	35	25	<5	1.19	2	17	118	76	2.35	0.02	<10	0.60	125	5	0.02	20	<10	3314	35	<20	76	<0.01	<10	6	<10	<1	399
36	112636		0.4	0.05	<5	36	<5	0.05	<1	5	113	4	1.36	0.02	<10	0.17	138	3	0.01	8	60	<2	<5	<20	<1	<0.01	<10	1	<10	<1	7
45	112645		<0.2	0.10	<5	200	<5	1.65	<1	9	116	2	2.19	0.06	<10	0.77	604	3	0.01	10	630	<2	5	<20	17	<0.01	<10	2	<10	<1	14
Standard:																															
GEO'99			1.4	1.81	70	145	<5	1.83	<1	18	65	87	3.84	0.34	<10	0.98	667	<1	0.02	22	590	20	<5	<20	56	0.07	<10	76	<10	8	72
GEO'99			1.4	1.78	65	160	<5	1.82	<1	17	64	90	3.86	0.33	<10	0.96	654	<1	0.02	23	670	18	<5	<20	55	0.08	<10	78	<10	8	64

NOTE: * = Au results still to come

df/269
XLS/99

ECO-TECH LABORATORIES LTD.
per Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

Feuillets de transmission par télécopieur / Post-it™ Fax Note 7671B | Date: July 30 | # of pages: 1
To / A: Rick Walker | From / De:
Co./Dept. / Cie/Service: | Co. / Cie:
Phone # / N° de tél: | Phone # / N° de tél:
Fax # / N° de télécopieur: | Fax # / N° de télécopieur:

Eco-Tech LABORATORIES LTD.

ASSAYING
GEOCHEMISTRY
CAL CHEMISTRY
IENTAL TESTING

amloops, B.C. V2C 6T4
Phone (250) 573-5700 Fax (250) 573-4557
email: ecotech@mail.wkpowerlink.com

CERTIFICATE OF ASSAY AK 99-277

30-Jul-99

BIG "B" RESOURCES INC.
3977 WOODLANDS DRIVE
TRAIL, BC
V1R 2V6

ATTENTION: LORNE BABCOCK

No. of samples received: 53
Sample type: Core/Rock
PROJECT #: DV. Property
SHIPMENT #: None Given
Samples submitted by: Rick Walker

ET #.	Tag #	Au (g/t)	Au (oz/t)
52	112652	1.56	0.046

QC/DATA:

Repeat:			
52	112652	1.50	0.044
Standard:			
STD-M		1.67	0.049

per ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/99

27-Jul-99

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
KAMLOOPS, B.C.
V2C 6T4

Phone: 250-573-5700
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 99-144

Feuillets de transmission par télécopieur / Post-it™ Fax Note 7671 | Date: July 28 | # of pages: 1
To / À: Rick Walker | From / De:
Co./Dept. / Cie/Service | Co. / Cie
Phone # / N° de tél. | Phone # / N° de tél.
Fax # / N° de télécopieur | Fax # / N° de télécopieur

BIG B RESOURCES INC.
3977 WOODLANDS DRIVE
TRAIL, BC
V1R 2V6

ATTENTION: LORNE BABCOCK

No. of samples received: 4
Sample type: Core
PROJECT #: DV Property
SHIPMENT #: None Given
Samples submitted by: Rick Walker

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	K %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	SAMPLE A	<0.2	0.18	<5	110	<5	1.02	<1	10	98	20	2.12	0.11	<10	0.48	262	7	0.01	11	230	<2	<5	<20	21	<0.01	<10	3	<10	<1	24
2	SAMPLE B	0.2	0.46	85	165	10	0.16	<1	21	60	10	3.99	0.23	<10	0.09	461	5	0.02	21	570	4	<5	<20	4	<0.01	<10	4	<10	<1	32
3	SAMPLE C	1.8	0.07	<5	46	<5	0.25	<1	3	211	31	0.97	0.38	<10	0.07	115	14	0.01	7	120	<2	<5	<20	<1	<0.01	<10	1	<10	<1	5
4	SAMPLE D	0.4	0.26	<5	60	<5	0.21	<1	7	54	6	1.79	0.15	<10	0.06	152	2	0.01	10	450	<2	<5	<20	2	<0.01	<10	3	<10	<1	15

QC DATA:

Repeat:																														
1	SAMPLE A	<0.2	0.18	<5	110	<5	1.00	<1	9	98	19	2.10	0.11	<10	0.47	258	7	0.01	11	210	<2	<5	<20	20	<0.01	<10	3	<10	<1	23
Standard:																														
GEO'98		1.2	1.70	65	155	<5	1.80	<1	18	66	88	3.58	0.36	<10	0.98	672	<1	0.02	23	620	16	<5	<20	57	0.10	<10	73	<10	7	70

df/265
XLS/99
cc: Dynamic Exploration Ltd.

ECO-TECH LABORATORIES LTD.
per Frank J. Pezzotti, A.Sc.T
B.C. Certified Assayer

Feuillets de transmission par télécopieur | Date Jun 15 | # of pages ▶ 1
Post-it™ Fax Note 7671
To / A Rick Walker | From / De
Co./Dept. / Cie/Service | Co. / Cie
Phone # / N° de tél. | Phone # / N° de tél.
Fax # / N° de télécopieur | Fax # / N° de télécopieur

ECO-TECH LABORATORIES LTD.

ASSAYING
[G]EOCHEMISTRY
[ANALYTIC]AL CHEMISTRY
[ENVIRONM]ENTAL TESTING

[Kam]loops, B.C. V2C 6T4
[Phone (250) 573-5700] Fax (250) 573-4557
email: ecotech@mail.wkpowerlink.com

CERTIFICATE OF ANALYSIS AK 99-144

15-Jun-99

BIG B RESOURCES INC.
3977 WOODLANDS DRIVE
TRAIL, BC
V1R 2V6

ATTENTION: LORNE BABCOCK

No. of samples received: 4
Sample type: Core
PROJECT #: DV Property
SHIPMENT #: None Given
Samples submitted by: Rick Walker

ET #.	Tag #	Au (ppb)	Ag (ppm)
1	Sample A	45	<0.1
2	Sample B	40	<0.1
3	Sample C	35	1.6
4	Sample D	10	<0.1

QC DATA:

Repeat:

1	Sample A	45	<0.1

Standard:

GEO'99	130	1.3

per ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/99
cc: Dynami[c] Exploration
Attn: Rick W[al]ker

Appendix E

GPS Data

Note: The following differential GPS data was collected during the 1999 field season. With the exception of drill collar information, however, none of the data was utilized for the purposes of this report and is only tabulated here for the purpose of completeness.

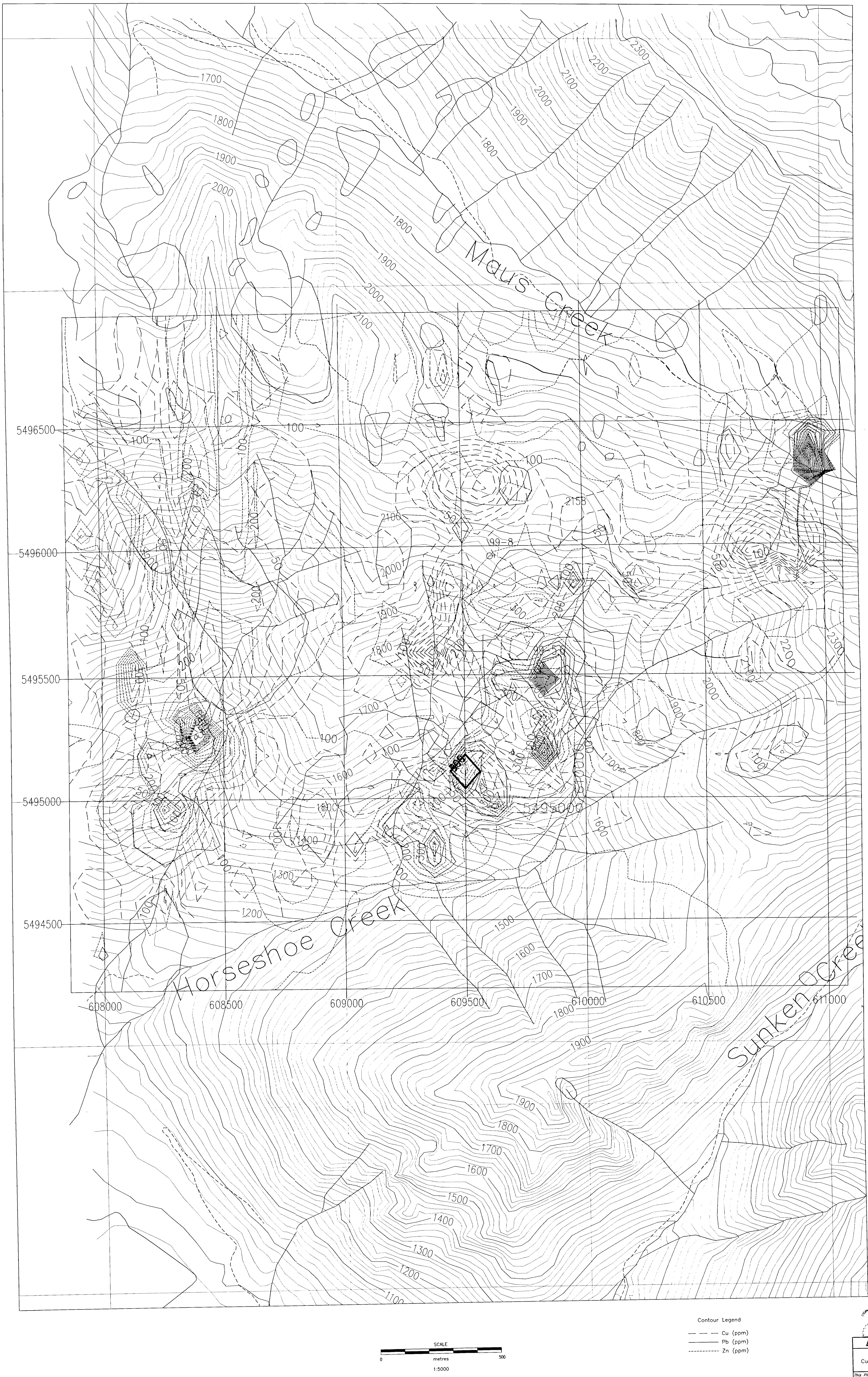
File Name	Easting	Northing	Elevation	PDOP
100N225E	609739.70	5495605.65	1850.02	2.44
100N175E	609696.32	5495624.24	1855.55	3.14
200N100E	609699.14	5495723.58	1930.60	2.66
300N325W	609325.77	5495963.50	1960.38	6.87
300N375W	609281.52	5495980.47	1992.04	2.42
300N425W	609247.21	5495989.98	2021.47	2.32
300N475W	609207.61	5496002.25	2052.83	1.62
300N525W	609166.84	5496017.66	2061.81	1.54
300N575W	609129.88	5496041.24	2037.24	4.75
400N100E	609759.82	5495880.15	1997.92	2.47
400N150W	609558.98	5495960.03	2024.08	1.55
400N175W	609522.69	5495976.33	2021.14	2.85
400N125W	609523.56	5495974.49	2020.16	1.87
400N200W	609499.64	5495982.49	2032.31	1.76
400N250W	609458.65	5496000.99	2040.21	1.66
400N300W	609415.03	5496018.17	2043.34	1.58
400N325E	609956.24	5495798.25	1965.64	2.76
400N400W	609324.36	5496052.25	2038.79	1.64
400N450W	609280.42	5496074.72	2055.71	1.60
400N500W	609239.73	5496087.80	2076.63	2.20
400N525W	609220.97	5496094.82	2089.81	3.11
400N575W	609179.76	5496111.53	2093.98	4.74
500300WB	609403.66	5496101.78	2091.86	2.01
500N200E	609875.00	5495934.16	2044.78	2.07
500N225W	609497.01	5496064.99	2082.89	2.43
500N250W	609474.36	5496071.90	2094.42	1.69
500N25E	609715.26	5495984.60	2067.75	1.93
500N25W	609672.08	5496002.56	2065.64	2.29
500N300W	609430.68	5496088.79	2095.26	1.65
500N325W	609383.11	5496107.76	2089.68	1.77
500N350E	610013.82	5495898.10	2021.96	2.13
500N400E	610057.68	5495890.32	2003.82	2.60
500N425W	609294.83	5496143.22	2100.53	1.65
500N475W	609268.61	5496155.00	2108.05	2.36
500N525W	609228.59	5496160.30	2128.07	2.52
500N550W	609202.36	5496168.86	2140.26	4.60
500N575W	609179.36	5496177.00	2139.28	3.09
500N600W	609158.43	5496186.18	2133.52	2.85
500N75E	609760.44	5495974.98	2048.19	2.03
500N125E	609811.16	5495965.28	2036.45	2.97
500N125W	609583.31	5496036.92	2049.58	2.19

File Name	Easting	Northing	Elevation	PDOP
500NBL0	609694.11	5495991.74	2076.39	2.05
600N100E	609817.11	5496028.37	2080.22	7.18
600N100W	609615.21	5496111.19	2112.79	2.61
600N175E	609883.22	5495998.48	2076.20	3.21
600N200W	609544.78	5496133.70	2127.38	3.65
600N225W	609517.89	5496139.72	2122.83	2.55
600N25E	609746.96	5496054.40	2098.97	2.53
600N275W	609477.81	5496154.95	2128.10	4.18
600N325E	610015.31	5495942.12	2044.12	2.84
600N400W	609368.20	5496197.42	2144.47	4.48
600N450W	609323.90	5496219.55	2149.88	4.99
600N500W	609281.41	5496233.72	2164.38	2.16
600N50W	609682.62	5496077.26	2116.53	2.30
600NBL0	609722.31	5496063.02	2101.61	2.27
750NBL0E	609779.16	5495453.65	1797.75	5.17
88DRILL	609779.57	5495375.86	1794.74	2.95
99-8AZE	609622.97	5495960.46	2047.09	8.00
99-8AZW	609594.24	5495961.08	2032.25	1.96
99-8COLL	609615.19	5495958.88	2045.77	2.43
A1VLF-88	609905.92	5495402.72	1747.23	3.48
ADIT2DIB	612884.99	5494911.38	1901.40	2.39
ADITDIB2	612995.66	5495007.70	1988.01	6.62
ADIT-E29	613125.45	5494980.34	2007.19	2.85
ADITE38	612978.95	5494951.39	1953.97	2.43
BXUPHELI	609667.51	5495963.81	2070.24	1.66
CREEK1	613320.30	5494899.09	2001.99	2.77
CREEK10	613143.65	5494851.10	1922.37	2.22
CREEK11	612856.63	5495061.42	1971.00	3.45
CREEK2	613349.38	5494892.03	2007.52	4.70
CREEK3	613361.37	5494889.70	2013.75	4.82
CREEK4	613273.74	5494803.90	1946.84	5.39
CREEK5	613098.92	5494914.17	1952.37	6.71
CREEK6	613007.03	5494977.18	1952.74	7.09
CREEK7	613167.27	5494925.67	1973.55	8.02
CREEK8	613095.65	5494895.88	1943.44	3.00
CREEK9	613150.33	5494872.56	1939.53	2.43
DRILL-2	609804.30	5495520.73	1831.44	2.92
DRILLAZE	609813.75	5495511.68	1818.97	5.23
DRILLAZW	609770.41	5495541.54	1834.66	5.17
HELIPAD	609784.72	5495354.88	1794.81	2.12
IRONSTAN	612850.24	5494917.17	1887.85	3.23
L400N50E	609711.90	5495899.25	2022.28	1.95
L400N50W	609631.03	5495929.38	2042.88	2.14
L400N75E	609735.80	5495892.60	2015.69	3.55
L400N75W	609610.58	5495936.49	2044.57	2.79

File Name	Easting	Northing	Elevation	PDOP
L400NBL0	609674.35	5495911.18	2046.71	2.11
L400N25E	609698.16	5495905.72	2032.38	1.94
L6N-50E	609730.45	5495305.53	1764.29	3.04
L8N100E	609879.53	5495436.63	1779.55	2.70
L925NBL0	609885.64	5495595.18	1836.82	2.14
L950NBL0	609895.57	5495617.52	1847.28	2.77
L9N-BL0E	609874.01	5495578.43	1822.68	4.11
LSWICHE	613094.13	5494800.00	1880.46	2.36
LSWICHW	613011.58	5494864.25	1899.17	2.39
OC1	609213.43	5496083.50	2082.19	2.90
PICADIT	609934.83	5495479.31	1749.33	4.15
RIDGEPAD	609185.19	5496258.94	2176.48	2.32
SHAFT1	613002.47	5495029.68	2001.82	3.01
SHAFTE28	612913.18	5495021.94	1991.66	2.34
SL-0E30S	609798.94	5495422.39	1810.29	4.68
SLIDE1	612994.04	5494807.07	1855.90	3.28
TIELINEW	609213.57	5496256.02	2178.54	2.27
TREE2	613104.21	5494522.54	1812.68	2.85
TREE3	613025.96	5494614.19	1807.25	1.88
TREE4	613127.60	5494742.82	1867.29	2.26
TRENCHN	609800.21	5495379.90	1796.14	2.29
TRENCHS	609800.97	5495355.06	1795.04	1.94
TRENE28	612929.06	5495020.18	1992.80	1.98
TRENE28W	612903.76	5495027.29	1981.57	2.4
UNN-575E	609749.99	5495291.92	1767.48	2.16
UPSWICHW	613072.87	5494909.48	1942.25	2.74
USWICHE	613174.99	5494836.42	1936.45	2.44

Appendix G

Figures



Contour Legend

- — — — Cu (ppm)
- ——— Pb (ppm)
- - - - - - Zn (ppm)

BIG B RESOURCES INC.

Box Grid

Cu, Pb, Zn (ppm) Soil Geochemistry

Figure 6

This Plot: 99/12/16	Date: Dec '99 by CLT
Map Ref.: .	Scale: 1:5:000

NAD 83

BIG B RESOURCES INC.

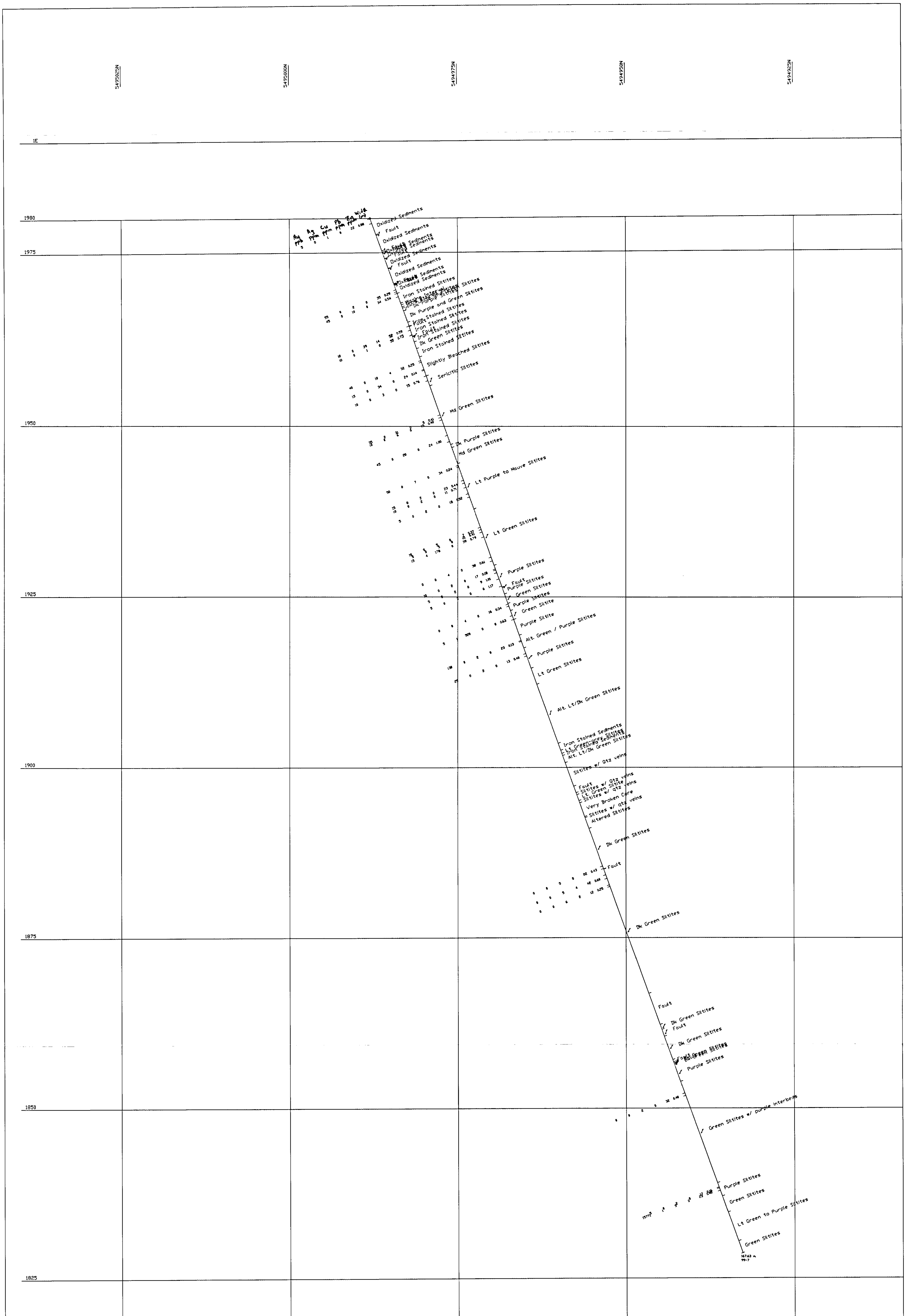
Dibble Grid

Ag (ppm), Au (ppb) Soil Geochemistry

Figure 7

This Plot: 99/12/16	Date: Dec '99 by CLT
Map Ref.: .	Scale: 1:2500

699775E
699800E
699825E
699850E
699875E
1N
1831
1825
1800
1775
1750
1725
1700
1675
67.51
HQ Casing
Green-grey Wacke
Fault Zone
Green Grey Wacke
Disrupted Sediments
Fault
Felsic Intrusive
Au Ag Cu Pb Zn W.I.
ppb ppm ppm ppm ppm (m)
Dolomitic Interbed
Fault Zone
Faults
Felsic Intrusive / Fault
Sheared Gabbro
Sheared, chloritized Sediments
Transition Zone
Pyritic Felsic Intrusive
Annealed Fracture Zone
Felsic Intrusive w/ quartz veins
Altered Sediments
Sediments
SCALE
0
metres
25
1:250
Bedding
NAD 83
Big B Resources
DV Property
Hole 99-5, 6 Cross-section
Figure 8
This Plot: 99/12/14
Map Ref.: .
Date: Dec.'99 by CLT
Scale: 1:250



GEOLOGICAL SURVEY BRANCH

26,181

NAD 83

SCALE

0 metres 25

1:250

Bedding

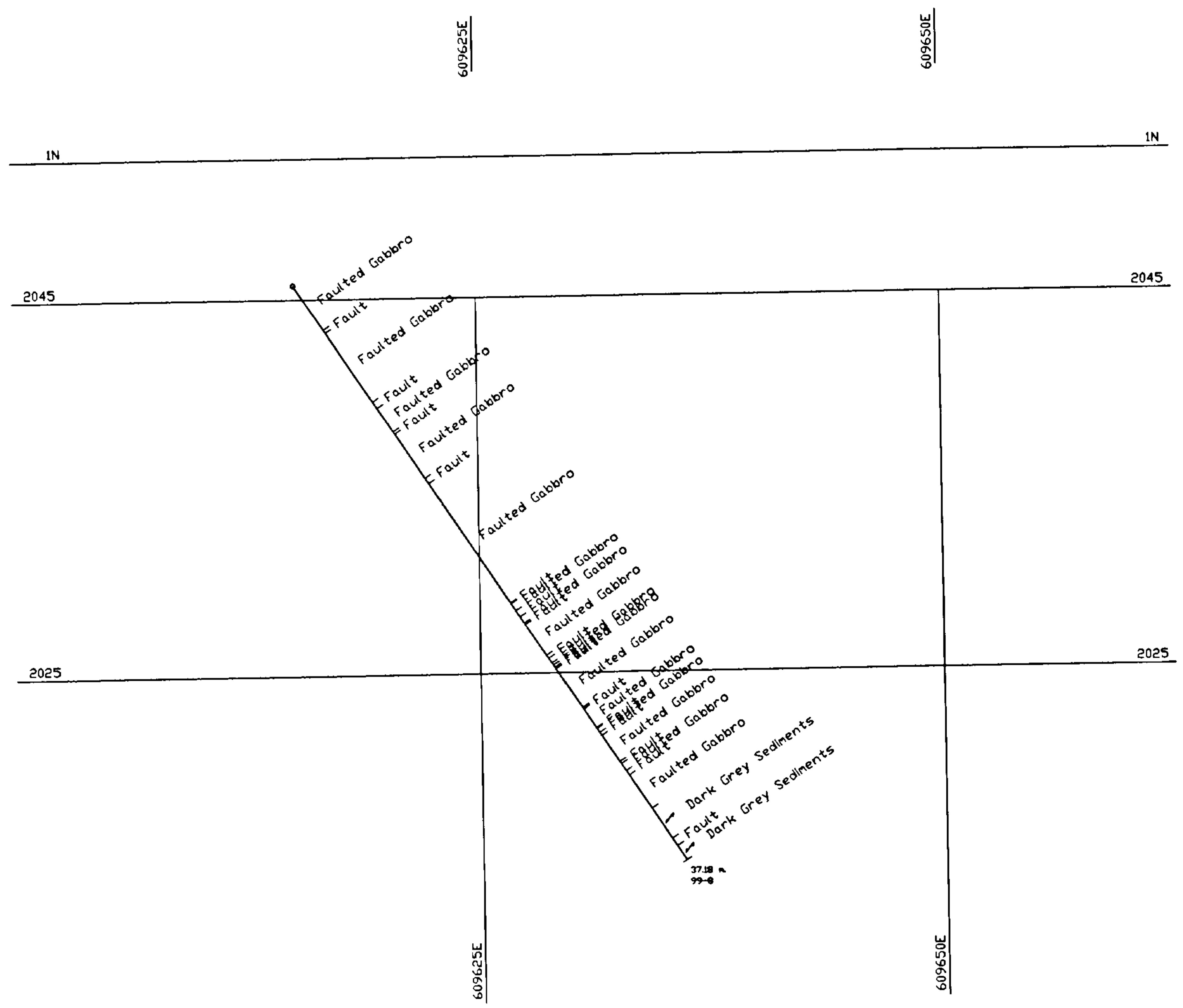
BIG B RESOURCES

DV Property

Hole 99-7 Cross-section

Figure 9

This Plot: 99/12/14	Date: Dec.'99 by CLT
Map Ref.: .	Scale: 1:250



SCALE

0 metres 25

1:250

NAD 83

BIG B RESOURCES

DV Property

Hole 99-8 Cross-section

Figure 10

This Plot: 99/12/14	Date: Dec.'99 by CLT
Map Ref.: .	Scale: 1:250