Summary Report
for 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
3977 Woodlands Drive
Trail, B.C.
V1R 2V6

by

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

Date: May 9, 1998

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.

The 1997 field program consisted of two separate geochemical soil sampling programs, one undertaken on the FOX claims on the northeast portion of the DV property and the second west of the BOX claims. Both programs were initiated in an attempt to evaluate geophysical anomalies identified on the regional digital dataset acquired in 1995 and/or the Dighem airborne geophysical survey completed in 1996.

The program on the FOX claims consisted of a total of 343 "B" horizon soil samples taken over eleven separate lines oriented east-west, tied to a single north-south baseline. The sample lines were spaced 100 metres apart with sample stations approximately 50 metres apart.

The program west of the BOX claims resulted in a total of 98 "B" horizon soil samples taken along three separate contour lines, namely 1200, 1400 and 1500 metres. An initial series of samples at 50 metre centres were taken in July on the 1200 and 1400 m contour lines. A subsequent program was completed in October to take infill samples at alternate 25 metre centres in areas having anomalous results, extending the 1400 m sample line an additional 150 metres east and sampling the 1500 metre contour.

All soil samples recovered were submitted to Eco-Tech Laboratories Ltd. in Kamloops, BC for 28 element ICP analysis.

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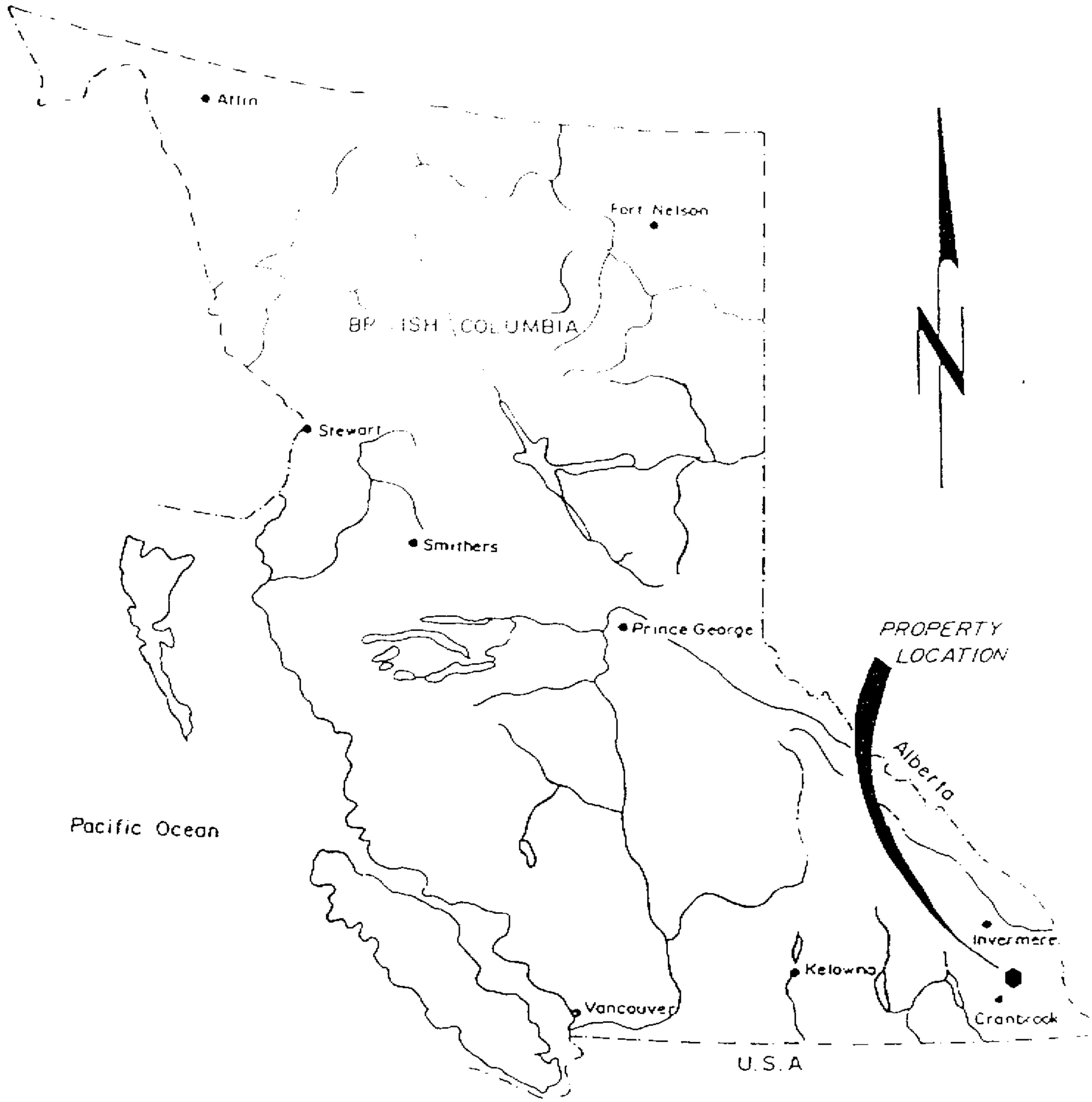
INTRODUCTION

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).



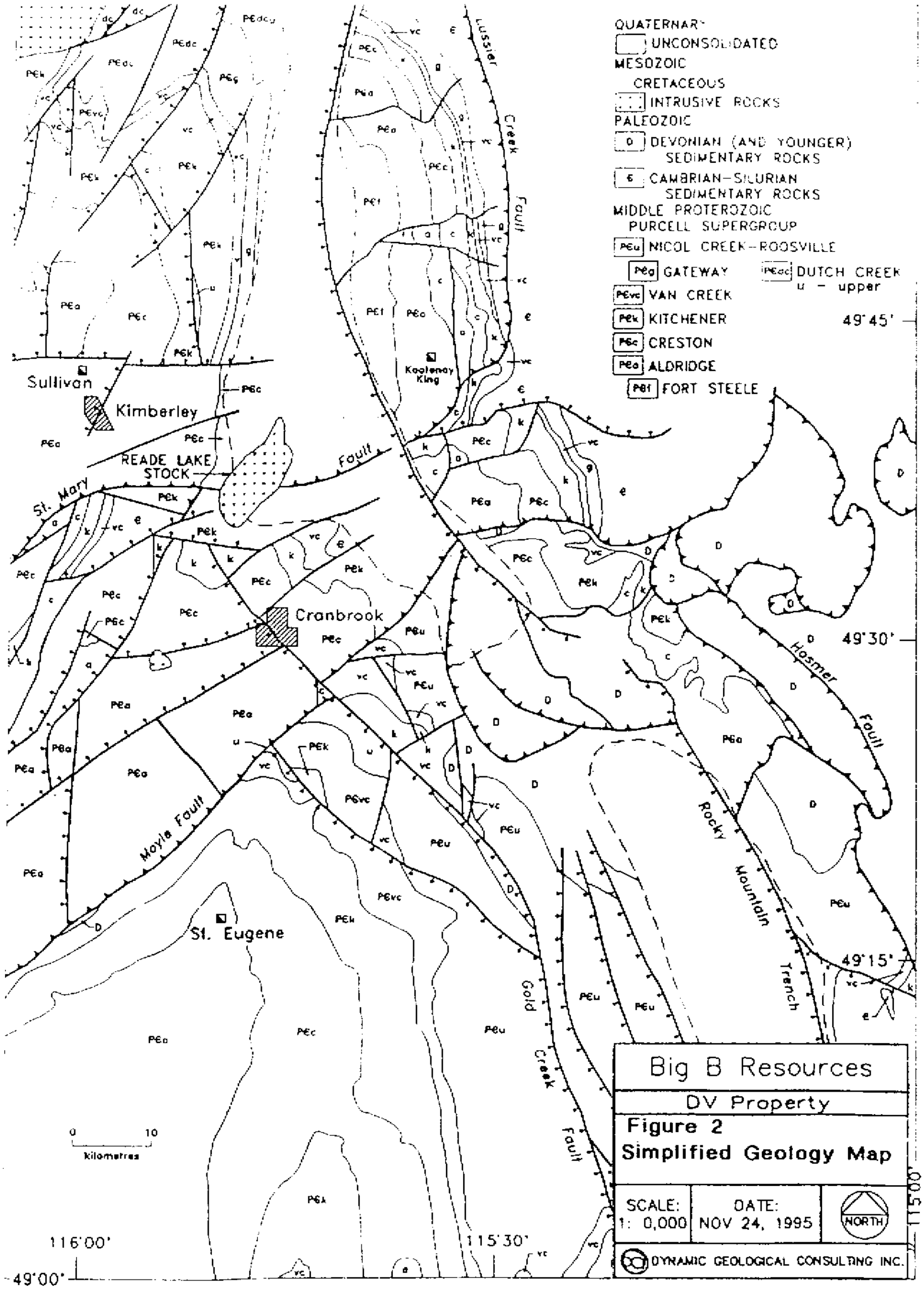
BIG B RESOURCES

DV CLAIM GROUP

Location Map

Gemquest Geological

Date **Nov., 1995** Scale 1:8,000,000


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
Lussier Creek Fault
Sullivan
Kimberley
READE LAKE STOCK
St. Mary Fault
Kootenay King
Cranbrook
Moyie Fault
Hosmer Fault
Rocky Mountain Trench
Gold Creek Fault
St. Eugene
49°45'
49°30'
49°15'
49°00'
116°00'
115°30'
115°00'
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).

The 1997 field program consisted of two separate geochemical soil sampling programs, one undertaken on the FOX claims on the northeast portion of the DV property and the second west of the BOX claims. Both programs were initiated in an attempt to evaluate geophysical anomalies identified on the regional digital dataset acquired in 1995 and/or the Dighem airborne geophysical survey completed in 1996.

The program on the FOX claims consisted of a total of 343 "B" horizon soil samples taken over eleven separate lines oriented east-west, tied to a single north-south baseline. The sample lines were spaced 100 metres apart with sample stations approximately 50 metres apart.

The program west of the BOX claims resulted in a total of 98 "B" horizon soil samples taken along three separate contour lines, namely 1200, 1400 and 1500 metres. An initial series of samples at 50 metre centres were taken in July on the 1200 and 1400 m contour lines. A subsequent program was completed in October to take infill samples at alternate 25 metre centres in areas having anomalous results. Furthermore, the 1400 m soil contour line was extended a further 175 m to the east in an attempt to define the eastern edge of the Cu/Pb/Zn anomaly. In addition, an additional contour line (at 1500 metres) was sampled in an attempt to define a cut-off for the anomaly at higher elevations.

All soil samples recovered were submitted to Eco-Tech Laboratories Ltd. in Kamloops, BC for 28 element ICP analysis. The results of geochemical analysis are included in Appendix C.

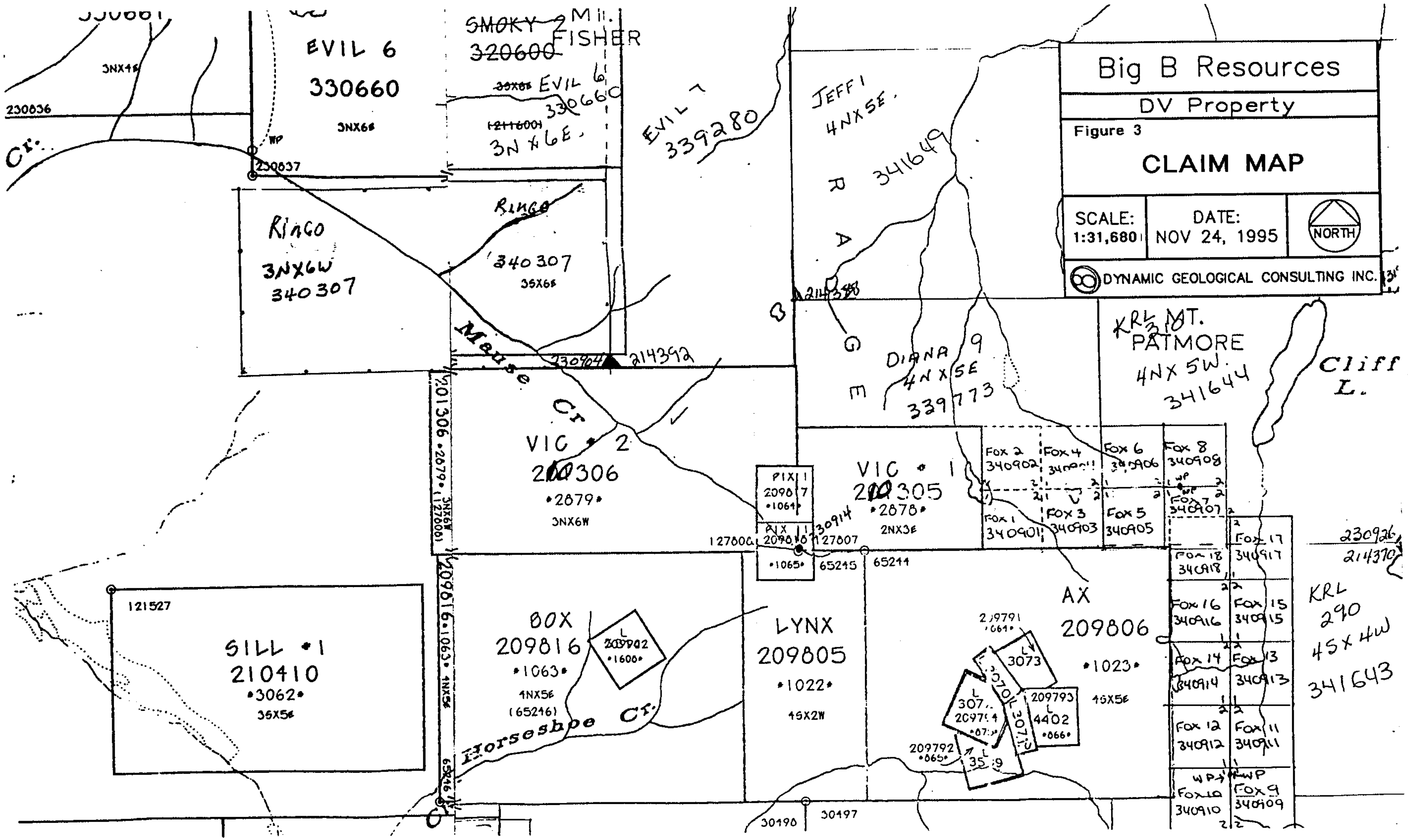
LOCATION AND ACCESS

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. Helicopter access was utilized for the more remote portions of the property from Cranbrook to maximize time spent on the property.

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.



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
Mt. FISHER
EVIL 6
330660
3N X 6E
EVIL 7
339280
JEFF 1
4NX5E
341649
RINGO
3NX6W
340307
RINGO
340307
3SX6E
Mause Cr.
VIC 2
200306
2879
3NX6W
VIC 1
200305
2878
2NX3E
DIANA 9
4NX5E
339773
KRL 310
MT. PATMORE
4NX5W
341644
Cliff L.
Fox 2
340902
Fox 4
Fox 6
Fox 8
340908
Fox 1
340901
Fox 3
340903
Fox 5
340905
Fox 7
340907
Fox 17
340917
Fox 18
340918
Fox 16
340916
Fox 15
340915
Fox 14
340914
Fox 13
340913
Fox 12
340912
Fox 11
340911
Fox 10
340910
Fox 9
340909
KRL 290
4SX4W
341643
SILL 1
210410
3062
3SX5E
121527
BOX
209816
1063
4NX5E
(65246)
Horseshoe Cr.
LYNX
209805
1022
4SX2W
AX
209806
1023
4SX5E
209793
4402
209792
65245
65244
127800
127807
30490
30497
230836
230837
214392
230926
214370

CLAIM STATUS

The DV property is located approximately 24 kilometres northeast of Cranbrook (see Fig. 2). The property consists of 123 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 27, 1998 (see Appendix D). 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, 2000
VIC 1	210305	6	Apr. 29, 1987	Apr. 29, 2001
VIC 2	210306	18	Apr. 29, 1987	Apr. 29, 2000
AX	209806	20	July 30, 1980	July 30, 2001
LYNX	209805	8	July 30, 1980	July 30, 2000
BOX	209816	20	Sept. 15, 1980	Sept. 15, 2000
RINGO	340307	18	Sept. 22, 1995	Sept. 22, 2001
	Total:	105		

TWO-POST CLAIMS

CLAIM	TENURE NO.	UNITS	RECORD DATE	EXPIRY DATE
FOX 1	340901	1	Oct. 7, 1995	Oct. 7, 2002
FOX 2	340902	1	Oct. 7, 1995	Oct. 7, 2002
FOX 3	340903	1	Oct. 7, 1995	Oct. 7, 2002
FOX 4	340904	1	Oct. 7, 1995	Oct. 7, 2002
FOX 5	340905	1	Oct. 7, 1995	Oct. 7, 2002
FOX 6	340906	1	Oct. 7, 1995	Oct. 7, 2002
FOX 7	340907	1	Oct. 7, 1995	Oct. 7, 2002
FOX 8	340908	1	Oct. 7, 1995	Oct. 7, 2002
FOX 9	340909	1	Oct. 8, 1995	Oct. 8, 2002
FOX 10	340910	1	Oct. 8, 1995	Oct. 8, 2002
FOX 11	340911	1	Oct. 8, 1995	Oct. 8, 2002
FOX 12	340912	1	Oct. 8, 1995	Oct. 8, 2002
FOX 13	340913	1	Oct. 8, 1995	Oct. 8, 2002
FOX 14	340914	1	Oct. 8, 1995	Oct. 8, 2002
FOX 15	340915	1	Oct. 8, 1995	Oct. 8, 2002
FOX 16	340916	1	Oct. 8, 1995	Oct. 8, 2002
FOX 17	340917	1	Oct. 8, 1995	Oct. 8, 2002
FOX 18	340918	1	Oct. 8, 1995	Oct. 8, 2002
	Total:	18		

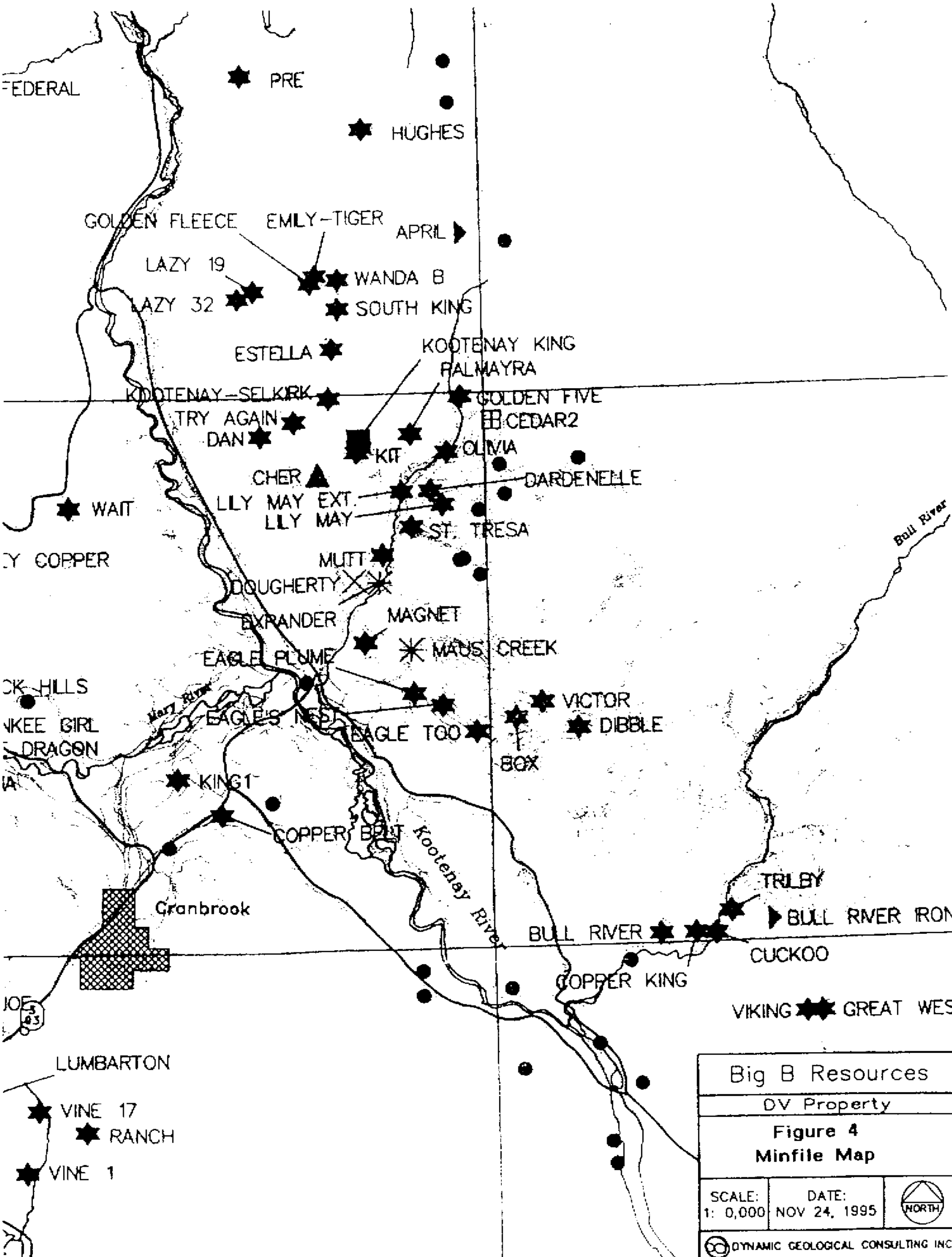
REVERTED CROWN GRANTS

CLAIM	RECORD NO.	LOT	RECORD DATE	EXPIRY DATE
LAST CHANCE FR.	864	3070	Jan. 15, 1980	Jan. 15, 1999
BEAVER FR.	864	3073	Jan. 15, 1980	Jan. 15, 1999
FIRST EXTENSION OF LAST CHANCE	865	3071	Jan. 15, 1980	Jan. 15, 1999
FOSTER	865	3539	Jan. 15, 1980	Jan. 15, 1999
RICHMOND HILL	875	3072	Feb. 4, 1980	Feb. 4, 1999
EMERALD	866	3070	Jan. 15, 1980	Jan. 15, 1999
BIG THREE	1608	5814	Feb. 15, 1980	Feb. 15, 1999
Total:	7 Full or partial claims			

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



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, 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

Dibble Property

Legend Figure 5

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)

- Pa2q — Quartzite
- Pa2s — Siltstone, argillite
- Pa1q — 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

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

Minor fold

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DV Property

Figure 5

Local Geology Map

SCALE:	DATE:	NORTH
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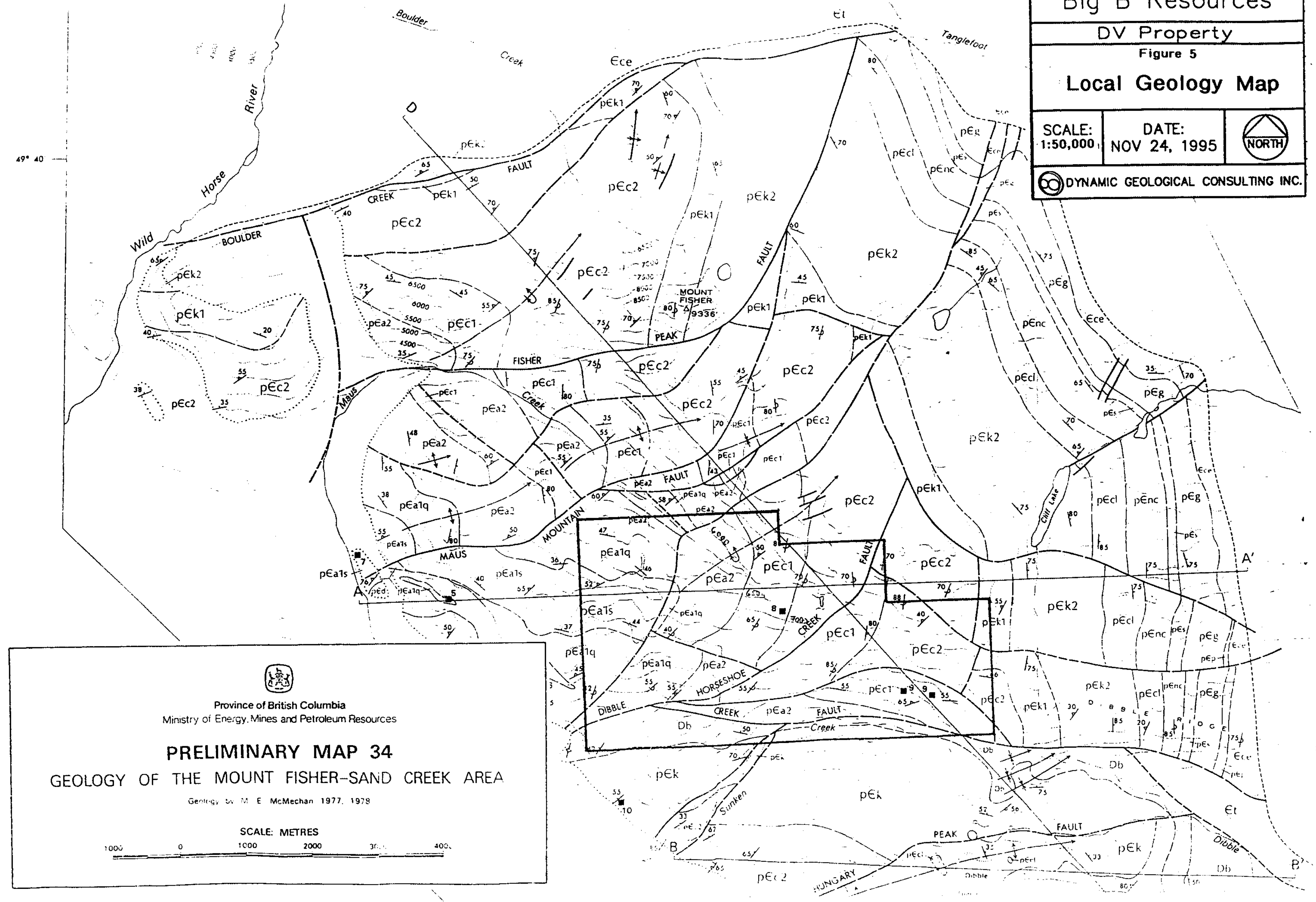


through A1f), none of which have been identified in the area of the DV property.

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".

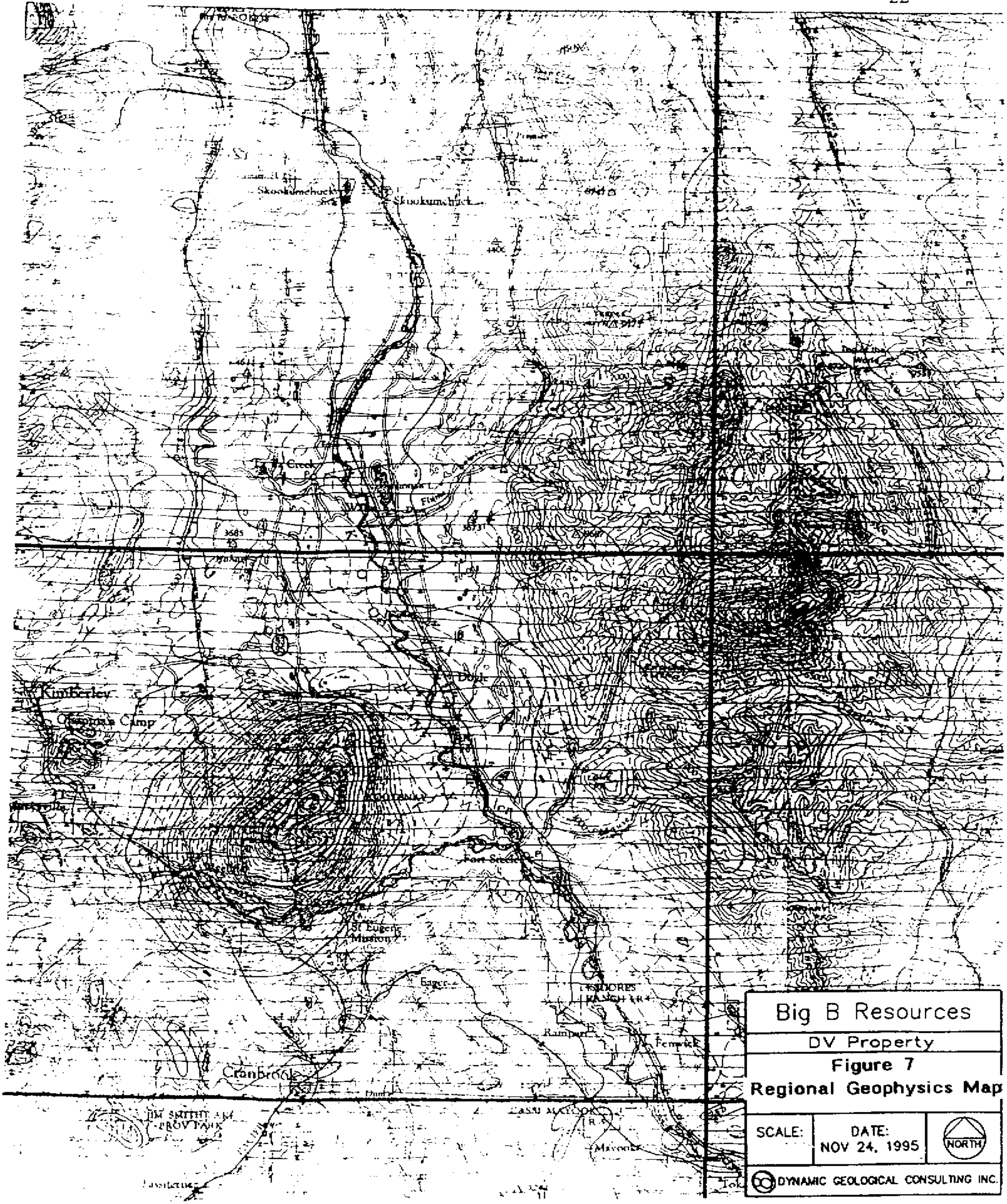
Meta -Gabbros to Meta-Diorites

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.



Big B Resources

DV Property

Figure 7

Regional Geophysics Map

SCALE:	DATE: NOV 24, 1995	NORTH

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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.

1997 FIELD PROGRAM

The 1997 field program consisted of two separate geochemical soil sampling programs, one undertaken on the FOX claims on the northeast portion of the DV property and the second west of the BOX claims. Both programs were initiated in an attempt to evaluate geophysical anomalies identified on the regional digital dataset acquired in 1995 and/or the Dighem airborne geophysical survey completed in 1996.

The program on the FOX claims consisted of a total of 343 "B" horizon soil samples taken over eleven separate lines oriented east-west, tied to a single north-south baseline. The sample lines were spaced 100 metres apart with sample stations approximately 50 metres apart.

The program west of the BOX claims resulted in a total of 98 "B" horizon soil samples taken along three separate contour lines, namely 1200, 1400 and 1500 metres. An initial series of samples at 50 metre centres were taken in July on the 1200 and 1400 m contour lines. A subsequent program was completed in October to take infill samples at alternate 25 metre centres in areas having anomalous results. Furthermore, the 1400 m soil contour line was extended a further 175 m to the east in an attempt to define the eastern edge of the Cu/Pb/Zn anomaly. In addition, an additional contour line (at 1500 metres) was sampled in an attempt to define a cut-off for the anomaly at higher elevations..

All soil samples recovered were submitted to Eco-Tech Laboratories Ltd. in Kamloops, BC for 28 element ICP analysis. The results of geochemical analysis are included in Appendix C.

DISCUSSION AND INTERPRETATION

Three magnetic anomalies were identified on a regional magnetic data set obtained from the Geological Survey of Canada and discussed in the 1995 Assessment Report (Walker 1995). A number of magnetic anomalies were identified on the FOX claims which had been staked specifically to cover the apparently large magnetic anomalies. As a result of the Dighem survey, these anomalies now appear to be best explained as sub-surface equivalents of gabbro sills and shallowly cross-cutting dykes mapped previously on the property. Such an interpretation is apparently supported by the partial coincidence of mapped gabbroic exposures and magnetic airborne anomalies.

A large number of conductors, together with magnetic anomalies were identified on the western portion of the property, north and west of the BOX claims. The magnetic anomalies identified are similarly interpreted as probable sub-surface gabbroic occurrences due to partial coincidence with surface exposures previously mapped. The conductors identified, however, are considered significant: 1) as they are associated with quartzites of the middle Aldridge Formation (possible Kootenay King equivalents), 2) they are broadly, spatially associated with sericitic alteration mapped at surface on the BOX claims, 3) as two conductors (C9 and C10) appear to be coincident with a sub-surface geophysical conductor identified by Pezzot (1988) and 4) anomalous soil and rock geochemistry has been previously documented on the BOX claims. The BOX claim area has been previously identified as a high priority drill target and remains so subsequent to the DIGHEM airborne geophysical survey.

A soil grid was established and sampled on the FOX claims (hereafter referred to as the Fox grid) and a total of 3 contour lines completed west of the BOX claims (hereafter referred to as the Box lines).

In general, the results from the Fox grid are considered somewhat disappointing. A weak, north-south trending anomaly comprised of anomalous copper ($\geq$ 20 ppm) and lead ($\geq$ 45 ppm) is apparent on the eastern portion of the grid. Note: Based on regional geochemical studies in the Aldridge Formation, 45 ppm lead and 145 ppm zinc are considered the transition from background to anomalous values (Pighin, pers. Comm., 1997).

One possible interpretation for the coincident north-south Cu/Pb anomaly is that it is associated with one or more north trending gabbro sill(s). Copper derived from the sill(s) and lead mobilized from the host sediments of the Aldridge Formation may have been localized in the contact metamorphosed margin of the sill(s).

Subsequent follow-up, ground evaluation of these results is recommended, but at a low level priority. It is recommended that title to the FOX claims be maintained until such time as ground evaluation can take place. Emphasis for high priority follow-up must remain on the BOX claims and immediate area.

A high proportion of the samples recovered from the Box lines were anomalous (29 samples $\geq$ 145 ppm Zn, 30 samples $\geq$ 45 ppm Pb and 62 samples $\geq$ 30 ppm Cu). Furthermore, 6 samples were in excess of 300 ppm Zn, 7 in excess of 100 ppm Pb and 25 samples in excess of 60 ppm Cu, or twice the background level and therefore strongly anomalous. Finally, the maximum value determined for Zn was 1839 ppm (or 0.18%) and 280 ppm for Pb, both extremely anomalous.

During contour sampling, malachite and azurite staining was noted in float near the ocation of soil sample CS-01. Several grab samples were taken for analysis, with chalcopyrite observed in a sample derived from a probable vein-type source (sample "ROCK"). Subsequent 28 element ICP analysis returned extremely anomalous values for cobalt (3071 ppm), copper (2860 ppm), lead (990 ppm) and silver (6.6 ppm or 0.19 oz/ton).

In summary, the contour soil sampling program on the Box lines appear to be masked by cover on the 1200 metre contour and remain open at higher elevations <u>and</u> to the east. As a result, the BOX claims, previously recommended as a strong candidate for sub-surface evaluation by diamond drilling, remains a high priority drill target. However, prior to drilling, it is strongly recommended that all soil geochemical data be compiled and evaluated with respect to the Dighem airborne geophysical survey in order to identify the optimum location for drilling.

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 that was 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 the host 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 is a vein infill of 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. Harris (1990) 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).

Finally, an airborne geophysical program completed during the 1996 field season resolved the magnetic anomalies covered by the FOX claims as probable sub-surface equivalents of gabbroic exposures identified at surface as part of previous mapping programs. However, mineralization was identified on the ridge north of the Dibble Crown Grants associated with gabbro (RW95-1a and1b) and similar mineralization may be found with other gabbros.

Similar magnetic anomalies were identified north and west of the BOX claims and are also interpreted as sub-surface equivalents of gabbroic exposures identified at surface. However, in contrast to the FOX claims, geophysical conductors were also identified on the BOX claims. These may be significant with respect to quartzites of the middle Aldridge Formation, sericite alteration and anomalous levels of soil and rock geochemistry previously identified on the Box claims. Furthermore, a sub-surface 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 focussed about a larger lineation ...". The two most prominent conductors (designated C9 and C10) are located west of the sericite 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. These two conductors are considered to be among the best drill targets on the DV property.

Soil sample results from the 1997 field program confirm 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. Additional work on the BOX claims and area is strongly recommended on the basis of all results returned to date.

RECOMMENDATIONS

1) Re-contour VLF data for the Victor geophysical grid (and possibly the Box grid);

2) Undertake additional geological mapping (minimum 1:10,000 scale) on the BOX claims prior to drilling to verify and determine the surface extent of sericitic alteration and structural orientation / control of alteration / mineralization;

3) Order complete black and white and/or colour airphoto coverage for the property to facilitate mapping and assist in future program decisions;

4) Plot and contour all geochemical data compiled for the DV property to determine the extent of coverage and identify any areas for additional soil geochemical analysis and/or infill sampling;

5) Undertake ground geophysics to evaluate the sub-surface mineral potential in areas of anomalous surface soil geochemistry;

6) Undertake soil and rock sampling of Domain 3 to completely assess mineralization of the Aldridge and Creston block bounded by the Dibble Creek Fault and its splay(s);

7) Compile all geological, geochemical and geophysical data to completely evaluate proposed drill targets. Targets developed to date and considered worthy of drilling are:

    a) the VLF anomaly underlying the Box claim at an interpreted depth of 90 and proximal EM conductors;
    b) EM conductors C9 and C10, west of the BOX claims;
    c) the Victor vein system, to test mineralization with depth;
    d) the Horseshoe Creek and/or Dibble Creek fault systems to evaluate their down-dip extension(s) for mineralization;

8) Evaluate the economic potential of the gypsum horizon in the basal Devonian unit.

PROPOSED BUDGET

Airphotos	$ 150
Geological mapping - 1:2,000 or less - Box, Dibble, Fox and Victor grids	
10 days @ $400 / day	$ 4,000
Data compilation, plotting and analysis	$ 4,500
Drilling - Box Grid (depth 200 metres - 4 holes)	
Drilling - 800 metres at $100 / metre	$ 80,000
- mob / de-mob	$ 6,000
Pad Building - 10 man-days at $200 / day	$ 2,000
Helicopter Support - drill moves - 6 hours at $1000 / hour	$ 6,000
Analyses - assume 50 % core submitted - 2 metre lengths	
- 200 samples at $10 / sample (28 element ICP)	$ 2,000
- shipping	$ 500
Geological Supervision / Core Logging	
- assume 2 weeks drilling, 6 days core logging	
- 20 days at $400 / day	$ 8,000
- core bags, ties, flagging, etc. - 20 days at $15 / day	$ 300
Core splitting - 4 days at $200 / day	$ 800
Core logging / splitting facility - $800 / month	$ 800
Core rack - long term storage	$ 1,500
Truck Rental - 20 days at $75 / day	$ 1,500
- Fuel	$ 160
- mileage - 20 days x 70 km round trip x $0.30 / km	$ 420
	$118,630
Contingency @ 10%	$ 12,000
Total	**$130,630**

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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 geochemical sampling program conducted on the property between July 1 and January 31, 1997. The author contracted and supervised the program on behalf of Big B Resources;

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 9th day of May, 1998.

PROFESSIONAL
PROVINCE OF
R. T. WALKER
BRITISH COLUMBIA
GEOSCIENTIST

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

Appendix B

Analytical Results

Eco-Tech
LABORATORIES LTD.

ASSAYING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700
Fax (250) 573-4557

CERTIFICATE OF ANALYSIS AK 97- 838

DYNAMIC EXPLORATION LTD.
1916-5th STREET SOUTH
CRANBROOK, B.C.
V1C 1K4

25-Sep-97

ATTENTION: RICK WALKER

No. of samples received: 1
Sample type: Rock
PROJECT #: Not Given
SHIPMENT #: Not Given
Samples submitted by: Not Given

ET #.	Tag #	Au (ppb)
1	ROCK	5

QC DATA:

Resplit:

1	ROCK	5

Repeat:

1	ROCK	5

Standard:

GEO'97	150

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

XLS/97Dynamic

****

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

Phone: 604-573-5700
Fax : 604-573-4557

ICP CERTIFICATE OF ANALYSIS AK 97-838

DYNAMIC EXPLORATION LTD.
1916 - 5TH STREET SOUTH
CRANBROOK, B.C.
V1C 1K4

ATTENTION: RICK WALKER

No. of samples received: 1
Sample type: Rock
PROJECT #: Not given
SHIPMENT #: Not given
Samples submitted by: Not given

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	ROCK	6.6	0.58	2840	85	<5	>10	<1	3071	40	2860	>10	<10	1.99	3433	14	0.01	1104	<10	990	<5	<20	51	<0.01	<10	37	<10	<1	29
QC DATA:																													
Resplit:																													
1	ROCK	6.6	0.58	2810	85	<5	>10	<1	3074	42	2720	>10	<10	1.94	3455	13	0.01	1093	<10	1016	<5	<20	48	<0.01	<10	37	<10	<1	29
Repeat:																													
1	ROCK	6.4	0.58	2900	80	<5	>10	<1	3070	41	2819	>10	<10	1.98	3428	13	0.01	1107	<10	992	<5	<20	48	<0.01	<10	37	10	<1	30
Standard:																													
GEO'97		1.2	1.82	75	170	<5	1.88	<1	22	63	82	4.23	<10	0.95	699	<1	0.02	20	690	22	5	<20	63	0.13	<10	81	<10	10	76

df/836
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ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

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13-Aug-97

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

Phone: 604-573-5700
Fax : 604-573-4557

ICP CERTIFICATE OF ANALYSIS AK 97-837

DYNAMIC EXPLORATION LTD.
1916 - 5TH STREET SOUTH
CRANBROOK, B.C.
V1C 1K4

ATTENTION: RICK WALKER

No. of samples received: 45
Sample type: Soil
PROJECT #: Not given
SHIPMENT #: Not given
Samples submitted by: Not given

Values in ppm unless otherwise reported

		Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	RW-CS-01	<0.2	1.99	5	210	<5	0.35	<1	17	16	35	2.94	10	0.57	1286	<1	0.01	23	340	28	15	<20	23	0.07	<10	28	<10	13	72
2	RW-CS-02	<0.2	2.57	10	225	<5	0.59	<1	19	18	40	3.14	20	0.57	1280	<1	0.02	30	450	32	5	<20	31	0.08	<10	32	<10	17	95
3	RW-CS-03	<0.2	2.03	15	170	<5	0.36	<1	20	14	46	3.24	20	0.53	1278	2	0.01	45	570	34	10	<20	20	0.05	<10	21	<10	25	100
4	RW-CS-04	0.2	1.84	35	190	<5	0.48	<1	54	16	80	4.40	40	0.60	2319	4	0.01	70	1000	34	<5	<20	38	0.02	<10	22	<10	16	118
5	RW-CS-05	<0.2	2.22	55	190	<5	0.27	<1	50	15	58	3.95	90	0.51	1777	3	0.01	82	570	30	<5	<20	18	0.03	<10	21	<10	38	126
5	RW-CS-06	<0.2	2.49	25	180	<5	0.39	<1	45	29	78	4.35	20	0.61	1047	2	0.01	88	650	56	5	<20	27	0.07	<10	26	<10	28	140
6	RW-CS-07	<0.2	1.79	15	215	<5	0.35	<1	28	18	46	3.59	40	0.52	1219	3	<0.01	60	450	26	5	<20	18	0.04	<10	20	<10	25	142
7	RW-CS-08	<0.2	1.31	10	90	<5	0.18	<1	17	15	20	2.66	20	0.44	333	2	<0.01	33	240	18	<5	<20	9	0.02	<10	17	<10	3	71
8	RW-CS-09	1.6	2.48	15	375	<5	0.44	9	53	19	71	4.58	30	0.51	6074	4	0.01	134	1060	280	<5	<20	40	0.05	<10	24	<10	40	906
9	RW-CS-10	<0.2	3.00	80	165	<5	0.38	<1	74	31	104	6.47	50	0.50	1326	5	0.01	150	1110	32	<5	<20	29	0.07	<10	30	<10	21	250
9	RW-CS-11 A	<0.2	1.68	20	105	<5	0.40	<1	25	79	57	4.16	20	0.98	1044	2	<0.01	97	610	40	10	<20	18	0.06	<10	33	<10	23	130
10	RW-CS-11 B	<0.2	2.84	15	120	<5	0.44	<1	28	72	63	4.77	20	0.76	894	<1	0.02	95	390	48	<5	<20	20	0.13	<10	36	<10	42	156
11	RW-CS-13	<0.2	1.66	30	75	<5	2.53	<1	28	34	79	4.71	20	0.93	814	4	0.01	66	480	30	10	<20	25	0.03	<10	22	<10	11	74
12	RW-CS-14	<0.2	1.53	10	90	<5	0.52	<1	18	29	47	3.61	20	0.70	478	3	<0.01	40	240	32	10	<20	12	0.03	<10	23	<10	44	49
13	RW-CS-15	<0.2	2.38	15	110	<5	0.31	<1	18	19	48	4.03	20	0.54	497	3	0.01	47	340	32	5	<20	15	0.05	<10	23	<10	30	67
13	RW-CS-16	<0.2	1.91	10	115	<5	0.28	<1	13	21	17	2.86	20	0.56	469	2	0.01	34	250	26	10	<20	12	0.04	<10	21	<10	10	56
14	RW-CS-17	<0.2	3.00	20	185	5	0.30	<1	18	19	26	3.01	<10	0.49	339	<1	0.01	57	460	32	10	<20	21	0.08	<10	25	<10	12	123
15	RW-CS-18	<0.2	2.92	20	350	<5	0.45	<1	14	29	18	2.69	<10	0.46	1391	<1	0.02	44	480	34	10	<20	42	0.10	<10	26	<10	21	95
16	RW-CS-19	<0.2	2.57	20	290	<5	0.51	<1	15	19	21	3.09	20	0.44	1610	2	0.02	41	500	32	<5	<20	32	0.07	<10	20	<10	26	92
17	RW-CS-20	<0.2	1.92	15	140	5	0.24	<1	16	29	22	3.01	10	0.64	521	1	0.01	44	470	24	10	<20	17	0.05	<10	24	<10	1	79
10	RW-CS-21	<0.2	1.92	65	110	<5	0.31	<1	25	16	56	4.36	20	0.53	784	4	0.01	47	450	74	<5	<20	20	0.02	<10	19	<10	2	97
11	RW-CS-22	<0.2	1.95	25	160	<5	0.22	<1	21	15	38	4.07	20	0.60	1982	4	<0.01	63	600	74	<5	<20	15	0.02	<10	19	<10	13	238
12	RW-CS-23	<0.2	1.96	20	130	<5	0.29	<1	20	15	53	4.31	20	0.55	549	4	0.01	50	570	64	<5	<20	19	0.04	<10	18	<10	12	113
13	RW-CS-24	<0.2	3.10	20	90	<5	0.34	<1	36	167	69	5.69	10	1.73	432	2	0.01	140	670	100	20	<20	17	0.11	<10	73	<10	5	135
14	RW-CS-25	<0.2	2.49	20	130	<5	0.41	<1	28	61	44	4.46	10	1.01	650	4	0.01	71	870	74	10	<20	31	0.03	<10	36	<10	<1	127
14	RW-CS-26	<0.2	2.43	20	235	<5	0.32	<1	21	35	27	3.42	10	0.61	1845	1	0.01	56	550	42	<5	<20	24	0.06	<10	27	<10	16	98
15	RW-CS-27	<0.2	3.09	25	230	<5	0.30	<1	31	106	61	4.51	<10	1.02	739	1	0.01	116	670	98	10	<20	30	0.10	<10	59	<10	12	141
16	RW-CS-28	<0.2	3.08	20	295	<5	0.20	<1	23	23	25	3.90	10	0.94	780	2	0.01	44	940	74	<5	<20	20	0.07	<10	33	<10	2	193

17	RW-CS-29	<0.2	2.66	15	335	<5	0.43	<1	15	32	20	3.00	10	0.66	1278	<1	0.02	41	520	34	10	<20	25	0.09	<10	26	<10	25	95
18	RW-CS-30	<0.2	2.08	15	135	5	0.33	<1	14	20	32	2.97	20	0.96	404	<1	0.01	27	380	26	10	<20	17	0.08	<10	24	<10	32	52
18	RW-CS-31	<0.2	2.31	10	270	<5	0.37	<1	14	30	23	2.98	10	0.62	974	<1	0.01	35	400	28	<5	<20	25	0.09	<10	25	<10	24	101
19	RW-CS-32	<0.2	2.04	<5	135	5	0.29	<1	15	37	25	2.82	10	0.95	268	<1	0.01	36	300	24	10	<20	12	0.10	<10	29	<10	22	58
20	RW-CS-33	<0.2	2.04	10	150	<5	0.26	<1	12	16	24	2.69	10	0.59	222	<1	0.01	29	530	28	10	<20	19	0.08	<10	22	<10	14	80
21	RW-CS-34	<0.2	2.21	20	170	5	0.31	<1	13	15	26	3.03	10	0.58	647	<1	0.01	29	380	34	10	<20	22	0.06	<10	20	<10	27	81
22	RW-CS-35	<0.2	1.80	10	90	<5	0.27	<1	12	17	37	2.88	10	0.78	183	<1	<0.01	24	230	26	10	<20	12	0.04	<10	24	<10	16	37
22	RW-CS-36	<0.2	2.25	20	195	<5	0.44	<1	20	16	43	3.80	20	0.89	962	2	0.01	43	390	112	10	<20	29	0.06	<10	25	<10	27	137
23	RW-CS-37	<0.2	2.85	<5	155	5	0.51	<1	46	260	84	5.82	10	2.18	438	<1	0.01	200	470	38	10	<20	20	0.27	<10	115	<10	34	98
24	RW-CS-39	<0.2	2.35	10	210	<5	0.48	<1	17	19	27	3.58	10	0.56	922	1	0.02	36	400	32	5	<20	27	0.07	<10	22	<10	19	89
25	RW-CS-40	<0.2	2.32	10	170	<5	0.45	<1	15	17	39	3.09	10	0.57	520	<1	0.02	27	460	28	5	<20	27	0.08	<10	24	<10	21	67
26	RW-CS-41	<0.2	2.00	5	255	<5	0.41	<1	16	22	32	3.06	10	0.66	1055	<1	0.01	23	310	28	<5	<20	18	0.08	<10	28	<10	17	83
26	RW-CS-42	<0.2	2.06	10	220	<5	0.47	<1	13	20	25	2.85	10	0.65	938	<1	0.01	20	330	24	10	<20	24	0.08	<10	28	<10	20	76
27	RW-CS-43	<0.2	2.17	10	370	<5	0.61	<1	13	16	27	2.77	<10	0.58	2018	<1	0.01	18	540	24	5	<20	30	0.09	<10	30	<10	14	103
28	RW-CS-44	<0.2	2.53	10	205	<5	0.37	<1	10	12	15	2.23	<10	0.38	468	<1	0.03	18	410	24	<5	<20	27	0.11	<10	22	<10	11	48
29	RW-CS-45	<0.2	1.94	15	120	<5	0.31	<1	16	20	31	3.14	10	0.73	535	<1	0.01	22	240	28	<5	<20	14	0.09	<10	41	<10	20	66
30	RW-CS-46	<0.2	1.94	10	130	<5	0.50	<1	15	14	32	2.94	10	0.59	874	<1	0.01	22	300	28	10	<20	23	0.06	<10	28	<10	20	74

DYNAMIC EXPLORATION LTD. ICP CERTIFICATE OF ANALYSIS AK 97- 837 ECO-TECH LABORATORIES LT

QC DATA:
Repeat:

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	RW-CS-01	<0.2	1.91	15	200	<5	0.34	<1	17	15	35	2.87	<10	0.55	1272	<1	0.01	22	340	28	<5	<20	19	0.07	<10	27	<10	12	70
10	RW-CS-10	<0.2	3.18	85	175	<5	0.38	<1	77	33	109	6.89	50	0.53	1364	6	0.01	159	1170	34	<5	<20	31	0.07	<10	32	<10	23	259
19	RW-CS-19	<0.2	2.51	15	290	<5	0.51	<1	15	19	21	3.11	10	0.44	1632	2	0.01	40	500	32	<5	<20	32	0.07	<10	20	<10	24	91
28	RW-CS-28	<0.2	3.09	25	295	<5	0.20	<1	23	23	25	3.89	10	0.95	782	2	0.01	43	940	72	5	<20	19	0.06	<10	32	<10	1	187
36	RW-CS-36	<0.2	2.29	20	190	5	0.45	<1	20	17	43	3.83	20	0.90	972	<1	0.02	42	420	116	10	<20	26	0.07	<10	25	<10	28	140
45	RW-CS-46	<0.2	2.07	20	140	<5	0.53	<1	15	15	34	3.12	20	0.63	907	1	0.01	24	310	32	5	<20	24	0.07	<10	29	<10	22	78
Standard:																													
GEO'97		1.0	1.85	65	170	<5	1.79	4	19	62	87	4.05	<10	0.97	669	1	0.02	24	650	20	5	<20	65	0.06	<10	82	<10	23	68
GEO'97		1.0	1.83	55	150	<5	1.74	<1	18	55	78	3.71	<10	0.86	667	<1	0.02	25	610	20	10	<20	58	0.12	<10	72	<10	20	65

df/837
XLS/97

Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

18-Aug-97

ECO-TECH LABORATORIES LTD
10041 East Trans Canada Highway
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V2C 6T4

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ICP CERTIFICATE OF ANALYSIS - AK97-822

DYNAMIC EXPLORATION LTD.
1916-5th STREET SOUTH
CRANBROOK. B.C.
V1C 1K4

ATTENTION: RICK WALKER

No. of samples received: 290
Sample type: SOIL
PROJECT #:NONE GIVEN
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 %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	L10+40N 30+40E	<0.2	1.71	10	75	<5	0.04	<1	6	8	13	2.32	<10	0.22	443	1	0.01	6	1060	28	<5	<20	4	0.10	<10	32	<10	2	41
1	L10+40N 30+40E	<0.2	1.68	<5	80	<5	0.04	<1	6	8	13	2.25	<10	0.22	437	1	0.01	7	1050	26	<5	<20	5	0.09	<10	31	<10	3	39
2	L10+40N 30+90E	<0.2	2.90	10	130	<5	0.05	<1	5	7	10	2.17	<10	0.16	60	<1	0.02	4	460	28	<5	<20	4	0.14	<10	32	<10	16	21
3	L10+40N 31+40E	<0.2	1.23	10	65	<5	0.02	<1	7	8	7	2.48	20	0.66	93	1	<0.01	10	270	12	<5	<20	<1	0.02	<10	19	<10	<1	38
4	L10+40N 31+90E	<0.2	1.03	5	40	<5	0.02	<1	5	8	9	3.14	10	0.16	80	<1	0.01	5	250	18	<5	<20	2	0.10	<10	41	<10	<1	24
5	L10+40N 32+40E	<0.2	1.33	10	40	<5	0.02	<1	5	6	10	2.78	<10	0.06	44	<1	0.02	4	430	20	<5	<20	3	0.17	<10	39	<10	<1	17
5	L10+40N 32+90E	<0.2	1.46	5	45	<5	0.03	<1	7	9	14	3.87	<10	0.13	216	<1	0.01	5	490	28	<5	<20	4	0.18	<10	46	<10	<1	29
6	L10+40N 33+40E	<0.2	2.55	10	35	<5	0.02	<1	5	8	24	2.24	<10	0.11	78	<1	0.01	4	740	28	<5	<20	2	0.11	<10	30	<10	6	16
7	L10+40N 33+90E	<0.2	1.68	<5	50	5	0.03	<1	7	8	13	4.92	<10	0 13	136	<1	0 02	4	680	22	<5	<20	5	0.20	<10	47	<10	<1	23
8	L10+40N 34+40E	0.2	1.19	5	40	10	0.01	<1	7	10	9	3.73	<10	0.56	127	<1	<0.01	7	270	12	<5	<20	2	0.05	<10	32	<10	<1	26
9	L10+40N 34+90E	<0.2	2.14	5	30	<5	0.03	<1	4	6	9	1.82	<10	0.08	25	<1	0.01	3	550	28	<5	<20	<1	0.14	<10	27	<10	11	9
10	L10+40N 34+90E	<0.2	2.17	10	30	<5	0.03	<1	4	6	9	1.84	<10	0.08	25	<1	0.02	3	550	28	<5	<20	<1	0.16	<10	27	<10	9	9
10	L10+40N 35+40E	<0.2	3.68	10	35	5	0.04	<1	8	9	18	4.98	<10	0.04	61	<1	0.02	4	750	28	<5	<20	2	0.20	<10	43	<10	<1	10
11	L10+40N 35+90E	<0.2	1.97	10	45	<5	0.03	<1	5	8	8	2.29	<10	0.30	93	<1	0.01	5	370	24	<5	<20	3	0.08	<10	29	<10	<1	27
12	L10+40N 36+40E	<0 2	1.83	10	30	10	0.02	<1	7	9	12	3.60	<10	0.24	200	<1	0.01	5	580	24	<5	<20	<1	0.10	<10	39	10	<1	29
13	L10+40N 36+90E	<0.2	1.61	<5	70	<5	0.02	<1	4	7	13	1.89	10	0.29	130	<1	0.01	6	700	18	<5	<20	2	0.04	<10	21	<10	10	23
14	L10+40N 37+40E	<0.2	2.17	10	75	<5	0.05	<1	4	7	15	1.95	<10	0.14	106	<1	0.01	4	950	24	<5	<20	1	0.08	<10	28	<10	<1	20
14	L10+40N 37+90E	<0.2	0.89	10	220	<5	0.08	<1	4	13	12	1.46	20	0.11	280	<1	0.01	7	270	22	<5	<20	6	0.04	<10	33	<10	<1	25
15	L10+40N 38+40E	<0.2	2.32	10	35	<5	0.06	<1	8	13	17	3.42	<10	0.13	84	<1	0.02	8	500	26	<5	<20	2	0.24	<10	49	<10	<1	18
16	L10+40N 38+90E	<0.2	4.29	15	25	10	0.04	<1	6	8	13	3.44	<10	0.08	39	<1	0.02	5	490	32	<5	<20	2	0.19	<10	46	10	23	9
19	L10+40N 39+40E	0.2	1.43	15	75	<5	0.03	<1	8	11	13	2.57	<10	0.35	816	<1	0.01	7	680	20	<5	<20	2	0.05	<10	28	<10	<1	36
20	L10+40N 39+40E	<0.2	1.42	5	75	<5	0.03	<1	8	11	13	2.59	<10	0.34	830	<1	0.01	7	700	20	<5	<20	2	0.05	<10	28	<10	<1	37
21	L10+40N 39+90E	<0.2	4.57	20	90	<5	0.26	<1	7	4	61	1.87	<10	0.10	175	<1	0.03	5	710	36	<5	<20	5	0.19	<10	26	10	20	8
21	L10+40N 40+40E	<0.2	2.72	15	60	<5	0.06	<1	4	5	18	1.65	<10	0.11	93	<1	0.02	4	910	28	<5	<20	5	0.11	<10	21	<10	33	11
22	L10+40N 40+90E	<0.2	2.30	5	75	<5	0.05	<1	7	15	32	2.90	<10	0.47	160	<1	0.01	11	700	34	<5	<20	4	0.09	<10	41	<10	3	46
23	L10+40N 41+40E	<0.2	2.22	15	60	<5	0.03	<1	4	8	11	2.18	<10	0.10	79	<1	0.01	3	520	28	<5	<20	2	0.09	<10	29	<10	<1	20
24	L10+40N 41+90E	<0.2	2.04	10	175	<5	0.08	<1	7	17	20	2.97	<10	0.50	166	<1	0.01	12	630	42	<5	<20	6	0.08	<10	41	<10	<1	49
25	L10+40N 42+40E	<0.2	2.61	15	195	10	0.14	<1	9	20	14	4.69	<10	0.70	196	<1	0.01	16	340	34	<5	<20	8	0.12	<10	61	<10	<1	66
23	L10+40N 42+90E	<0.2	2.31	10	230	<5	0.07	<1	8	10	15	2.78	<10	0.35	677	<1	0.01	9	860	50	<5	<20	8	0.07	<10	31	<10	28	60
24	L10+40N 43+40E	<0.2	2.76	15	195	5	0.14	<1	7	14	15	2.72	<10	0.51	419	<1	0.01	11	920	32	<5	<20	6	0.07	<10	36	<10	5	53
28	L11+40N 30+40E	0.4	4.31	55	645	<5	0.19	<1	15	24	37	3.52	<10	0.77	2304	6	0.01	25	1350	38	<5	<20	8	0.02	<10	33	<10	29	123
29	L11+40N 30+40E	0 4	4.31	50	650	<5	0.19	<1	16	26	37	3.59	<10	0.78	2370	7	0.01	26	1430	44	<5	<20	10	0.02	<10	33	<10	30	128
30	L11+40N 30+90E	0.2	2.84	15	90	<5	0.04	<1	12	9	23	1.88	<10	0.20	1141	2	0.01	6	1270	28	<5	<20	4	0.07	<10	26	<10	15	31
31	L11+40N 31+40E	<0.2	3.83	15	75	10	0.08	<1	7	8	15	3.50	<10	0.10	63	<1	0.02	6	610	34	<5	<20	5	0.23	<10	40	<10	3	18
31	L11+40N 31+90E	<0.2	3.06	15	40	<5	0.03	<1	5	7	12	2.92	<10	0.07	61	<1	0.01	3	530	24	<5	<20	2	0.16	<10	36	<10	<1	15
32	L11+40N 32+40E	<0.2	1.28	15	40	5	0.02	<1	8	15	12	5.08	<10	0.34	149	2	<0.01	9	320	18	<5	<20	2	0.07	<10	34	<10	<1	32

33	L11+40N 32+90E	<0.2	2.59	15	45	<5	0.03	<1	7	13	17	3.40	<10	0.30	117	<1	0.01	9	490	28	<5	<20	3	0.11	<10	41	<10	<1	37
34	L11+40N 33+40E	<0.2	1.34	15	45	<5	0.02	<1	7	26	15	4.00	<10	0.34	151	3	<0.01	20	460	18	<5	<20	1	0.05	<10	39	<10	<1	41
35	L11+40N 33+90E	<0.2	4.45	20	45	<5	0.08	<1	4	6	14	1.62	<10	0.10	141	<1	0.02	4	800	34	<5	<20	4	0.10	<10	20	<10	25	16
35	L11+40N 34+40E	<0.2	1.26	<5	50	<5	0.03	1	7	11	13	4.68	<10	0.30	124	<1	0.01	9	290	30	<5	<20	6	0.14	<10	64	<10	<1	24
36	L11+40N 34+40E	<0.2	1.26	10	45	<5	0.03	<1	7	11	12	4.51	<10	0.31	126	<1	0.01	8	310	32	<5	<20	4	0.15	<10	62	<10	<1	25
37	L11+40N 34+90E	<0.2	2.22	15	40	5	0.03	<1	6	11	18	3.53	<10	0.21	80	<1	<0.01	5	380	26	<5	<20	2	0.09	<10	37	10	<1	20
38	L11+40N 35+40E	<0.2	1.48	5	50	5	0.02	<1	5	9	8	2.83	10	0.43	82	<1	<0.01	7	290	18	<5	<20	1	0.05	<10	32	<10	<1	22
39	L11+40N 35+90E	<0.2	1.89	15	280	5	0.14	<1	14	14	17	4.02	<10	0.29	1613	6	0.01	9	780	32	<5	<20	8	0.10	<10	48	<10	4	70
40	L11+40N 36+40E	0.4	3.23	30	265	5	0.21	<1	22	17	24	5.73	<10	0.33	3082	10	0.01	11	1030	38	<5	<20	9	0.11	<10	57	<10	<1	96
40	L11+40N 36+90E	<0.2	1.55	10	55	<5	0.02	<1	7	12	12	3.01	10	0.38	281	2	<0.01	11	560	16	<5	<20	5	0.04	<10	35	<10	<1	38
41	L11+40N 37+40E	<0.2	1.28	<5	90	<5	0.05	<1	8	11	13	2.96	10	0.36	651	3	0.01	9	430	22	<5	<20	4	0.06	<10	36	<10	<1	45
42	L11+40N 37+90E	0.2	1.68	15	55	<5	0.11	<1	10	11	20	4.08	<10	0.40	255	1	<0.01	9	570	22	<5	<20	4	0.05	<10	41	<10	<1	51
43	L11+40N 38+40E	<0.2	2.71	15	50	5	0.03	<1	5	10	11	3.27	<10	0.15	105	<1	0.01	5	490	30	<5	<20	2	0.10	<10	37	<10	<1	19
45	L11+40N 38+90E	<0.2	1.50	20	55	<5	0.04	<1	7	14	15	3.04	20	0.39	145	1	<0.01	12	290	18	<5	<20	1	0.06	<10	34	<10	<1	41
46	L11+40N 38+90E	<0.2	1.42	10	55	<5	0.04	<1	6	14	15	2.99	10	0.37	142	1	<0.01	12	270	18	<5	<20	1	0.05	<10	33	<10	<1	40
46	L11+40N 39+40E	<0.2	2.13	20	70	5	0.04	<1	10	15	18	6.07	<10	0.31	288	2	0.01	10	490	28	<5	40	4	0.16	<10	63	<10	<1	46
47	L11+40N 39+90E	<0.2	1.66	15	45	<5	0.02	<1	7	14	15	3.97	<10	0.38	89	1	0.01	9	200	26	<5	<20	3	0.09	<10	51	<10	<1	33
48	L11+40N 40+40E	0.2	1.49	10	80	<5	0.02	<1	9	12	8	2.97	20	0.64	332	<1	<0.01	12	330	18	<5	<20	3	0.03	<10	24	<10	<1	51
49	L11+40N 40+90E	<0.2	2.37	20	60	5	0.04	<1	8	11	17	5.60	<10	0.17	95	<1	0.01	6	530	30	<5	<20	4	0.22	<10	55	<10	<1	26
50	L11+40N 41+40E	0.2	3.88	15	45	5	0.04	<1	6	11	13	3.22	<10	0.14	80	<1	0.02	4	840	32	<5	<20	4	0.14	10	34	<10	<1	21
50	L11+40N 41+90E	0.2	2.71	20	55	<5	0.06	<1	5	11	16	2.07	<10	0.37	131	<1	0.01	7	1210	48	<5	<20	5	0.06	<10	25	<10	7	43
51	L11+40N 42+40E	0.2	2.05	10	60	<5	0.01	<1	9	14	11	3.62	<10	1.60	142	2	<0.01	12	540	20	<5	<20	<1	0.01	<10	19	<10	<1	69
52	L11+40N 42+90E	0.2	3.24	15	120	<5	0.03	<1	8	14	15	3.10	<10	0.61	368	1	0.01	9	710	32	<5	<20	2	0.06	<10	30	<10	4	51
54	L11+40N 43+40E	<0.2	2.29	10	80	<5	0.03	<1	9	17	13	2.93	10	1.10	206	2	<0.01	18	500	20	5	<20	2	0.02	<10	24	<10	1	65
55	L11+40N 43+40E	<0.2	2.24	15	85	<5	0.02	<1	9	16	15	2.86	<10	1.06	206	1	<0.01	17	490	20	<5	<20	4	0.02	<10	23	<10	2	63
56	L12+40N 28+90E	<0.2	3.52	20	25	<5	0.04	<1	6	8	11	2.60	<10	0.06	55	<1	0.01	4	470	34	<5	20	4	0.21	<10	50	<10	<1	13
56	L12+40N 29+40E	<0.2	3.92	15	35	<5	0.03	<1	6	8	23	3.09	<10	0.09	169	<1	0.01	4	620	34	<5	20	4	0.16	<10	35	<10	8	15
57	L12+40N 29+90E	<0.2	3.81	15	25	<5	0.03	<1	5	7	16	1.85	<10	0.10	41	<1	0.02	4	560	32	<5	<20	2	0.13	<10	23	<10	5	11
58	L12+40N 30+40E	<0.2	3.51	20	40	<5	0.03	<1	6	11	13	3.39	<10	0.28	82	<1	0.01	8	400	26	<5	<20	2	0.11	<10	40	<10	<1	27
59	L12+40N 30+90E	<0.2	3.04	15	40	<5	0.03	<1	4	9	24	2.82	<10	0.13	64	2	0.01	5	1140	30	<5	<20	3	0.07	<10	27	<10	10	21
60	L12+40N 31+40E	<0.2	1.53	10	45	<5	0.02	<1	7	8	13	3.00	<10	0.15	262	<1	0.01	5	400	22	<5	<20	4	0.15	<10	37	<10	<1	24
57	L12+40N 31+90E	<0.2	0.91	10	30	<5	0.01	<1	4	5	8	2.28	<10	0.16	52	<1	0.01	4	210	12	<5	<20	<1	0.07	<10	25	<10	<1	10
58	L12+40N 32+40E	<0.2	0.64	5	30	<5	<0.01	<1	4	7	6	2.26	20	0.26	63	<1	<0.01	5	190	10	<5	<20	<1	0.04	<10	34	<10	<1	15
63	L12+40N 32+90E	<0.2	1.16	10	25	<5	0.02	<1	6	5	10	1.90	<10	0.05	99	<1	0.02	3	310	22	<5	<20	<1	0.22	<10	47	<10	<1	14
64	L12+40N 32+90E	<0.2	1.14	5	25	5	0.02	<1	5	4	10	1.86	<10	0.05	96	<1	0.01	4	290	20	<5	<20	2	0.20	<10	45	<10	<1	12
65	L12+40N 33+40E	<0.2	2.92	15	25	<5	0.05	<1	4	8	8	0.52	<10	0.08	20	<1	0.02	6	430	26	<5	<20	4	0.17	<10	21	<10	18	4
66	L12+40N 33+90E	<0.2	2.44	10	70	<5	0.03	<1	7	17	19	3.20	<10	0.32	280	<1	0.01	12	610	26	<5	<20	4	0.11	<10	39	<10	1	35
66	L12+40N 34+40E	<0.2	2.90	20	50	<5	0.04	<1	4	8	12	2.33	<10	0.15	51	<1	0.01	5	590	28	<5	<20	3	0.11	<10	31	<10	<1	18
67	L12+40N 34+90E	<0.2	0.90	10	45	<5	0.04	<1	7	12	14	2.94	<10	0.34	352	1	<0.01	10	460	16	<5	<20	1	0.06	<10	33	<10	<1	30
68	L12+40N 35+40E	<0.2	1.13	5	35	<5	0.04	<1	5	5	11	2.21	<10	0.06	433	<1	0.01	3	590	20	<5	<20	2	0.11	<10	29	<10	<1	16
69	L12+40N 35+90E	<0.2	0.88	5	60	<5	0.03	<1	2	10	7	1.07	<10	0.14	69	<1	<0.01	4	750	20	<5	<20	3	0.04	<10	22	<10	<1	16
70	L12+40N 36+40E	<0.2	1.07	10	85	<5	0.03	<1	8	18	9	2.83	<10	0.21	486	<1	<0.01	11	380	20	<5	<20	2	0.09	<10	44	<10	<1	38
71	L12+40N 36+90E	<0.2	4.34	25	55	<5	0.10	<1	7	9	23	2.56	<10	0.14	320	<1	0.01	7	930	30	<5	<20	7	0.13	<10	31	<10	<1	25
71	L12+40N 36+90E	<0.2	4.32	20	60	<5	0.11	<1	7	9	23	2.55	<10	0.14	319	<1	0.01	7	950	32	<5	<20	10	0.13	<10	30	<10	<1	25
72	L12+40N 37+40E	<0.2	1.58	10	50	<5	0.03	<1	10	15	20	4.62	<10	0.39	651	1	0.01	10	1250	26	<5	20	5	0.11	<10	53	<10	<1	43
73	L12+40N 37+90E	<0.2	2.25	20	60	<5	0.04	<1	9	18	20	4.56	<10	0.57	201	3	<0.01	13	380	42	<5	<20	2	0.09	<10	52	10	<1	54
74	L12+40N 38+40E	<0.2	1.74	20	55	<5	0.03	<1	9	16	19	3.88	<10	0.54	178	<1	<0.01	13	330	20	<5	<20	3	0.09	<10	50	<10	<1	45
75	L12+40N 38+90E	0.8	1.13	10	120	<5	0.05	<1	6	11	15	2.21	10	0.15	5363	<1	0.01	5	1550	18	<5	<20	2	0.06	<10	29	<10	<1	44
75	L12+40N 39+40E	<0.2	2.69	20	160	<5	0.19	<1	10	11	22	2.87	<10	0.39	773	2	0.01	8	850	24	<5	<20	7	0.08	<10	28	<10	14	43
76	L12+40N 39+90E	0.2	1.73	15	65	<5	0.02	<1	6	11	16	3.04	<10	0.56	183	1	<0.01	8	460	28	<5	<20	2	0.04	<10	24	<10	<1	41
77	L12+40N 40+40E	<0.2	1.51	15	85	<5	0.04	<1	6	11	12	3.02	<10	0.55	193	<1	0.01	7	380	24	<5	<20	4	0.08	<10	31	<10	<1	39
78	L12+40N 40+90E	0.2	1.82	10	55	<5	0.02	<1	8	10	14	2.45	10	0.87	209	<1	<0.01	9	380	24	<5	<20	3	0.02	<10	17	<10	2	47

80	L12+40N 41+40E	0.2	1.92	20	275	5	0.12	<1	6	12	16	2.31	<10	0.55	999	1	0.01	10	1090	36	<5	<20	8	0.04	<10	24	<10	14	62
81	L12+40N 41+40E	<0.2	1.89	15	270	5	0.12	<1	7	11	16	2.31	<10	0.53	992	2	0.01	10	1070	34	<5	<20	9	0.04	<10	23	<10	15	62
81	L12+40N 41+90E	0.4	1.78	25	90	<5	0.03	<1	6	9	10	2.02	10	0.63	270	<1	<0.01	7	330	28	<5	<20	<1	0.03	<10	20	<10	1	43
82	L12+40N 42+40E	0.2	1.98	40	130	<5	0.06	<1	6	12	11	2.99	10	0.70	153	<1	0.01	9	300	28	<5	<20	3	0.06	<10	28	<10	7	60
83	L12+40N 42+90E	<0.2	2.54	30	75	<5	0.03	<1	9	16	14	4.45	<10	0.74	257	3	<0.01	11	350	30	<5	<20	3	0.06	<10	47	<10	<1	55
84	L12+40N 43+40E	<0.2	2.67	25	85	<5	0.08	<1	9	15	18	3.21	<10	0.67	413	<1	0.01	13	480	34	<5	<20	4	0.08	<10	36	<10	10	62
85	L13+40N 28+40E	<0.2	2.54	15	95	<5	0.04	<1	6	10	12	2.93	<10	0.21	102	<1	0.02	7	520	28	<5	20	3	0.17	<10	41	<10	<1	30
85	L13+40N 28+90E	<0.2	0.61	10	25	<5	0.02	<1	5	6	7	1.21	<10	0.06	42	<1	0.02	4	160	18	<5	<20	2	0.17	<10	43	<10	<1	14
86	L13+40N 29+40E	<0.2	0.62	<5	30	<5	0.04	<1	2	5	4	0.85	10	0.09	43	<1	0.01	2	160	12	<5	<20	3	0.07	<10	28	<10	<1	14
87	L13+40N 29+90E	<0.2	2.77	15	50	<5	0.04	<1	4	9	27	1.96	<10	0.17	91	2	0.02	6	1200	30	<5	<20	3	0.06	<10	24	<10	6	26
89	L13+40N 30+40E	<0.2	1.09	5	25	<5	<0.01	<1	3	7	3	1.99	20	0.10	22	<1	0.01	2	100	16	<5	<20	1	0.05	<10	36	<10	<1	8
90	L13+40N 30+40E	<0.2	1.07	<5	25	<5	<0.01	<1	2	6	3	1.96	20	0.10	23	<1	0.01	1	90	14	<5	<20	2	0.04	<10	35	<10	<1	8
91	L13+40N 30+90E	0.4	2.87	15	35	<5	0.02	<1	2	7	22	1.26	<10	0.10	42	<1	0.02	5	1500	22	<5	<20	1	0.01	<10	17	<10	16	16
91	L13+40N 31+40E	0.2	1.42	15	30	<5	0.01	<1	5	9	13	3.34	<10	0.34	71	1	0.01	8	320	16	<5	20	1	0.05	<10	33	<10	<1	23
92	L13+40N 31+90E	<0.2	1.55	15	55	10	0.03	<1	8	14	16	3.91	<10	0.36	218	2	0.02	11	570	36	<5	20	3	0.08	<10	44	<10	<1	45
93	L13+40N 32+40E	<0.2	0.78	10	50	<5	0.03	<1	3	7	11	1.19	<10	0.12	66	<1	0.01	4	600	26	<5	<20	2	0.02	<10	20	<10	<1	22
94	L13+40N 32+90E	<0.2	1.70	15	45	5	0.04	<1	8	14	13	4.04	<10	0.29	165	<1	0.01	9	310	26	<5	20	2	0.12	<10	64	<10	<1	37
95	L13+40N 33+40E	<0.2	0.80	15	55	<5	0.03	<1	6	8	9	1.77	<10	0.13	638	<1	0.02	4	750	26	<5	<20	4	0.13	<10	30	<10	<1	29
92	L13+40N 33+90E	<0.2	2.69	15	40	<5	0.03	<1	3	8	10	2.09	<10	0.09	90	<1	0.01	3	760	26	<5	<20	3	0.09	<10	26	<10	<1	16
93	L13+40N 34+40E	<0.2	0.85	10	35	<5	0.02	<1	4	5	6	1.59	10	0.24	105	<1	0.01	4	270	18	<5	<20	<1	0.04	<10	18	<10	<1	18
94	L13+40N 34+90E	0.2	1.73	10	55	<5	0.04	<1	13	8	19	2.17	<10	0.15	1228	<1	0.02	6	810	26	<5	<20	4	0.07	<10	32	<10	<1	33
98	L13+40N 34+90E	0.2	1.78	10	55	<5	0.04	<1	13	8	20	2.21	<10	0.16	1259	<1	0.02	6	810	26	<5	<20	2	0.08	<10	33	<10	<1	33
99	L13+40N 35+40E	<0.2	0.48	5	35	<5	0.05	<1	1	4	2	0.59	10	0.03	40	<1	0.01	2	220	14	<5	<20	5	0.02	<10	16	<10	<1	9
100	L13+40N 35+90E	<0.2	1.43	15	40	<5	0.02	1	4	11	7	1.74	<10	0.21	46	5	0.02	9	420	40	25	<20	6	0.05	<10	34	<10	<1	21
100	L13+40N 36+40E	<0.2	3.66	20	55	<5	0.04	<1	5	10	13	1.46	<10	0.23	66	<1	0.08	7	910	36	<5	<20	2	0.12	<10	31	<10	16	32
101	L13+40N 36+90E	<0.2	2.57	15	105	<5	0.06	<1	6	13	25	2.99	<10	0.29	128	<1	0.01	8	770	34	<5	<20	6	0.09	<10	36	<10	2	38
102	L13+40N 37+40E	0.4	1.78	10	255	5	0.13	<1	27	12	14	3.77	<10	0.34	3006	4	0.01	8	1550	28	<5	20	6	0.03	<10	28	<10	<1	38
103	L13+40N 37+90E	0.2	2.37	20	75	<5	0.04	<1	11	12	24	2.95	<10	0.47	1471	1	0.01	9	1150	28	<5	<20	2	0.06	<10	34	<10	<1	53
104	L13+40N 38+40E	<0.2	0.80	5	140	<5	0.04	<1	1	5	3	0.76	20	0.11	39	<1	0.01	2	150	18	<5	<20	5	0.04	<10	13	<10	2	12
106	L13+40N 38+90E	0.2	1.88	15	100	<5	0.06	<1	9	12	20	2.49	<10	0.41	1896	1	0.01	9	1430	30	<5	<20	4	0.05	<10	28	<10	7	54
105	L13+40N 38+90E	0.4	1.81	15	105	<5	0.06	<1	8	11	20	2.41	<10	0.39	1679	1	0.01	8	1370	28	<5	<20	6	0.05	<10	27	<10	8	52
106	L13+40N 39+40E	<0.2	0.36	<5	25	<5	0.01	<1	1	2	2	0.59	10	0.06	28	<1	<0.01	<1	120	6	<5	<20	<1	0.02	<10	13	<10	<1	9
107	L13+40N 39+90E	<0.2	2.85	20	35	<5	0.04	<1	4	5	10	2.37	<10	0.03	24	<1	0.01	3	290	28	<5	20	2	0.17	<10	35	<10	<1	10
108	L14+40N 27+90E	0.2	1.09	10	65	<5	0.02	<1	4	7	9	1.59	<10	0.24	68	<1	0.01	4	280	22	<5	<20	1	0.06	<10	27	<10	<1	21
109	L14+40N 28+40E	<0.2	1.18	5	70	<5	0.01	<1	2	6	2	0.67	20	0.29	21	<1	<0.01	3	150	16	<5	<20	<1	0.02	<10	16	<10	<1	15
109	L14+40N 28+90E	<0.2	1.73	15	35	5	0.02	<1	7	12	10	4.50	<10	0.42	604	2	0.01	7	810	22	<5	20	<1	0.10	<10	52	<10	<1	29
110	L14+40N 29+40E	<0.2	1.04	5	60	5	0.03	<1	7	11	11	3.76	<10	0.19	136	<1	<0.01	7	390	20	<5	20	4	0.16	<10	65	<10	<1	30
111	L14+40N 29+90E	<0.2	1.42	15	30	<5	0.02	<1	8	13	6	3.35	<10	0.66	275	<1	<0.01	9	330	20	<5	<20	2	0.08	<10	37	<10	<1	38
112	L14+40N 30+40E	0.2	0.75	5	35	<5	<0.01	<1	4	6	4	1.91	20	0.32	115	2	<0.01	6	250	10	<5	<20	1	0.02	<10	14	<10	<1	21
115	L14+40N 30+90E	0.2	4.09	25	40	<5	0.02	<1	5	15	12	4.06	<10	0.27	45	1	<0.01	7	410	30	<5	20	<1	0.07	<10	48	<10	<1	21
116	L14+40N 30+90E	<0.2	3.95	30	40	<5	0.01	<1	5	14	11	3.95	<10	0.25	49	3	<0.01	6	410	30	<5	20	<1	0.06	<10	46	10	<1	20
116	L14+40N 31+40E	<0.2	2.11	15	70	<5	0.03	<1	5	13	16	2.11	<10	0.34	88	<1	<0.01	7	1050	26	<5	<20	4	0.04	<10	28	<10	<1	36
117	L14+40N 31+90E	0.2	0.55	10	55	<5	0.04	<1	2	4	11	0.76	<10	0.05	23	<1	<0.01	2	550	12	<5	<20	4	<0.01	<10	12	<10	1	20
118	L14+40N 32+40E	<0.2	2.56	15	55	<5	0.03	<1	5	7	11	2.79	<10	0.08	37	<1	0.01	4	280	26	<5	20	2	0.15	<10	36	<10	<1	17
119	L14+40N 32+90E	<0.2	1.22	10	55	<5	0.05	<1	5	10	10	2.37	<10	0.17	120	<1	<0.01	7	570	22	<5	<20	3	0.07	<10	31	<10	<1	34
120	L14+40N 33+40E	0.2	1.18	10	60	<5	0.03	<1	8	9	5	2.17	10	0.43	585	<1	<0.01	11	760	22	<5	<20	1	0.03	<10	17	<10	<1	36
120	L14+40N 33+90E	0.4	3.43	20	170	<5	0.10	<1	10	12	11	2.69	<10	0.32	1364	1	0.01	12	1230	30	<5	<20	7	0.05	<10	26	<10	10	60
121	L14+40N 34+90E	<0.2	0.69	5	40	<5	<0.01	<1	2	4	2	0.53	20	0.06	32	<1	<0.01	1	150	18	<5	<20	2	0.08	<10	17	<10	<1	6
122	L14+40N 35+40E	<0.2	0.80	10	55	<5	0.05	<1	2	8	5	0.91	<10	0.06	31	<1	<0.01	3	550	14	<5	<20	6	0.04	<10	26	<10	<1	10
124	L14+40N 35+90E	<0.2	1.66	15	55	5	0.05	<1	11	15	35	>10	<10	0.12	36	3	0.01	5	340	36	<5	140	4	0.30	20	105	<10	<1	18
125	L14+40N 35+90E	<0.2	1.60	20	55	<5	0.05	<1	11	14	34	9.92	<10	0.12	35	5	0.01	7	330	36	<5	20	3	0.28	20	103	<10	<1	18
126	L14+40N 36+90E	<0.2	2.57	10	75	<5	0.05	<1	6	11	43	2.49	<10	0.31	180	1	<0.01	8	980	32	<5	<20	5	0.05	<10	34	<10	11	30

126	L14+40N	37+40E	0.2	1.05	10	45	<5	0.05	<1	2	7	5	0.95	10	0.12	188	<1	<0.01	2	410	32	<5	<20	3	0.03	<10	24	<10	<1	26
127	L14+40N	37+90E	0.6	2.28	15	55	<5	0.03	<1	6	11	22	3.70	<10	0.17	197	<1	0.01	5	490	28	<5	20	2	0.11	<10	43	<10	<1	23
128	L14+40N	38+40E	<0.2	2.95	15	110	<5	0.05	<1	5	8	21	2 15	<10	0.31	136	<1	0.01	6	880	30	<5	<20	1	0.06	<10	22	<10	4	28
129	L15+90N	26+90E	<0.2	1.44	10	50	<5	0.04	<1	4	5	11	1.16	<10	0.11	37	<1	0.01	4	380	20	<5	<20	2	0.13	<10	20	<10	<1	10
130	L15+90N	27+40E	<0.2	0.58	<5	180	<5	0.20	<1	<1	2	6	0.76	20	0.07	284	<1	<0.01	<1	140	8	<5	<20	<1	<0.01	<10	6	<10	5	2
127	L15+90N	27+90E	<0.2	1.52	10	60	<5	0.04	<1	5	14	19	1.94	<10	0 41	108	2	<0.01	11	820	36	<5	<20	3	0.04	<10	23	<10	<1	34
128	L15+90N	28+40E	<0.2	1.94	15	190	5	0.07	<1	8	17	14	5.19	<10	0.55	125	<1	<0.01	11	310	24	<5	20	5	0.17	<10	71	<10	<1	47
129	L15+90N	28+90E	<0.2	0.85	5	55	<5	0.02	<1	3	7	2	1.46	20	0.34	48	<1	<0.01	7	190	10	<5	<20	<1	<0.01	<10	13	<10	<1	19
133	L15+90N	28+90E	<0.2	0.90	5	60	<5	0.02	<1	4	7	1	1.52	20	0.37	52	<1	<0.01	7	210	10	<5	<20	2	<0.01	<10	14	<10	<1	19
134	L15+90N	29+40E	<0.2	0.89	5	40	<5	0.02	<1	5	10	7	1.80	<10	0.32	828	<1	<0.01	6	470	20	<5	<20	3	0.08	<10	31	<10	<1	30
135	L15+90N	29+90E	<0.2	0.53	10	95	<5	0.08	<1	2	6	6	0.84	<10	0.11	170	2	<0.01	3	650	40	<5	<20	4	0.01	<10	14	<10	<1	35
135	L15+90N	30+40E	0.4	2.93	25	135	<5	0.10	<1	9	9	32	1.46	<10	0.18	1525	9	0.01	8	1490	40	<5	<20	17	0.05	<10	21	<10	4	63
136	L15+90N	30+90E	<0.2	1.83	15	65	<5	0.04	<1	11	11	18	4.07	<10	0.17	729	4	0.01	8	600	28	<5	20	3	0.13	<10	43	<10	<1	31
137	L15+90N	31+40E	<0.2	2 44	20	130	<5	0.06	<1	14	9	13	2.38	<10	0.19	1236	4	0.01	7	570	28	<5	<20	7	0.10	<10	31	<10	<1	43
138	L15+90N	31+90E	<0.2	1.87	15	135	<5	0.02	<1	4	7	12	2.12	10	0.28	41	<1	<0.01	5	250	18	<5	<20	4	0.07	<10	24	<10	<1	13
139	L15+90N	32+40E	<0.2	1.24	10	265	5	0.13	<1	4	11	11	2.62	<10	0.29	153	2	<0.01	8	1200	26	<5	<20	10	0.03	<10	37	<10	<1	29
141	L15+90N	32+90E	<0.2	1.30	5	55	5	0.03	<1	4	7	8	1.68	10	0.22	170	<1	<0.01	4	420	18	<5	<20	<1	0.06	<10	21	<10	2	26
140	L15+90N	32+90E	<0.2	1.32	10	55	<5	0.03	<1	4	8	8	1.71	20	0.22	172	<1	0.01	4	430	18	<5	<20	<1	0.07	<10	22	<10	1	27
141	L15+90N	33+40E	0.2	2.21	20	435	5	0.49	1	9	11	21	2.40	10	0.86	1474	2	0.01	13	1050	56	10	<20	16	0.03	<10	21	<10	29	116
142	L15+90N	33+90E	0.4	1 39	25	530	<5	0.35	1	7	12	12	2.34	<10	0.36	1837	2	0.02	11	1260	74	<5	<20	26	0.03	<10	25	<10	9	73
143	L15+90N	34+40E	<0.2	0.92	10	50	<5	0.02	<1	1	6	4	0.67	10	0.06	23	<1	<0.01	<1	760	16	<5	<20	1	0.01	<10	12	<10	3	6
144	L15+90N	34+90E	<0.2	0.83	10	35	<5	0.02	<1	5	7	7	2.19	10	0.14	66	<1	0.01	4	190	24	<5	<20	<1	0.14	<10	52	<10	4	18
144	L15+90N	35+40E	<0.2	2.60	15	75	<5	0.05	<1	4	6	13	1.68	<10	0.19	61	<1	0.01	4	960	24	<5	<20	<1	0.06	<10	23	<10	11	15
145	L15+90N	35+90E	<0.2	1.11	<5	50	5	0.04	<1	6	7	12	2.97	<10	0.08	170	<1	0.01	4	280	20	<5	<20	2	0.14	<10	45	<10	<1	23
146	L15+90N	36+40E	<0.2	0.72	10	50	5	0.02	<1	4	6	12	1.85	20	0.18	81	<1	0.01	4	240	14	<5	<20	1	0.07	<10	32	<10	<1	20
147	L15+90N	36+90E	<0.2	2.95	95	330	5	0.46	<1	4	8	23	1.85	<10	0.38	41	<1	0.01	7	1080	44	<5	<20	14	0.06	90	19	<10	61	28
150	L16+40N	26+90E	<0.2	0.89	5	50	5	0.03	<1	4	7	6	1.96	20	0.16	82	<1	<0.01	4	180	16	<5	<20	<1	0.08	<10	51	<10	2	17
151	L16+40N	26+90E	<0.2	0.91	<5	50	5	0.03	<1	4	7	6	1.97	20	0.16	81	<1	<0.01	3	170	16	<5	<20	<1	0.08	<10	51	<10	2	18
151	L16+40N	27+40E	<0.2	2.96	15	75	<5	0.03	<1	6	7	14	2.67	10	0.22	115	5	0.01	5	320	28	<5	<20	<1	0.05	<10	32	<10	15	19
152	L16+40N	27+90E	<0.2	3.24	10	25	10	0.09	<1	7	10	16	3.11	<10	0.15	57	<1	0.02	6	1200	30	<5	<20	4	0.18	<10	40	<10	15	15
153	L16+40N	28+40E	<0.2	1 71	10	45	<5	0.03	<1	5	13	15	2.01	10	0.63	105	<1	<0.01	8	810	22	5	<20	<1	0.04	<10	22	<10	1	40
154	L16+40N	28+90E	<0.2	1.31	5	85	10	0.03	<1	8	11	7	2.52	10	0.39	1407	<1	<0.01	8	550	22	<5	<20	<1	0.06	<10	31	<10	<1	47
155	L16+40N	29+40E	<0.2	1.62	10	75	<5	0.04	<1	14	10	19	2.30	<10	0.17	2136	<1	0.01	7	720	20	<5	<20	2	0.09	<10	29	<10	7	35
155	L16+40N	29+90E	<0.2	1.04	<5	70	5	0.04	<1	9	7	13	2.49	<10	0.14	1000	<1	0.01	6	510	20	<5	<20	2	0.11	<10	35	<10	5	35
156	L16+40N	30+40E	<0.2	1.60	5	35	5	0.01	<1	4	8	7	2.79	10	0.29	61	2	<0.01	5	390	18	<5	<20	<1	0.03	<10	23	<10	<1	18
157	L16+40N	30+90E	<0.2	1.08	<5	30	5	0.03	<1	7	5	14	2.35	<10	0.07	45	<1	0.02	5	320	26	<5	<20	2	0.21	<10	27	<10	10	13
159	L16+40N	31+40E	<0.2	0.90	5	50	10	0.04	<1	8	7	12	2.30	<10	0.13	124	<1	0.01	5	240	28	<5	<20	<1	0.23	<10	56	<10	10	24
160	L16+40N	31+40E	<0.2	0.91	<5	55	10	0.04	<1	8	8	12	2.30	<10	0.14	121	<1	0.01	5	250	30	<5	<20	3	0.24	<10	57	<10	9	25
161	L16+40N	31+90E	<0.2	1.13	10	155	10	0.08	<1	5	7	11	2.26	10	0.16	56	2	0.01	5	230	24	<5	<20	7	0.16	<10	31	<10	8	24
161	L16+40N	32+40E	<0.2	1.75	5	60	5	0.05	<1	5	8	8	2.62	<10	0.21	82	2	0.01	5	570	24	<5	<20	2	0.10	<10	29	<10	<1	20
162	L16+40N	32+90E	<0.2	1.43	5	110	10	0.09	<1	7	7	27	2.65	<10	0.32	170	4	0.01	5	420	20	<5	<20	4	0.10	<10	29	<10	2	26
163	L16+40N	33+40E	<0.2	1.61	15	165	<5	0.06	<1	7	10	11	3.47	<10	0.58	107	4	0.01	9	310	28	<5	<20	2	0.05	<10	29	<10	<1	39
164	L16+40N	33+90E	<0.2	0.59	5	55	<5	0.08	<1	4	4	6	2.14	30	0.20	68	4	<0.01	3	170	12	<5	<20	<1	0.08	<10	35	<10	<1	20
165	L16+40N	34+40E	<0.2	0.78	<5	30	10	0.04	<1	7	7	11	2.43	<10	0.09	49	<1	0.02	6	370	36	<5	<20	2	0.25	<10	50	<10	8	15
162	L16+40N	34+90E	0.2	1.45	15	250	5	0.10	<1	8	10	16	2.65	10	0.36	2362	3	0.01	7	670	26	<5	<20	7	0.07	<10	30	<10	7	58
163	L16+40N	35+40E	<0.2	1.33	10	145	<5	0.04	<1	6	8	10	2.10	20	0.54	429	2	<0.01	7	250	20	<5	<20	3	0.03	<10	22	<10	<1	41
168	L16+40N	35+90E	<0.2	1.19	10	175	5	0.08	<1	8	9	11	2.57	10	0.26	1169	4	0.01	6	290	26	<5	<20	7	0.11	<10	39	<10	3	46
169	L16+40N	35+90E	<0.2	1.21	15	175	5	0 08	<1	8	9	11	2.57	10	0.26	1162	2	0.01	6	280	24	<5	<20	7	0.12	<10	39	<10	4	45
170	L16+40N	36+40E	<0.2	1.86	60	385	<5	0.47	<1	11	14	22	2.65	10	0.75	1936	5	0.01	12	760	38	<5	<20	13	0.05	<10	24	<10	22	85
171	L16+40N	36+90E	<0.2	1.79	15	260	10	0.38	<1	10	9	15	4.24	<10	0.27	365	5	0.01	7	410	26	<5	<20	13	0.11	<10	34	<10	30	35
171	L16+40N	37+90E			NO SAMPLE																									
172	L16+40N	38+40E			NO SAMPLE																									

173	L16+40 38+90E	<0.2	1.46	15	285	<5	0.26	<1	10	10	21	2.45	10	1.64	782	2	0.01	13	660	34	15	<20	5	<0.01	<10	9	<10	36	67
174	L16+40 39+40E	0.2	1.70	35	275	<5	0.39	<1	14	11	28	2.84	10	1.57	894	2	<0.01	13	1000	50	15	<20	4	0.02	<10	13	<10	77	70
175	L16+40 39+90E	<0.2	1.39	55	185	<5	0.28	<1	14	10	29	2.45	20	1.58	559	2	<0.01	14	670	44	15	<20	2	<0.01	<10	10	<10	37	62
175	L16+40 40+40E	<0.2	1.40	35	165	5	0.21	<1	14	9	25	2.45	20	1.58	524	2	<0.01	14	640	40	15	<20	4	<0.01	<10	10	<10	31	62
176	L16+40N 40+40E	<0.2	1.37	40	165	<5	0.20	<1	13	9	25	2.40	20	1.53	519	1	<0.01	13	640	42	10	<20	2	<0.01	<10	10	<10	31	61
177	L17+40N 26+90E	<0.2	4.44	20	20	<5	0.06	<1	5	5	43	1.26	<10	0.08	87	<1	0.02	3	570	38	<5	<20	3	0.16	<10	16	10	32	7
178	L17+40N 27+40E	<0.2	4.62	15	50	<5	0.18	<1	9	6	18	2.05	<10	0.11	355	<1	0.02	6	620	40	<5	<20	9	0.16	<10	26	10	49	16
179	L17+40N 27+90E	<0.2	1.47	5	110	10	0.02	<1	6	11	10	3.75	20	0.41	72	<1	<0.01	7	190	20	<5	<20	<1	0.08	<10	51	<10	<1	33
180	L17+40N 28+40E	<0.2	3.52	20	85	5	0.03	<1	6	9	15	2.88	<10	0.22	108	1	0.01	4	440	34	<5	<20	2	0.09	<10	30	<10	<1	23
180	L17+40N 28+90E	<0.2	5.06	15	30	10	0.04	<1	5	9	13	3.12	<10	0.04	23	<1	0.02	3	320	42	<5	<20	2	0.17	<10	37	20	10	6
181	L17+40N 29+40E	<0.2	1.29	20	60	5	0.01	<1	6	9	16	3.14	20	0.40	143	2	<0.01	7	300	14	5	<20	<1	0.02	<10	21	<10	<1	31
182	L17+40N 29+90E	<0.2	2.05	5	35	10	0.02	<1	5	8	8	3.30	<10	0.10	33	<1	0.01	3	380	26	<5	<20	<1	0.13	<10	44	<10	4	12
183	L17+40N 30+40E	<0.2	1.93	10	35	5	0.03	<1	4	5	10	1.24	<10	0.07	42	<1	0.01	3	440	32	<5	<20	3	0.14	<10	22	<10	11	13
185	L17+40N 30+90E	<0.2	1.44	5	55	<5	0.02	<1	3	5	8	1.62	20	0.25	33	3	<0.01	4	340	16	<5	<20	<1	0.04	<10	13	<10	<1	13
186	L17+40N 30+90E	<0.2	1.47	5	55	<5	0.02	<1	3	5	9	1.64	20	0.26	33	2	<0.01	4	350	16	<5	<20	1	0.04	<10	14	<10	1	13
186	L17+40N 31+40E	<0.2	1.85	5	50	10	0.02	<1	5	9	9	4.84	<10	0.09	19	4	0.01	4	220	20	<5	<20	<1	0.09	<10	55	<10	<1	8
187	L17+40N 31+90E	<0.2	0.96	5	35	<5	0.02	<1	3	5	6	0.93	<10	0.08	76	<1	0.01	2	370	28	<5	<20	2	0.12	<10	26	<10	7	10
188	L17+40N 32+40E	<0.2	2.71	15	80	10	0.04	<1	6	8	15	2.86	<10	0.23	89	2	0.01	5	530	26	<5	<20	3	0.13	<10	31	10	13	19
189	L17+40N 32+90E	0.2	2.13	30	195	5	0.06	<1	8	11	11	2.53	10	0.69	999	6	<0.01	9	610	20	<5	<20	2	0.02	<10	19	<10	12	49
190	L17+40N 33+40E	<0.2	1.38	10	55	<5	0.02	<1	5	9	7	2.53	20	0.46	74	1	<0.01	6	260	20	<5	<20	<1	0.06	<10	35	<10	<1	27
190	L17+40N 33+90E	<0.2	1.82	10	90	10	0.02	<1	9	11	14	3.34	10	0.77	581	3	<0.01	10	710	20	5	<20	<1	0.03	<10	35	<10	<1	47
191	L17+40N 34+40E	<0.2	3.54	20	110	5	0.05	<1	11	13	15	3.76	10	0.85	235	2	0.01	12	610	32	5	<20	1	0.06	<10	37	<10	<1	60
192	L17+40N 34+90E	<0.2	1.83	10	90	10	0.05	<1	11	10	12	4.05	10	0.87	505	4	<0.01	11	490	22	<5	<20	3	0.04	<10	47	<10	<1	54
194	L17+40N 35+40E	0.2	2.41	20	190	5	0.09	<1	15	12	19	4.03	<10	0.93	1515	2	0.01	14	770	30	<5	<20	3	0.04	<10	38	<10	8	76
195	L17+40N 35+40E	<0.2	2.44	20	185	10	0.09	<1	15	13	18	4.03	10	0.94	1486	1	0.01	12	770	28	<5	<20	2	0.04	<10	38	<10	9	76
196	L17+40N 35+90E	<0.2	2.56	45	130	10	0.08	<1	14	14	24	3.61	20	0.89	1200	3	0.01	12	700	38	5	<20	3	0.05	<10	32	<10	51	66
196	L17+40N 36+40E	<0.2	1.68	15	135	<5	0.03	<1	10	11	36	2.82	20	0.84	522	2	<0.01	12	350	30	<5	<20	<1	0.02	<10	23	<10	3	54
197	L17+40N 36+90E	<0.2	2.07	15	130	5	0.05	<1	8	11	14	3.07	10	0.55	427	4	<0.01	9	300	28	<5	<20	1	0.04	<10	30	<10	<1	50
198	L17+40N 37+40E	<0.2	1.70	30	140	5	0.03	<1	9	11	12	3.00	10	0.52	527	5	0.01	8	250	34	<5	<20	2	0.06	<10	35	<10	3	57
199	L17+40N 37+90E	<0.2	3.62	55	130	10	0.04	<1	10	13	23	4.87	<10	0.59	111	<1	0.01	9	330	74	<5	<20	3	0.13	20	42	<10	<1	55
200	L17+40N 38+40E	0.2	1.76	10	230	<5	0.22	<1	15	12	43	2.89	20	1.18	1510	1	0.01	14	1000	72	15	<20	6	0.04	<10	18	<10	59	88
197	L17+40N 38+90E	<0.2	1.45	10	155	5	0.21	<1	12	9	26	2.18	20	1.40	622	<1	<0.01	12	770	38	15	<20	<1	0.01	<10	9	<10	28	66
198	L17+40N 39+40E	<0.2	1.54	10	195	<5	0.23	<1	11	10	21	2.12	10	1.60	598	1	<0.01	12	700	32	20	<20	2	0.01	<10	9	<10	26	72
199	L17+40N 39+90E	0.2	1.58	10	245	<5	0.20	<1	10	11	26	2.14	20	1.70	580	1	<0.01	12	610	32	15	<20	2	<0.01	<10	8	<10	31	73
203	L17+40N 39+90E	<0.2	1.53	10	240	<5	0.20	<1	11	10	28	2.10	10	1.64	577	1	<0.01	12	600	32	15	<20	1	<0.01	<10	8	<10	31	71
204	L17+40N 40+40E	<0.2	1.39	15	245	<5	0.17	<1	9	9	19	2.09	20	1.52	470	<1	<0.01	13	560	42	15	<20	3	0.01	<10	8	<10	29	68
205	L18+40N 26+90E	<0.2	0.97	10	50	<5	0.03	<1	5	7	8	1.85	20	0.28	124	<1	<0.01	5	240	16	<5	<20	<1	0.05	<10	39	<10	<1	20
205	L18+40N 27+40E	<0.2	0.74	5	30	5	0.04	<1	6	7	7	1.15	<10	0.07	47	<1	0.01	4	140	30	<5	<20	<1	0.27	<10	69	<10	12	14
206	L18+40N 27+90E	<0.2	1.52	10	55	5	0.02	<1	7	13	25	3.06	10	0.47	107	<1	<0.01	10	490	28	<5	<20	<1	0.09	<10	49	<10	<1	37
207	L18+40N 28+40E	<0.2	1.29	<5	130	10	0.07	<1	7	9	7	2.27	10	0.59	358	2	<0.01	11	890	16	<5	<20	1	0.02	<10	17	<10	1	39
208	L18+40N 28+90E	<0.2	1.91	5	70	<5	0.05	<1	5	7	10	2.43	<10	0.27	125	<1	0.01	6	370	20	<5	<20	2	0.06	<10	26	<10	2	25
209	L18+40N 29+40E	<0.2	2.58	10	85	<5	0.03	<1	5	9	22	2.29	<10	0.22	47	1	0.01	5	470	34	<5	<20	1	0.07	<10	34	<10	8	21
209	L18+40N 29+90E	<0.2	1.54	<5	155	<5	0.04	<1	6	7	18	2.10	<10	0.18	1095	3	0.01	6	750	34	<5	<20	5	0.08	<10	30	<10	5	37
211	L18+40N 29+90E	<0.2	1.52	<5	100	5	0.04	<1	6	7	14	2.09	<10	0.17	1087	3	0.01	6	770	36	<5	<20	2	0.09	<10	30	<10	5	36
212	L18+40N 30+40E	<0.2	1.53	5	65	5	0.06	<1	12	18	9	2.79	10	0.88	886	2	<0.01	9	490	38	5	<20	3	0.04	<10	43	<10	<1	47
213	L18+40N 30+90E	<0.2	1.14	10	50	<5	0.01	<1	6	10	8	3.21	10	0.27	109	<1	<0.01	7	380	18	<5	<20	<1	0.07	<10	57	<10	<1	36
214	L18+40N 31+40E	<0.2	2.46	10	30	5	0.03	<1	5	6	11	1.93	<10	0.10	51	<1	0.01	3	570	30	<5	<20	<1	0.12	<10	23	<10	11	16
215	L18+40N 31+90E	<0.2	2.67	15	85	<5	0.07	<1	9	7	14	1.97	<10	0.16	405	5	<0.01	4	880	28	<5	<20	4	0.07	<10	22	10	12	27
215	L18+40N 32+40E	<0.2	2.38	45	155	<5	0.09	<1	8	9	19	2.44	10	0.60	166	3	<0.01	9	1170	32	<5	<20	2	0.03	20	19	<10	41	46
216	L18+40N 32+90E	<0.2	0.59	5	55	5	0.03	<1	4	5	4	1.62	20	0.19	225	<1	<0.01	3	200	20	<5	<20	<1	0.07	<10	28	<10	1	19
217	L18+40N 33+40E	<0.2	1.11	<5	55	10	0.04	<1	7	8	9	3.58	<10	0.10	151	<1	<0.01	5	340	22	<5	<20	<1	0.16	<10	47	<10	<1	26
218	L18+40N 33+90E	<0.2	1.24	10	95	<5	0.11	<1	6	9	15	3.35	<10	0.38	142	2	<0.01	6	390	22	<5	<20	2	0.06	<10	30	<10	<1	40

220	L18+40N 34+40E	<0.2	1.49	10	55	<5	0.03	2	4	6	11	1.93	<10	0.16	53	4	<0.01	11	390	26	10	<20	2	0.04	<10	28	<10	18	17
221	L18+40N 34+40E	<0.2	1.63	10	55	5	0.03	<1	4	7	11	2.10	<10	0.17	59	<1	<0.01	4	430	30	<5	<20	<1	0.09	<10	30	<10	20	18
221	L18+40N 34+90E	<0.2	1.92	10	155	10	0.10	<1	10	11	13	4.14	<10	0.24	431	<1	<0.01	9	560	28	<5	<20	5	0.13	<10	49	<10	<1	39
222	L18+40N 35+40E	<0.2	2.10	10	185	5	0.06	<1	9	7	19	2.54	10	0.32	856	<1	<0.01	11	730	28	<5	<20	1	0.06	<10	25	<10	<1	43
223	L18+40N 35+90E	0.2	2.95	30	290	<5	0.13	<1	13	16	48	4.22	20	1.54	465	3	<0.01	19	400	28	<5	<20	3	0.02	<10	34	<10	82	51
224	L18+40N 36+40E	<0.2	2.69	30	150	<5	0.04	<1	13	13	22	3.42	10	0.79	369	3	<0.01	14	540	30	5	<20	<1	0.02	<10	28	<10	<1	57
225	L18+40N 36+90E	<0.2	2.06	45	170	5	0.05	<1	12	14	15	3.50	<10	0.85	942	2	<0.01	12	470	44	5	<20	3	0.05	<10	37	<10	2	83
225	L18+40N 37+40E	<0.2	1.72	15	135	<5	0.11	<1	11	10	18	2.90	10	0.58	799	3	<0.01	10	450	28	10	<20	4	0.06	<10	32	<10	6	54
226	L18+40N 37+90E	<0.2	1.91	15	110	<5	0.04	2	12	13	16	3.10	<10	0.62	1847	11	<0.01	18	580	28	60	<20	2	0.03	<10	34	<10	3	77
227	L18+40N 38+40E	<0.2	2.52	10	170	<5	0.07	4	10	12	22	2.81	<10	0.55	566	18	<0.01	26	490	30	110	<20	6	0.02	<10	29	<10	10	57
228	L18+40N 38+90E	<0.2	1.97	30	95	<5	0.04	3	7	12	11	2.60	<10	0.56	260	16	<0.01	20	280	36	105	<20	6	0.01	<10	34	<10	<1	57
229	L18+40N 38+90E	<0.2	2.05	30	90	5	0.04	<1	7	12	11	2.67	10	0.60	262	1	<0.01	8	310	36	<5	<20	2	0.04	<10	34	<10	<1	57
230	L18+40N 39+90E	<0.2	1.85	15	155	<5	0.07	4	16	10	16	2.58	<10	1.12	1681	16	<0.01	26	760	22	125	<20	5	<0.01	<10	17	<10	5	52
230	L19+40N 26+90E	<0.2	1.21	<5	40	<5	0.01	4	9	8	15	3.55	<10	0.62	219	14	0.01	24	330	12	100	<20	<1	<0.01	<10	20	<10	<1	40
231	L19+40N 27+40E	<0.2	1.47	10	35	<5	0.02	2	4	5	11	2.51	<10	0.07	40	12	0.01	11	330	24	70	<20	<1	0.03	<10	32	<10	1	12
232	L19+40N 27+90E	<0.2	1.54	<5	45	<5	0.02	3	6	12	14	3.52	<10	0.30	70	14	<0.01	19	230	24	85	<20	4	0.03	<10	68	<10	<1	24
233	L19+40N 28+40E	<0.2	1.42	15	75	<5	0.02	4	6	11	11	3.17	<10	0.26	84	14	<0.01	18	320	28	90	<20	4	0.03	<10	73	<10	<1	29
234	L19+40N 28+90E	<0.2	1.44	<5	100	<5	0.07	5	8	9	11	5.04	<10	0.12	92	17	0.01	20	320	22	105	<20	7	0.07	<10	56	<10	<1	21
231	L19+40N 29+40E	<0.2	1.17	10	90	<5	0.07	4	6	8	12	2.94	<10	0.16	624	14	<0.01	16	480	16	75	<20	9	0.02	<10	33	<10	<1	35
232	L19+40N 29+90E	<0.2	1.79	<5	55	<5	0.04	<1	5	11	11	3.06	<10	0.31	90	3	<0.01	6	330	64	<5	<20	2	0.07	<10	43	<10	<1	29
233	L19+40N 30+40E	<0.2	1.56	5	75	5	0.08	<1	7	11	17	3.94	<10	0.47	136	3	<0.01	10	370	16	<5	<20	2	0.05	<10	39	<10	<1	44
238	L19+40N 30+40E	<0.2	1.35	<5	65	5	0.07	<1	6	10	15	3.53	<10	0.41	130	3	<0.01	7	330	14	<5	<20	<1	0.05	<10	34	<10	<1	40
239	L19+40N 30+90E	0 4	1.90	5	160	5	0.24	<1	13	32	9	3.41	<10	1.24	4032	3	<0.01	12	1410	22	10	<20	6	0.03	<10	55	<10	<1	74
240	L19+40N 31+40E	0.6	1.94	10	160	5	0.25	<1	13	33	10	3.50	<10	1.26	4263	2	<0.01	12	1450	22	5	<20	6	0.04	<10	56	<10	<1	77
240	L19+40N 31+90E	<0.2	0.71	5	35	<5	0 02	<1	3	4	4	1.65	10	0.25	85	<1	<0.01	3	270	12	<5	<20	<1	0.04	<10	17	<10	<1	15
241	L19+40N 32+40E	0.2	3.77	40	105	<5	0.19	<1	4	6	13	1.54	<10	0.17	257	2	0.02	5	1260	26	<5	<20	7	0.07	<10	20	<10	23	22
242	L19+40N 32+90E	<0.2	1.06	5	55	<5	0.02	<1	6	9	8	2.27	10	0.25	966	<1	<0.01	6	360	20	<5	<20	2	0.09	<10	34	<10	<1	38
243	L19+40N 33+40E	<0.2	1.49	10	190	<5	0.08	<1	4	7	13	1.86	<10	0.40	743	5	<0.01	6	1000	20	5	<20	4	0.03	<10	21	<10	9	33
244	L19+40N 33+90E	<0.2	1.47	5	335	<5	0.10	<1	5	7	14	2.03	10	0.51	685	4	<0.01	7	600	22	5	<20	3	0.03	<10	21	<10	15	31
244	L19+40N 34+40E	<0.2	2.03	10	190	<5	0.11	<1	7	8	21	2.35	<10	0.45	603	<1	<0.01	9	730	26	<5	<20	6	0.07	<10	25	<10	20	43
246	L19+40N 34+40E	<0.2	2.03	15	185	<5	0.11	<1	7	9	20	2.35	10	0.45	586	<1	<0.01	8	740	28	<5	<20	4	0.07	<10	25	<10	21	43
247	L19+40N 34+90E			NO SAMPLE																									
248	L19+40N 35+40E	<0.2	1.43	5	45	<5	<0.01	<1	7	9	10	2.45	20	0.85	87	<1	<0.01	8	220	20	<5	<20	<1	0.02	<10	16	<10	<1	38
249	L19+40N 35+90E	<0.2	1.81	10	65	<5	0.03	<1	8	12	14	2.43	20	0.65	237	<1	<0.01	9	250	22	<5	<20	<1	0.06	<10	32	<10	10	41
250	L19+40N 36+40E	<0.2	2.98	70	195	<5	0.41	<1	14	18	27	3.24	10	0.93	1067	2	<0.01	14	1020	34	5	<20	8	0.04	<10	29	<10	52	65
250	L19+40N 36+90E	<0.2	1.74	15	85	<5	0.05	<1	10	10	19	2.89	10	0.44	926	1	<0.01	10	570	22	<5	<20	<1	0.04	<10	25	10	7	49
251	L19+40N 37+40E	<0.2	2.40	20	70	5	0.03	<1	15	15	26	3.37	<10	0.79	998	1	<0.01	14	500	30	<5	<20	<1	0.06	<10	34	<10	6	70
252	L19+40N 37+90E	0.2	3.01	135	230	<5	0.43	<1	26	17	32	3.74	10	1.44	1207	2	<0.01	18	1350	62	5	<20	10	0.03	<10	27	<10	92	88
253	L19+40N 38+40E	<0.2	1.54	10	60	10	0.07	<1	10	12	9	2.73	<10	0.81	678	<1	<0.01	10	690	22	5	<20	1	0.05	<10	27	<10	<1	48
255	L19+40N 38+90E	0.2	1.97	10	150	10	0.08	<1	15	11	15	3.21	<10	0.39	2313	1	<0.01	11	500	26	<5	<20	1	0.07	<10	30	<10	3	49
256	L19+40N 38+90E	0.4	1.96	15	155	<5	0.08	<1	15	11	15	3.21	<10	0.39	2313	1	<0.01	11	520	28	<5	<20	3	0.06	<10	29	<10	4	50
256	L19+40N 39+40E	<0.2	2.57	15	85	5	0.09	<1	14	13	17	2.95	<10	0.58	1216	<1	<0.01	12	590	34	<5	<20	4	0.08	<10	32	<10	14	65
257	L19+40N 39+90E	<0.2	1.88	15	95	<5	0.15	<1	9	12	20	2.79	<10	0.77	359	2	<0.01	12	1050	46	5	<20	4	0.03	<10	26	<10	16	64
258	L20+40N 26+90E	0.2	0.80	10	140	10	0.06	<1	11	9	12	2.92	10	0.18	2446	2	<0.01	7	580	20	<5	<20	2	0.06	<10	32	<10	<1	51
259	L20+40N 27+40E	<0.2	1.43	<5	120	5	0.16	<1	12	8	13	3.39	<10	0.36	1633	1	<0.01	5	530	20	<5	<20	4	0.05	<10	40	<10	4	40
260	L20+40N 27+90E	<0.2	1.17	10	55	5	0.04	<1	8	9	11	2.45	10	0.32	184	<1	<0.01	8	200	20	<5	<20	2	0.14	<10	52	<10	2	33
260	L20+40N 28+40E	<0.2	1.19	<5	35	5	0.02	<1	4	10	13	1.56	<10	0.23	51	<1	<0.01	5	300	24	<5	<20	<1	0.10	<10	40	<10	3	19
261	L20+40N 28+90E	<0.2	2.56	10	50	<5	0.03	<1	6	12	25	2.48	<10	0.32	116	<1	<0.01	7	590	30	<5	<20	<1	0.07	<10	27	<10	6	26
262	L20+40N 29+40E	<0.2	1.31	15	55	10	0.02	<1	7	10	12	2.90	10	0.36	143	<1	<0.01	9	250	18	<5	<20	<1	0.08	<10	50	10	<1	36
263	L20+40N 29+90E	<0.2	1.25	<5	40	15	0.04	<1	10	12	16	4.27	<10	0.09	71	<1	0.02	8	280	34	<5	<20	<1	0.32	<10	58	<10	2	19
264	L20+40N 29+90E	<0.2	1.25	5	40	15	0.04	<1	9	12	16	4.46	<10	0.09	67	<1	0.02	7	280	34	<5	<20	1	0.34	<10	58	<10	2	18
265	L20+40N 30+40E	<0.2	0.92	<5	45	10	0.06	<1	5	4	11	2.87	<10	0.05	240	<1	0.01	4	470	18	<5	<20	<1	0.13	<10	30	<10	<1	17

265	L20+40N	30+90E	<0.2	2.16	10	80	5	0.07	<1	12	10	17	2.34	<10	0.44	1375	2	0.01	7	1010	24	5	<20	3	0.04	<10	26	<10	10	40
266	L20+40N	31+40E	<0.2	3.39	20	185	5	0.30	<1	4	6	12	2.16	<10	0.14	65	<1	0.02	5	740	24	<5	<20	17	0.10	<10	32	<10	20	10
267	L20+40N	31+90E	<0.2	1.77	5	75	10	0.08	<1	5	5	13	2.46	<10	0.17	78	<1	0.01	4	340	26	<5	<20	3	0.12	<10	24	<10	20	17
268	L20+40N	32+40E	<0.2	2.56	35	145	5	0.48	<1	10	22	15	2.50	<10	0.51	852	3	0.01	18	510	30	<5	<20	10	0.07	<10	18	<10	32	37
269	L20+40N	32+90E	<0.2	1.92	35	195	5	0.24	<1	12	14	17	2.86	<10	1.01	1652	2	<0.01	11	690	40	10	<20	6	0.05	<10	30	<10	27	97
266	L20+40N	33+40E	<0.2	2.29	25	95	5	0.10	<1	14	12	20	3.25	<10	0.78	1691	2	<0.01	11	1070	32	<5	<20	3	0.06	<10	32	<10	26	84
267	L20+40N	33+90E	<0.2	2.02	20	125	5	0.32	<1	9	15	11	3.98	<10	0.60	273	<1	0.01	8	470	20	<5	<20	7	0.15	<10	50	<10	2	29
268	L20+40N	34+90E	<0.2	2.01	15	145	5	0.05	<1	8	20	6	3.24	10	1.82	334	1	<0.01	12	300	18	10	<20	<1	0.02	<10	43	<10	<1	59
273	L20+40N	34+90E	<0.2	2.00	15	145	5	0.05	<1	8	20	6	3.16	10	1.80	332	2	<0.01	12	290	16	15	<20	<1	0.02	<10	43	<10	<1	58
274	L20+40N	35+40E	<0.2	2.21	5	85	<5	0.09	<1	8	11	10	3.17	<10	0.67	268	1	<0.01	9	680	22	<5	<20	2	0.06	<10	32	<10	<1	39
275	L20+40N	35+90E	<0.2	2.54	25	115	5	0.05	<1	25	15	33	5.56	<10	1.45	431	5	<0.01	12	430	22	<5	<20	2	0.02	<10	82	<10	<1	41
275	L20+40N	36+40E	0.4	3.89	130	330	<5	0.93	<1	24	23	57	4.62	<10	1.37	3174	4	<0.01	16	840	44	5	<20	14	0.03	<10	36	<10	92	56
276	L20+40N	36+90E	<0.2	1.78	10	75	5	0.06	<1	11	14	10	2.43	<10	1.03	1521	<1	<0.01	7	700	26	10	<20	2	0.04	<10	35	<10	2	48
277	L20+40N	37+40E	<0.2	3.11	25	95	<5	0.12	<1	18	16	26	3.53	<10	0.93	655	<1	<0.01	13	350	48	5	<20	2	0.14	<10	47	<10	20	60
278	L20+40N	37+90E	<0.2	2.87	10	120	15	0.24	<1	19	26	20	3.83	20	2.85	1201	<1	<0.01	14	380	46	10	<20	<1	0.22	<10	55	<10	71	73
279	L20+40N	38+40E	<0.2	3.59	15	75	10	0.06	<1	20	40	15	5.32	<10	2.10	1062	3	<0.01	26	710	26	<5	<20	2	0.05	<10	79	<10	<1	70
279	L20+40N	38+90E	<0.2	1.59	<5	60	<5	0.02	<1	6	13	10	2.79	<10	0.59	102	2	<0.01	11	350	18	<5	<20	3	0.02	<10	34	<10	<1	42
281	L20+40N	38+90E	<0.2	1.71	15	55	5	0.02	<1	6	14	11	2.90	<10	0.64	105	2	<0.01	11	370	18	<5	<20	<1	0.02	<10	36	<10	<1	44
282	L20+40N	39+40E	<0.2	2.12	10	160	<5	0.14	<1	13	16	19	3.02	<10	0.68	720	2	<0.01	20	690	30	<5	<20	3	0.03	<10	27	<10	18	63
283	L20+40N	39+90E	<0.2	1.99	25	75	<5	0.19	<1	9	12	16	2.94	<10	0.75	795	1	<0.01	13	1190	38	<5	<20	5	0.04	<10	27	<10	40	86
284	TIE LIN28+40I	13+90N	<0.2	2.14	5	50	5	0.03	<1	4	5	10	2.00	<10	0.09	48	<1	<0.01	3	340	24	<5	<20	<1	0.09	<10	28	<10	4	13
285	TIE LIN28+40I	14+90N	<0.2	1.09	<5	80	<5	0.03	<1	3	7	7	2.48	10	0.28	37	<1	<0.01	4	190	18	<5	<20	<1	0.06	<10	39	<10	<1	20
285	TIE LIN28+40I	15+90N	<0.2	1.23	5	55	<5	0.03	<1	5	8	5	2.15	10	0.46	76	<1	<0.01	7	140	14	<5	<20	<1	0.08	<10	54	<10	<1	31
286	TIE LIN28+40I	16+90N	<0.2	1.03	<5	60	<5	0.03	<1	3	5	10	1.43	<10	0.13	53	1	<0.01	3	240	26	<5	<20	2	0.07	<10	23	<10	3	15
287	TIE LIN28+40I	17+90N	<0.2	1.53	10	185	<5	0.05	<1	8	11	18	2.77	10	0.37	181	6	<0.01	10	360	18	<5	<20	7	0.02	<10	23	<10	13	36
288	TIE LIN28+40I	18+90N	<0.2	2.92	10	75	<5	0.08	<1	6	12	26	3.17	<10	0.32	181	2	<0.01	7	770	26	<5	<20	2	0.06	<10	35	<10	4	32
290	TIE LIN28+40I	19+90N	<0.2	1.38	10	40	5	0.02	<1	6	12	12	3.78	<10	0.33	90	3	<0.01	8	350	22	<5	<20	<1	0.08	<10	44	<10	<1	31
291	TIE LIN28+40I	19+90N	<0.2	1.40	10	40	<5	0.02	<1	6	11	12	3.78	<10	0.34	91	2	<0.01	7	340	20	<5	<20	1	0.08	<10	44	<10	<1	31

26-Nov-97

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

Phone: 604-573-5700
Fax : 604-573-4557

ICP CERTIFICATE OF ANALYSIS - AK97-1293

DYNAMIC EXPLORATION LTD.
656 BROOKVIEW CRES.
CRANBROOK, B.C.
V1C 4R5

ATTENTION: RICK WALKER

No. of samples received: 52
Sample type: SOIL
PROJECT #: DIBBLE
SHIPMENT #: NONE GIVEN
Samples submitted by: R.WALKER

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	L1400-25W 13.5	0.2	2.02	20	90	<5	0.39	<1	25	21	61	4.93	<10	0.58	852	2	0.04	54	350	54	<5	<20	21	0.05	<10	21	<10	7	175
2	L1400-75W 12.5	0.4	3.03	35	155	<5	0.62	<1	33	62	74	5.64	<10	0.82	765	2	0.03	100	560	72	<5	<20	46	0.10	<10	40	<10	8	149
3	L1400-125W 11.5	<0.2	2.52	15	135	<5	0.65	<1	29	60	45	4.70	<10	0.68	1626	<1	0.03	83	690	48	<5	<20	30	0.08	<10	30	<10	7	154
4	L1400-175W 10.5	0.2	2.36	35	105	<5	0.07	<1	62	26	106	7.10	50	0.57	773	6	0.02	93	1000	26	<5	<20	14	0.02	<10	25	<10	2	197
5	L1400-225W 9.5	0.6	2.25	10	290	<5	0.42	3	24	13	34	3.80	10	0.46	2590	1	0.04	55	470	62	<5	<20	38	0.06	<10	22	<10	5	295
6	L1400-275W 8.5	<0.2	1.69	35	75	<5	0.23	<1	42	40	72	4.88	30	0.83	513	3	0.02	74	500	28	<5	<20	13	0.02	<10	26	<10	2	104
7	L1400-325W 7.5	<0.2	1.95	25	120	<5	0.22	<1	43	17	63	4.39	30	0.62	963	2	0.03	69	610	30	<5	<20	14	0.02	<10	22	<10	5	145
8	L1400-575E 21.5	0.4	1.78	25	165	<5	0.26	<1	21	18	39	3.98	<10	0.76	1771	3	0.02	47	650	68	<5	<20	19	0.02	<10	19	<10	2	137
9	L1400-625E 22.5	<0.2	2.21	5	170	<5	0.55	<1	34	188	84	5.02	<10	1.42	1096	<1	0.03	124	630	28	<5	<20	31	0.10	<10	70	<10	<1	98
10	L1400-675E 23.5	<0.2	2.49	30	95	<5	0.34	<1	34	169	70	5.77	<10	1.44	608	1	0.02	149	700	28	<5	<20	19	0.08	<10	63	<10	<1	100
11	L1400-725E 24.5	0.8	2.09	25	260	<5	0.66	<1	34	17	67	5.11	<10	0.54	3918	4	0.04	67	2190	88	<5	<20	48	0.05	<10	24	<10	8	151
12	L1400-775E 25.5	<0.2	2.83	25	275	<5	0.41	<1	20	24	35	3.46	<10	0.56	1294	<1	0.02	56	680	42	<5	<20	40	0.08	<10	26	<10	5	101
13	L1400-825E 26.5	<0.2	3.42	20	155	<5	0.33	<1	30	93	63	4.28	<10	0.99	533	<1	0.03	92	840	86	<5	<20	25	0.12	<10	56	<10	4	113
14	L1400-875E 27.5	<0.2	2.82	20	240	<5	0.30	<1	22	17	21	3.90	<10	0.69	772	2	0.03	35	1050	56	<5	<20	31	0.06	<10	30	<10	<1	173
15	L1400-925E 28.5	<0.2	1.74	15	175	<5	0.23	<1	14	13	26	3.62	<10	0.68	151	1	0.02	23	480	22	<5	<20	19	0.04	<10	20	<10	<1	59
16	L1400-950E 29.0	<0.2	1.76	15	135	<5	0.23	<1	14	16	16	3.06	<10	0.55	527	1	0.02	25	340	32	<5	<20	15	0.04	<10	20	<10	<1	79
17	L1400-975E 29.5	0.2	1.40	10	155	<5	0.26	<1	16	20	22	3.12	<10	0.63	796	2	0.02	26	400	36	<5	<20	12	0.02	<10	19	<10	<1	79
18	L1400-1000E 30.0	<0.2	1.94	20	220	<5	0.19	<1	18	37	27	3.45	<10	0.69	1035	1	0.03	38	1110	44	<5	<20	12	0.03	<10	27	<10	2	96
19	L1400-1025E 30.5	0.2	1.18	40	135	<5	0.07	<1	15	6	81	6.55	<10	0.18	240	11	0.03	31	2090	56	<5	<20	5	<0.01	<10	13	<10	<1	425
20	L1400-1050E 31.0	<0.2	1.99	25	335	<5	0.28	<1	42	91	55	4.81	<10	0.96	948	2	0.03	83	1070	80	<5	<20	21	0.04	<10	43	<10	<1	310
21	L1400-1075E 31.5	<0.2	2.76	35	180	5	0.11	<1	25	36	42	5.00	<10	0.69	381	4	0.03	55	1090	74	<5	<20	5	0.04	<10	40	<10	<1	210
22	L1500-50W	0.4	2.80	40	225	<5	0.56	<1	46	19	70	4.79	10	0.69	3891	3	0.03	63	1210	40	<5	<20	28	0.06	<10	27	<10	9	198
23	L1500-100W	<0.2	3.04	55	275	<5	0.30	<1	40	19	53	4.52	<10	0.56	1750	2	0.03	76	680	26	<5	<20	22	0.06	<10	29	<10	2	214
24	L1500-150W	0.4	2.52	35	165	<5	0.57	2	45	15	73	5.63	20	0.65	3183	3	0.03	69	820	42	<5	<20	26	0.05	<10	24	<10	14	621
25	L1500-200W	0.4	1.87	15	170	<5	0.50	4	21	11	36	4.34	<10	0.50	2203	2	0.03	35	550	134	<5	<20	31	0.04	<10	18	<10	4	1839

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
26	L1500-250W	0.2	2.30	15	150	<5	0.41	<1	26	19	47	4.81	10	0.64	1562	2	0.02	50	570	44	<5	<20	23	0.05	<10	23	<10	6	187
27	L1500-300W	<0.2	2.78	15	125	<5	0.34	<1	24	63	47	3.85	10	0.73	706	<1	0.04	83	460	30	<5	<20	23	0.09	<10	31	<10	6	137
28	L1500-350W	<0.2	2.52	20	340	<5	0.68	<1	45	114	69	5.15	10	1.01	1842	2	0.03	174	1130	40	<5	<20	58	0.07	<10	52	<10	1	192
29	L1500-400W	<0.2	2.13	10	160	<5	0.34	2	30	16	42	4.32	10	0.56	1391	2	0.02	58	630	170	<5	<20	24	0.04	<10	24	<10	1	480
30	L1500-450W	<0.2	1.63	10	80	<5	0.22	<1	18	42	35	3.90	<10	0.68	528	1	0.02	52	370	22	<5	<20	10	0.03	<10	25	<10	<1	99
31	L1500-500W	<0.2	1.81	10	125	<5	0.24	<1	15	10	26	3.21	<10	0.53	805	<1	0.03	29	430	24	<5	<20	13	0.04	<10	16	<10	4	81
32	L1500-50E	0.8	2.01	35	105	<5	0.55	<1	41	12	89	6.96	10	0.59	1545	6	0.03	68	370	102	<5	<20	21	0.03	<10	18	<10	9	261
33	L1500-100E	<0.2	3.43	20	135	<5	0.55	<1	32	53	55	5.11	10	0.82	1057	1	0.04	84	670	50	<5	<20	26	0.08	<10	43	<10	2	147
34	L1500-150E	<0.2	1.75	10	140	<5	0.21	<1	14	17	22	2.99	<10	0.62	245	1	0.03	31	630	22	<5	<20	11	0.03	<10	19	<10	<1	63
35	L1500-200E	<0.2	2.48	10	190	<5	0.18	<1	11	13	13	2.10	<10	0.30	670	<1	0.04	27	1480	20	<5	<20	18	0.11	<10	22	<10	3	97
36	L1500-250E	<0.2	2.07	15	110	<5	0.20	<1	14	29	23	2.94	<10	0.83	220	<1	0.02	37	660	22	<5	<20	14	0.05	<10	27	<10	<1	79
37	L1500-300E	<0.2	2.20	20	200	<5	0.38	<1	16	18	28	3.27	<10	0.68	931	<1	0.02	37	340	32	<5	<20	19	0.05	<10	27	<10	<1	90
38	L1500-350E	<0.2	2.65	15	190	<5	0.40	<1	9	7	14	1.88	<10	0.26	558	<1	0.05	30	2240	18	<5	<20	37	0.12	<10	20	<10	6	104
39	L1500-400E	<0.2	1.78	20	125	<5	0.32	<1	12	13	15	2.94	<10	0.51	586	2	0.03	24	220	22	<5	<20	11	0.02	<10	20	<10	<1	54
40	L1500-450E	<0.2	2.14	15	150	<5	0.22	<1	17	16	22	3.01	<10	0.54	706	<1	0.02	32	580	24	<5	<20	15	0.04	<10	21	<10	2	87
41	L1500-500E	0.2	2.03	15	130	<5	0.21	<1	19	18	32	3.67	<10	0.58	605	<1	0.03	38	370	28	<5	<20	17	0.02	<10	22	<10	2	86
42	L1500-550E	0.2	1.89	35	85	<5	0.31	<1	20	14	52	4.38	<10	0.60	901	3	0.02	45	500	40	<5	<20	18	0.01	<10	17	<10	4	85
43	L1500-600E	0.4	1.71	20	90	<5	0.24	<1	25	13	60	5.10	<10	0.57	1220	4	0.02	49	360	64	<5	<20	16	0.02	<10	16	<10	1	86
44	L1500-650E	0.6	2.19	20	200	<5	0.36	<1	29	14	56	4.79	<10	0.65	2756	4	0.02	58	710	94	<5	<20	23	0.02	<10	20	<10	4	173
45	L1500-700E	0.4	2.25	30	230	<5	0.28	<1	30	14	50	4.69	<10	0.70	2809	4	0.02	49	900	124	<5	<20	25	0.02	<10	21	<10	1	157
46	L1500-750E	<0.2	3.12	20	195	<5	0.42	<1	20	15	38	3.32	<10	0.51	359	<1	0.03	44	1040	32	<5	<20	41	0.09	<10	25	<10	5	83
47	L1500-800E	<0.2	2.05	25	120	<5	0.26	<1	16	13	25	3.02	<10	0.81	498	2	0.02	32	580	42	<5	<20	20	0.02	<10	18	<10	<1	72
48	L1500-850E	0.2	2.37	25	220	<5	0.15	<1	19	14	23	3.05	<10	0.87	1006	1	0.02	28	630	46	<5	<20	15	0.03	<10	21	<10	<1	97
49	L1500-900E	<0.2	3.04	20	230	<5	0.40	<1	17	32	27	3.16	<10	0.59	500	<1	0.03	61	2650	28	<5	<20	31	0.10	<10	31	<10	<1	98
50	L1500-950E	<0.2	2.45	20	275	<5	0.26	<1	15	17	22	3.03	<10	0.55	646	<1	0.03	45	860	30	<5	<20	19	0.06	<10	22	<10	<1	86
51	L1500-1000E	<0.2	2.19	10	240	<5	0.22	<1	14	32	18	2.64	<10	0.58	579	<1	0.04	50	670	22	<5	<20	22	0.07	<10	25	<10	<1	75
52	L1500-1050E	<0.2	2.53	<5	150	<5	0.47	<1	50	290	97	5.89	<10	2.42	735	<1	0.04	256	1170	26	<5	<20	29	0.17	<10	109	<10	<1	166

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
QC/DATA:																													
Repeat:																													
1	L1400-25W	<0.2	2.17	25	95	<5	0.42	<1	27	22	64	5.24	<10	0.62	912	2	0.03	57	400	60	<5	<20	22	0.06	<10	23	<10	7	187
10	L1400-675E	<0.2	2.41	30	90	<5	0.33	<1	34	165	67	5.71	<10	1.40	591	2	0.02	146	700	30	<5	<20	18	0.08	<10	61	<10	<1	100
19	L1400-1025E	0.4	1.22	40	140	<5	0.08	<1	16	6	83	6.75	<10	0.18	251	10	0.02	30	2200	62	<5	<20	5	0.01	<10	13	<10	<1	442
28	L1500-350W	<0.2	2.55	25	345	<5	0.67	<1	45	114	69	5.20	10	1.02	1841	1	0.03	174	1140	40	<5	<20	59	0.07	<10	52	<10	1	192
36	L1500-250E	<0.2	2.02	20	105	<5	0.19	<1	14	24	21	2.83	<10	0.80	221	<1	0.02	34	670	24	<5	<20	11	0.05	<10	26	<10	<1	85
Standard:																													
GEO'97		1.4	1.71	55	150	<5	1.68	<1	18	56	78	3.95	<10	0.95	670	<1	0.03	22	620	18	<5	<20	57	0.10	<10	75	<10	3	68
GEO'97		1.2	1.71	55	150	<5	1.70	<1	19	56	79	3.97	<10	0.95	672	<1	0.03	23	620	18	<5	<20	57	0.10	<10	75	<10	3	68

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

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fax: 250-426-8755

Appendix C

Statement of Expenditures

STATEMENT OF EXPENDITURES

The following expenses were incurred on the DIBBLE property for the purposes of geological exploration within the period March 1, 1997 to February 9, 1998.

Personnel		
R. Walker, P.Geo., 10 days at $400/day	$	4,000.00
Assistant, 1 day at $150 / day	$	150.00
Disbursements		
Courier Charges - Shipping	$	86.99
Field Supplies - 3 man-days at $20 / day	$	60.00
Fuel	$	36.80
GPS - 1 man-day at $20 / day	$	20.00
GST	$	288.87
Helicopter - July 23 and Aug. 13, 1997	$	1,312.00
Meals	$	42.58
Miscellaneous	$	175.97
Office Supplies	$	4.10
Postage	$	58.42
Processing - Eco-Tech Laboratories Ltd.	$	2,552.00
Soil Sampling program - Fox	$	1,740.00
Truck - 1 day at $50 / day	$	50.00
Report Writing / Reproduction		
R. Walker, P.Geo., 2 days at $400 / day	$	800.00
Reproduction	$	68.40
Telephone Charges	$	25.87
Total		**$ 11,472.00**

NAMIC\BDX\foxplotmay98.dwg Mon May 11 14:53:21 1998

SCALE

0 metres 200

1:2000

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,499

DYNAMIC EXPLORATION LTD.

Copper ppm Results

Box Claims

Figure:8

This Plot: 98/05/11	Date: May.'98 by CLT
Map Ref.:	Scale: 1:2:000

E:\DYNAMIC\BOX\Boxcuplotmay98.dwg Mon May 11 14:40:02 1998

SCALE

0 metres 200

1:2000

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,499

DYNAMIC EXPLORATION LTD. (3)

Lead ppm Results

Box Claims

Figure:9

This Plot: 98/05/11	Date: May.'98 by CLT
Map Ref.: .	Scale: 1:2000

E:\DYNAMIC\BOX\Boxpbplotmay98.dwg Mon May 11 14:41:28 1998

25,499

DYNAMIC EXPLORATION LTD.

Zinc ppm Results

Box Claims

Figure:10

This Plot: 98/05/11	Date: May.'98 by CLT
Map Ref.: .	Scale: 1:2000

4

DYNAMIC\BOX\Boxznplotmay98.dwg Mon May 11 14:42:41 1998