

CHAPLEAU RESOURCES LTD.

ASSESSMENT REPORT ON THE
CRUZ PROPERTY

FORT STEELE MINING DIVISION

82 G/4W and 82 5G/5W

Latitude: 49° 33'N

Longitude: 115° 50' 30"W

For

CHAPLEAU RESOURCES LTD.
Suite 104, 135 - 10th Avenue South
Cranbrook, BC V1C 2N1

Written by

RICHARD T. WALKER, P.GEO.

Date: February 26, 1997

**GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT**

24,772

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SUMMARY

An exposure of fragmental was identified at surface and subsequently drilled on the CRUZ property in 1995. Compilation of past work in the area, together with surface and sub-surface information, confirmed the presence of the fragmental and associated mineralization. The fragmental occurrence is hosted by the middle Aldridge Formation and lies approximately 2100 metres stratigraphically above the lower-middle Aldridge contact. Recent evaluation of the Fors property, west-northwest of Moyie Lake, demonstrated the importance of fragmentals as exploration targets. The discordant fragmental on the Fors property,

"... is a near-blind discovery that resulted from drill testing a geological model in the vicinity of low-grade mineralization found at surface.

It provides a new exploration target in the Sullivan camp, having some similarities with the Sullivan deposit and some important differences. Similarities include the presence of such "Sullivan indicators" as bedded sulphides, fragmental units that locally carry sulphide-bearing and tourmalinized clasts, garnet porphyroblasts, and tourmaline and albite alteration. Differences are that it is located outside the Sullivan corridor, is stratigraphically higher, has unusual alteration assemblages, and has elevated silver, gold, tungsten and arsenic" (Britton and Pighin 1994).

By analogy with the Fors fragmental, the fragmental occurrence on the CRUZ property is similarly interpreted as the upper level of a vent complex. The fragmental has extensive sericite and talc altered tourmalinite and sedimentary clasts, both at surface and in sub-surface core. Proprietary Aldridge marker control indicates that similar surface exposures of fragmental occur approximately 2100 metres above the lower - middle Aldridge contact. A disseminated lead-zinc horizon documented at surface on competitors claims was previously intersected in the sub-surface (Walker 1996) and is interpreted to be related to the fragmental. A tourmalinite horizon identified slightly below the mineralized horizon is similarly interpreted to be genetically linked to the fragmental and associated with episodic pulses of vent activity in and around the fragmental. A single drill hole was completed in December, 1996, intended to test the sub-surface extent of a Pb-Zn anomaly identified at surface approximately 1.5 kilometres west. The same mineralized horizon was previously drill tested in 1995, approximately 3 kilometres to the northwest and found to be associated with a tourmalinized vent complex. However, proprietary marker data indicates the horizon was eroded at that location, with the stream valley subsequently infilled by Quaternary (glacial) till.

Additional work is strongly recommended to further understanding of the property and the potential for identification of an orebody in the newly identified Moyie sub-basin.

INTRODUCTION

The CRUZ property comprises a total of 340 claim units lying immediately south of the St. Eugene leases and extends east and south east of Moyie Lake (Fig. 1). The claims cover exposures of the middle Aldridge Formation (Fig. 2), confirmed by proprietary Aldridge marker control on surface and in the sub-surface. Upper Aldridge to Kitchener Formation strata has been identified west, north and east of the property, wrapped around the north plunging Moyie Anticline.

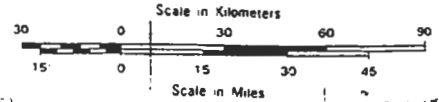
Limited prospecting and geological mapping on the CRUZ property has resulted in identification of three separate fragmental occurrences, two lying at the same stratigraphic horizon along Sundown Creek and the third exposed at a lower stratigraphic level. These fragmentals are interpreted to be associated with episodic venting, as evidenced in drill core from previous drilling (Walker 1995). Furthermore, they are interpreted to be equivalent to a dewatering structure (fragmental) mapped along Highway 3 / 95 to the north and two fragmentals mapped in the vicinity of the St. Eugene Mine.

Possible vented sands, calcareous intervals, a tourmalinite horizon and lead-zinc mineralization are interpreted as evidence of episodic vent activity associated with the fragmental. The mineralized horizon identified in sub-surface (Walker 1995) is interpreted to be correlative to that identified on surface to the south. The same horizon, with associated mineralization is present approximately 20 kilometres to the south in the Mt. Mahon area and in a deep oil well drilled immediately southeast of Moyie Lake. Finally, anomalous thicknesses of argillite and interbedded silty argillite were documented in drill core and at surface to the south along Sundown Creek. On the basis of these observations, a local sub-basin (Moyie sub-basin) within the Purcell Basin has been proposed.

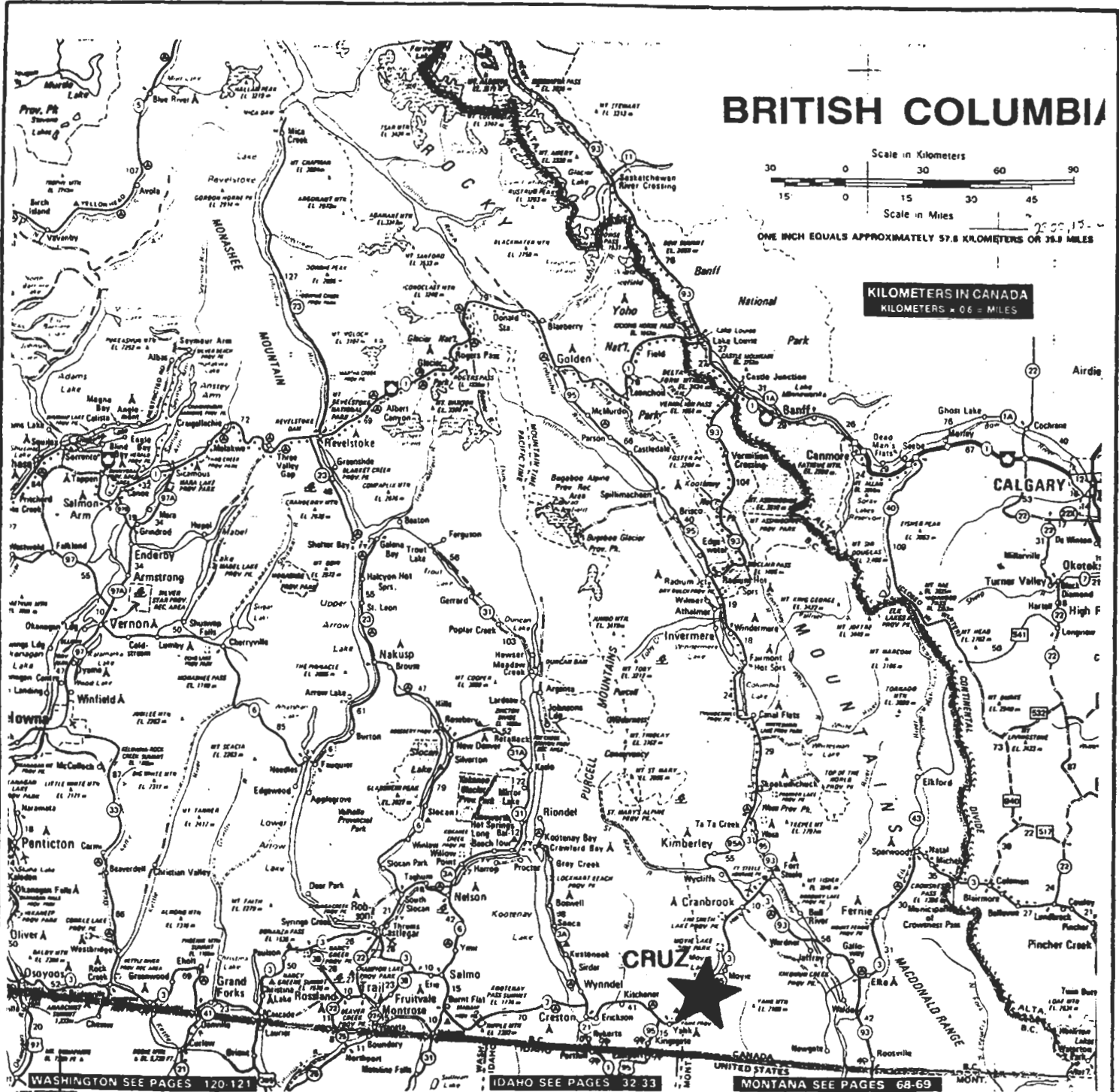
The minimum extent of the proposed sub-basin is thought to be constrained by the presence of anomalous thicknesses of argillite, (interpreted to indicate a distal location relative to the sub-basin margins and associated turbidites typical of the middle Aldridge. The northern and southern boundaries are interpreted to be constrained by two fragmental occurrences in the vicinity of the St. Eugene Mine and the Mt. Mahon tourmalinite occurrences, respectively. Finally, vent activity is documented throughout the lower to middle Aldridge on the basis of drill core recovered as part of the 1995 program of Chapleau Resources Ltd. and from the upper lower Aldridge to the middle Aldridge identified in the deep oil well. Therefore, the possibility is considered high for identification of additional mineralization, both at surface and in the sub-surface as a result of additional work on the property.

A single drill hole (DH-R-96-5) was completed to test the presence and associated mineralization of a mineralized horizon identified at depth during the 1995 drill program and outcropping to the west reported on competitors claims. Drill results indicate the target horizon was eroded away and the stream valley subsequently infilled with Quaternary fill (glacial till).

BRITISH COLUMBIA



KILOMETERS IN CANADA
KILOMETERS x 0.6 = MILES



WASHINGTON SEE PAGES 120-121

IDAHO SEE PAGES 32-33

MONTANA SEE PAGES 68-69

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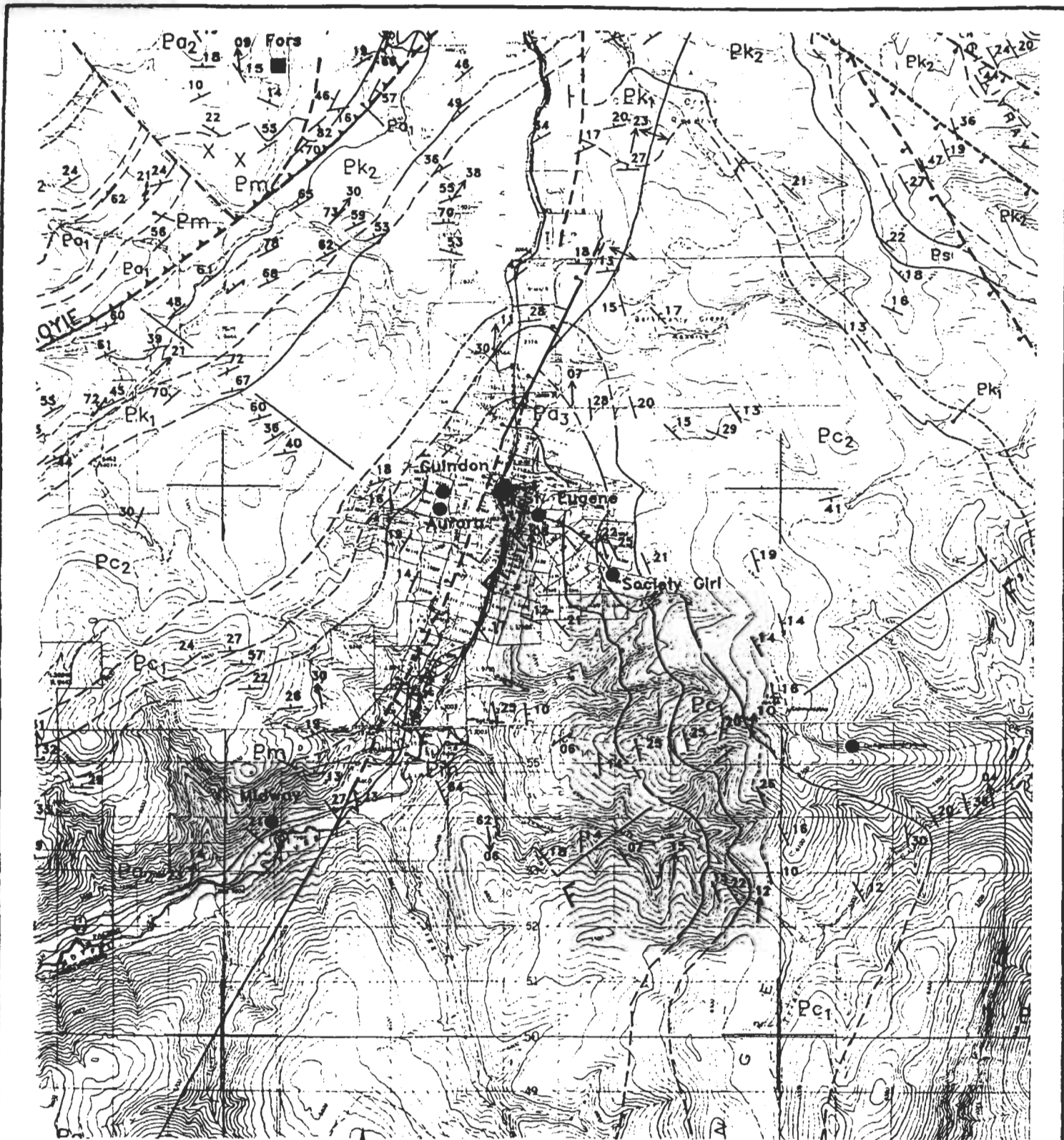
CRUZ PROPERTY

PROPERTY LOCATION MAP

Scale: as shown

Date: FEB 1997

Figure 1



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CRUZ PROPERTY

REGIONAL GEOLOGICAL MAP

Scale: 1:100,000

Date: FEB 1997

Figure 2

LOCATION AND ACCESS

The CRUZ property is located approximately 40 kilometres south of Cranbrook in the southern Purcell Mountains (Fig. 1). The claim group is centred at approximate UTM coordinates 585000E, 5454000N. The claims are immediately south of the St. Eugene leases and extend south and east from the southeast shore of Moyie Lake (Fig. 3). The property can be easily accessed by two wheel drive vehicle from Highway 3 / 95 along the well maintained Sundown Creek Road. There is good road access along the Highway on the northwest edge of the claims and along the Sundown Creek Road to the southwest edge of the property. Truck access is available to the south-southeast portion of the property along the Sunrise Creek road and limited access (all terrain vehicles) is available along the pipeline right-of-way through the centre of the claims to the east-central portion of the claims.

PHYSIOGRAPHY AND CLIMATE

The CRUZ property is located in the eastern Purcell Mountains, west of the Rocky Mountain Trench (Fig. 1). The property is characterized by moderate relief, with elevation ranging between 940 metres (3085 feet) along Moyie Lake to 1670 metres (5480 feet) on an unnamed peak east of Sunrise Creek. The area is available for exploration from early May (at lower elevations) to late October.

Vegetation in the area consists predominantly of coniferous trees with lesser deciduous and sparse undergrowth consisting of slide alder. Thicker growth is present in the north facing portions of the creek valleys. The lower elevations of the property are underlain by glacial till and are comprised largely of lodgepole pine. Logging activity has resulted in several relatively large open areas, particularly adjacent to the intersection of Sundown Creek Road and the Sunrise Creek road.

CLAIM STATUS

The CRUZ property is located approximately 40 kilometres south of Cranbrook (see Fig. 1). The property consists of 340 claim units (Fig. 3), staked in accordance with existing claim location regulations. Claim information is believed correct as of February 20, 1997. Pertinent claim data is tabulated below:

<u>CLAIM</u>	<u>TENURE NUMBER</u>	<u>UNITS</u>	<u>ANNIVERSARY DATE</u>
Cruz De Plata 1	336446	1	June 5, 2001
Cruz De Plata 2	336447	1	June 5, 2001
Cruz De Plata 3	336448	1	June 5, 2001
Cruz De Plata 4	336449	1	June 5, 2001
Cruz De Plata 5	336450	1	June 5, 2001
Cruz De Plata 6	336451	1	June 5, 2001
Cruz De Plata 7	338889	1	August 16, 2001
Cruz De Plata 8	338890	1	August 16, 2001
Farr 1	337886	1	July 20, 2001
Farr 2	337887	1	July 20, 2001
Farr 3	337914	1	July 20, 2001
Farr 4	337915	1	July 20, 2001
Farr 5	337916	1	July 20, 2001
Farr 6	337917	1	July 20, 2001
Farr 7	337918	1	July 20, 2001
Farr 8	337932	1	July 20, 2001
Farr 9	337933	1	July 20, 2001
Farr 10	337934	1	July 20, 2001
Farr 11	337935	1	July 21, 2001
Farr 12	337936	1	July 21, 2001
Farr 13	337937	1	July 21, 2001
Farr 14	337938	1	July 21, 2001
Farr 15	337939	1	July 21, 2001
Farr 16	337940	1	July 21, 2001
Farr 17	337941	1	July 21, 2001
Farr 18	337942	1	July 21, 2001
Farr 19	337943	1	July 21, 2001
Farr 20	337944	1	July 21, 2001
Farr 21	337888	1	July 24, 2001
Farr 22	337889	1	July 24, 2001
Farr 23	337890	1	July 24, 2001
Farr 24	337891	1	July 24, 2001
Farr 25	337892	1	July 24, 2001

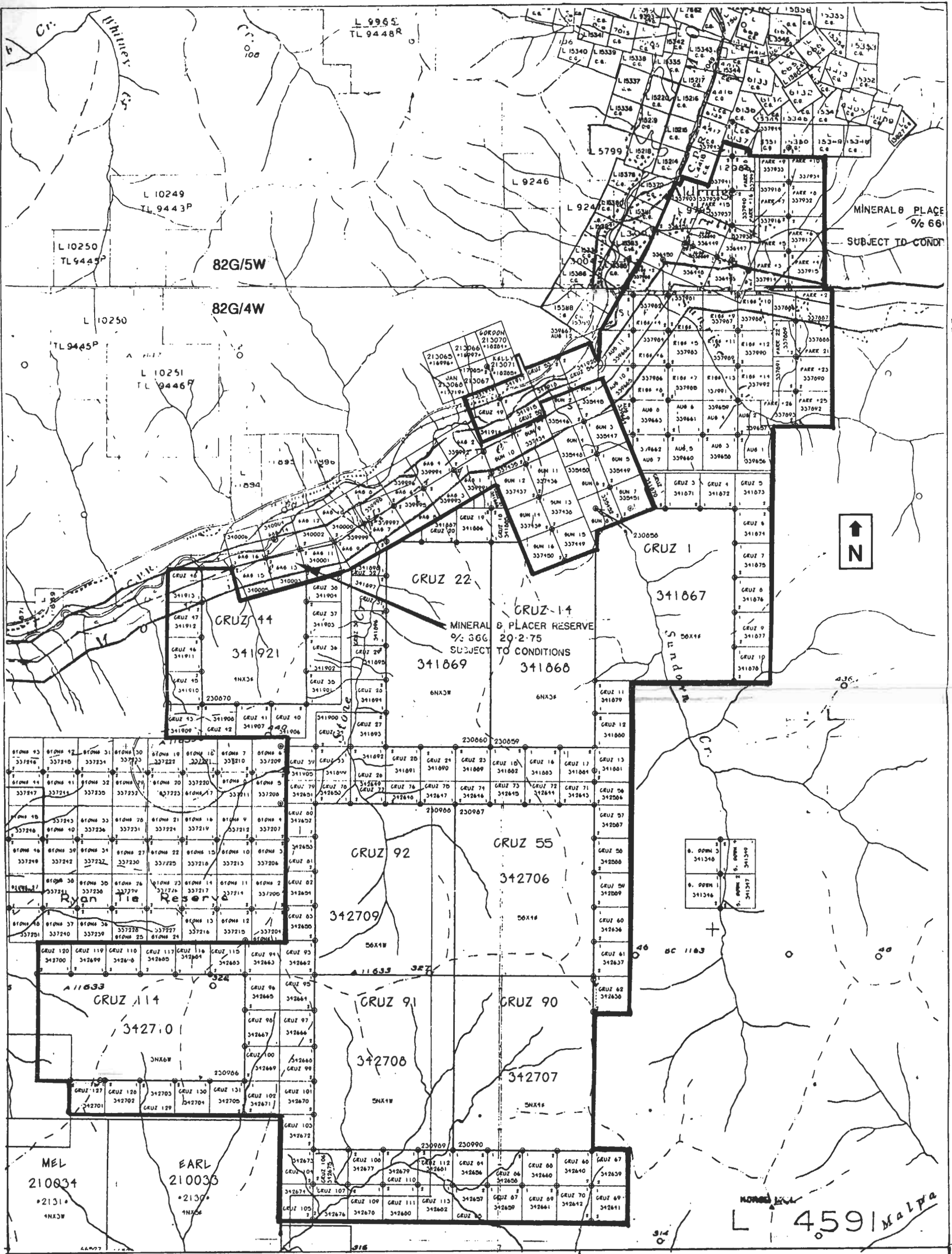
<u>CLAIM</u>	<u>TENURE NUMBER</u>	<u>UNITS</u>	<u>ANNIVERSARY DATE</u>
Farr 26	337893	1	July 24, 2001
Farr 27	337903	1	July 24, 2001
AUS 1	339656	1	August 24, 2001
AUS 2	339657	1	August 24, 2001
AUS 3	339658	1	August 24, 2001
AUS 4	339659	1	August 24, 2001
AUS 5	339660	1	August 24, 2001
AUS 6	339661	1	August 24, 2001
AUS 7	339662	1	August 24, 2001
AUS 8	339663	1	August 24, 2001
AUS 9	339664	1	August 24, 2001
AUS 10	339665	1	August 24, 2001
AUS 11	339666	1	August 24, 2001
AUS 12	339667	1	August 25, 2001
AUS 13	339668	1	August 25, 2001
Cruz 1	341867	20	November 2, 1999
Cruz 2	341870	1	October 31, 1997
Cruz 3	341871	1	October 31, 1997
Cruz 4	341872	1	October 31, 1997
Cruz 5	341873	1	October 31, 1997
Cruz 6	341874	1	October 31, 1997
Cruz 7	341875	1	October 31, 1997
Cruz 8	341876	1	October 31, 1997
Cruz 9	341877	1	October 31, 1997
Cruz 10	341878	1	October 31, 1997
Cruz 11	341879	1	October 31, 1999
Cruz 12	341880	1	October 31, 1999
Cruz 13	341881	1	October 31, 1997
Cruz 14	341868	18	November 2, 1997
Cruz 15	341882	1	October 31, 1997
Cruz 16	341883	1	October 31, 1997
Cruz 17	341884	1	October 31, 1999
Cruz 18	341885	1	November 1, 1997
Cruz 19	341886	1	November 1, 1997
Cruz 20	341887	1	November 2, 1997
Cruz 21	341888	1	November 1, 1997
Cruz 22	341869	18	November 2, 1997
Cruz 23	341889	1	November 1, 1997
Cruz 24	341890	1	November 1, 1997
Cruz 25	341891	1	November 1, 1997
Cruz 26	341892	1	November 1, 1997

<u>CLAIM</u>	<u>TENURE NUMBER</u>	<u>UNITS</u>	<u>ANNIVERSARY DATE</u>
Cruz 27	341893	1	November 1, 1998
Cruz 28	341894	1	November 2, 1998
Cruz 29	341895	1	November 2, 1998
Cruz 30	341896	1	November 2, 1998
Cruz 31	341897	1	November 2, 1998
Cruz 32	341898	1	November 2, 1998
Cruz 33	341899	1	November 1, 1997
Cruz 34	341900	1	November 1, 1998
Cruz 35	341901	1	November 2, 1998
Cruz 36	341902	1	November 2, 1998
Cruz 37	341903	1	November 2, 1998
Cruz 38	341904	1	November 2, 1998
Cruz 39	341905	1	November 1, 1997
Cruz 40	341906	1	November 1, 1998
Cruz 41	341907	1	November 1, 1998
Cruz 42	341908	1	November 1, 1998
Cruz 43	341909	1	November 1, 1998
Cruz 44	341921	12	November 2, 1998
Cruz 45	341910	1	November 2, 1998
Cruz 46	341911	1	November 2, 1998
Cruz 47	341912	1	November 2, 1998
Cruz 48	341913	1	November 2, 1998
Cruz 49	341914	1	November 2, 1997
Cruz 50	341915	1	November 2, 1997
Cruz 51	341916	1	November 2, 1997
Cruz 52	341917	1	November 2, 1997
Cruz 53	341918	1	November 2, 1997
Cruz 54	341920	1	November 2, 1997
Cruz 55	342706	20	December 14, 1998
Cruz 56	342586	1	December 1, 1998
Cruz 57	342587	1	December 14, 1998
Cruz 58	342588	1	December 14, 1998
Cruz 59	342589	1	December 14, 1998
Cruz 60	342636	1	December 14, 1998
Cruz 61	342638	1	December 14, 1998
Cruz 62	342639	1	December 14, 1998
Cruz 67	342639	1	December 16, 1998
Cruz 68	342640	1	December 16, 1998
Cruz 69	342641	1	December 16, 1998
Cruz 70	342642	1	December 16, 1998
Cruz 71	342643	1	December 1, 1999

<u>CLAIM</u>	<u>TENURE NUMBER</u>	<u>UNITS</u>	<u>ANNIVERSARY DATE</u>
Cruz 72	342644	1	December 1, 1997
Cruz 73	342645	1	December 1, 1997
Cruz 74	342646	1	December 1, 1997
Cruz 75	342647	1	December 4, 1997
Cruz 76	342648	1	December 4, 1997
Cruz 77	342649	1	December 4, 1997
Cruz 78	342650	1	December 5, 1997
Cruz 79	342651	1	December 5, 1997
Cruz 80	342652	1	December 5, 1998
Cruz 81	342653	1	December 6, 1998
Cruz 82	342654	1	December 6, 1998
Cruz 83	342655	1	December 6, 1998
Cruz 84	342656	1	December 12, 1998
Cruz 85	342657	1	December 12 1997
Cruz 86	342658	1	December 12, 1997
Cruz 87	342659	1	December 12, 1997
Cruz 88	342660	1	December 12, 1997
Cruz 89	342661	1	December 12, 1997
Cruz 90	342707	20	December 16, 1998
Cruz 91	342708	20	December 16, 1997
Cruz 92	342709	20	December 14, 1998
Cruz 93	342662	1	December 6, 1997
Cruz 94	342663	1	December 5, 1997
Cruz 95	342664	1	December 8, 1997
Cruz 96	342665	1	December 6, 1997
Cruz 97	342666	1	December 8, 1997
Cruz 98	342667	1	December 6, 1997
Cruz 99	342668	1	December 8, 1997
Cruz 100	342669	1	December 8, 1997
Cruz 101	342670	1	December 11, 1997
Cruz 102	342671	1	December 8, 1997
Cruz 103	342672	1	December 11, 1997
Cruz 104	342673	1	December 11, 1997
Cruz 105	342674	1	December 11, 1997
Cruz 106	342675	1	December 11, 1997
Cruz 107	342676	1	December 11, 1997
Cruz 108	342677	1	December 12, 1997
Cruz 109	342678	1	December 16, 1997
Cruz 110	342679	1	December 12, 1997
Cruz 111	342680	1	December 16, 1997
Cruz 112	342681	1	December 12, 1997

<u>CLAIM</u>	<u>TENURE NUMBER</u>	<u>UNITS</u>	<u>ANNIVERSARY DATE</u>
Cruz 113	342682	1	December 16, 1997
Cruz 114	342710	18	December 11, 1997
Cruz 115	342683	1	December 6, 1997
Cruz 116	342684	1	December 6, 1997
Cruz 117	342685	1	December 6, 1997
Cruz 118	342698	1	December 8, 1997
Cruz 119	342699	1	December 8, 1997
Cruz 120	342700	1	December 8, 1997
Cruz 127	342701	1	December 11, 1997
Cruz 128	342702	1	December 11, 1997
Cruz 129	342703	1	December 11, 1997
Cruz 130	342704	1	December 8, 1997
Cruz 131	342705	<u>1</u>	December 8, 1997

Total: 340



CHAPLEAU RESOURCES LTD.

CRUZ PROPERTY

Claim Location Map

N.T.S. 82G/4&5W
FT. STEELE M.D.

Scale: 1:50,000

Date: Mar/96

Figure 3

REGIONAL GEOLOGY

Recently, a map of the Fernie west-half map sheet was published by Höy (1993) and subsequently a geological compilation of Ministry of Energy, Mines and Petroleum Resources field work (Höy 1993). The stratigraphy of the CRUZ property is comprised predominantly of the middle Aldridge Formation and overlain to the east by the upper Aldridge and Creston formations (Fig. 2). There is limited exposure of the upper Aldridge Formation in the northeast corner of the property .

Stratigraphy

Aldridge Formation

The Aldridge Formation has been sub-divided into three informal units, the lower, middle and upper Aldridge Formations. Regionally, the lower Aldridge Formation is comprised of grey weathering quartz wacke and siltstone interbedded with silty argillite. The middle Aldridge Formation is comprised of "... thick-bedded, massive to graded quartz arenite and wacke beds, thin-bedded siltstone and, minor argillite" (Höy 1993). In the Moyie area, the middle Aldridge unit is in excess of 2800 metres thick.

The basal part of the middle Aldridge generally consists of grey weathering, interbedded quartz wacke and arenite with minor intervals of silty argillite. In the upper middle Aldridge succession, competent quartz arenite and quartz wacke intervals are thinner with a corresponding increase in the proportion of more recessive, interbedded siltstone and argillite. 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 ... The contact with the upper Aldridge is placed above the last bed of massive grey quartz arenite" (Höy 1993).

Distinctive sets of laminated dark and light siltstone ("markers"), ranging from several centimetres to several metres in thickness, can be traced over hundreds of kilometres and provide an accurate method of determining stratigraphic position within the middle Aldridge. At least 14 separate and distinct markers have been identified by Cominco geologists in the middle Aldridge, from immediately above the lower-middle contact to the upper middle Aldridge.

Intraformational conglomerates have also been described at varying stratigraphic levels in the Aldridge Formation, from the upper portion of the lower Aldridge, at the lower-middle contact and in the lower portion of the middle Aldridge. They range from conformable to crosscutting zones of intraformational conglomerate to massive zones of siltstone or wacke.

The intraformational conglomerates (fragmental) layers are generally massive to poorly bedded, occasionally with a crude fining upward texture. Clasts and/or fragments range from a few millimetres to many centimetres in diameter and are clast to matrix supported in a silty matrix.

Both conglomerate clasts and the matrix are compositionally identical with the host Aldridge Formation.

"Crosscutting zones of conglomerate or massive sandstone are less common. A zone of massive sandstone several tens of metres wide and containing abundant lithic fragments is exposed ... just south of Moyie. It is vertical, cutting across essentially flat-lying middle Aldridge turbidite beds. Its contact is irregular and a poorly developed vertical banding is apparent in the first few metres of the edge of the zone. The zone dies out upsection, and is overlain by flat-lying turbidite beds"

Other crosscutting zones occur beneath the Sullivan orebody, North Star Hill and at the St. Joe prospect. In contrast with the Moyie structures, these are associated with tourmaline alteration and sulphide mineralization. On North Star Hill, irregular crosscutting zones and concordant layers of conglomerate are conspicuous in the upper part of the lower Aldridge. Clasts of argillite, quartzite and tourmalinite up to 5 centimetres across occur in a dark grey quartzite or siltstone matrix. Both stratabound conglomerate and a large crosscutting conglomerate breccia occur in the footwall of the Sullivan deposit. At the St. Joe prospect, a crosscutting fragmental unit several metres thick is overlain by an intraformational conglomerate unit suggesting fragmentals were extruded onto the seafloor" (Höy 1993).

The upper Aldridge Formation consists mainly of rusty weathering, thin-bedded, dark to medium grey argillite, and thinly parallel-laminated light and dark grey siltite laminae. 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-tinged lenticular bedding or syneresis cracks become noticeable.

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."

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 northern and eastern edge of the local Purcell Basin. 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 these 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 and the 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 locally complex structural relationships. Two major faults, the Boulder Creek - St. Mary and Dibble Creek - Moyie faults, 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" (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 due to 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, 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 lateral (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.

Sullivan

The following has been taken from Höy (1993). :

"The Sullivan deposit is one of the largest base metal massive sulphide deposits in the world. ... The deposit has produced in excess of 125 million tonnes of ore from an original reserve of more than 160 million tonnes that contained 6 per cent lead, 6 per cent zinc, 28 per cent iron and 67 grams per tonne silver.

The western part of the orebody is approximately 1000 metres in diameter and up to 100 metres thick. It comprises massive pyrrhotite with occasional wispy layers of galena, overlain by layered galena, pyrrhotite and sphalerite, which in turn is overlain by pyrrhotite, sphalerite, galena and minor pyrite that is intercalated with clastic layers. Its eastern part, separated from the more massive western part by an irregular transition zone, includes five distinct conformable layers of generally well-laminated sulphides separated by clastic rocks. The sulphide layers thin to the east away from the transition zone. Sub-ore-grade sulphide layers of pyrite and pyrrhotite with subordinate sphalerite and galena persist beyond the eastern limits of the ore-grade sulphides.

An extensive brecciated and altered zone underlies the massive western part of the orebody. Linear north-trending breccia zones, disseminated and vein sulphides, and extensive alteration to a dark, dense chert-like tourmaline-rich rock are conspicuous features of the altered footwall. Albite-chlorite-pyrite alteration is also restricted to the western part of the orebody, occurring in crosscutting zones in the footwall tourmalinite, in the orebody itself and up to 100 metres into the hangingwall.

The deposit is zoned, with lead, zinc and silver values decreasing toward the margin in the eastern part. Tin is concentrated in the western part. In general, metal distribution patterns are directly related to proximal chaotic breccia; higher absolute values and higher Pb/Zn and Ag/Pb ratios overlie the breccia zones.

Sullivan is interpreted to be a hydrothermal synsedimentary deposit (sedex deposit) that formed in a small submarine basin. The western part lies directly above the conduit zone, the brecciated and altered footwall of the deposit."

Kootenay King (from Höy 1993)

The Kootenay King mine 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 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).

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).

St Eugene (paraphrased from Höy (1993))

The St. Eugene deposit was located in a vein system which extended from the east side of Moyie Lake (St. Eugene deposit and Society Girl) to the west side (Guindon and Aurora). It is the largest vein deposit in the Purcell Supergroup, having produced approximately 78 846 grams gold, 182 692 kilograms silver, 113 034 tonnes lead and 14 483 tonnes zinc from 1.47 million tonnes of ore. Mineralization was controlled by a large east-west trending fracture system (3300 metres in strike length and over 1300 metres in vertical extent) oriented almost perpendicular to the axis of the Moyie Anticline. At deeper levels, the vein system crosscuts middle Aldridge strata whereas at higher levels it crosscuts strata of the Creston Formation.

The St. Eugene deposit was controlled by two bounding fractures, the North and South fractures. The North fracture, or Main vein, was the most productive of the orebodies. Mineralization in the North fracture decreased to the west with a corresponding increase in mineralization of the South fracture. The deposits occurred as tabular ore shoots up to 10 metres in thickness, with one or more bands of near massive galena up to 1.3 metres thick. A significant secondary control on mineralization was the host lithology. Thick-bedded, more competent quartzite produced steeper, clean fractures that favoured mineralization. Thin-bedded quartzite-siltite interbeds higher in the succession were less favourable with the argillites and siltites of the upper Aldridge generally devoid of mineralization. The more competent quartzite of the overlying Creston Formation hosted the Society Girl deposit. The dominant vein minerals were galena and sphalerite, associated with pyrite, pyrrhotite, and minor magnetite, chalcopyrite and tetrahedrite.

LOCAL GEOLOGY

Compilation of data from available Assessment Reports in the area and regional mapping (Höy 1993) has resulted in a more detailed map and allowed projection of stratigraphy onto Chapleau's CRUZ claims. Therefore, with the exception of the southeast portion of the claims, the CRUZ property is underlain by strata of the middle Aldridge Formation. The strata consist of north-striking, gently to shallowly east-dipping strata of the middle Aldridge Formation, comprised predominantly of argillite, sub-wacke and wacke. The structure of the claims consists of elongate northeast-southwest panels of middle Aldridge strata separated by (normal?) faults having northeast-southwest trends. These panels are further separated into fault bounded blocks by west-northwest - east-southeast trending (normal?) faults. As a result of fault repetition and shallow dips, the middle Aldridge Formation is exposed over a large area on the eastern limb and nose of the Moyie Anticline. The overlying upper Aldridge, Creston and Kitchener formations have been mapped to the east and west of the claims, similarly folded by the Moyie Anticline and subsequently faulted (Höy 1993).

Bedding measurements in, and around, the property are consistent with a location on the nose and eastern limb of an anticlinal closure. Most bedding measurements have a north-northwest striking, east dipping orientation with dips ranging between 10° and 45°. Several fracture measurements have been taken on the western portion of the property and record steeply east-west striking fractures and moderately steeply dipping, northwest - southeast striking fractures.

Recent logging activity in the area has resulted in new exposures of outcrop along road cuts and in clear-cuts. Exposures of fragmentals have been identified as a result of limited mapping to date. Three separate fragmental exposures have been mapped, all of which lie north of Sundown Creek and stratigraphically above the upper gabbro. Samples of fragmental float have been recovered from farther east along Sunrise Creek, suggesting additional fragmental occurrences may be present.

Only one of the fragmental occurrences was examined by the author during a visit to the property in September, 1995. The fragmental is well exposed and easily accessible in a clear-cut approximately 2 kilometres up the pipeline access road, south of Farrell Creek. Locally extensive albite alteration and minor tourmalinization comprise the exposed fragmental, exposed on the crest of a small knoll immediately east of the road. The dimensions of the knoll are approximately 100 metres north-south and 50 metres east-west. The fragmental is reasonably well exposed along the crest and western margin of the knoll. The crest of the knoll consists of dirty white weathering albite alteration. Bedding is locally completely disrupted and individual fragments are difficult to identify due to the extent of alteration. Local occurrences of less altered fragmental are present in which angular clasts can be identified. On the western margin of the knoll, tourmalinization of bedding can be seen in thick laminae to thin beds of argillite. Tourmaline is present as very fine-grained, brown weathering tourmalinization along bedding. In addition, speckled brown weathering (dolomitic?) sand fragments were noted in the fragmental. These sandy dolomitic fragments also contain a high proportion of (secondary) fine-grained

white micas.

Along the southern portion of the crest of the knoll, the fragmental is in contact with dark grey to black weathering argillites. The contact between the fragmental and the argillites was covered but it is possible that the fragmental may grade southward into the argillites or stratigraphically underlie the argillites.

A small, rounded boulder of massive sulphides was located adjacent to the Sunrise Creek road. It is approximately 40 centimetres in diameter. There has been no proximal source identified to date on the property but its preservation during extensive glacial transport is unlikely. It is most likely derived from a proximal source and may represent an in situ boulder weathered from a proximal vein, which has been subsequently covered or eroded (Pighin pers. comm., 1995). Additional massive sulphide boulders have apparently been reported from farther east and upstream of this boulder, along Sunrise Creek (Kennedy, pers. comm. 1995), supporting the possibility of a massive sulphide occurrence in the area. In addition, a large boulder of fragmental is present approximately 30 metres to the south, across the Sunrise Creek road. It is broadly similar to the fragmental exposed on the western margin of the knoll to the northwest. However, it is more likely derived from a fragmental occurrence in the hillslope to the north or from an upstream source. Therefore, there are probably additional occurrences of fragmental and/or massive sulphides exposed along Sunrise Creek.

Finally, there are disseminated sulphides mapped on competitors claims to the west, located between the Sundown Creek Road and Sundown Creek. The showing consists of disseminated sulphides in a dirty white weathering occurrence of massive sands, interpreted as a possible distal equivalent of the fragmental, projected to underlie the exposed fragmental at depth (Kennedy, pers. comm. 1995). This disseminated mineral horizon is projected to extend both north and south of these claims onto the CRUZ property claims. This mineralized horizon was the target of the 1996 drill hole (Figure 4).

1996 PROGRAM

A single drill hole (Figure 4) was completed in December, 1996, intended to test the sub-surface extent of a Pb-Zn anomaly identified at surface approximately 1.5 kilometres west. The same mineralized horizon was previously drill tested in 1995, approximately 3 kilometres to the northwest and found to be associated with a tourmalinized vent complex.

The drill hole was collared along Sundown Creek, south of the surface exposure reported from competitors claims and southwest of the collars of drill holes previously drilled by Chapleau Resources Ltd.(D.H. R95-1 to 4). The hole (R96-5) was drilled at an inclination of -75° on an azimuth of 240° to a depth of 229.0 metres (core length). All NQ core recovered has been stored for future use at Quest International Exploration Ltd's Vine property.

The drill hole encountered a gabbro sill immediately underlying Quaternary glacial till deposits. The hole was deepened to a depth sufficient to determine the stratigraphic position of the hole utilizing proprietary marker control data. This marker data indicates the gabbro is the Moyie Intrusive sill underlying the mineralized horizon. Therefore, the mineralized interval was eroded away and the valley subsequently infilled with Quaternary deposits. Therefore, the hole was completed to depth of 229.0 metres.

DISCUSSION

A detailed discussion of the Moyie sub-basin with regard to mapping and sub-surface data in the vicinity of, and within, the Cruz property is contained in Walker (1995).

A mineralized horizon was noted in the core recovered as part of the previous drill program (Walker 1995) and was intersected in three holes (DDH R95-2 to R95-4). The mineralized horizon immediately underlies an Aldridge marker west of the fragmental and immediately overlies a marker east of the fragmental. It is interpreted that the mineralized horizon was deposited during deposition of the marker, either obscuring or obliterating portions of the marker unit. The close association of the mineralized horizon with the marker allowed confident correlation of the horizon with the identical horizon exposed and documented in Sundown Creek, on competitors claims.

One drill hole (Figure 4) was completed as part of the 1996 program to test the presence and sub-surface extent of mineralization associated with a mineralized horizon described above. Drill information is as follows:

Drill Hole Number	Inclination	Depth (Metres)	Azimuth
R 95-5	-75°	229.0	240°

Core resulting from the drill program was described (Appendix B).

Two gabbro sills (Moyie Sills) have been mapped throughout the CRUZ claims; one above, one below and both approximately equidistant relative to the mineralized horizon identified in surface exposures on immediately adjacent competitor's claims (i.e. Rogers claims) and in drill core. Therefore, a stratigraphic succession comprised of two gabbro sills bounding a mineralized horizon associated with a marker and a tourmalinite should allow precise location of the mineralized horizon in subsequent mapping. A gabbro sill was encountered immediately below the glacial till deposits and comprised the first bedrock strata. The hole was continued until reliable stratigraphic control was available, which indicated the target horizon had been eroded and was missing at the location of the drill hole. Therefore, the hole was stopped at a depth (core length) of 229.0 metres.

CONCLUSIONS

Following identification of high grade base and precious metal mineralization with Sullivan type indicators associated with a fragmental on the Fors property (Britton and Pighin 1994), fragmentals have become important exploration targets in the East Kootenays. The discordant fragmental on the Fors property,

"... is a near-blind discovery that resulted from drill testing a geological model in the vicinity of low-grade mineralization found at surface.

It provides a new exploration target in the Sullivan camp, having some similarities with the Sullivan deposit and some important differences. Similarities include the presence of such "Sullivan indicators" as bedded sulphides, fragmental units that locally carry sulphide-bearing and tourmalinized clasts, garnet porphyroblasts, and tourmaline and albite alteration. Differences are that it is located outside the Sullivan corridor, is stratigraphically higher, has unusual alteration assemblages, and has elevated silver, gold, tungsten and arsenic" (Britton and Pighin 1994).

By analogy with the Fors fragmental, the fragmental occurrence on the CRUZ property has similarly been interpreted as the upper level of a possible vent complex (Pighin, pers. comm. 1995). The fragmental has tourmalinized clasts, albite and localized tourmaline alteration, and occurs approximately 2100 metres above the lower - middle Aldridge contact.

However, the fragmental may represent the surface exposure of a vent complex, a structure having potential for Sullivan type mineralization. The recent exploration program on the Fors property demonstrated the potential and importance of a fragmental to host a stratiform deposit. "The Fors prospect is a well preserved example of a small, high-grade Pb-Zn-Ag sedimentary exhalative and vein deposit hosted in Middle Proterozoic Aldridge Formation" (Britton and Pighin 1994), spatially and genetically associated with a discordant fragmental.

The 1995 drill program of Chapleau Resources Ltd. demonstrated the fragmental is, most likely, a vent complex developed along a fault or fracture. Furthermore, the vent was active from at least the lower middle Aldridge to the upper middle Aldridge and resulted in episodic deposits of vented sands, tourmalinite and several calcium enriched horizons. Furthermore, outcrops of anomalously thick argillite and interbeds of silty argillite noted at surface are substantially thicker than previously thought, indicating the existence of a sub-basin (Moyie sub-basin) within the Purcell Basin. Exposures of fragmentals and tourmalinite, together with a mineralized horizon intimately associated with an Aldridge marker can be utilized to estimate the minimum two dimensional area of the basin. The Moyie sub-basin is interpreted to extend southward from the St. Eugene Mine to the Mt. Mahon area, a distance of 20 kilometres. The width of the Moyie sub-basin cannot be determined with the available information.

Additional work on the CRUZ property is strongly recommended to better define the local

character of the Moyie sub-basin and associated vent activity, including mineralization. A single hole was proposed, and subsequently completed in December 1996, to test the presence of, and mineralization associated with, a mineralized horizon identified in the course of previous drilling by Chapleau Resources Ltd. and at surface on adjacent competitors claims. Interpretation of the results of the drill hole indicate that the target horizon had been eroded and was missing at the location of the drill hole.

RECOMMENDATIONS

- 1) Undertake mapping of the southeast portion of the claim block in the upper portion of the Sundown Creek drainage and east of the proposed northeast trending fault;
- 2) Undertake prospecting and mapping along the mineralized horizon lying stratigraphically between the two gabbro sills on the south side of Sundown Creek;
- 3) Take contour soil samples along the north and south valley margins of Sundown Creek;
- 4) Evaluate the mineral potential across the fault proximal to the mapped gossan immediately east of the Highway, south of the Midway Mine. The program should consist of prospecting, mapping, soil geochemistry and geophysics (pulse EM) to determine, if possible, whether the gossan is associated with the fault or is a blind, sub-surface mineral occurrence;
- 5) Undertake a limited drill program to test the sub-surface mineralized horizon identified in the 1996 drill program. The hole should be collared on the north side of Sundown Creek (approximately 200 metres north of the collar of R96-5), inclined approximately -75° toward azimuth 240° and extend approximately 300 metres (1000 feet).

PROPOSED BUDGET

(as per Recommendations)

Geologist (core logging, geological mapping, etc.)	\$ 24,000
Geological Technician (core sampling, etc.)	\$ 10,000
Geochemistry - 300 soil samples at \$26 / sample (inclusive)	\$ 10,000
Geophysics - estimated 35 line kilometres (all inclusive)	\$ 15,000
Line Cutting (Geochemical / Geophysical survey grid)	\$ 28,000
Assays (rock)	\$ 3,000
Transportation (trucks)	\$ 6,000
Drilling (1,000 feet at \$20 / foot)	<u>\$ 20,000</u>
Sub-total	\$116,000
Contingency at 10%	<u>\$ 11,600</u>
Total	<u>\$127,600</u>

REFERENCES

- Britton, J.M. and Pighin, D.L. 1994. Fors: a Proterozoic Sedex Deposit, SE British Columbia, in The Gangue - GAC - Mineral Deposits Division Newsletter, edited by Brian Grant, Issue Number 46, September 1994, pp. 1-4.
- Höy, T. 1993. Geology of the Purcell Supergroup in the Fernie west-half map area, southeastern British Columbia, BC Ministry of Energy, Mines and Petroleum Resources Bulletin 84, 157p. with maps.
- McMechan, M.E. 1979. Geology of the Mount Fisher - Sand Creek Area, B.C. Ministry of Energy, Mines and Petroleum Resources, Preliminary Map 34.
- Walker, R.T. 1996. Geological Report on the Cruz Property, Fort Steele Mining Division. Assessment Report for Chapleau Resources Ltd., dated March 18, 1996.
- , 1995. Geological Report on the CRUZ Property, Fort Steele Mining Division. Internal report for Chapleau Resources Ltd., dated September 20, 1996

Appendix A

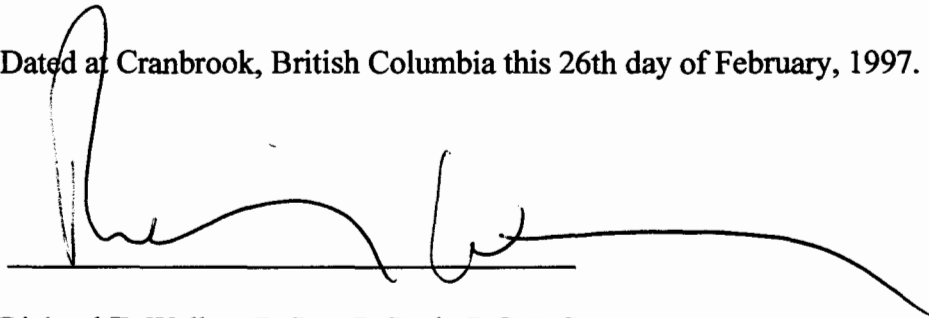
Statement of Qualifications

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 employed as a geologist by Chapleau Resources Ltd. with offices at Suite 104, 135 - 10th Avenue South, Cranbrook, British Columbia;
- 7) I am the author of this report which is based on a single drill hole, drilled as per recommendations arising from a property tour on September 18, 1995, four previous drill holes completed in 1995, together with maps, core descriptions, and other information supplied by Chapleau Resources Ltd..

Dated at Cranbrook, British Columbia this 26th day of February, 1997.

A handwritten signature in black ink, appearing to read 'Richard T. Walker', is written over a horizontal line. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

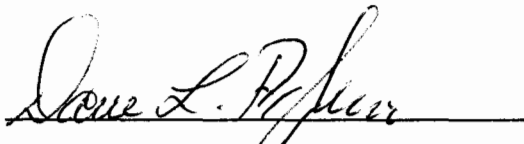
Richard T. Walker, P.Geol., P.Geo., F.G.A.C.

STATEMENT OF QUALIFICATIONS

I, David L. Pighin, of 301 - 8th Street South, Cranbrook, B.C., hereby certify that:

1. I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia,
2. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 32 years,
3. I have been employed by major mining companies,
4. I am a geologist employed by Quest International Resources Corp., with offices at P.O. Box 728, Cranbrook, B.C.
5. I examined and described the core recovered by Chapleau Resources Ltd. which is stored at Quest International Resources Corp.'s Vine facility.

Dated at Cranbrook, British Columbia, this 26th day of February, 1997.

A handwritten signature in cursive script, reading "David L. Pighin", written over a horizontal line.

David L. Pighin, P. Geo.

Appendix B
Core Descriptions

DRILL HOLE RECORD

CHAPLEAU RESOURCES LTD.

Property: CRUZ		Hori. Comp: 58.9m	HOLE#: R96-5
Location: Cruz No. 1 Claim		Vert. Comp: 219.84m	LENGTH: 229.0m
Commenced: 10/27/96	Completed: 10/31/96	Corr. Dip: —	Drill Contractor: Britton Bros.
Coords: Long. 115° 50' 48"	Lat. 49° 12' 50"	True Bearing: 240°	Core Size: NQ
Coords: UTM (E) —	(N) — (EL)	% Recovery: 90%	Casing: 71.0m - pulled
Coords: Grid (E) —	(N) — (EL)	Logged Date: 10/27-31/96	Core Storage: Vine Property
Elevation: 1120m	Collar Dip: -75°	Azi: 240°	Logged By: D.L. Pighin, P. Geo.
OBJECTIVE: To test Middle Aldridge Sediments for Pb-Zn mineralization			
SURVEYS: Depth:	Dip:	Azi:	Type:
Additional Surveys: Depth:	Dip:	Azi:	Type:

D.L. Pighin

From	To	LITHOLOGY: gabbro sill, approximately 60% amphibole, 40% plagioclase and biotite, quartz is rare.
71.0	83.0	COLOR: dark green crystals on white background
		PRIMARY STRUCTURE/TEXTURE: Generally phaneritic-equigranular, coarsely crystalline
		TECTONIC STRUCTURE: widely fractured at 28°, 12° and 50° to c/a.
		GENERAL ALTERATION: strongly limonitic 71.0-72.0m, light tannish brown talc alteration rims the above described fractures, locally coarsely crystalline biotite forms the core of talc alteration zones.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: 1-3% disseminated po and rare cpy, rare disseminated ilmenite. Very rare thin quartz filled fracture contain disseminated cpy and po.
		ADDITIONAL OBSERVATIONS:

From	To	LITHOLOGY: Gabbro, approximately 75% amphibole, 25% quartz, plagioclase and biotite. Lower contact badly crushed by drilling.
83.0	131.2	COLOR: generally dark green, rare white specks
		PRIMARY STRUCTURE/TEXTURE: phaneritic-equigranular generally medium crystalline
		TECTONIC STRUCTURE: wide scattered fractures as previously described. Thin gouge filled shear at 102.3m.
		GENERAL ALTERATION: Light brown talc alteration follows fracture, forming talcose zones up to 5cm thick, locally intense biotitization is associated with talc alteration. Crystalline white talc forms thin veinlets within talcose alteration zones, talc alteration is more abundant towards base of sill.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: Very rare disseminated po.
		129.2-130.0m - brecciated barren quartz vein cuts core axis at 28°. Brecciated quartz healed by porous dolomitic travertine.
		ADDITIONAL OBSERVATIONS:
From	To	LITHOLOGY: quartzite
131.2	137.5	COLOR: very light grey to white
		PRIMARY STRUCTURE: medium to thick bedded, bedding indistinct, poorly sorted medium to coarse quartz sand, poorly graded fining upwards, weakly argillaceous bed tops, sand grains range between rounded and angular rare wispy parallel to subparallel thin lamina near bed tops.
		TECTONIC STRUCTURE: scattered thin quartz-biotite-chlorite filled fractures cut core axis at 30°.
		GENERAL ALTERATION: intensely silicified with weakly scattered biotite and sericite.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: nil
		ADDITIONAL OBSERVATIONS:

From	To	LITHOLOGY: quartzite, minor interbedded argillite
137.5	140.3	COLOR: light grey with dark grey interbeds
		PRIMARY STRUCTURE: medium to thin bedded, sharp-flat, locally wavy (flame structures) medium to fine grained graded, fining upwards, argillite mainly turbidite D and E bed tops (Bouma). Bedding to c/a: 66° at 137.8m.
		TECTONIC STRUCTURE: nil
		GENERAL ALTERATION: quartzite bed generally silicified with minor disseminated biotite and sericite. Argillite is typically finely biotitic with scattered chlorite porphyroblasts.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: nil
		ADDITIONAL OBSERVATIONS:
From	To	LITHOLOGY: quartzite, rare argillite interbeds
140.3	145.4	COLOR: light grey to white, rare dark gray interbeds
		PRIMARY STRUCTURE: thick to very thick bedded, bedding generally distinct-flat, rarely wavy. Coarse to fine grained, graded beds fining upwards, poorly sorted mature to submature quartz sand, argillite beds are typical E and D turbidite bed tops. Bedding to c/a: 62° at 143.0m, some widely scattered rip-up clasts.
		TECTONIC STRUCTURE: nil
		GENERAL ALTERATION: quartzite beds strongly silicified with weak disseminated biotite and sericite, widely scattered chlorite porphyroblasts.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: nil
		ADDITIONAL OBSERVATIONS:

From	To	LITHOLOGY: siltstone interbedded argillite and silty argillite
145.4	157.8	COLOR: grey with thick band of dark grey
		PRIMARY STRUCTURE: medium to thin bedded, bedding is sharp-flat to sharp and distorted, beds are generally slump structured (soft sed. deformation) 152.5-153.0m - very thin bedded
		TECTONIC STRUCTURE: At 151.0m - 1cm thick gouge filled shear cut at 15° to c/a.
		GENERAL ALTERATION: weakly biotitic and sericitic.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: At 157.8m - rare chloritic hairline fracture hosts py with traces of ZnS and PbS.
		ADDITIONAL OBSERVATIONS:
From	To	LITHOLOGY: quartzite, with minor interbeds of siltstone and silty argillite
157.8	166.4	COLOR: light grey with grey interbeds
		PRIMARY STRUCTURE: medium to thick bedded, bedding is sharp-flat with some flame structured bed bases, quartzite beds coarse grained bases fining upwards with argillite and silty argillite A and E (Bouma) bed top. Quartz grains generally mature to submature. Bedding to c/a: 60° at 161.5m.
		TECTONIC STRUCTURE: nil
		GENERAL ALTERATION: Quartzites partly silicified with weakly disseminated biotite and sericite argillaceous bed tops typically finely biotitic with scattered chlorite porphyroblasts.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: nil
		ADDITIONAL OBSERVATIONS:

From	To	LITHOLOGY: quartzite with rare argillite and silty argillite bed tops
166.4	175.8	COLOR: light grey
		PRIMARY STRUCTURE: thick to very thick bedded, bedding sharp and wavy flame structured bases common, medium to coarse grain, generally immature and submature sand, crudely grade fining upwards, argillite generally E and D bed tops (turbidites).
		TECTONIC STRUCTURE: Widely scattered 7-10mm quartz-chlorite-biotite filled fractures cut core at 18°.
		GENERAL ALTERATION: section weakly silicified with abundant fine sericite and very weak biotite. Argillaceous bed tops commonly contain abundant selenite casts filled by tan brown silt.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE:
		ADDITIONAL OBSERVATIONS: Rare py occurs in above described fractures.
From	To	LITHOLOGY: quartzite interbedded argillite and silty argillite
175.8	176.8	COLOR: light grey interlayered dark grey
		PRIMARY STRUCTURE: medium to thin bedded, bedding sharp, generally wavy, medium to fine grained submature sand.
		TECTONIC STRUCTURE: nil
		GENERAL ALTERATION: quartzite beds altered as described above
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: nil
		ADDITIONAL OBSERVATIONS:

From	To	LITHOLOGY: argillite interbedded silty argillite, rare quartzite bed
176.8	180.3	COLOR: grey banded
		PRIMARY STRUCTURE: Thin to very thin bedded, rare medium beds, flat-sharp, argillite beds are generally fine soft structureless mudstone, silty argillite are very finely parallel laminated. Bedding to c/a: 63° at 180.0m.
		TECTONIC STRUCTURE: nil
		GENERAL ALTERATION: very finely sericitic and biotitic.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: finely crystalline py lines numerous but widely scattered hairline fractures.
		ADDITIONAL OBSERVATIONS:
From	To	LITHOLOGY: quartzite, minor siltstone
180.3	189.0	COLOR: light grey
		PRIMARY STRUCTURE: thick to very thick bedded, bedding is distinct but rare, usually wavy. Medium grained quartzite, finer grained silts: interbedded graded beds, but core is too broken to tell tops.
		TECTONIC STRUCTURE: fault zone? 182.4-186.8m - mainly broken rubbly core associated with numerous thin gouge filled shears which cut core at 183.5m.
		GENERAL ALTERATION: quartzite beds generally silicified, locally intensely silicified, generally sericitic and weakly biotitic. Siltstone beds generally finely biotitic.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE:
		ADDITIONAL OBSERVATIONS:

From	To	
189.0	229.9	LITHOLOGY: silty argillite interbed argillite
		COLOR: band light grey and dark grey
		PRIMARY STRUCTURE: thin to very thin bedded, bedding sharp-flat, alternating beds consisting of very fine massive silty argillite and very finely parallel laminated silty argillite. Bedding to c/a: 60° at 192.7m.
		TECTONIC STRUCTURE: nil
		GENERAL ALTERATION: massive silty argillite beds contain abundant fine reddish brown biotite, fine laminated beds, generally contain fine black biotite.
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: py lines numerous widely scattered irregular hairline fractures and po occurs as widely scattered weak disseminations throughout section.
END OF HOLE		ADDITIONAL OBSERVATIONS:

Appendix C

Statement of Expenditures

STATEMENT OF EXPENDITURES

The following expenses were incurred as part of the 1996 drill program on the CRUZ property by Chapleau Resources Ltd.:

Salaries

Rick Walker, P.Geo. 3 days @ \$300 / day - planning, report writing	\$ 900.00
Dave Pighin, P.Geo. 3 days @ \$250 / day - logging core	\$ 750.00

Drilling

Olympic Drilling and Consulting 845 feet of NQ drilling	<u>\$18,022.50</u>
Total	<u>\$19,672.50</u>