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Summary Report

on the

1978 Mineral Exploration Program;

**Verna,
Dorothy,**
and other claims.
(Ainsworth Property)

on behalf of

CASCADIA RESOURCES LTD.,
of Vancouver, British Columbia.

PROPERTY FILE

Report by:

D. R. Cochrane, P. Eng.,

January 24, 1979

Delta, B. C.



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geology
geophysics
geochemistry

TABLE OF CONTENTS

	Page
<u>PART A</u> - BACKGROUND.....	1
<u>PART B</u> -	
B-1 LOCATION AND ACCESS.....	2
B-2 CLAIMS INFORMATION	3
B-3 SETTING.....	6
B-4 HISTORY AND PREVIOUS PRODUCTION.....	8
B-5 REGIONAL GEOLOGY.....	10
<u>PART C</u>	
PROCEDURES - 1978 EXPLORATION WORK.....	13
RESULTS OBTAINED	15
DISCUSSION.....	22
RECOMMENDATIONS.....	24
<u>FIGURES</u>	
1 LOCATION MAP	Report body
2 CLAIMS MAP	" "
3 LINE CUTTING SKETCH	" "
<u>APPENDICES</u>	
I CERTIFICATE	
II BIBLIOGRAPHY	



PART A

A-1 BACKGROUND



Early in 1978, the author was engaged by Cascadia Resources Ltd., to consult on mineral exploration work on the Verna - Dorothy property situated immediately north of the settlement of Ainsworth, Nelson Mining Division in the province of British Columbia. An initial visit was made to the property early in June, and a Report and Exploration Proposal was completed on July 24, 1978. In that report, the author recommended geological, geochemical and geophysical work, linecutting and an allowance for bulldozer trenching and diamond drilling. The estimated cost of the work was \$75,000.00.

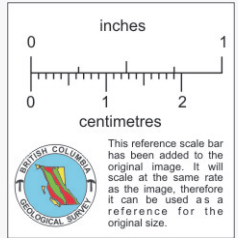
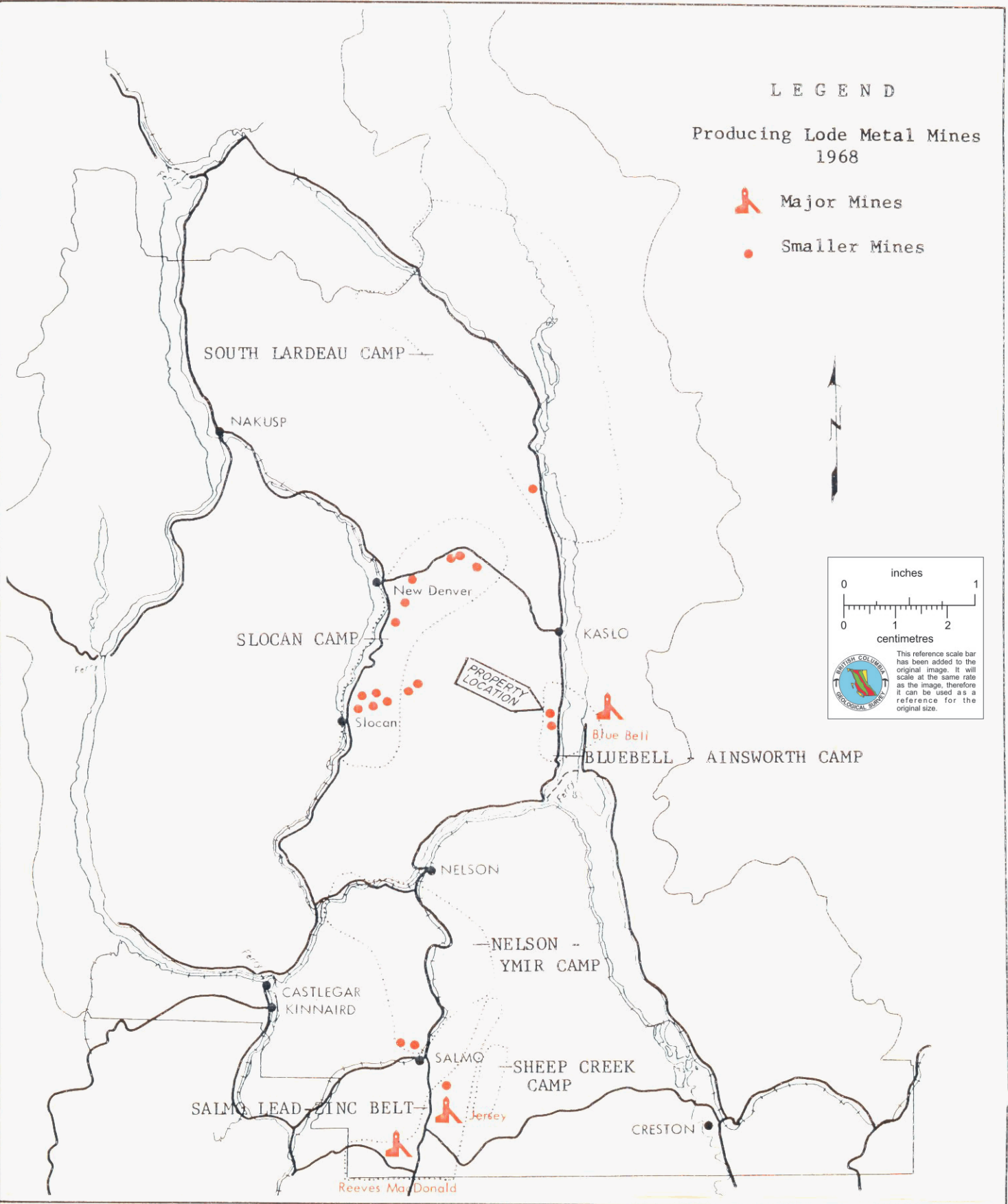
The portion of recommended work that was completed in 1978 included geological and geochemical orientation and linecutting. This report describes the procedures used and results obtained.



LEGEND

Producing Lode Metal Mines
1968

-  Major Mines
-  Smaller Mines



Cascadia Resources Ltd.

Verna, Dorothy (Nos. 1, 2, & 3) and D. D. Fraction
Slocan M. D. Ainsworth, B. C. N. T. S. 82F/15W

LOCATION MAP

FIG. 1

Scale: 1 : 100,000 (Approx.)



JULY, 1978 P. K. C.
FROM B. C. GOVERNMENT
ECONOMIC SURVEY, 1970.



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PART B

B-1 LOCATION AND ACCESS

Cascadia's Ainsworth property is located immediately north of the settlement of Ainsworth Hot Springs, on the west shore of Kootenay Lake in the south eastern portion of the province of British Columbia. It is 450 air kilometers (280 mi.) east of Vancouver, and 240 air kilometers (150 mi.) south-west of Calgary, and centered at latitude $49^{\circ}47'$ north and longitude $116^{\circ}55'$ west.

Pacific Western provides daily flights from Vancouver to Castlegar located some 70 air kilometers (25 mi.) south-west of the claims. Normal access is by car or pick-up truck north-east from Castlegar to the City of Nelson on highway 3A-6; then north via highway 3A through Balfour and Proctor and finally north along the west shore of Kootenay Lake on highway 31 to Ainsworth Hot Springs. The total road distance is 90 kilometers from Casselgar and all highways are paved and well maintained.

Ainsworth is a small town with a restaurant, gas station-general store, and somewhat limited accommodations.



Cascadia Resources Ltd.

Verna, Dorothy (Nos 1, 2 & 3) and
D.D. Fraction. Slocan M.D.
Ainsworth, B.C. N.T.S. 82F/15W

GEOLOGICAL LEGEND

FIGURE 2A.




FROM FIG. 3, SHEET 1, BULL. 53 (1967)
B.C. DEPT. OF MINES

ACCOMPANIES FIG. 2 AT RIGHT





JULY, 1978

B.A.C






INTRUSIVE ROCKS

-  6c Hornblende
-  6b Porphyritic granodiorite
-  6a Granitic sills and lenses

GREEN VOLCANIC AND ASSOCIATED INTRUSIVE AND SEDIMENTARY ROCKS

-  4d Interlayered chert, argillite, and green volcanic rocks
-  4c Massive green phyllite
-  4b Green phyllite, metadiorite, and interlayered slate, chert and argillite
-  4a Hornblende schists and gneisses


















CARBONATE ROCKS

-  5e Mainly fine-grained grey dolomite
-  5d Fine-grained grey limestone
-  5c Blue-grey limestone and black argillite
-  3k Fine-grained grey fetid limestone (Star and No. 1 Limestone)
-  3b-3e Grey and white crystalline limestone; 3b Lower Ainsworth; 3c Upper Ainsworth; 3d Krao; 3e Dictator

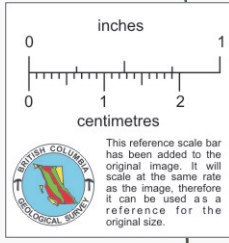
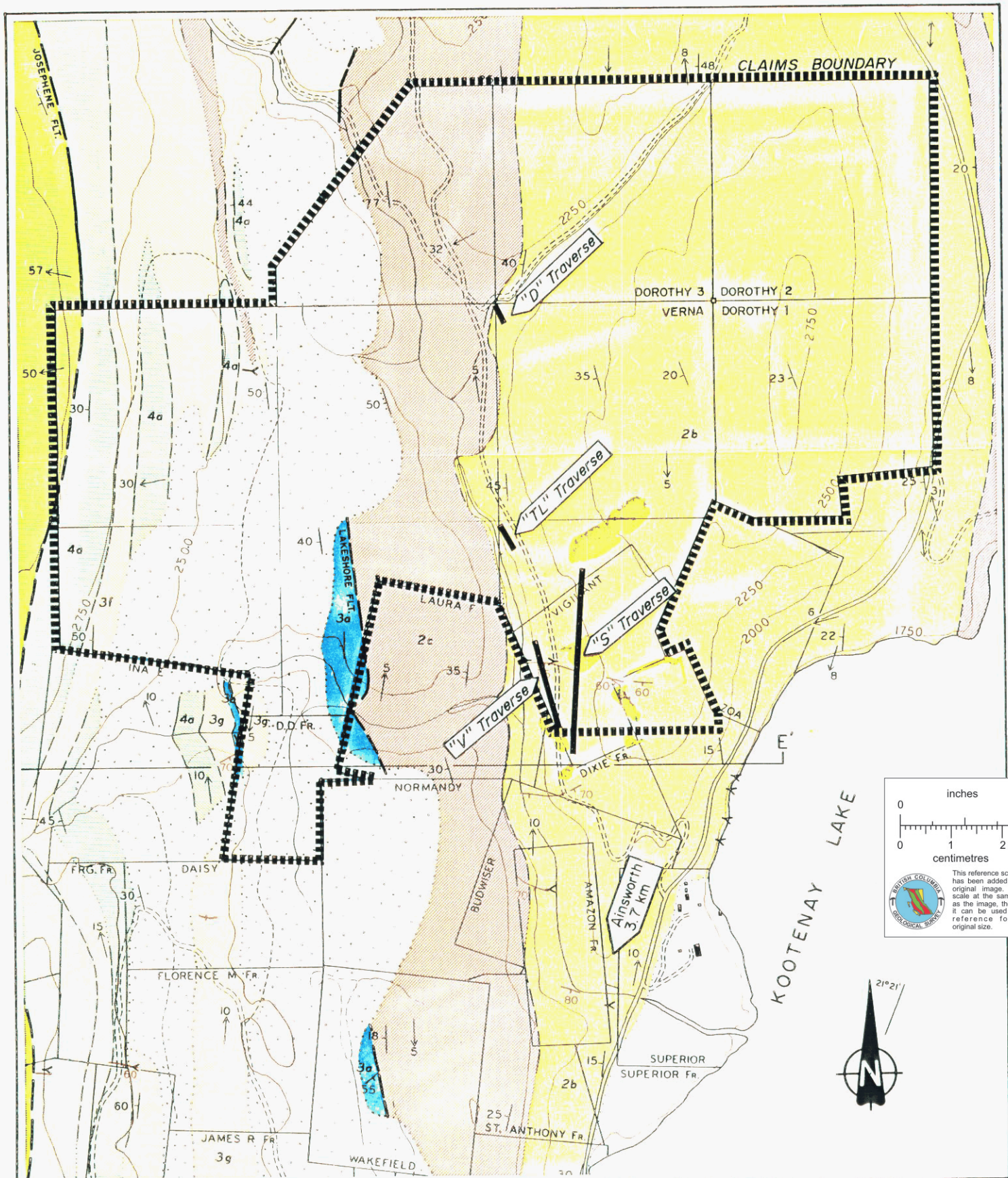
-  3a Calcareous hornblende gneiss

ARGILLITES, QUARTZITES, AND MICA SCHISTS

-  5b Purplish grey massive argillite
-  5a Mainly black argillite
-  3j Grey knotted schist
-  3i Dark grey slate, argillite, and limestone
-  3h Interlayered argillite, quartzite, and blue-grey limestone
-  3g Grey fine-grained mica schist
-  3f Grey to brown micaceous quartzite, fine grained mica schist, minor limestone
-  2c Garnet mica schist (Princess Formation)
-  2b Calcareous mica schist and silicate marble (Early Bird Formation)

-  Geological contact defined
-  approximate
-  assumed
-  Fault defined
-  approximate
-  assumed
-  Vein showing attitude
-  Attitude of foliation
-  Plunge of lineations and minor folds
-  Adit portal
-  Underground working
-  Shaft
-  Prospect or old working
-  Main road
-  Side road
-  Trail
-  Building
- Fossil locality

Scale 1000 0 1000 2000 Feet



Cascadia Resources Ltd.

Verna, Dorothy (Nos. 1, 2, & 3) etc.
 Slocan M. D. Ainsworth, B. C. N. T. S. 82F / 15W

GEOLOGY and CLAIMS MAP FIG. 2

Scale: 1 : 12,000 (1" = 1000')
 0 500 metres

(WITH ADDITIONS) FROM FIG. 3, SHEET 2
 B. C. DEPT. of MINES BULL. 53 (1967)
 JULY, 1978. P. K. C.
 JAN. '79. B.A.C.



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B-2 CLAIMS INFORMATION

The property consists of a total of 14 units and one fraction located in the Slocan Mining Division, and are shown on B. C. Dept. of Mines Mineral Titles Map. 82F/15W. Mineral title to the Verna (record No. 28), Alva, Dixie Lu, Alma and Eva Fr. are held by option and the remainder are owned outright by Cascadia Resources Ltd. of Vancouver, B. C.

The following table lists pertinent claims information as of January, 1979.

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>NO. UNITS</u>	<u>EXPIRY DATE</u>
Verna	28	6	May 20, 1980
Dorothy 1	287	1	Nov. 30, 1987
Dorothy 2	288	1	" "
Dorothy 3	289	2	" "
D.D. Fraction		fr.	" "
Alma & Eva Fr.	560	2	Dec. 29, 1980
Dixie Lu	562	1	Dec. 29, 1981
Alva	559	1	Dec. 29, 1980
Total		14	



The mineral claims are situated a few kilometers north of the town of Ainsworth on Woodbury and Lendrum Creeks. A gravel road along Woodbury Creek to David Minerals Scranton Mine provides fair access to the east part of the Verna Claim, however, there is limited access (trail only) to the south west portion of the property.

The N.T.S. code for the area is 82F/15.



The author inspected the legal corner posts of the Verna and three Dorothy claims and the claims appear to have been staked in accordance with the regulations set out in the Mineral Act of the Province of British Columbia.



B-3 SETTING

The claims are located in Central Kootenay Regional District and lie in the moderately rugged upland surface of the Selkirk Mountains. It is an area dominated by deep north-south trending valleys and high, isolated and often glacier covered mountain peaks. Kootenay Lake, to the east of the claims, lies at an elevation of 530 meters above sea level, and Kokanee Peak and its associated glacier lies to the west of the property and rises to in excess of 2600 meters above sea level.

The claims under consideration lie at relatively low elevations and just above the west shore of Kootenay Lake near the mouth of Woodbury Creek. The country is moderately gently rolling and cut by the narrow canyons of Woodbury and Lendrum Creeks. The average mean temperatures of the Ainsworth-Kaslo area is 7°C and the summers are warm and winters fairly mild. (reference 1). The precipitation may be described as moderate and there are approximately 160 frost free days per year. Surface exploration work can often be carried out year round.



The principal sustaining economic activities in the Central Kootenay Region are forestry and the mineral industry. There are local commercial logging and sawmill operations, and mining and exploration continue to be an integral part of the region's economic base. The community of Kaslo, 15 road kilometers north of Ainsworth has a population of approximately 1000, and Ainsworth boasts a few hundred. The area is served by paved highways, adequate water, the West Kootenay and B. C. Hydro and Power Authority. CP Rail maintains a line on the south shore of Kootenay Lake and the Great Northern Railway runs between Nelson and the U.S.A.

David Minerals Ltd. intermittently operates a mineral processing mill at Ainsworth and I understand that this mill may be available for custom work.



B-4 HISTORY AND PREVIOUS PRODUCTION

Exploration and mining provided the impetus for original settlement in the Central Kootenay Region and has been an economic mainstay since 1889 when production started at Ainsworth. (reference 3). Most of the claims from which ore has been mined were crown granted prior to 1900 and Ainsworth is an historic mining area and mining and milling is still being carried out today, (principally by David Minerals Ltd. with an established operating mill just south of Ainsworth). This mill produces lead and zinc concentrates from a flotation operation. Mineral Production in the Ainsworth camp has been principally silver, lead, and zinc with some gold and cadmium. A total of 50 properties which produced between 1899 and 1964 have a combined production of 497 ounces of gold, 4,373, 494 pounds of lead and 16,732,265 pounds of zinc from 763,858 tons mined. (reference 2; for table of previous producers see Appendix III). The average tenor of the Ainsworth ore is 5.7 troy ounces of silver, 6.2% lead and 1.1% zinc per short ton.



One of the largest former producers in the Ainsworth Camp was the Kootenay-Florence Mine owned by Western Mines Ltd. It is located immediately south of the Verna and D.D. Fractional claims. The Verna claims now covers the old Vigilant Mine, which between 1949 and 1953, produced 5,163 short tons averaging 2.64 ounces of silver; 8.14% lead; 3.6% zinc and a total of 704 pounds of cadmium. The Vigilant claim was crown granted in 1899 and has had intermittent work. Sporadic work continued for several decades by various companies and individuals until 1948 when Dr. L. D. Besecker commenced property aquisition, development and custom milling at the mouth of Woodbury Creek. Besecker directed operations and was instrumental in having a fair amount of mining done in the Woodbury Creek area until 1964 when the mill was dismantled and sold. (various Minister of Mines Reports). The Vigilant and surrounding area were finally staked as the Verna claim (six units) on April 12, 1975 by Mr. John A. Hale of Ainsworth. Cascadia subsequently optioned the property and completed some trenching and a short diamond drill test in 1977.



The Ainsworth Mining Camp, and the property under consideration, lies within a remarkable productive lead-zinc metalogenic belt and along a complex regional geological structure called the Kootenay Arc (Hedley, 1955). The metamorphic rocks in the Arc trend northerly and have been traced from Northern Washington State to north of Revelstoke B. C. a distance of some 320 kilometers (200 mi.). The complexly folded arc contains a large number of lead-zinc deposits which extend from those at Metaline Falls in Washington, through Salmo B. C., Aspen, Ymir, Nelson, Ainsworth-Riondel, Kaslo, Duncan Lake and to Ruddock Creek.

The main marker horizon and host rocks at the Bluebell Mine is the Reeves-Badshot formation, a lower Cambrian limestone member. (Fyles, 1967). In general, the grade of metamorphism of the rocks within the Kootenay Arc varies from fairly low grade (chlorite and biotite schist) in the south, to sillimanite grade at Riondel; and finally, to north of Arrowhead, the metamorphism increases to higher grades characteristic of Shuswap terrain. (Muraro, 1966).



Metamorphic grade at Ainsworth also varies east to west. Many of the rocks in the arc are limey schists and impure quartzites sometimes cut by granitic sills and satellitic bodies believed to be part of the Nelson Batholith.

The rock units strike north and south parallel to Kootenay Lake, and dip gently to moderately to the west in the Ainsworth area. The host rocks are sometimes complexly folded, and faulted both along bedding planes and across them. Mineralization in the camp is of two types, namely;

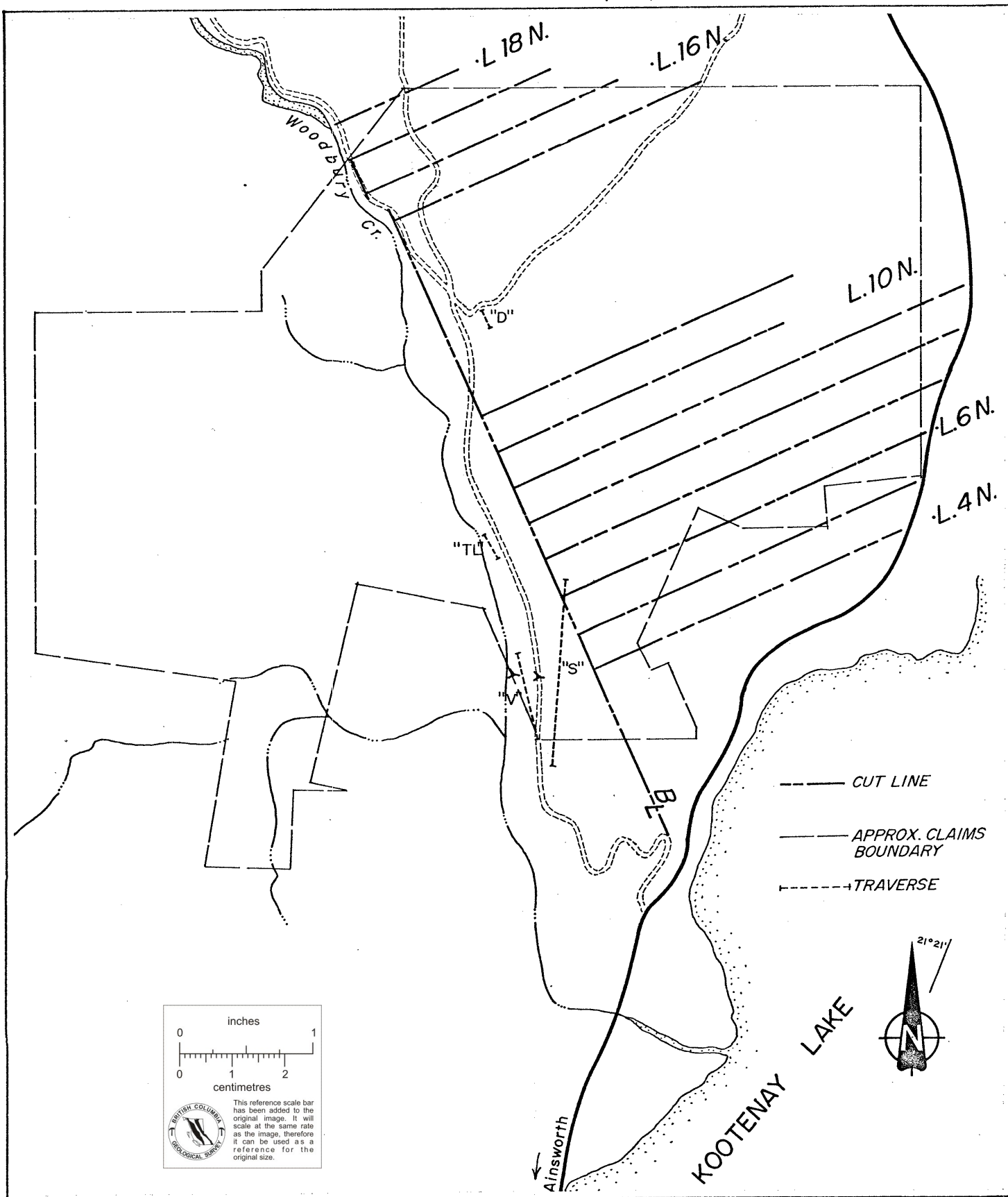
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|-----|--|
| 1. | fissure veins consisting of quartz and calcite, and often with sphalerite, galena, pyrrhotite, pyrite and chalcopryrite; |
| and | |
| 2. | replacement deposits (disseminated sulphides) in limestones and limey schists, often adjacent to fissure veins. |

The vast bulk of production in the Ainsworth Camp has been from fissure vein deposits, and replacement type deposits such as the "Bluebell Type" across the lake, have



been actively sought since before the turn of the century. The search for "Bluebell" type replacement deposits in Ainsworth was conducted near the mouth of Woodbury Creek, and east of the Verna and Dorothy claims by Cominco, in previous years.





Cascadia Resources Ltd.

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 Slokan M. D. Ainsworth, B. C. N. T. S. '82F/15W

LINECUTTING SKETCH Figure 3

Scale: 1 : 12,000 (1" = 1000')
 0 500 metres



JAN. '79. B.A.C.



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PART C

PROCEDURES - 1978 EXPLORATION WORK

Following the original geological orientation work in June 1978 (see report dated July 24, 1978) an exploration proposal was prepared and costs of further work estimated. Late in October a D-6 bulldozer was obtained and bulldozer trenching completed mainly for geochemical orientation purposes. The trenches were sampled and samples geochemically analyzed for Pb, Zn, Ag, Hg, Au and Cd. Where possible, bedrock samples were assayed for a similar suite of metals. There were 42 soil samples collected along four (4) geochemical orientation trenches and several assays of vein and bedrock material.

In November, a linecutting crew layed out a base-line and flagged crosslines in a northeasterly direction in order to cross the east-west directed vein systems and north trending host rocks which host replacement type mineralization. In all there was 12.2 line kilometers of base line and cross-lines established with stations at 25 meter intervals and cross lines 100 meters apart. Geochemical soil sampling, geological mapping and geophysical orientation work of the grid was intended, however, the arrival of winter weather



forced suspension of work.

<u>Table of 1978 Exploration Work</u> <u>Cascadia's Ainsworth Project</u>		
Date	Personnel	Work Done
June 7-10	D. R. Cochrane and Ms. D. Dennis	• Geological/ Geochemical orientation
July	D. R. Cochrane	• Data process report preparation
October 26-30	D. R. Cochrane, Ms. D. Dennis and Cat skinner	• Bulldozer trenching • geochemical orientation
November 10-20	two linecutters	• linecutting
November	D. R. Cochrane	• data processing



PART C

RESULTS OBTAINED

The majority of the work was conducted on The "Woodbury" side of the property, that is on the Verna, Vigilant and Dorothy claims east of Woodbury Creek. (see accompanying map). Results are discussed under the following "zones".

VERNA ZONE

The Verna Zone was tested by drilling and bulldozer trenching in 1977. The lower trench near Woodbury Creek exposes several massive sphalerite - galena - pyrrhotite veins and veinlets trending easterly and steeply dipping, and disseminated mineralization is present in a limey schist for several 10's of meters southerly (down creek) from the veins. The schist strikes 005° , dips south at 30° and contains disseminated pyrite, pyrrhotite and traces of chalcopyrite. An assay from a composite sample of the lower Verna veins ran 0.010 ounces Au, 3.65 ounces Ag, 13.75% Pb and 3.73% Zn. Soil samples were collected at 10 meter intervals southerly across the vein system and from the rusty sandy to sandy clayey "B" horizon at between 0.3 and 0.5m deep. the results



are as follows:

GEOCHEMICAL RESULTS - VERA ZONE					
SAMPLE	Pb(ppm)	Zn(ppm)	Ag(ppm)	Au(ppb)	COMMENTS
TL 1	44	172	14	10	15m N of veins
TL 2	56	250	22	10	near veins
TL 3	54	785	20	15	" "
TL 4	47	179	16	25	S. of veins
TL 5	78	435	24	50	" " "
TL 6	55	265	20	15	" " "
mean	55.7	348	19	20.8	
std. deviation	11.9	234	3.7	15.3	



"D" ZONE

The "D" zone is a northeasterly trending gully which strikes 50° (true) and which commences at 13 + 00 north on the base line. It is believed to mark the position of a major throughgoing fault. A series of upper B horizon soil samples were collected at 10m intervals from a north-west directed bulldozer trench (320°) across the indicated fault with the following results:

SAMPLE	Pb(ppm)	Zn(ppm)	Ag(ppm)	Hg(ppb)	Au(ppb)	Cd(ppm)	NOTES
D-1	56	592	19	120	5	0.5	S. side above gully
D-2	67	660	15	69	5	1.3	heavy overburden
D-3	198	2175	19	97	5	1.8	bottom of gully
D-4	142	1875	15	33	10	1.2	N. side below road
mean	116	1325	17	80	5.5	1.2	
std. deviation	67	817	2.3	37.5	3.3	0.5	



VIGILANT ZONE

The Vigilant Zone is now covered by the Verna claim, and was originally crown granted in 1899. It is a steeply dipping, east-west trending fissure vein which has been developed on two adit levels approximately 100 feet apart vertically. The last recorded production was in 1952 by J.A. Cooper, of Kaslo. The author inspected the lower level since the upper portal is caved. The vein cuts on impure limestone-schist member and strikes 80° (true) and is nearly vertical. Just inside the lower portal the vein is vuggy and approximately one meter wide. Along the level easterly, the quartz-siderite-flourite vein is variously mineralized with knots, clusters and streaks of sphalerite, galena and pyrite. Total production to date on the Vigilant is 5,163 tons which contained 2 ounces of gold; 13,615 ounces of silver; 841,441 pounds of lead and 369,174 pounds of zinc.

The vein system is open down dip and to the west and there are suggestions of replacement here and there in the wall rocks.



Two bulldozer trenches were cut across the Vigilant; the lower north northwest directed trench on an old road just below the Woodbury Creek road, and an upper north directed trench approximately 500 feet up hill to the east. Samples were collected at various intervals from upper B horizon soil samples. The sample interval on the lower "V" traverse was 10m with results as follows:



GEOCHEMICAL RESULTS - VIGILANT ZONE							
SAMPLE NUMBER	Pb(ppm)	Zn(ppm)	Ag(ppm)	Hg(ppb)	Au(ppb)	Cd(ppm)	NOTES
V0+10N	6675	7125	85	90	5	12.0	
V0+20N	730	2050	24	138	5	3.5	N. end
V0+30	130	470	19	50	5	2.7	Vig. dump
V0+40N	190	578	15	62	<u>5</u>	1.7	" "
V0+50N	66	260	14	53	5	0.2	" "
V0+00	1525	3825	32	65	5	16.1	S. of dump
V0+10S	286	524	16	53	5	1.3	" "
V0+20S	272	832	20	105	10	1.7	
V0+30S	134	698	22	60	5	1.7	
V0+40S	123	386	19	69	5	0.6	
V0+50S	238	500	19	65	<u>5</u>	0.6	
V0+60S	1350	1775	24	50	10	3.2	
V0+70S	52	156	16	57	5	0.1	
V0+80S	54	152	18	62	15	0.1	
V0+90S	183	322	19	110	5	0.3	
V1+00S	65	152	18	75	10	0.1	
V1+20S	93	166	20	94	5	0.3	
V1+30S	134	252	19	90	10	0.5	
V1+40S	93	388	19	40	<u>5</u>	0.3	
V1+50S	90	158	15	57	5	0.3	S. end at road
N=20 mean	624	1038	2.2	72.7	6.3	2.4	
std. deviation	1484	1687	1.5	24.6	3.2	4.2	
Note: for purposes of this computation Au <u>5</u> is defined as 3							



The upper Vigilant zone geochemical traverse (S traverse) crossed the vein extension in the sample S-7 area, and spacing was varied somewhat in order to compare with previous 10m sample interval results. The traverse was along a road and trench above the Woodbury Creek Road and the upper B horizon soil sample results are as follows:

SAMPLE NUMBER	STATION	Pb (ppm)	Zn (ppm)	COMMENTS	Ag (ppm)	Hg (ppb)	Au (ppb)	Cd (ppm)
S-1	0+00	67	152	200m N. of showing	15	94	5	5.7
S-2	0+50S	86	256		14	62	5	0.5
S-3	1+00S	44	180		14	57	<u>5</u>	0.2
S-4	1+50S	49	155		16	57	10	0.2
S-5	2+00S	45	132		16	78	5	0.2
S-6	2+25S	830	752	showing	21	75	10	0.3
S-7	2+50S	1175	4600	showing	23	40	10	0.4
S-8	2+75S	66	280		18	97	5	0.2
S-9	3+00S	43	145		16	69	10	0.1
S-10	3+25S	72	149		16	30	15	0.1
S-11	3+75S	45	150		18	65	10	2.0
S-12	4+25S	56	178	south end	17	57	10	2.0
N=12 mean		215	594		1.7	65	8.2	0.8
std. deviation		375	1273		0.3	19.5	3.5	1.6



DISCUSSION

Exploration work in parts of the Ainsworth camp is hampered considerably by the extensive overburden cover and, therefore, indirect methods of exploration are heavily relied upon. This is especially true of the Cascadia ground. In direct methods, such as topographic, geochemical and geophysical techniques are somewhat taxed in that there are two different types of exploration targets; namely the presumably east trending fissure vein type deposit and the probably north trending replacement type of deposit. In order to compromise, and the satisfy both conditions, a north-west cross line grid has been established on the property.

The 100 meter between cross line spacing is, of course, quite wide, but it was anticipated that one of the metals which may be geochemically determined, would be sufficiently mobile to form a "better than" a 50m halo. One of the best metals for this type of reconnaissance approach appears to be "zinc" with a high average arithmetic mean value and relatively large standard deviation (statistical dispersion). Silver and cadmium correspond well with zinc values and therefore zinc is a good indicator of corresponding proportions of these metals.



Another consideration is that since by geometrical conditions the Badshot Formation should underly the property at some depth, perhaps an even more mobile metal would be a good pathfinder element for deep seated Bluebell type. In this respect, and in view of the foregoing it appears that mercury would be the appropriate candidate.

Finally, in the matter of metal selection, in order to pin point a target zone it appears that either, or both silver and gold are appropriate for definition. The results obtained indicate that the initial reconnaissance type work may be conducted at a 25 meter sample interval along the cross lines, followed by more detailed work if there are indications of Zn, Hg, Ag or Au geochemical anomalies.



RECOMMENDATIONS

The orientation results to date have been most encouraging, and it is hoped that through continued and careful selection of available exploration techniques, a modern and thoroughly integrated system of exploration may be devised for the property, with corresponding appropriate methods of interpretation of these data. I herein recommend the continuence of the program as outlined in my July 24, 1978 report, and further recommend consideration of the following:

- (a) A reconnaissance geochemical soil sampling survey of upper "B" horizon samples with a sample interval of 25 meters along presently established cross lines spaced 100 meters apart. Analysis of the soil samples for their content in (at least) zinc (Zn), mercury (Hg), gold (Au) and/or silver (Ag). Collected soil samples should be of a large size in order to enable multi-metal analysis with sufficient reject capacity so that rejects may be stored and possibly re-analyzed for other metals at a later date.

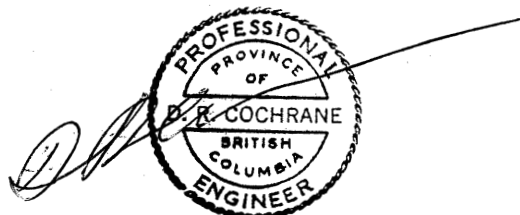


- (b) Detailed geological mapping of the grid area with special emphasis on structure, lithology and alteration. Hopefully this work would coincide with the geo-chemical reconnaissance survey.

- (c) Geophysical orientation work in order to determine if there is a system or combination of systems which gives a significant response signature across both near surface vein, near surface replacement and deep seated replacement type mineralization.

- (d) Careful interpretation of the results obtained with considerable incorporated geological bias.

Respectfully submitted



D. R. Cochrane, P. Eng.
Delta, B. C.
January 24, 1979.


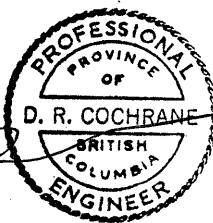


APPENDIX I

CERTIFICATE

I, Donald Robert Cochrane, of the Municipality of Delta, British Columbia, do hereby certify that:

1. I am a consulting geological engineer with an office at 4882 Delta St., Delta, B. C.
2. I am a graduate of the University of Toronto (1962) with a degree in Applied Geology (B.A. Sc.) and a graduate of Queen's University (1964) with a degree in Economic Geology (M.Sc., Eng.)
3. I have practiced my profession continuously since graduation while being employed by such companies as Noranda Exploration Co. Ltd., Quebec Cartier Mines, and Meridian Explorations Syndicate. I have been in private independant practice since 1969.
4. I have no interest, either direct or indirect in the properties or securities of Cascadia Resources Ltd., nor do I expect to acquire any such interest.
5. I am a member in good standing of the Association of Professional Engineers (A.P.E.) of the Province of British Columbia, and also a member of the A.P.E. in the Province of Ontario, Saskatchewan, and the Yukon Territories.

January 24, 1979
Delta, B. C.

(signed) D. R. Cochrane, P. Eng.



APPENDIX II

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APPENDIX III

Table of Former Producers



TABLE 1.—TABLE OF PRODUCTION, 1889-1964

	Tonnage			Gold (Oz.)	Silver (Oz.)	Lead (Lb.)	Zinc (Lb.)	Cadmium (Lb.)
	Year	Mined	Mined, Con- tents Included Elsewhere ¹					
Amazon	1939-1940	33	—	—	346	30,625	4,270	—
August	1948-1951	119	—	—	1,457	99,181	18,922	—
Ayesha	1911, 1949-1952	78	—	—	924	39,312	20,518	—
Belle Aire	1950	4	—	—	8	722	61	—
Black Diamond	1949-1964	473 ²	3,010	1	8,276	105,569	29,324	58
Budwiser	1895, 1950, 1954	78	202	—	15,006 ³	75,411 ³	576	—
Buckeye	1953-1954	549	450	—	1,146	57,105	54,186	—
Crown	1962	13	—	—	1,253	2,445	1,025	—
Crow Fiedgling	1937-1960	187	287	—	800	29,529	22,132	21
Danira	1942, 1956	6	313	—	51	7,514	635	—
Dixie	1951, 1954, 1955	258	—	—	524	31,146	3,030	—
Early Bird	1914-1916, 1949-1951	165	—	—	1,520	127,083	2,787	—
Eden Crescent	1916, 1937, 1950-1955	50	10,723	—	1,308	46,281	—	—
Fergus and Florence M	1907, 1948-1951	265	—	—	1,420	18,818	6,569	—
Firebrand	1924	16	—	—	1,832	3,460	—	—
Gallagher	1889, 1907-1919	250	—	—	17,615	31,873	—	—
Grant	1889, 1916-1921	24	—	—	9,604	5,489	—	—
Hardie	1919	4	—	—	215	4,824	—	—
Hector	1949	12	—	—	99	5,187	1,630	—
Highland	1890-1927, 1940-1951	98,313	—	—	336,272	20,426,691	586,531	—
Highland mill	1947-1951	—	—	1	2,665	200,173	255,004	1,210
Highlander-Albion-Banker	1889-1910, 1927-1937, 1949-1961	442,410 ⁴	—	151	1,028,560	48,720,251	11,529,392	4,345
Jack Pot	1953	—	388	—	—	—	—	—
Jewel	1937	27	—	—	200	15,113	—	—
Kootenay Florence (Laura M)	1912-1929, 1943-1944, 1951-1960	132,406	—	91	200,376	14,749,616	3,114,592	12,969
Krao	1905-1909, 1920-1924, 1953-1955, 1964	1,658	—	—	123,857	404,707	26,709	—
Lakeshore Mine (Carey Fraction)	1926, 1927, 1950-1959	1,432	—	—	2,874	248,744	144,138	221
Lady of the Lake	1895, 1937	10	—	—	820	10,063	—	—
Libby	1907, 1950	33	—	—	319	21,296	6,029	—
Little Mamie	1921	11	—	—	550	11,000	—	—
Little Phil	1895, 1899, 1917-1920, 1955, 1958	612	48	—	14,290	633,586	1,398	—
Lulu	1954	6	—	—	113	7,163	440	—
Maestro	1907-1923, 1959	2,370	—	—	36,973	1,752,242	1,705	—
Mile Point	1895	55	—	—	4,015	11,000	—	—
Nameless	1950-1953	3,079	—	—	4,982	363,796	236,796	—
Neosho	1922, 1949-1950	149	—	—	3,369	7,733	17,213	—
New Jerusalem	1967, 1945, 1952	265	110	8	721	35,773	12,509	—
Nicolet-Snelling	1916, 1929, 1950-1952	669	—	—	1,493	81,726	42,428	—
Noah	1952	385	—	—	502	32,400	20,820	—
No. 1	1889-1924	40,169	—	237	1,993,849	298,779	—	—
Sharon	1964	3	—	—	31	1,540	146	—
Silver Hoard, Delle	1889, 1895, 1912-1926, 1948-1950	2,137	—	—	216,872	159,486	28,782	—
Silver Coin	1938-1946	32	—	—	4,597	7,111	1,958	—
Skyline	1889-1896, 1918-1921	3,027	—	—	218,148	4,696	—	—
Spokane and Trinket	1899-1907, 1915, 1929, 1940-1955	2,979	3,923	1	54,805	3,318,055	60,468	—
Star and Sunlight	1950-1956	800	—	1	5,398	144,040	59,542	—
Tariff	1896-1899, 1918-1926	1,078	59	—	35,221	1,480,919	16,176	—
Tiger	1928	24	—	1	186	9,284	5,148	—
Townsite	1952	752	—	—	—	—	—	—
Twin	1949-1953	445	—	—	1,254	48,029	29,356	48
United	1906, 1918-1924, 1953-1954	856	400	3	3,069	178,927	—	—
Vigilant	1949-1953	5,163	—	2	13,615	841,441	369,174	704
Totals			763,858	497	4,373,431	94,948,494	16,732,265	19,576
Bluebell	1895-1927, 1952-1964	3,572,696	3,890,350 lb. copper	—	4,903,829	350,448,630	362,864,347	1,663,965

¹ Shipped mainly to the Yale mill.

² Includes some production from Little Phil.

³ Estimated.

⁴ Includes some production from Black Diamond.