# BRITISH COLUMBIA PROSPECTORS ASSISTANCE PROGRAM MINISTRY OF ENERGY AND MINES GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:2000/2001REPORT #:PAP 00-40NAME:TOM CARPENTER

### **PROSPECTING REPORT**

on the

### ALLENDALE LAKE, STIRLING CREEK AND ARLINGTON LAKES AREAS, B.C.

Latitude: 49°20'N to 49° 42'N Longitude: 119°03'W to 119°26'W

**Prepared in Compliance** 

with the

**Prospectors Assistance Program** 

**Grantee: Tom Carpenter** 

**Reference # 2000/2001 P.60** 

Tom Carpenter 3902 – 14<sup>th</sup> Street Vernon, BC V1T 3V2 January 10, 2000

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### **SUMMARY**

In May, 2000 the author was awarded a Prospectors Grant (2000/2001 P60) under the British Columbia Prospectors Assistance Program. This grant was used to carry out reconnaissance geochemistry and prospecting over a 100 square kilometre area in the Allendale Lake area, east of Okanagan Falls and in the Stirling Creek-Arlington Lakes area, north of Beaverdell (Figure 1).

The principal focus of the program was exploration for Platinum Group Metals possibly associated with several plugs of Eocene age Coryell intrusive rocks in the area. The basis for this exploration was the previously unreported association of platinum and palladium with porphyry style copper mineralization at the Lynx showing near Allendale Lake. This mineralization is associated with syenitic Coryell rocks.

No significant platinum or palladium was noted in the regional geochemical stream sediment program. The program was however successful in defining significant gold anomalies in the Allendale Lake area and the Stirling Creek/Stump Lake area west of Arlington Lakes.

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No gold occurrences have been previously reported in either area.



#### **INTRODUCTION**

The South Okanagan platinum/palladium project was initiated to explore for platinum and palladium possibly associated with Coryell intrusive rocks. Historically placer platinum has been reported from Shuttleworth Creek that drains the Allendale Lake area. (Figure 6).

At Allendale Lake, the Lynx showing (Figure 8) has been explored for porphyry copper and silver mineralization. The Lynx showing is contained within a syenite intrusive identified as part of the Coryell Intrusions. At Allendale Lake the syenite intrudes rocks previously mapped as Monashee Group metamorphic rocks and Valhalla and Nelson intrusive rocks. Other, smaller plugs of Coryell plutonic rocks have been mapped at Sterling Creek, east of Greyback Mountain and immediately north of Arlington Lakes.

An examination of aeromagnetic data revealed that the syenite at Allendale Lake is marked by a distinct magnetic high which is of larger areal extent than surface exposures (Figure 3). Magnetic highs of similar amplitude occur on Stirling Creek and at Arlington Lakes (Figures 4 and 5).

The field program began on July 17, 2000 and comprised the collection of bulk stream sediments on creeks draining these magnetic anomalies. These samples were processed into pan concentrates and analyzed for gold, platinum and palladium.

The field program ended with the staking of mineral claims on January 4 and 5, 2001.





FIGURE 4



FIGURE 5

### LOCATION AND ACCESS

**1** 

The project area is contained within a one hundred square kilometre area in three target areas in the vicinity of Mt. Christie – Allendale Lake, (Figure 6) and Stirling Creek and Arlington Lakes (Figure 7).

Access is excellent throughout the area. From Highway 97 at Okanagan Falls the Okanagan Falls Forest Service Road extends north-northeasterly to Highway 33 near Idabel lake. Logging roads off the Okanagan Falls F.S.R. provide access to the target areas.

TRIM (Terrain Resource Information Management) maps provide good road access information. These maps however, produced in 1994 from aerial photography flown in 1988, do not show logging roads developed since 1988. Up to date road maps exist only at the Ministry of Forests office in Penticton.

### **TOPOGRAPHY**

The area covers a portion of the Okanagan Highlands, a broad plateau ranging from 1600 to 1800 metres above sea level. The topography comprises gently sloping to rounded hills.

The effects of glaciation are noted throughout the area and include, in the Allendale Lake area eskers, drumlins and possible moraines. Much of the area is covered by variable thicknesses of glacial till.





### **REGIONAL GEOLOGY**

The most recent regional geology of the project area is shown on the 1989 Geological Survey of Canada Map 1736A – Geology/Penticton by D.J. Tempelman-Kluit. This map is a revision of GSC Map 15-1961 – Geology/Kettle River, West Half by H.W. Little (Figure 2).

The differences between these two maps is profound, especially in the ages of rocks in the vicinity of Allendale Lake. At Allendale Lake the Coryell syenite plug occurs at the junction of three rock types. These are mapped by Little as Valhalla Plutonic Rocks of presumed Lake Cretaceous age to the east, Precambrian or later Monashee Group gneisses to the southwest and Cretaceous Nelson plutonic rocks to the northwest.

Tempelman-Kluit has assigned a Jurassic/Cretaceous age to the plutonic rocks to the east. These rocks are now a part of the Okanagan batholith. To the northwest the former Cretaceous Nelson plutonic rocks have been assigned an early Eocene age. The Precambrian or later Monashee Group gneisses to the southwest have been renamed Okanagan Gneiss and also assigned an early Eocene age.

In the Stirling Creek area Coryell syenite is shown as intruding rocks of the Okanagan batholith by Tempelman-Kluit and Valhalla rocks by Little.

In the Arlington Lakes area there is general agreement between maps 15-1961 and 1736A. The predominant rock types in this area comprise Nelson plutonic rocks. These rocks have been assigned a tentative Cretaceous age by Little and a mid-Jurassic age by Tempelman-Kluit.

### **EXPLORATION HISTORY**

The only previous exploration within the project area was centred on the Lynx showing (082ESW006) west of Allendale Lake and in the area of Arlington Lakes were limited production has been reported from the Lakevale (082ENW040).

The Lynx showing, comprising copper-silver mineralization occurs in a late fine grained felsic phase of a syenite stock. This mineralization was explored by limited drill programs in the early 1970's and the early 1980's by Selco Ltd. and Allendale Resource Corp. Respectively.

Analyses of mineralization from the Lynx showing by several other individuals including, in 1988, by Neil Church of the B.C. Geological Survey Branch, revealed a platinum/palladium association with this mineralization including values to 0.048 oz/ton platinum and 1160 ppb palladium (F. Niddery – personal communication).

Placer platinum was also reported in 1920 in Shuttleworth Creek by the Munitions Resources Commission.

At Arlington Lakes several copper showings occur to the south of the lakes. The Elk 7 showing (082ENW004) is hosted by pyroxenite and hornblendite of presumed Jurassic age. Just north of Arlington Lakes map 15-1961 shows a small plug of Coryell intrusives.

None of the showings in the Arlington Lakes area have been tested for Platinum Group Metals. The Arlington Lakes area may be similar geologically to the Dobbin Prospect (082LSW005), to the north of the Kettle River Map Sheet, where significant Pt/Pd values are hosted by mid-Jurassic pyroxenite.

### **FIELD PROGRAM**

The 2000 field program was designed with the realization that the mineralized Coryell syenite stock of Allendale Lake co-incided with a distinct magnetic high. This magnetic high was separated by Maurice Creek from another magnetic high of similar intensity and areal extent, which occurred beneath and around Mt. Christie (Figures 3 and 8).

An examination of regional aeromagnetic maps showed a similar set of paired magnetic anomalies separated by Stirling Creek, east of Greyback Mountain. These anomalies, based on regional mapping, also appeared to be associated with an exposure of Coryell intrusives mapped in the valley of Stirling Creek (Figures 2, 4 and 9).

At Arlington Lakes a strong linear magnetic anomaly occurs immediately south of the lakes. Most of the showings in the area are associated with this anomaly.

Immediately north of Arlington Lakes a small magnetic high is associated with a mapped exposure of Coryell rocks (Figures 2, 5 and 9).

### Stream Sediment Sampling – Program Parameters

The initial 2000 program comprised the collection of stream sediment samples from creeks draining the area of the above magnetic anomalies.

Sampling entailed the testing of gravels, sands and silts from creek beds. The material is sieved in the field and the -20 mesh fraction collected. If possible, a maximum of 10 kg of material was collected. However in several drainages the lack of suitable material precluded the collection of the required amount of material.

In the first phase of the program samples were collected from twenty-nine sites (Figures 10 to 16). Two samples contained largely organic material and were unsuitable



![](_page_17_Figure_0.jpeg)

for the production of pan concentrates. One panned sample comprised quartz feldspathic material with no significant heavy minerals.

The production of pan concentrates from collected samples took an inordinate amount of time. Due to the writers inexperience with panning and the desire to retain all heavy minerals each sample took anywhere from two to three hours to reduce by panning to about 10% of the previous sample.

The panning produced a concentrate which comprised from 20-30% heavy minerals and 70-80% light to intermediate minerals. The latter comprised quartz, feldspar, biotite and pyroxene/amphibole. Once a pan concentrate had been produced the sample was run through a motorized gold wheel to produce a further concentrate containing 40-50% heavy minerals.

All efforts were made to maximize and separate the heavy minerals from the light minerals on the gold wheel by variously adjusting the wheel for speed, pitch and water flow.

In total 26 pan concentrate samples were submitted to ALS Chemex in North Vancouver, B.C. for analysis for gold, platinum and palladium. Results of the analyses and analytical method are contained in Appendix B.

Visible gold was noted in sample PTS-019 collected from Stirling Creek. During the field program several of the samples collected from the Stirling Creek area were improperly labeled. As a check for these samples and as a result of the visible gold in PTS-019 it was decided to carry out a Bulk Leach Extractable Gold (BLEG) sampling program in the Stirling Creek area.

Fourteen BLEG samples were collected to duplicate pan concentrate sites as well as to provide additional coverage of the area.

No significant platinum or palladium values were noted in pan concentrates in the Allendale Lake area.

#### Stream Sediment Sampling - Program Results

#### <u>Allendale Lake Area - 082E033, 034, 043, 044.</u>

Significant gold values were noted in pan concentrates from initial sampling in the Allendale Lake area. Samples PTS- 01, 02, 03, 04, 06 and 13 contained >10,000, 2120, 4910, >10,000, 3820 and 2450 ppb Au respectively. Sample PTS-12 northeast of Allendale Lake contained an anomalous but lesser gold value of 862 ppb.

Follow-up sampling in the area of the initial anomalies has further defined the anomalous area. Four samples were collected, PTS-30 to 33. Of these samples only sample PTS-31 contained anomalous gold (660 ppb). Perhaps significantly this sample drains the same area as PTS-12.

#### Stirling Creek Area - 082E064 and 065.

No anomalous platinum and palladium values were detected in pan concentrates from the Stirling Creek area.

In total, eight stream sediment/pan concentrate samples were collected in the area from creeks draining an airborne magnetic anomaly similar in amplitude to the magnetic anomaly in the Allendale Lake-Mt. Christie area (Figures 4, 15 and 16).

Of the eight samples collected three contained anomalous gold values. Samples PTS-017, 019 and 024 contained 3890, >10,000 and 360 ppb Au respectively.

Due to a mixup in samples in this area it was decided to retest the area using Bulk Leach Extractable Gold (BLEG) sampling. Consequently fourteen BLEG samples, PTB-01 to 14, were collected within and adjacent to anomalous drainages.

Complete BLEG results are shown on Figures 15 and 16. BLEG results ranged from <2 ppb to 1.4 ppb. It is somewhat difficult to directly compare the results of both surveys. For example, the BLEG sample collected at anomalous site PTS-19 contained <2 ppb Au. In general however the more anomalous samples, ranging from 0.4 to 1.4 ppb Au, appear to cluster in the eastern part of the target area, east of Lower Barge Lake. This is the area covered by anomalous sample PTS-24.

### Arlington Lakes Area - 082E055 and 065

Four stream sediment/pan concentrate samples were collected in the Arlington Lakes area. One sample from this area (PTS-28) contained significant platinum/palladium values comprising 30 and 58 ppb respectively. This sample was made up completely of mafic material derived from the hornblendite exposed in outcrop at the south end of the southernmost of the Arlington Lakes.

Two of the four samples PTS-21 and PTS-22 contained significant gold values, 500 and 444 ppb respectively. No significant gold was noted in the northernmost sample which drains the area of the mapped Coryell rocks.

#### **Program Parameters – Rock Sampling**

During the prospecting portion of the program a total of 18 rock samples was collected. The majority of these, some 15 samples, were collected in the Allendale Lake area with 4 samples collected from the Arlington Lakes area.

Sample locations are shown on figures 11 and 14. Complete assays and rock sample descriptions are contained in Appendix C.

#### **Program Results - Rock Sampling**

### **Allendale Lake Area**

Of the fifteen rock samples collected in the Allendale Lake area two returned anomalous gold and palladium values. Samples PTR-001 and 005, collected from the Lynx showing area contained 404 ppb Au/88 ppb Pd and 330 ppb Au/70 ppb Pd respectively.

### **Stirling Creek Area**

No rock samples have been collected to date in the Stirling Creek area.

#### **Arlington Lakes Area**

All three samples of ultramafic rocks collected in the Arlington Lakes area contained anomalous platinum and palladium with maximum results of 25 ppb Pt in PTR-015 and 46 ppb Pd in PTR-017.

### **CONCLUSIONS**

The scope of the 2000 field program has been completed as proposed in the application for funding in April 2000. The Phase I stream sediment sampling program was followed by Phase II BLEG sampling in the Stirling Creek area and Phase II stream sediment sampling in the Allendale Lake area.

No third phase of exploration was carried out due to budgetary and time constraints.

The program was not successful in identifying significant platinum/palladium mineralization associated with Coryell intrusive rocks mapped in the Allendale Lake, Stirling Creek and Arlington Lakes area. Anomalous platinum/palladium was however noted associated with ultramafic rocks (hornblendite) of presumed Jurassic age at Arlington Lakes.

However significant gold mineralization in pan concentrates was defined in the Allendale Lake and Stirling Creek areas, including visible gold at the latter.

At Allendale Lake stream sediment gold anomalies are found in drainages adjacent to the Lynx showing but also in drainages removed from the Lynx.

Rock sampling in the Lynx area has shown the presence of anomalous gold associated with copper mineralization. It has yet to be determined however whether the anomalous pan concentrates (PTS-04 and 13) in drainages adjacent to the Lynx are related to the limited known mineralization or to as yet unknown mineralization in the area.

South of the Lynx showing a highly anomalous pan concentrate (PTS-01) is unlikely to be derived from known mineralization.

The area of anomalous samples PTS-01, 04 and 13 was covered by 14 two-post claims in early January 2001.

Southwest of Allendale Lake, approximately 1.5 km, a mostly till covered outcrop of scoriaceous volcanic rock may be suitable for use as decorative landscaping material.

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### **RECOMMENDATIONS**

Outcrop in the staked areas near Allendale Lake appears to be limited based on prospecting in the area. The claim areas should be explored by a combination of mapping, soil sampling and geophysics. The latter should comprise both VLF-EM and magnetometer surveys.

Investigations of the market for decorative stone should be carried out and consideration given to staking the scoriaceous volcanic southwest of Allendale Lake.

Further prospecting and sampling should be carried out in the Stirling Creek area, especially upstream from anomalous BLEG and pan concentrate values. Claims should be staked in the area if results are favourable.

At Arlington Lakes the magnetic anomaly associated with the Pt/Pd bearing hornblendite is of much larger areal extent than has already been examined. Prospecting of this area should carried out, in particular to determine if differentiation of mineralization may have occurred within the intrusive.

Respectfully submitted,

Tom Carpet

Tom Carpenter January 10, 2001

### **BIBLIOGRAPHY**

### **Minfile Reports**

082ENE053, 082ENE055, 082ENE056, 082ENE060, 082ENE061 082ESW030, 082ESW060 082ENW004 082ENW040 082LSW005

### **Assessment Reports**

Lynx - 7593, 10517, 15466, 18821, 20132

### <u>Other</u>

**IGHNA** 

GSC Map 15-1961 GSC Map 10-1967 GSC Paper 67-42 MEMPR Open File 1986-7 MEMPR Preliminary Map 20 MEMPR Revised Preliminary Map 35 MEMPR Preliminary Map 41

### **APPENDIX B**

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### STREAM SEDIMENT/PAN CONCENTRATE RESULTS

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Aurora Laboratory Services Ltd. Analytical Chemists \* Geochemists \* Registered Assayers 212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 FAX: 604-984-0218 To: DISCOVERY CONSULTANTS

P.O. BOX 933 VERNON, B.C. V1T 6M8

A0030046

Comments: ATTN: TOM CARPENTER

#### ANALYTICAL PROCEDURES CERTIFICATE A0030046 UPPER (BPI) - DISCOVERY CONSULTANTS CHEMEX CODE NUMBER SAMPLES DETECTION DESCRIPTION METHOD LIMIT LIMIT Project: P.O. # : 2 10000 975 26 Au ppb: FA ICP package FA-ICP Samples submitted to our lab in Vancouver, BC. 5 26 10000 976 Pt ppb: FA ICP package FA-ICP This report was printed on 12-OCT-2000. 977 10000 26 Pd ppb: FA ICP package FA-ICP 2 0.07 FA-GRAVIMETRIC 1000.0 997 2 Au g/t: 1 assay ton, grav. SAMPLE PREPARATION CHEMEX CODE NUMBER DESCRIPTION 235 26 Pan con ring to approx 150 mesh

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# ALS Chemex

Analytical Chemists \* Geochemists \* Registered Assayers

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## ALS Chemex

Analytical Chemists \* Geochemists \* Registered Assayers

North Vancouver V7J 2C1 212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 FAX: 604-984-0218

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PTS-06 PTS-07 PTS-08 PTS-09 PTS-10	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	1.9 284.5 NotRcd 114.3 111.1							
PTS-12 PTS-13 PTS-14 PTS-15 PTS-16	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	31.5 2.7 121.4 264.6 149.0							
PTS-17 PTS-18 PTS-19 PTS-20 PTS-21	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	24.0 26.5 0.0 13.9 39.8							
PTS-22 PTS-23 PTS-24 PTS-25 PTS-26	244 244 244 244 244	10.1 33.7 4.0 99.1 36.1							
PTS-27 PTS-28	244 244	31.5 208.5							>
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### APPENDIX C

### **BLEG SAMPLE RESULTS**

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(BPI) - DI Project:	SCOVERY 945	CONSULTANTS	CHEME	X NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	Upper Limit
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Project : 945 Comments: ATTN: TOM CARPENTER

CERTIFICATION:

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SAMPLE	PREP CODE	CN DIBK Au ppb				
PTB-01 PTB-02 PTB-03 PTB-04 PTB-05	225 225 225 225 225	1.4 0.4 1.0 0.2 0.4				
PTB-06 PTB-07 PTB-08 PTB-09 PTB-10	225 225 225 225 225 225	0.4 0.8 0.2 0.4 < 0.2				
PTB-11 PTB-12 PTB-13 PTB-14	225 225 225 225	< 0.2 < 0.2 0.4 < 0.2				
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### **APPENDIX D**

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### ROCK SAMPLE DESCRIPTIONS AND ANALYTICAL RESULTS

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### **<u>Rock Descriptions</u>**

PTR-001	UTM 329383E, 5473508N Malachite stain on rock-face of mafic syenite.
PTR-002	UTM 329369E, 5473559N At old trench site. Composite sample 10' wide zone of rusty sulphides trending ~045° cuts syenite. Mineralized rock magnetic and comprises pyrite and pyrrhotite. No chalcopyrite evident. Old vertical drill hole at site. On north-west edge of mineralized zone.
PTR-003	UTM 328845E, 5473554N Location tentative. Rusty zone in syenite in old overgrown road. Some boulders downhill with similar material. ~ 30% sulphides (pyrite>pyrrhotite).
PTR-004	UTM 328853E, 5473605N Location tentative. Fine grained sulphides (5-7%) in syenite in road bed. Silvery colour.
PTR-005	UTM 329498E, 5473435N Grab samples of syenite with azurite and malachite stain. Copper appears to be within less mafic part of rock – possibly later vein. Samples from trenches at north end of large outcrop. One trench cuts east-west across outcrop for about 15 metres. Other trench is ~ 3 metres in length.
PTR-006	UTM 32927SE, 5473146N Rusty sulphide rich material in old road/trench. Old timbers at site possibly indicative of drill hole. Similar to material at PTR-001.
PTR-007	UTM 329260E, 5473260N Numerous rounded to angular gossanous sulphide boulders and cobbles in logging road. At north end of drumlin like feature. West of previous sample. Similar in composition.
PTR-008	UTM 329606E, 5471618N 0.3 m rounded, sulphide rich boulder. Till cover. Numerous fragments and cobbles along road. UTM 329581E, S471773N Bright red to brown scoriaceous volcanic rock. Recent volcanics in small knob beside logging road. Partly till covered.
PTR-008	A Same location as PTR-008 Rounded boulder ~ 10-11" in diameter from centre of road. Float.
PTR-009	UTM 329559E, 5472150N Sulphide rich boulder ~10" in diameter beside road. Float.
PTR-010	UTM 329147E, 5470711N Mixture of gneiss and syenite (?) with 7-10% sulphides. Rounded float.
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- PTR-011 UTM 329438E, 5471758N Similar to previous rocks. Rusty syenite boulder ~ 0.3m in diameter. 5-7% pyrite > pyrrhotite.
- PTR-012 UTM 329175E, 5471310N Boulder of rusty rock in till. Minor pyrite. Disseminated magnetic material. Other rusty material in vicinity.
- PTR-013 UTM 329170E, 5471160N Several large blocks of rusty gneiss with 1-3% magnetite and pyrite.
- PTR-014 UTM 349243E, 5496241N Ultramafic rocks in talus slope. Hornblendite. Magnetite rich. Cut by quartz and feldspar veins. Epidote on fractures.
- PTR-015 100 m south of previous location. Similar material with minor chalcopyrite.

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- PTR-016 30m south of PTR-015 on west side of creek. Syenitic rock comprises 80-85% feldspar and 15-20% mafics. Moderately magnetic.
- PTR-017 UTM 349137E, 5495846N Rusty ultramafic rock cut by epidote and quartz veins. Near upper contact of dyke of hornblendite. Malachite in sample collected.
- PTR-018 PTS-01 location. Angular to slightly rounded quartz cobbles in drainage. Slightly vuggy with limonite on fractures.

![](_page_38_Picture_0.jpeg)

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#### 🧯 ( 🖒 t. **ALS Chemex**

Aurora Laboratory Services Ltd. Analytical Chemists \* Geochemists \* Registered Assayers 212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 FAX: 604-984-0218

To: DISCOVERY CONSULTANTS

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P.O. BOX 933 VERNON, B.C. V1T 6M8

A0027766

Comments: ATTN: TOM CARPENTER

С	ERTIF	CATE A0027766				ANALYTICA	L PROCEDURES		
(BPI) - DI Project:	SCOVERY 945	CONSULTANTS	CHEMEX CODE	NUMBER SAMPLES		DESCRIPTION	METHOD	DETECTION LIMIT	upper Limit
P.O. #: Samples This rep	submitt port was	ed to our lab in Vancouver, BC. printed on 07-SEP-2000.	975 976 977	14 14 14	Au ppb: FA ICP Pt ppb: FA ICP Pd ppb: FA ICP	P package P package P package	FA-ICP FA-ICP FA-ICP	2 5 2	10000 10000 10000
	SAM	PLE PREPARATION							
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION							
205 226 3202	14 14 14	Geochem ring to approx 150 mesh 0-3 Kg crush and split Rock - save entire reject							

![](_page_39_Picture_0.jpeg)

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# ALS Chemex To: DISCOVERY CONSULTANTS

Aurora Laboratory Services Ltd. Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 FAX: 604-984-0218

P.O. BOX 933 VERNON, B.C. V1T 6M8

Project : 945 Comments: ATTN: TOM CARPENTER

Page Number :1 Total Pages :1 Certificate Date: 07-SEP-2000 Invoice No. :10027766 P.O. Number : Account BPI

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					 CERTIFIC	ATE OF A	NALYSIS	A00	27766	
SAMPLE	PREP CODE	Au ppb ICP	Pt ppb ICP	Pd ppb ICP						
PTR-001 PTR-002 PTR-003 PTR-004 PTR-005	205         226           205         226           205         226           205         226           205         226           205         226           205         226	404 42 6 330	10	88 4 14 4 70						
PTR-006 PTR-007 PTR-008 PTR-008A PTR-009	205 226 205 226 205 226 205 226 205 226 205 226	6 6 10 38 4	55 55 10 55 75 55	4 2 14 10 4						
PTR-010 PTR-011 PTR-012 PTR-013	205 226 205 226 205 226 205 226 205 226	10 4 16 6	5555 777	6 4 4 6						
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CERTIFICATION:

**#** i. Page Number :1 Total Pages :1 Certificate Date: 04-DEC-2000 Invoice No. :10034642 ALS Chemex To: DISCOVERY CONSULTANTS ## P.O. BOX 933 VERNON, B.C. V1T 6M8 Aurora Laboratory Services Ltd. Analytical Chemists \* Geochemists \* Registered Assayers P.O. Number : 212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 FAX: 604-984-0218 BPI Account Project : 945 Comments: ATTN: TOM CARPENTER A0034642 CERTIFICATE OF ANALYSIS Pt ppb Pđ ppb PREP Au ppb ICP ICP SAMPLE CODE ICP 205 226 205 226 205 226 205 226 205 226 205 226 40 PTR-014 < 2 20 38 PTR-015 4 25 < 2 < 5 < 2 PTR-016 46 < 2 10 PTR-017 < 2 4 < 5 PTR-018

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CERTIFICATION:

auc

![](_page_41_Picture_0.jpeg)

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Adjoins Map 1059A, "Vernon

PRELIMINARY SERIES

120°00'

#### GEOLOGICAL SURVEY OF CANADA DEPARTMENT OF MINES AND TECHNICAL SURVEYS

#### SHEET 82E (West Half)

15

119°00'

#### DESCRIPTIVE NOTES

This map shows a revision of the geology compiled on Map 538A by Cairnes<sup>5</sup> from field work done by himself and others. The writer spent a total of 5 months in 1958 and 1959 mainly on a study of the structure, but some of the stratigraphy was revised, particularly that of the Tertiary rocks. The plutonic rocks were subdivided on the same genetic basis as that established in the map-areas to the east  $^{7,8}$  , and several mineral properties were examined.

The Monashee Group (1)-regarded by Jones<sup>9</sup> as the oldest unit within the Shuswap terrane-consists mainly of layered gneiss, but locally contains zones of less-metamorphosed sedimentary rocks, particularly contains zones of ress-metamorphosed sedimentary rocks, particularly in Okanagan Valley. Rocks of the Chapperon Group (2) also regarded as part of the Shuswap terrane, occur only in the northwest corner of the map-area, and are intruded by serpentinite dykes of the Old Dave Intrusions (3).

The Kobau Group (4) which occurs northwest of Osoyoos, was regarded by Bostock<sup>2</sup> as older than the fossiliferous Blind Creek Formation (6) and also the Barslow, Independence, Shoemaker, and Old Tom Formations (8-11). In the western part of the map-area, near Hedley, the latter appear to underlie the Upper Triassic Nicola Group (12).

Rocks of the Cache Creek Group (5), which north of the map-area contain fossils of Permian age<sup>9</sup>, occur in the northern part of the map-area; where they are adjacent to the gneisses of the Measchee Group (1) the context are either foults or error. of the Monashee Group (1) the contacts are either faults or are not exposed.

The Anarchist Group (7), which occurs in the southeast-ern part of the map-area, cannot be distinguished with confidence from other formations that range in age from possibly Carboniferous to Upper Triassic. A few brachiopods of indeterminable age are the only fossils so far obtained from the Anarchist Group (7) within the map-area. Corals and pelecypods of Upper (?) Triassic age were collected near Phoenix, about 25 miles east of the map-area, but rocks of different age may be included. Rocks west of Peachland are questionably referred to

the Nicola Group (12) because they appear to be roughly continu-ous with similar rocks mapped as such by Rice<sup>6</sup>.

Basic and ultrabasic rocks of map-unit 14 are correlated with similar rocks to the east of the map-area that intrude Jurassic strata but are cut by dykes of Nelson rocks (15). The latter, and the Valhalla plutonic rocks (16), have been distinguished from one another largely on a lithological basis. Where the relationships could be observed within the map-area, the Valhalla is everywhere younger than the Nelson, but in Nelson

area<sup>7</sup> the contacts are commonly gradational. Map-unit 17, in the southeastern part of the map-area is known as the Kettle River Formation, in Beaverdell area as the Curry Creek Formation, and in the southwestern part as the Springbrook Formation. Although several collections of fossil plants have been made from this unit, a definite age has not yet been established.

Map-unit 18 occurs in Shingle Creek immediately south-west of Penticton and is apparently contemporaneous with part of unit 17.

In the southeastern part of the area, map-unit 19 is composed almost entirely of volcanic rocks; it was named "Midway Volcanic Group" by Daly. On Map 6-1957 it was erro-neously called Phoenix Group when the name "Midway" was discarded because of prior use. In the western part of the maparea unit 19 has been subdivided into a basal volcanic sub-unit (19a, Marron Formation), a middle sedimentary sub-unit (19b, White Lake Formation), and an upper, unnamed volcanic and, near White Lake, sedimentary sub-unit3.

The Coryell plutonic rocks (20), consisting mainly of sygnite and granite, have, since the publication of Map 6-1957, been shown to cut the volcanic rocks of map-unit 18 within that map-area

Basalt (map-unit 21), which commonly shows columnar structure, occurs in various parts of the area but is most abund-ant in the plateau between Beaverdell and Mission Creeks, and eventuations is flat light. In the reliance out between the forker everywhere is flat lying. In the railway cut between the forks of Klo Creek, the lava is underlain by 30 to 40 feet of unconsoli-dated sediments that appear to be unfossiliferous. Throughout the Monashee Group (1), lineations are

predominantly east-west, as is the case in Vernon map-area to the north<sup>9</sup>. Along Okanagan Valley a chain of zig-zag faults separates this unit from the late Palaeozoic and early Mesozoic rocks to the west. Some of these faults are, however, assumed. So far as can be determined the faults dip steeply and are presumed to be normal, although most of the displacement may be strike slip. In either case the displacement must be large. Intense shearing was observed also in the valleys of Peachland and Joe Rich Grocks and in the unnamed sreek immediately south of Belgo Creek. A fault of undetermined magnitude underlies Conkle Lake and strikes along the valley of upper Conkle Creek.

Primary structures other than bedding are rarely preserved in the sedimentary rocks, thus the structural data obtained was insufficient to delineate folds within the map-area, other than those indicated by Bostock's more detailed mapping In the 1890's, mining activity centred in Fairview and McKinney camps but later shifted to Beaverdell where the Highland-Bell mine, which produces mainly silver, is the most important in the map-area. Other properties on which mining or exploration has been done in recent years are indicated on the map.

![](_page_41_Figure_18.jpeg)

TRIASSIC OR JURASSIC 13 Limestone

LEGEND

TERTIARY

20

19

TRIASSIC

8-11

4

2

Geological boundary (defined, approximate)
Bedding (horizontal, inclined)
Bedding, tops unknown (inclined, vertical)
Gneissosity (inclined, vertical)
Schistosity (inclined, vertical)
Fault (defined, approximate, assumed)
Lineation
Glacial striae
Fossil locality $\ldots \ldots \square$
Mineral property.

3 Cariboo-Amelia (H & W Mining Company Limited) Au 4 Belchrome (Belair Mining Corporation Limited) Cr 5 Highland-Bell (Highland-Bell Limited) Ag-Pb-Zn-Cd 6 Bounty Fraction (Sheritt Lee Mines Limited) Ag-Pb-Zn

Cadmium Cd	Lead Pb
Chromium	Molybdenum Mo
Copper	Silica sc
GoldAu	Silver Ag
Zinc	Zn

Main roads
Other roads (all weather, dry weather).
Trail
Railway
Abandoned railway
Building
Post Office
Power transmission line
International boundary and boundary marker
District boundary
Indian Reserve, provincial park and forest boundary
Horizontal control point
Intermittent stream
Marsh
Contours (interval 500 feet)
Height in feet above mean sea-level

Revisions to roads etc. by the Geological Survey of Canada from maps published by the Department of Lands and Forests, British Columbia

For further details regarding the geology of this and adjoining areas the reader is referred to the following selected publications:

- <sup>1</sup>Reinecke, L.: Ore Deposits of the Beaverdell Map-area; Geol. Surv., Canada, Mem. 79 (1915). <sup>2</sup> Bostock, H.S.: Keremeos, B.C.; Geol. Surv., Canada,
- Map 341A (1940).
- <sup>3</sup>Bostock, H.S.: Okanagan Falls, B.C.; Geol. Surv., Canada, Map 627 A (1941). <sup>4</sup>Bostock, H.S.: Olalla, B.C.; Geol. Surv., Canada, Map 628A
- (1941).
- <sup>5</sup>Cairnes, C.E.: Kettle River (West Half), B.C.; Geol. Surv., Canada, Map 538A (1940)
- 6 Rice, H. M. A .: Geology and Mineral Deposits of the Princeton Map-area, British Columbia; Geol. Surv., Canada,
- Mem. 243 (1947). <sup>7</sup>Little, H.W.: Nelson (West Half), B.C.; Geol. Surv., Canada, Map 3-1956 (1957).
- <sup>8</sup>Little, H.W.: Kettle River (East Half), B.C.; Geol. Surv., Canada, Map 6-1957 (1957).
- Jones, A.G.: Vernon Map-area, British Columbia; Geol. Surv., Canada, Mem. 296 (1959).

![](_page_41_Figure_103.jpeg)

MAP 15-1961	V
KETTLE RIVER	2
BRITISH COLUMB	A
SHEET 82 E (West Ha	alf)

FIGURE 2

![](_page_42_Figure_0.jpeg)

UTM Zone II

Latest Plan No.:

Elevations in metres above Mean Sea Level.

### LEGEND Transportation Trail/Cutline/Seismic line Landmark features Building, to scale, symbolized . . . . . . . . . - · '/////// Built up area Drainage and related features Coastline/River/Stream, definite . . . . . . River/Stream, intermittent \_\_\_\_\_ $\sim$ Lake, definite $\sim$ Lake, indefinite Dyke ..... -----Flooded land Swamp/Marsh ..... Beaver dam Dock/Whart/Pier. symbolized . . . . . . . . . . . = 206 Relief features Contour, index, definite Contour, intermediate, definite Contour, intermediate, indefinite Contour, intermediate, depression Vegetation Wooded area Control data Control point, horizotal, permanently marked A 86HI234 Control point, vertical, permanently marked · 86HA456 Cadastral Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land Rights-of-way: District lot/Township section/Indian reserve . Mineral claim/Coal or Phosphate licence . Rights-of-way, transportation \_\_\_\_\_ 1/4 section/Foreshore lot/Subdivision/ Cadastral tie $\odot$

For complete reference to symbols, see "Specifications and Guidelines for Digital Baseline Mapping at 1:20 000" published by the Ministry of Crown Lands.

## Notes

Digital data and additional copies of this map are available through MAPS-BC, Surveys and Resource Mapping Branch. Ministry of Crown Lands, Parliament Buildings, Victoria B.C. V8V IX4

PTS - Stream Sediment/Pan Concentrate Site. Au Pt Ppbppb Pd Ppb. - Analytical Walues - Airborne Magnetic Anomaly Approximate Mean Declination 1992

for Centre of Map Decreasing 8.3' Annually

82E.022	825.023	826.024
82E.032	82E.033	82E.034
82E.042	82E.043	82E.044

British Columbia Geographic System.

FIGURE 10

This map was produced in 1992, for the B.C. Ministry of Crown Lands. under its Terrain Resource Information Management (TRIM) initiative. by the Digital Mapping Group Limited (DMG), from 1:65000 scale aerial photography flown in September, 1988.

![](_page_42_Picture_17.jpeg)

![](_page_43_Figure_0.jpeg)

![](_page_43_Picture_1.jpeg)

LEGEND
Transportation
Road, poved . Road, gravel Road, sravel Road, sough . Trail/Cutline/Seismic line Railway, single drack Railway, double track Railway, multiple track Railway, abandoned Wall, reteining Cut/Fill Bridge, to scale, symbolized Tunnel, to scale, symbolized
Landmark features
Fonce Transmission line
Drainage and related features
Coostline/River/Stream, definite Coostline/River/Stream, indefinite River/Stream, intermittent River/Stream, split
Leke, detinite
Loke, Indefinite
Dyke Flooded lond Swamp/Marsh
Dock/Whart/Pier, symbolized
Island, symbolized + Water layel = 200 Relief Teatures
Contaur, Todex: definite Contaur, intermediate, definite Contaur, intermediate, indefinite Contaur, intermediate, depression Spot height
Vegetation Wooded area
Control data
Control point, herizolai, permanently marked
Cadastral
Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land Rights-of-way:
Township
UISHINGT 100/1 100/101/101/101/101/101/101/101/1
Bisherodi Science
Trights-tol-wey, transportation
Rights-of-way, utilites
Cadestral tie
For complete reference to symbols, see "Specifications and Guidelines for Digital Baseline Mapping at 1:20 000" published by the Ministry of Environment, Lands, and Parks.

![](_page_43_Figure_6.jpeg)

Digital data and additional copies of this map are available through MAPS-BC, Surveys and Resource Mapping Branch, Ministry of Environment, Lands, and Parks, Parliament Buildings, Victoria B.C. V8V 1X4.

![](_page_43_Figure_8.jpeg)

This map was produced in 1994, for the B.C. Ministry of Environment, Lands & Parks, Surveys & Resource Mapping Branch, under It's Terrain Resource Information Management Initiative, from 1,70000 scale aerial photography Nown in September, 1988. 00-40

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![](_page_43_Picture_10.jpeg)

![](_page_44_Figure_0.jpeg)

![](_page_44_Picture_1.jpeg)

# LEGEND

Road, paved	
	******
Road, gravel	
Trail/Cutline/Seismic line	
Railway, single track	
Railway, double track Railway, multiple track	
Railway, abandoned	
Wall, retaining	
Bridge, to scale, symbolized	==== -¥- ⇒=€ -}{-
Landmark features	57 .
bunding, to scale, symbolized	1/////
Built up area	11/////
Transmission line	
Decisere and colored features	
Drainage and related teatures	
Coastline/River/Stream, definite	
River/Stream, intermittent	$\rightarrow$
River/Stream, spill	$\sim$
Lake, definite	$\sim$
Lake, indefinite	
Dyke	
Flooded land	
Swamp/Marsh	委 秦
Beaver dam	TTTT
Dock/Whart/Mer, symbolized	- +
Water level	± 206
Relief Teatures	
Contour, index, definite	200
Contour, intermediate, indefinite	~~~
Contour, intermediate, depression	492.
Spor height	432
Vegetation	
Wooded area	()
Control data	
Control point, horizotal, permanently marked	А вені234
Control point, vertical, permanently marked	• 86HA456
Cadastral	
Cadastral Surveys of Federal and Provincial Crown Land	
Cadastral Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land	
Cadastral Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land Rights-of-way: Township	
Cadastral Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land Rights-of-way: Township	
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Cadastral         Surveys of Federal and Provincial Crown Land         Sub-division of Provincial Crown Land         Rights-ot-way:         Township         District lat/Township section/Indian reserve         Mineral claim/Coal or Phosphate licence         Rights-ot-way, transportation         1/4 section/Foreshore lat/Subdivision/         Rights-ot-way, utilities         Cadastral tie         For complete reterence to symbols, see "Specification Digital Baseline Mapping at 1:20 000" published Crown Lands.         Notes         Digital data and additional copies of this map are MAPS-BC, Surveys and Resource Mapping Branch, Lands, Parliament Buildings, Victoria B.C. VBV 124         OPTS - Stream Sediment / Pan Co         Arefore       Analytical Ualues - Pan Granch         Analytical Magnetic Ano	tions and Guidelines ed by the Ministry of Ministry of Crown A Acentvate Concentvates maly
Cadastral Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land Rights-ot-way: Township	tions and Guidelines ed by the Ministry of Ministry of Crown A Acentrate Concentrates maly
Cadastral Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land Rights-ot-way: Township . District lot/Township section/Indian reserve . Mineral claim/Coal or Phosphate licence . Rights-ot-way, transportation . 1/4 section/Foreshore lot/Subdivision/ Rights-ot-way, utilites . Cadastral tie . For complete reterence to symbols, see "Specification tor Digital Baseline Mapping at 1:20 000" published Crown Lands. Notes . Digital data and additional copies of this map ar MAPS-BC, Surveys and Resource Mapping Branch, Lands, Parliament Buildings, Victoria B.C. VBV IX: PTS - Stream Sectiment / Pan Co Amplete - Analytical Values - Pan for the provided of the	tions and Guidelines ed by the Ministry of Ministry of Crown A Acentvate Concentvates maly
Cadastral         Surveys of Federal and Provincial Crown Land         Sub-division of Provincial Crown Land         Rights-of-way:         Township         District lot/Township section/Indian reserve         Mineral claim/Coal or Phosphate licence         Rights-of-way, transportation         1/4 section/Foreshore lot/Subdivision/         Rights-of-way, utilities         Cadastral tie         For complete reference to symbols, see "Specification Digital Baseline Mapping at 1:20 000" published         Crown Lands.         Notes         Digital data and additional copies of this map ar         MAPS-BC, Surveys and Resource Mapping Branch,         Lands, Partiament Buildings, Victoria B.C. VBV IX         PTS - Stream Sediment / Pan Co         Artippes	tions and Guidelines ad by the Ministry of Ministry of Crown A Accentrate Concentrates maly 1992

82E.052	82E.053	82E.054
82E.042	82E.043	82E.044
82E.032	82E.033	82E.034

FIGURE 12

This map was produced in 1992, for the B.C. Ministry of Crown Lands, under its Terrain Resource Information Management (TRIM) initiative, by the Digital Mapping Group Limited (DMG), from 1:80000 scale aerial photography flown in September, 1988

![](_page_44_Picture_14.jpeg)

![](_page_45_Figure_0.jpeg)

# LEGEND

Transportation	
Road, paved	· Charles of the last last have been seen
Road, gravel	sector of the se
Trail/Cutline/Seismic line	
Railway, single track	
Railway, aduble track	
Railway, abandoned	<del></del>
Wall, retaining	
Bridge, to scale, symbolized	
Tunnel, to scale, symbolized	
Landmark features	
Building to scale symbolized	57 .
Bullang, lo acute, symbolized	111111
Built up area	///////
Fence	
Tower	8
Drainage and related features	
Coastline/River/Stream, definite	
Coastline/River/Stream, indefinite	
River/Stream, split	
Lake, definite	$\sim$
Lake, indefinite	$\sim$
Dvke	
Elonded land	
Swamp/Marsh	<b>王</b> 承
Beaver dam	XXXX
Dock/Wharf/Pier, symbolized	$\sim$
Island, symbolized	+
	- 200
Relief features	
Contour, index, definite	200-
Contour, intermediate, definite	$\sim$
Contour, intermediate, indefinite	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Spot height	492 •
Vegetation	
Wedded area	$\square$
Control data	
Control point, horizotal, permanently marked	A 86HI234
Control point, vertical, permanently marked	⊙ 86HA456
Cadastral	
Surveys of Federal and Provincial Crown Land	
Sub-division of Provincial Crown Land	
Rights-ot-way:	
District lot/lownship section/indian reserve	
Mineral claim/Coal or Phosphate licence	
Rights-of-way, transportation	
1/4 section/Foreshore lot/Subdivision/ Rights-of-way, utilites	
Cadastral tie	$\diamond$
For complete reference to symbols, see "Specifica	tions and Guidelines
for Digital Baseline Mapping at 1:20000" publishe	d by the Ministry of
Environment, Lands, and Parks.	

### Notes

Digital data and additional copies of this map are available through MAPS-BC, Surveys and Resource Mapping Branch, Ministry of Environment, Lands, and Parks, Parliament Buildings, Victoria B.C. V8V IX4.

@PTS - Stream Sediment / Pan Concentrate. Aulpt ppb/ppb - Analytical Values-Pan Concentrates ppb -Airborne Magnetic Anomaly

![](_page_45_Figure_9.jpeg)

Approximate Mean Declination 1994 for Centre of Map Decreasing 8.5' Annuatly

	1	1
82E.053	82E.054	82E.055
82E.043	82E.044	62E.045
82E.033	82E.034	82E.036
022.000		

Adjoining Sheet Index in the British Columbia Geographic System

### FIGURE 13

This map was produced in 1994, for the B.C. Ministry of Environment, Lands & Parks, Surveys & Resource Mapping Branch, under it's Terrain Resource Information Management initiative, from 1:70000 scale aerial photography flown in September, 1988.

![](_page_45_Picture_15.jpeg)

![](_page_46_Figure_0.jpeg)

UTM Zone II

Latest Plan No.: Date: SCALE 1:20 000 200 0 200 400 600 800 1000 1200 1400 METRES

Contour Interval 20 metres. Elevations in metres above Mean Sea Level.

DEM

CADASTRAL

	LEGEND
Transportation	
Road, paved	
Landmark feature Building, to scale, symbolize Built up area Fence	es d
Transmission line Tower	
Drainage and rel Coastline/River/Stream, defin Coastline/River/Stream, inder River/Stream, intermittent	ated features
Lake, definite	$\sim$
Lake, Indefinite	$\sim$
Dyke	
Swamp/Marsh Beaver dam Dock/Wharf/Pier, symbolized Island, symbolized Water level	
Relief features	
Contour, index, definite Contour, intermediate, defini Contour, intermediate, indefi Contour, intermediate, depre Spot height	te
Vegetation	
Wooded area	·····
Control data Control point, horizotal, perm Control point, vertical, perm	manently marked $\triangle$ 86H anently marked $\bigcirc$ 86H
Cadastral Surveys of Federal and Prov Sub-division of Provincial Cr Rights-of-way: Township	incial Crown Land rown Land
District lot/Township section. Mineral claim/Coal or Phose	/Indian reserve
Rights-of-way, transportation	
I/4 section/Foreshore lot/S Rights-of-way, utilites Cadastral tie	ubdivision/

For complete reference to symbols, see "Specifications and Guidelines for Digital Baseline Mapping at 1:20 000" published by the Ministry of Environment, Lands, and Parks.

# Notes

![](_page_46_Figure_10.jpeg)

Adjoining Sheet Index in the British Columbia Geographic System.

FIGURE 14

This map was produced in 1994, for the B.C. Ministry of Environment, Lands & Parks, Surveys & Resource Mapping Branch, under it's Terrain Resource Information Management initiative, from 1:70000 scale aerial photography flown in September, 1988.

![](_page_46_Picture_14.jpeg)

![](_page_47_Figure_0.jpeg)

## LEGEND

Transportation	
Road, paved	
Landmark features	
Building, to scale, symbolized	
Built up area   Image: Strategy of the strategy of the	
Drainage and related features	
Coastline/River/Stream, definite	
Lake, definite	
Lake, indefinite	
Dyke	ŝ
Flooded land	
Relief features	
Contour, index, definite	
Vegetation	
Wooded area	
Control data	
Control point, horizotal, permanently marked 🛆 86H1234 Control point, vertical, permanently marked Oe6HA456	
Cadastral	
Surveys of Federal and Provincial Crown Land Sub-division of Provincial Crown Land Rights-of-way:	
Township	ĺ.
District lot/Township section/Indian reserve	
Mineral claim/Coal or Phosphate licence	
Rights-of-way, transportation	
I/4 section/Foreshore lot/Subdivision/ Rights-of-way, utilites	

Cadastral tie  $\Diamond$ 

For complete reference to symbols, see "Specifications and Guidelines for Digital Baseline Mapping at 1:20 000" published by the Ministry of Environment, Lands, and Parks.

### Notes

![](_page_47_Figure_6.jpeg)

Resource Information Management Initiative, from 1:70 000 scale aerial photography flown in September, 1988. 00-40

![](_page_47_Picture_8.jpeg)

![](_page_48_Figure_0.jpeg)

![](_page_48_Figure_6.jpeg)

Not	les
-----	-----

![](_page_48_Figure_8.jpeg)

Lands & Parks, Surveys & Resource Mapping Branch, under it's Terrain Resource Information Management initiative, from 1:70000 scale aerial photography flown in September, 1988. 00-40(8

![](_page_48_Picture_10.jpeg)