

Legend

- Ch - Chinook Salmon
- Cm - Chum Salmon
- Co - Coho Salmon
- Pk - Pink Salmon
- Sk - Sockeye Salmon
- St - Steelhead Trout
- Ct - Cutthroat Trout
- DV - Dolly Varden Char
- MW - Mountain Whitefish
- Rb - Rainbow Trout
- ⊥ Barrier to Fish Passage

PROPOSED

B.C. HYDRO KITIMAT - SKEENA 287 kV TRANSMISSION LINE

ENVIRONMENTAL AND LAND USE ASSESSMENT OF ROUTE ALTERNATIVES

MAP THEME: Fisheries

— Route Alternative

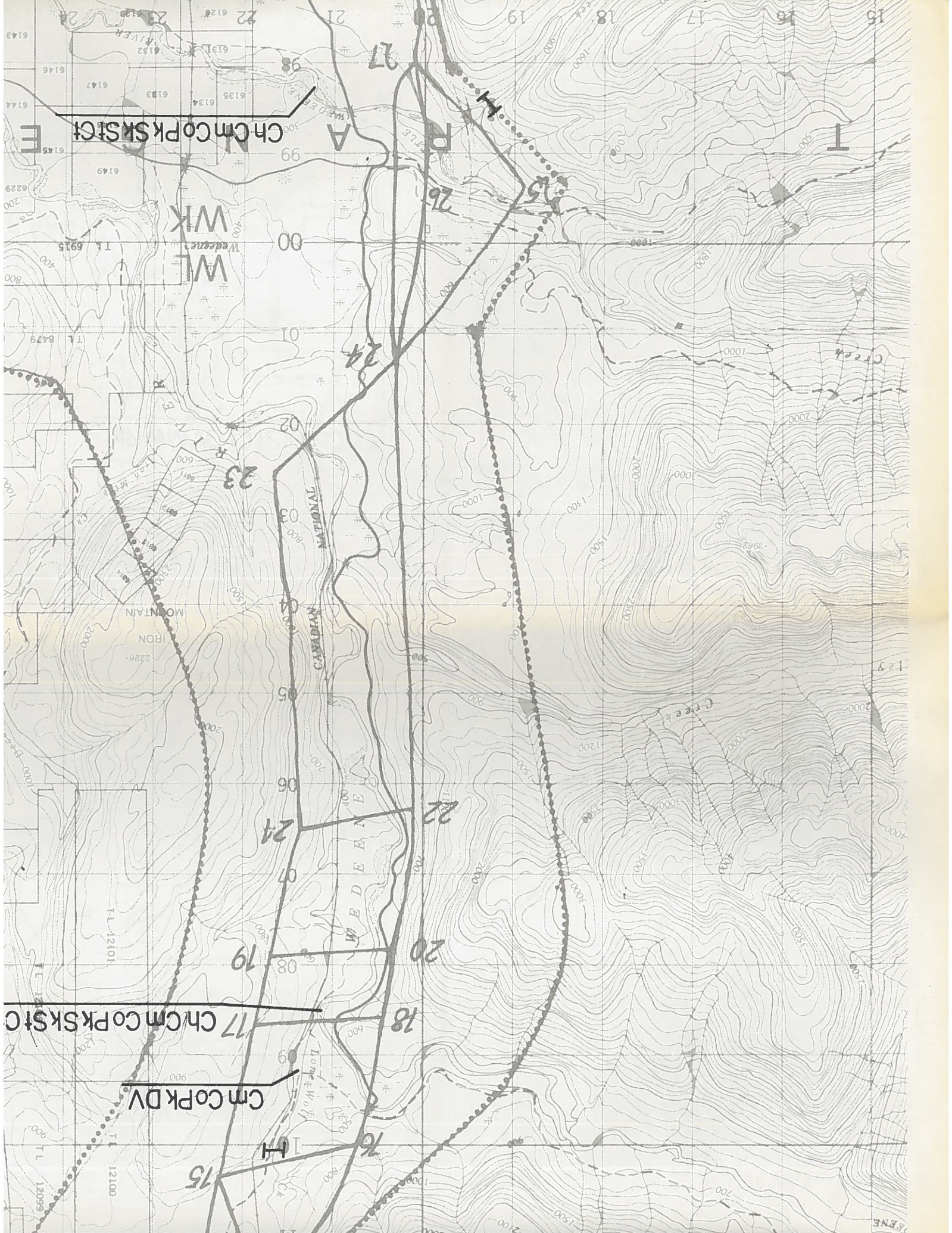
8

Route Node

Map Scale 1:50,000



..... Study Boundary



CHM COPK SKSSTO

W.L. WK
W.L. WK

CM COPK DV

T.L. 12101
T.L. 12099

CANADIAN TUNDRA

WEDBENE

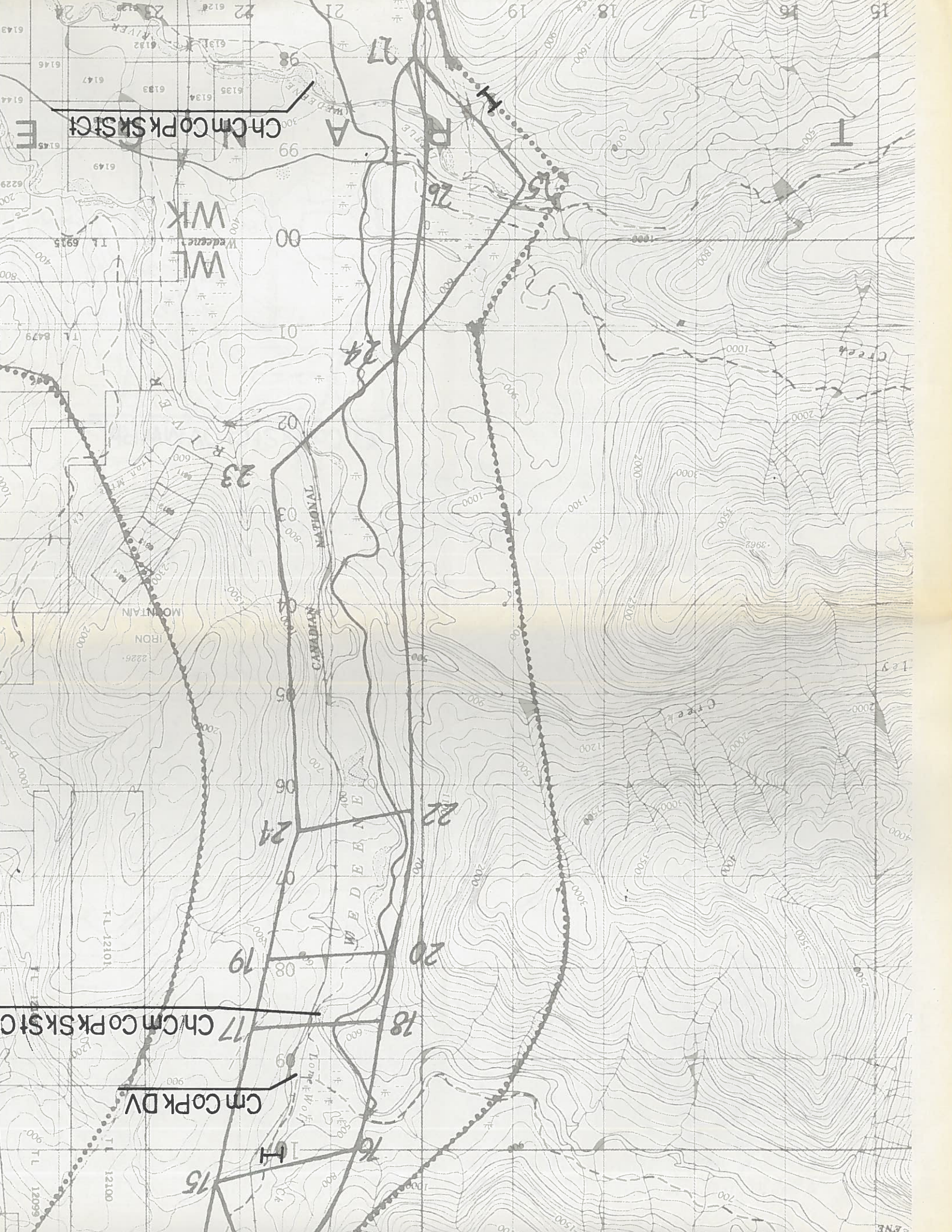
IRON MOUNTAIN
2226

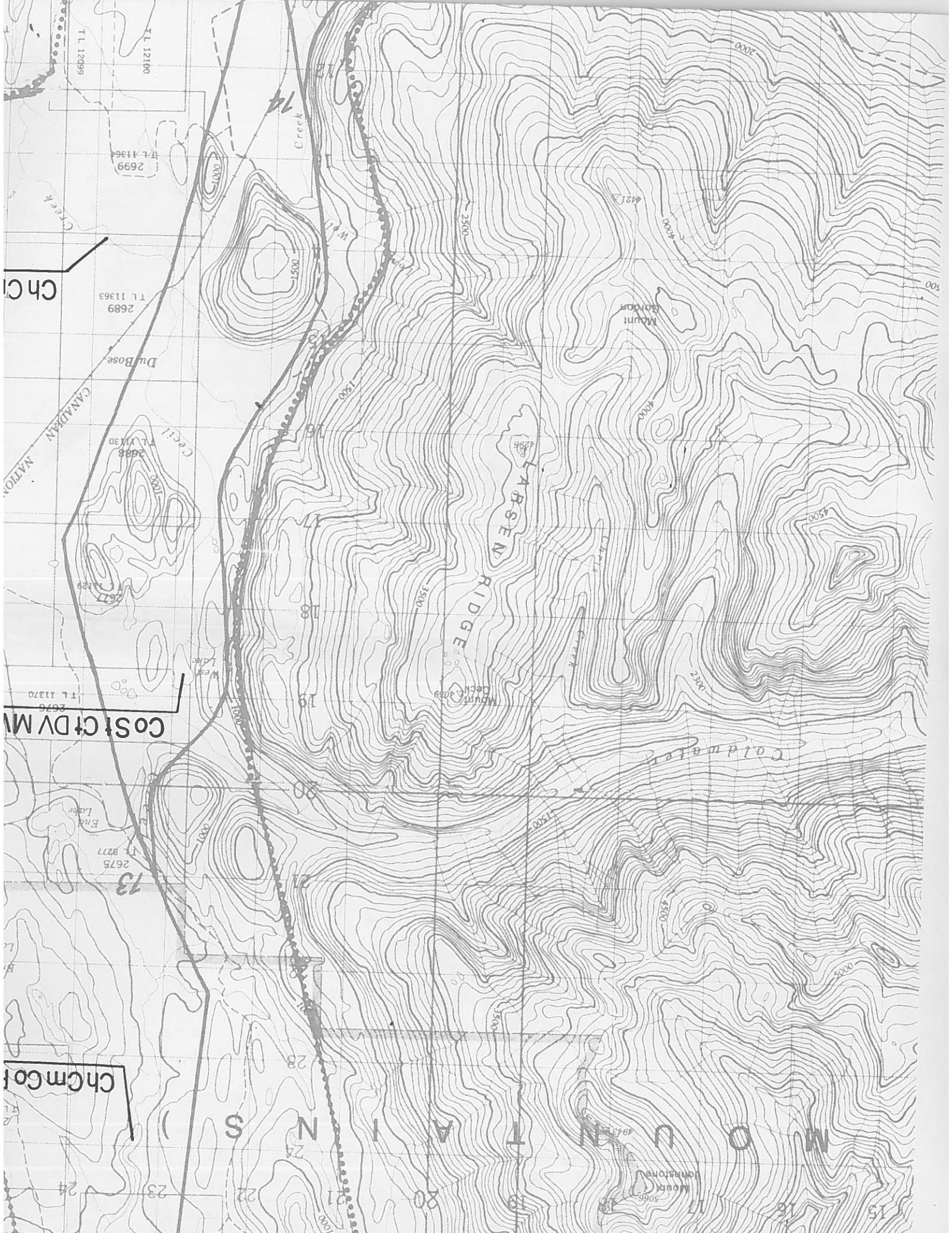
T

Creek

Creek

ENE





Chci

COST CITY

Chmcof

24 23 22 21 20 19 18 17 16 15

MUNICIPALITY

CANADIAN NATIONAL

DuBose

Cecil

Creek

11

13

2675 2677 2670 2676

2688 2699 2699

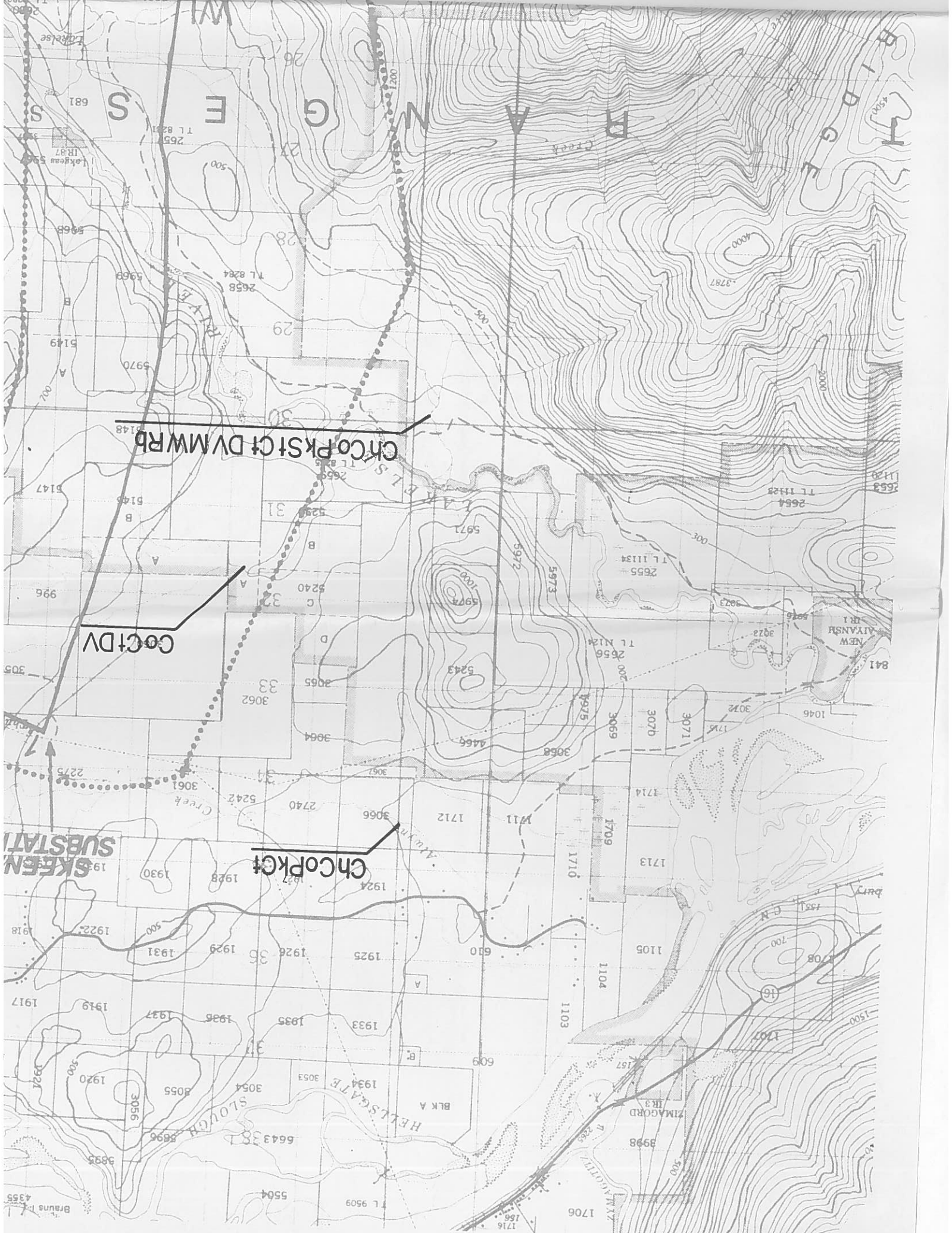
2689 2699

2699 2699

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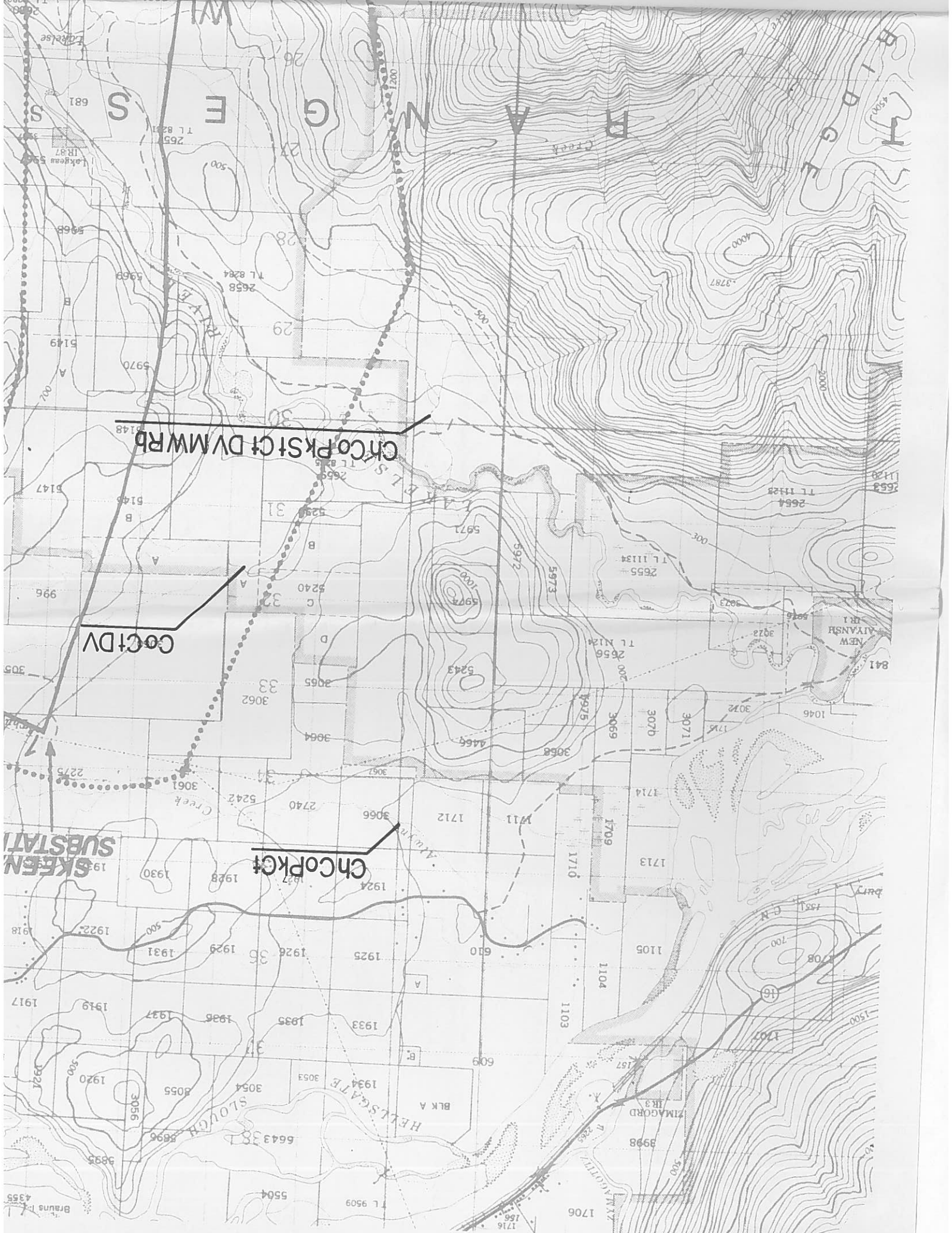


Chcokkct DVMWRB

CocitDV

Chcokkct

SKEEN SUBSTATION



KITIMAT VALLEY MOOSE SURVEY

January 11, 1990

A 2.3 hour helicopter survey was conducted in the Kitimat Valley on January 11, 1990. The Northern Mountain Helicopter pilot was Ian Swan, observers were: Grant Hazelwood, Don Norstrom and Ken Hoffman. The weather was a high overcast sky with winds gusting to 30 km/hr. The temperature was 1 degree Celsius.

Conditions on the ground were less than optimum for the survey. Only a skiff of snow was present from the past 24 hours. In wetlands there was no snow and no ice on water surfaces. Tracks were hard to see unless they had melted out to bare ground. Almost all moose were lying down when encountered. The full moon, of the previous night, may have allowed nocturnal feeding under cooling temperature.

Since the survey was part of the BC Hydro evaluation of possible routes for another power line from Terrace to Kitimat, all emphasis for the two hours allotted was directed on or adjacent to these corridors. Thus, known moose areas such as the South end of Lakelse Lake were not examined. The Lower Lakelse River and Thunderbird areas were also omitted due to time constraints.

There was a total of twenty-three moose recorded: 4 bulls, 15 cows and 4 calves. The ratio of 1 to 4 bulls to cows probably reflects the selectivity of local hunters and MOE managers to harvest males. All animals appeared healthy with the exception of one male calf with hairless front shoulders; possibly because of a tick infection. He was very thin and angular. The calf ratios in the population are low; about half of what they should be at 21 per 100 cows. Caution should be used with these survey results; due to the low numbers involved.

Similarly, the sightability and coverage, distribution, due to the lack of snow, areas left unsurveyed and efficiency of observers leads to a rating of 40% for the surveyed areas. It is estimated that there is at present a moose population of between 50 and 85 animals in the Kitimat Valley. This is a professional guesstimate; based on 20 years of aerial survey experience.

Tracks of predators were observed, one track of four to six wolves was seen on the Little Wedeene River flats. Other wolf tracks were seen on the Kitimat River. Coyote and fox tracks were numerous in almost all riparian areas but the Wedeene - Little Wedeene floodplain was especially tracked up.

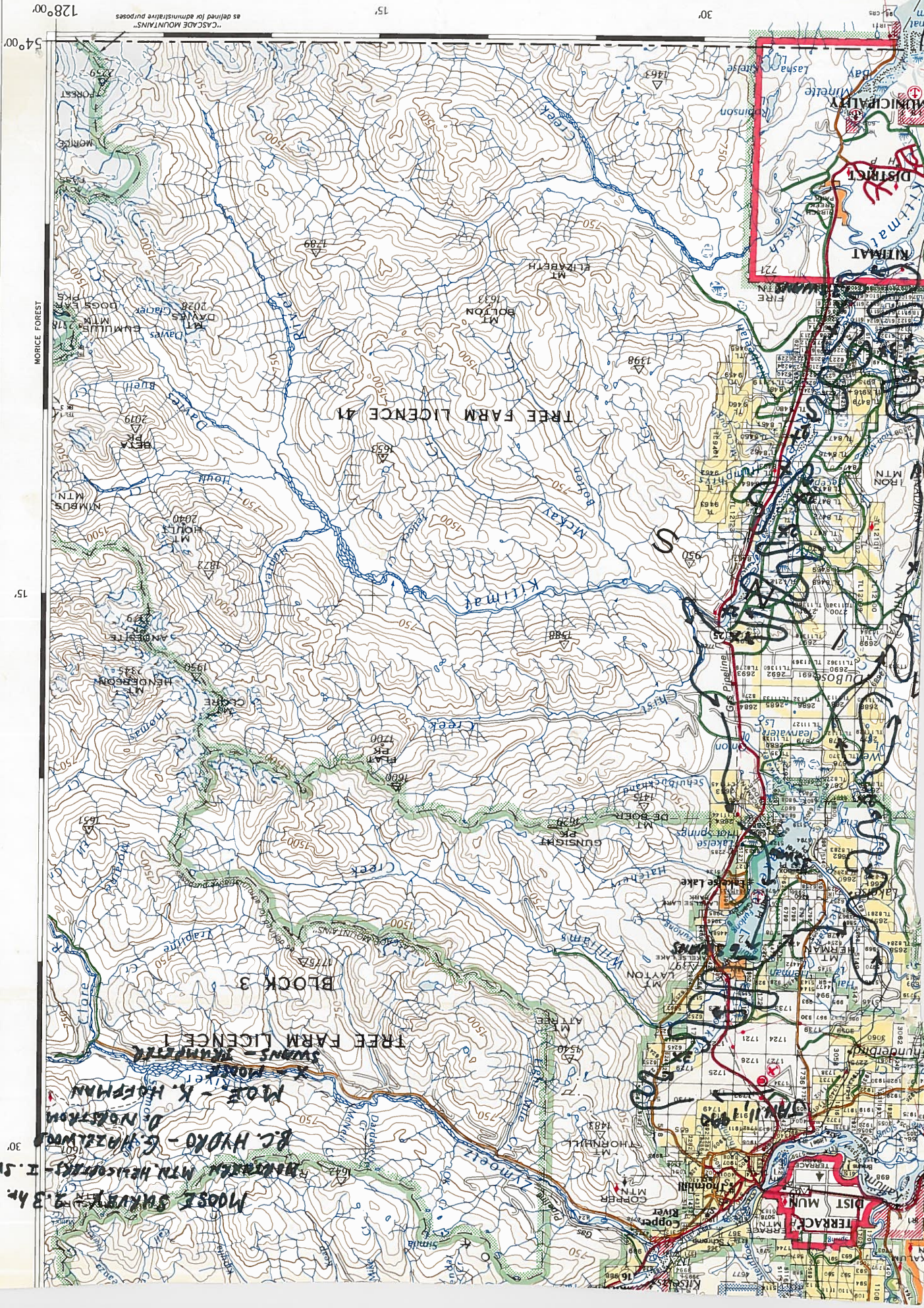
Swans were seen on Lakelse Lake as well as the Kitimat River near Goose Creek. There is no freeze up to hinder their activities in this exceptionally warm winter, so far. Mallard flocks were seen in Sockeye Creek as well. Only three eagles were observed during the flight and two Ravens.

Three Bald Eagles - one immature

Two Ravens

Tracks of four to six Wolves - Little Wedeene River

Numerous Fox and Coyote tracks along Kitimat River - west side



MOOSE SUKUTEN 2.3 hr
MORICE Mtn. Headwaters - I. SWAN
R.C. HYDRO - G. HAZELWOOD
D. MORTON
MOE - K. HOFFMAN
SWIMS - KILMAT
BLOCK 3
TREE FARM LICENCE #1

128°00'

54°00'

"CASCADIA MOUNTAINS"
as defined for administrative purposes

15

30

15

MORICE FOREST

KITIMAT VALLEY MOOSE SURVEY

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Conclusions resulting from this survey are that there is a sparse population of moose wintering in the Valley. The regeneration on many of the cutover areas is allowing utilization during low snow winters; such as this one. Cottonwood stands along the Kitimat floodplain are likely critical for harsh, heavy snow winters. Wet areas such as Goose Creek and West of the Kitimat River near Cecil Creek are of use as wintering areas only when the water freezes over in cold winter periods. Old trails indicate heavy Spring calving and Summer use potential. An estimated 50 to 85 moose form the resident population; at this time. Increasing forest regeneration should result in an increasing moose population in the future.

W. B. Hazelwood

WG Hazelwood,
RP Bio
Alpenglow Resources



File: 77.08

May 9, 1990

Policy and Planning Branch
Ministry of Environment
Parliament Buildings
Victoria, B.C.
V8V 1X5

Attention: W. Patrick Shera, Senior Coordinator

Re: Skeena to Kitimat 287 kV Transmission Line Proposal (B.C.Hydro)

Following review of the consultants' environmental reports and a B.C. Hydro - Interagency field assessment on 19 April 1990 (see attached notes), we are now in a better position to evaluate the route options. The following statements were presented verbally to B.C. Hydro on 20 April, 1990 after discussions with Brian Fuhr and yourself:

The Fish and Wildlife Branch position regarding route selection is, in order of preference,

1. Route A with double circuiting on existing R/W, i.e. no widening of the existing R/W.
2. Route A with double circuiting/steel tower/site specific pole placements at the most sensitive sites and use of mitigative measures to keep any additional R/W expansion to a minimum.
3. Route B with double circuiting on new R/W, i.e. abandon existing east R/W (Route A) and locate both transmission lines on the new R/W.
4. Route B with modifications to the proposed alignment and use of mitigative measures.

In previous correspondence we indicated a preference for Route B. However, at that time the consultant reports were not available and the options explored by the consultants did not consider the opportunities for mitigation, for example the possibility of double circuiting and/or use of steel towers at sensitive sites. The interagency on-site with B.C. Hydro was extremely productive and it became apparent that some important mitigative opportunities could be considered in evaluating Route A. Unfortunately, the completed fisheries and wildlife consultant's report favours Route B over Route A but the evaluation was based on the following statement "The proposed routes and alternate locations within those routes were rated for sensitivity with respect to fish and wildlife values. These ratings considered the importance of the resource and severity of damage that could result from the transmission line in the absence of mitigation." (Page 21, G. Hazelwood report but my

KITIMAT/SKEENA 287 kV TRANSMISSION LINE PROJECT

Discussion points and action items regarding B.C. Hydro - Interagency field assessment held 19 April 1990.

In Attendance:

B.C. Hydro:

Gary Barnett
Mark Walmsley
Barry Anderson

Ministry of Forests:

Herb Quast
John Parish *Parish*

Fish and Wildlife Branch:

Kathy Stuart

Fisheries and Oceans Canada:

Uriah Orr
John Hipp

1. F/W requires double circuit using existing R.O.W. from structure 33/6 to 31/6 (Hwy. 37 crossing to ~~mile~~ ^{Node} 7) consisting of Sockeye/Williams Creek floodplains.
As few structures as possible are requested in this area.
2. MOF desires double circuit from 34/2 to 33/6 due to visual concerns; this is the scarp coming down to Sockeye/Williams Creek.
3. Summer construction on Sockeye/Williams Creek is acceptable with F/W.
4. Access to sites on Sockeye/Williams Creek is satisfactory with all - terrain vehicles and removable pads from 31/6 to 32/2.
5. F/W will require site specific construction details over all of Sockeye/Williams Creek area.
6. F/W will require detailed wetland mapping/assessment to determine stream flow patterns prior to construction in Sockeye/Williams Creek area.