Surt Inlet
888329
Schmetz

Province of British Columbia

MEMORANDUM

TO:
MURRAY McCLAREN, 689 9931
T.R.M. ENGINEERING LTD, SUITE 701, 744 W. HASTINGS
VANCOUVER BC V6C 1A5

FROM:
G.F. COX, DAM SAFETY ENGINEER
WATER MANAGEMENT BRANCH, 765 BROUGHTON ST
VICTORIA BC V8V 1X5

SUBJECT: COUGAR LAKE DAM 0270545

DATE: MARCH 12 1986

☐ For Your Information ☐ Please O.K. and Return ☐ Please Discuss With Me ☐ Per Your Request ☐ For Your Signature
☐ Please Process ☐ Return With More Details ☐ Investigate and Report ☐ Please Answer ☐ For Your File

Fold Here for Window Envelope

As requested in our telephone conversation yesterday, I am enclosing a copy of our latest Dam Inspection Report covering the above-named dam. I have included copies of the photos taken, as well, although they do not copy well. I hope you find this information useful.

REPLY:

T

GF Cox P Eng
Dam Safety Engineer

Fold Here for Window Envelope

WRITE YOUR REPLY AND RETURN THIS SHEET

DAM INSPECTION REPORT

D-630004
Nov. 28, 1985

Cougar Lake Dam

Inspection Date: September 5, 1985

Inspected By: R. J. Bugslag, G. D. Smith, W. Jolley

Cougar Lake Dam is owned by the Surf Inlet Power Company Ltd. The dam was constructed in 1916 to provide power for mining and ore treatment. Creation of the reservoir also provided a means of transportation for removal of the ore from the mill site. The dam is an Ambursen type slab and buttress structure designed to pass heavy floods. The spillway design capacity is 25,000 cubic feet per second. Gate chambers for two six foot diameter penstocks were provided near the dams right abutment, however, only one penstock was ever installed. Power was last produced at the site in 1952. The power house has since been dismantled and all equipment including the generators and turbines have been removed. The company has continued to pay their licence fees even though the site has been abandoned for the last 33 years.

Because of the low hazard presented by this dam the frequency of inspection has been reduced to once every four years. At the time of the inspection the reservoir level was approximately 1 meter below the spillway sill. This is the first time that the downstream buttresses were all accessible for inspection, and not obscured by spillway flows.

The concrete in the dam appeared to be sound with only localized freeze thaw damage. This deterioration was particularly noticeable on the transition buttress (see photo) adjacent to the spillway near the right abutment. This has occurred where the surface of the concrete is continually subjected to changing moisture conditions. Other localized areas of erosion are evident on the dam where segregation of large aggregate occurred during the original construction. This damage does not affect the structural integrity of the dam.

The spillway crest was inspected and found to be in fair condition. Although the reservoir has large stands of drowned timber and concentrations of floating material the crest was relatively free of any debris build-up.

. . . 2

At the time of the inspection the only flows by-passing the dam were through the log-chute near the left abutment and through the penstock opening near the right abutment. The wood stave portion of the penstock has collapsed and the steel portion is flowing at about 20% of capacity.

An inspection was undertaken of the approximately 600' of rock channel directly downstream of the dam leading to Surf Inlet. Some recent interest has been expressed by fishermen in the Prince Rupert area to remove the dam and "restore" the salmon fishery in the river system. The inspection confirmed the presence of a 20' high cliff in the river channel below the dam (see photographs) which would prevent any salmon run into the system. A letter from the Chief Inspector of Fisheries dated April 17, 1916, was located and confirms these findings (letter attached). The rock in the downstream channel was found to be substantial and no scour or erosion was evident in the downstream area.

Recommendations

Overall the dam appears to be in reasonable condition and given its low hazard and isolated location no action is necessary at this time, however a letter should be forwarded to the owner with a copy of this report stating their continuing responsibility for the structure. They should also be made aware of certain conditions at the site such as dilapidated wharf facilities and lack of safety features on the dam (stairs and handrails) that could be questioned in terms of company liability.

R.J.Bugslag
Dam Inspection Officer

PROVINCIAL FISHERIES DEPARTMENT.

VICTORIA B.C. March 20, 1916.

MEMO. FOR THE COMPTROLLER OF WATER RIGHTS.

With reference to your letter of the 14th inst. dealing with the application of the Surf Inlet Power Company, I beg to state that I quite agree with you that it would be of little avail to compel the company to construct a water right at the point mentioned.

Yours faithfully,

Deputy Commissioner of Fisheries.

35679

DOMINION FISHERIES. BRITISH COLUMBIA.

OFFICE OF THE CHIEF INSPECTOR.

NEW WESTMINSTER. 17th. April, 1916.

/DAM

Refer to File 34.

re DAM, SURF INLET.

Sir:

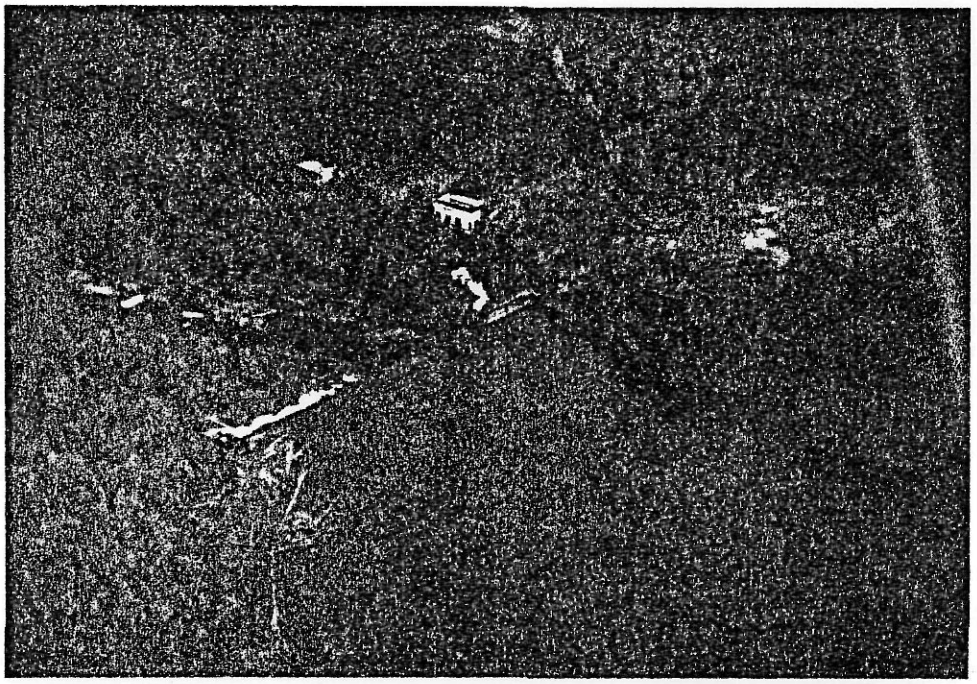
I beg to acknowledge receipt of your letter of the 14th. ult. regarding a dam being built on a stream flowing into Surf Inlet, by the Surf Inlet Company. I have taken this matter up with the Department, and on taking into consideration conditions as they exist in this stream, especially the fact as stated in your letter, that there are two distinct falls below the proposed dam, which salmon are unable to negotiate, and that no salmon have ever been found above these falls, they agree with my opinion that it is unnecessary, at the present time, to have this company install a fish ladder at this point.

Yours truly,

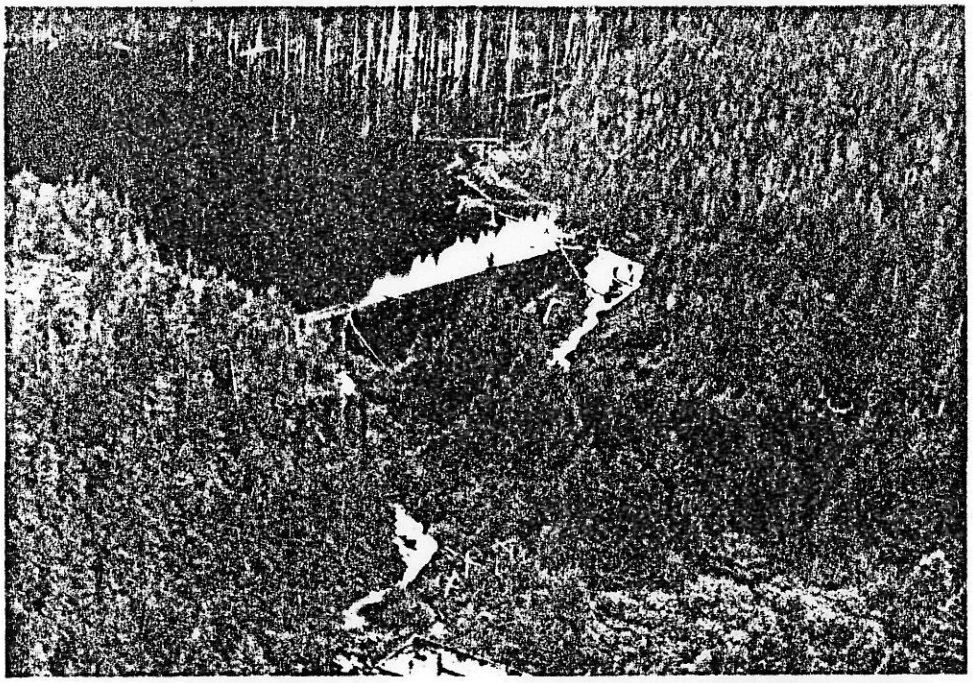
W. Cunningham.

Chief Inspector of Fisheries.

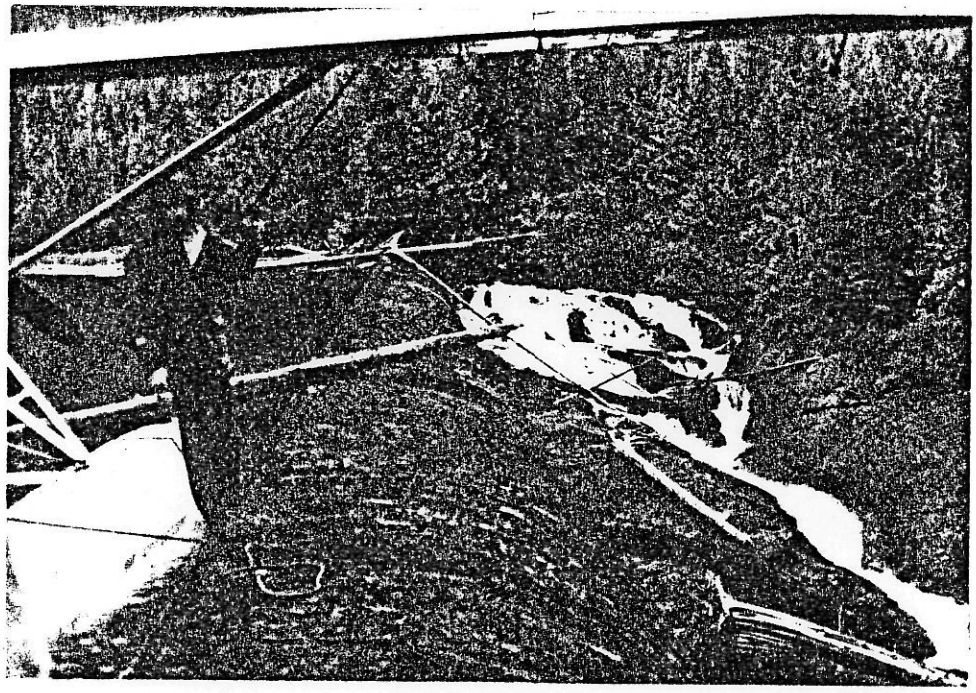
H. Young, Esq.,
Comptroller of Water Rights,
VICTORIA, B. C.



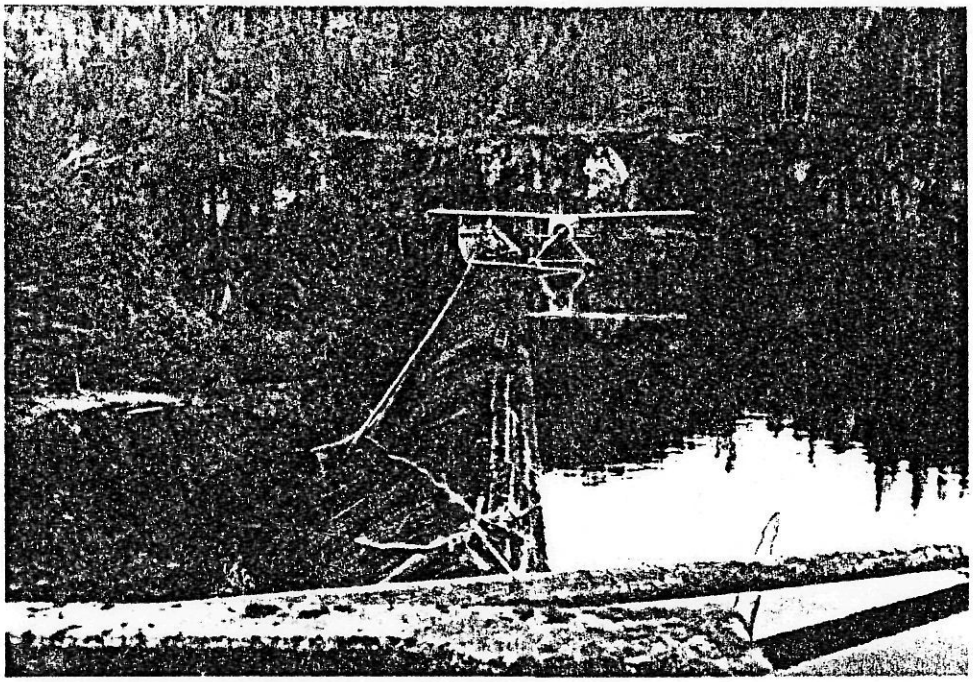
Upstream face of the dam with the powerhouse and Surf Inlet in the background.



Downstream face of the dam viewed from the air. Flow on the right abutment originates through a broken penstock. flow on the left abutment is through the log chute.



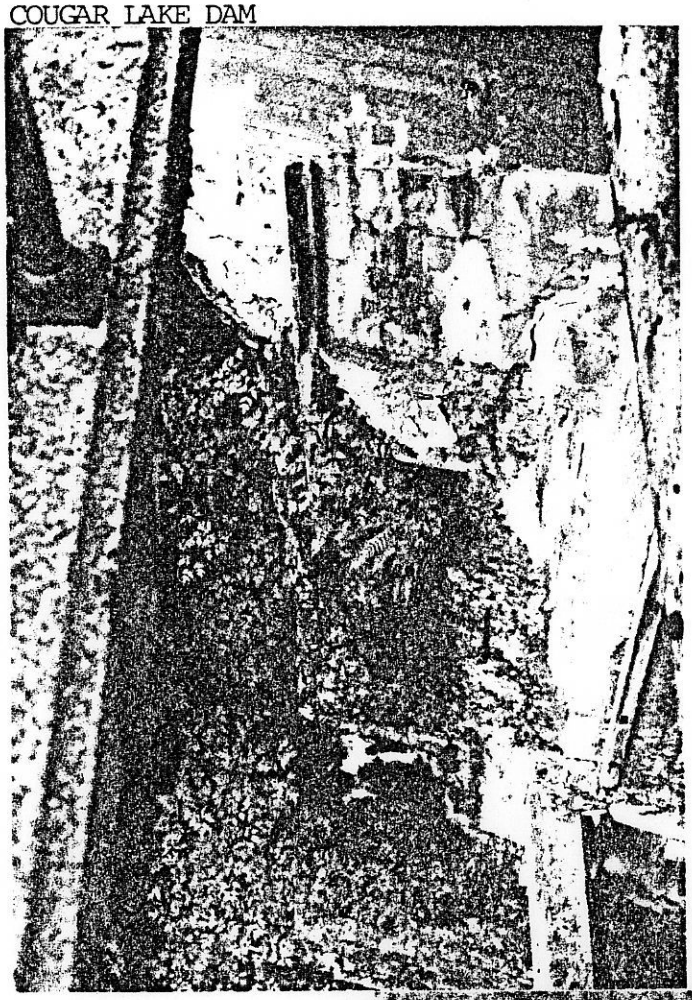
Spillway crest viewed from the right abutment. Left abutment flow through the log chute.



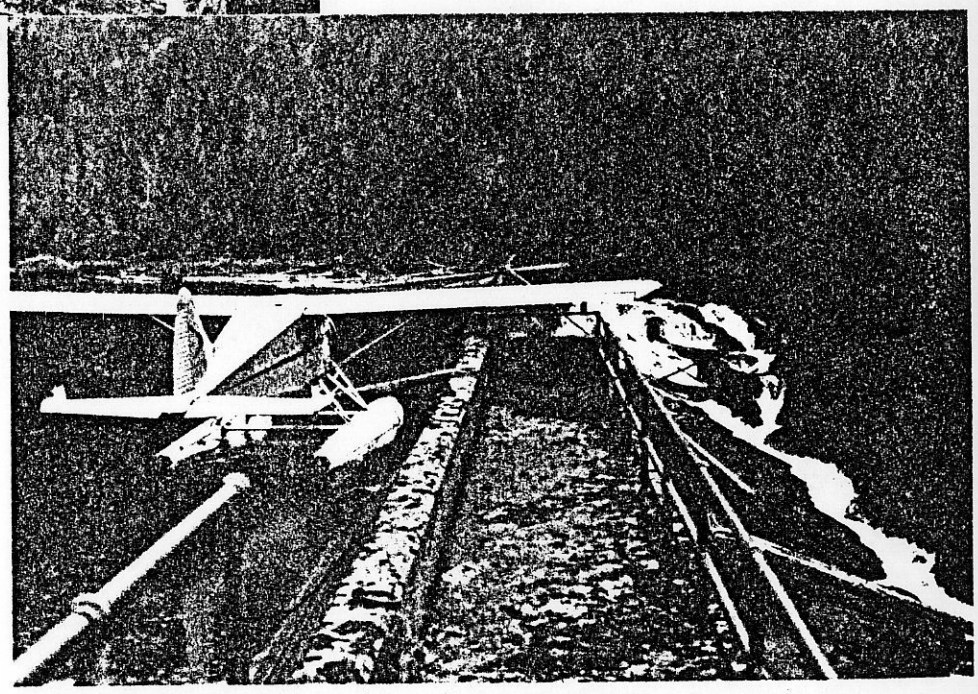
Dam crest viewed from the left abutment. Note: The large rock formation at the downstream toe would prevent any flow going along the right abutment in the event the dam was removed.

COUGAR LAKE DAM

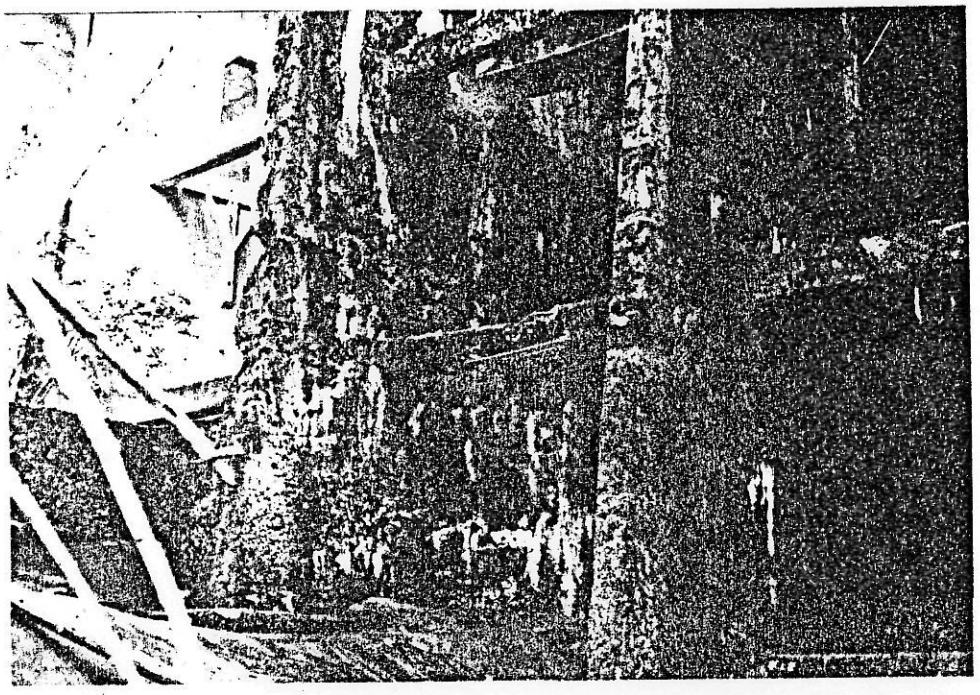
September 5, 1985



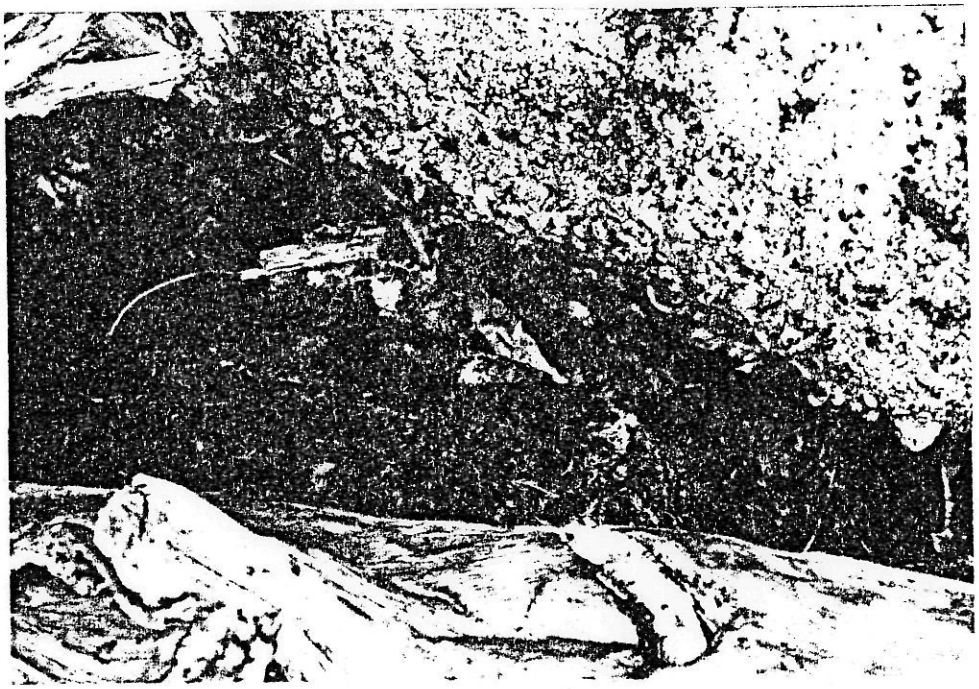
Concrete deterioration of buttresses on right abutment near penstock outlets.



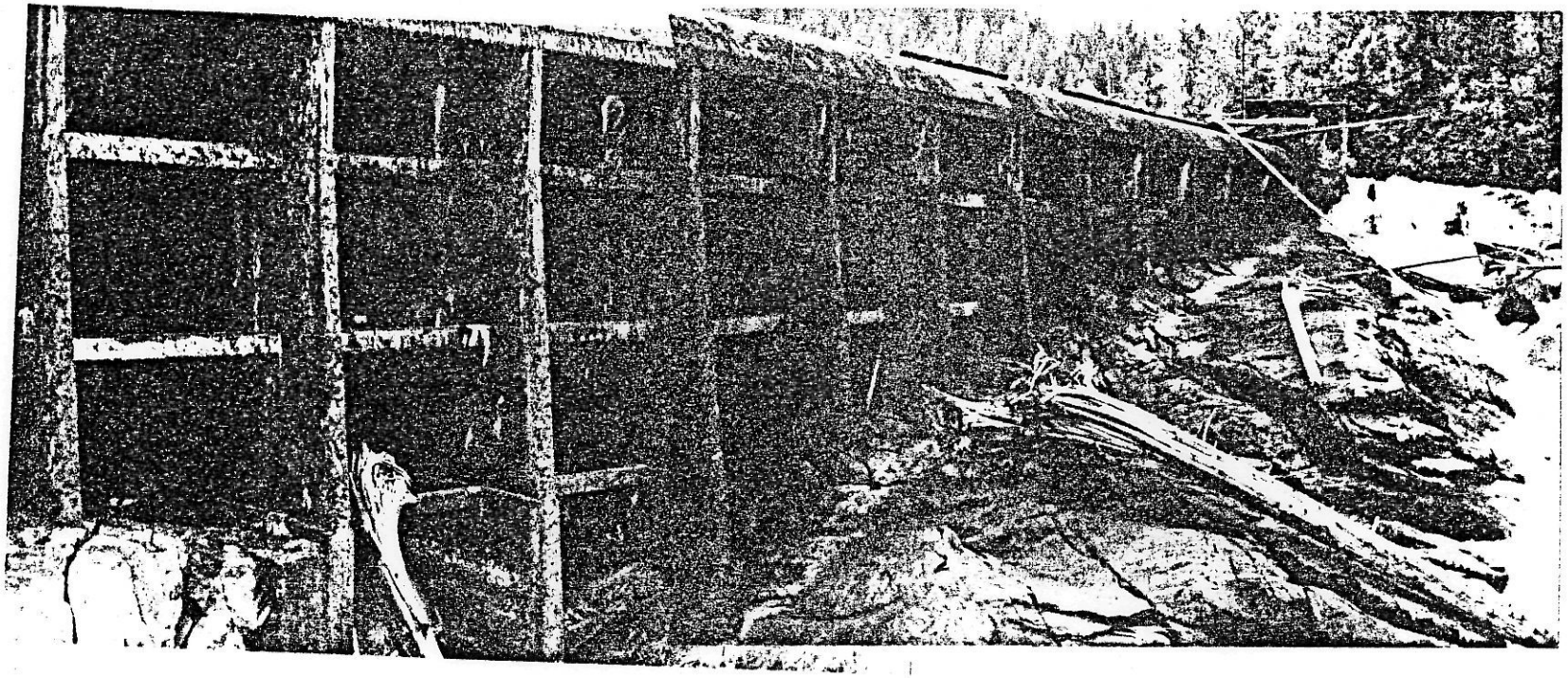
Float plane moored to upstream face of dam near right abutment.



Deterioration of lateral support beam and more severe freeze-thaw damage in the transition area between wet and dry areas located near the right abutment.

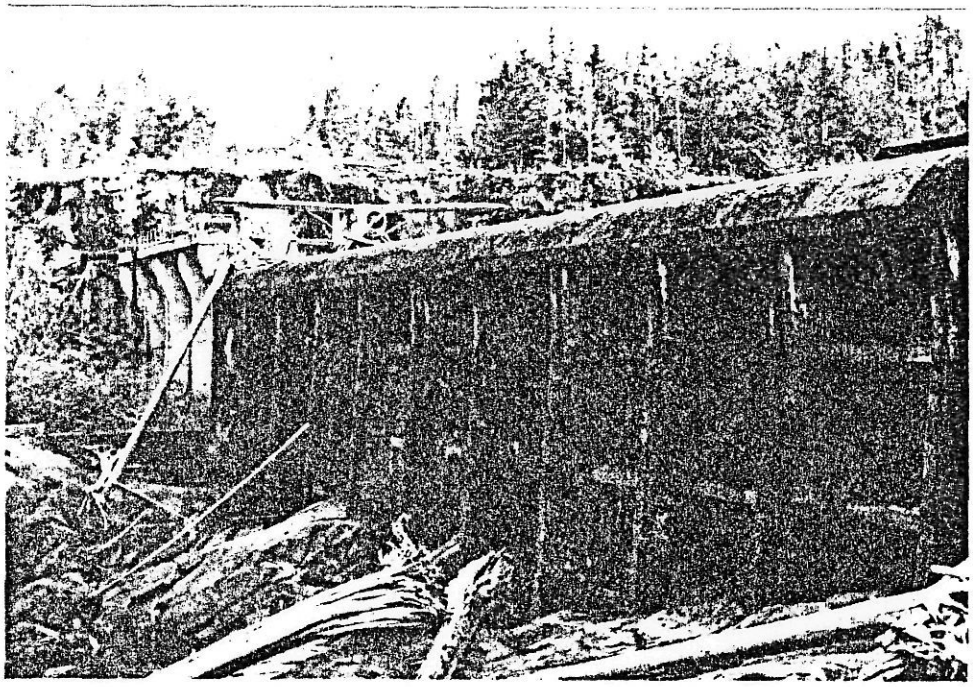


Concrete deterioration at the interface of the ogee spillway crest at the right abutment. Note: deterioration extends 8-10" into the concrete exposing reinforcing steel.

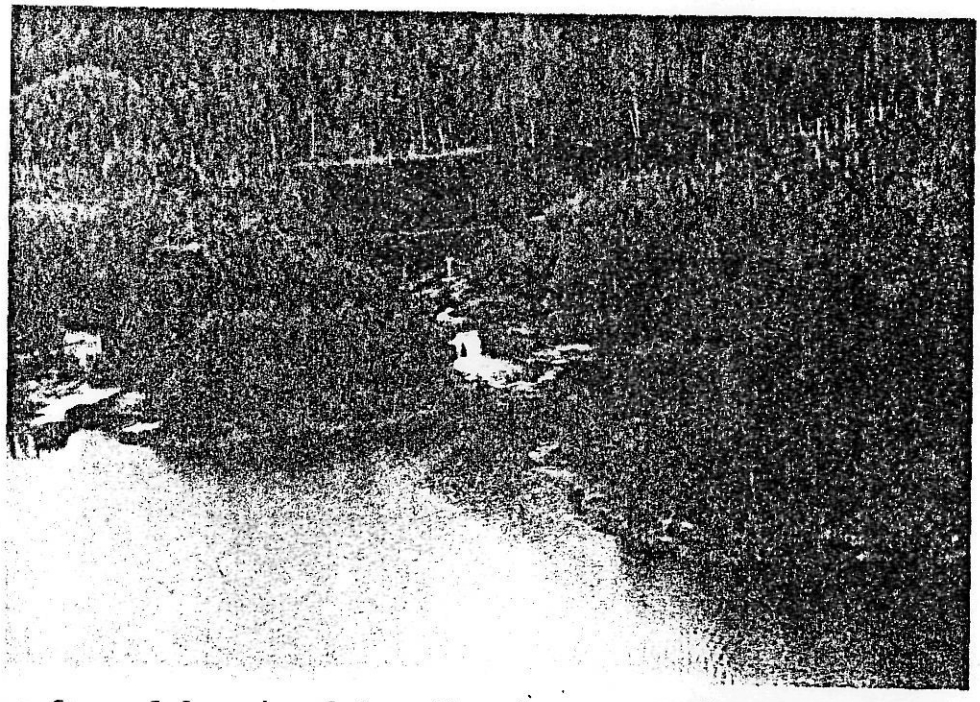


COUGAR LAKE DAM September 5, 1985

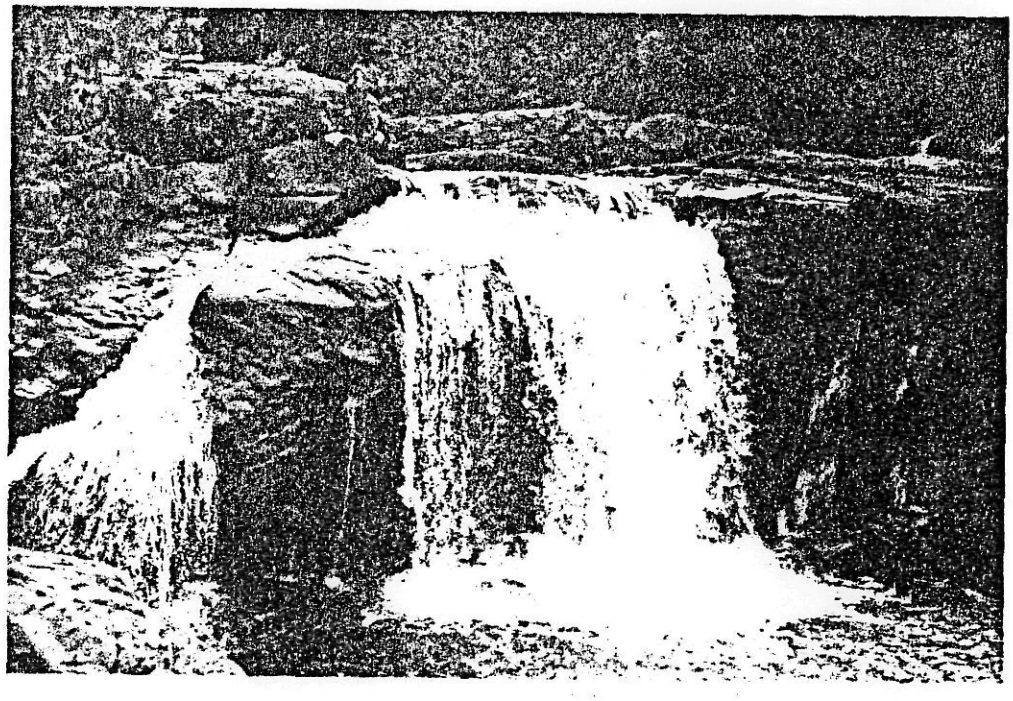
Buttresses from the dam's maximum section to the left abutment. Concrete in the area showing only minimul signs of freeze-thaw deterioration.



View of buttresses from downstream on the left abutment.



Downstream face of dam viewed from the air over Surf Inlet. The falls are located in the original river channel. (see close-up).



Close-up of falls downstream of dam. Note: falls height (24') relative to the height of inspector standing on the rock at the left.

FLEET DEVELOPMENTS LTD.
#701 - 744 West Hastings Street
Vancouver, British Columbia
V6C 1A5

April 8, 1986

Mr. Andrew MacKay
Area Engineer
Whonnock Industries Limited
P.O. Box 49114
1055 Dunsmuir Street
Vancouver, British Columbia
V7X 1H7

Dear Mr. MacKay:

Thank you for your recent letter expressing Whonnock Industries Ltd.'s interest in a cooperative approach to the development of Surf Inlet. Fleet Developments Ltd. recognizes that the construction of a road from Surf Inlet to Paradise Creek is an item of prime significance for the development of mining in that area.

I have undertaken preliminary inquiries with government officials in both the mining and forestry ministries in regards to a 'Section 88' submittal. It appears that such a submittal would best be directed to specific officials in both ministries. The submittal may take the form of a single proposal set out by Whonnock Industries Ltd. This submittal should include a letter from Fleet Developments Ltd. expressing the benefit of road access to the development of mining in the Paradise Creek area. I believe this to be the easiest and perhaps most expedient approach to use.

An alternative form of submittal is a proposal jointly presented by Whonnock Industries Ltd. and Fleet Developments Ltd. The contents of this proposal would integratate Whonnock's and Fleet Development's development information.

I suggest that representatives from Whonnock and Fleet should meet to discuss the following items:

...2

1. Proposal concepts; contents and timing.

2. Identification of recipients of proposal and of those persons to be responsible in steering proposal to governmental approval.

3. Financial arrangements that may be utilized.

4. The longer term commitments of both companies to the development of Surf Inlet and the other projects that lend themselves to a cooperative approach.

It would be appropriate to have the company representatives meet soon and I would appreciate hearing from you in order to set a date.

Yours truly,

FLEET DEVELOPMENTS LTD.

M. McClaren

MM/cm

Enclosure

75whop

SURF INLET

Re: Road Access to Paradise Creek

Forestry - Lead Agency

LOCATION	NAME	TITLE	PHONE NO.
Prince Rupert	Gary Ward	District Manager	627-0460
	Don Thompson	Operations Supt.	627-0460
Smithers	Ken Ingram	Regional Manager	847-7545
Victoria	Wes Cheston	Asst. Deputy Minister	387-3901
	Cym Williams	Engineering	387-5024

Mines - Supporting Agency

Smithers	Victor Pakalnis	Mines Inspector	
	Tom Schroeter (or David Lefebure)	District Geologist	
Victoria	Lorne Sivertson	Asst. Deputy Minister	387-6242
	John Brenner	Res. Roads	387-3781
	Carl Ritchie	Man. Res. Dev.	387-5024
	John Gammon	FAME Program	