

Jim Furlong

To: furlongj@telus.net
Subject: cotton slide

Observations in the field

- water from the East end of the block drains down the rutted road surface and drains into cmp # 3 the most eastern cmp
- surface water from the block is also directed down the ditch and ends up at cmp # 3
- Water in cmp # 3 was going to ground and some was resurfacing at the 800 m elevation
- Water from cmp # is hard to follow and is disrupted at 800m by an old skid trail
- cmp # 2 runs in the correct draw
- cmp # 3 runs in the correct draw
- The hillside between Morgan and cotton is trailed extensively from past logging and are not deactivated.
- The trails are about 35 meters apart
- there is a large gravelly flat above the head wall of the slide

Possible mitigation to reduce runoff flow

- Culvert Morgan road in at least two sites and also water barr road surface when not being used
- Issues
- If a cmp is to be put into an existing draw on Morgan road , then the draw or gully must be cleaned or proofed to allow water to stay in the gully. The issue being that the old trails were never cross ditched at the gullies and water would now be allowed to disperse over the entire hillside.
- A small excavator could do this work or in some spots a small work crew could start a cross ditch by hand, although hard work , it may be a better option in a few sites.

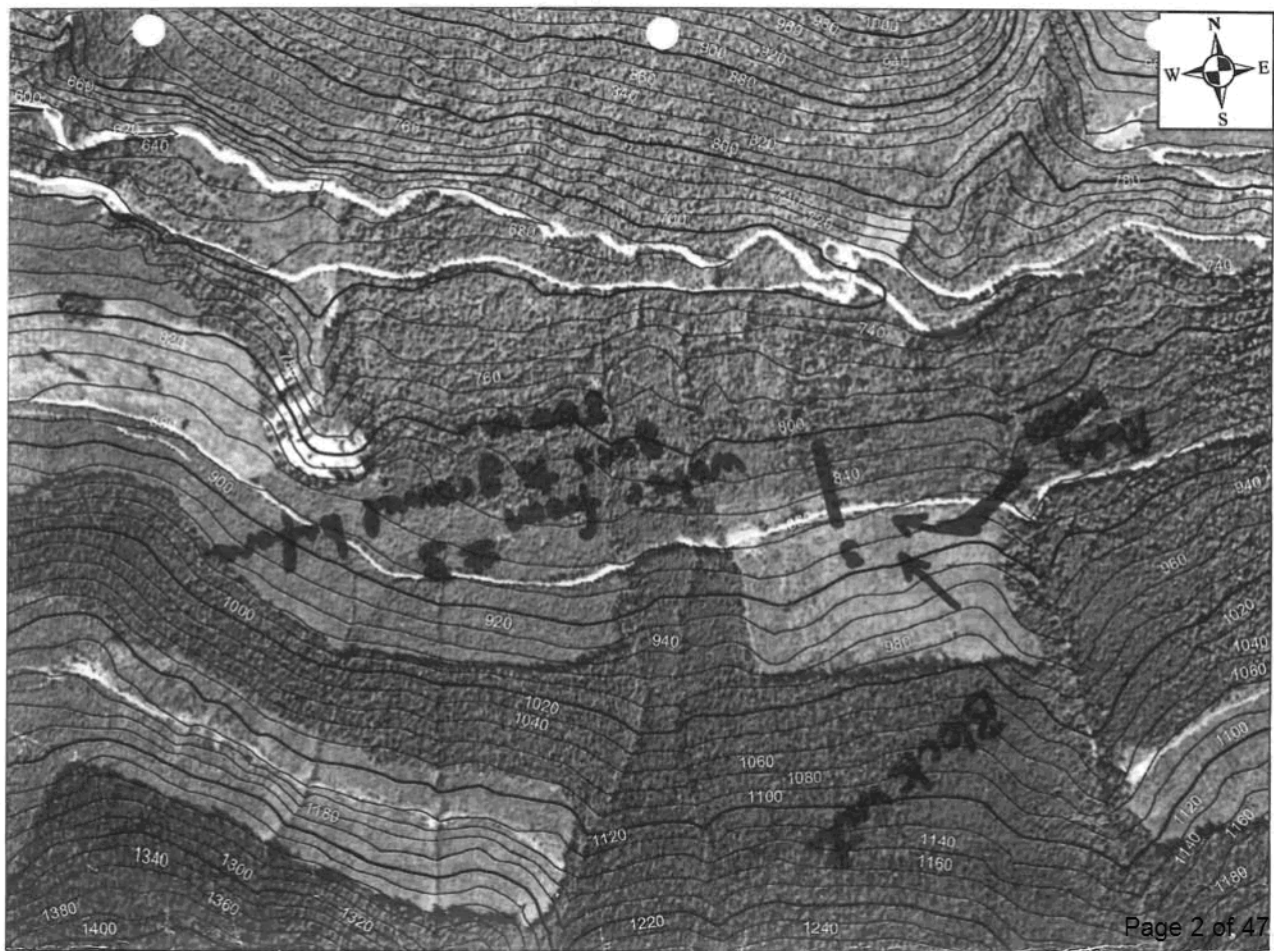
Further work required

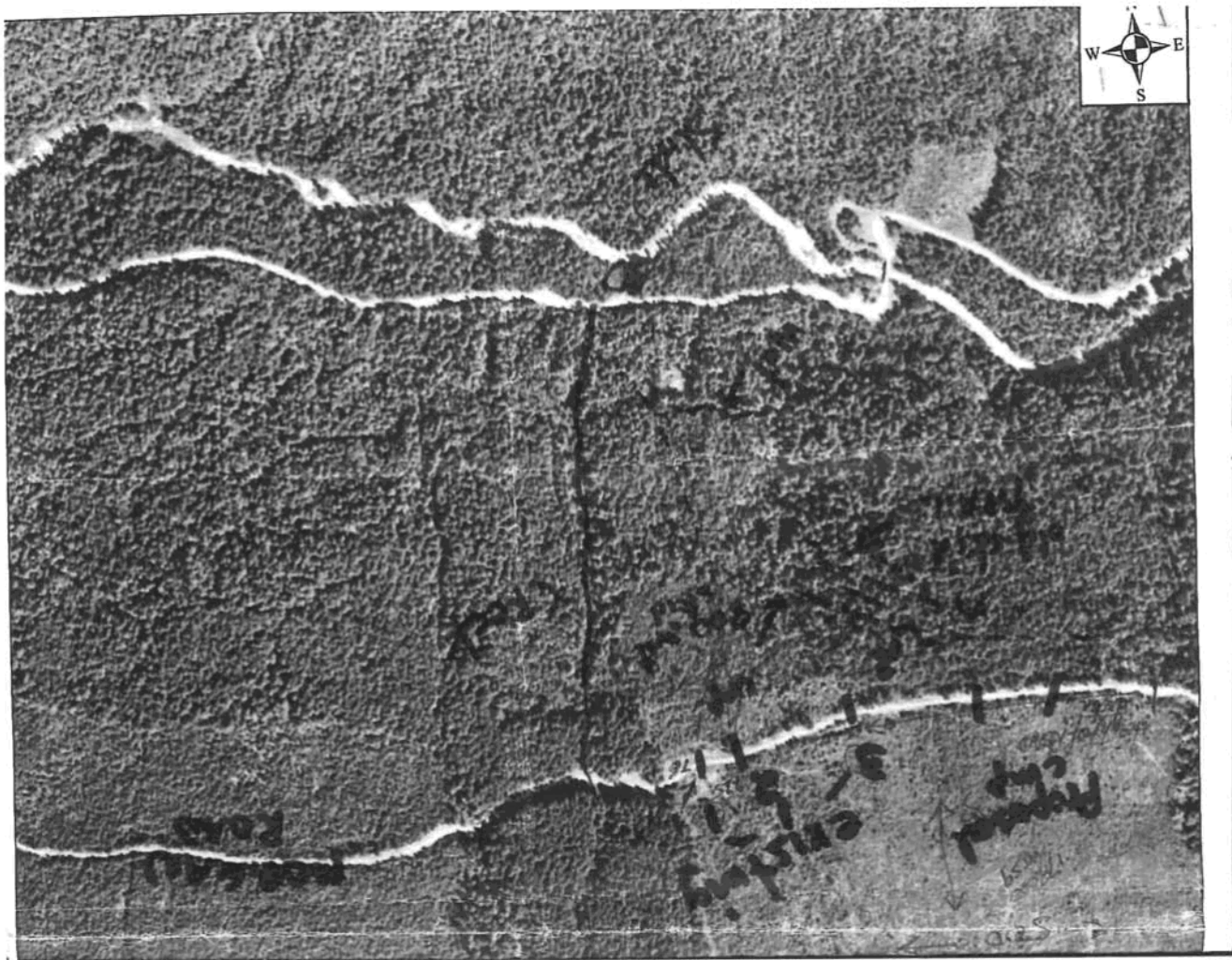
- The block above Morgan road could be looked at to make sure there are no diversions in the block itself that adds to cmp#3
- Follow two proposed cmp sites from Morgan to Cotton and ribbon out for deactivation work to allow water flow
- deactivate some of the trails that lead to the slide itself
- cmp # 3 needs a bit of work below it to ensure that water from it ends up in the right gully.

-Brief summary

It was a very wet both days when I was on site June 26 and 27 . I was able to follow the water in most cases as it flowed thru the pipes and also down the roads, and ditches. It seemed that there was a lot of flow between ditches and road surfaces, and if some of the Eastern section of the road thru the Morgan block could be addressed it may start to help with the slowing down of the slip.

As for a cost to do this work, it would depend on how much and how many gullies were prepped for water flow.





① camp 76 m in from west boundary
 ② camp 125 m " " " existing
 ③ camp 243 m " " " block slope above Rd 40%

Note — after a day & half of hiking — really not a lot to report. water from Morgan Rd + Cutblock are sent thru 3 camps. camp 3 has its water go to ground before the 800 m mark. it seems that #3 water is east of instability — I looked at adding more camps east of #3 — but after hiking down the proposed watercourses — I ran into trail after Trail across the slope — any water directed over would be sent in many directions — this could be done if an excavator went down and cleaned out the gully path.

Old skid TRAIL

— 85 meters below

Morgan Rd — parallels

GPS
820
800

— 135 m Down old skid TRAIL

Below 3rd camp water disappears

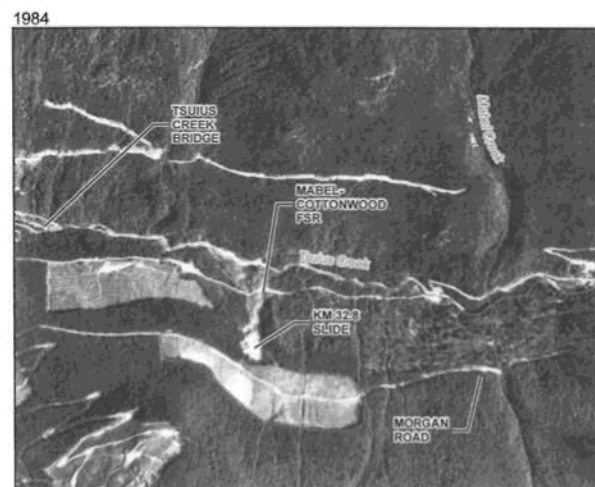
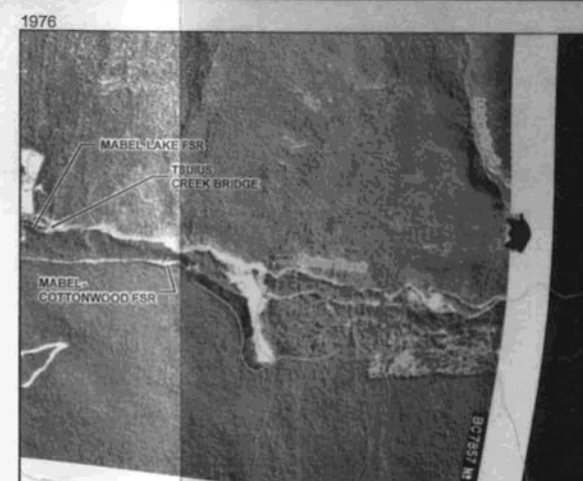
GPS 800 water on old trail goes south 30m — over bank.

the trails — the trails are many, and are capable of carrying water during rain events and snow melt. they seem to be stable for the most part and end at major draws

— solution — water barr Morgan
 to disperse Rono water / culverts #1?
 — squamish culvert at Cotton
 and deal with wet yrs.

its a large slump.

1114-001-BC-MFLNRO-20120222-REV001-Mabel-Cottonwood FSR, Tsuius Creek Landslide Dam Outbreak Modelling Final 4.1, Changed to its Local Watershed at its 2004 and Date Wednesday June 27, 2012 Time 4:04 PM



2004
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APPROXIMATE LOCATION OF 2011 SLIDE
 — ESCARPMENT
— LOGGING ACTIVITY
← FLOW DIRECTION

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PROJECT: MABEL-COTTONWOOD FSR, TSUIUS CREEK LANDSLIDE DAM OUTBREAK MODELLING FINAL		
TITLE: CHANGES TO THE LOCAL WATERSHED AT KM 33.6 OF THE MABEL-COTTONWOOD FSR FROM 1959-2004		
PROJECT No.: 1114-001	FIG No.: 4-1	REV.:

FIG TO BE READ WITH BGC REPORT TITLED "MABEL-COTTONWOOD FSR, TSUIUS CREEK LANDSLIDE DAM OUTBREAK MODELLING FINAL" DATED JUNE 2012

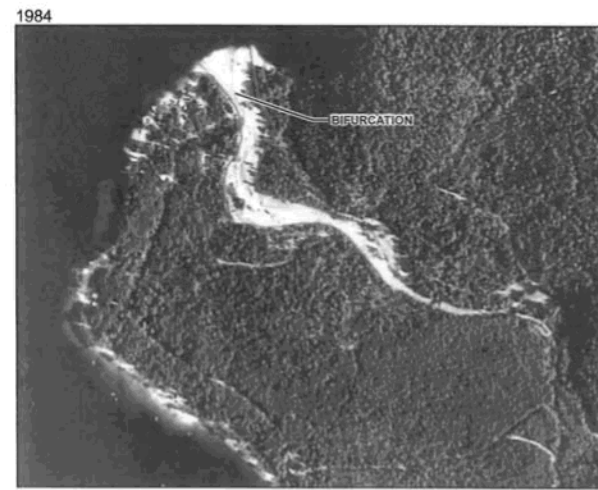
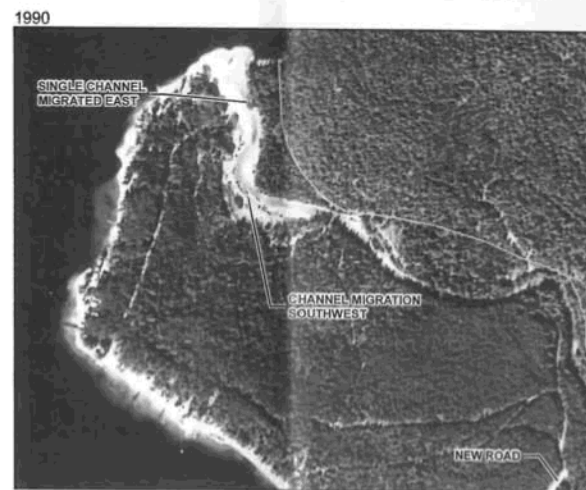


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APPROXIMATE
TOP OF BANK

APPROXIMATE
BOTTOM OF BANK

APPROXIMATE EXTENTS OF PROTECTIVE BERM

APPROXIMATE EXTENTS
OF BERNARD CASE

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PROJECT
MABEL-COTTONWOOD FSR, TSUJIS CREEK LANDSLIDE
DAM OUTBREAK, MODELING STUDY

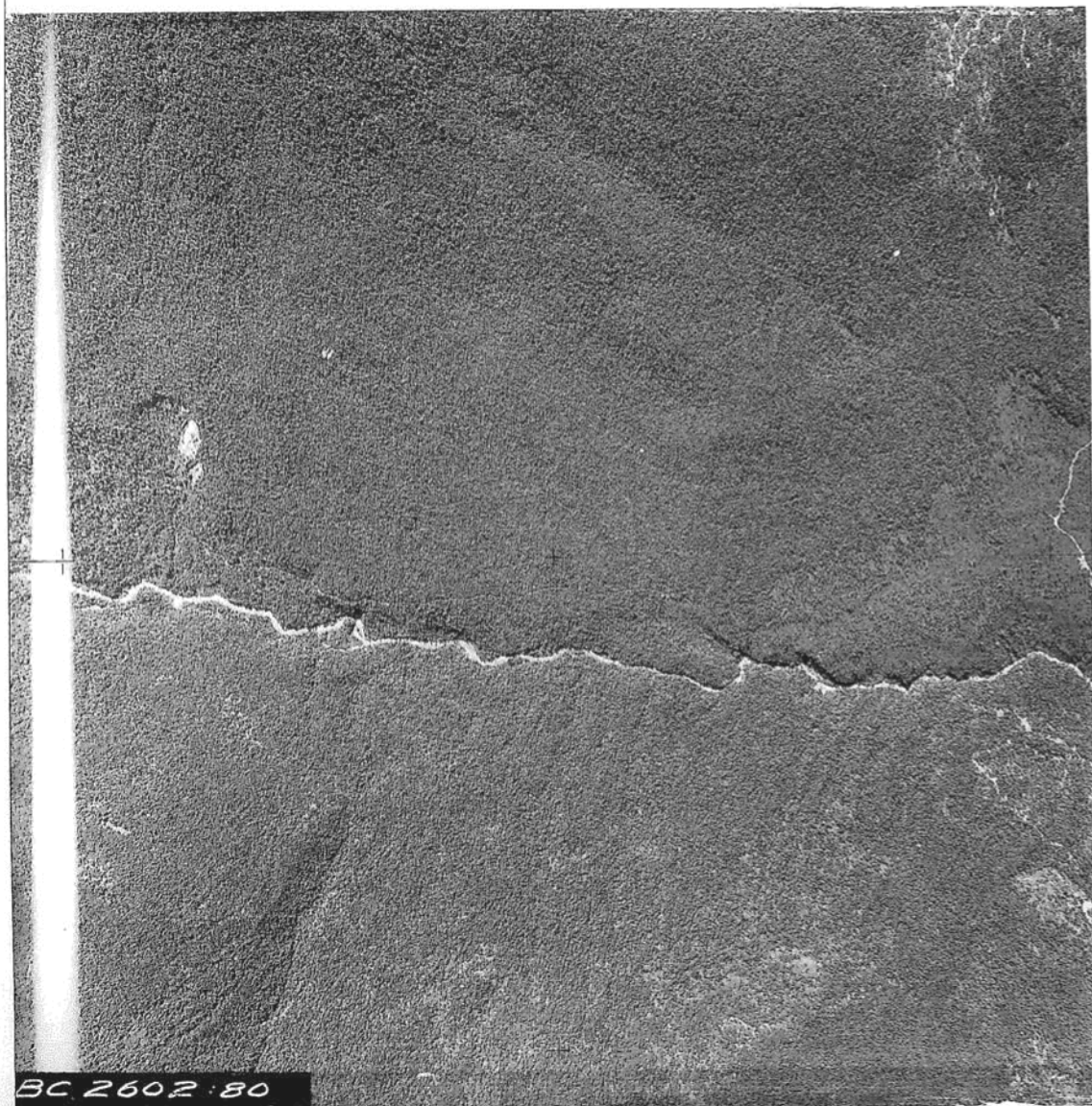
TSURUS CREEK FAN CHANGES FROM 1965-2004

PROJECT No.	ISS. No.	DATE
1114-001	4-2	

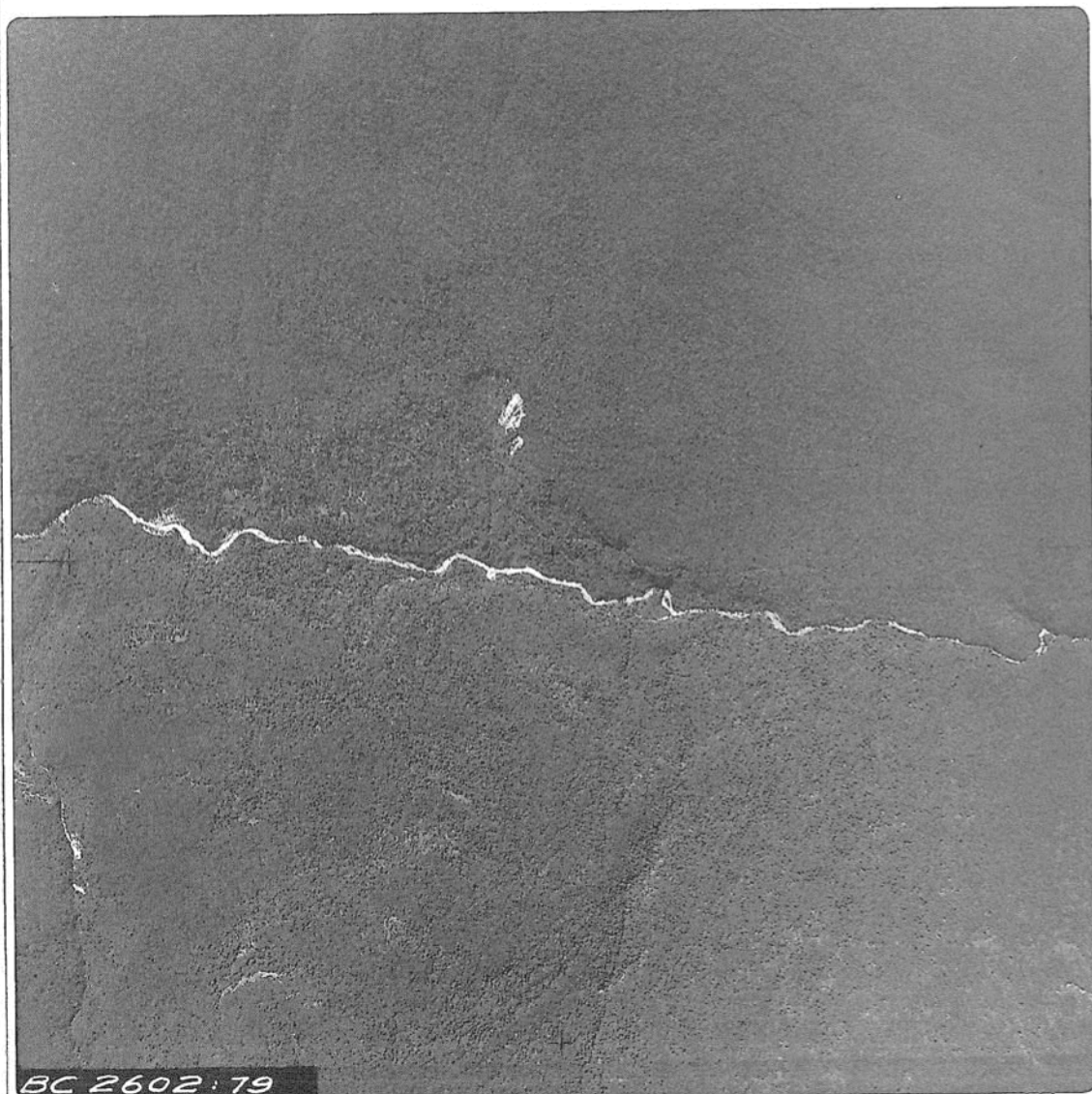


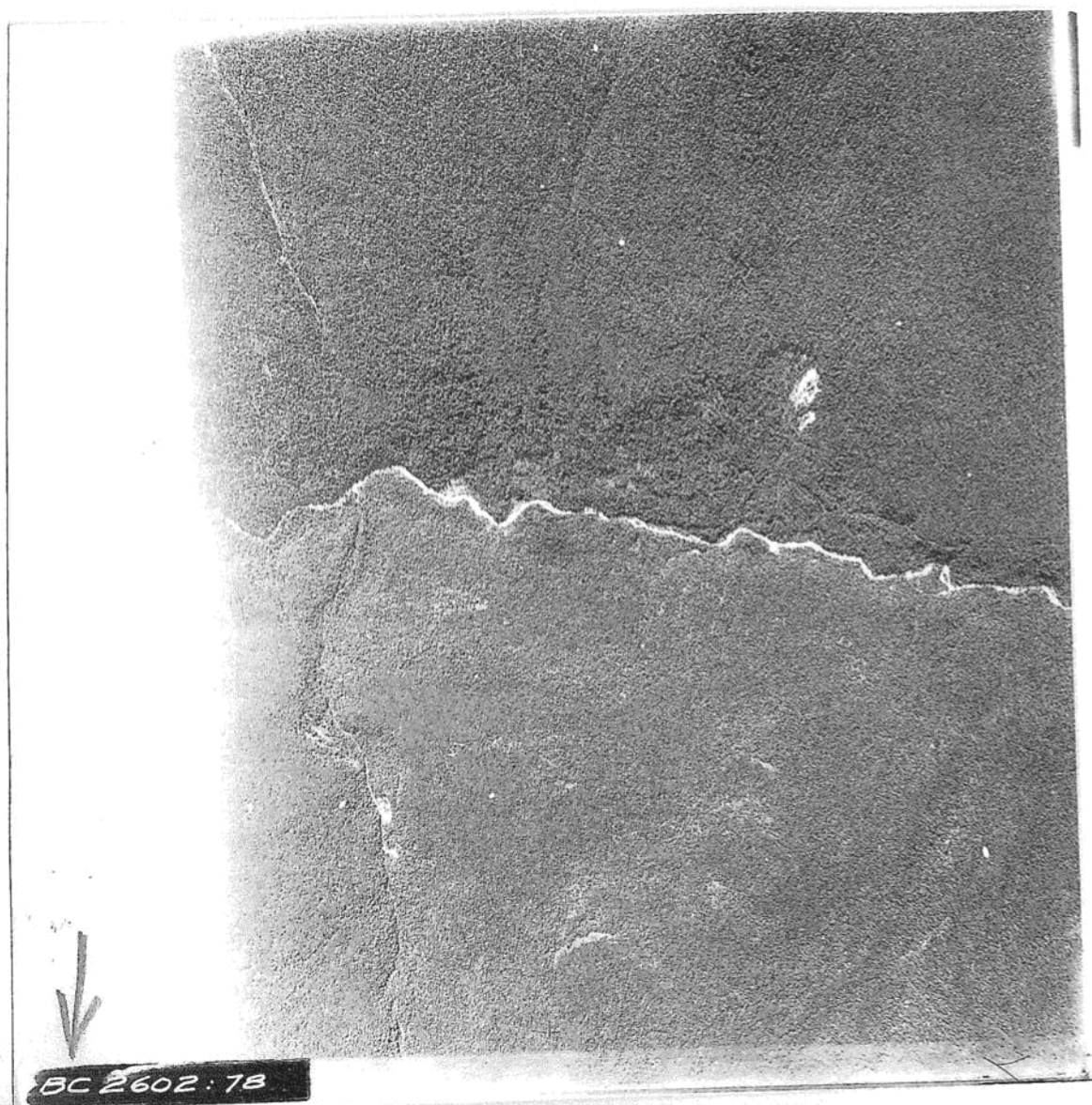




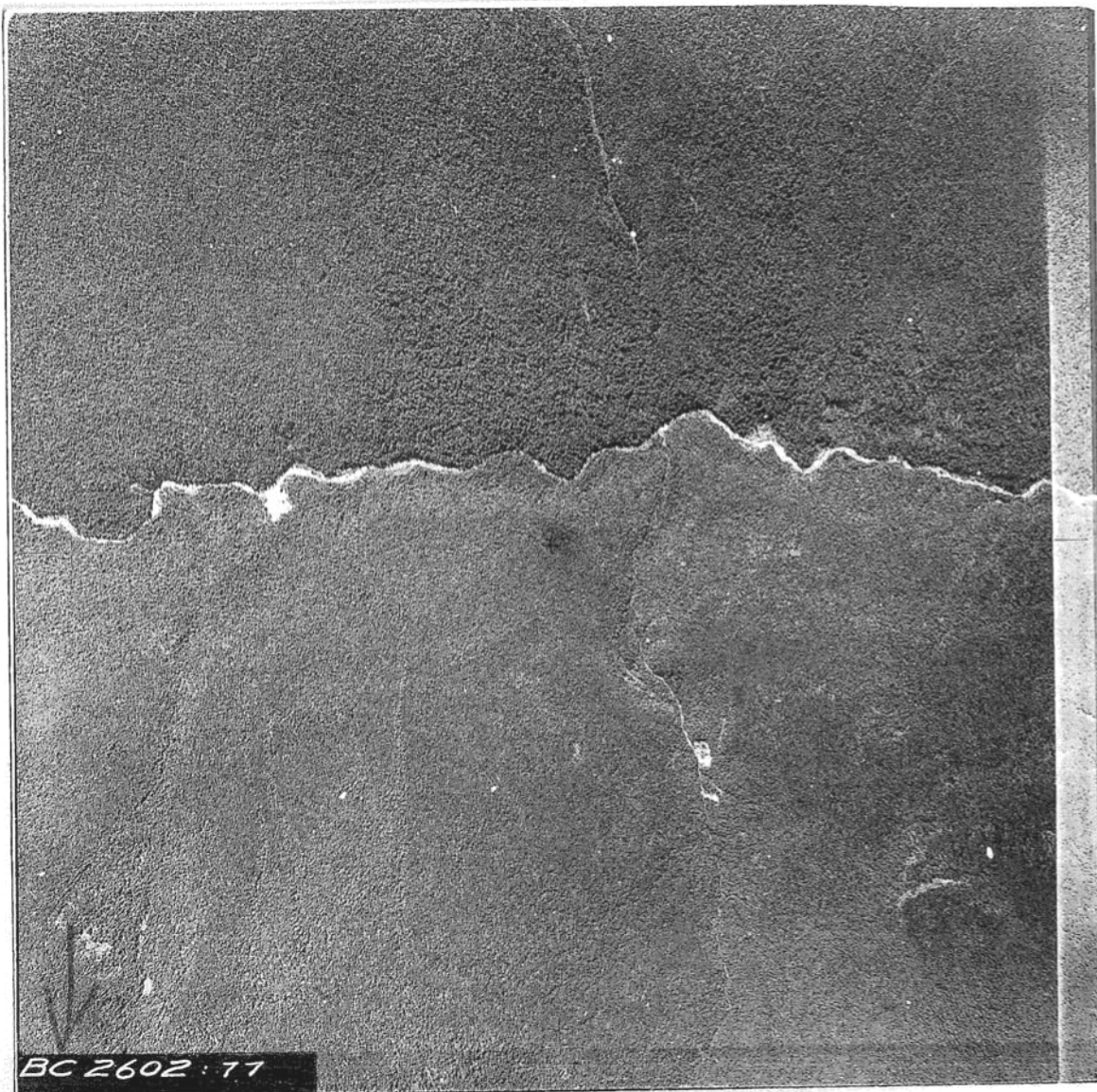


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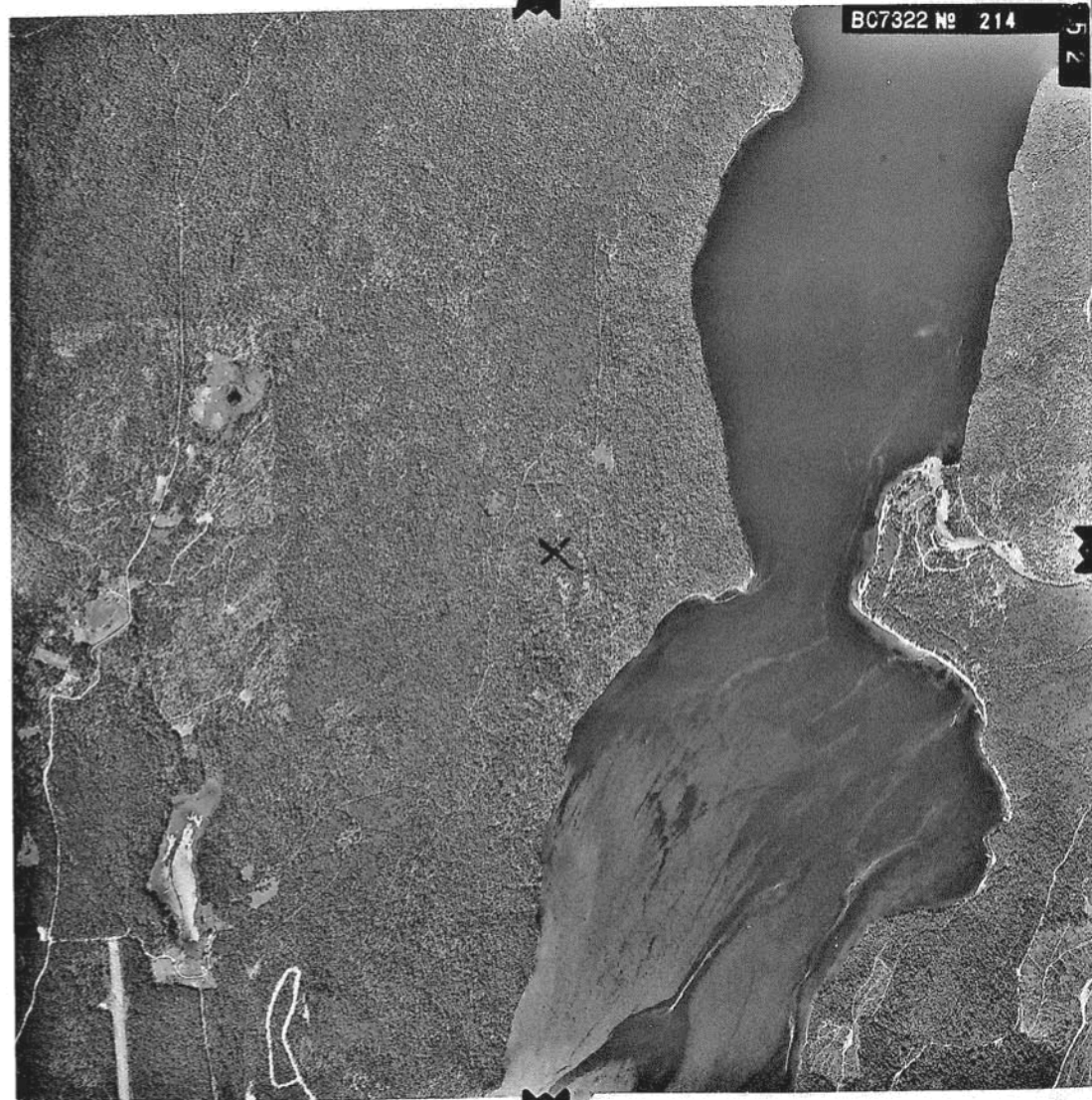


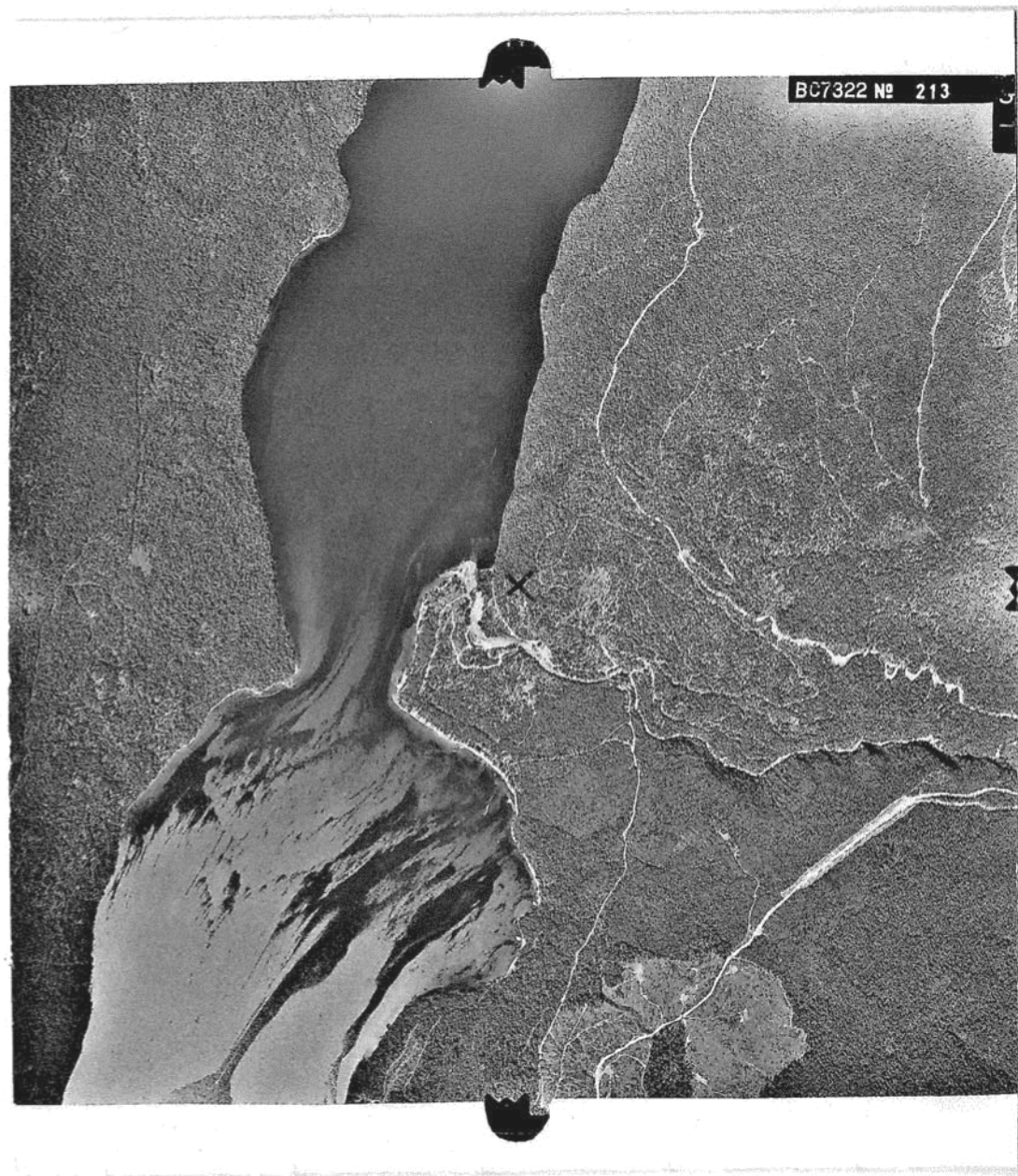


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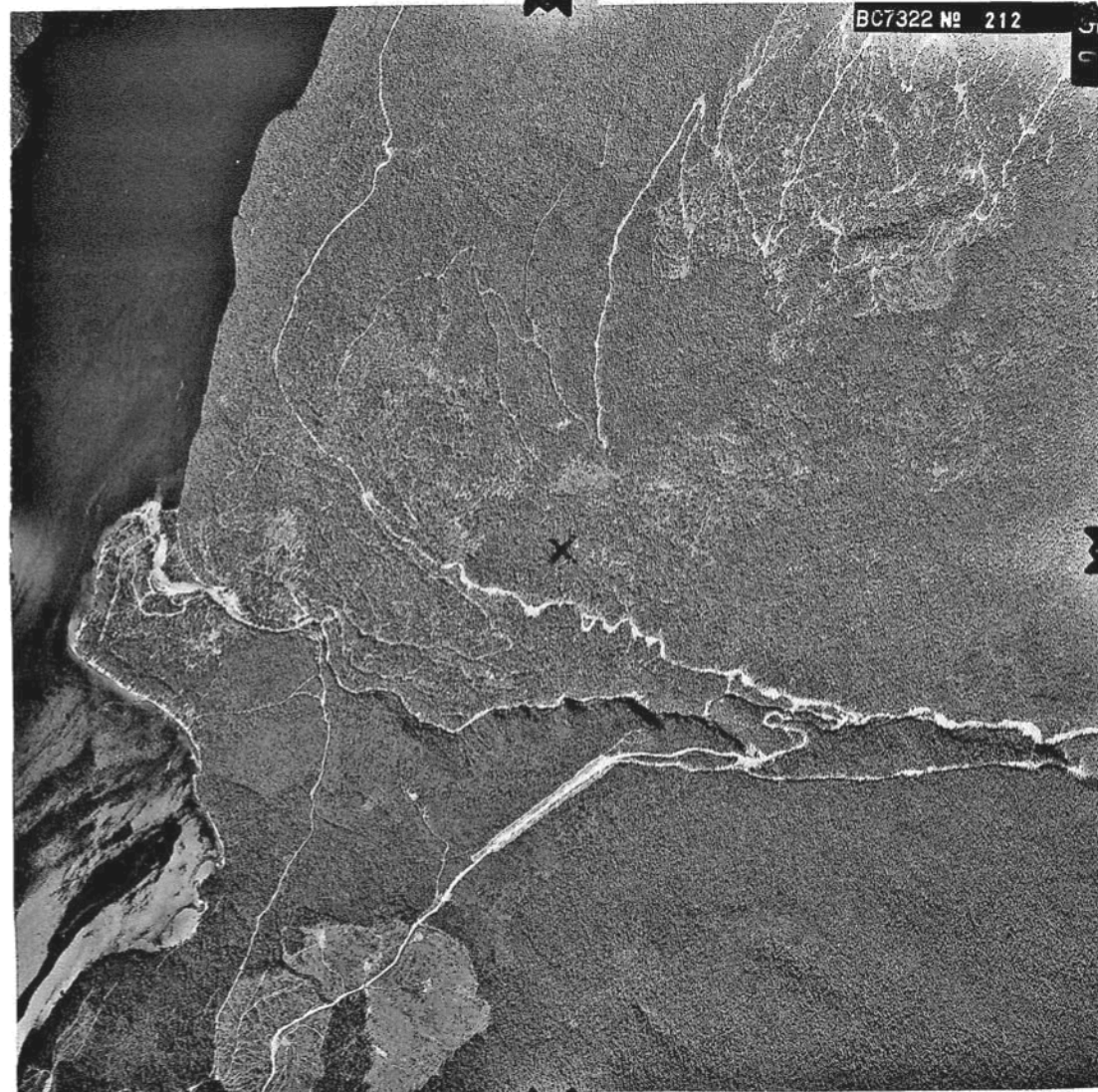


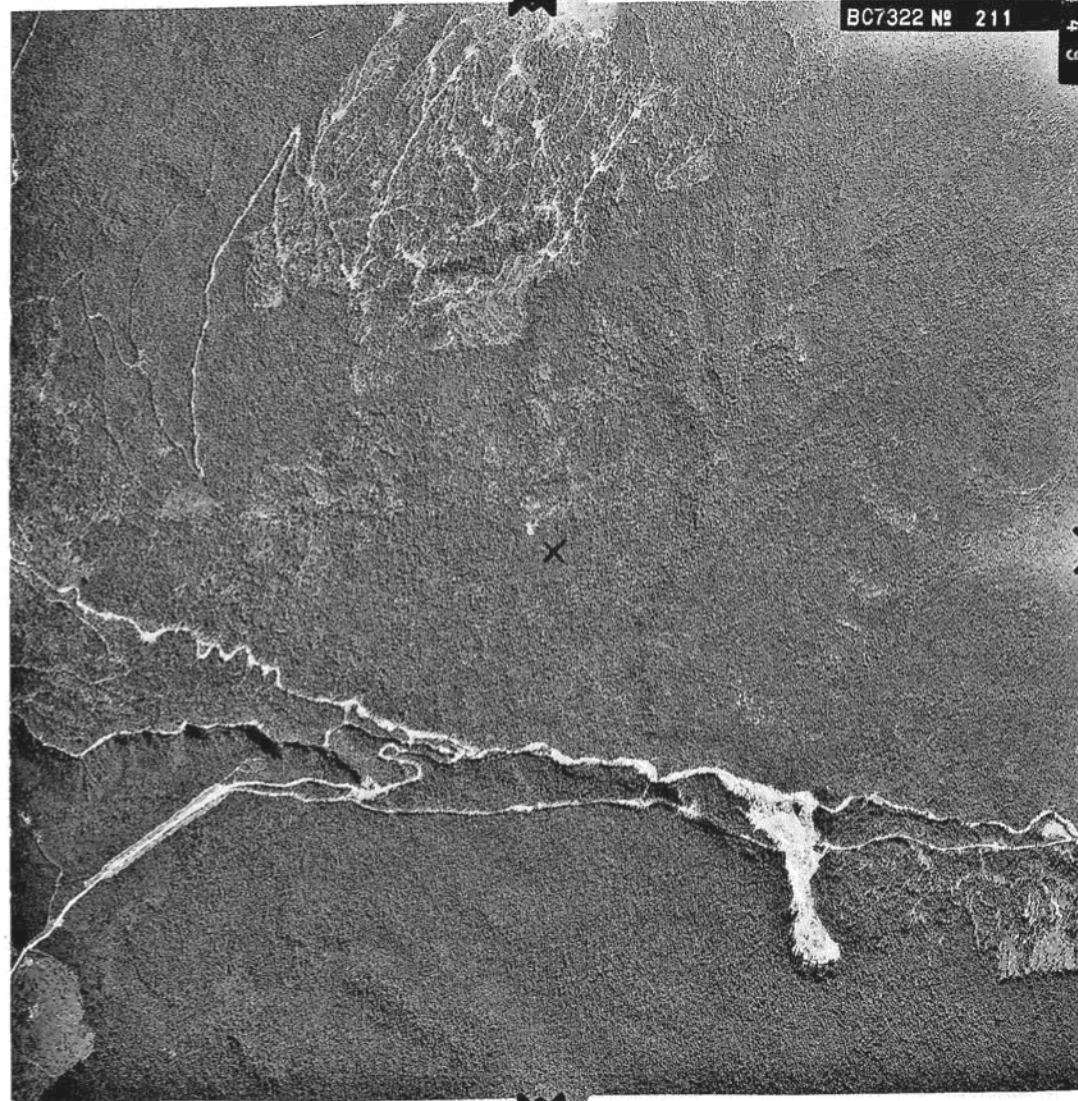
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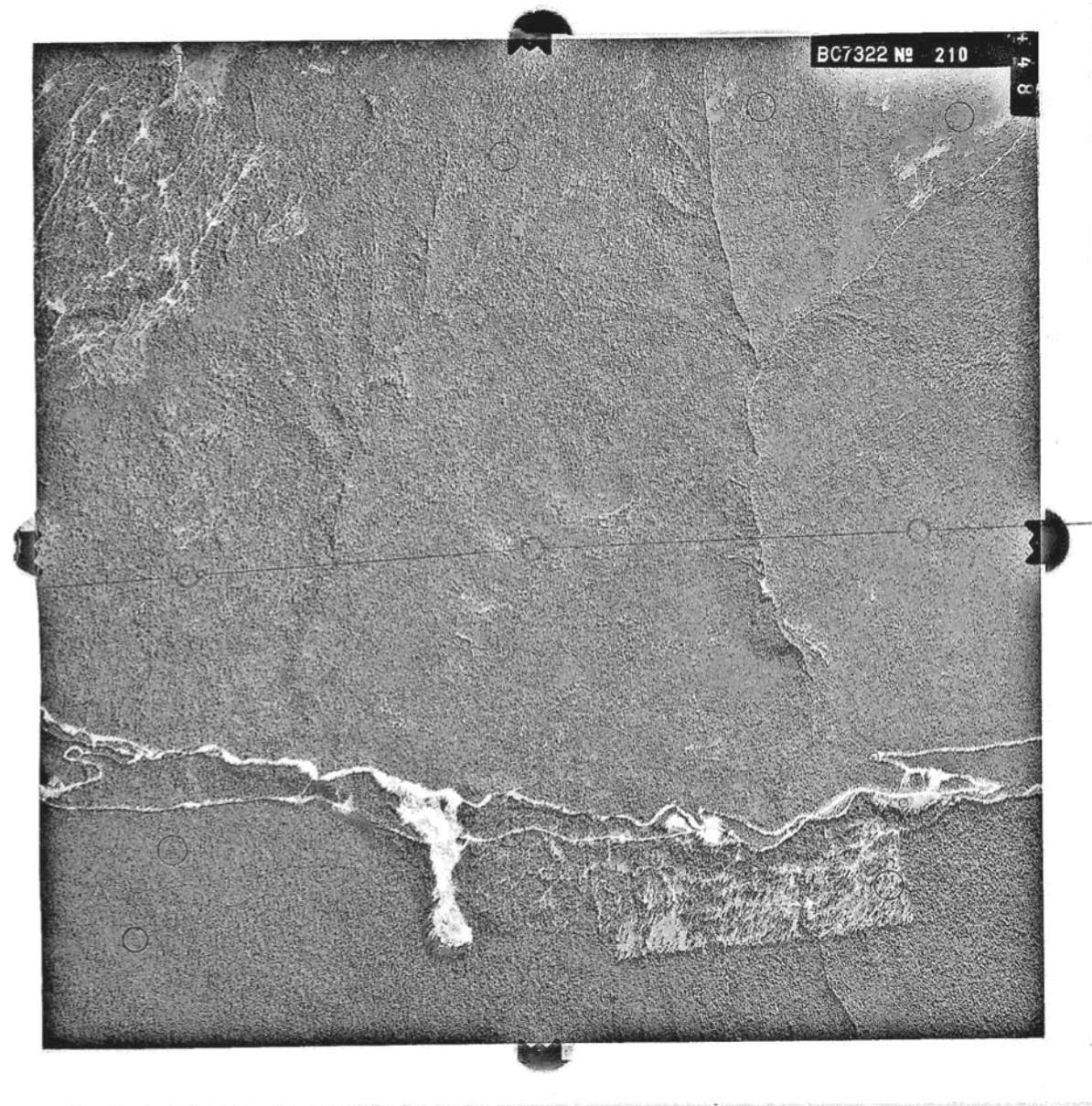


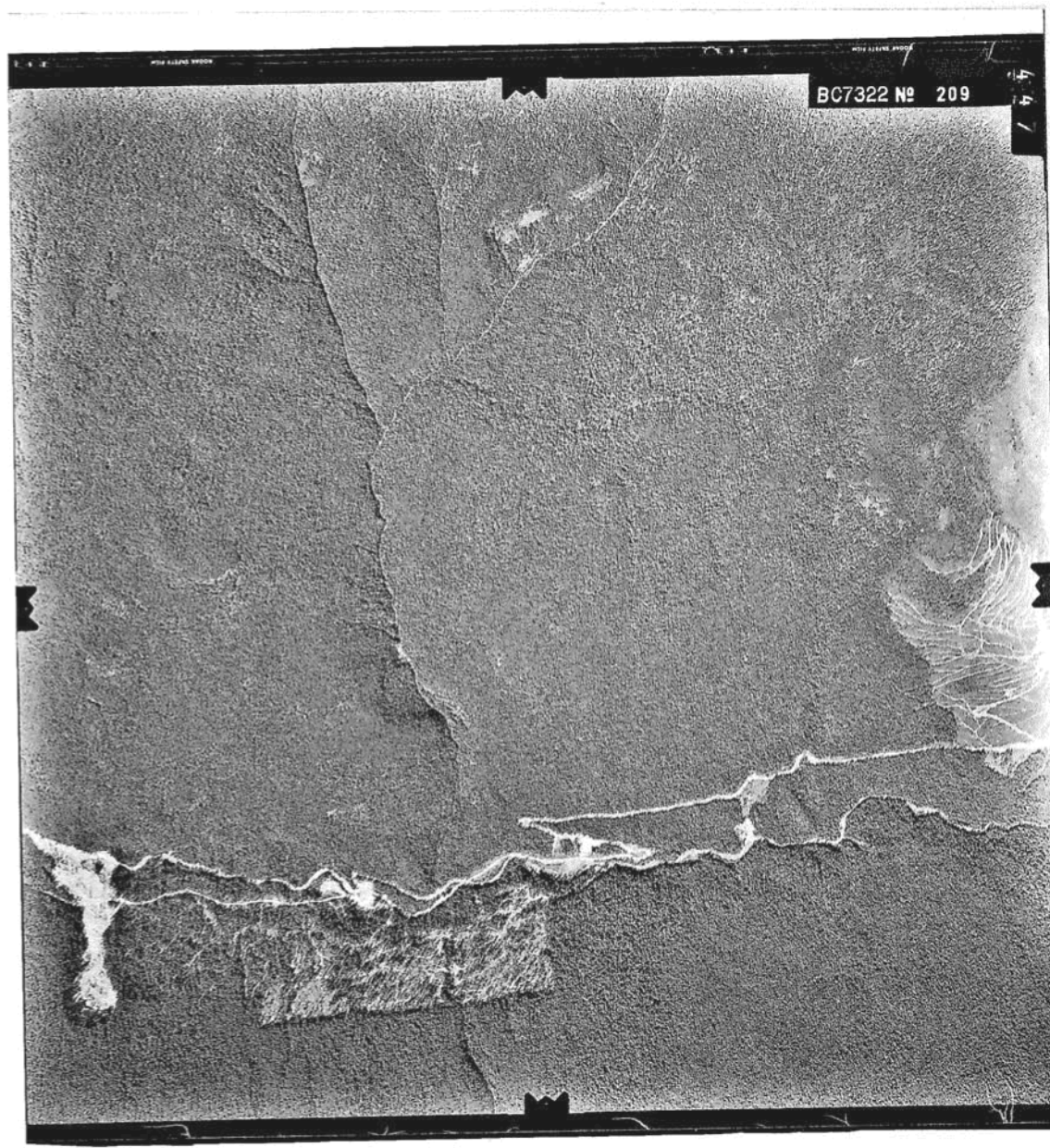


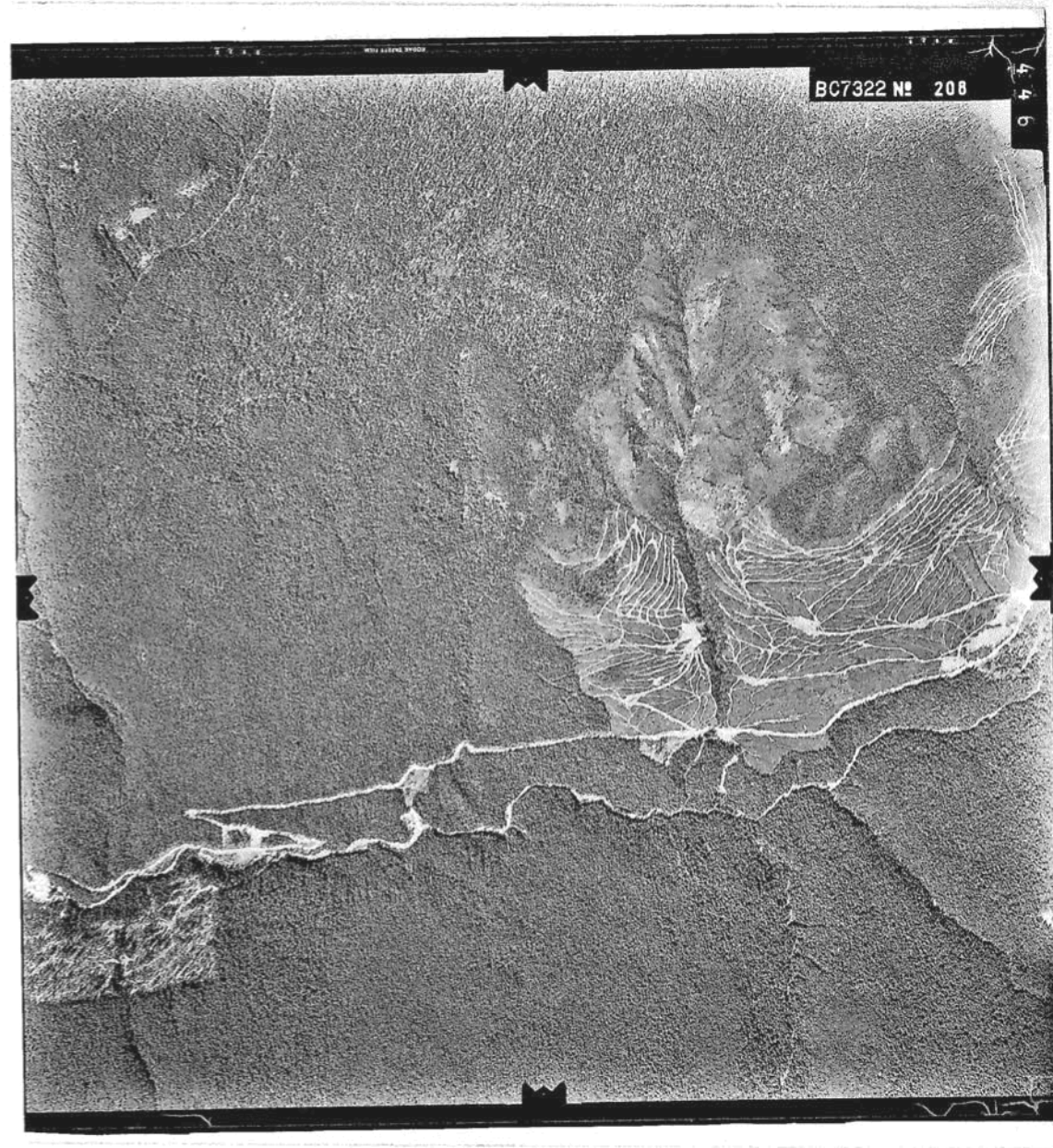
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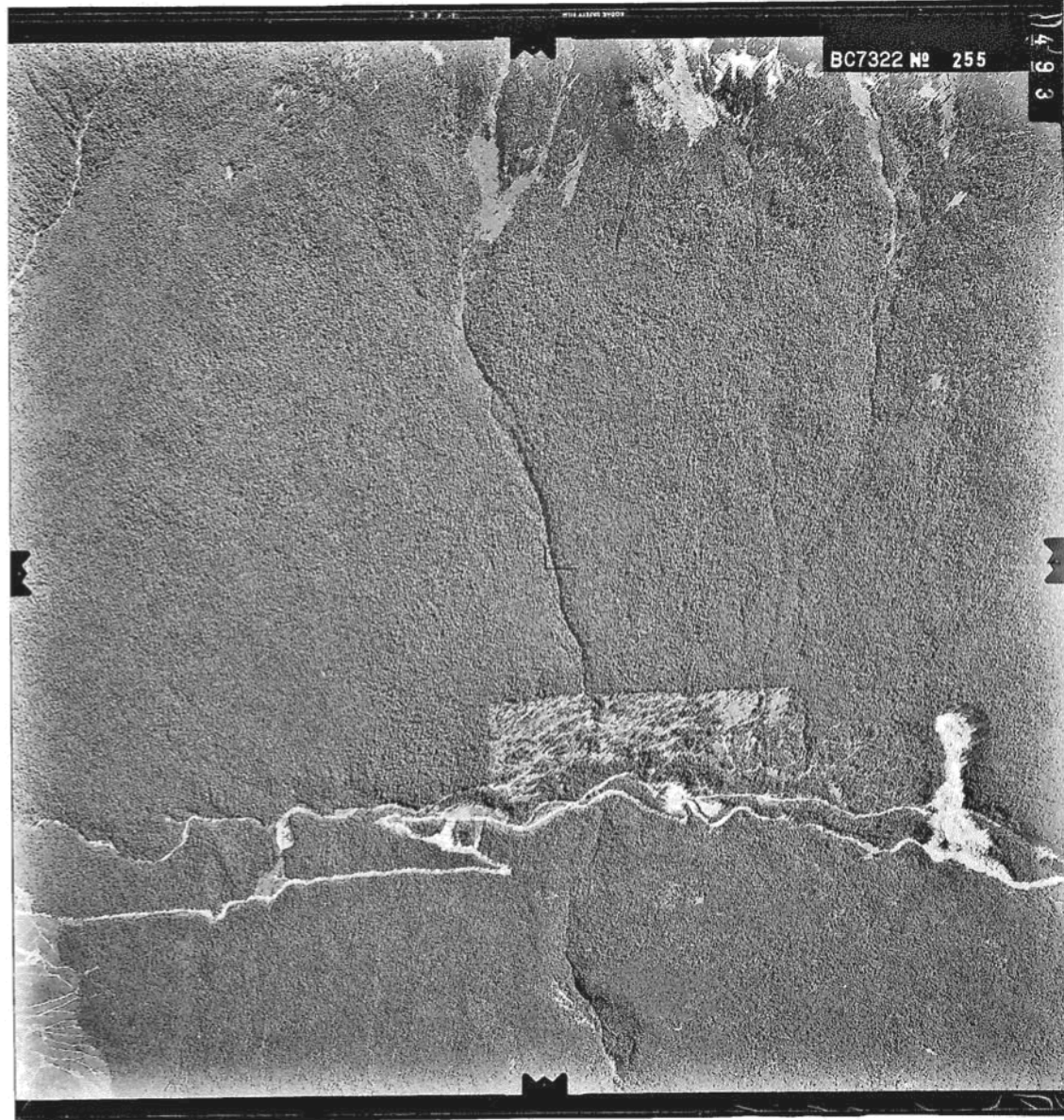


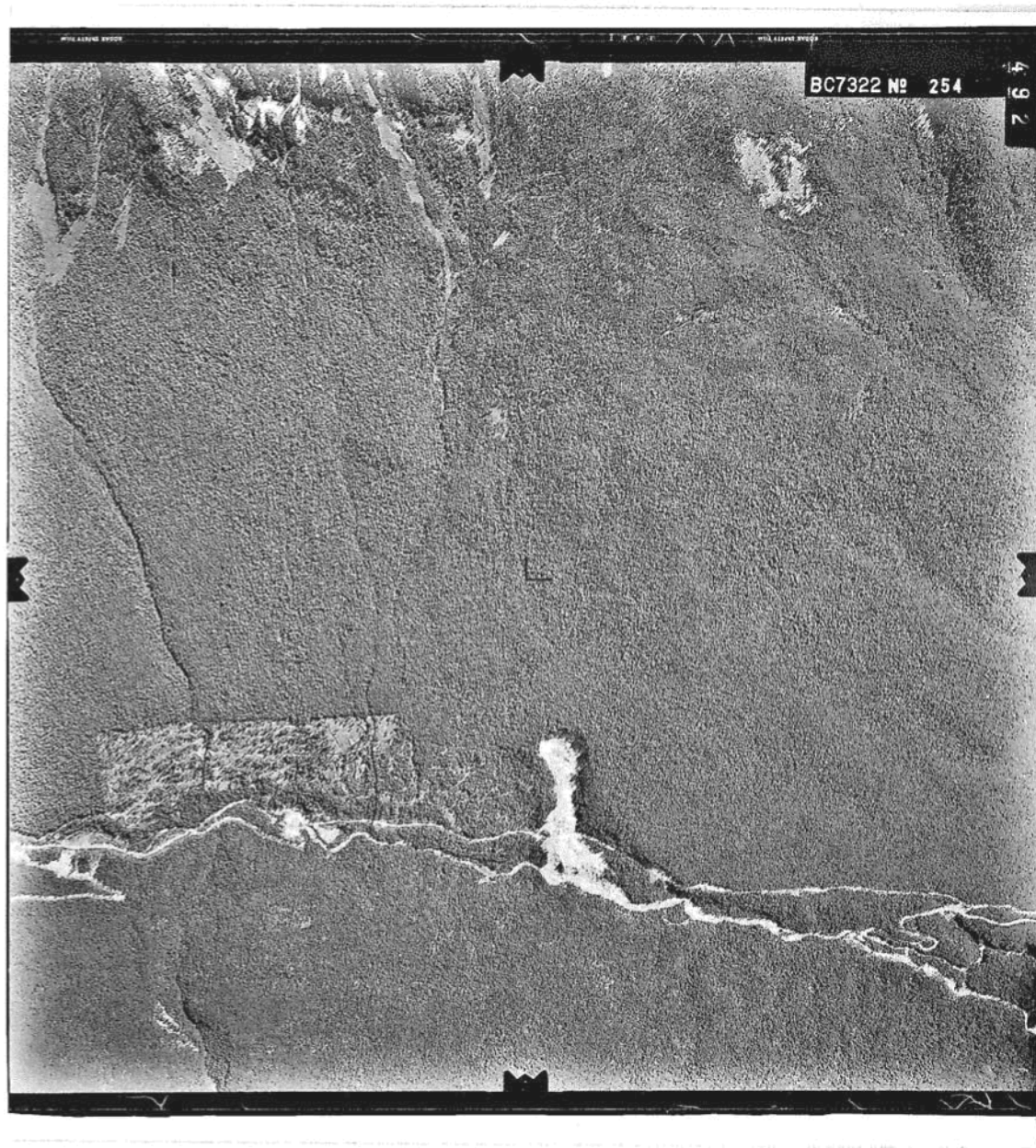


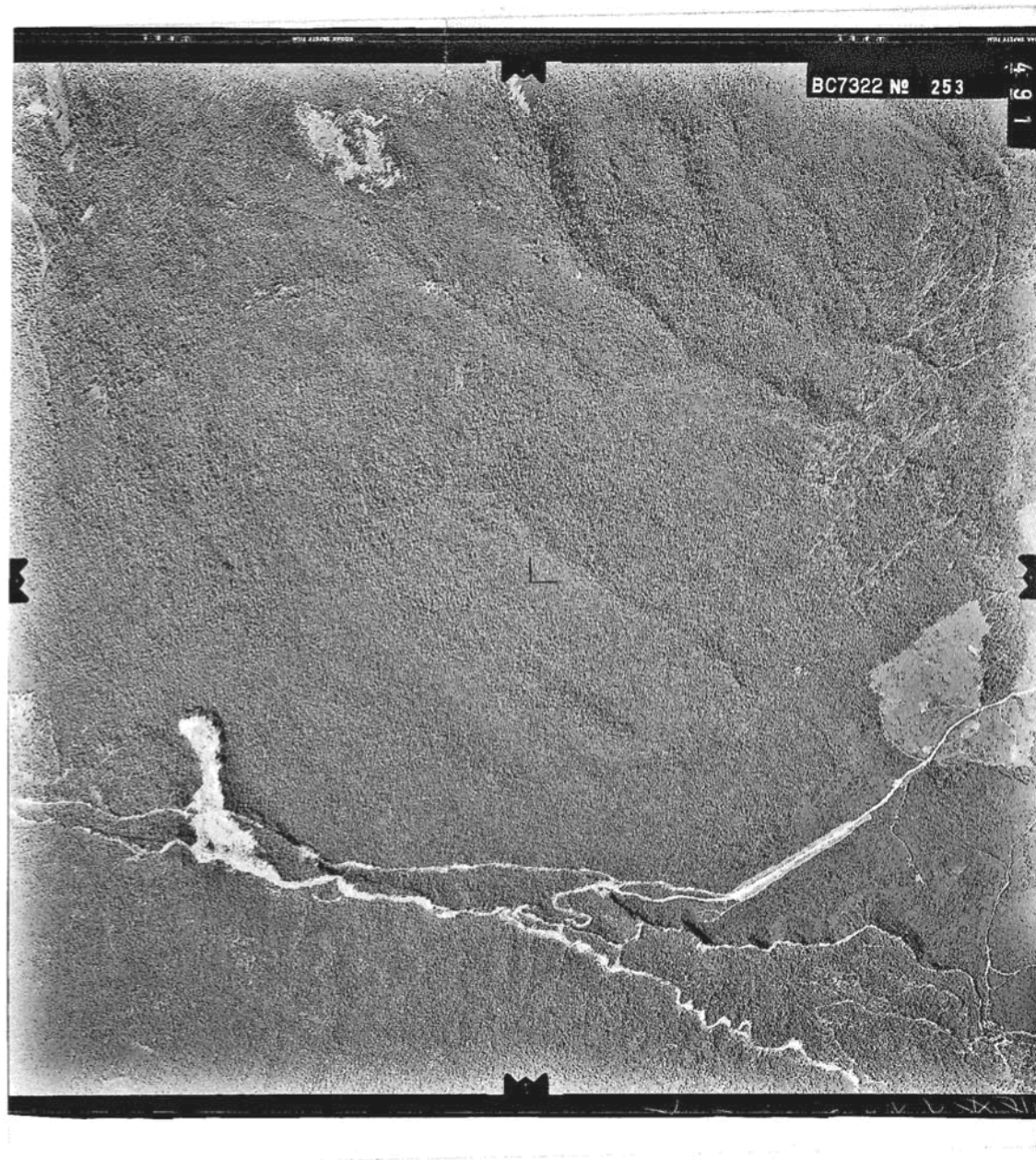


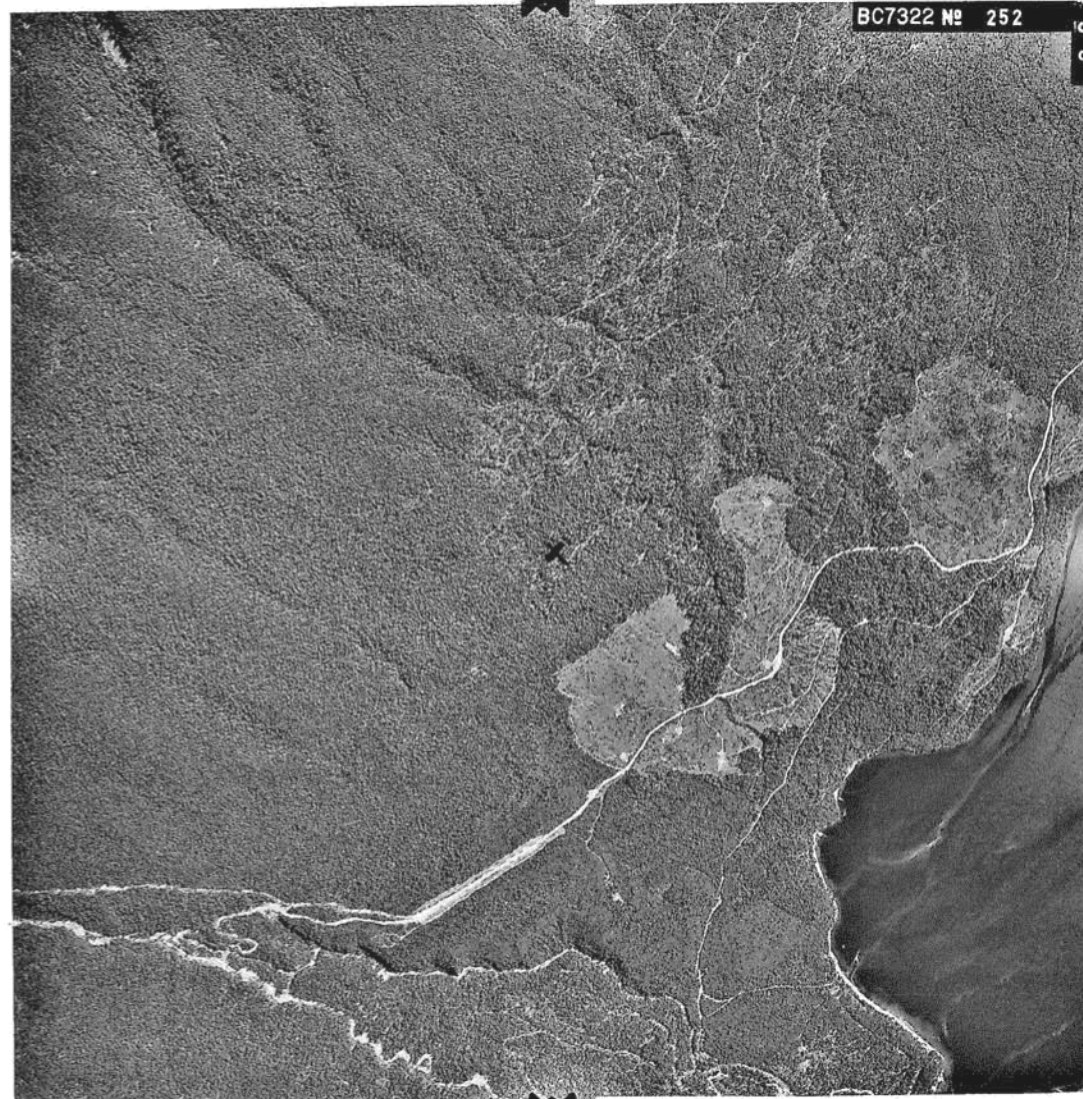




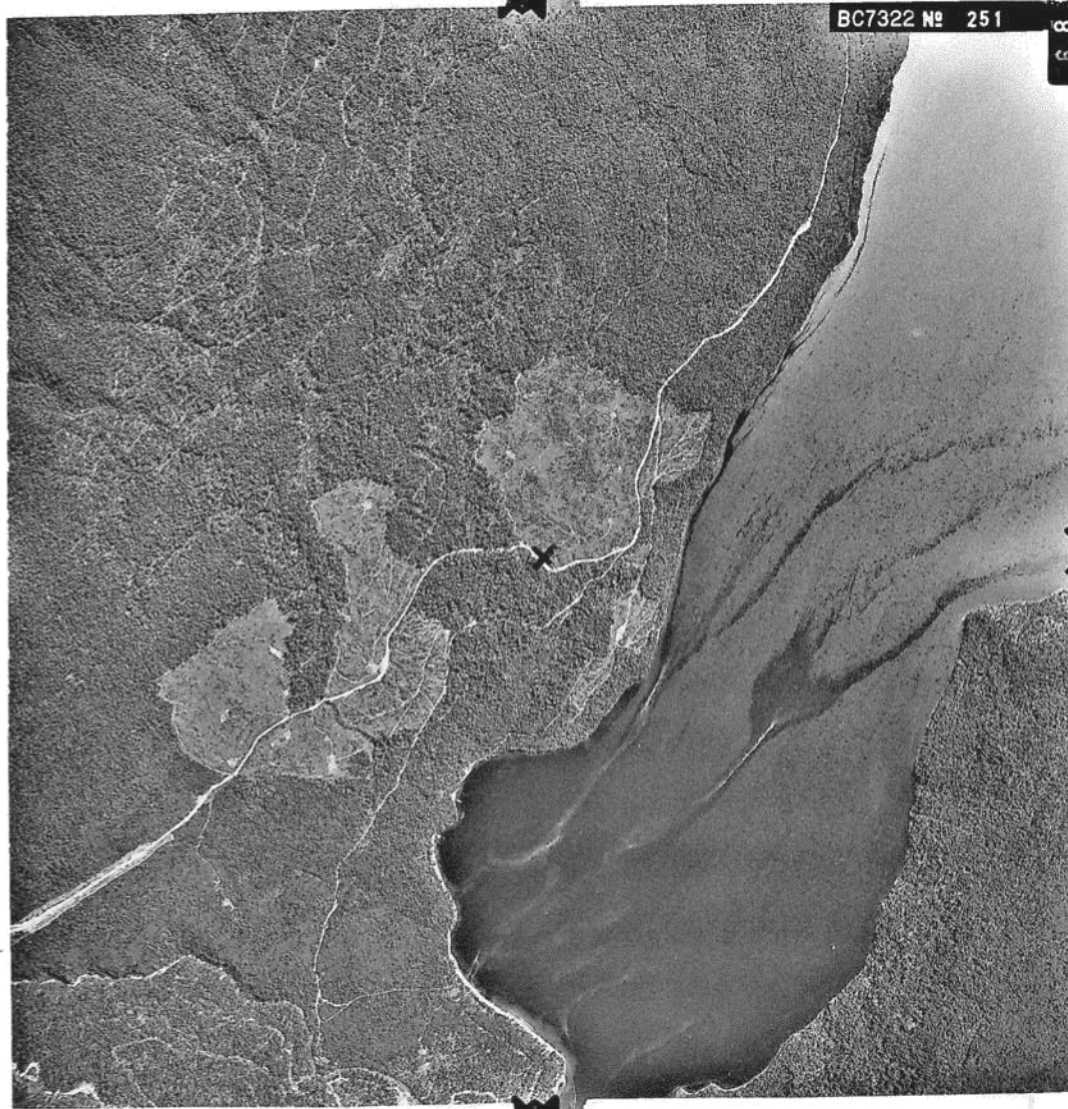




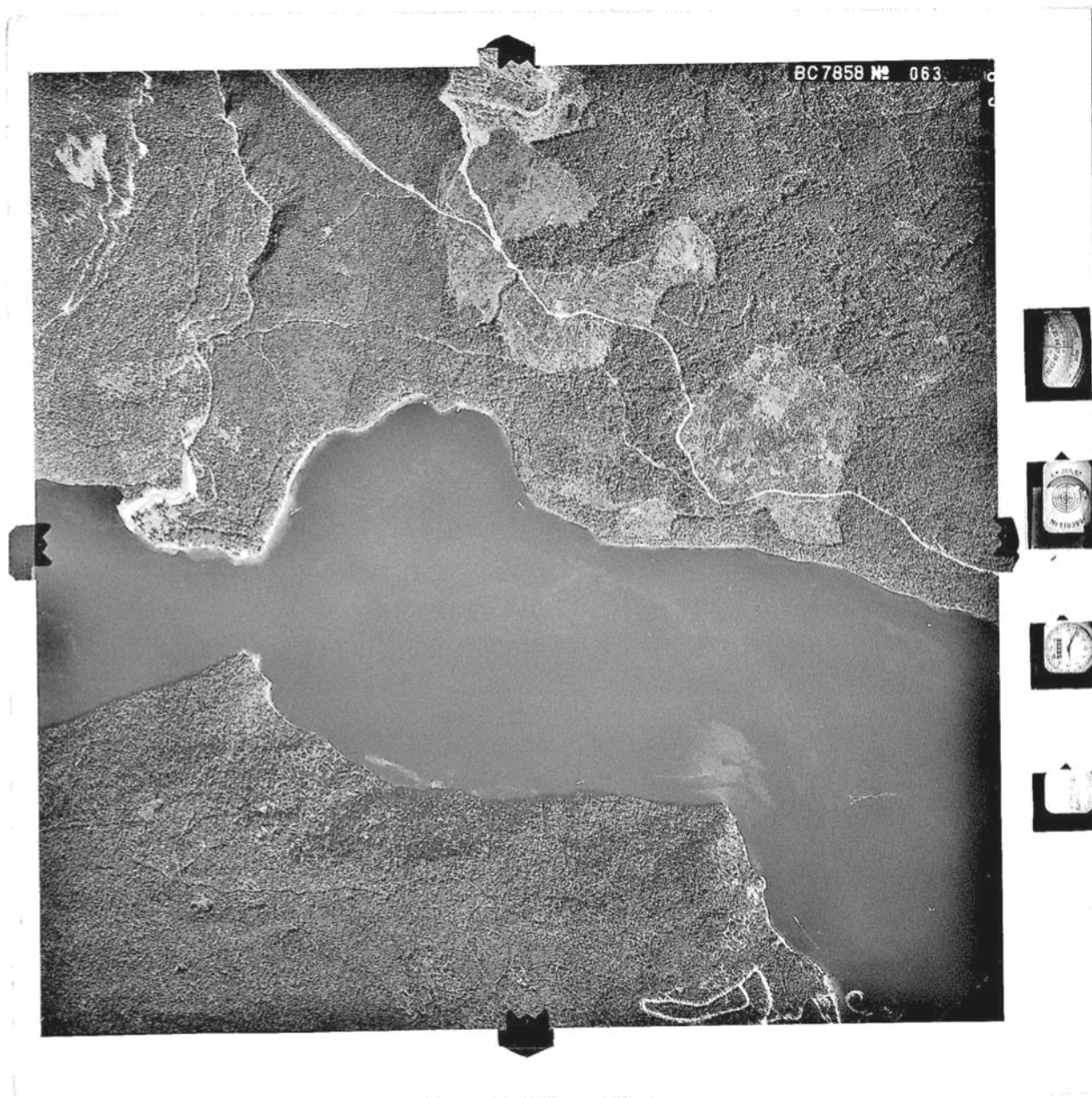


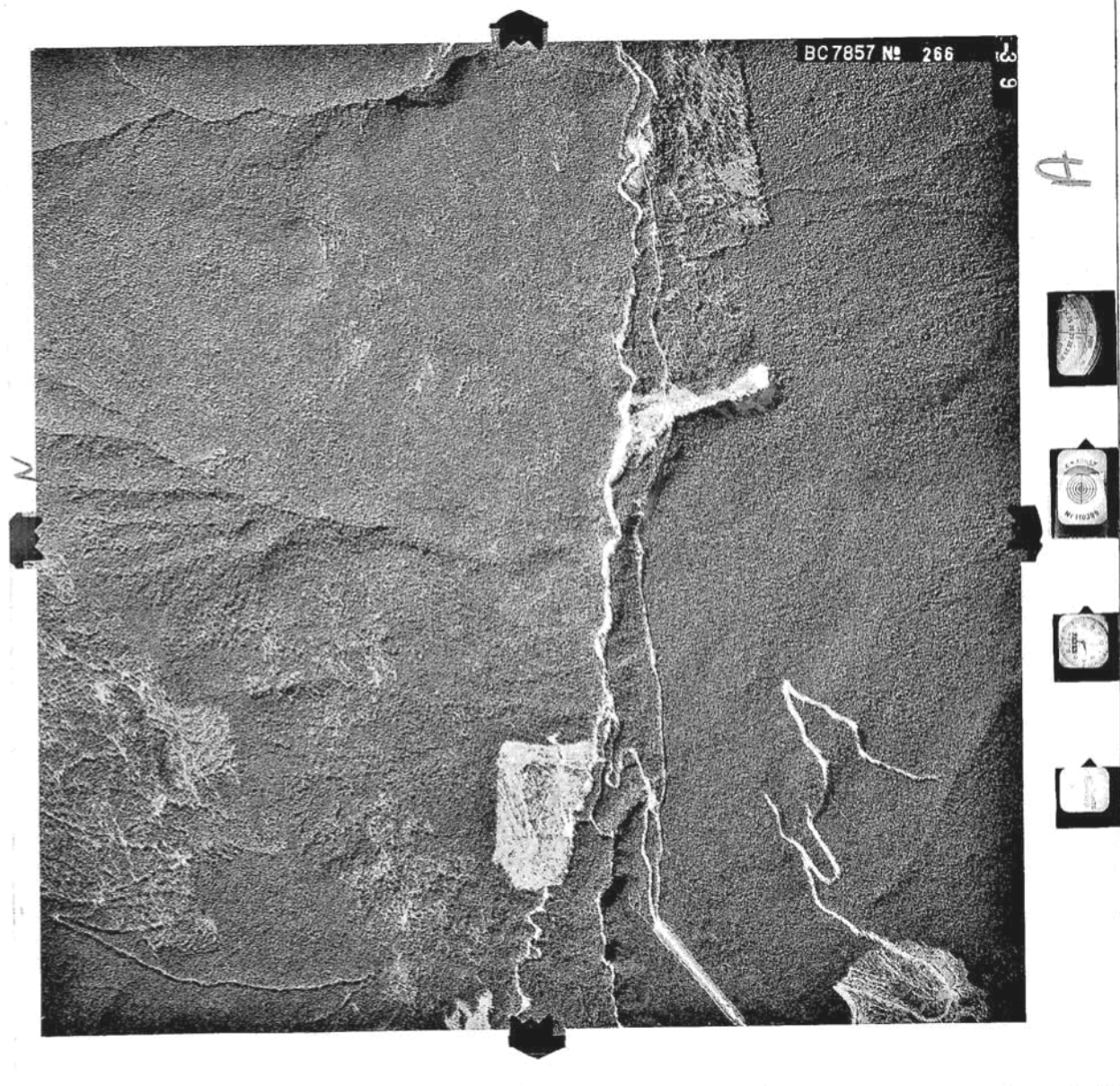


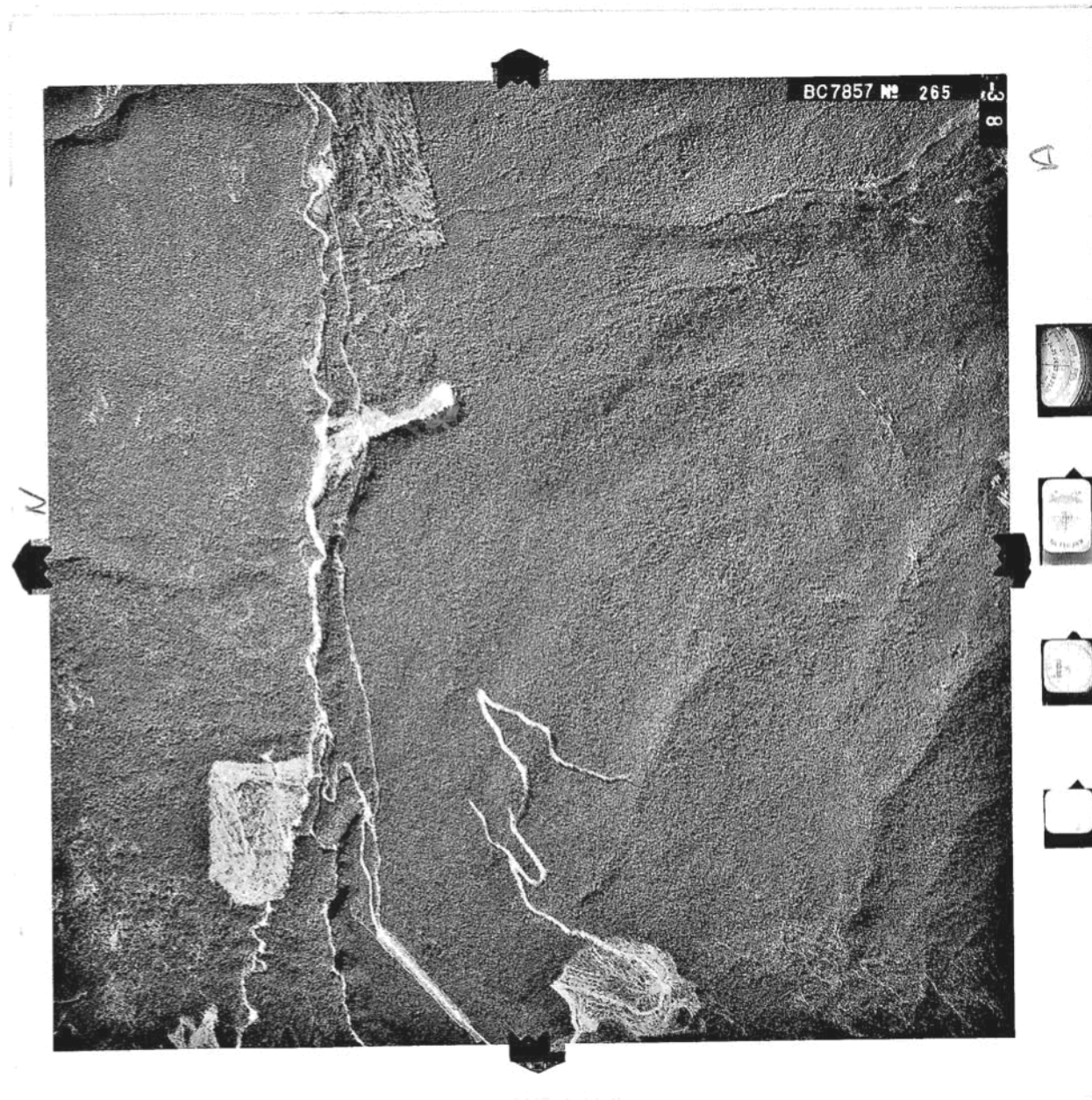
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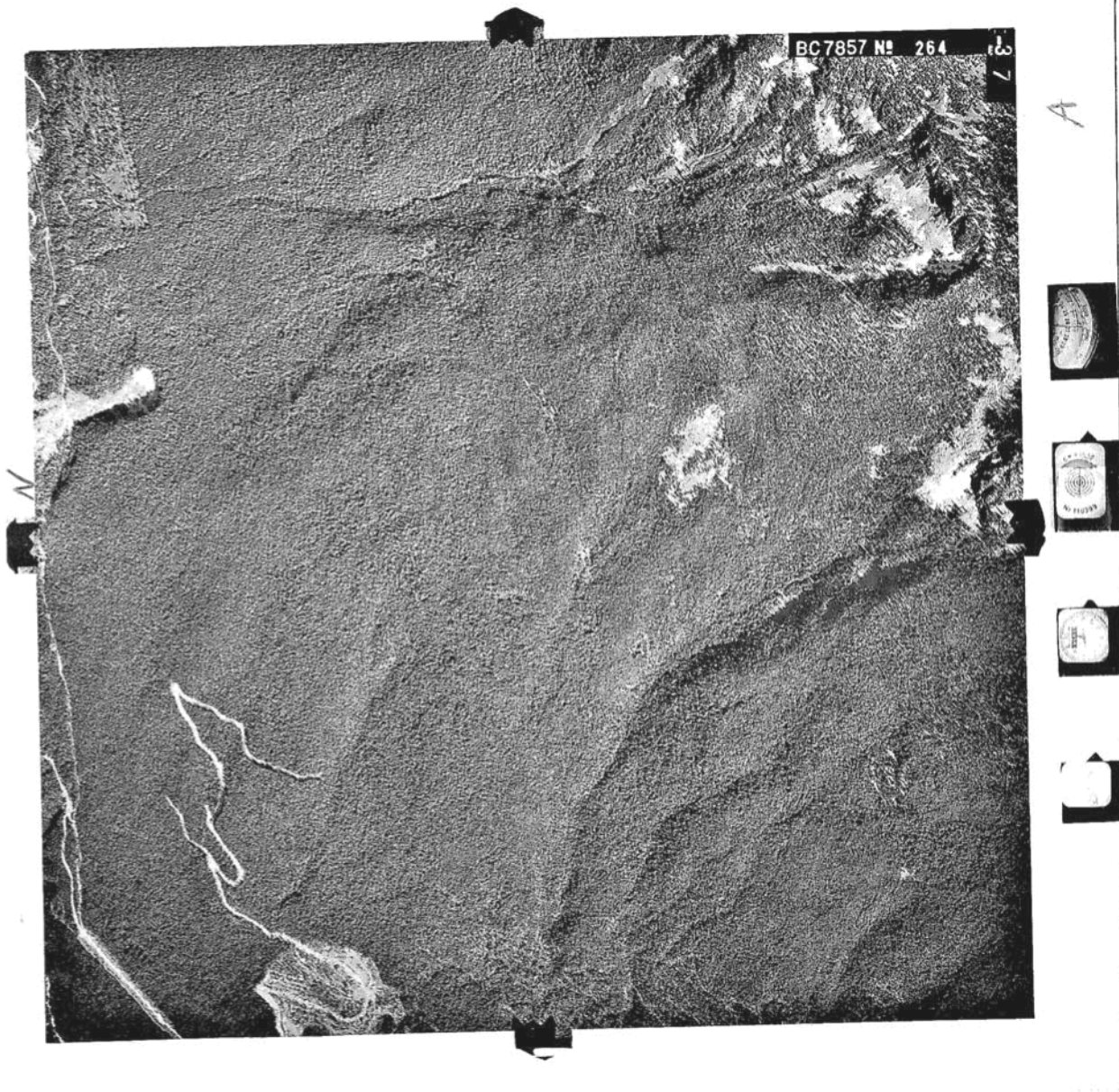


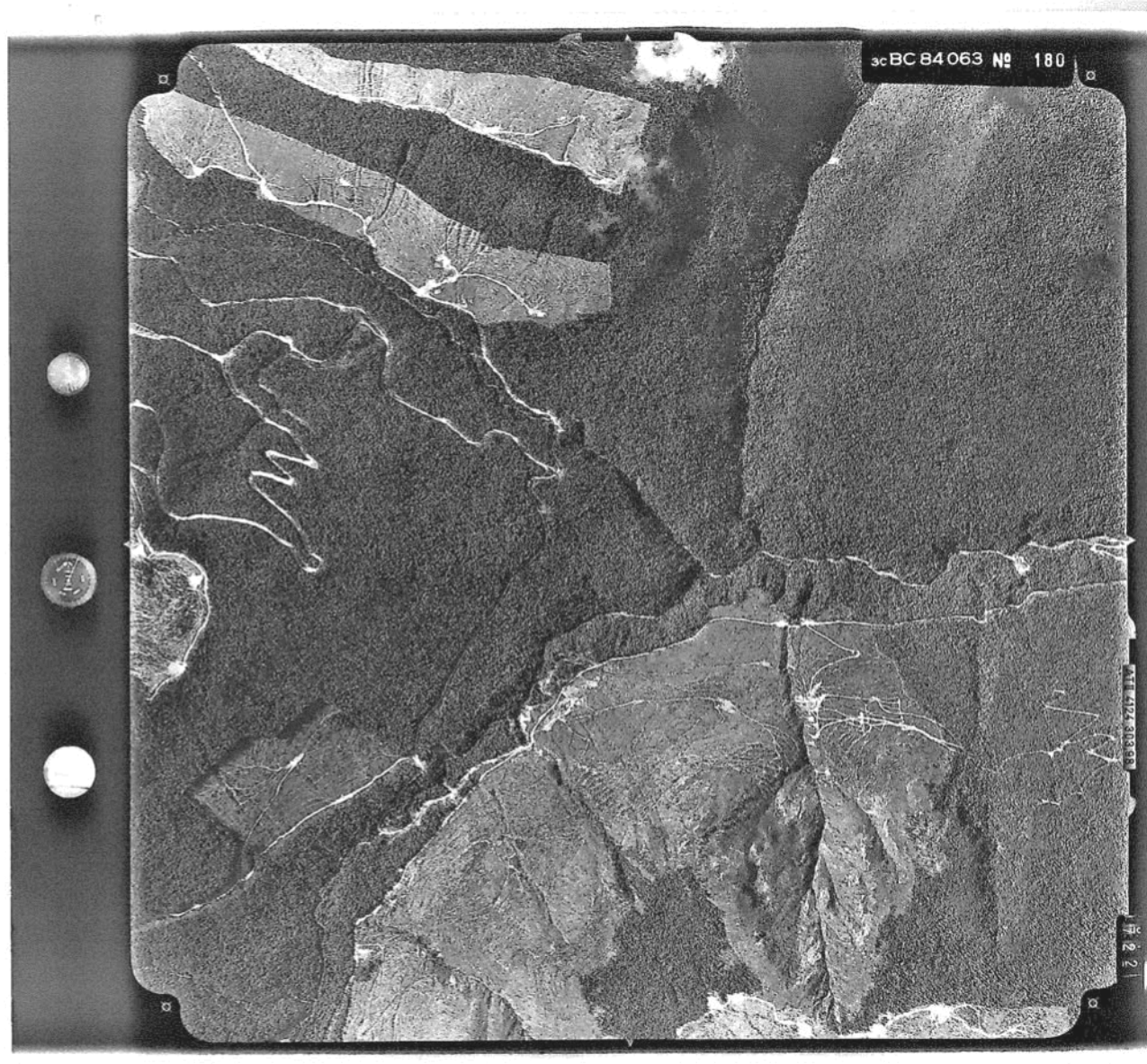
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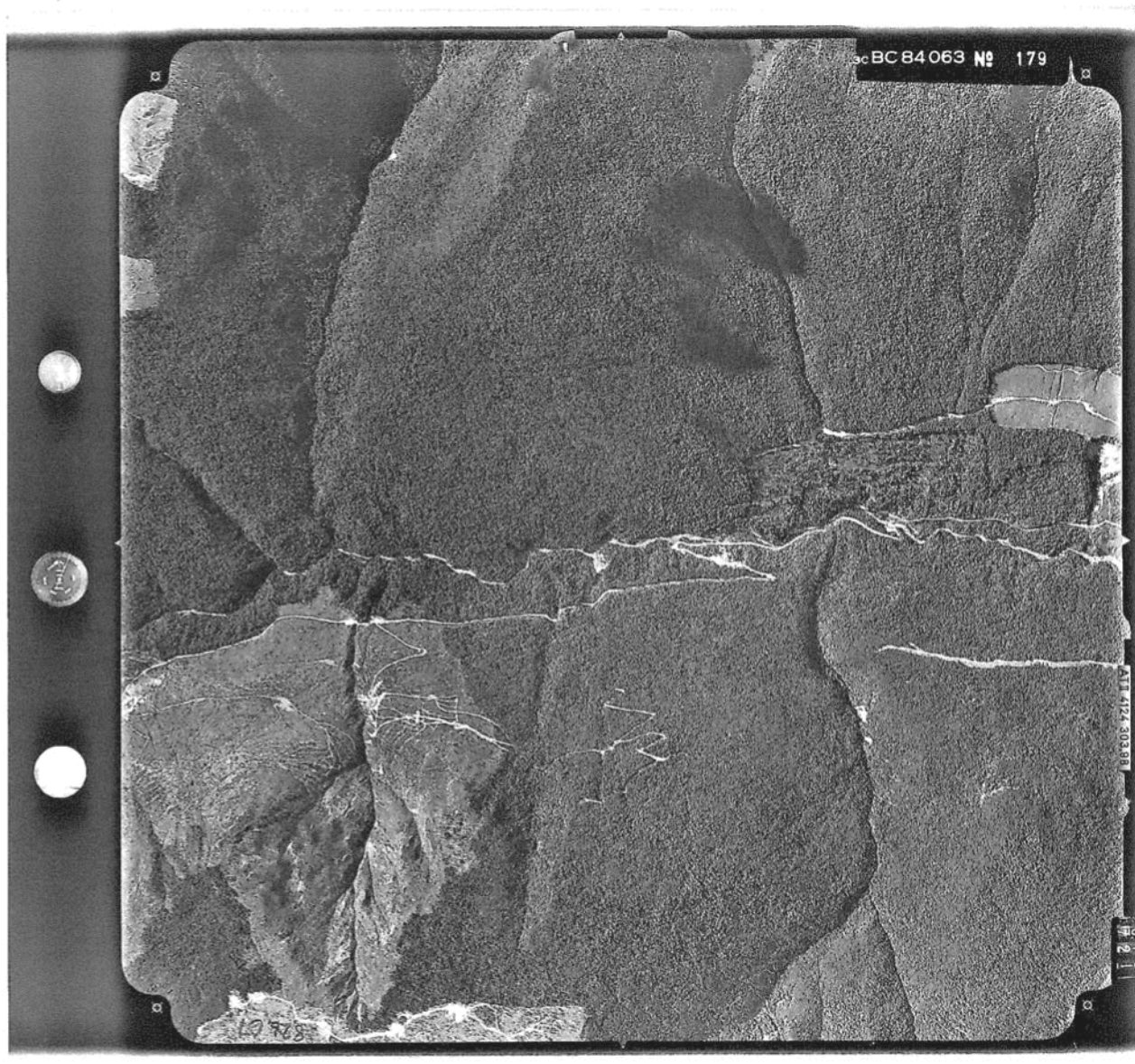




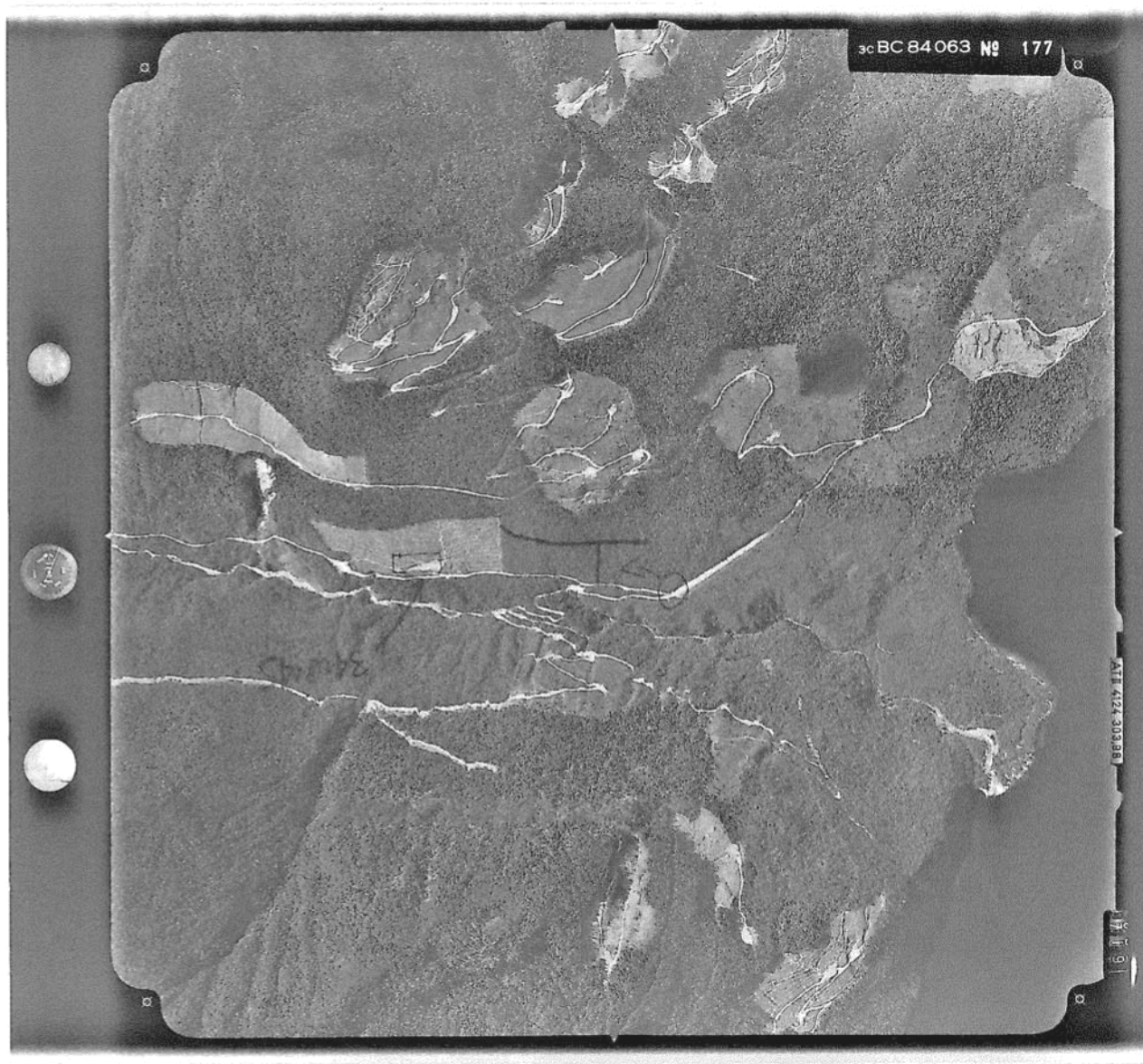


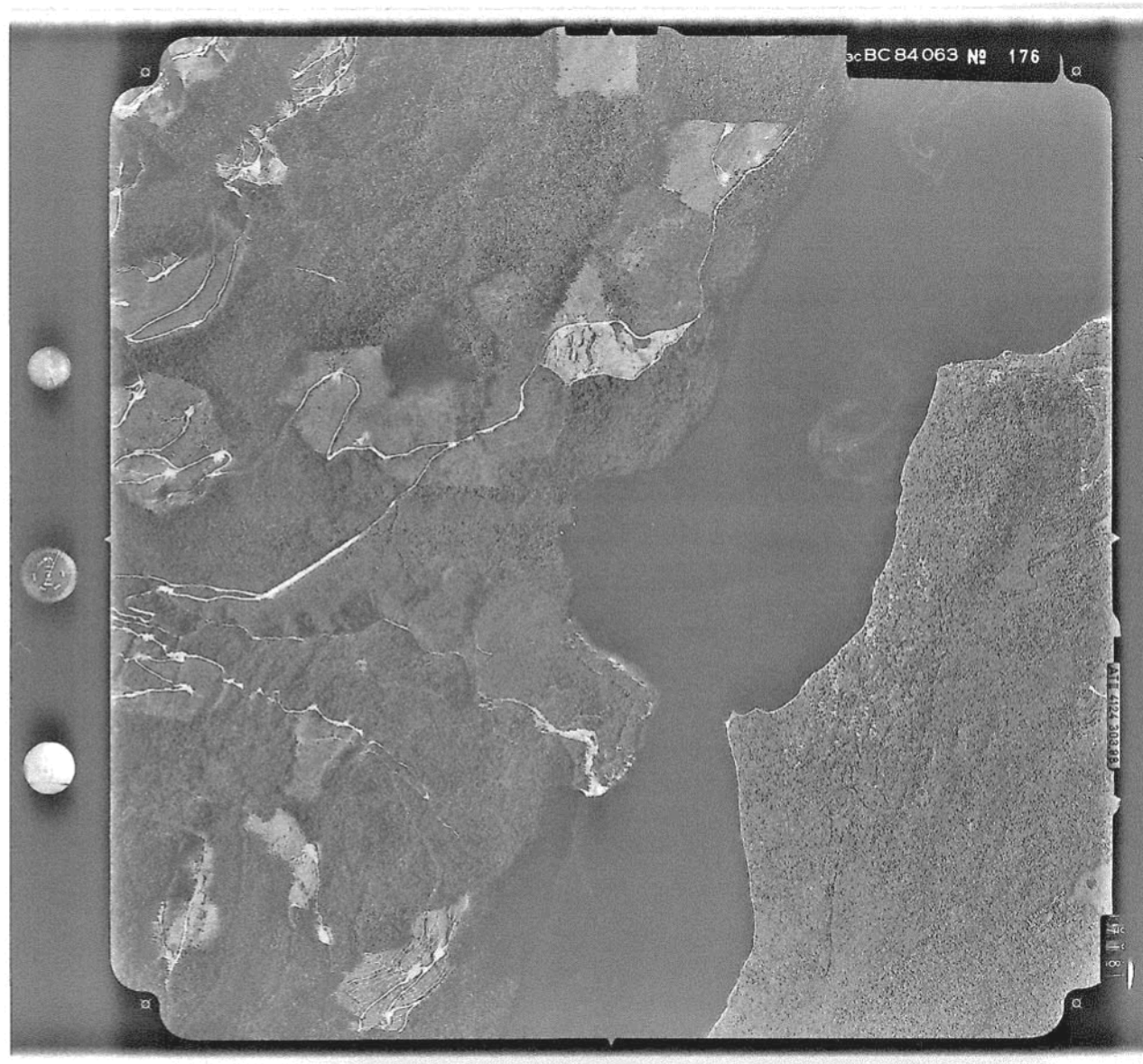


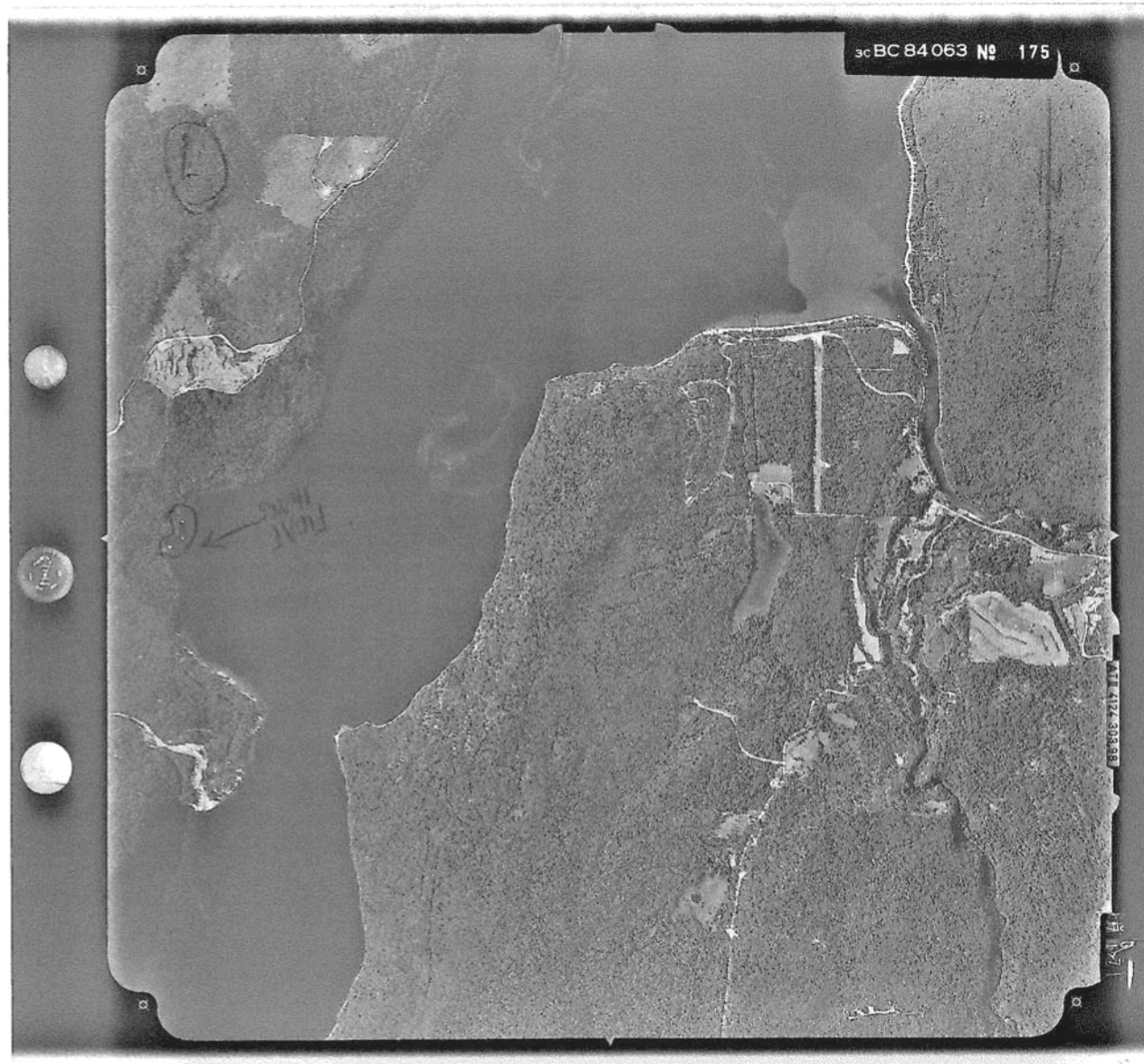






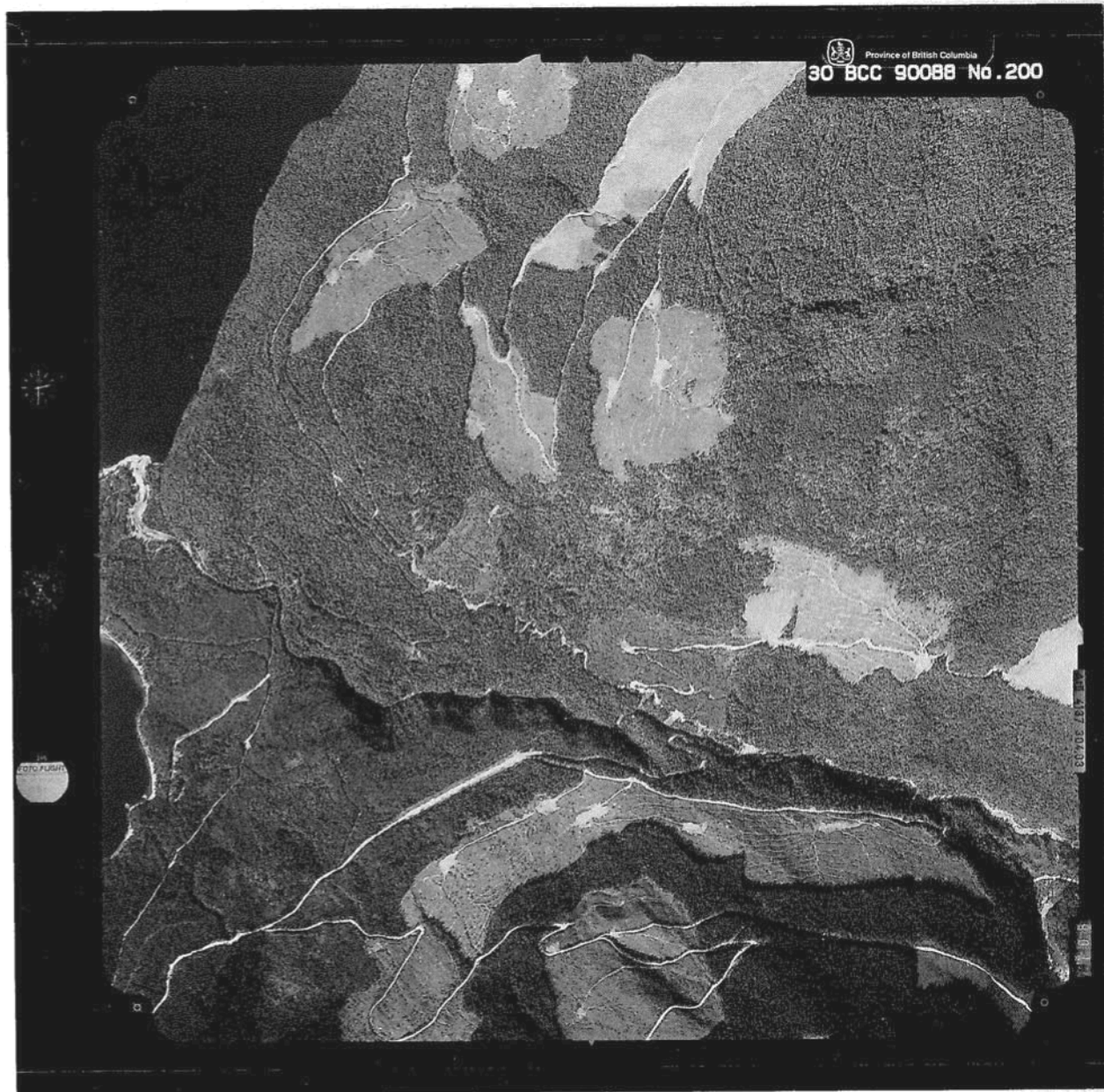












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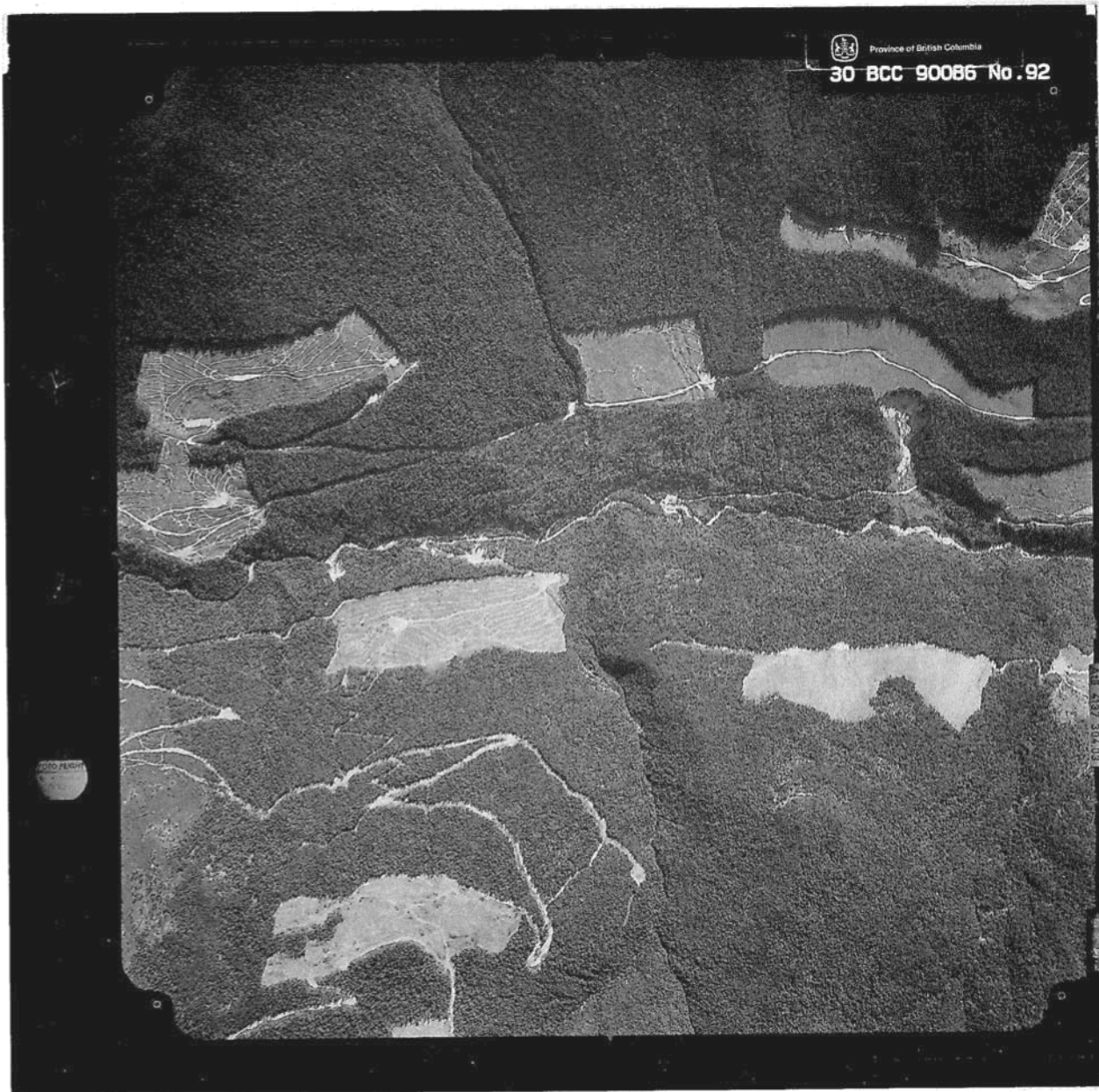
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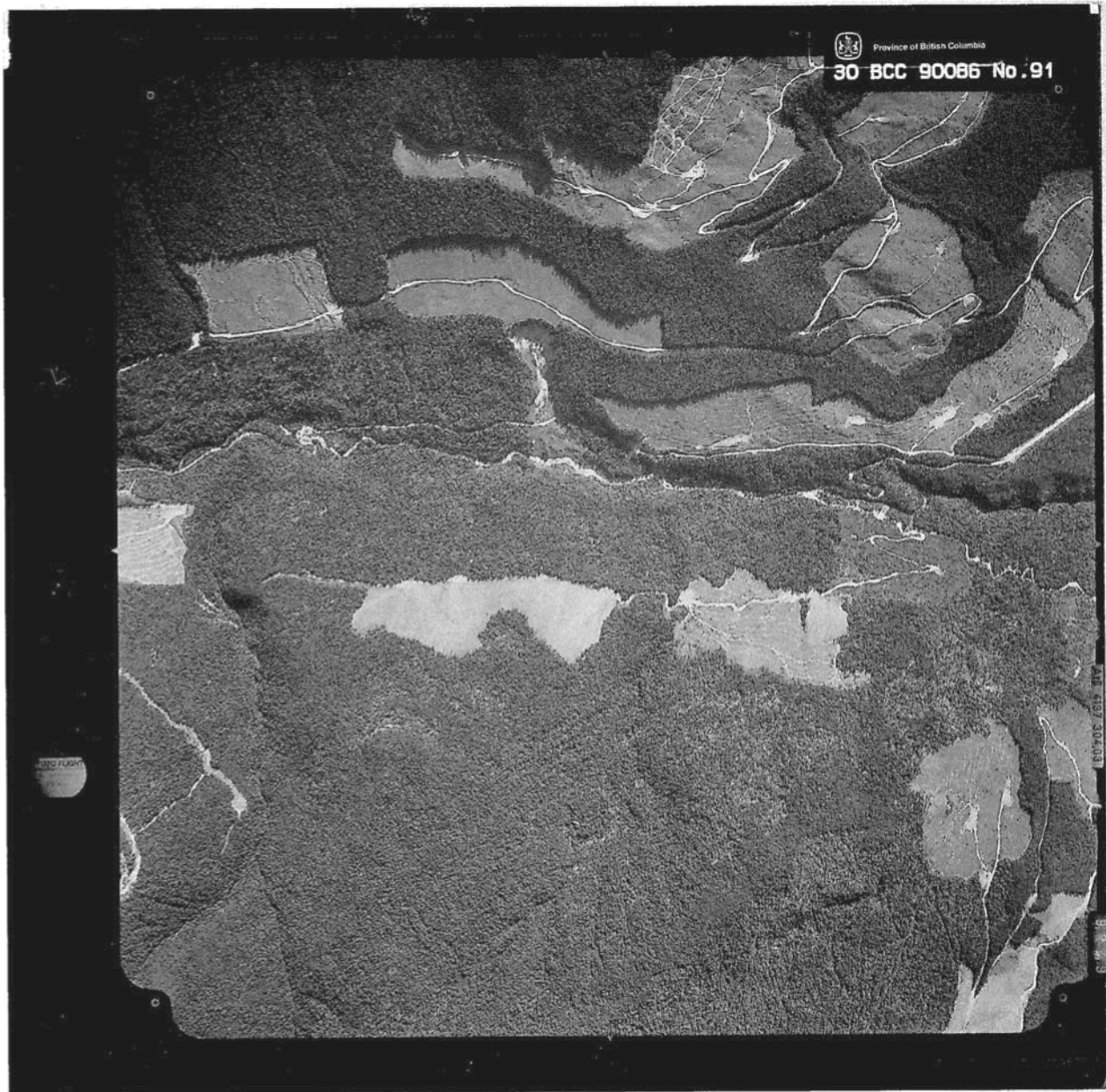
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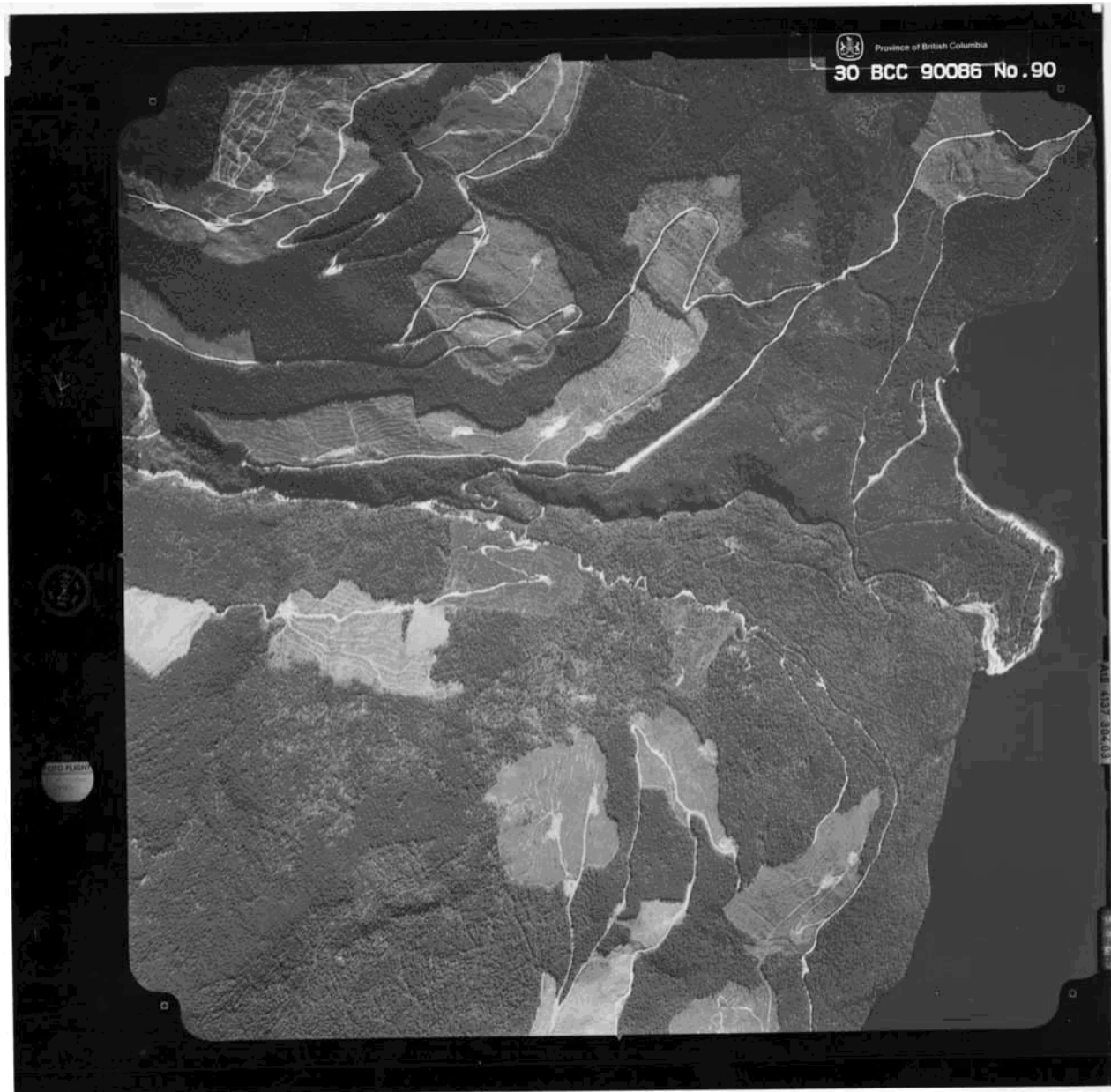


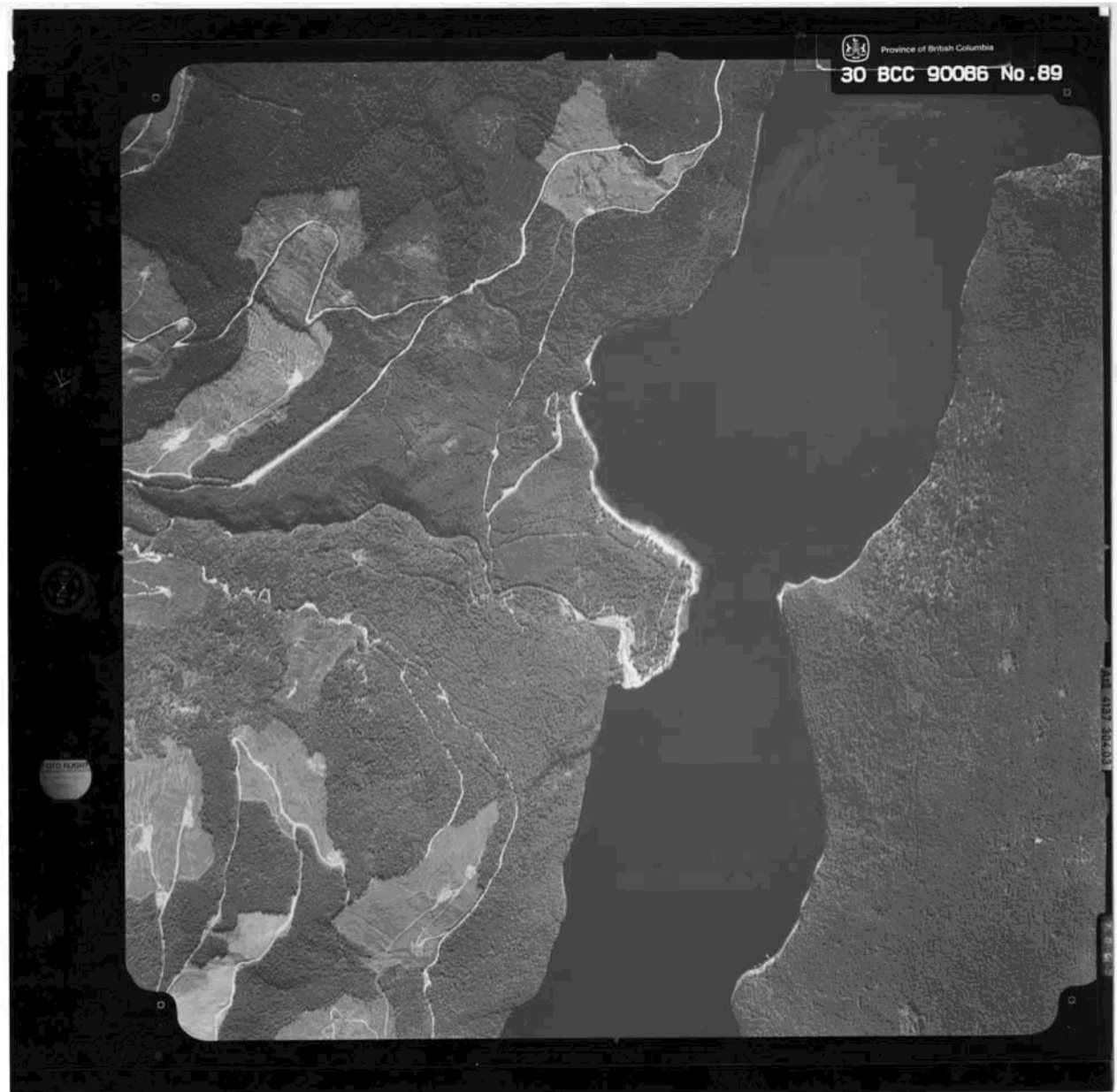


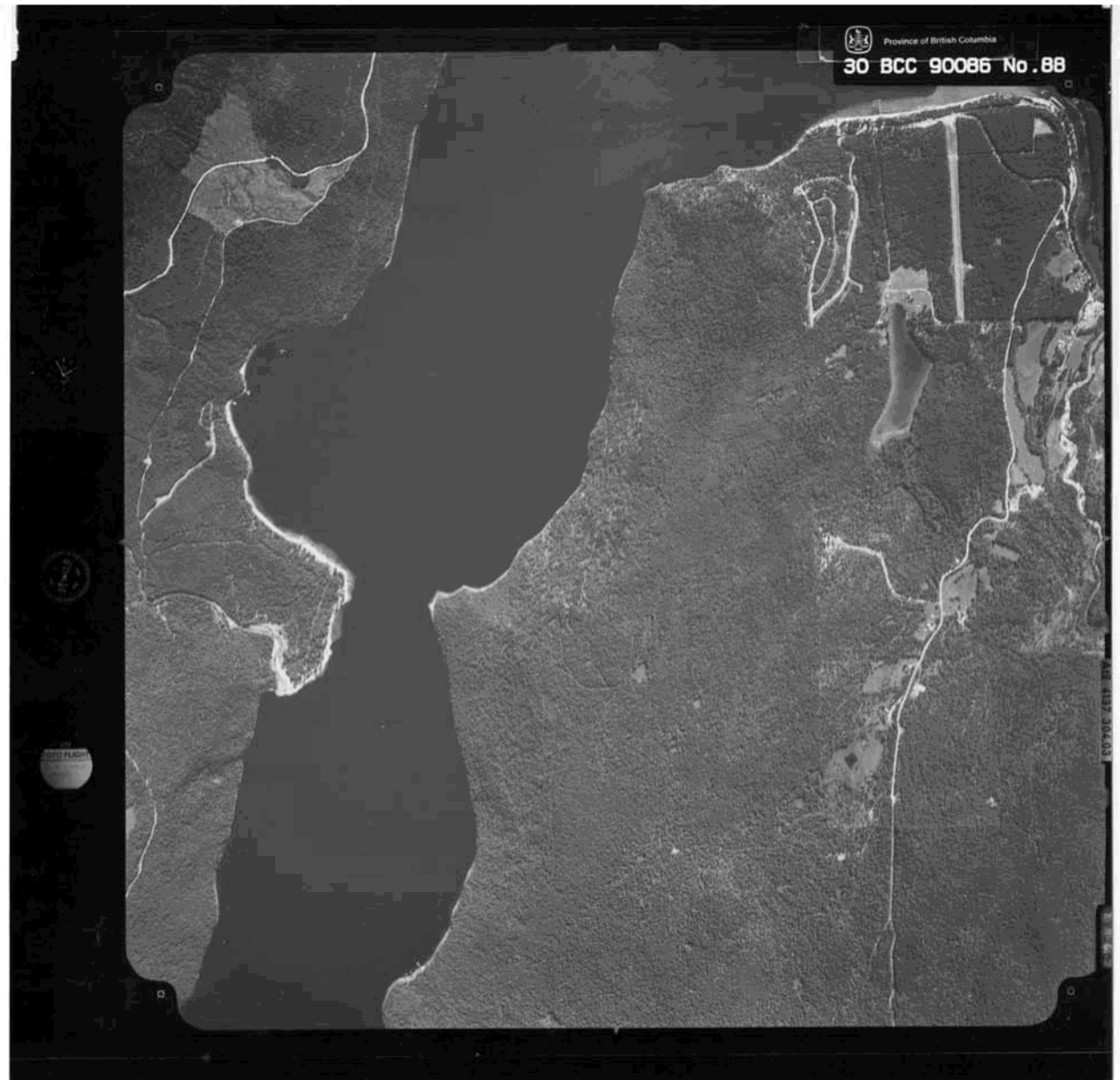














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