

AIRPHOTO SEARCH
FOR
GRANULAR PROSPECTS ALONG HIGHWAY #2
FORT RAE TO VICINITY SUNSET LAKE,
NORTHWEST TERRITORIES
OFFICE-BASED STUDY

J D MOLLARD AND ASSOCIATES LIMITED

CONSULTING CIVIL ENGINEERS AND ENGINEERING GEOLOGISTS

Specializing in airphoto interpretation and ground-water studies

326

AIRPHOTO SEARCH
FOR
GRANULAR PROSPECTS ALONG HIGHWAY #2
FORT RAE TO VICINITY SUNSET LAKE,
NORTHWEST TERRITORIES
OFFICE-BASED STUDY
FINAL REPORT

Prepared for:

Department of Public Works
Highway Division
Government of the N W T
Yellowknife, N W T
XOE 1HO

Attn: Mr. Turgot Ersoy
Head, Design and Construction

March 3, 1976

Prepared by:

D G Mollard, P.Eng.
J D Mollard & Associates Limited
815 McCallum Hill Building
Regina, Saskatchewan
S4P 2G6



AIRPHOTO SEARCH FOR
GRANULAR PROSPECTS ALONG HIGHWAY #2
FORT RAE TO VICINITY SUNSET LAKE, NORTHWEST TERRITORIES

PURPOSE

Purpose of this airphoto study was to map granular prospects in the vicinity of #2 Highway between approximately Fort Rae and Sunset Lake in the Northwest Territories. Yellowknife lies roughly in the middle of this east-west section of highway. As well as mapping the location of granular prospects we were to rate these mapped prospects from the quality aspect.

AIRPHOTO ACQUISITION

Upon receiving approval to proceed with the study we ordered airphoto coverage of the entire area from the National Airphoto Library in Ottawa. Scale of a portion of these photos is approximately 1 inch = 5000 feet (NTS 85J "F"). The remainder of the coverage is at scale 1 inch = 5833 feet (NTS 85NE "B"). The cost of photos has been charged against the project thus we are forwarding all photos to your office for field use and filing.

QUALITY OF PROSPECTS

As mentioned in the cover letter the quality (coarseness) of prospects is expected to be very poor. The main constituent of any unconsolidated deposit in the Yellowknife area is most likely to be "rock flour". This is finely ground-up non-plastic rock material of little value

for road surfacing. And I would expect that nearly all prospects west of Yellowknife are composed of this material. But because of the great scarcity of granular material I think you should check all of these prospects in the field to be certain of this generalization.

At Yellowknife I would expect the large deposit (#19) near the Yellowknife Airport to be mainly sand with only pockets of gravel occurring locally within it.

East of Yellowknife the prospects become larger and somewhat more promising in quality but still appear, in the airphotos, to be very sandy.

BEST-LOOKING PROSPECTS

West of Yellowknife

The larger more-promising prospects west of Yellowknife are 7, 8, 11 and 13.

East of Yellowknife

Prospects east of Yellowknife that look best with respect to size and quality are 19-A, 20, 21, 22, 27, 28, 29, 29-A, 30, 32, 35, 38, and 39.

TESTING

I would think that it must be extremely difficult to get any type of good testing equipment into prospect areas lying anywhere in the Yellowknife region. However, wherever possible we suggest you check with a backhoe, especially those prospects east of Yellowknife. In some cases when checking by hand auger one does not get through the layer of sandy surface material into any possible coarser material that may lie below. We feel one needs some type of equipment that is capable of penetrating at least 8 to 10 feet into the prospect area.

KEY MAP

The key map showing the approximate location of each mapped prospect is included at the back of the report.

TABLE 1

LIST OF PROSPECTS IN FORT RAE-YELLOWKNIFE-SUNSET LAKE AREA

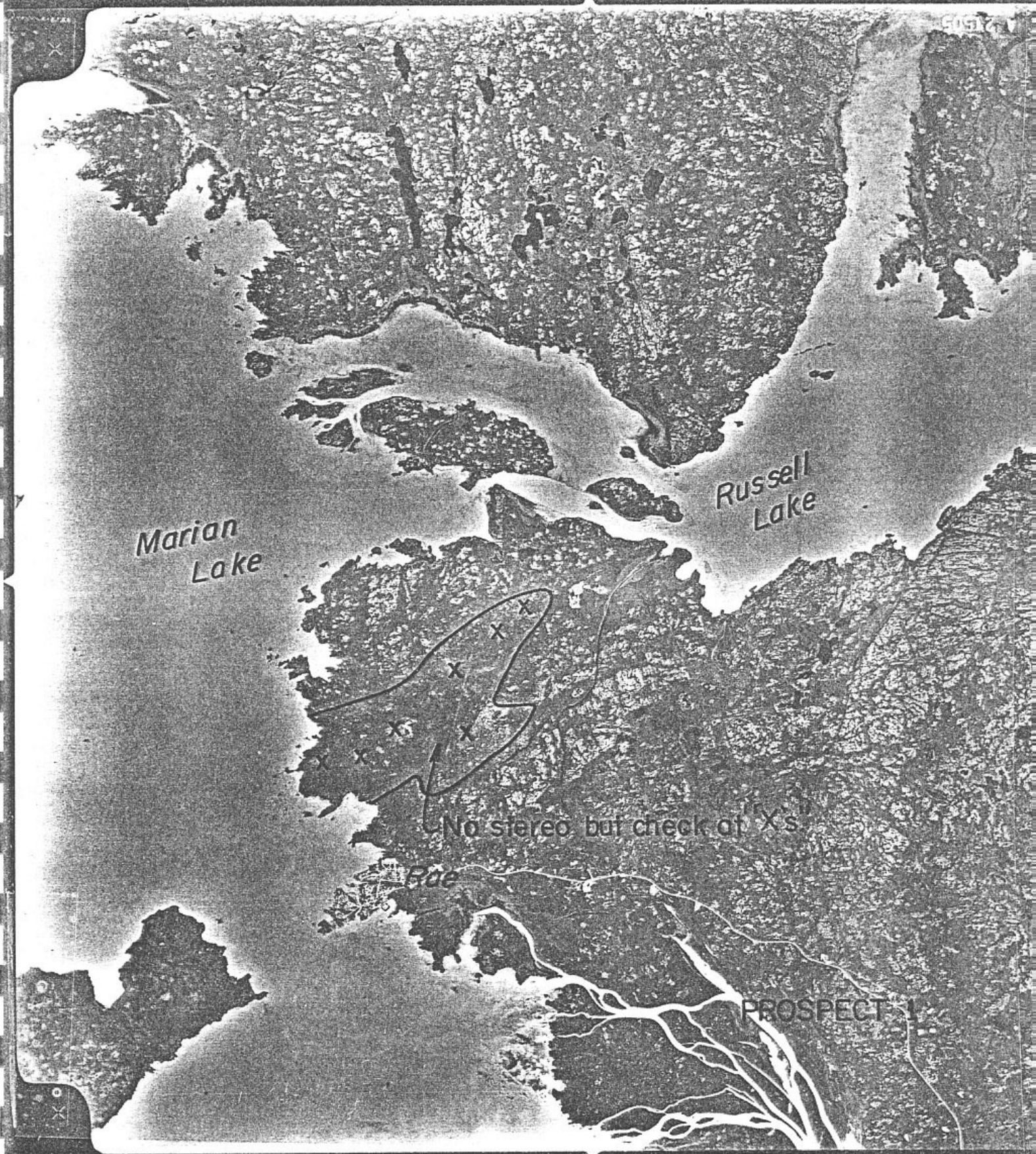
<u>Prospect Number</u>	<u>Comments</u>
1	Just north of Fort Rae. Cannot see stereo but probably worth checking quickly. <u>Very</u> doubtful
1-A	Small area of unconsolidated material. Has existing trail into it
2	Expect silts and silty sands along drainageway but check anyway; may find a pocket of coarse sand or fine gravel
3	Unconsolidated ridges; check at "X"s
4	Expect small pockets of sand
5	Very poor and small; sand pockets
6	Very small pockets; doubtful
7	Somewhat larger prospects but expect they are sandy
8	Larger prospects; check at "X"s
9	Very small prospects
10	Check along flank of dyke
11	Somewhat larger prospect; appears sandy
12	Very small prospects
13	Some of these prospects may have been mapped in flight line above. Check
14	Small pockets
15	Doubtful but larger areas
16	Very tiny prospect

TABLE 1 (cont'd.)

<u>Prospect Number</u>	<u>Comments</u>
17	Very doubtful; expect mainly peat
18	Near Yellowknife Bay and Prosperous Lake and along highway
18-A	Check prospect along road and area to north; poor
19	Yellowknife airstrip area; mainly sand; gravel pockets expected
19-A	Fair prospect
20	Somewhat better prospect
20-A	Tiny prospects
20-B	Remote but interesting. Check at "X"
21	Fair prospects. Probably best prospects up to this point; appear to be of glaciofluvial origin
22	Fair prospect; but likely sandy
23	Tiny prospects
24	Definite deposits but likely sandy
25	Sandy
26	Many small prospects. Suggest check larger outlined areas in prospect 26 before checking out the smaller ones
27	Fair prospects; large; coarseness?
28	Fair prospects; large; coarseness?
29	Fair prospects; large; coarseness?
29-A	Very doubtful but worth checking; may be glaciofluvial deposits in old meltwater channel

TABLE 1 (cont'd.)

<u>Prospect Number</u>	<u>Comments</u>
30	Glaciofluvial deposits; may be fair; large
31	Expect sandy; fair-sized
31-A	Very small
32	Check where shown; better-looking prospect rated as fair to good; coarseness?
32-A	Very small deposits; sandy
33	Mainly bedrock within outlined area but some granular; check between bedrock outcrops
34	Glaciofluvial deposit; looks sandy
35	Fair-looking prospects but expect sandy
36	Tiny; poor prospects
37	Expect mainly silts and silty sands in these prospects
38	Check area marked kame because better chance of coarser material here
39	Glaciofluvial prospects; one of better prospects on project





Russell Lake

PROSPECT LA

Slaggy River

Check at "X's" likely
silty sand

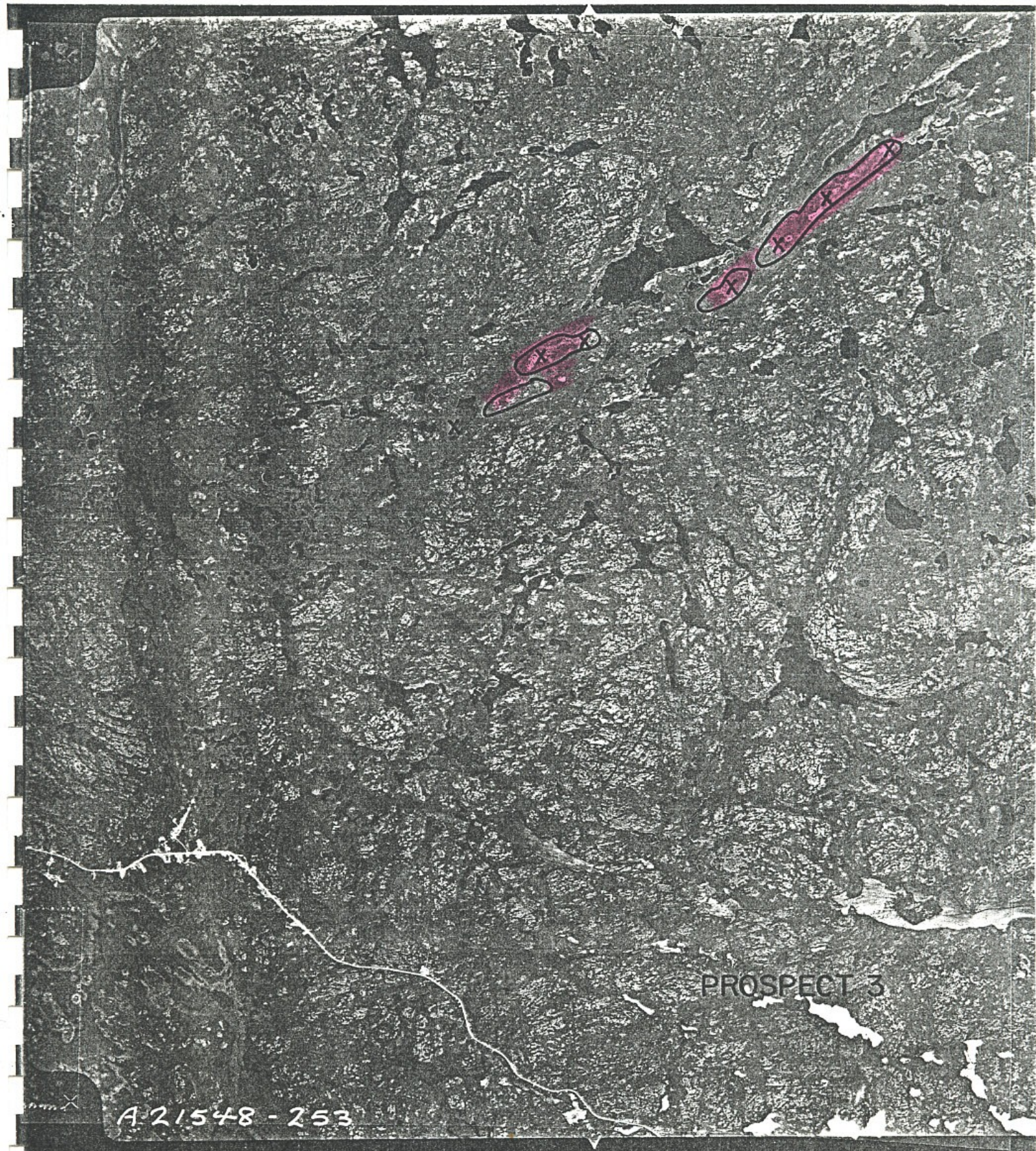
Thermokarst

Likely silt or sand; check

Check

PROSPECT 2

A 21548 - 252

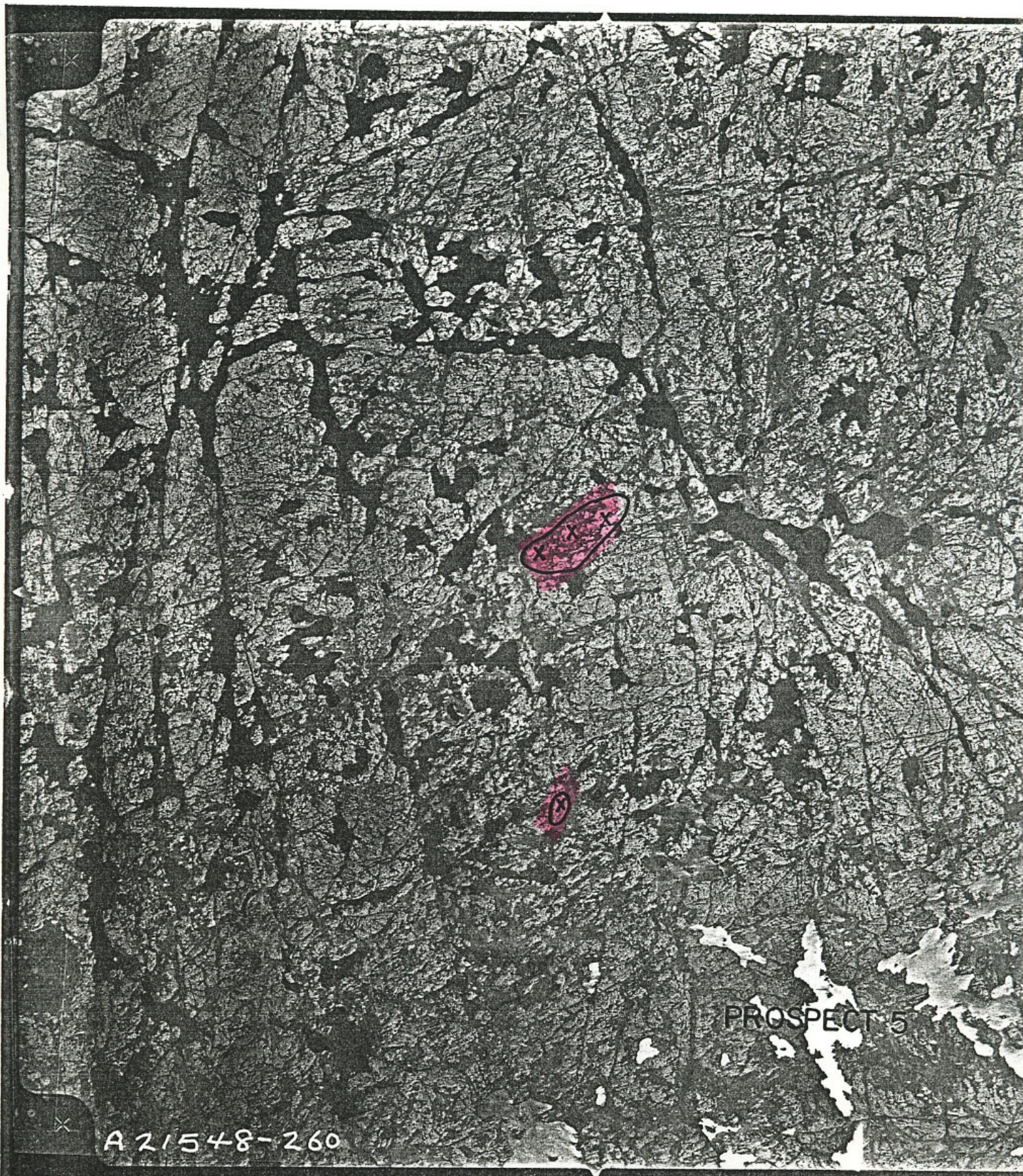


A 21548 - 253



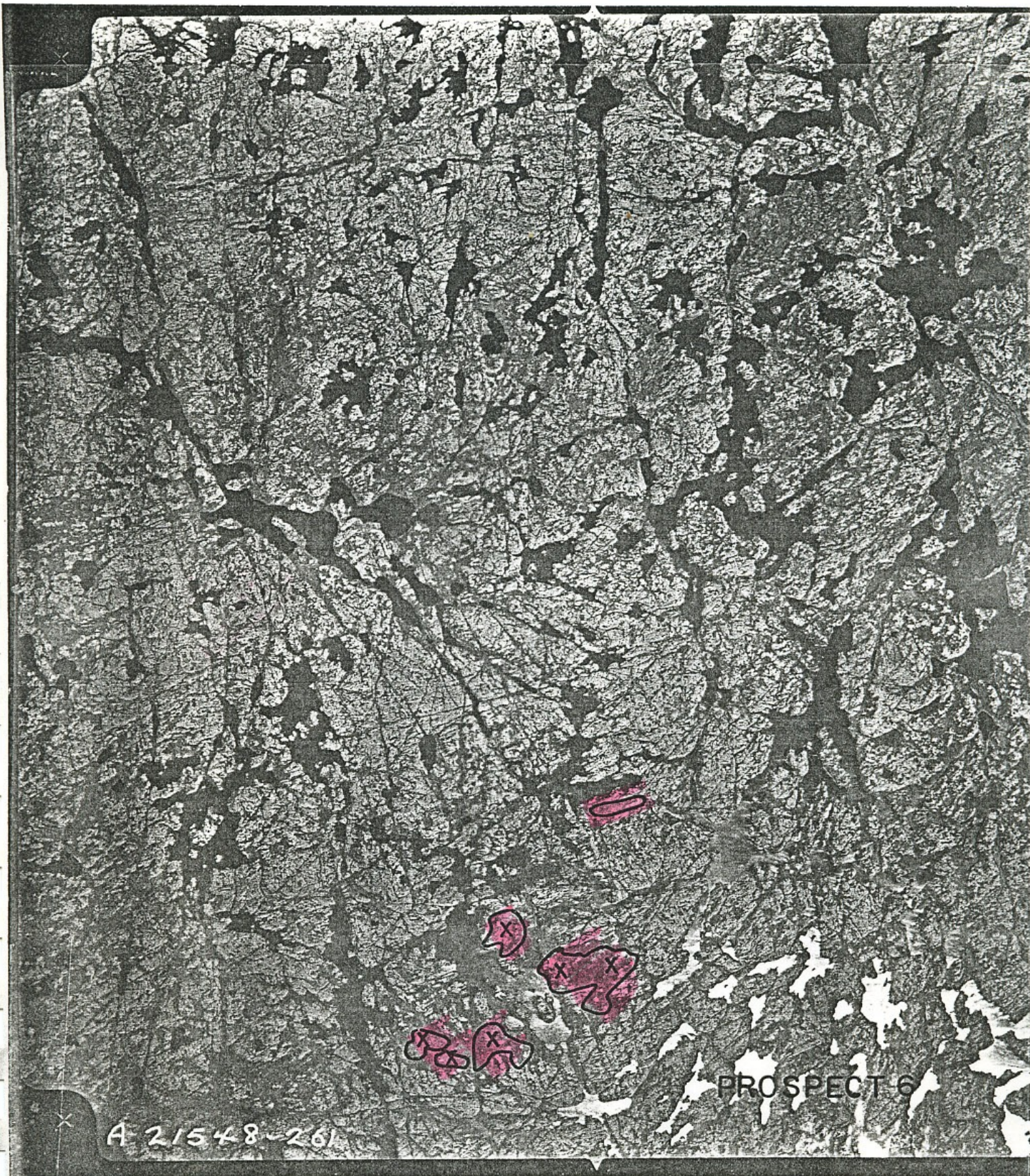
PROSPECT 4

A 21548-1258



PROSPECT 5

A 21548-260



PROSPECT 6

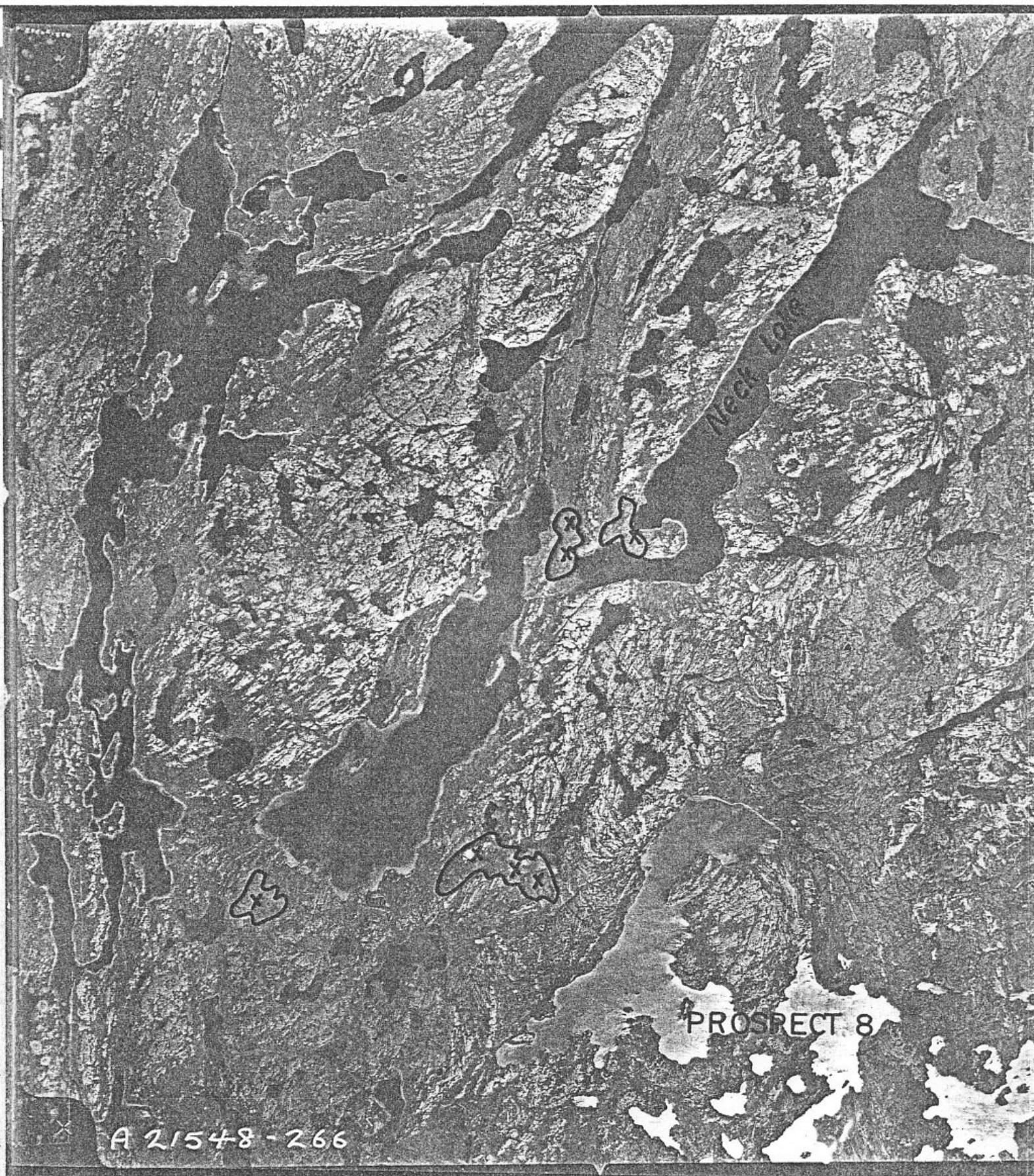
A 21548-261

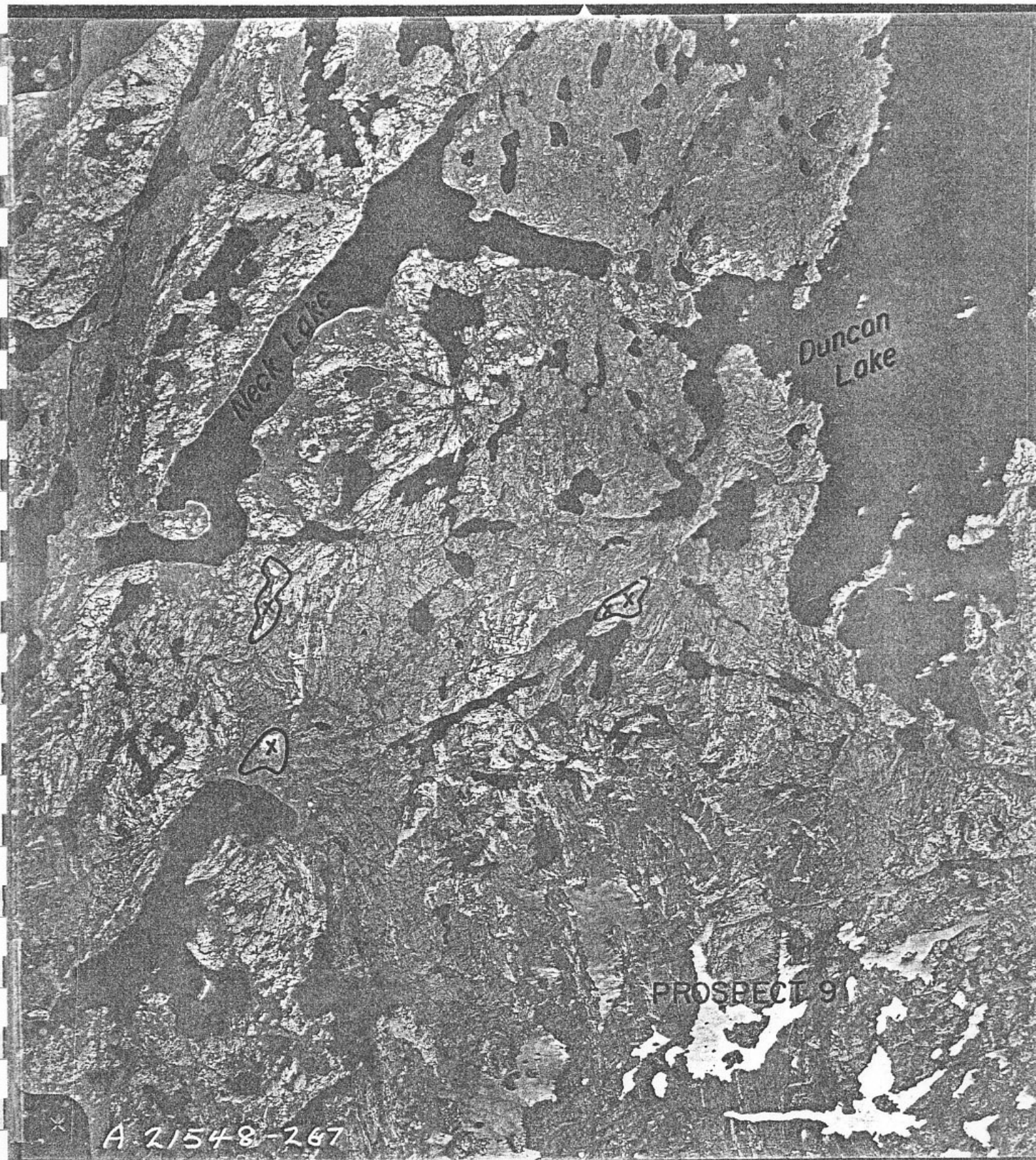


Fishback Lake

PROSPECT 7

A 21548-263





21548-224

Check along flanks of
bedrock ridges



Difficult to map, may be
sand or organic deposits
but check

PROSPECT 10

1548-219



PROSPECT 11

21548-217

X
B

PROSPECT 12

512-8-45

PROSPECT 13

1548-212

Duckfish
Lake

PROSPECT 14

21548-210

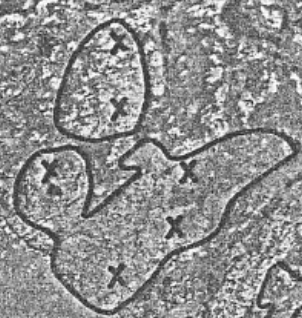
Buphiste
Lake

PROSPECT 15





21548-154



North Arm

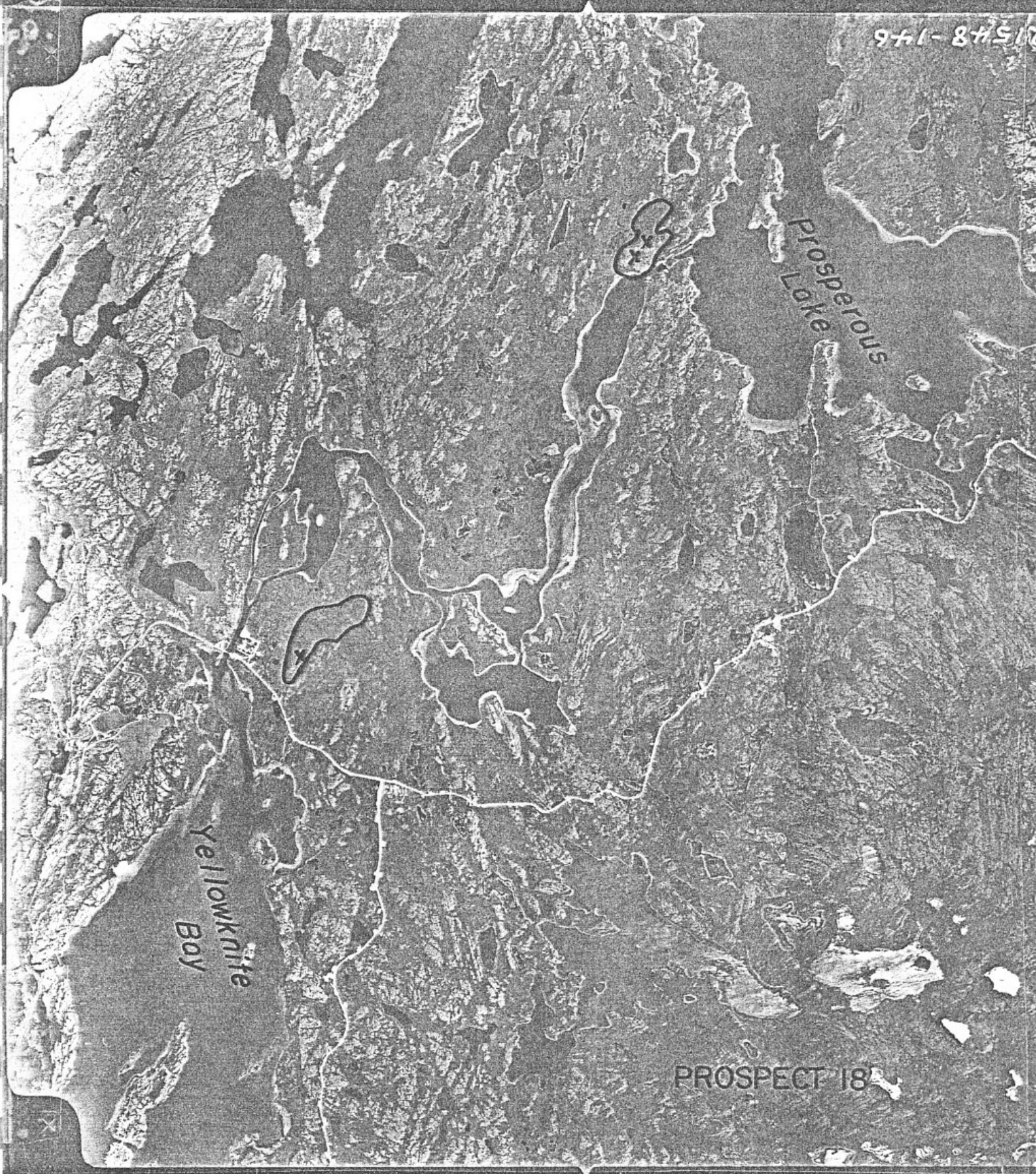
PROSPECT 17

01548-146

Prosperous
Lake

Yellowknife
Bay

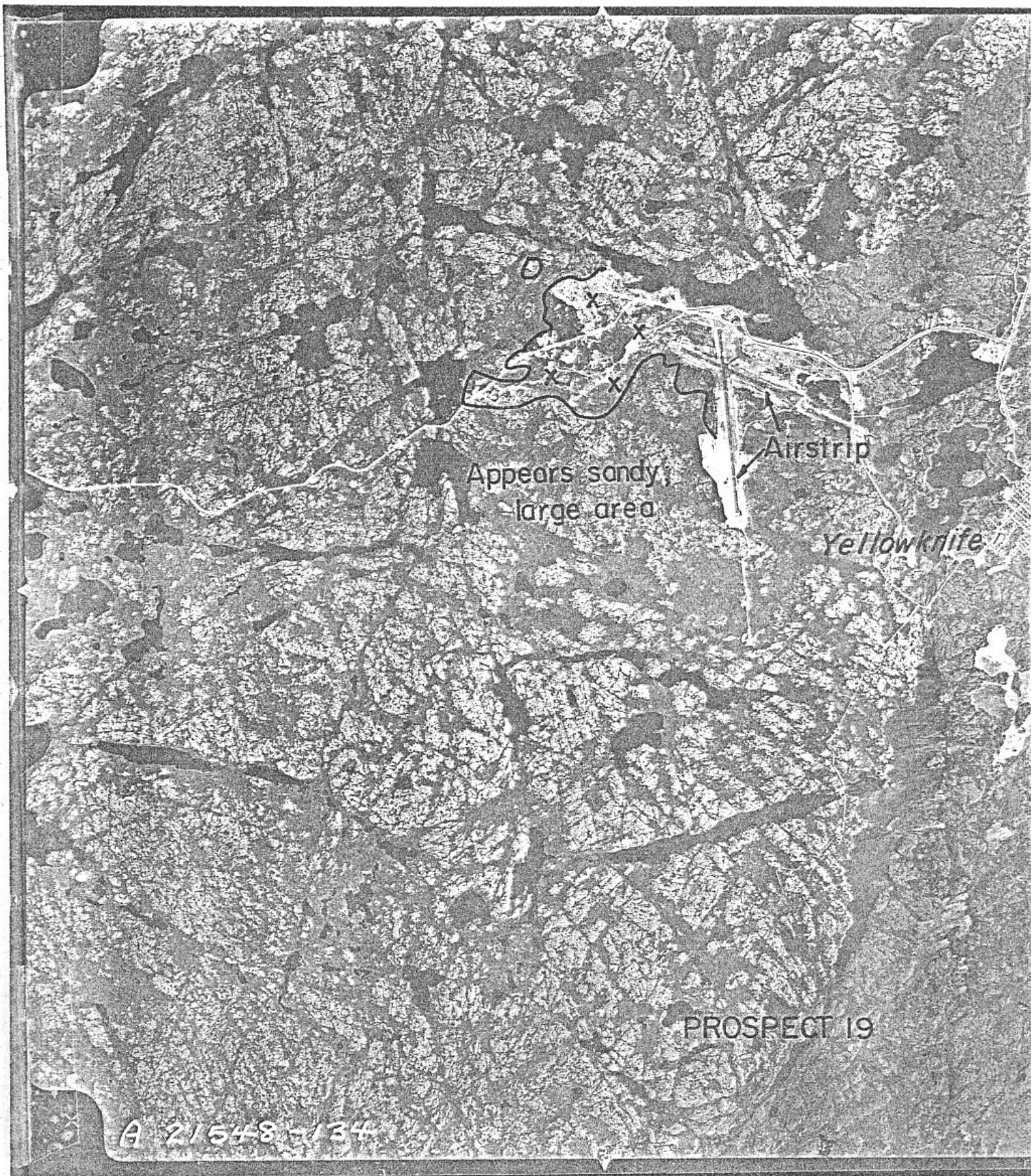
PROSPECT 18



21548-144

PROSPECT 18A





Appears sandy;
-large area

Airstrip

Yellowknife

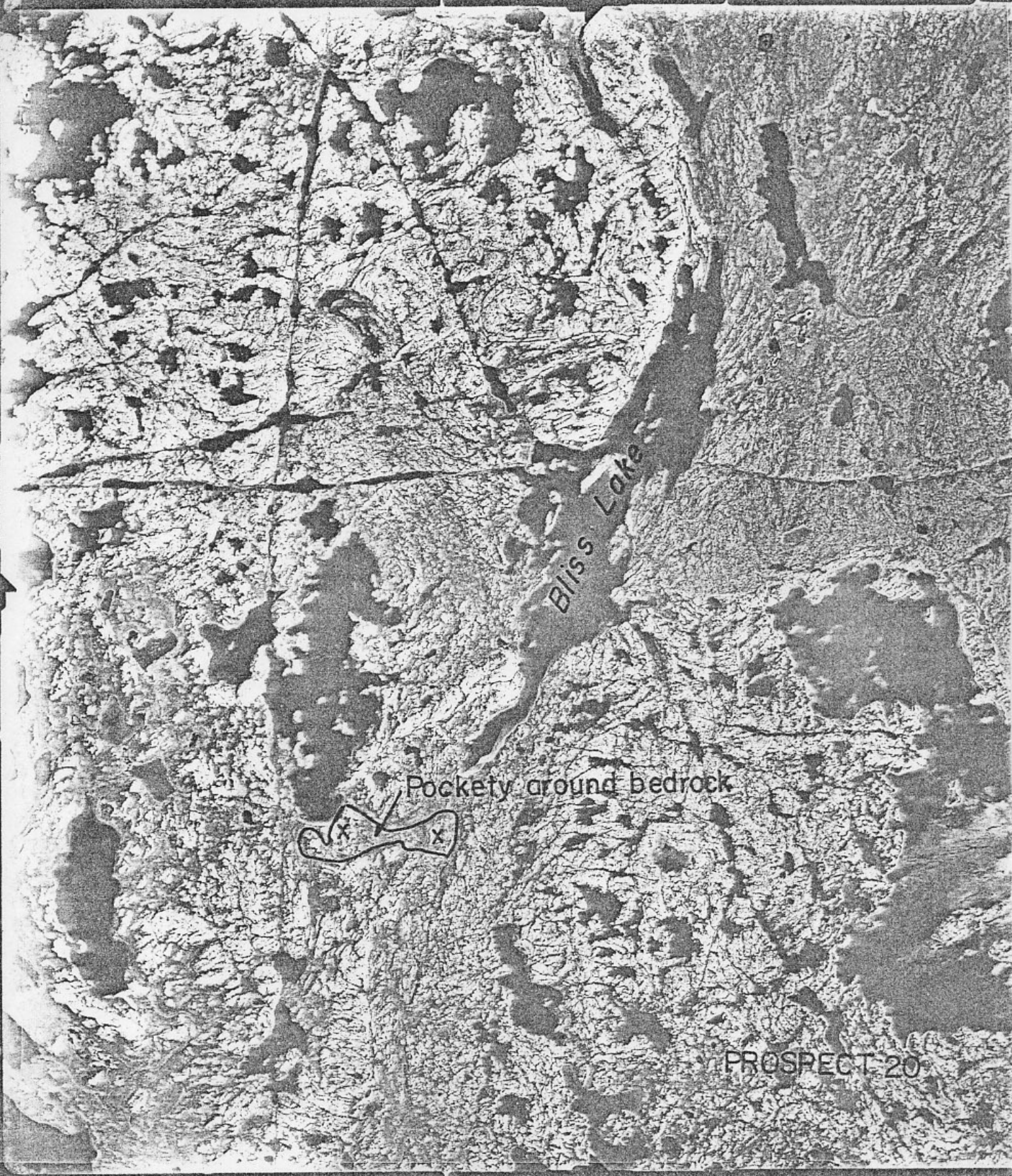
PROSPECT 19

A 21548-134

Prelude Lake

PROSPECT 19A

6 MAR 1950
RECEIVED
UNITED STATES
BUREAU OF
MINES
WASHINGTON
D.C.



Bliss Lake

Pockety around bedrock



PROSPECT 20



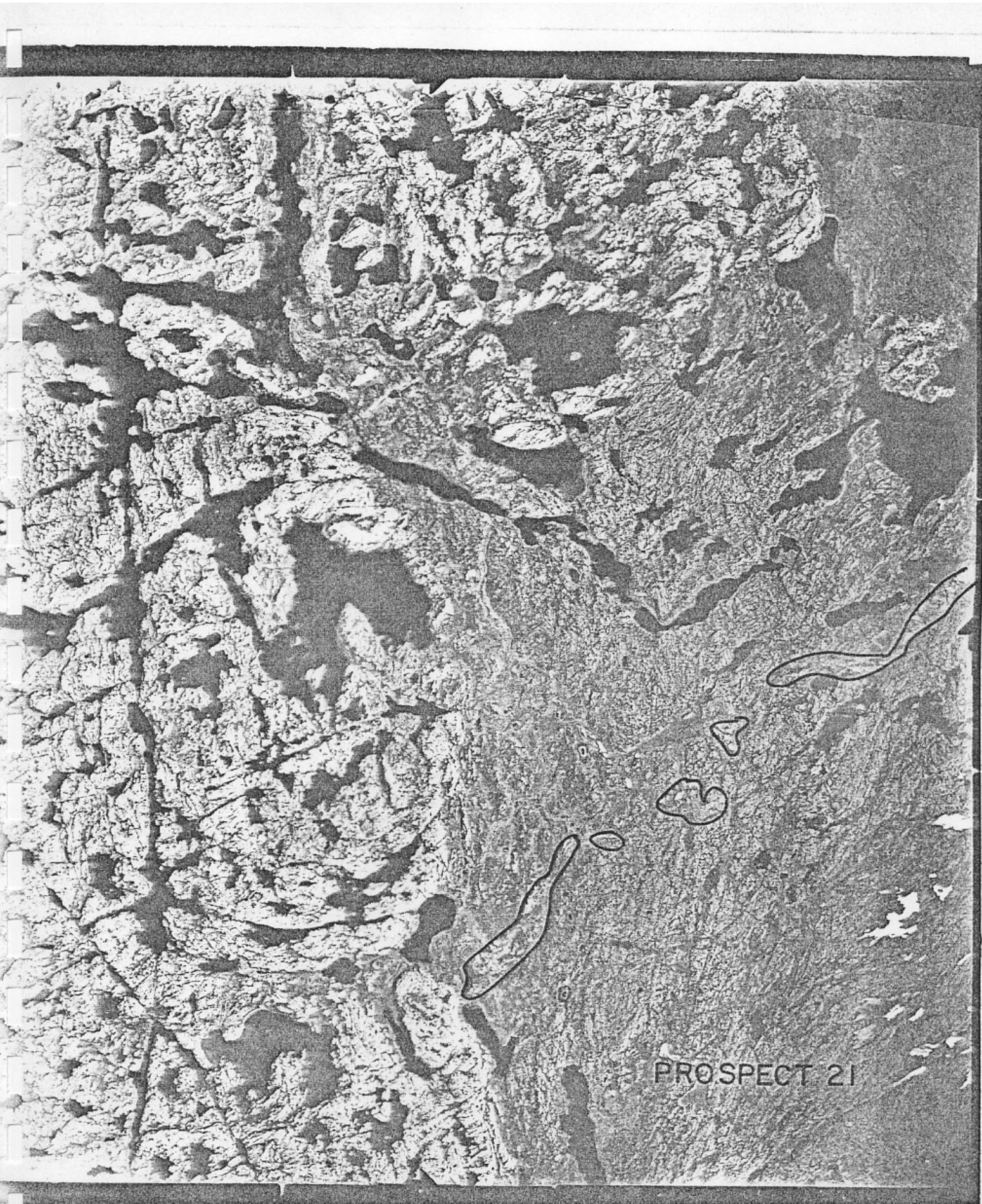
Prelude Lake

PROSPECT 20/

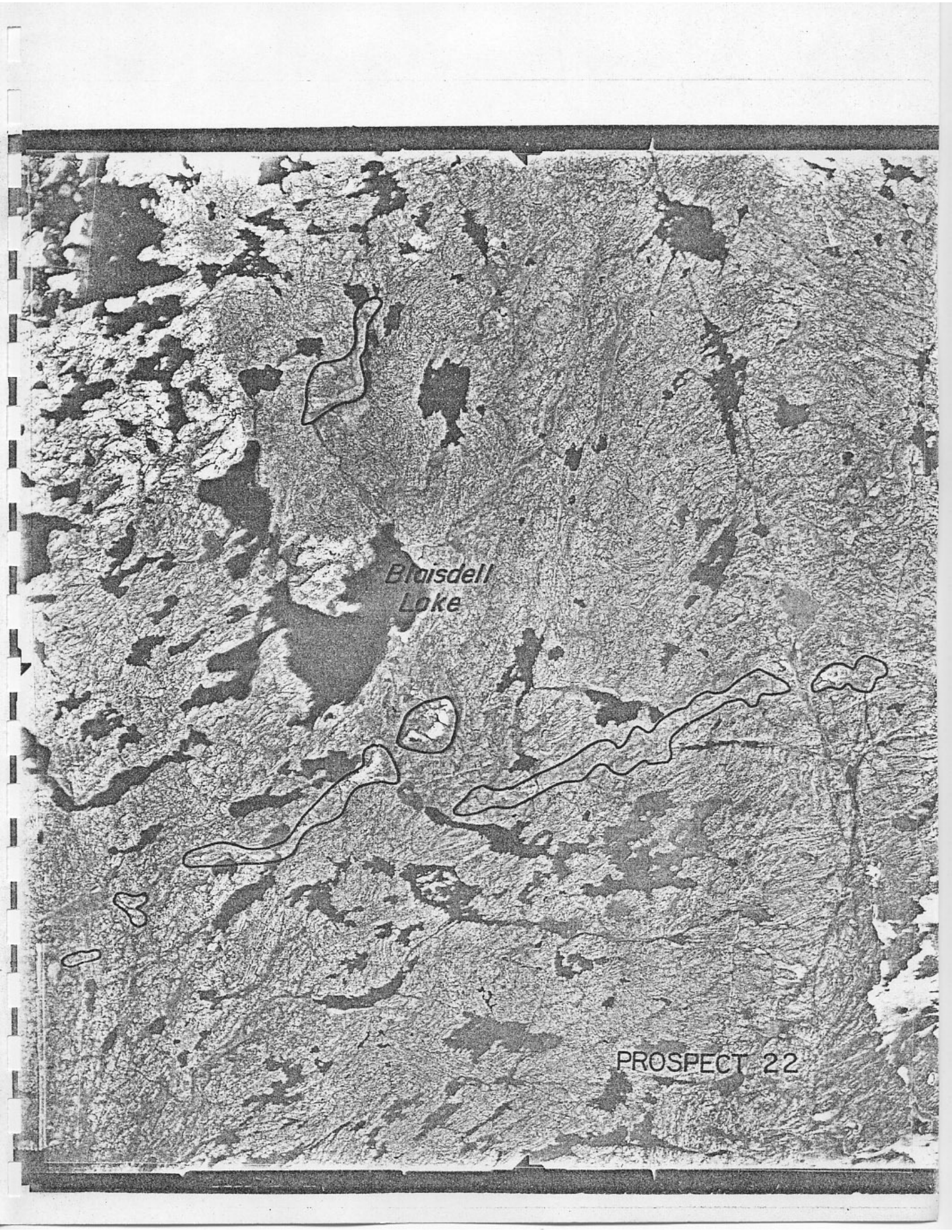


Duncan Lake

PROSPECT 20B




PROSPECT 21



*Braisdell
Lake*

PROSPECT 22



This is a black and white aerial photograph of a rugged, mountainous landscape. The terrain is characterized by numerous sharp peaks, ridges, and deep, dark shadows in the valleys, suggesting a complex geological structure. Two lakes are visible: a larger one in the upper left and a smaller one in the center right. A small, irregularly shaped area on the right side of the image is outlined with a thin white line. The overall texture of the land is highly irregular and rocky.

Ross
Lake

Saunders
Lake

PROSPECT 23

An aerial photograph showing a rugged, mountainous landscape. A large, dark, irregularly shaped lake is located in the center of the image. The surrounding terrain is highly textured with numerous ridges, valleys, and smaller water bodies. The overall tone is grayscale, emphasizing the topographical features.

*Ross
Lake*

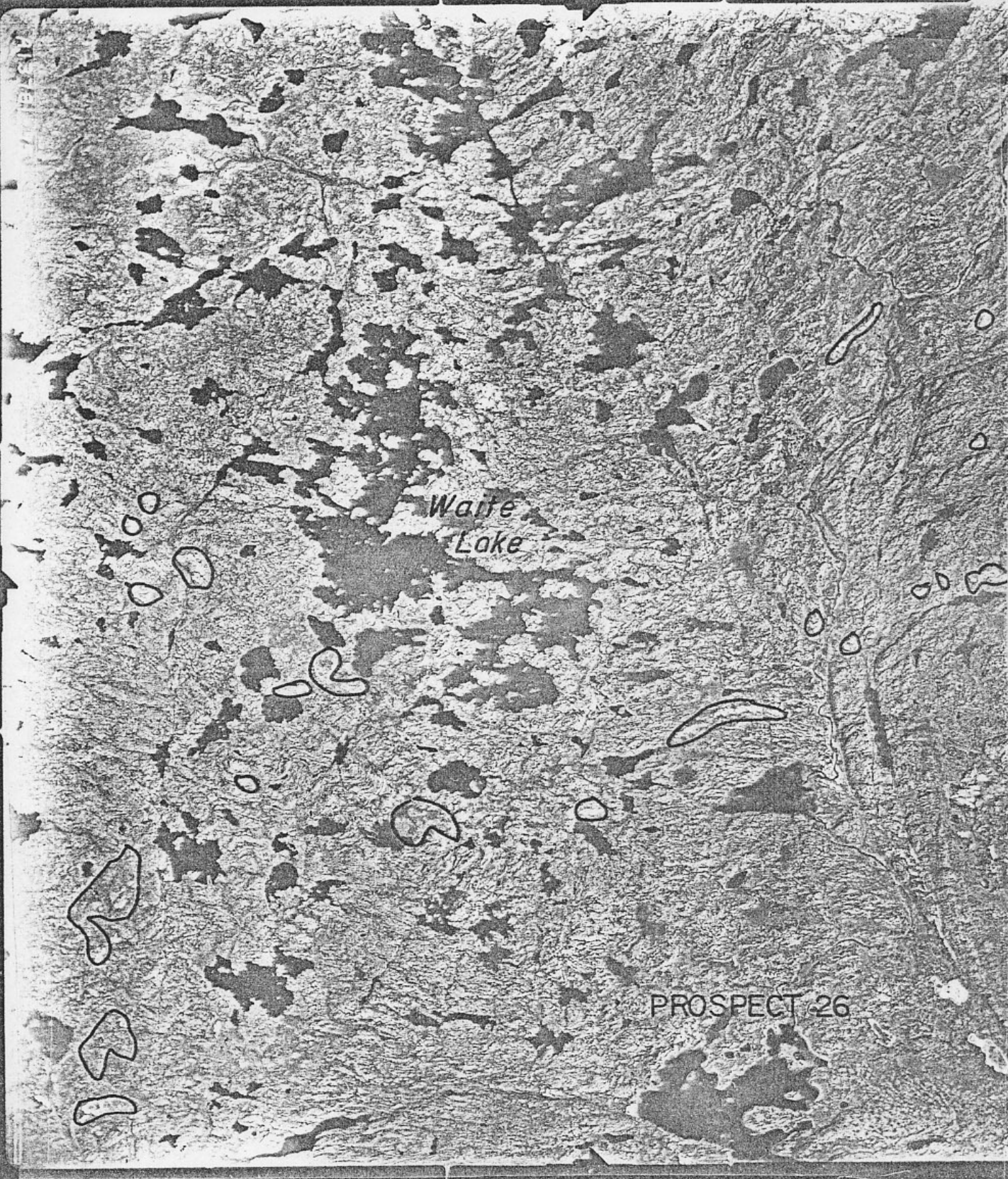
PROSPECT 24

Pensive Lake

ROSS
Lake

PROSPECT 25

0
MADI
W. D. BULLOCK
ENR
MINES
D. S. BULLOCK
ANALYST
COPYRIGHT



Waite
Lake

PROSPECT 26

413747-1

Hearne Lake

Trout Lake

Zigzag Lake

PROSPECT 27

UNITED STATES GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
BULLETIN 1442
GEOGRAPHIC NAMES
ALASKA
1974



Beaulieu River

Woynd Lake

Airstrip

PROSPECT 28

U.S. GEOLOGICAL SURVEY
BUREAU OF GEOLOGY
WASHINGTON, D.C. 20540
GEOLOGIC MAP
OF
THE
VICTORY LAKE
AREA
IN
THE
STATE
OF
ALASKA
1:50,000
SCALE
1967
BY
J. W. COLEMAN
AND
J. R. HARRIS
GSA
BULLETIN
1400
P. 1

113747-65

Victory Lake

PROSPECT 29



113747-01

Allan
Lake

Check closely

Doubtful

PROSPECT 29A

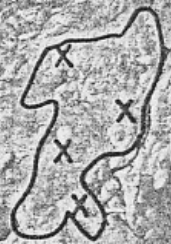


Languish
Lake

PROSPECT 31A

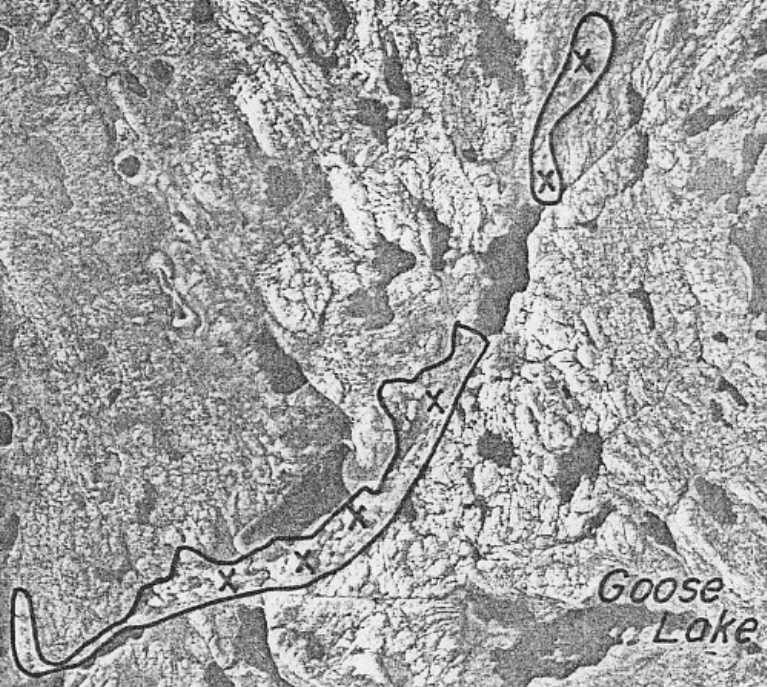


Detour Lake



Tumpline Lake

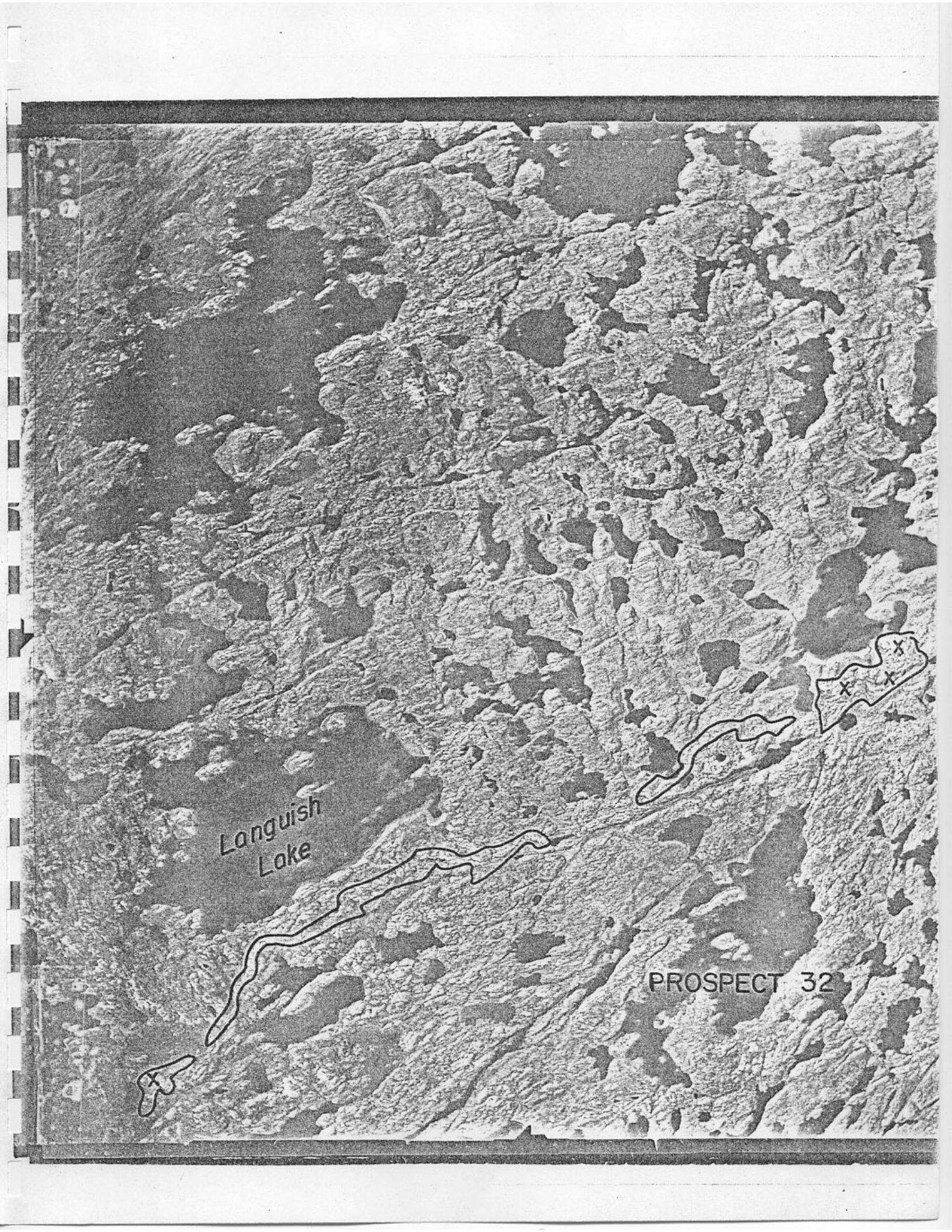
PROSPECT 31



Consolation
Lake

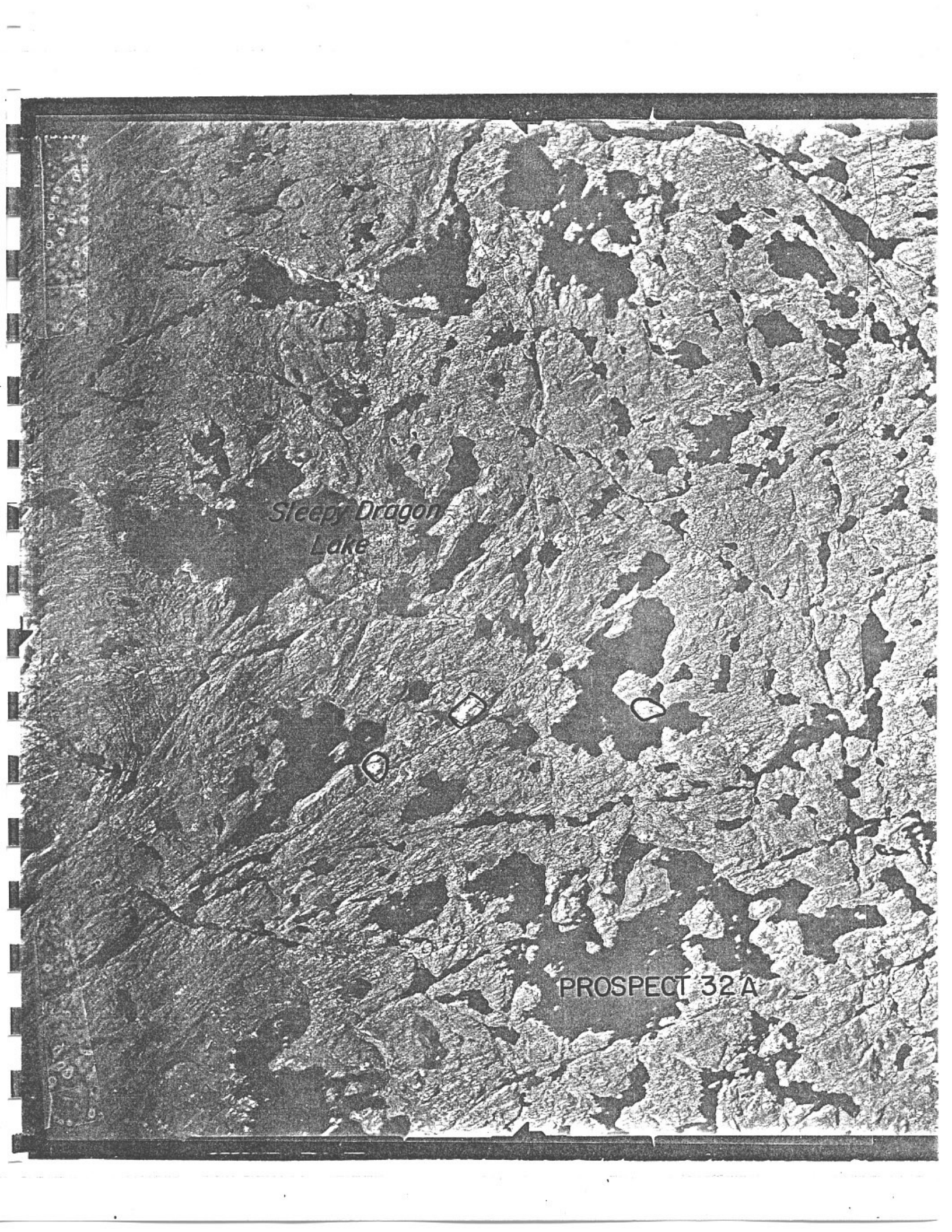
Goose
Lake

PROSPECT 30

An aerial photograph of a rugged, rocky landscape. The terrain is characterized by numerous dark, irregularly shaped depressions or pits scattered across a lighter-colored, textured rock surface. Hand-drawn black outlines are superimposed on the photograph. One large, elongated outline is labeled 'Languish Lake'. To the right of this, there is a smaller, more complex outline containing three 'X' marks. In the lower right, the text 'PROSPECT 32' is written. In the lower left, there is a small, irregular outline containing a single 'X'.

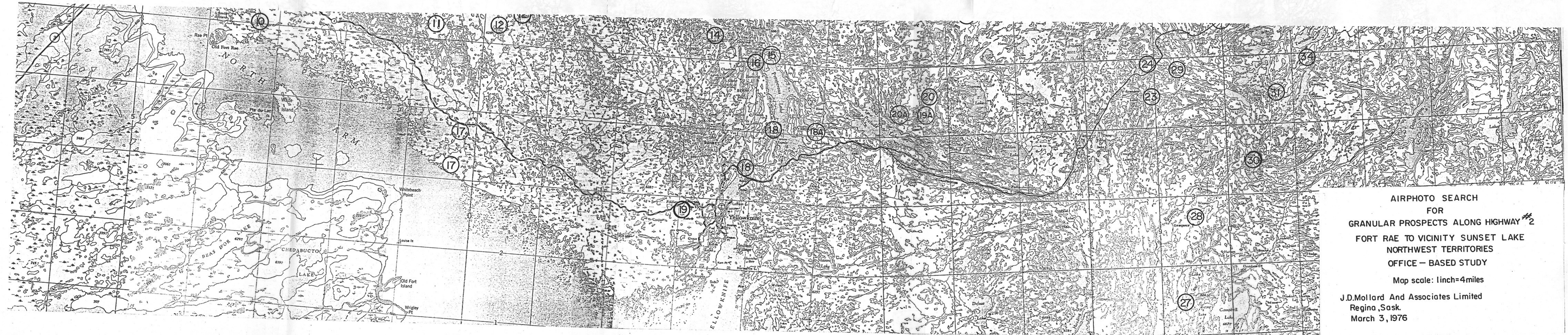
Languish
Lake

PROSPECT 32

An aerial photograph of a rugged, rocky landscape, likely a desert or mountainous region. The terrain is characterized by dark, jagged rock formations and lighter, possibly sandy or sparsely vegetated areas. A grid of small, light-colored squares is overlaid on the image, particularly visible on the left side. The text "Sleepy Dragon Lake" is printed in a stylized font in the upper left quadrant, and "PROSPECT 32 A" is printed in a bold, sans-serif font in the lower right quadrant. There are several small, dark, irregular shapes scattered across the landscape, which could be small pools of water or specific geological features.

*Sleepy Dragon
Lake*

PROSPECT 32 A



AIRPHOTO SEARCH
FOR
GRANULAR PROSPECTS ALONG HIGHWAY #2
FORT RAE TO VICINITY SUNSET LAKE
NORTHWEST TERRITORIES
OFFICE - BASED STUDY

Map scale: 1 inch=4 miles

J.D.Mollard And Associates Limited
Regina, Sask.
March 3, 1976

END OF REPORT