673109
TATLA

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Illustrations

PIN GROUP OF CLAIMS

Introduction

On the basis of some malachite - chalcocite float found in the beginning of June in the area 2½ miles east of Perkins Peak, 88 claims were staked during the period July 3-8 after the area was sampled partially for geochemical analysis. This group was expanded towards west to a total of 106 claims after interesting Au values were obtained in soil and silt samples from the Chromium Creek Valley, referred hereafter as Chromium Valley. These claims are numbered as Pin 1-106.

LINE CUTTING

For systematic geochemical, geophysical and geological surveys, a network of compass and chain lines was laid out with the base line along E-W and the lines, perpendicular to it at a spacing of 1200'. A total of 12.5 miles of lines were run, which were obtained, flagged and cut wherever necessary.

MAGNETIC SURVEY

The ground magnetic survey was conducted with Fluxgate MF-2 magnetometer with readings at every 200' interval along the easily accessible parts of the lines. The readings were taken at every 100' near stations with higher readings. The readings were corrected for diurnal variations, plotted in a plan and contoured with 100 γ contour intervals. A magnetic anomaly 2,800' long and 200'-400' wide trending N 55E was obtained. The magnetic anomaly, with 1800 γ as its maximum value extends from line 6E to 24E, east of which it is offset towards north and continues on lines 30E and 36E. Thus it is still open towards east. In early stages of the field work, it was assumed that this anomaly indicates a magnetite-bearing shear zone, but the geological mapping outlined the shear at a distance of 500'-800' south of the magnetic anomaly.

GEOCHEMICAL SURVEY/

GEOCHEMICAL SURVEY.

A total of 550 silt, soil, talus and chip samples from the rock outcrops were taken from the area for analysis by atomic absorption method. All the samples were analysed for Cu, Mo, Au and Zn but a few with $>$100 p.p.m. Zn were also analysed for Pb and Ag. Some of the earlier samples were also analysed for As and Hg but these were established between the metal content of the samples and As and Hg.

Besides some of the higher values of Cu in chip samples containing stains of malachite and traces of chalcopyrite, most of the chip samples contain Cu in the range of 20 to 280 p.p.m. Some of the chip samples containing higher Cu were taken from the top of the ridge south of Chromium Valley; whereas the other location yielding chip samples with high Cu was between lines 0 and 12E south of Chromium Creek. Traces of chalcopyrite and malachite in andesitic outcops were found in this area.

The soil samples gave generally higher values of Cu than the corresponding chip samples from the nearby outcrops. This is clearly evident from the samples taken on the ridge mentioned above. This might be due to the retention of Cu in limonite which is a major constituent of reddish-brown soil of this area. Some higher Au and Mo values were also obtained from the soil samples taken along the slopes of Chromium Valley. Two check traverses of soil and chip samples south of Chromium Valley on the ridge showed that soil samples have higher Mo content (2-4 p.p.m.) than the corresponding chip samples. This observation could be explained as due to the fixation of Mo. with limonite as ferrimolybdate under the acidic environment which prevails in the area due to the presence of considerable amount of pyrite in the rocks.

The/

The silt samples taken from the lower part of Chromium Creek returned relatively high values of Cu, Mo and Zn, with the increase in values towards the downstream side. This could be attributed to the increase in pH downstream away from pyrite-rich areas, and the consequent release of Cu and Zn from the solution. This result is not so noticeable with Zn as with Cu. Mo. could again be absorbed by precipitating iron oxides.

Although a few soil samples from Chromium Creek show relatively higher Zn values (up to 275 p.p.m.), most of the soil, silt and chip samples have fairly uniform Zn values varying from 30 to 110 p.p.m.

GEOLOGY

The field work for geological compilation of the staked area was done in part by Art Dawson and partly by the writer during the later half of the season. The geological plan was compiled at a scale of 1"=800' to maintain some accuracy in transferring geological observations from air photos to the plan.

Most of the area is underlain by andesite, tuffaceous andesites, andesitic breccia, some maroon agglomerate and maroon tuff and minor basalt as well as rhyolite-dacite, all of which are mapped by Tipper as of Hauterivian age. Although no intrusive is exposed in the area, mild baking effect and a few hornfels-like outcrops in the western part of the area were observed on the ridge south of Chromium Valley. Andesite, tuffaceous andesite and andesitic tuff are mostly green or greenish gray and fine grained. Porphyritic variety of andesite was noted at several locations. Many of the andesitic outcrops are chloritized and contain veinlets of epidote. However, the outcrops along Chromium Creek and on the ridge south of it, presumably andesitic, are medium gray, highly silicic, hard and much fractured.

A/

A prominent shear along N.70E with moderate dips towards S.E. traverses the area from Chromium Valley to the hill north of the base line near the malachite float area. Along the entire length of the shear traced, the rocks, presumably andesite, andesitic tuff and tuffaceous andesite, have been intensely altered, sericitized, slightly silicified and converted to sericite schist, which is grayish in color when freshly broken, but crumbles to grayish white flakes on weathering. Cubic cavities with limonite were noted in weathered rock, but, finely disseminated grains of pyrite were found in fresh sheared rock.

The above shear is apparently cut-off by a N.60W striking fault/ shear east of line 18E. This fault probably continues further northwest on lines 0 and 12W, where I.P. anomalies were obtained.

A series of parallel shears striking N80-85E are suspected traversing the lower part of the Chromium Creek. These have converted the local rocks into highly altered schistose, sericite-rich rock. It is not known how far these shears continue, but disseminated grains of pyrite were also observed in the outcrops along the creek.

MINERALIZATION.

The malachite float and some malachite staining on altered, epidotized andesite was located in the eastern half and central parts of the staked area comprising of a NE-trending hill and an E-W trending ridge. The malachite float, associated often with magnetite, was later on, traced to the upper slopes of the ridge south of the base line between lines 0 and 24E, where several outcrops show mild shearing and epidotisation of the tuffaceous andesite. Such outcrops are often traversed by veinlets of quartz, with or without carbonate, epidote and chlorite along the fractures and at times along indistinct bedding planes exhibiting slip effect. Some chalcopyrite was also found as disseminations in the altered andesite near the fractures.

The more interesting float of malachite and some chalcocite was found on the NW. slope and the foot of the NE-trending hill over which the base line also passes. No outcrops bearing copper mineralization were found in the float area, or higher on the slope. However, the major part of the magnetic anomaly coincides with the area in which the float is found. A typical grab sample of this float assayed 1.02% Cu and 0.17 oz/ton Au. The float area and the magnetic high is located in the footwall of a prominent N70E striking shear at a distance of at least 500' north of it.

I.P. SURVEY.

The high power I.P. survey, using dipole-dipole array with dipole spacings of 200', was conducted over some of the easily accessible lines. The following sections of the lines were covered by I.P. work.

Line 0	1S - 30N
" 12E	0 - 36N
" 24E	20N- 44N
" 12W	1 & S - 38N
" 24W	2S - 44N
" 36W	0 - 22S
" 52W	1N - 18S
" 60W	12S - 28S
" 40 + 40S	10E - 12W

The I.P. survey on line 0 was repeated for the section 17N-23N using dipole spacings of 50' to define the anomaly in this section precisely. Thus a total of 27,800' or 5.25 line-miles of I.P. survey conducted on the Pin Group during Aug.12 - Aug.24.

The following I.P. anomalies were obtained on different parts of the lines.

Anomalous Section/

		Anomalous Section	F.E.%	Resistivity	Approx. depth
Line 0	(200' dipole)	17N - 24N	10-16	350 - 700	200' - ?
" "	(50' ")	18N - 20 +50N	12-16	300 - 800	80'
"	12E	15N - 25N	8-11	400 - 600	350'
"	24E	20N - 28N	8-11	600 - 800	200' - ?
"	12W	18N - 28N	11-13	350 - 900	200' - ?
"	24W	20S - 22S	8	120 - 200	?
		20N - 28N	11-16	250 - 1000	200' - ?
"	52W	7S - 10S	8	150 - 200	400'
		10S - 14S	9-11	300 - 400	200'-400'
		16S - 18S	11	200?	350'
"	60W	22S - 24S	7-9	250	Surface -?

The I.P. anomalies on lines 0 and 12W coincide with the extension of the N60W - striking shear on L.24E. No outcrops could be located within the anomalous area. However, some float of very rusty, silicified, sheared rock containing varying quantities of pyrite was found in the area.

The southern part of the I.P. anomaly on line 12E straddles the area with some malachite float. This might be of interest for future work. Similarly the southern part of the I.P. anomaly on L.24E just goes over into the high magnetic area.

The anomaly on line 24W from 20N-28N seems puzzling. Its south end starts about 200' north of the Andesite/Rhyodacite contact and extends northwards apparently over the acidic volcanic. The outcrops of this just east of the line are barren, but slightly brownish weathering because of its mild-alteration and some carbonate content.

There seems to be three different I.P. anomalies on line 52W (claim line). Of these the one from 16S to 18S coincides with the N70-75E running shear zone, however it seems to be located at more than 350' depth. Probably this is the depth from which sulfide content of the shear zone increases. This/

This shear zone is outlined on all the other lines except line 60W by lower resistivity, although it does not produce any frequency effect.

From the above discussion, it is concluded that I.P.anomalies on lines 12E and24E should be of interest due to its partial coincidence with the magnetic high, which in turn coincides with the malachite-chalcocite float area. I.P. anomaly on line 24W seems to be formational; it probably indicates large sulfide (pyrite?) content at depth in the acidic volcanics. However, the cause of anomalies on lines 0 and 12W are unclear; for only a shear zone, the anomalies are too wide. A line (40 + 40S) of I.P. survey was also run on the south side of the ridge where malachite stains and traces of chalcopyrite were found in andesitic outcrops. However, the result was discouraging as the F.E. was found to be uniformly about 1.1.

CONCLUSION.

It is obvious from exploration of the Pin Group that the initially found malachite chalcocite bearing float area north of the base line still remains important for finding better copper mineralization. This area is in the footwall of a prominent shear zone and has a coincident magnetic anomaly. Although extensive geochemical survey of the area has not shown any remarkable anomaly (except some gold values in soil samples from Chromium Valley), the I.P. survey did outline anomalies on lines 0, 12E, 24E and 24W, which could be of future interest.

Although some malachite and chalcopyrite were located in outcrops on the north slope and the top of the ridge between lines 0 and 24E, south of the base line, this appears to be insignificant from an exploration viewpoint as no I.P. anomalies were indicated on the line run on the south side of the ridge.

(Signed) ZOEB MOGRI.

12 originals on Mylar:

make enlargements of each original on bond. paper.

Mylar originals – 1″ = 2620′
enlarged copies – 1″ = 800′ ← desired scale.
3.275 times

originals

enlarged copies

Transparent film : 0.80 $/sq. foot.
0.50 $/35mm. negative

Attn: Ben Mah

Approximate Scale of original : 1" = 2620'
Desired Scale of Blow Up 1" = 800'

- Please blow these originals up 3.275 times
- We would like you to blow up the areas delineated in pencil only.

Approx. ORIGINAL Scale |—— 1.0" ——| 1" = 2620'

Approx. DESIRED SCALE |———— 3.275" ————| 1" = 800'


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3.275"
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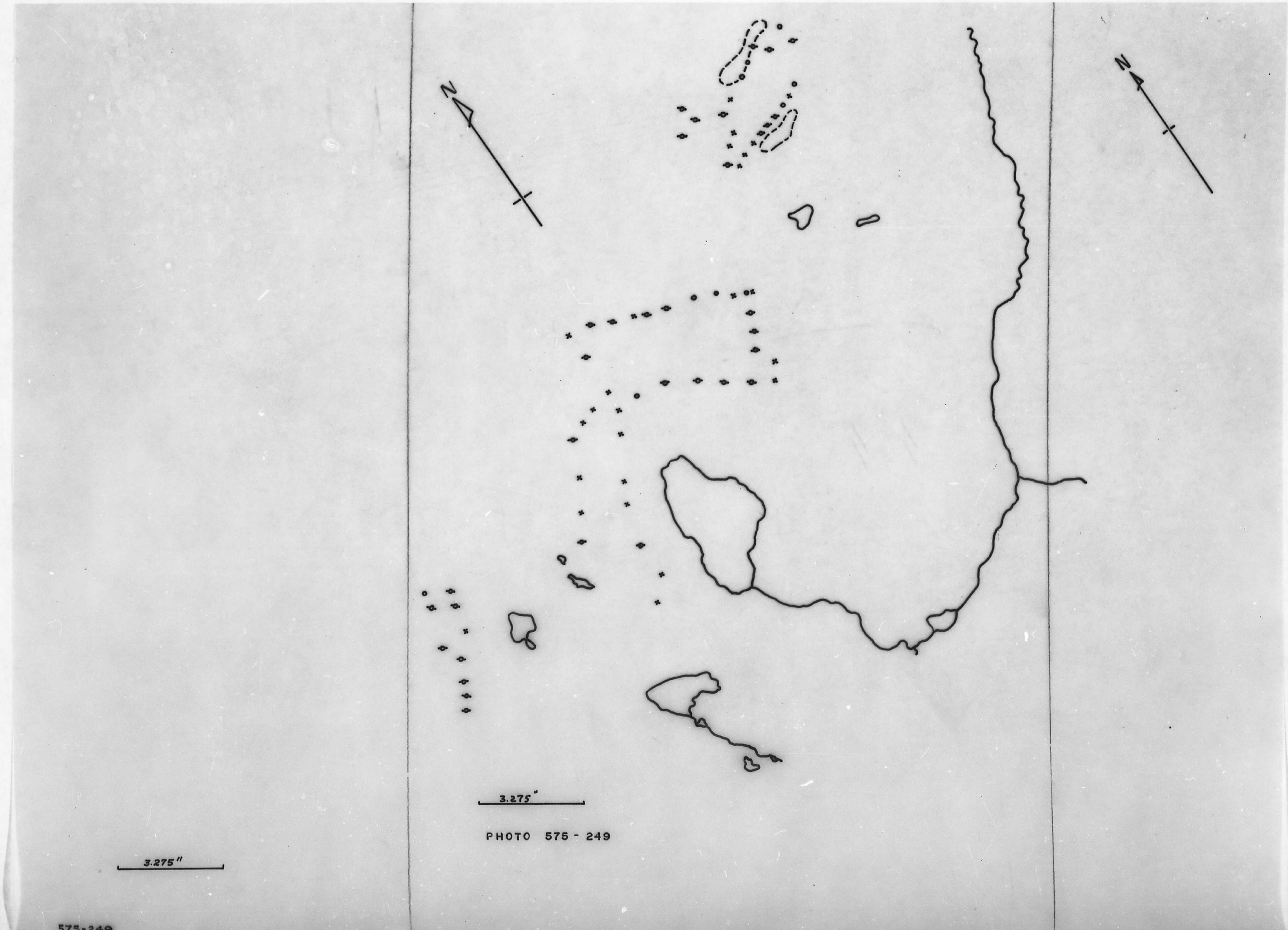
575-133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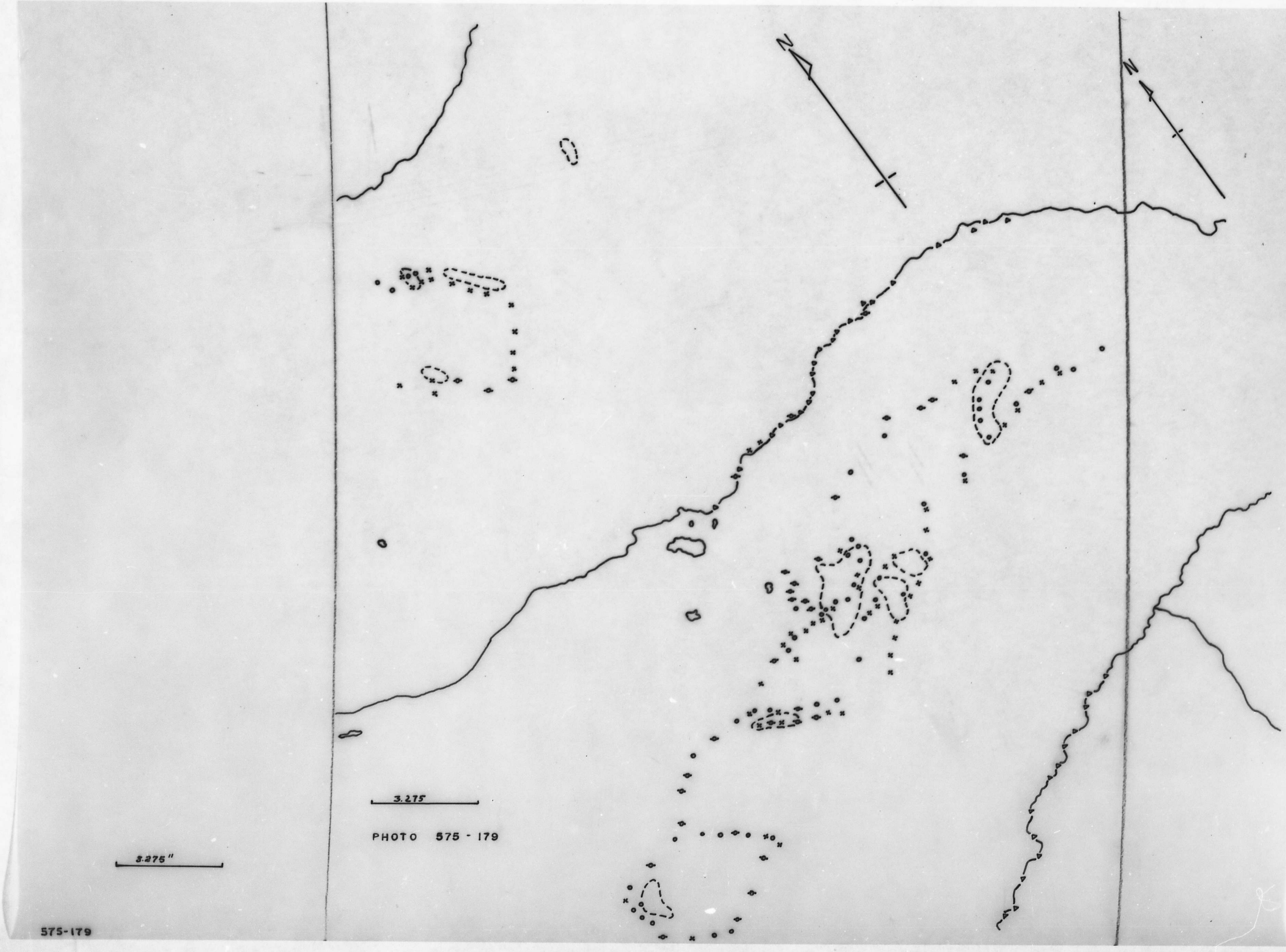

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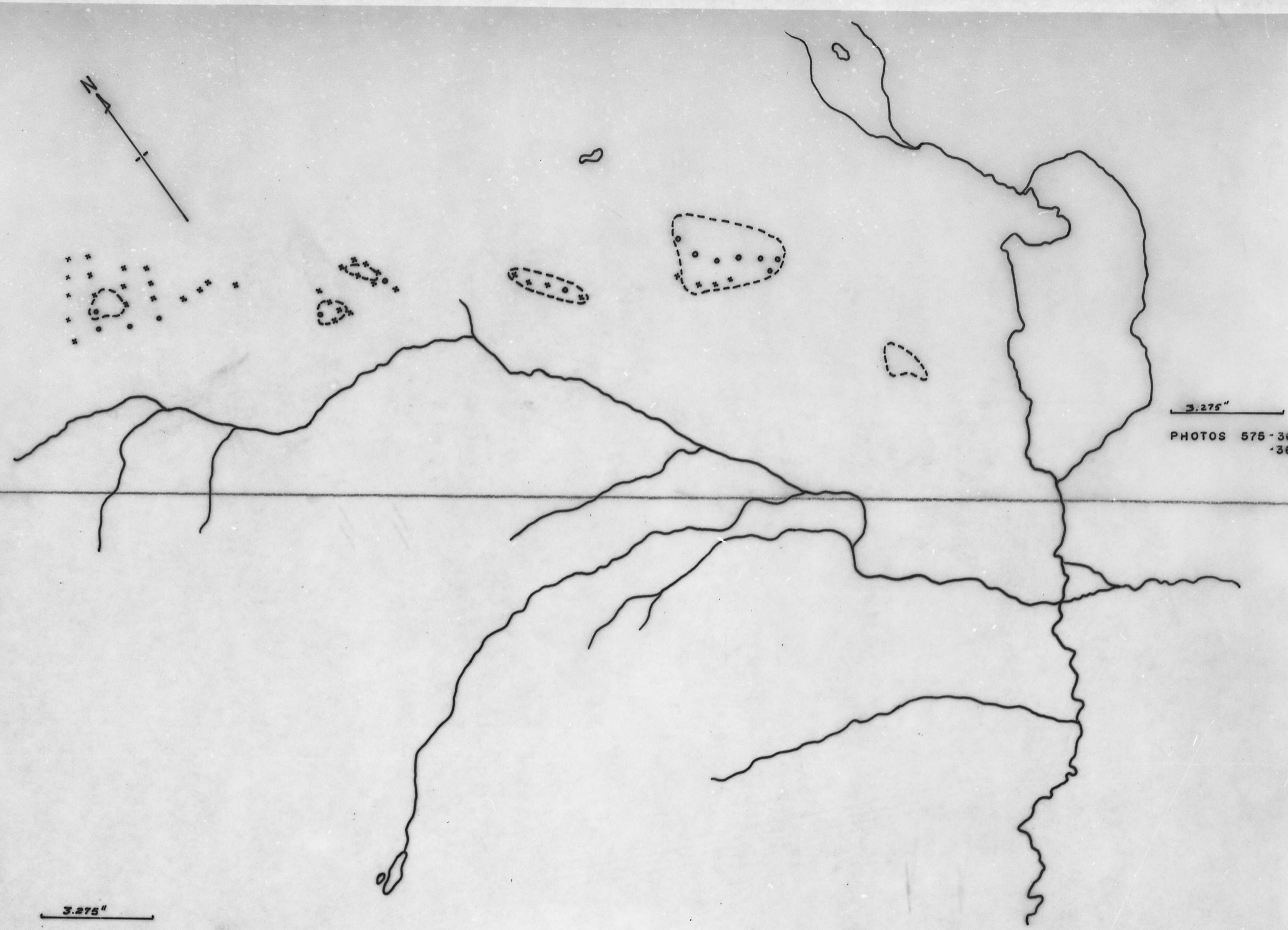

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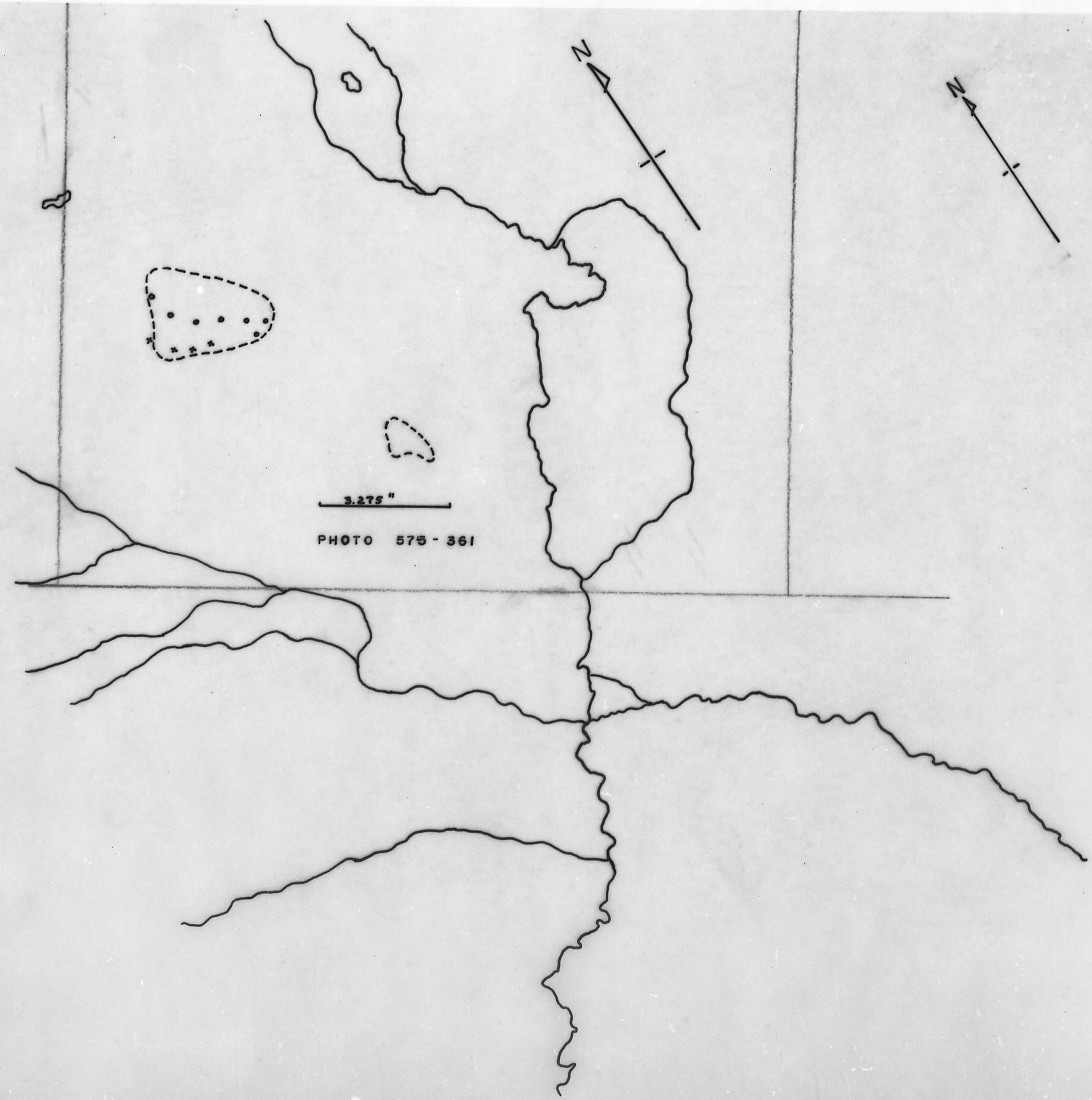

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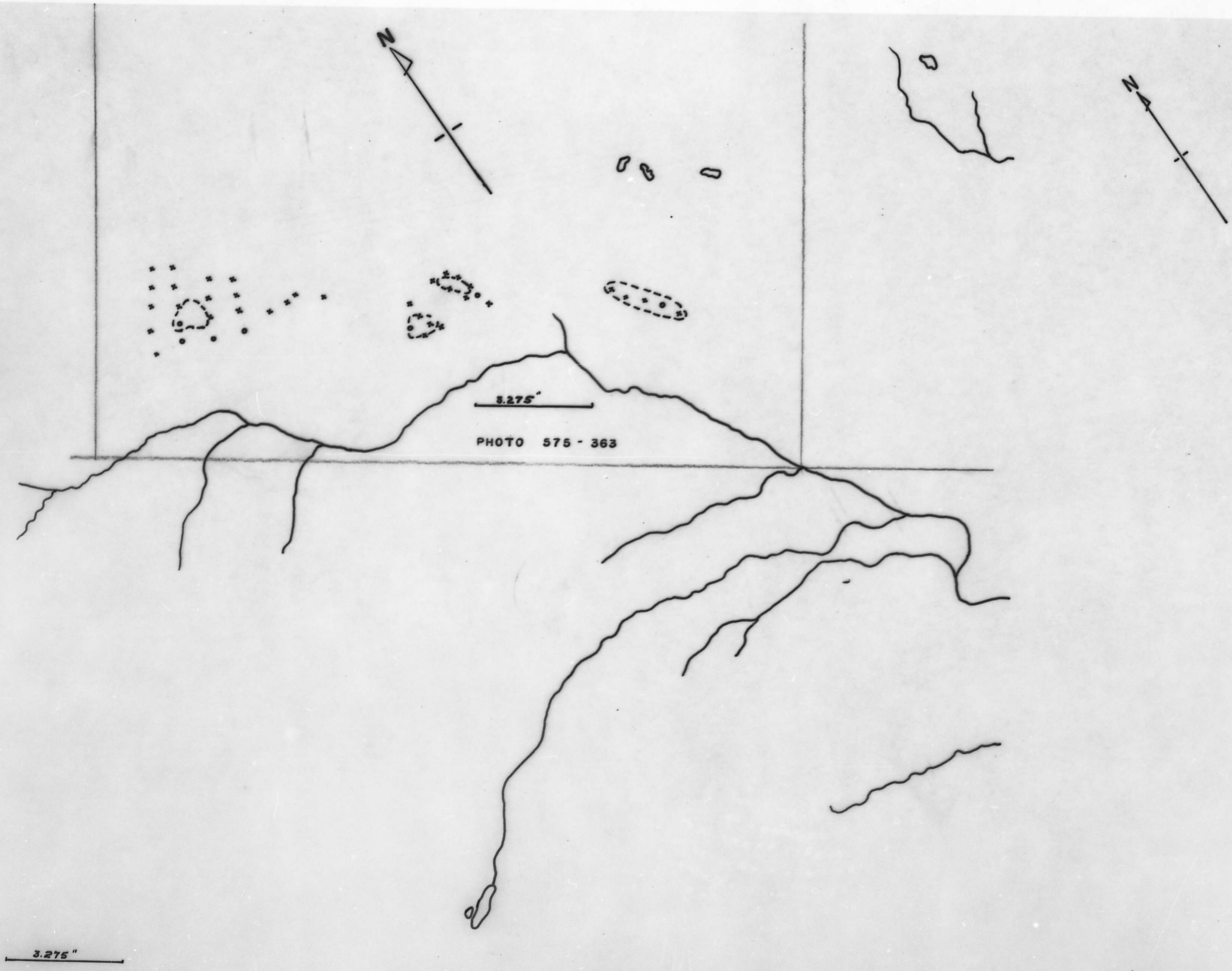

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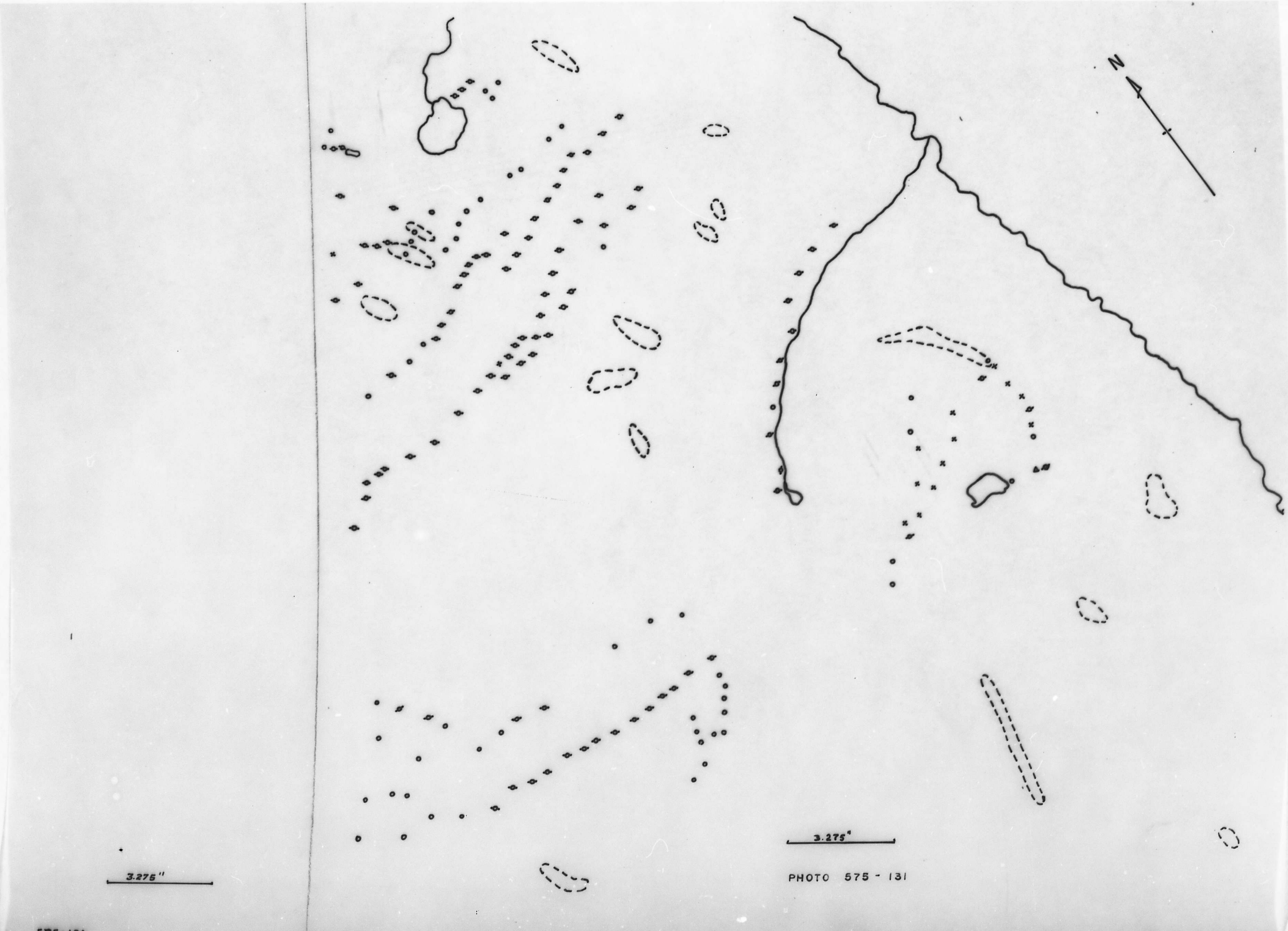

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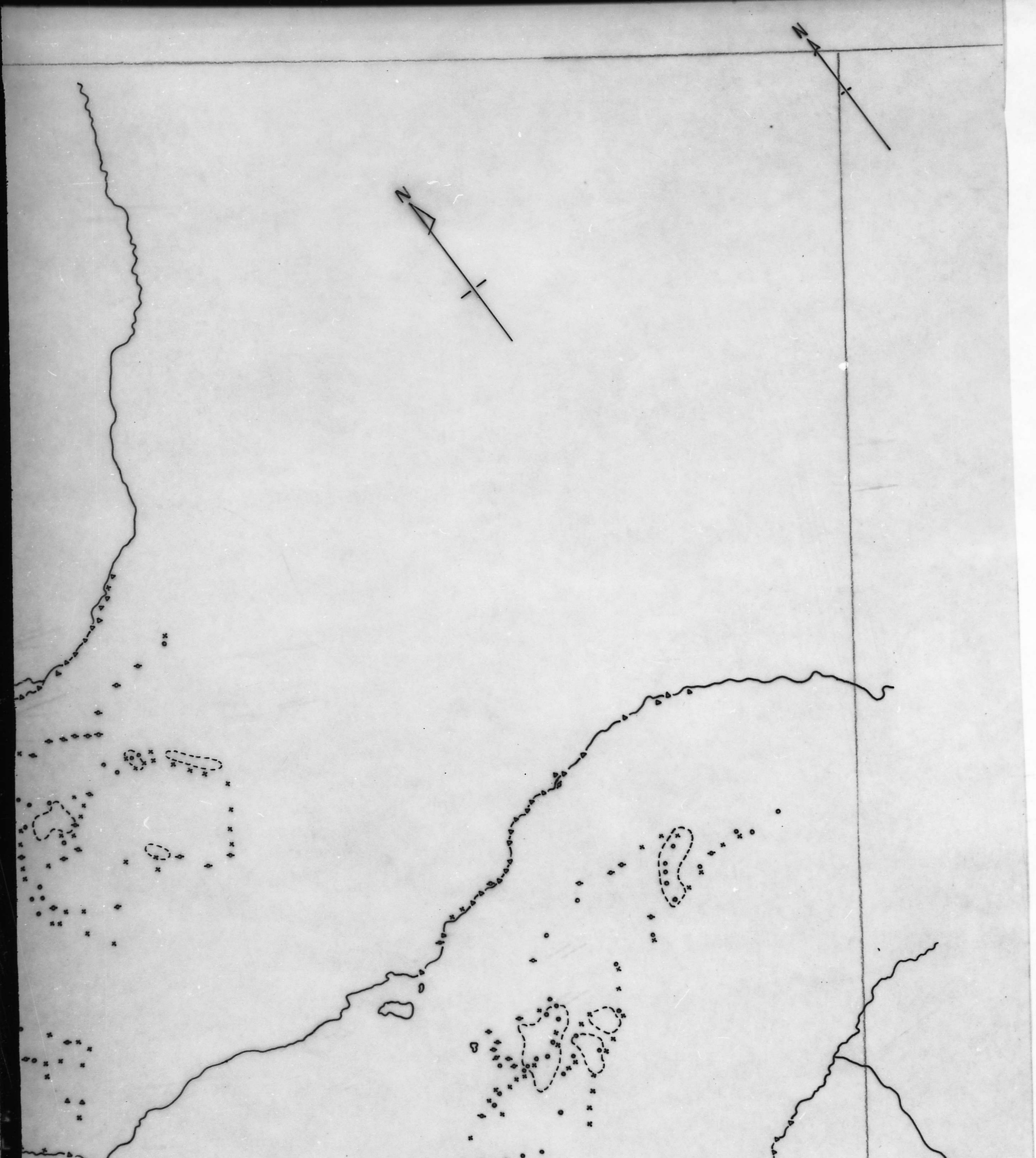
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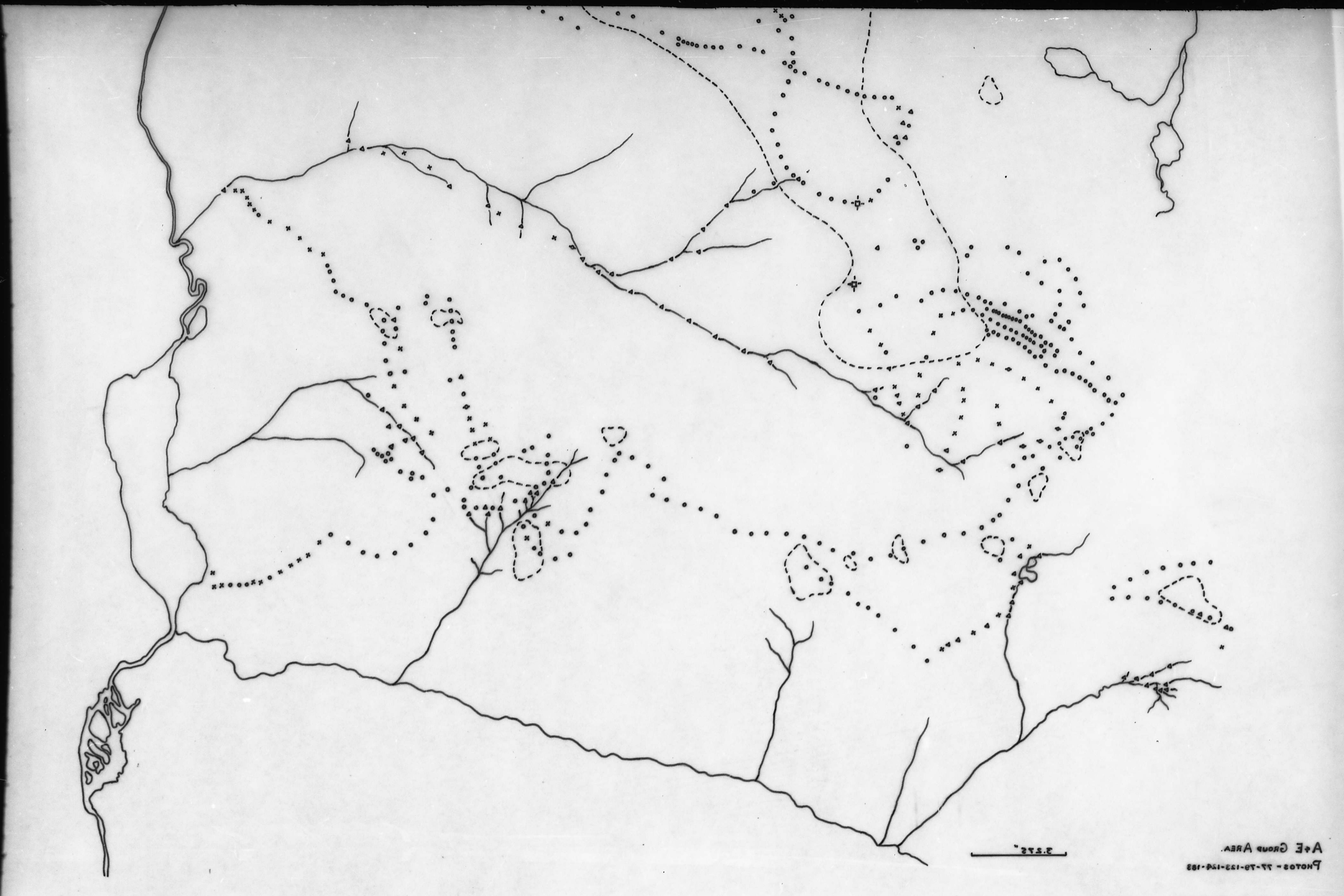

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A+E Group Area.
Photos - 77-79-123-124-183


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Middle Lake Area.

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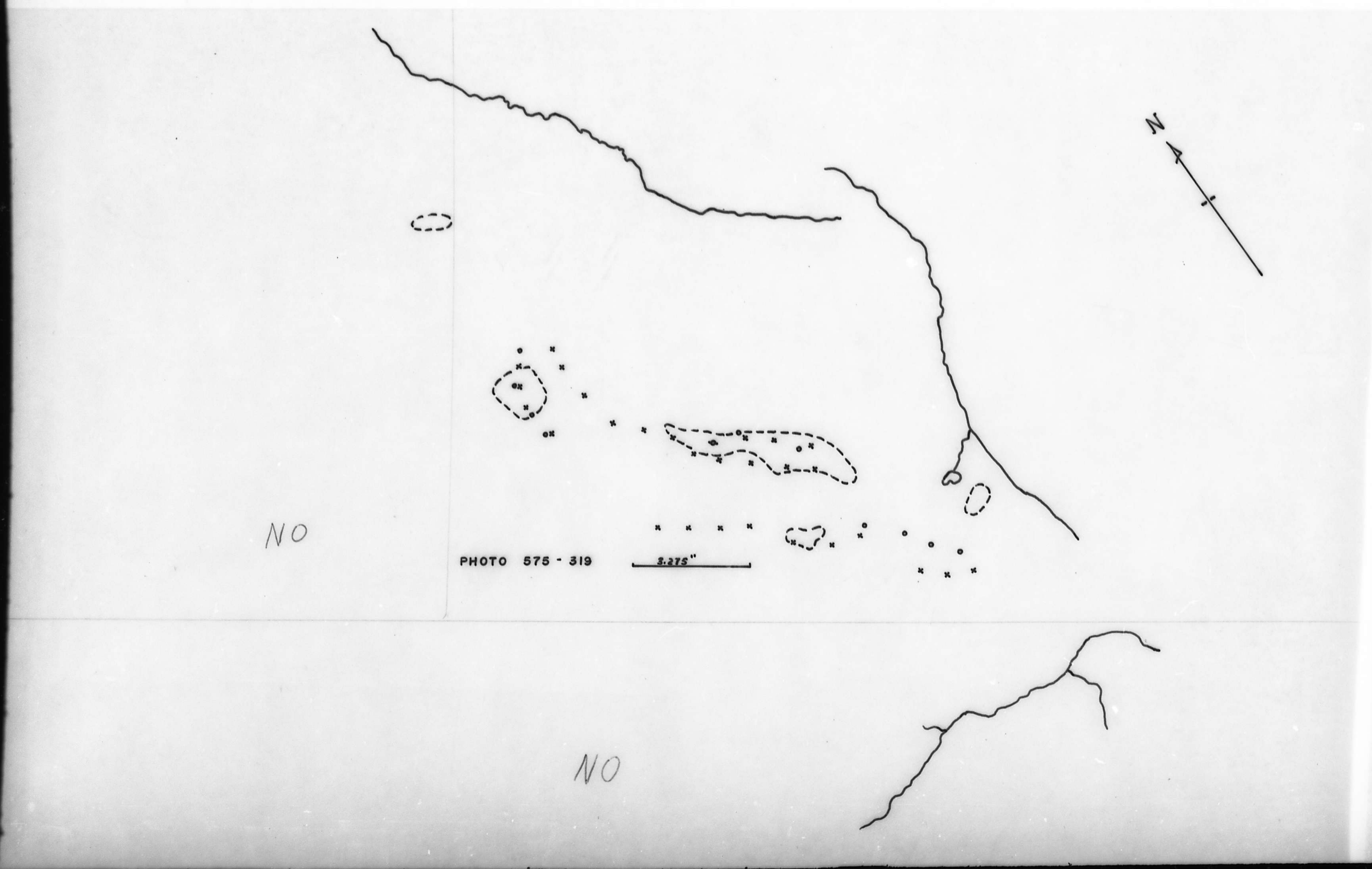
Photos 269-270-271-182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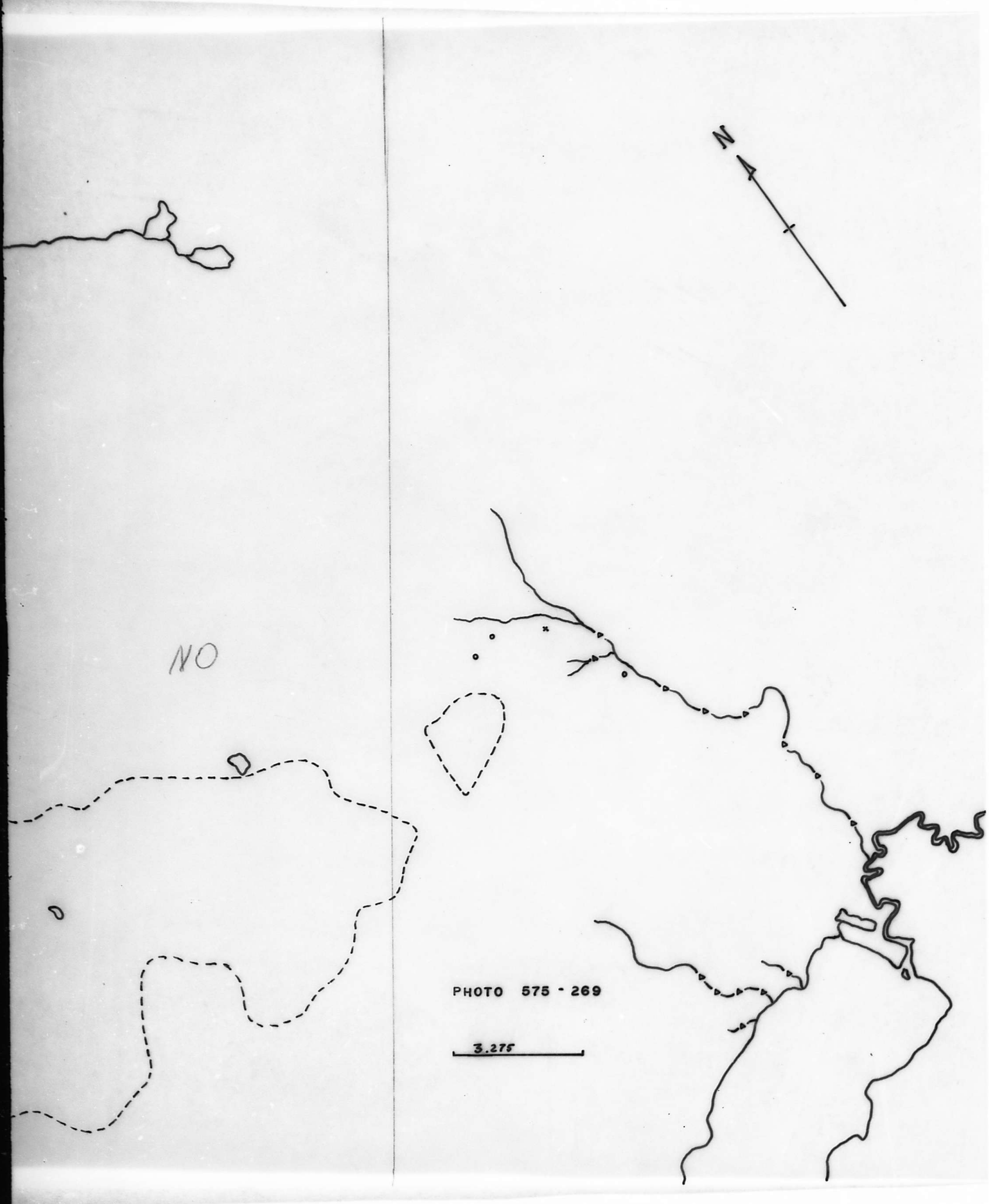
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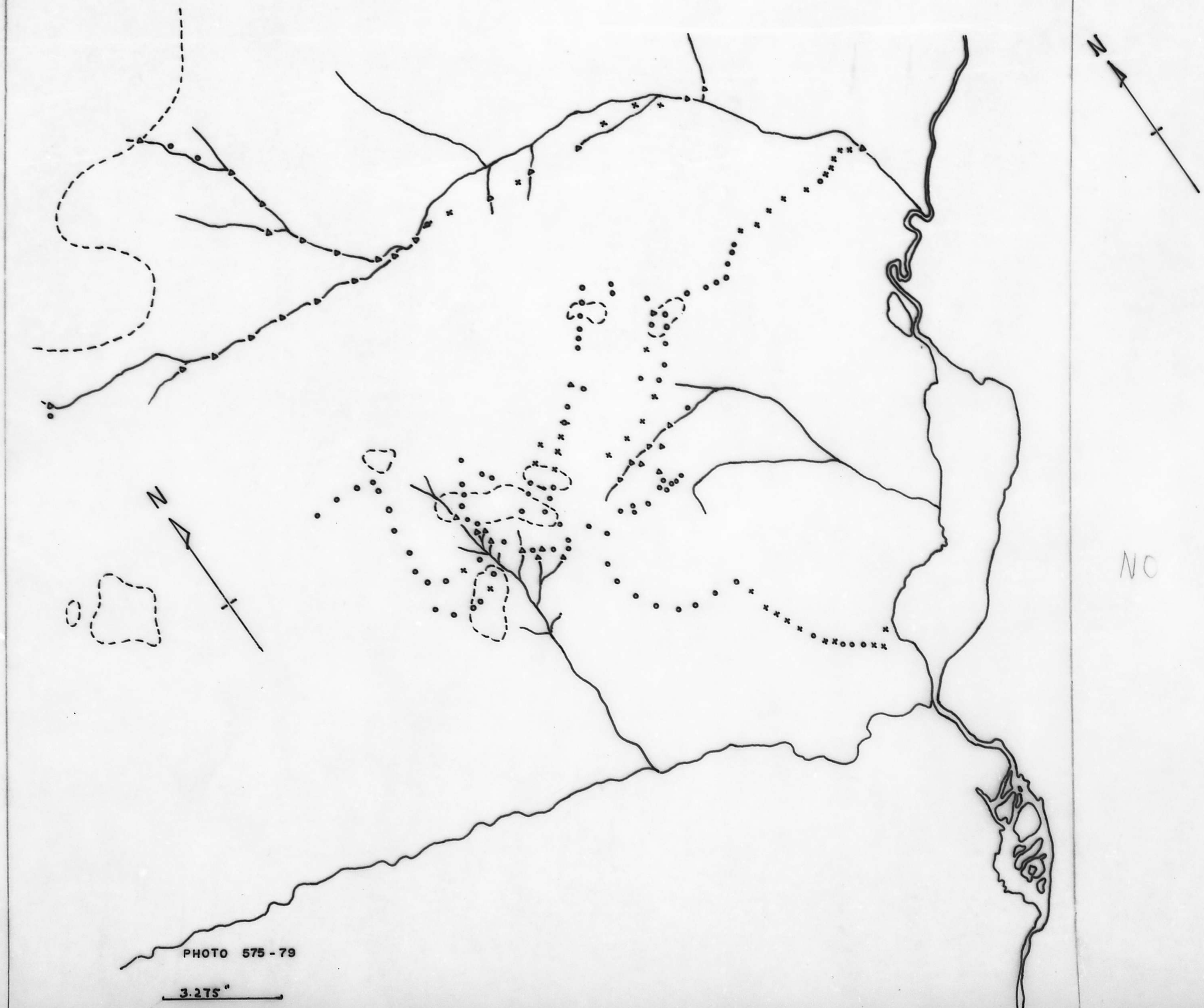

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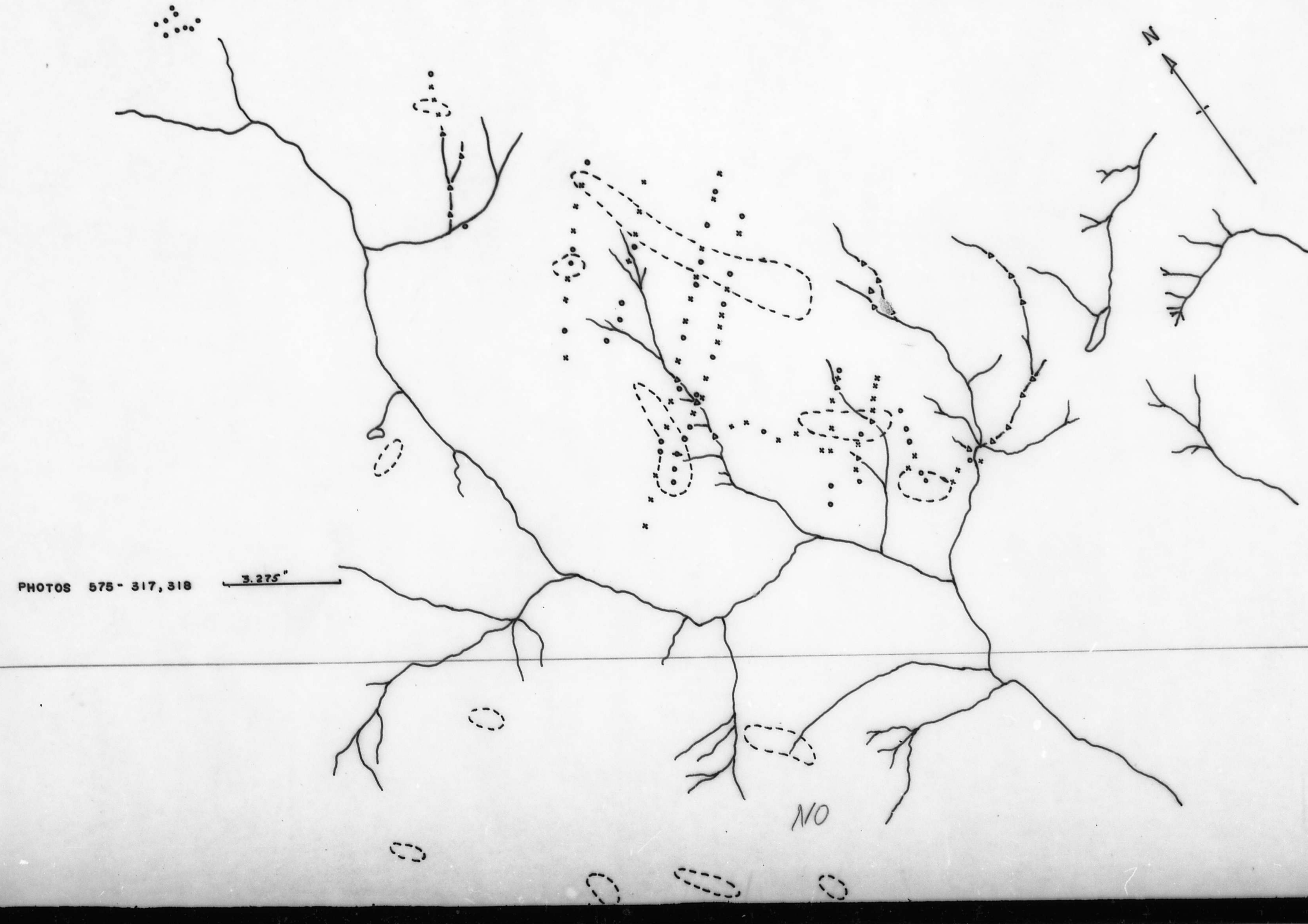

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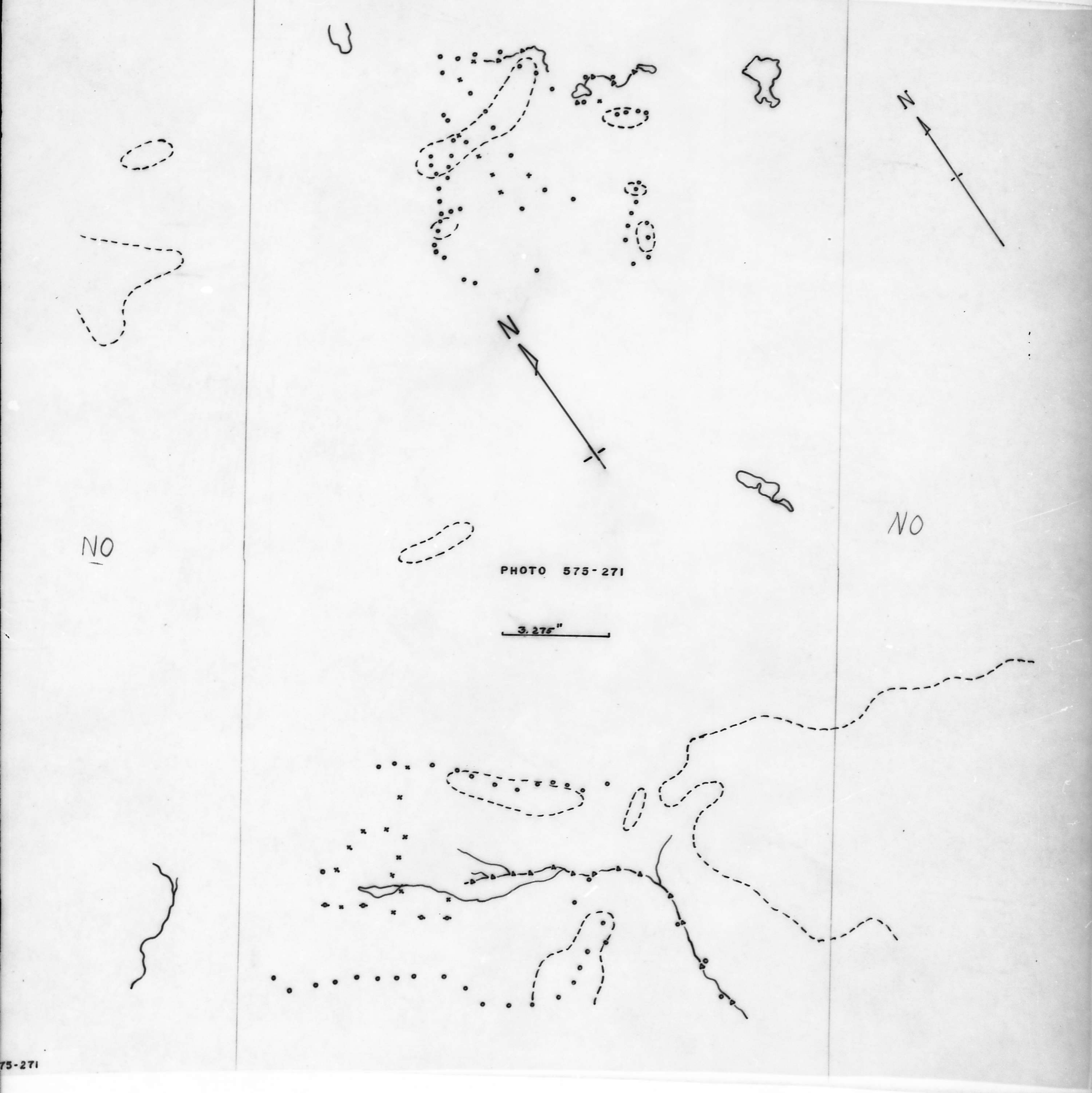

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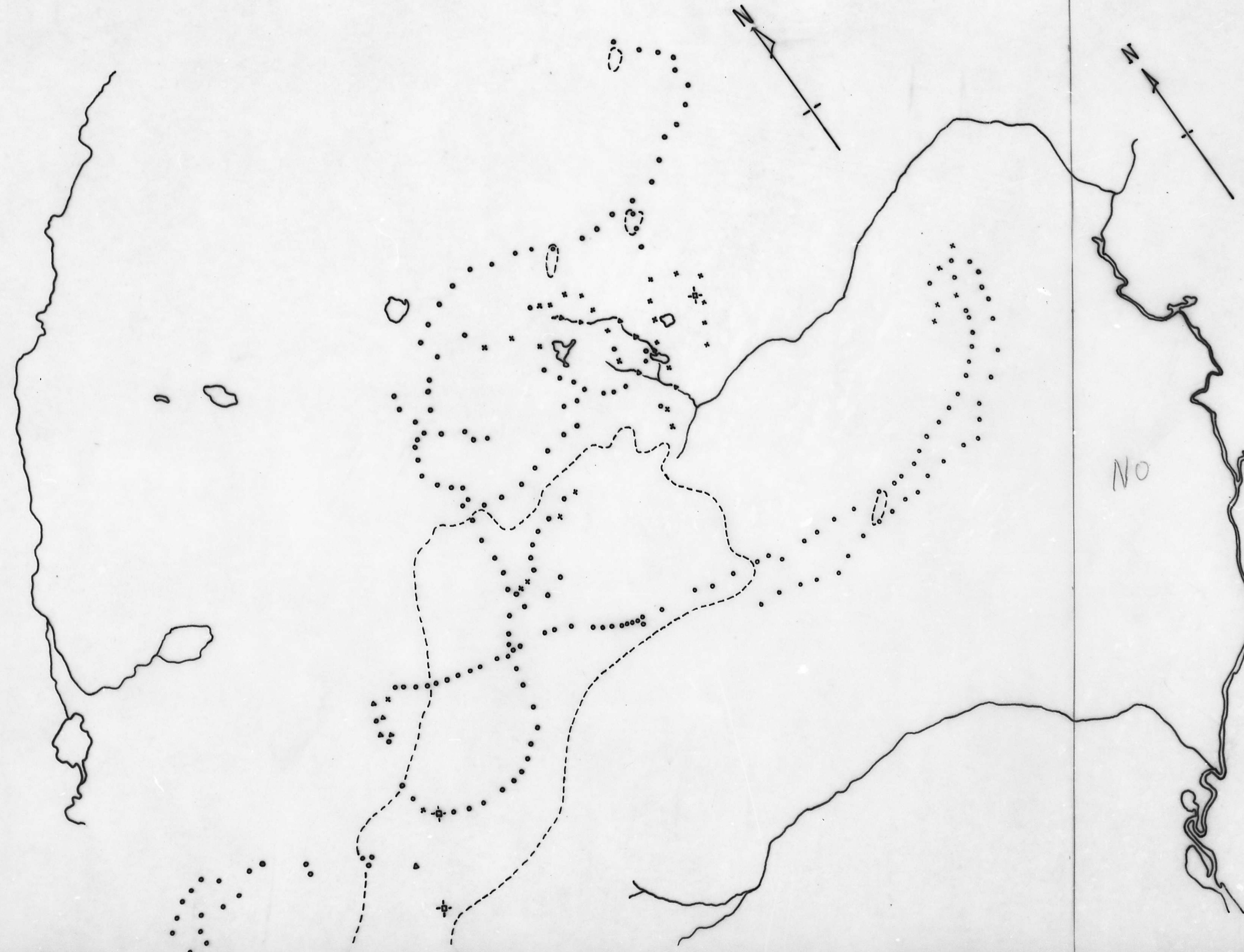

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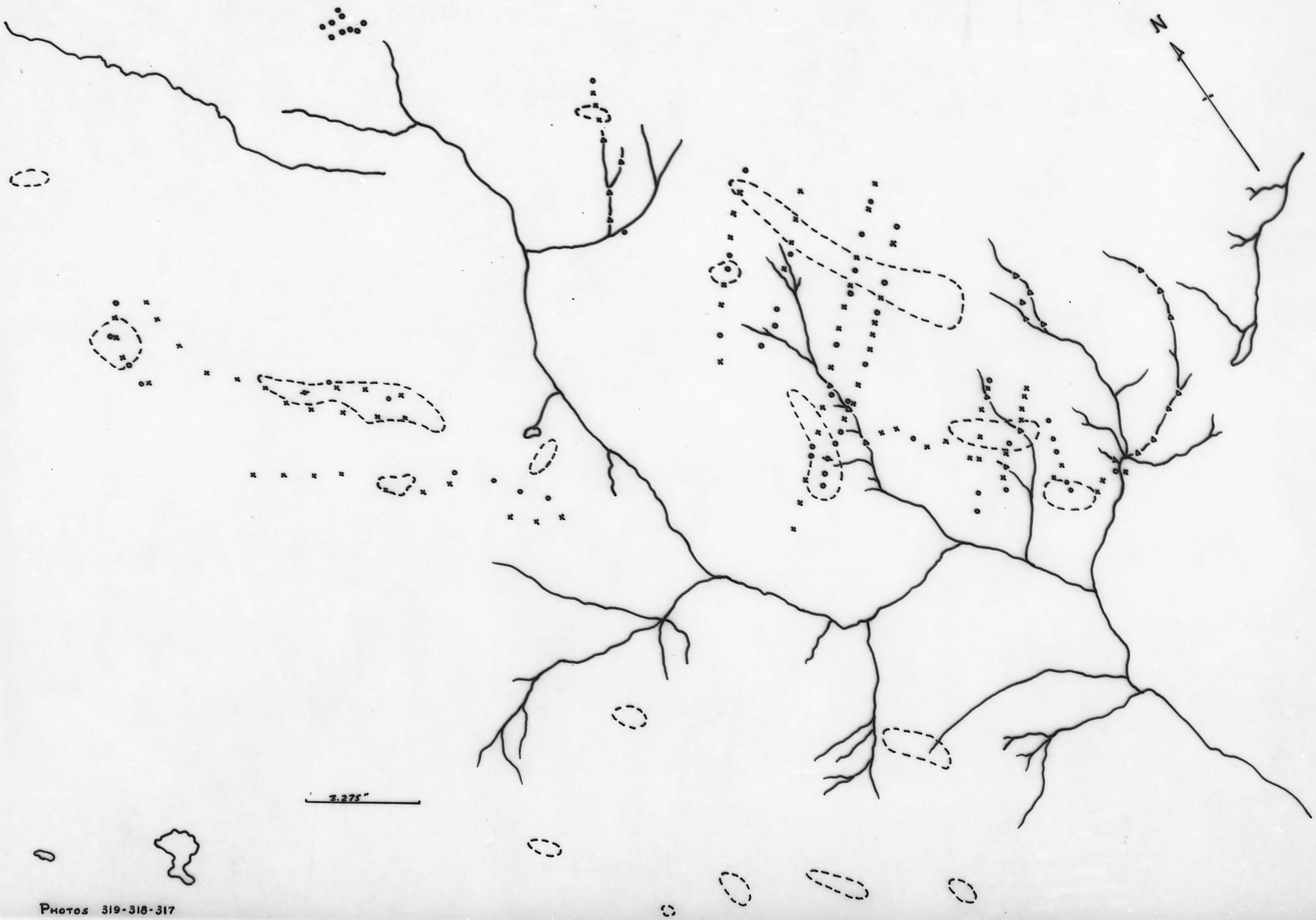

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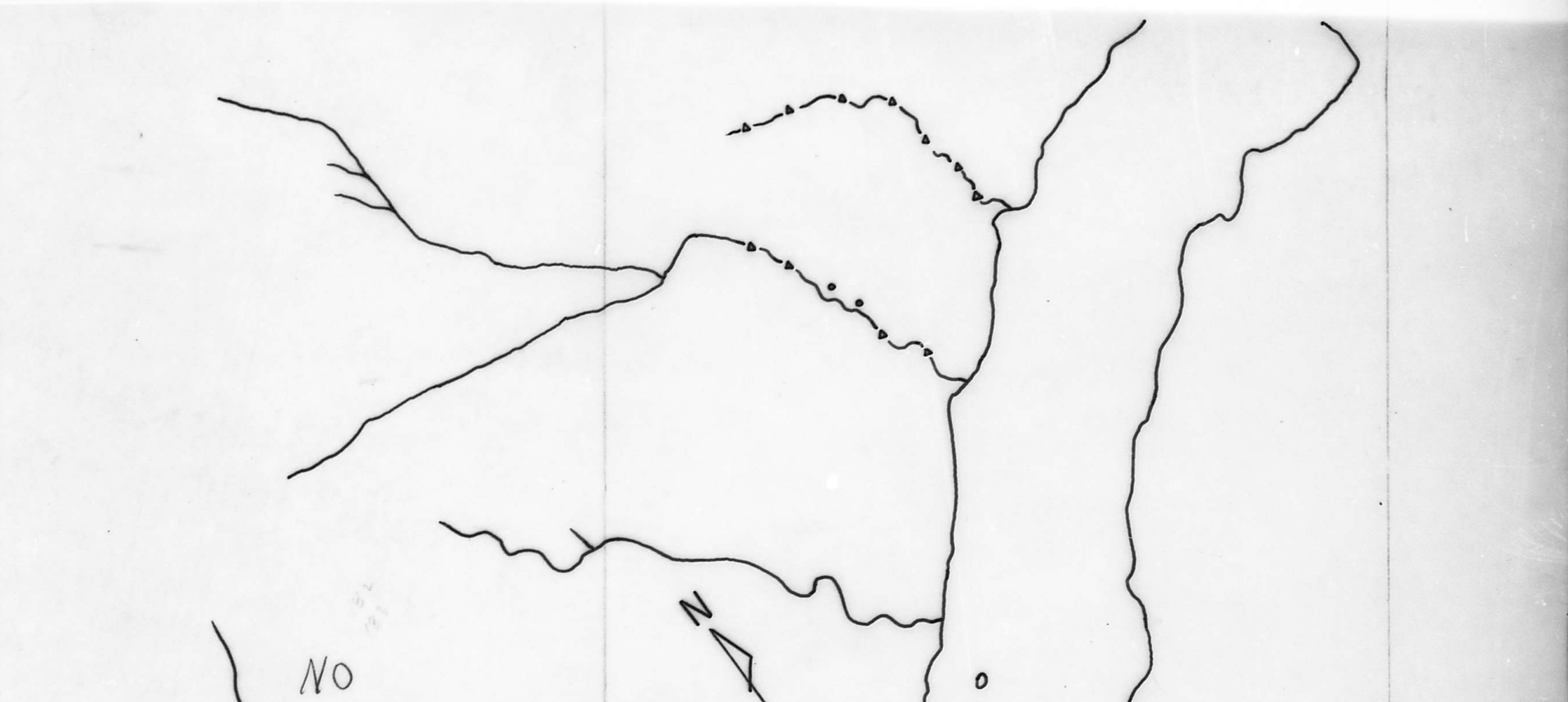

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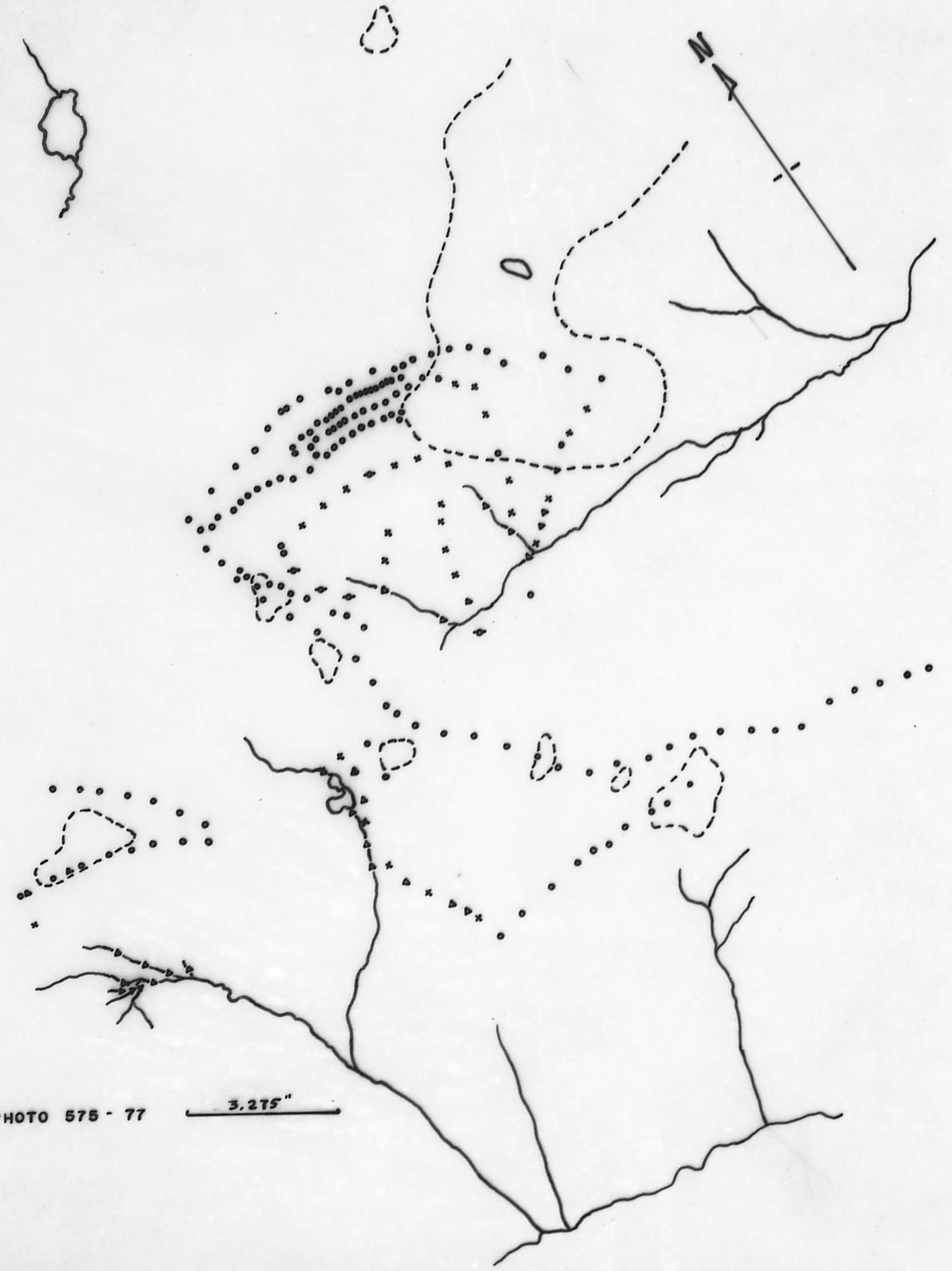
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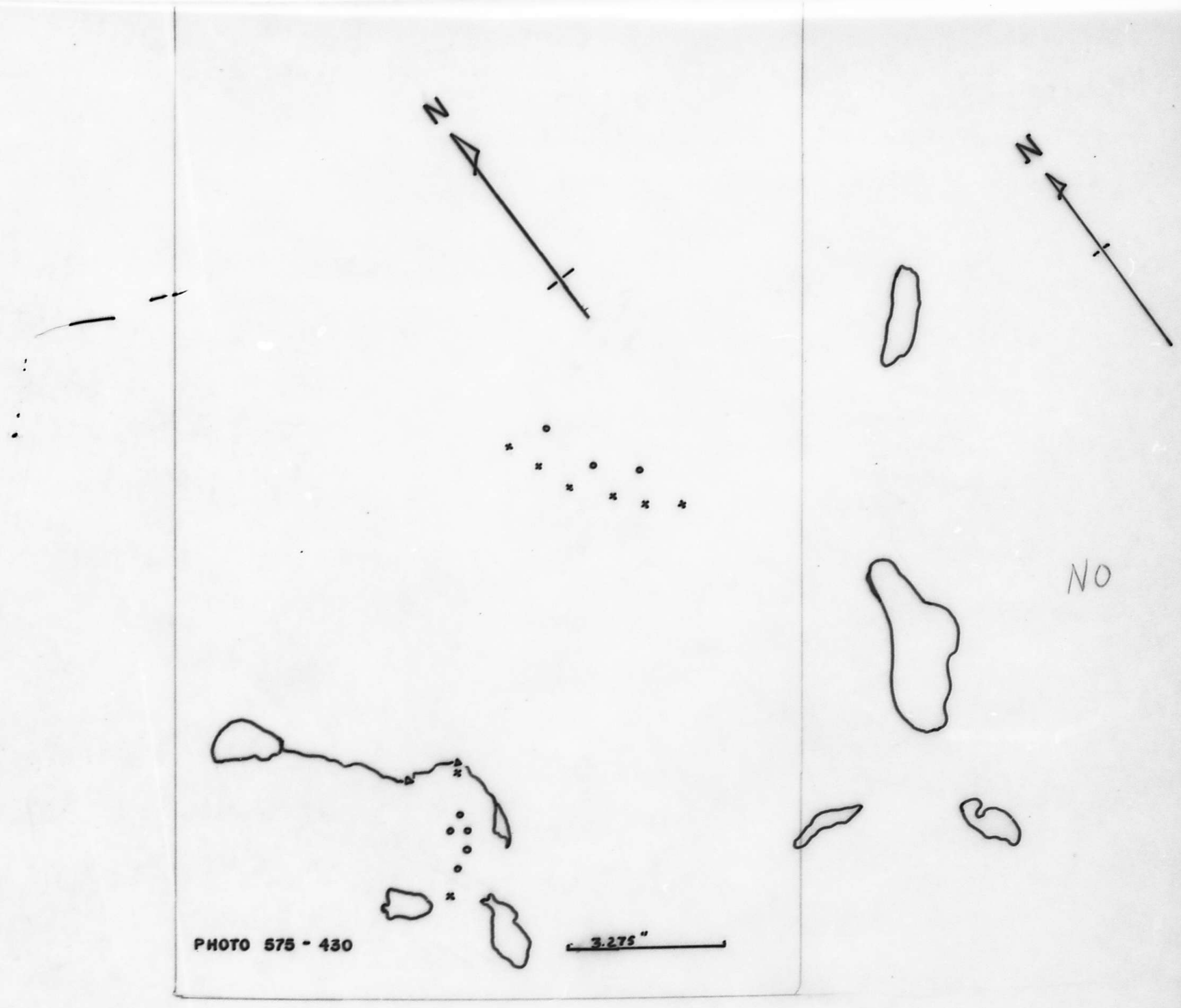

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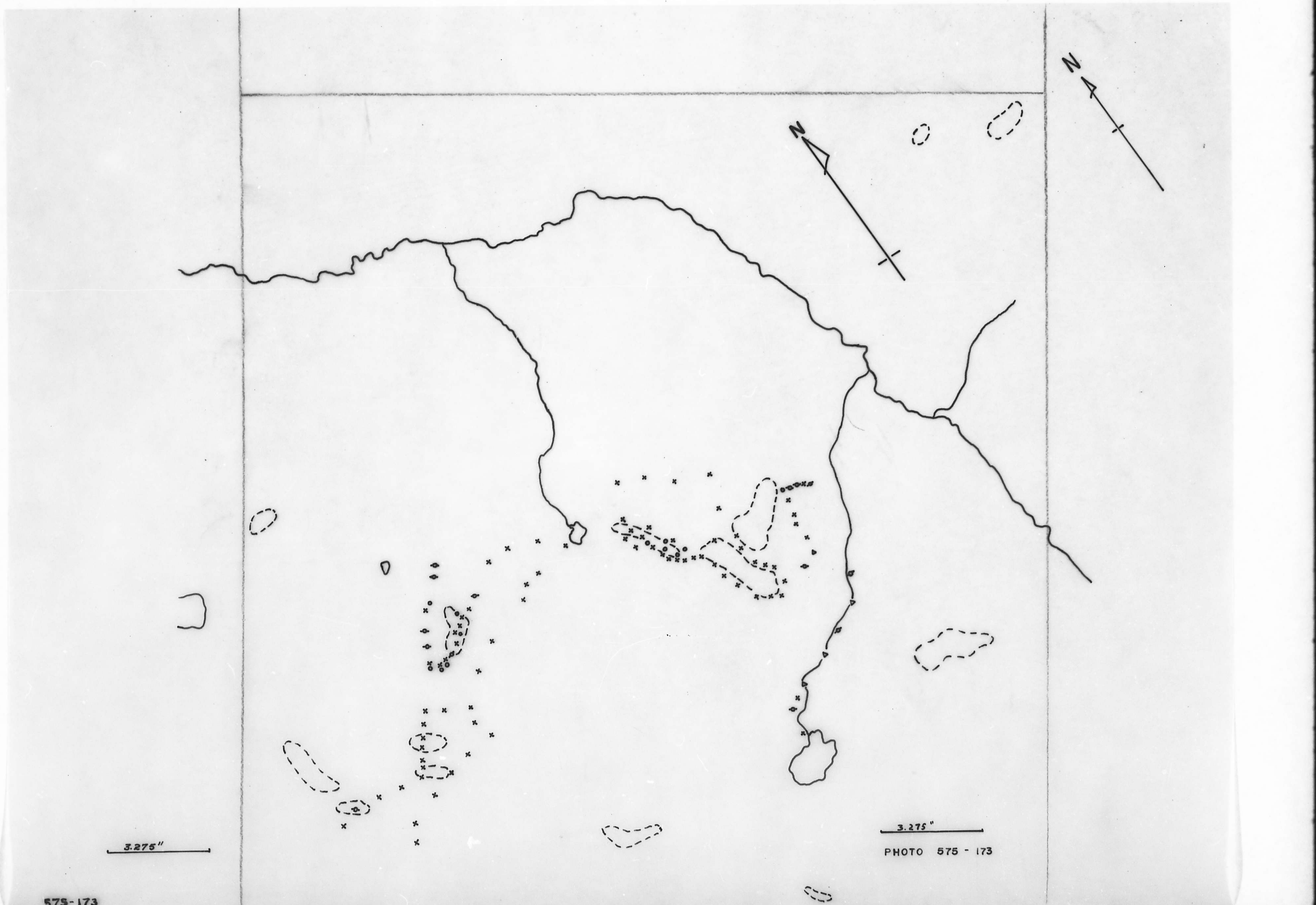

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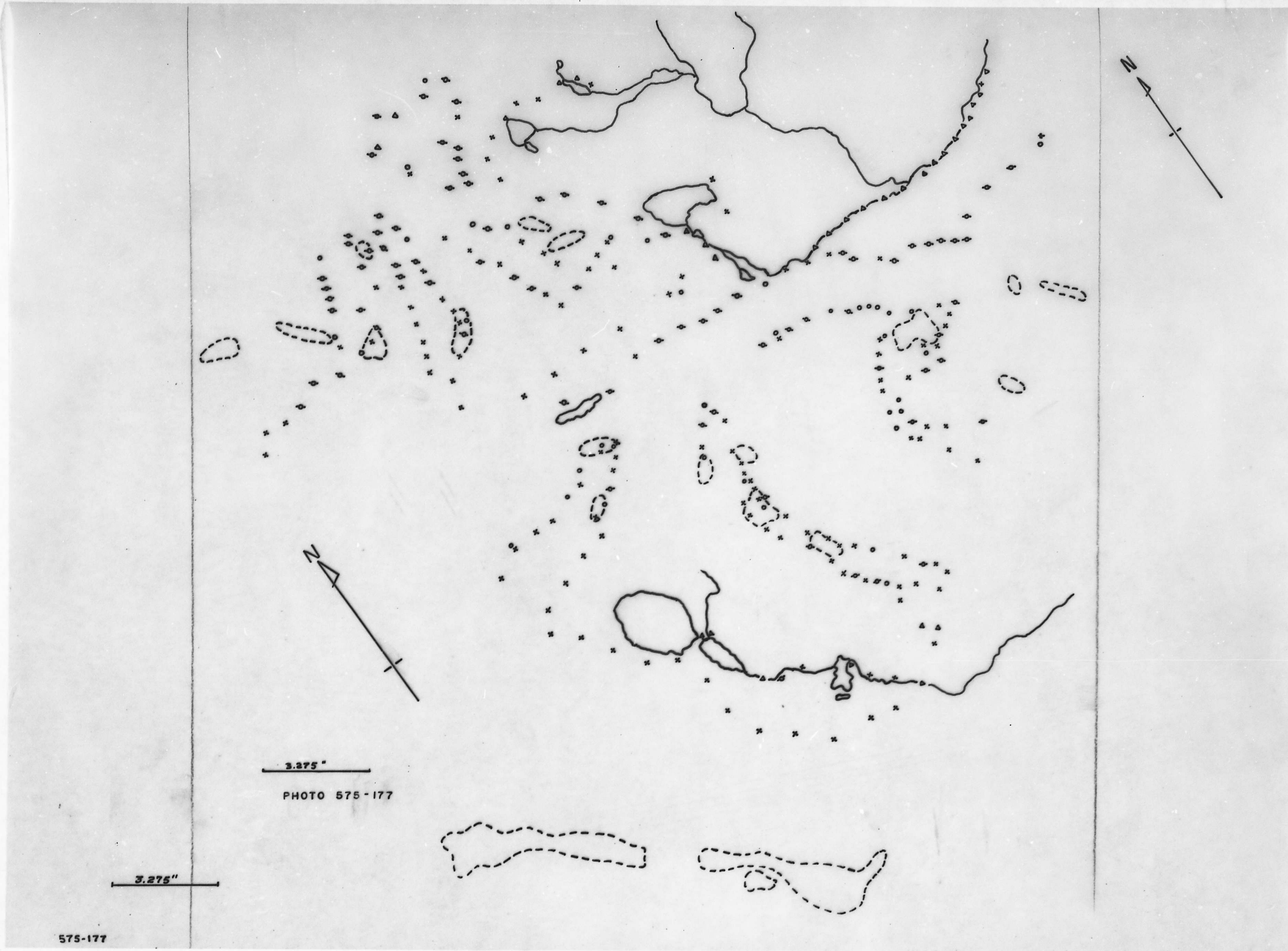
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