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UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

TRACE ELEMENTS RECONNAISSANCE IN  
THE JAKOLOF BAY AREA, SOUTHERN ALASKA

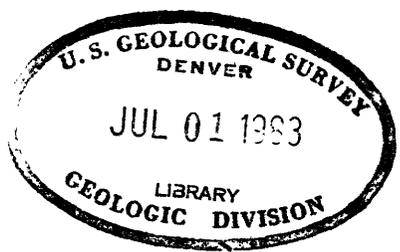
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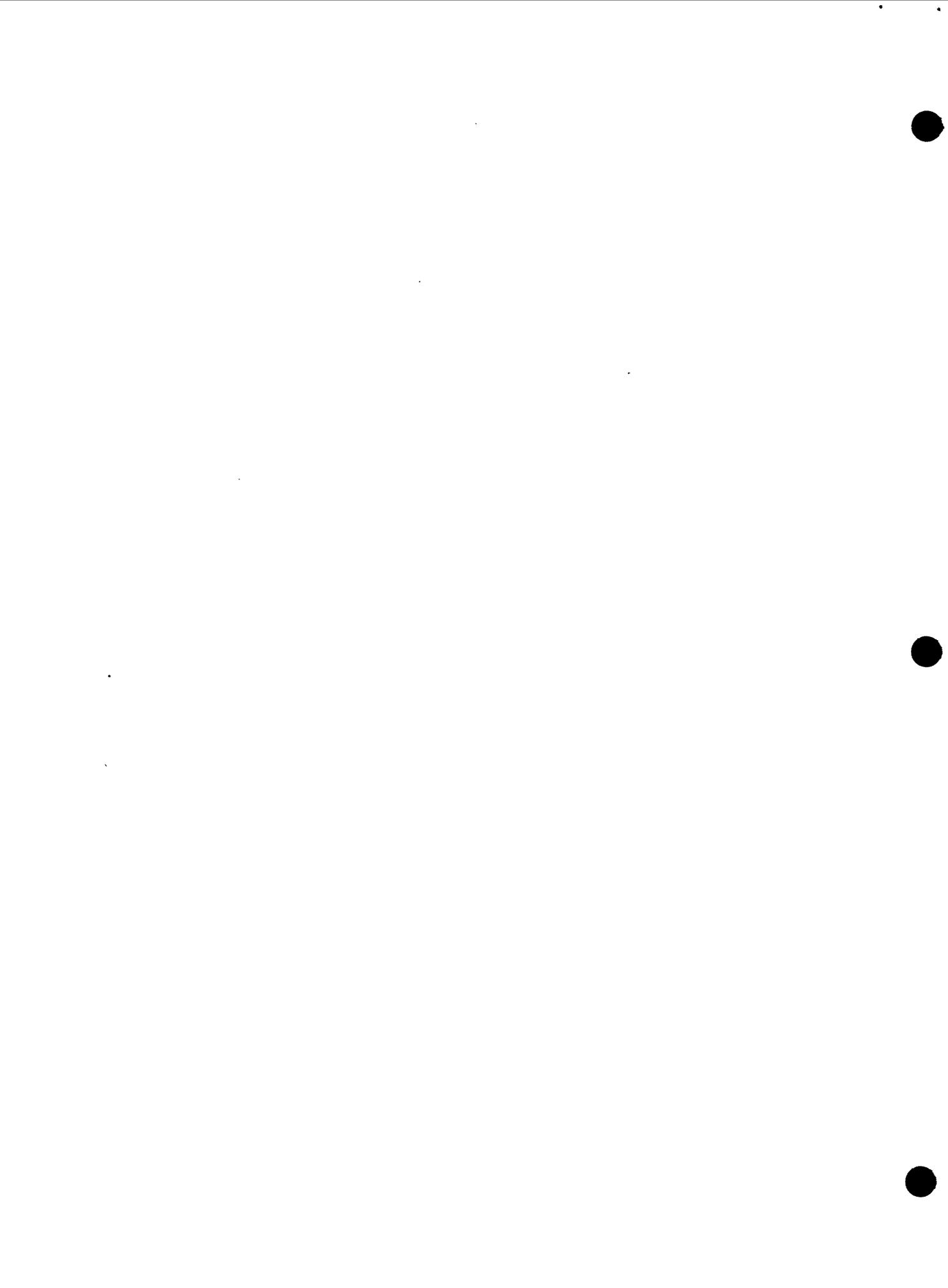
R. M. Mexham and A. E. Nelson

Trace elements investigations  
in the southern Alaska region for 1949

August 1950

Trace Elements Investigations Report 74-A

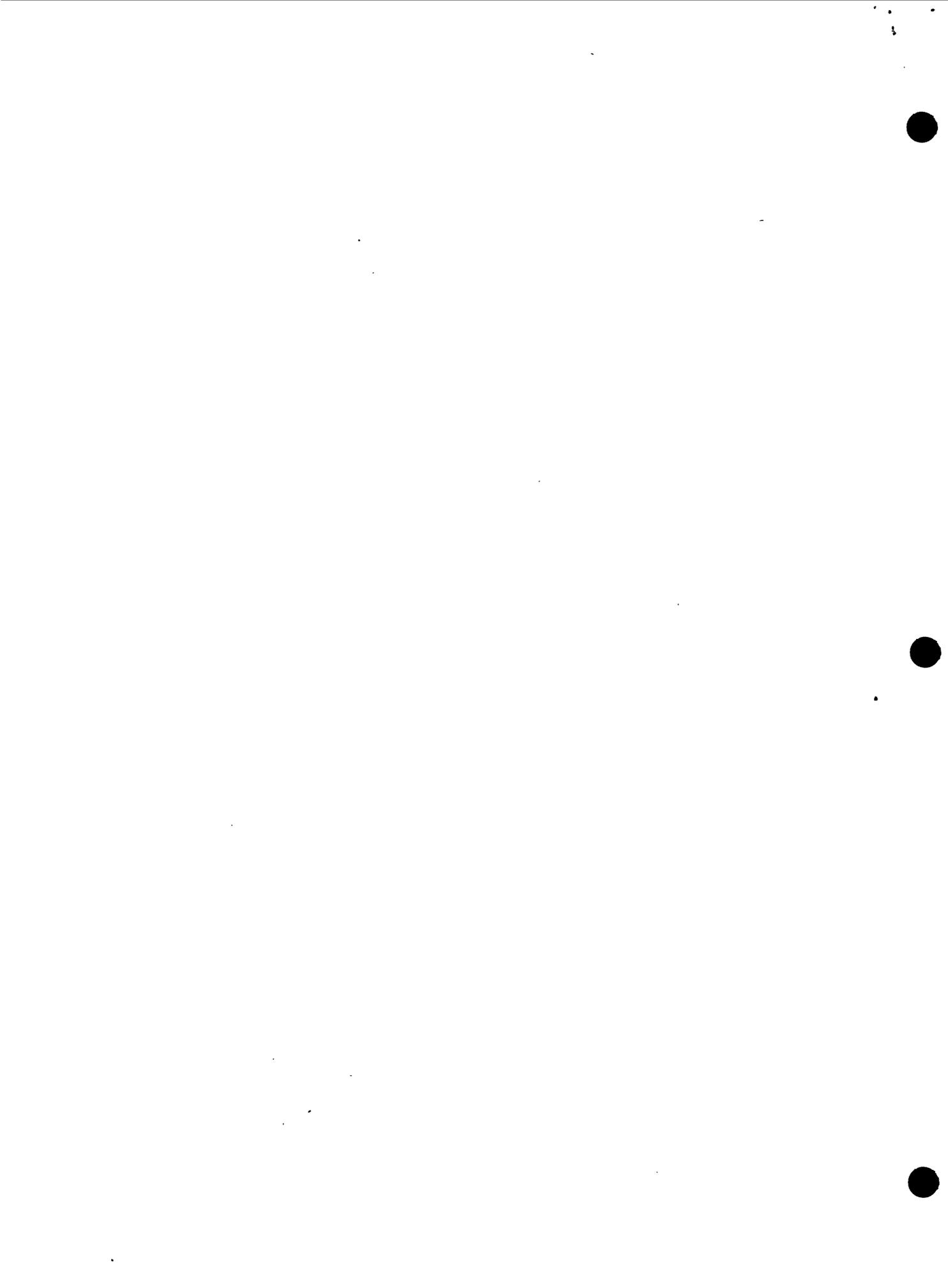




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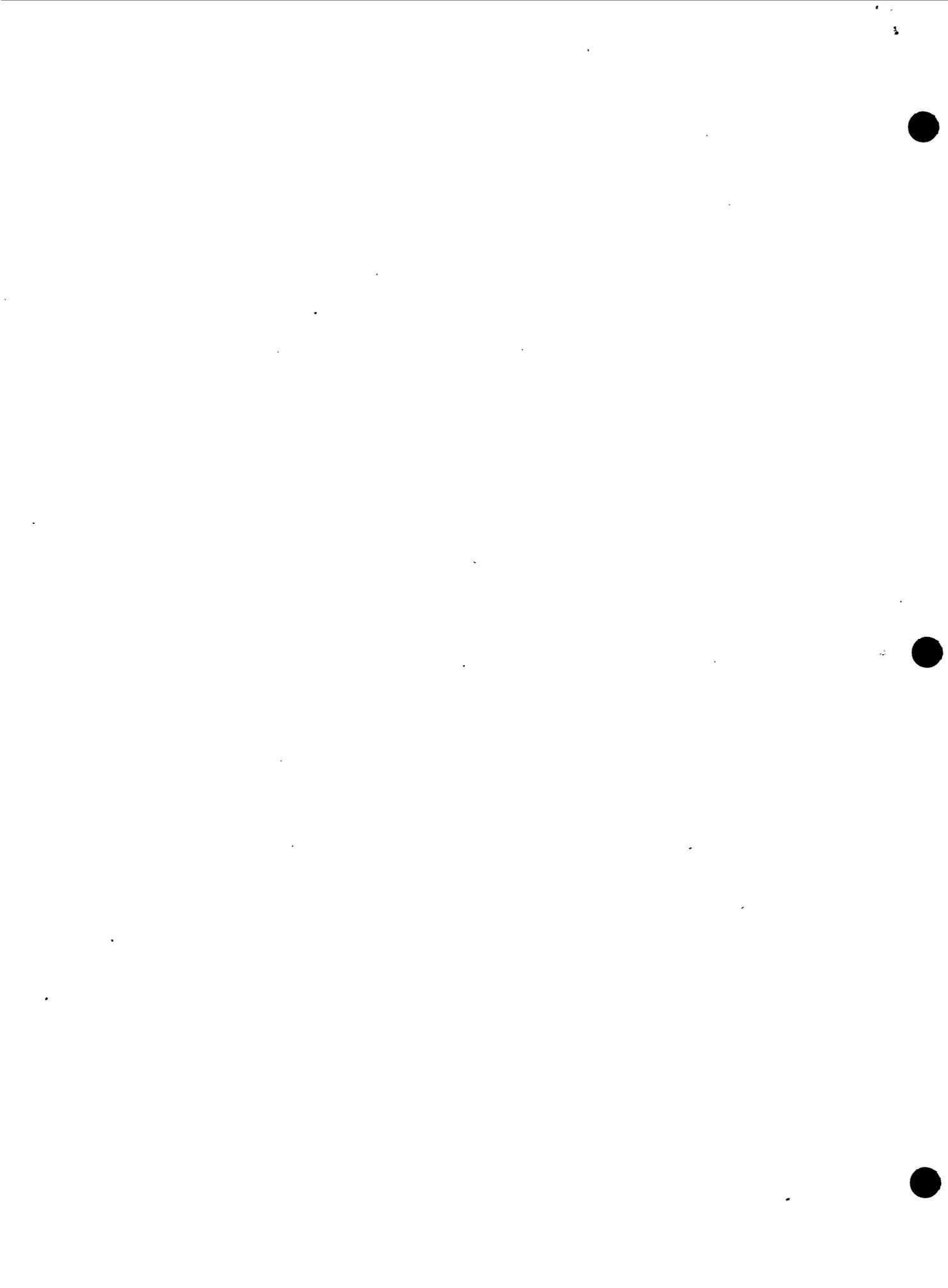
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Figure 1. Geologic map of Jakolof Bay area, Alaska.



TRACE ELEMENTS RECONNAISSANCE IN THE  
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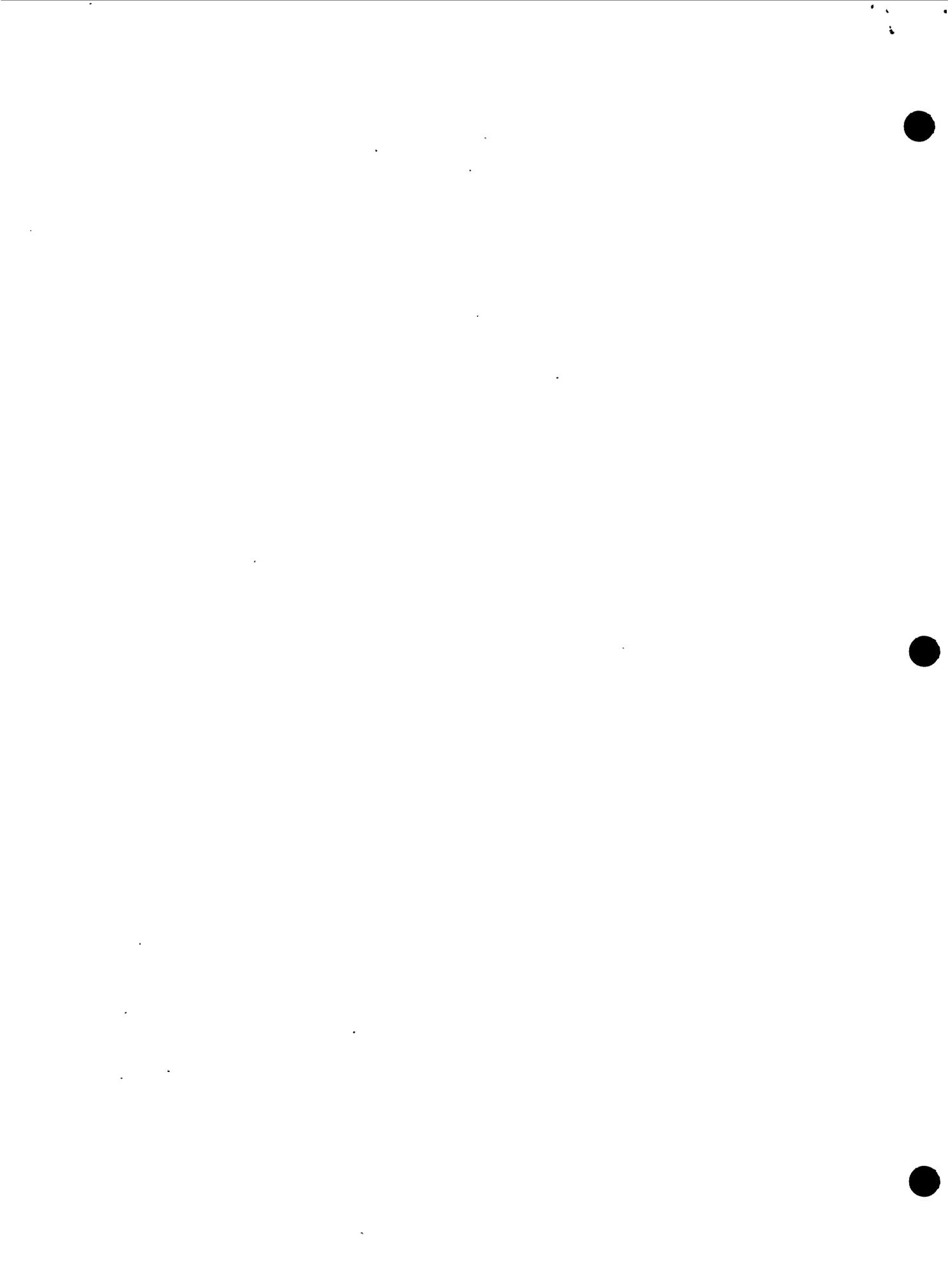
By R. M. Moxham and A. E. Nelson

ABSTRACT

As a result of inquiries by prospectors in 1948 concerning radioactive ores in the vicinity of Jakolof Bay on the Kenai Peninsula in southern Alaska, the Geological Survey conducted a brief investigation during 1949. No radioactive material was found. Possibly a chromite stockpile in this locality was mistaken for pitchblende.

INTRODUCTION

During the summer of 1948 two prospectors were reported to have made inquiries at the Fairbanks Office of the Territorial Department of Mines concerning the legality of staking claims for radioactive ores on land designated as a "government reserve". The only information they offered was that the area in question was on Jakolof Bay. So far as is known they had no samples of the material. These inquiries were made known to P. L. Killeen of the U. S. Geological Survey, who in turn relayed them to the Trace Elements Unit of the Alaskan Section. A field party, consisting of R. M. Moxham and A. E. Nelson, geologists, J. C. Whitaker, geologic field assistant, and Henry Bender, cook, spent about one week making a radiometric reconnaissance of the Jakolof Bay area in late June and early July 1949.



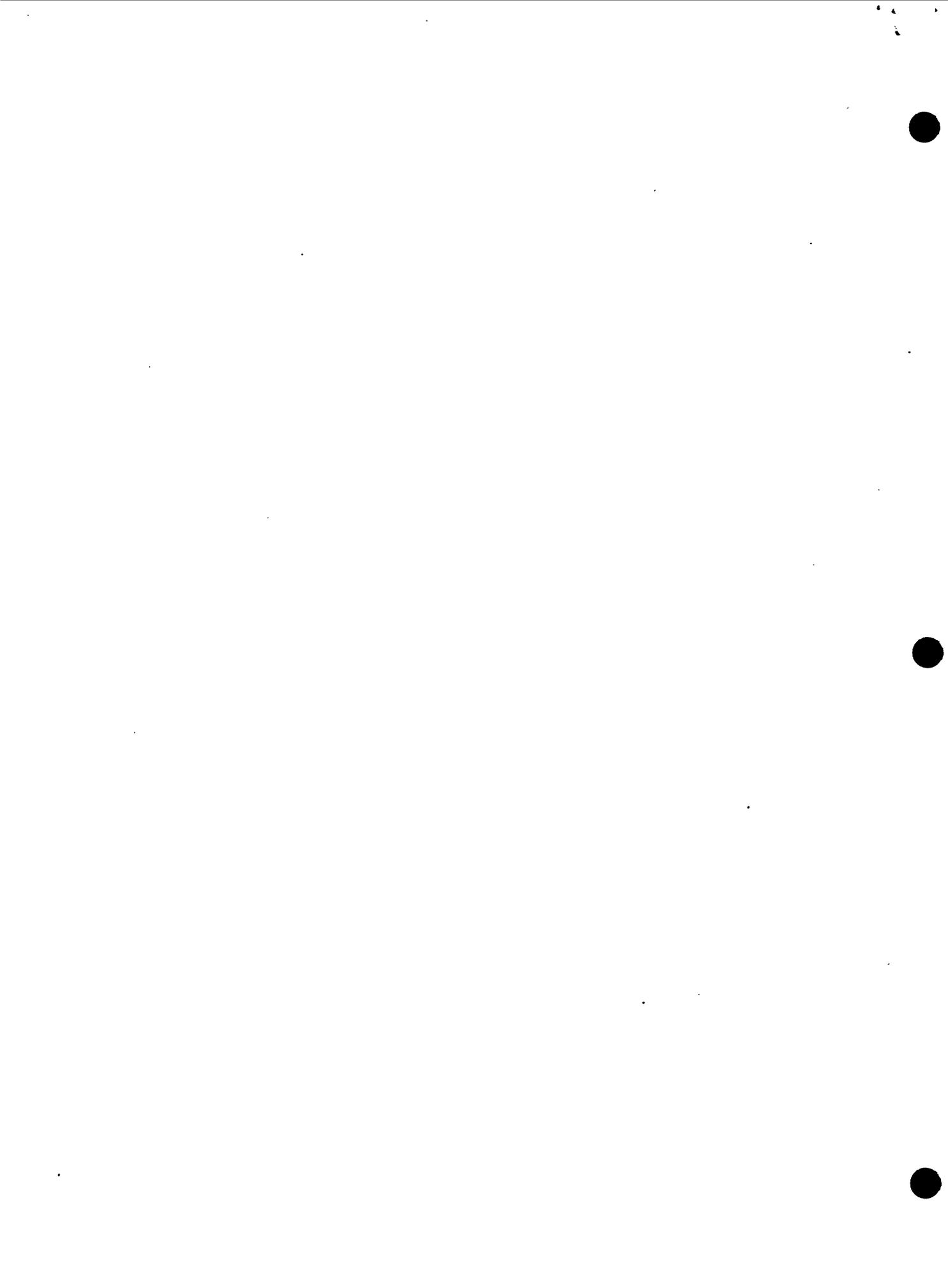
Jakolof Bay is a small fjord on the southeast coast of Kachemak Bay in the southwestern part of the Kenai Peninsula, southern Alaska. (See fig. 1.) It is about 6 miles east of the village of Seldovia. The area investigated is accessible only by boat or float-plane.

#### GEOLOGY AND MINING

The geology of the Jakolof Bay area has been described in a general manner in reports by Martin, Johnson, and Grant (1915), Gill (1922), and Guild (1942).

The rocks in the vicinity of Jakolof Bay consist chiefly of highly metamorphosed graywacke and slate, and minor amounts of limestone and basic igneous material. These strata are probably Triassic in age. Many small acidic dikes, probably late Mesozoic in age, intrude the Triassic rocks.

The only mining in the vicinity of Jakolof Bay has been at the Red Mountain chromite mines where some chrome ore was produced in 1917-1918 and 1942. In 1941-1942 a road was constructed from a dock at the mouth of the bay south to the mines, some 10 miles inland. No ore is known to have been shipped in the more recent period of production, but several thousand tons of chromite, now owned by the Reconstruction Finance Corporation, have been stockpiled along the road on the southwest shore of Jakolof Bay on a small tract of land apparently held in reserve by the Reconstruction Finance Corporation as a mill site.



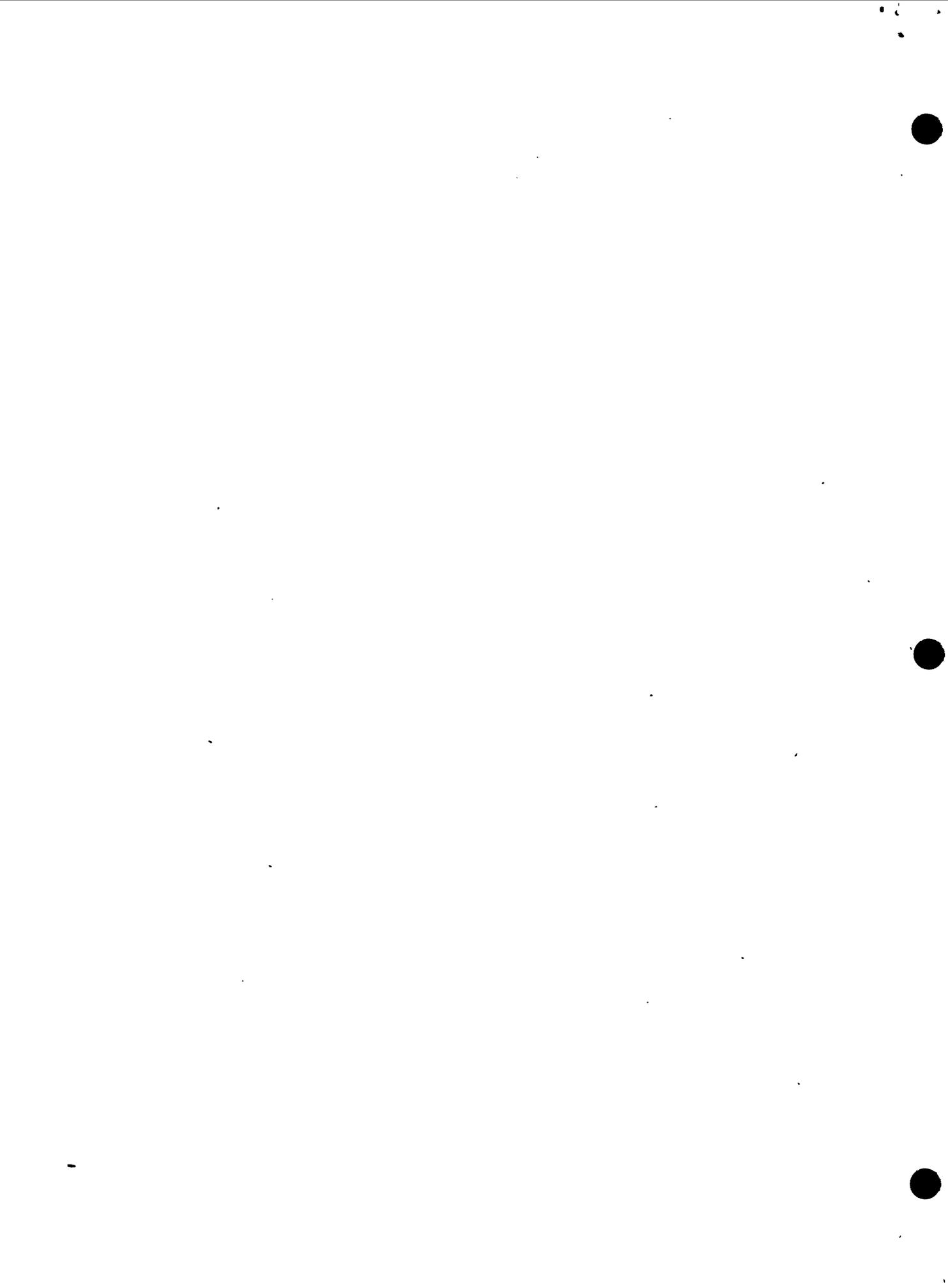
## RADIOACTIVITY INVESTIGATIONS

Detailed Geiger-counter traverses were made on foot on the Reconstruction Finance Corporation mill site, where tests included examination of a stockpile of chromite from the Red Mountain mines. No radiation anomalies were detected. Additional traverses were made by boat along the shores of Jakolof Bay and the southwest shore of Tutka Bay (fig. 1), also with negative results.

Samples of the Mesozoic graywacke and an acidic dike were collected; and four placer concentrates were panned from the gravels of streams draining the mountain on the southwest side of Jakolof Bay. No significant amount of radioactive minerals was found in any of the samples. Results of the laboratory studies of the samples are shown in table 1.

## CONCLUSIONS

The rumors of the occurrence of radioactive ore at Jakolof Bay appear to be unfounded. The prospectors who reported radioactive ore in this area indicated that it was found on a "government reserve". Possibly they mistook chromite, which is common in this area, for a radioactive mineral. The "government reserve" mentioned may be the small tract set aside by the Reconstruction Finance Corporation as a mill site whereon several thousand tons of chrome ore are now stockpiled.



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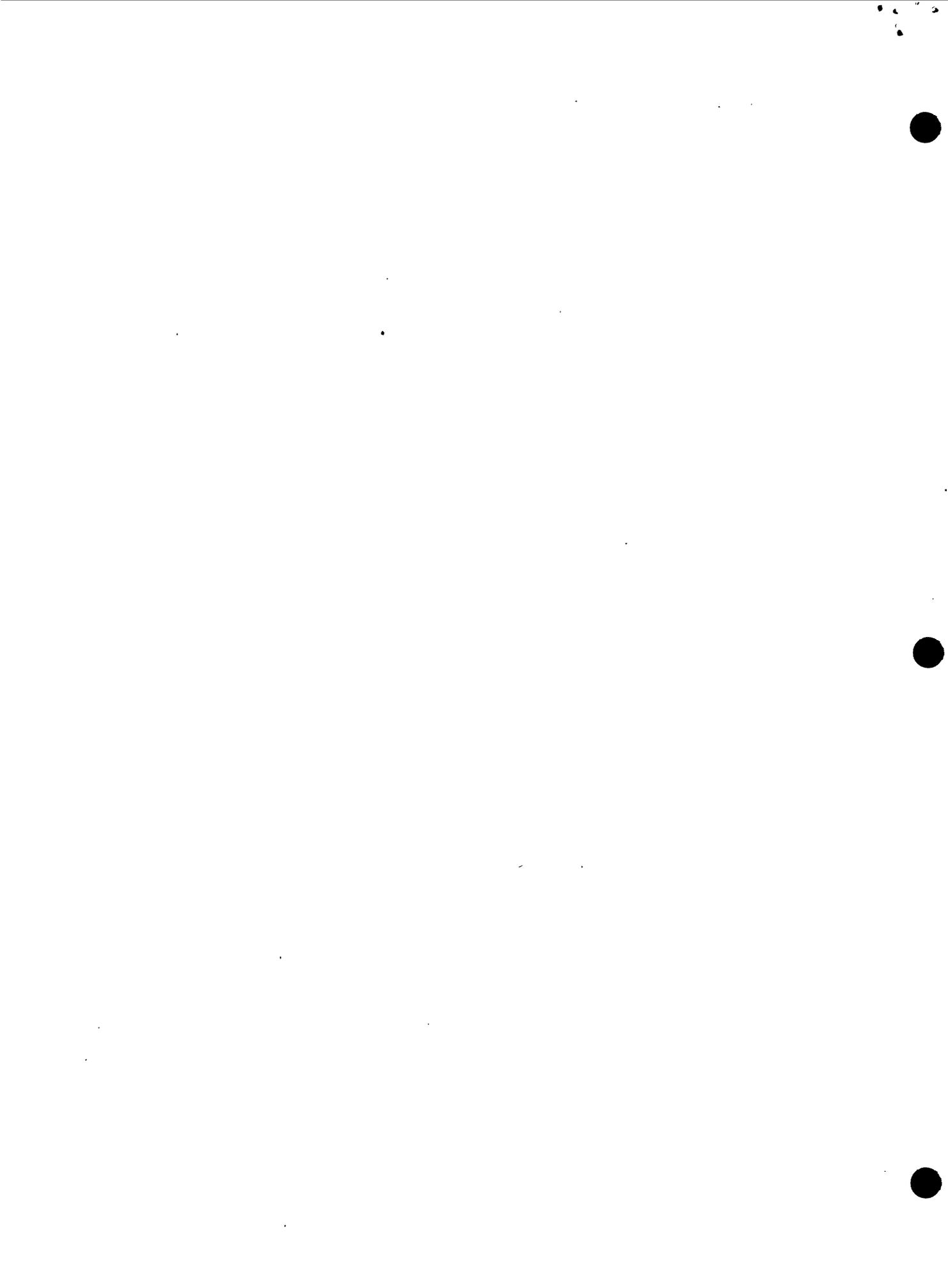


Table 1.

Data on samples collected in the Jakolof Bay area, Alaska.

Sample no.	Field ATE file	Unconcentrated sample	Percent equivalent uranium Heavy-mineral fraction (greater than 3.3 G)	Concentration ratio	Description and location
1	3766-L	0.000	0.002	23:1	Graywacke, south shore of Jakolof Bay.
2	3767	--	0.001	--	Concentrate from surface gravel, first stream west of Jakolof Bay.
3	3768-L	0.001	0.006	374:1	Acidic dike west of location of sample 2.
4	3769	--	0.007	--	Concentrate from surface gravel, west tributary of Jakolof Bay.
5	3770	--	0.001	--	Concentrate from surface gravel, west tributary of Jakolof Bay.
6	3771	--	0.003	--	Concentrate from surface gravel, west tributary of Jakolof Bay.