PE-121-05

TERRITORY OF ALASKA
DEPARTMENT OF MINES
BOX 1391
JUNEAU, ALASKA

PE-121-5

PROPERTY EXAMINATION REPORT

I & L PROPERTY, DIXON ENTRANCE QUADRANGLE, RADIOACTIVES

KX 121-3

James A. Williams
December 1955

The I & L property was discovered adjacent to, and shortly after, the original Ross-Adams radioactive discovery, which is of sufficient size and grade that Climax Molybdenum Company took an option on it soon after examination and started drilling as soon as possible. High grade samples having been received from the I & L, and a request for a TDM examination, the undersigned examined the property on the 12th and 13th of July, 1955. Several exposures were sampled and mapped, and some new exposures were made. Channel samples taken by the undersigned were assayed at 0.05 to 0.60% eU, but sampling by the owner has brought results up to 6.5% U (fluorimeter). Widths as found during the examination are narrow, and thorium is associated with the uranium, but other features are sufficiently favorable that the writer considers the I & L to be a promising prospect and worthy of an exploration program.

The claims examined were the I & L No's. 3 and 4. More claims are in the group. The property is owned by Irma and Les Hollenbeak of Ketchikan. The general location is on the southern portion of Prince of Wales Island and in the northeast corner of the Dixon Entrance quadrangle. Specifically, it is at about 1100 feet elevation on the southeast slope of Bokan Mountain between the West Arm of Kendrick Bay and the South Arm of

Moira Sound at geographical coordinates of about 132°08' W longitude and 54°54' N latitude. It lies on a ridge north of and adjacent to the Ross-Adams property. A vicinity map is attached to show the situation. Other radioactive properties are also in the area.

A rather rough foot trail leads to the property by way of the Ross-Adams prospect. The upper part of the trail is steep, but not very difficult to travel over. It is believed that another route could be chosen over which a tractor trail could be constructed with no great trouble. Part of the property is open, but the great majority of the country is wooded and has the customary Southeastern Alaska overburden of moss and muskeg up to about 1200 feet on this side of the mountain.

The general area between Kendrick Bay and Moira Sound is one of diorite, probably a stock, of which Bokan Mountain seems to be the center. Numerous gradations of rock are present which include granodiorite, quartz diorite, and probably monzonite and syenite. No correlation between the radioactive zones and any particular rock type has as yet been noted. The zones appear to be controlled by systems of fractures and joints, but not all of the fracture or joint systems are mineralized.

The mineralized zones of the area are usually characterized by altered and iron-stained rock, which makes them quite conspicuous. The color varies from tan to rust-brown to reddish and often nearly black. The same colorations are apparent when muskeg or other overburden is removed from buried radioactive material. Lower grade material is often relatively unstained, however, and not all stained or altered areas are radioactive. The uranium minerals are mostly secondary and probably consist of a variety of uranium arsenates, phosphates, carbonates, silicates,

etc., with slight copper and lead content. The radioactive material from the Ross-Adams prospect has usually a bright green or yellow-green fluorescence under the UV light, but the I & L mineralization is not so noticeable in this respect. Thorium and rare-earth minerals have been recognized in the radioactive material, but uranium predominates.

There appears to be good reason to believe, from the appearance of the deposits, that primary minerals lie below the surface weathering that is described above. In fact, on the I & L property, primary (?) material has been tentatively identified. It is black and heavy and appears to be a variety of uraninite or pitchblende. Associated minerals include red, brown, and black hematite, manganese oxides, some rhodonite, a trace of magnetite, purple fluorite, galena, chalcopyrite and pyrite.

The I & L claims are on the upper (as seen thus far) portion of a structure which trends northwest and southeast, and on which the Blazek-Dotson claims are also located next below the I & L, and the Carol Anne claims (Worthington and associates) from there to the beach. This is shown on the attached vicinity map. The same structure appears to show again on the south side of the bay where it can be seen as a depression going up the hill side and where two other prospectors have discovered further radioactive indications. This structure could be a pegmatite as two geologists insist who have visited the area, but the writer is not completely convinced. It is tentatively identified as a fault zone. At any rate, it is a regional feature of importance, as radioactive anomalies and samples have been found all along its strike; and the I & L seems to be on the most favorable part of this structure, judging from the grade of material and widths of mineralized zones seen by the writer.

The I & L property was not well exposed at the time of the visit, and the examination consisted of mapping and sampling the small pits and exposures as shown on the attached sketch map. Geiger counter readings were taken of the material in place with a Detectron DG-7. Exposures were not sufficient in most cases to obtain dip and strike, but the general trend was northwest and southeast. The usual rock type on the claims is diorite which in places grades to a porphyritic granite. Local kaolinization of the feldspars in this material indicates hydrothermal alteration. Occasionally, small quartz stringers are found, and these have some radioactivity associated with them in the wall rock, but not ordinarily in the quartz. The uranium is found in the diorite where altered, and often particularly where stained brown to nearly black by iron or iron-manganese. It is questionable whether the uranium and iron-manganese were deposited at the same time, but it does appear that they were deposited in the same manner through the same channels. It seems significant too, that in any one exposure, the uranium and thorium content is higher in the darker colored material. The presence of the dark colored zones of high radioactive content surrounded by the less highly colored gangue, suggests replacement or selective mineral deposition, perhaps in certain of the feldspars or in kaolinized zones.

One of the encouraging things about the property is the fact that in some of the pits or sample points, especially No's. 10 and 11 which are in the brush and under overburden, the altered and mineralized material seems to have no limit. The more it was followed, the more favorable rock was uncovered, and the limits were not reached. More digging, exposing, and sampling should have been done before the examination. More has been done since.

Six channel samples taken by the writer during the examination were assayed at 0.05 to 0.60% eU and represented widths up to 24 inches. Samples JW55-1 through 8 were taken, which included two specimen samples. These samples with assay results are tabulated on the attached sketch map. Samples taken by Les Hollenbeak before and during the examination are also shown in the tabulation. Where the Hollenbeak samples are shown in terms of % U_3O_8, the assaying was done by a firm in the States. More samples have been taken by Mr. Hollenbeak in subsequent prospecting work on the claims which have been assayed at from 0.03% to 6.50% U (fluorimeter) with the use of a newly-installed fluorimeter at the Ketchikan TDM assay office. A comparison of eU and U (fluorimeter) results show that uranium is usually the chief radioactive element, and that sometimes the U (fluorimeter) is higher than the eU. Samples assaying from 2.5% up may be fairly well selected, yet the results are too high to be ignored. A. E. Glover, TDM Assayer at Ketchikan, did the assaying and most of the mineral identification.

The later work by Mr. Hollenbeak was largely carried out by a systematic taking of Geiger counter readings on top of the overburden and digging to bedrock for samples where the readings were above normal. This apparently resulted in several new high grade spots. This later work was done closely adjacent and to the north of the area shown on the sketch map.

In considering the structure, the mineralization, and the proximity to the Ross-Adams property, the writer is of the opinion that the I & L property is a favorable prospect of very good possibilities. It definitely warrants an exploration program to determine if a minable body of ore of commercial grade and tonnage exists.

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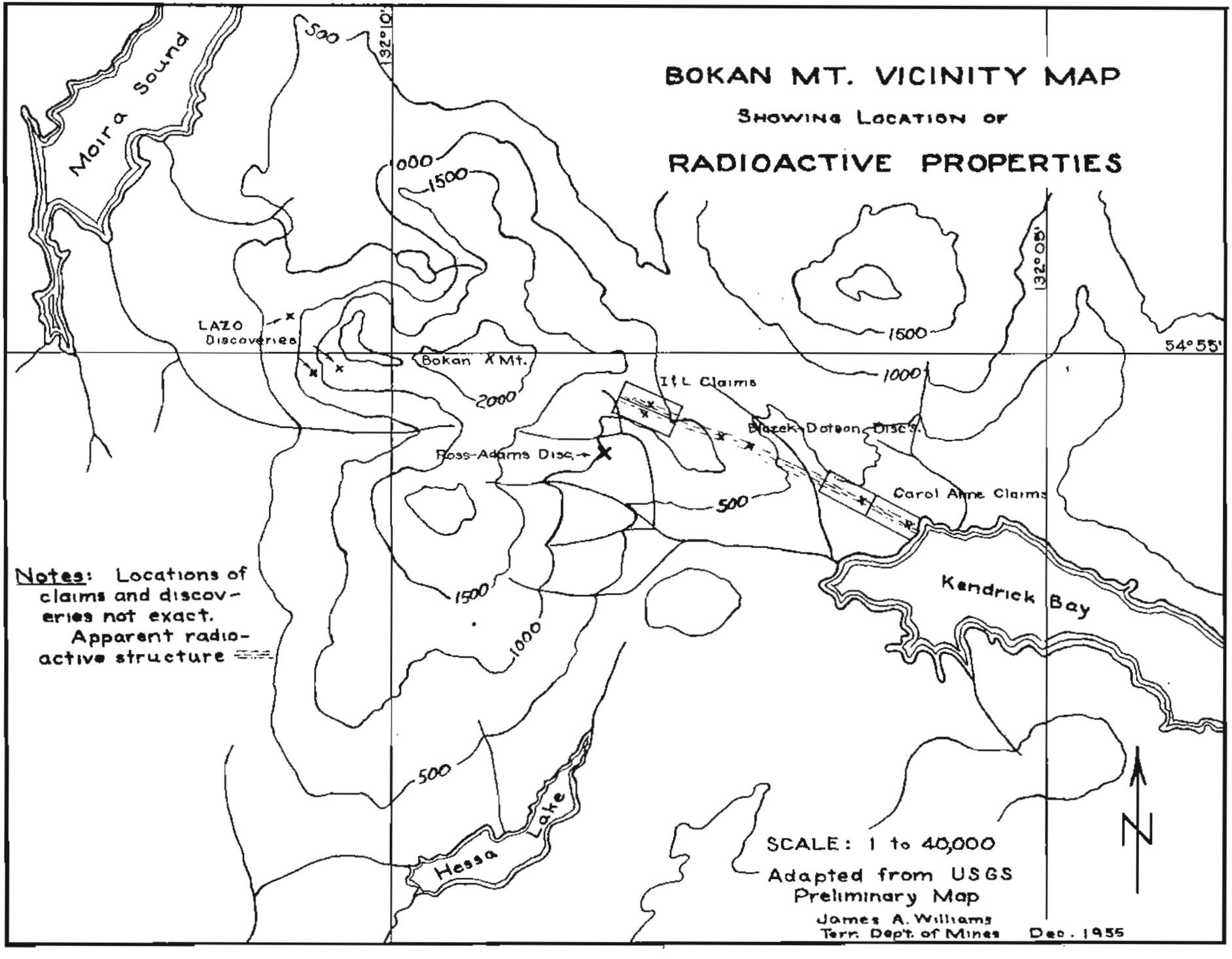
Territorial Mining Engineer


BOKAN MT. VICINITY MAP
SHOWING LOCATION OF
RADIOACTIVE PROPERTIES
Moira Sound
500
1000
1500
132°10'
132°05'
54°55'
LAZO Discoveries
Bokan Mt.
2000
1500
1000
I.t.L. Claims
Blazek-Dotson Disc's.
Ross-Adams Disc.
Carol Anne Claims
500
Kendrick Bay
1500
1000
500
Hessa Lake
Notes: Locations of claims and discoveries not exact.
Apparent radioactive structure
SCALE: 1 to 40,000
Adapted from USGS Preliminary Map
James A. Williams
Terr. Dep't. of Mines Dec. 1955
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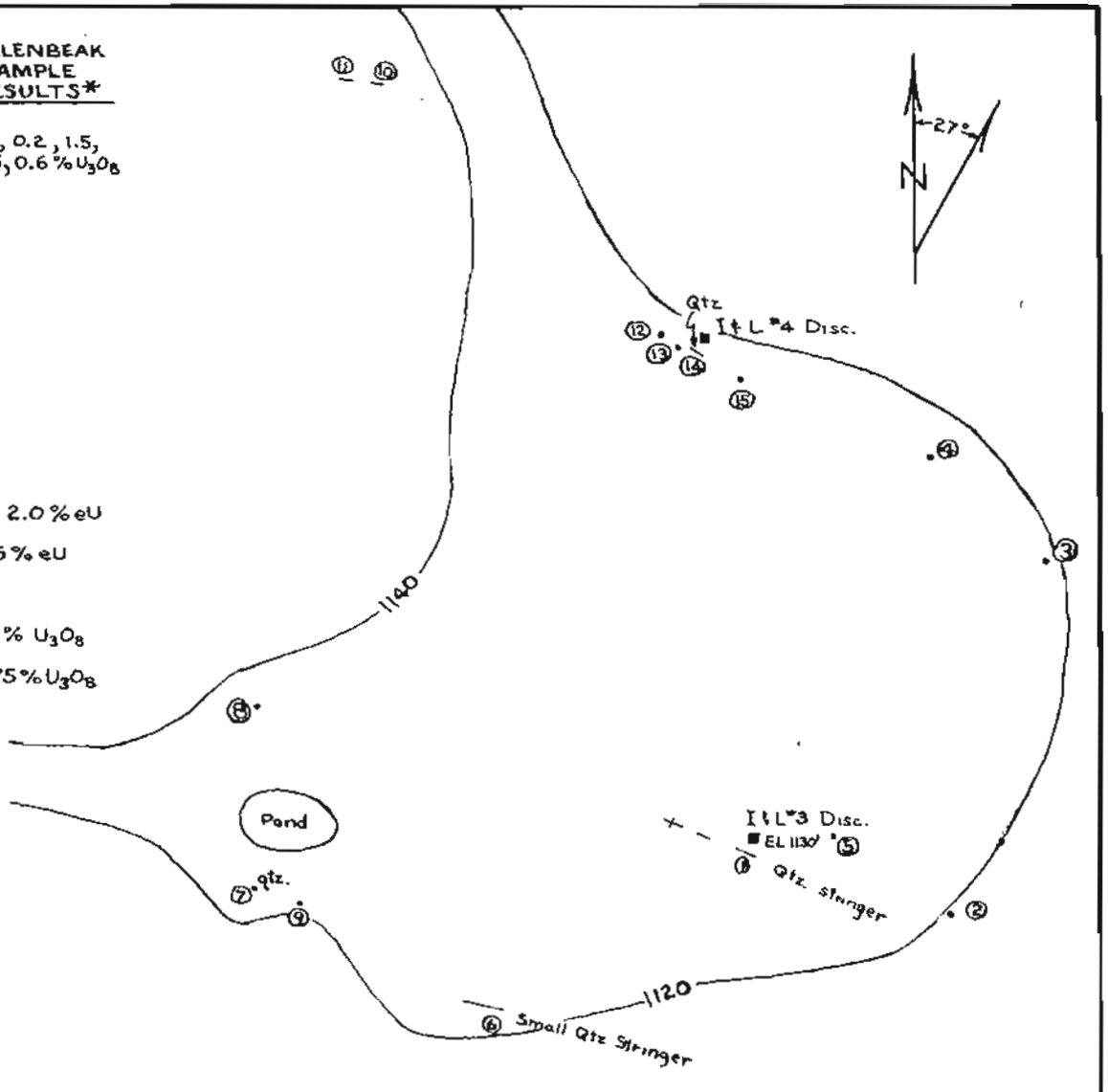
SAMPLE POINTS	READINGS IN PLACE MR/HR	JW SAMPLES	WIDTHS	RESULTS IN % eU	HOLLENBEAK SAMPLE RESULTS*
①					0.4, 0.2, 1.5, 0.15, 0.6 % U_3O_8
②	Slight				
③	Slight				
④	8.0				
⑤	0.5				
⑥	0.7	JW55-3	V. Narrow	0.12	
⑦	0.5	JW55-6	10"	0.05	
⑧	0.8	JW55-7	9"	0.12	
⑨	0.4				
⑩	10.0	JW55-4	10"	0.60	1.0, 2.0 % eU
⑪	11.0	JW55-8	24"	0.25	0.25 % eU
⑫	1.2				
⑬	1.4				2.5 % U_3O_8
⑭	10.0	JW55-5	18"	0.50	0.075 % U_3O_8
⑮	0.8				

* See text of report.



NOTES : Survey by Brunton and pacing.
Contours only approximate.
Country rock is diorite.
Uranium in altered diorite.
Where quartz noted, U is in wall rock, not in quartz.

I & L PROPERTY

SKETCH MAP OF RADIOACTIVE EXPOSURES AND TABLE OF SAMPLING RESULTS

SCALE : 1" = 100'

James A. Williams Terr. Dep't. of Mines Dec. 1955