

SITKLAN ISLAND PEGMATITES

By JAMES C. BARKER

***** Field Report

UNITED STATES DEPARTMENT OF THE INTERIOR

Manuel Lujan, Jr., Secretary

BUREAU OF MINES

T S Ary, Director

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INTRODUCTION

Muscovite-bearing pegmatite deposits have been reported in the area of Sitklan Island and Sitklan Passage. Some exploration of these deposits occurred in the 1950's.

A heavy mineral survey was performed by the Bureau of Mines during a three day recon in late October 1988. The objective was to evaluate the pegmatites as possible host rocks for tantalum, beryllium, niobium, and REE mineralization. Rock samples were also collected to test trace elemental background levels. No attempt was made to re-appraise the mica deposits. It is felt previous mapping and descriptions by the USGS are adequate at this time.

PREVIOUS WORK

Several examinations were performed in 1953. C.L. Sainsbury examined the mica deposits as part of an application request for development funding to the Defense Minerals Evaluation Act.¹

In 1964, R.V. Berryhill² of the Bureau, re-examined the mica prospects for beryllium and recommended no further work. Only a trace of Be was found in one 15-ft thick pegmatite.

¹Geologic Rept. DMEA Docket No 3049, 1953, In USBM project file.

²Memorandum Nov. 13, 1964, in USBM project file 13 pg.

In 1957, Sainsbury³ described the geologic setting of pegmatite deposits of southeastern Alaska including those bearing muscovite at Sitklan Island.

LOCATION AND ACCESS

The area hosting muscovite pegmatite deposits is located on Point Mansfield, Sitklan Island; 54° 45' N latitude and 130° 40' W longitude, about 60 mi SE of Ketchikan. Access to the site was by Temsco Airways float plane out of Ketchikan to Sitklan Passage where a spike camp was situated on a small south facing cove.

RESULTS AND CONCLUSION

A total of 23 heavy mineral concentrates were collected from each of nearly all streams draining the pegmatite area. In addition 7 rock chip samples of various lithologies including pegmatites were analyzed.

No evidence of trace element enrichment in the vicinity of the Sitklan Island pegmatites (including Ta, Be, Li, Nb, Zr, and REE) is evident from the analytical data.

No further work is recommended.

³Sainsbury C.L. Some Pegmatite Deposits in Southeastern Alaska, USGS Bull. 1024-6, 1956, pg 141-161.

Sitklan Island - Pan Concentrates

ELEMENTS	DETECTION LIMIT	UNITS	METHOD
Nb	2.0000	ppm	XRF
Sn	2.0000	ppm	XRF
Ta	2.0000	ppm	XRF
Th	2.0000	ppm	XRF
Ti	5.0000	ppm	XRF
U	2.0000	ppm	XRF
W	3.0000	ppm	XRF
Y	2.0000	ppm	XRF
Zr	3.0000	ppm	XRF
La	1.0000	ppm	INAA
Ce	5.0000	ppm	INAA

SAMPLE NUMBERS

ELEMENT & UNITS	SE26630	SE26632	SE26666	SE26659	SE26628	SE26671
Nb ppm	19	22	19	22	16	9
Sn ppm	5	9	3	6	<2	<2
Ta ppm	<2	<2	16	3	<2	71
Th ppm	<2	<2	<2	<2	<2	<2
Ti ppm	4200	6500	4900	5500	4000	5000
U ppm	<2	<2	<2	<2	<2	<2
W ppm	17	<3	<3	31	47	<3
Y ppm	33	29	34	45	25	17
Zr ppm	180	180	280	250	330	760
La ppm	41	24	47	22	36	22
Ce ppm	79	53	87	53	73	53

SAMPLE NUMBERS

ELEMENT & UNITS	SE26655	SE26657	SE26663	SE26661	SE26643	SE26664
Nb ppm	9	9	10	13	18	9
Sn ppm	10	3	3	9	3	6
Ta ppm	<2	<2	<2	<2	<2	<2
Th ppm	<2	<2	<2	<2	<2	<2
Ti ppm	6500	5300	6800	5600	6800	4000
U ppm	<2	<2	<2	<2	4	<2
W ppm	36	9	<3	<3	<3	<3
Y ppm	22	42	15	35	49	16
Zr ppm	230	210	180	230	410	87
La ppm	27	15	12	35	49	21
Ce ppm	53	35	25	68	88	39

SAMPLE NUMBERS

ELEMENT & UNITS	SE26633	SE26662	SE26629	SE26656	SE26631	SE26667
Nb ppm	12	8	11	7	14	14
Sn ppm	<2	<2	<2	4	<2	<2
Ta ppm	6	<2	<2	<2	<2	<2
Th ppm	<2	<2	<2	<2	<2	<2
Ti ppm	3300	2900	2300	3300	3900	3700
U ppm	<2	<2	<2	<2	<2	<2
W ppm	<3	<3	<3	<3	9	<3
Y ppm	22	26	20	14	25	20
Zr ppm	83	98	150	46	120	150
La ppm	28	13	16	18	18	26
Ce ppm	53	29	29	35	37	48

SAMPLE NUMBERS

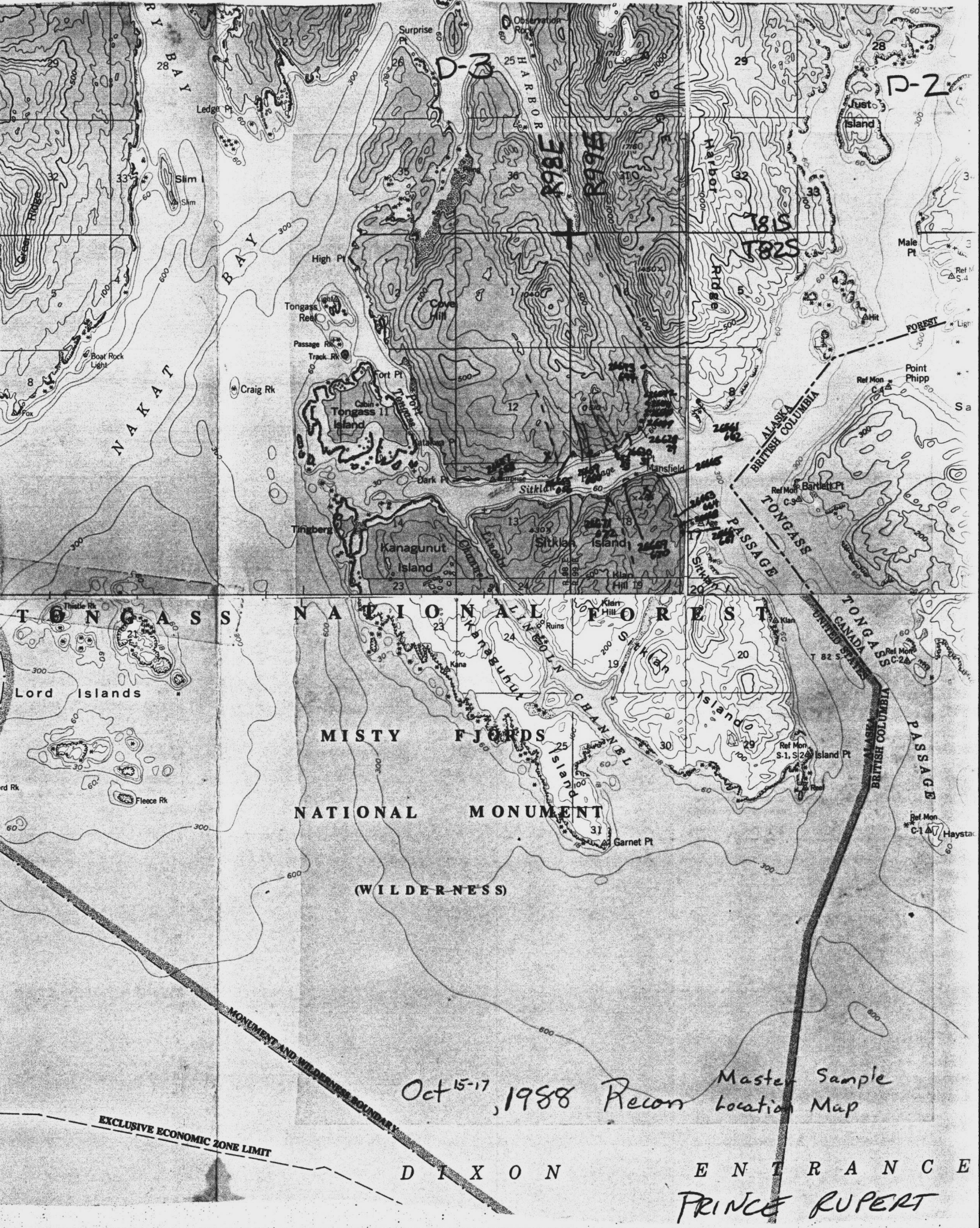
ELEMENT & UNITS	SE26644	SE26660	SE26640	SE26672	SE26658
Nb ppm	8	13	7	7	10
Sn ppm	9	<2	9	3	2
Ta ppm	<2	<2	<2	11	<2
Th ppm	<2	<2	<2	<2	<2
Ti ppm	3000	3000	2700	3200	4500
U ppm	<2	<2	<2	<2	<2
W ppm	9	<3	47	25	<3
Y ppm	20	20	20	14	26
Zr ppm	94	130	100	82	140
La ppm	15	14	7	13	11
Ce ppm	33	31	16	26	26

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	METHOD
1	Au	Gold	7	2 ppb	INAA
2	Ag	Silver	7	2 ppm	INAA
3	As	Arsenic	7	0.5 ppm	INAA
4	Ba	Barium	7	50 ppm	INAA
5	Br	Bromine	7	0.5 ppm	INAA
6	Cd	Cadmium	7	5 ppm	INAA
7	Ce	Cerium	7	0.5 ppm	INAA
8	Co	Cobalt	7	5 ppm	INAA
9	Cr	Chromium	7	20 ppm	INAA
10	Cs	Cesium	7	0.5 ppm	INAA
11	Eu	Europium	7	1 ppm	INAA
12	Fe	Iron	7	0.2 pct	INAA
13	Hf	Hafnium	7	1 ppm	INAA
14	Ir	Iridium	7	50 ppb	INAA
15	La	Lanthanum	7	2 ppm	INAA
16	Lu	Lutetium	7	0.2 ppm	INAA
17	Mo	Molybdenum	7	1 ppm	INAA
18	Na	Sodium	7	0.2 pct	INAA
19	Ni	Nickel	7	20 ppm	INAA
20	Rb	Rubidium	7	5 ppm	INAA
21	Sb	Antimony	7	0.1 ppm	INAA
22	Sc	Scandium	7	0.2 ppm	INAA
23	Se	Selenium	7	5 ppm	INAA
24	Sm	Samarium	7	0.05 ppm	INAA
25	Sn	Tin	7	100 ppm	INAA
26	Ta	Tantalum	7	0.5 ppm	INAA
27	Tb	Terbium	7	0.5 ppm	INAA
28	Te	Tellurium	7	10 ppm	INAA
29	Th	Thorium	7	0.2 ppm	INAA
30	U	Uranium	7	0.2 ppm	INAA
31	W	Tungsten	7	1 ppm	INAA
32	Yb	Ytterbium	7	2 ppm	INAA
33	Zn	Zinc	7	100 ppm	INAA
34	Zr	Zirconium	7	200 ppm	INNA

[illegible]



Figure I.- Index Map of Southeastern Alaska.



Oct 15-17, 1988 Recon Master Sample Location Map

DIXON ENTRANCE
PRINCE RUPERT