Saskatchewan
Energy and Mines

Saskatchewan
Geological Survey

Geology of Rare Element Pegmatites in the Hanson Lake Area (NTS 63L-10,-15)

Sheet 2: Pegmatites 91-G and 91-H

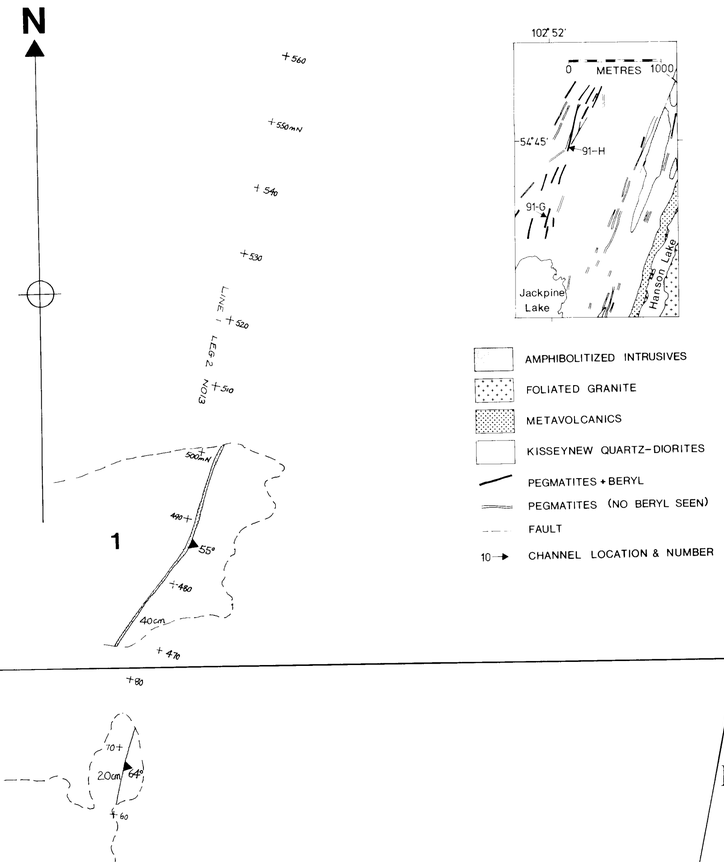
Preliminary Geological Map (1991)

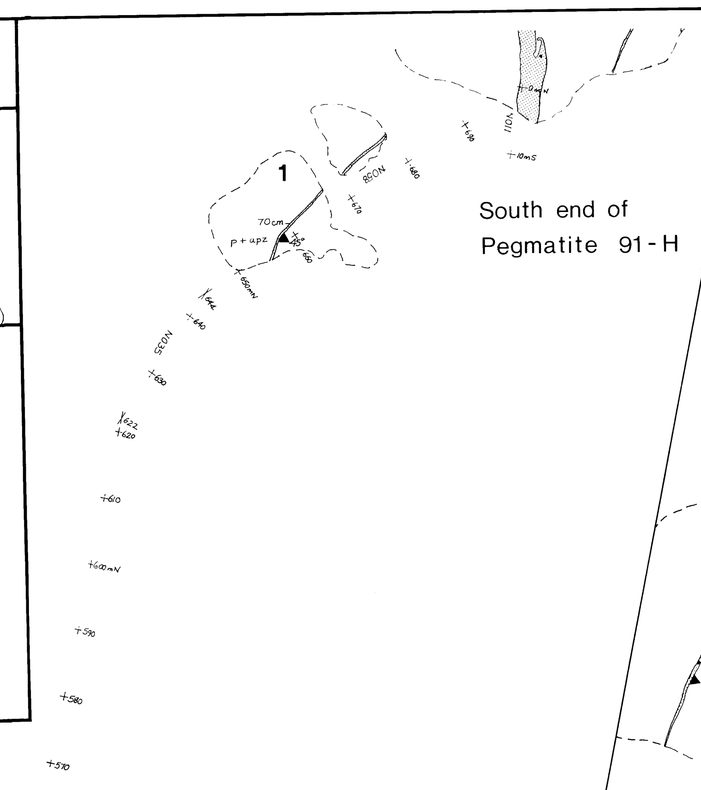
by: **D. G. MacDougall**

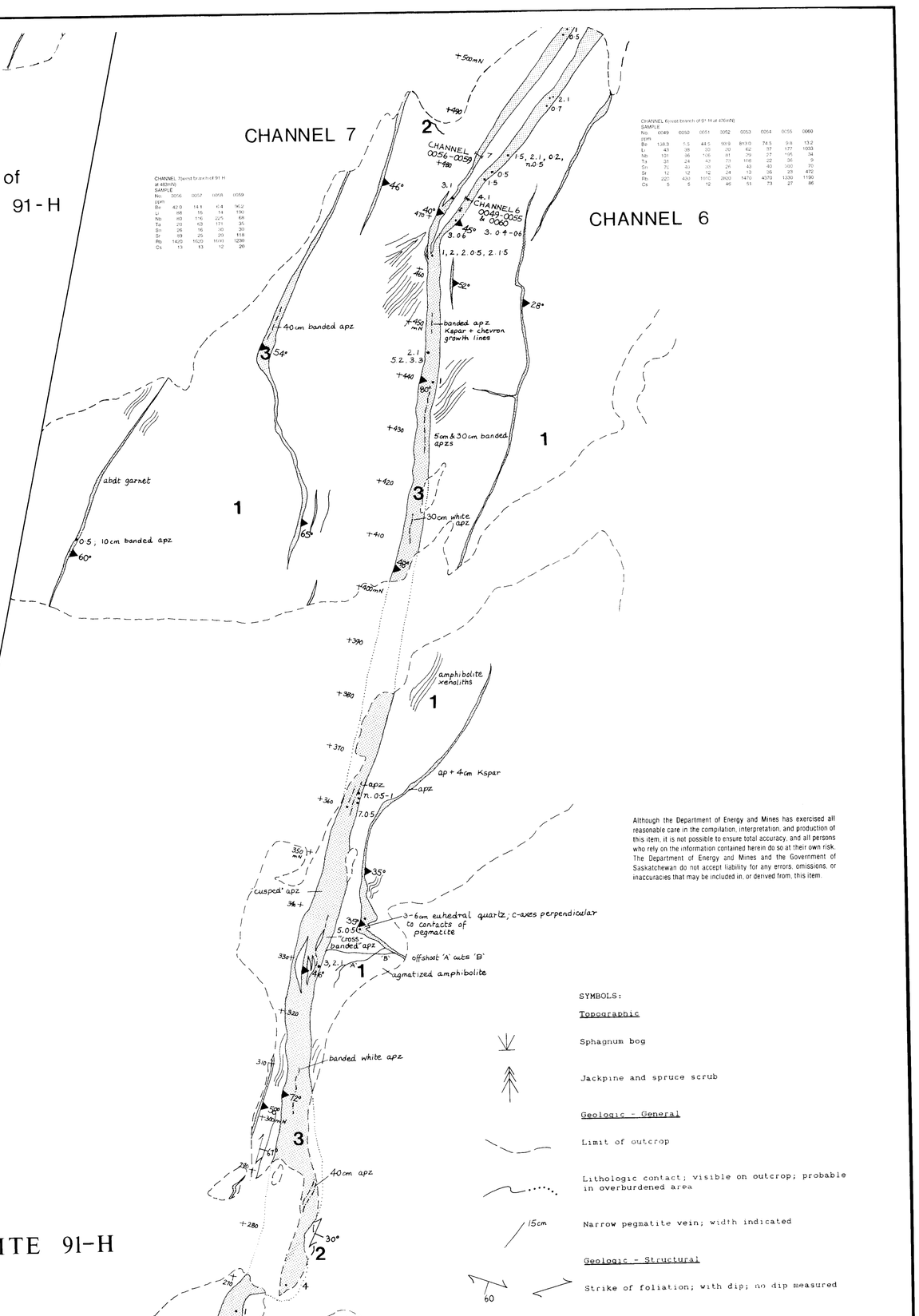
(S.2)

Legend:

- 3 — pegmatite
- 2 — amphibolite
- 1 — quartz-diorite gneiss







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SYMBOLS:

Topographic

- Sphagnum bog
- Jackpine and spruce scrub

Geologic - General

- Limit of outcrop
- Lithologic contact; visible on outcrop; probable in overburdened area
- 15cm — Narrow pegmatite vein; width indicated

Geologic - Structural

- 60 — Strike of foliation; with dip; no dip measured
- Outcrop pattern of local foliation
- 60 — Axis of minor fold with plunge
- 45 — Dip of pegmatite contact surface
- 30cm — Fracture with displacement

Mineralogic/Petrographic

- ● — Beryl
- 1;2.1-5;3.3 — Notation for number and size of beryls: first figure denotes number of crystals; second figure denotes crystal diameter in centimetres; single figure denotes diameter of single crystal
- × — Spodumene
- △ — Columbite
- ■ — Magnetite
- Conspicuous club-shaped K-feldspars
- Prominent banded aplite zone (also apz)
- ap — Aplite
- p — Pegmatite

Miscellaneous

- +20mN — Base line marker showing metres north of origin
- Sample channel cut by diamond saw
- 0091 — Grab sample or small channel sample site and number

CHANNEL 4 (west branch of 91-H at 226mN)

SAMPLE No.	0034	0035	0036	0037
ppm				
B1	6.0	6.4	7.0	
Li	193	37	67	158
Nb	89	61	41	117
Ta	17	11	7	21
Sn	75	37	62	81
Sr	85	10	15	129
Rb	779	1310	2510	900
Cs	10	13	23	10

CHANNEL 6 (east branch of 91-H at 476mN)

SAMPLE No.	0049	0050	0051	0052	0053	0054	0055	0060
ppm								
Be	138.3	1.5	44.5	169	813.0	74.5	9.8	13.2
Li	43	38	10	30	62	97	177	1033
Nb	101	96	106	81	79	27	195	34
Ta	31	24	47	71	108	22	36	9
Sn	70	40	43	26	43	46	260	70
Sr	12	12	12	24	13	36	23	472
Rb	225	430	1010	2620	1470	4370	1330	1190
Cs	5	5	12	46	51	73	27	86

CHANNEL 7 (west branch of 91-H at 483mN)

SAMPLE No.	0056	0057	0058	0059
ppm				
Be	42.0	14.1	6.4	96.2
Li	68	16	14	190
Nb	80	116	225	68
Ta	20	63	171	35
Sn	26	16	30	30
Sr	89	25	20	118
Rb	1405	1620	1691	1230
Cs	13	13	12	20

CHANNEL 3(a,b,c)three separate 30 cm channels at 224mN 226mN)

SAMPLE No.	0028	0029	0030
ppm			
Be	19.6	56.2	227.8
Li	96	177	294
Nb	74	174	83
Ta	31	85	109
Sn	32	140	60
Sr	27	21	33
Rb	3090	1920	3550
Cs	152	205	437

CHANNEL 5(east branch of 91-H at 226mN)

SAMPLE No.	0038	0039	0040	0041	0042	0043	0044	0045	0046	0047	0048
ppm											
Be	105.5	6.4	6.5	4.6	4.7	10.2	[illegible]	7.8	7.4	4.9	
Li	86	69	154	134	63	101	76	260	297	73	
Nb	124	94	240	103	109	153	114	140	211	60	
Ta	136	17	36	18	22	34	46	20	23	8	
Sn	29	18	56	44	29	64	27	300	90	65	
Sr	44	13	3	10	18	5	7	10	16	36	
Rb	2720	1720	290	1440	2430	730	720	2410	2080	1400	
Cs	159	48	12	25	65	14	10	32	22	25	

Analytical methods: Be, Li by $HF\text{-}HNO_3\text{-}HClO_4$ HCl extraction and Atomic Absorption. Nb, Sn, Sr by X-ray Fluorescence. Ta, Rb, Cs by Neutron Activation. Analyst: Bondar Clegg & Co.

CHANNEL 8 (interior of 91-H at 133 5mN)

0065	0061	0062	0063	0064
6.5	5.6	4.4	270.4	6.6
42	199	38	45	126
61	150	17	18	165
12	25	4	3	29
26	103	27	19	113
8	7	28	25	9
980	570	3690	4540	1360
8	8	31	78	12

CHANNEL 10 (91-H at 174mN)

SAMPLE No.	0068	0069	0070	0071	0072	0073	0074	0075	0076	0077
ppm										
Be	10064	116.0	72.5	11.2	10.5	>1000	1.09	12.5	21.2	40.5
Li	56	98	75	148	29	190	1.84	175	305	290
Nb	115	76	115	133	72	117	111	34	161	38
Ta	112	21	70	28	21	59	79	20	29	10
Sn	48	53	68	96	45	165	175	120	190	36
Sr	46	17	9	8	5	57	30	18	18	181
Rb	2020	2140	1830	1750	2190	1430	1990	1520	1420	1720
Cs	37	29	25	15	17	47	36	12	14	22

Project A-148 of 1991, Database No. 9133

The area was geologically mapped by D.G. MacDougall (project leader) with the assistance of Donald Williams (1991).

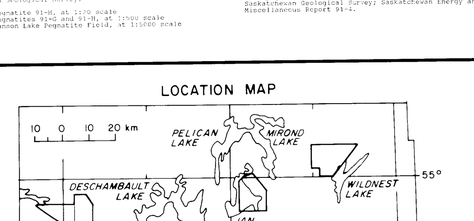
This preliminary map was printed from the geologists' manuscript and is issued with the Summary of Investigations 1991, Saskatchewan Geological Survey.

Sheet 1: Pegmatite 91-H, at 1:20 scale
Sheet 2: Pegmatites 91-G and 91-H, at 1:500 scale
Sheet 3: Hanson Lake Pegmatite Field, at 1:5000 scale

The project was funded by the Province of Saskatchewan under the Canada-Saskatchewan Partnership Agreement on Mineral Development 1990-1995.

This map may be referenced as part of the following publication:
MacDougall, D.G. (1991): Rare element pegmatites in the Hanson Lake pegmatite field; in Summary of Investigations 1991, Saskatchewan Geological Survey; Saskatchewan Energy and Mines, Miscellaneous Report 91-4.

LOCATION MAP



Scale 1:5 00

Metres 10 0 10 20 30 40 Metres