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GEOPHYSICAL REPORT ON PMLs 282, 283 & 284

VOWELL CREEK, GOLDEN MINING DIVISION

By J. M. Black, P. Eng.

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INTRODUCTION:

Radioactive minerals such as pyroclore are known to occur in post-glacial creek gravels of Vowell Creek. These gravels come from an area at the head of the creek and of its main upper tributary, Malloy Creek.

METHOD & INSTRUMENT

The instrument used is a Model G15-2 Gamma Ray Spectrometer manufactured by Scintrex Ltd., Downsview, Ontario, Series No. 807148. This instrument is provided with two energy threshholds and can be used to determine number of counts per second from thorium only, or from thorium and uranium only, in addition to the overall count for these elements plus potassium.

A minimum of two men were required to run the survey. One man with compass and chain to locate station and the second to occupy station, take readings and hold the chain.

The readings were taken at the station shown unless it happened to be covered with vegetation and then the readings were taken within 15 feet of it where the vegetable cover was less or bare gravel was exposed.

The probe that picked up the radiation was held about 9 inches above the ground.

RESULTS

Three readings were taken at each station and they are shown on the map attached. These readings are plotted on Fig. 1, also attached.

INTERPRETATION

The highest overall reading is about 250 counts per second, which is about four times the background (60 counts per second). In the central part of the traverse is a section with relatively high readings, from station 26 to station 44. Upstream from this and downstream the readings are generally lower with the readings upstream generally slightly lower.

The readings are eratic, indicating that the radioactive minerals are distributed eratically within the gravel, though some of the variation is due to the cover of vegetable matter which reduces the radioactivity measured.

Generally the counts per second of U+th is slightly more than 1/10 of the overall count, but this decreases upstream and from stations 53 and 65 is essentially exactly 1/10 of the total count. This relationship suggests that the potash and uranium radiation is from a mineral or suite of minerals that are fairly constant in their relationship to each other.

The count from thorium follows closely the same pattern. It decreases slightly upstream.

EMPLOYMENT

Woodsworth & Delgado	Oct. 19	$ 76
Woodsworth & Delgado	Oct. 20	76
Office - Delgado	Oct. 21	22
Black - office & field	Oct. 26 ½ day	75
Delgado - office	Nov. 27	22
Black - office	Nov. 28	110
Proportionate cost of board, camp and transport		45
		$426

J. M. Black, P. Eng., Consulting Geologist - 1½ day @ $110/day = $165

B. Woodsworth, Geologist - 2 days @ $ 34/day = $ 68

G. Delgado, Mining Engineer - 4 days @ $ 22/day = $ 88

Rental of Spectometer - 2 days @ $ 20/day = $ 40

JMB:jh

Nov. 28/68

Declared before me at the City of Vancouver, in the Province of British Columbia, this 29th day of November, 1968, A.D.

J. Paul SUB-MINING RECORDER

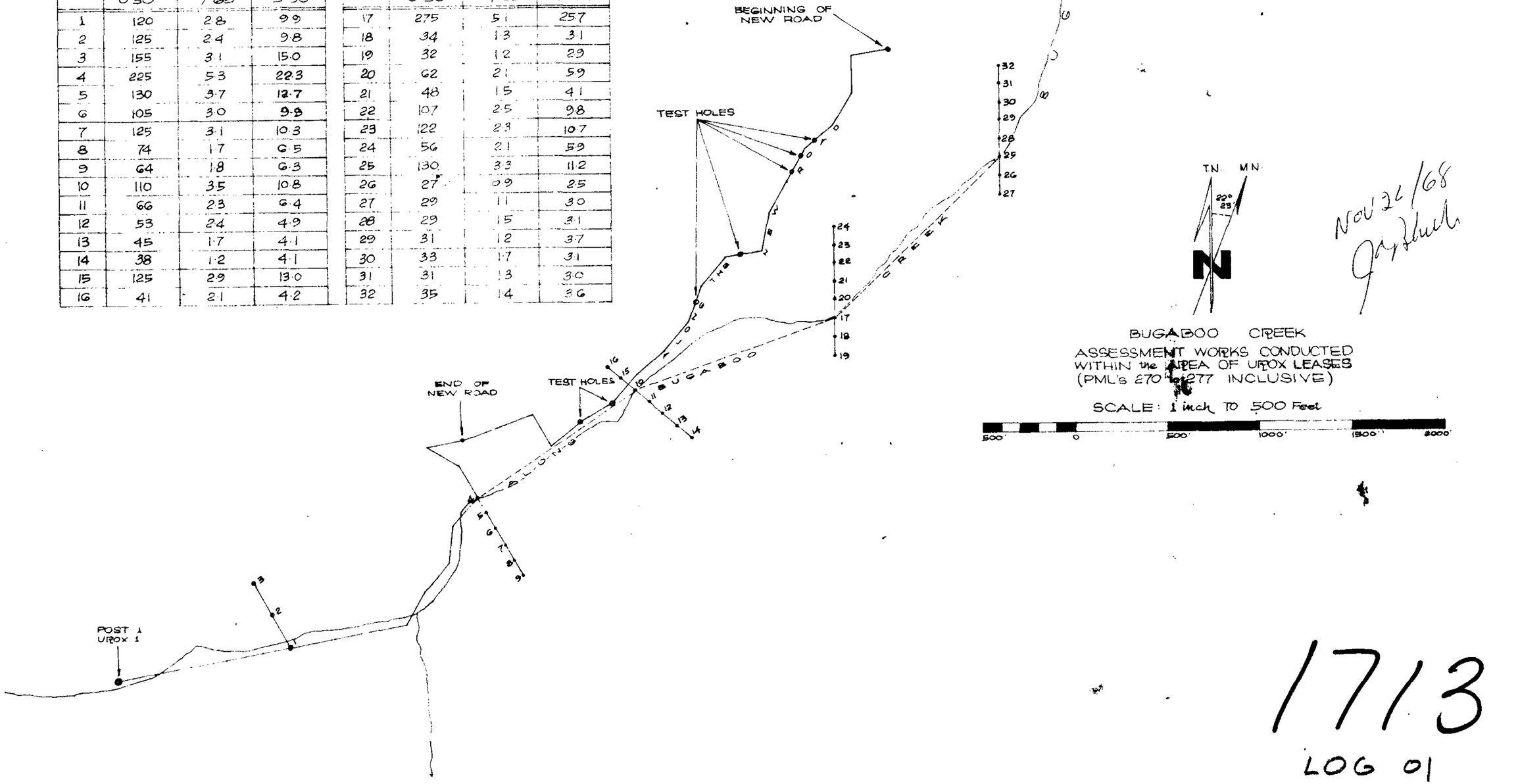
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

J. M. Black
Nov 28/68

GROUND SPECTROMETER SURVEY

STA	ENERGY THRESHOLD AT		
	0.30	7.65	5.00
1	120	2.8	9.9
2	125	2.4	9.8
3	155	3.1	15.0
4	225	5.3	22.3
5	130	3.7	12.7
6	105	3.0	9.9
7	125	3.1	10.3
8	74	1.7	6.5
9	64	1.8	6.3
10	110	3.5	10.8
11	66	2.3	6.4
12	53	2.4	4.9
13	45	1.7	4.1
14	38	1.2	4.1
15	125	2.9	13.0
16	41	2.1	4.2

STA	ENERGY THRESHOLD AT		
	0.30	7.65	5.00
17	275	5.1	25.7
18	34	1.3	3.1
19	32	1.2	2.9
20	62	2.1	5.9
21	48	1.5	4.1
22	107	2.5	9.8
23	122	2.3	10.7
24	56	2.1	5.9
25	130	3.3	11.2
26	27	0.9	2.5
27	29	1.1	3.0
28	29	1.5	3.1
29	31	1.2	3.7
30	33	1.7	3.1
31	31	1.3	3.0
32	35	1.4	3.6



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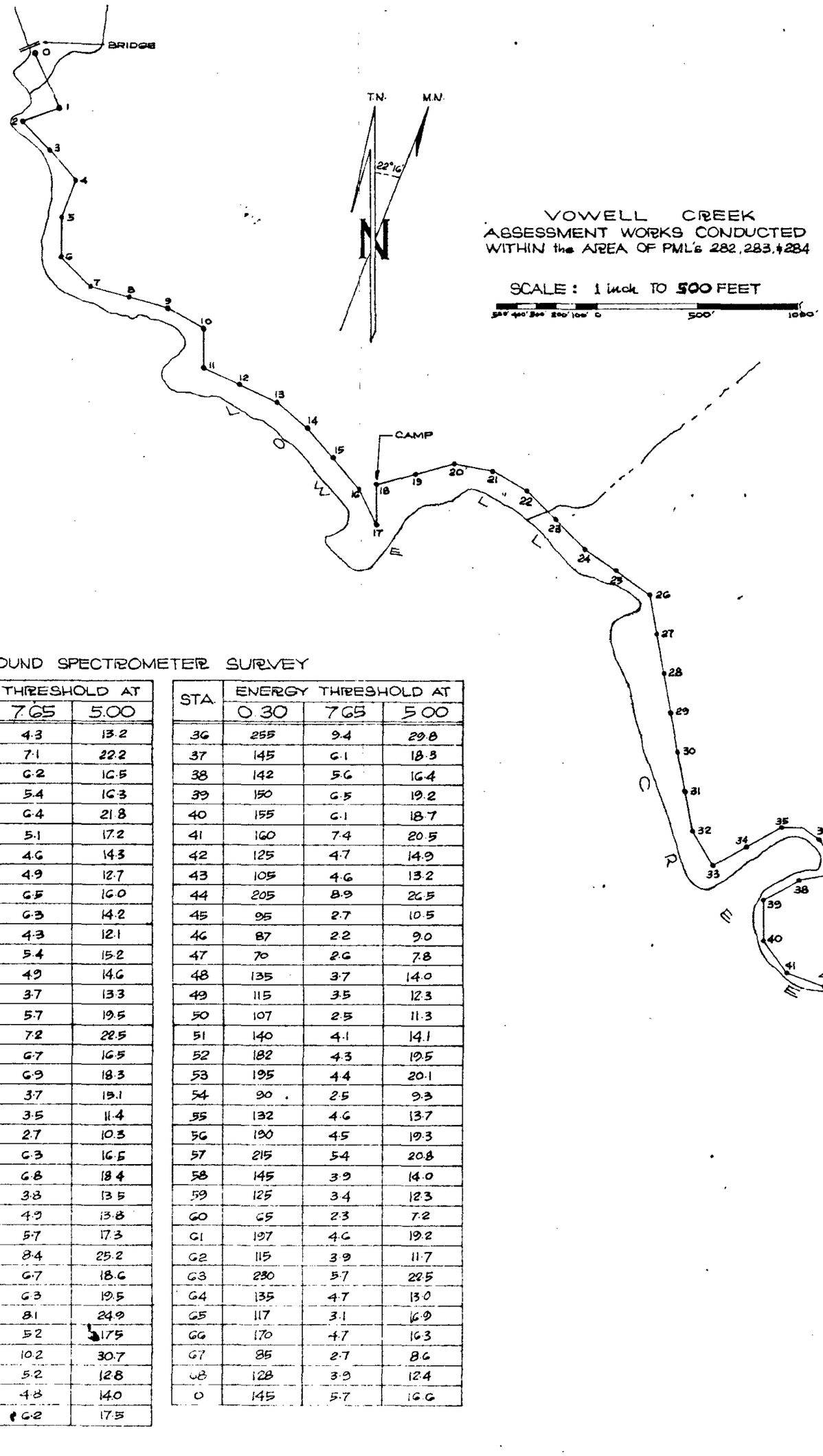

GROUND SPECTROMETER SURVEY

STA.	ENERGY THRESHOLD AT		
	0.30	7.65	5.00
1	115	4.3	13.2
2	205	7.1	22.2
3	147	6.2	16.5
4	150	5.4	16.3
5	195	6.4	21.8
6	157	5.1	17.2
7	132	4.6	14.3
8	125	4.9	12.7
9	138	6.5	16.0
10	125	6.3	14.2
11	105	4.3	12.1
12	145	5.4	15.2
13	137	4.9	14.6
14	107	3.7	13.3
15	170	5.7	19.5
16	203	7.2	22.5
17	140	6.7	16.5
18	175	6.9	18.3
19	145	3.7	19.1
20	115	3.5	11.4
21	95	2.7	10.3
22	145	6.3	16.5
23	197	6.8	18.4
24	117	3.8	13.5
25	125	4.9	13.8
26	154	5.7	17.3
27	215	8.4	25.2
28	165	6.7	18.6
29	170	6.3	19.5
30	210	8.1	24.9
31	147	5.2	17.5
32	240	10.2	30.7
33	110	5.2	12.8
34	125	4.8	14.0
35	143	6.2	17.5

STA.	ENERGY THRESHOLD AT		
	0.30	7.65	5.00
36	255	9.4	29.8
37	145	6.1	18.3
38	142	5.6	16.4
39	150	6.5	19.2
40	155	6.1	18.7
41	160	7.4	20.5
42	125	4.7	14.9
43	105	4.6	13.2
44	205	8.9	26.5
45	95	2.7	10.5
46	87	2.2	9.0
47	70	2.6	7.8
48	135	3.7	14.0
49	115	3.5	12.3
50	107	2.5	11.3
51	140	4.1	14.1
52	182	4.3	19.5
53	195	4.4	20.1
54	90	2.5	9.3
55	132	4.6	13.7
56	190	4.5	19.3
57	215	5.4	20.8
58	145	3.9	14.0
59	125	3.4	12.3
60	65	2.3	7.2
61	197	4.6	19.2
62	115	3.9	11.7
63	230	5.7	22.5
64	135	4.7	13.0
65	117	3.1	16.9
66	170	4.7	16.3
67	85	2.7	8.6
68	128	3.9	12.4
0	145	5.7	16.6

Nov 28/68
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