GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

Till	Sample No.	SIZE DISTRIBUTION in % <2.0 mm fraction (minus carbonates)			CARBONATE CONTENT in % <0.074 mm fraction (Chittick method)			PEBBLE COUNTS (PC) IN % AND ROUNDNESS (R) AS RATIOS*										NON-OPAQUE MINERALS (IN %) 0.074 to 0.177 mm fraction (apatite destroyed by HCl treatment)																							
		Clay	Silt	Sand	Dolomite	Calcite	Total carbonates	Pre-cambrian Shale		Lower Cambrian Sandstone		Dolomite		Limestone		Other		Zircon 1**	Zircon 2**	Tourmaline 1**	Tourmaline 2**	Tourmaline 3**	Tourmaline 4**	Diopside	Hypersthene	Clinopyroxene	Epidote	Clinozoisite	Hornblende	Rutile	Chlorite	Allanite	Sphene	Garnet	Chloritoid	Anatase	Monazite	Glaucophane	Fluorite	Andalusite	Total
								PC	R	PC	R	PC	R	PC	R	PC	R																								
EISENHOWER JUNCTION	N-20	18	20	62	17.8	23.2	41.0											20	9	3	6	3	6	tr	28	6	-	2	tr	tr	12	tr	-	tr	tr	-	-	-	-	2	264
	N-26							2	.40	94	.22	1	.20	2	.45	1	.20																								
	N-27	18	23	59	12.5	14.0	26.5											32	28	8	10	8	4	-	7	-	2	-	-	tr	tr	-	-	tr	-	-	-	-	-	-	120
	N-31							7	.45	41	.44	25	.48	24	.55	3	.30																								
	N-32	28	26	46	18.0	17.0	35.0											11	9	6	15	4	5	2	40	3	tr	2	tr	tr	tr	-	-	-	-	-	-	-	-	-	97
	N-33							25	.51	25	.34	36	.36	13	.48	1	.40																								
	N-34	34	24	42	12.5	17.2	29.7											17	6	7	10	4	6	3	-	tr	-	-	tr	-	46	-	-	-	tr?	-	-	-	-	-	224
	N-35	39	23	38																																					
	N-38							31	.40	50	.34	10	.43	7	.44	2	.45																								
	N-39	27	21	52	10.3	24.8	35.1											45	6	15	11	3	12	-	1	1	-	-	-	-	6	-	-	-	-	-	-	-	-	-	67
	N-40							11	.44	29	.35	25	.38	34	.45	1	.40																								
	N-41	22	20	58	23.1	24.2	47.3											45	14	9	13	5	11	tr	tr	2	-	tr	tr	-	-	-	-	-	-	-	-	-	-	-	232
	N-42							15	.46	36	.40	20	.42	22	.49	7	.47																								
	N-43	29	25	46																																					
	N-44							2	.50	45	.39	21	.47	7	.55	21	.42																								
	N-45	21	23	56	9.0	19.6	28.6											43	7	11	6	13	9	-	-	-	-	-	-	-	9	-	2	-	-	-	-	-	-	-	54
	N-158							6	.30	20	.36	34	.50	8	.48	32	.40																								
	N-159	26	18	56	16.8	19.5	36.3											43	4	5	11	6	25	2	3	-	-	-	-	-	-	-	-	-	tr	tr	-	-	-	-	186
BOW VALLEY	N-47							-	-	29	.39	27	.49	33	.50	11	.40																								
	N-48	28	22	50	24.6	20.8	45.4											19	10	8	8	3	7	-	31	8	-	3	-	tr	1	1	tr	-	tr	-	-	-	-	-	195
	N-49							-	-	8	.51	42	.49	42	.45	8	.27																								
	N-50	29	27	44	39.3	22.0	61.3											38	21	5	11	6	3	-	7	6	tr	2	-	-	-	-	-	-	-	tr	-	-	-	-	105
	N-51							1	.90	4	.42	24	.40	49	.43	20	.36																								
	N-52	24	23	53																																					
	N-53							-	-	19	.51	34	.59	31	.56	16	.45																								
	N-57							-	-	11	.42	39	.39	31	.38	19	.29																								
	N-58	13	21	66																																					
	N-59							-	-	19	.46	39	.41	34	.41	8	.34																								
	N-60	21	17	62	34.6	26.1	60.7											46	10	1	18	8	4	-	-	3	1	-	-	1	8	-	-	-	-	-	-	-	-	-	78
	N-69	29	30	41	37.9	41.5	79.4											60	15	10	5	-	-	-	-	5	-	-	-	-	5	-	-	-	-	-	-	-	-	-	20
	N-73							-	-	15	.42	33	.47	40	.48	12	.36																								
	N-74	45	25	30																																					
	N-78							1	.50	14	.49	40	.55	18	.51	27	.58																								
	N-79	24	25	51	37.0	33.0	70.0											44	22	10	16	3	-	1	-	2	-	-	-	1	-	-	-	-	1	-	-	-	-	-	152
	N-80							-	-	9	.53	41	.56	33	.57	17	.51																								
	N-82							-	-	19	.42	11	.55	56	.46	14	.47																								
	N-83	33	21	46	28.5	29.0	57.5											43	23	11	7	5	2	1	tr	4	-	tr	tr	-	2	tr	-	-	-	-	tr	tr	-	-	190
	N-84							-	-	17	.56	40	.45	25	.49	18	.50																								
	N-85	26	27	47	39.5	23.2	62.7											29	22	8	9	2	13	-	2	4	-	tr	1	tr	9	-	-	-	-	-	-	-	-	-	137
	N-86							-	-	12	.40	19	.51	58	.46	11	.49																								
	N-87	14	16	70	26.6	35.0	61.6											21	14	7	10	12	13	1	9	3	2	1	tr?	1	3	1	-	tr	tr	-	-	-	-	-	162
	N-89							1	.50	8	.48	32	.46	51	.46	8	.47																								
	N-90	29	28	43																																					
	N-91							-	-	-	-	10	.32	84	.37	6	.40																								
	N-92	16	24	60	41.0	43.2	84.2											17	-	-	50	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	N-93							-	-	12	.53	31	.46	44	.50	13	.50																								
	N-94	20	19	61	42.6	24.5	67.1											36	26	7	13	tr	8	tr	5	-	tr	-	-	1	tr	tr	-	-	-	-	-	-	tr	-	136
	N-106	30	26	44	27.8	33.2	61.0											38	21	9	6	6	4	-	6	2	-	-	4?	-	2	-	-	2	-	-	-	-	-	-	53
	N-107							-	-	5	.50	36	.55	44	.52	15	.49																								
	N-111							-	-	4	.50	27	.43	55	.40	14	.48																								
	N-113							-	-	13	.44	28	.42	42	.50	17	.40																								
	N-114	32	26	42																																					
	N-117							-	-	13	.50	21	.52	38	.49	28	.49																								
	N-118	30	10	60	31.7	35.6	67.3												25	50	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
	N-120	23	19	58	35.5	30.0	65.5											37	13	3	7	5	7	4	-	tr	2	-	-	-	21	-	tr	-	-	-	-	-	-	-	191
	N-121	35	16	49																																					
	N-122							-	-	14	.53	28	.48	40	.57	18	.52																								
	N-123							-	-	5	.52	35	.51	49	.48	11	.44																								
	N-124	25	29	46	34.0	23.5	57.5											34	32	10	16	-	3	-	tr	4	-	-	tr	-	-	-	-	-	-	-	-	-	-	-	134
	N-133							-	-	3	.50	34	.40	40	.41	20	.36																								
	N-135							-	-	17	.47	31	.48	28	.46	24	.42																								
	N-136	23	25	52	35.2	39.5	74.7											44	14	19	13	-	3	-	-	-	-	-	-	1	3	3	-	-	-	-	-	-	-	-	70
	N-143							-	-	18	.32	40	.41	19	.44	23	.36																								
	N-144	22	20	58																																					
	N-146	27	28	45																																					
	N-147	38	21	41	26.8	29.0	55.8											33	23	2	33	2	-	-	5	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	33
	N-148							-	-	1	.40	31	.45	46	.44	22	.32																								
	N-149	26	28	46	10.4	28.0	38.4											20	4	4	16	12	8	-	20	12	-	-	-	4	-	-	-	-	-	-	-	-	-	-	25

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*100 pebbles per sample. Broken pebbles (usually ≦ 10% of any given sample) excluded from roundness tests.

0.1 - 0.2 - angular
0.3 - 0.4 - subangular
0.5 - 0.6 - subrounded
0.7 - 0.8 - rounded
0.9 - 1.0 - well rounded
tr = less than 1%

**Zircon 1-hyacinth
**Zircon 2-colourless to light purple

**Tourmaline 1 - various shades of green; if pleochroism observed, green-black; or green-blue
**Tourmaline 2 - various shades of brown to black; if pleochroism observed, brown-black
**Tourmaline 3 - blue; if pleochroism observed, blue-pink, blue-black, or blue-brown
**Tourmaline 4 - greenish brown; if pleochroism observed, green-brown

TABLE II

TABLE II LABORATORY ANALYSES OF TILL SAMPLES FROM THE BANFF AREA

To accompany GSC Bulletin 206 by N.W. Rutter

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