Table of results of analysis of samples from Shublik Formation, Fire Creek, Mt Michelson Quad., Alaska

Analysis of elements by semiquantitative six-step spectrographic analysis: Chris Heropoulos, analyst. Results are reported to the nearest number in the series 1, 0.7, 0.5, 0.3, 0.15, and 0.1; which represent approximate midpoints of interval data on a geometric scale. The assigned interval for semiquantitative results will include the quantitative value about 30 percent of the time. The Following elements were looked for and not found: As, Au, Be, Bi, Cd, Eu, Ge, Hf, In, Li, Pd, Pr, Pt, Re, Sm, Sn, Ta, Te, Th, U, and W. Analysis for P_2O_5 by X-ray fluorescence, J.S. Fabbi, analyst. Acid decomposable carbonate expressed as percent CO_2, Paul Elmore, analyst. Total carbon expressed by percent carbon determined by induction furnace, Claude Huffman, analyst. Carbonate carbon, determined by conversion; organic carbon determined by difference. G means greater than 10 percent

Sample	Interval	Concentration in parts per million																				Concentration in percent												
		Mn	Ag	B	Ba	Co	Cr	Cu	La	Mo	Nb	Ni	Pb	Sc	Sr	V	Y	Zr	Ce	Ga	Yb	Nd	Gd	Dy	Si	Al	Na	K	P	Fe	Mg	Ca	Ti	P_2O_5	Carbonate as CO_2	Total Carbon as C	Carbonate carbon as C	Organic Carbon as C
M108969W	1-1	300	0	70	500	5	200	50	50	0	0	50	10	15	500	100	50	100	0	0	7	5	0	0	0	G	3.0	0.3	1.0	3.0	3.0	1.0	7.0	0.2	5.07	3.60	1.67	0.98	0.69
M108970W	1-2	50	0	200	1000	5	150	30	50	7	10	30	20	20	300	200	30	150	0	0	15	5	0	0	0	G	7.0	0.7	2.0	1.0	2.0	0.7	2.0	0.5	1.89	0.08	1.09	0.02	1.07
M108971W	2-1	200	<.7	70	300	2	100	30	30	3	7	20	10	7	300	70	70	100	0	0	3	5	0	0	0	G	2.0	0.3	0	2.0	2.0	1.0	7.0	0.15	4.20	3.50	1.63	0.95	0.68
M108972W	2-2	150	<.7	100	200	2	70	30	30	3	7	30	10	5	100	70	50	200	0	0	5	3	0	0	0	G	2.0	0.2	0	1.5	1.0	0.3	2.0	0.15	1.84	0.19	1.36	0.05	1.31
M108973W	2-3	200	0	100	500	3	150	30	30	3	10	20	10	7	150	70	50	150	0	0	7	3	0	0	0	G	3.0	0.5	0.7	1.5	2.0	0.7	3.0	0.2	1.95	1.80	1.21	0.49	0.72
M108974W	2-4	200	<.7	70	500	2	200	50	30	5	7	30	10	10	500	100	70	200	0	0	7	7	0	0	0	G	3.0	0.7	0.7	3.0	2.0	0.5	7.0	0.2	6.44	0.78	0.90	0.21	0.69
M108975W	2-5	200	0	100	500	2	150	50	0	5	10	30	10	10	200	100	30	200	0	0	7	3	0	0	0	G	3.0	0.7	1.0	0.7	2.0	0.1	3.0	0.3	1.76	0.20	1.20	0.60	0.60
M108976W	2-6	200	<.7	50	300	3	200	70	30	5	7	20	10	7	200	70	70	150	0	0	7	5	0	0	0	G	2.0	0.5	0	2.0	2.0	0.7	3.0	0.2	2.78	1.50	1.25	0.41	0.84
M108977W	2-7	200	0	70	500	2	200	50	50	7	10	30	10	7	200	70	70	200	0	0	7	7	0	0	0	G	3.0	0.7	0.7	1.0	2.0	0.7	3.0	0.3	2.53	1.70	1.11	0.46	0.65
M108978W	2-8	150	<.7	70	300	2	150	50	30	5	0	20	0	5	70	50	30	200	0	0	3	3	0	0	0	G	1.5	0.3	0	0.7	1.5	0.5	1.5	0.2	1.45	0.55	0.97	0.15	0.82
M108979W	2-9	200	<.7	30	300	2	300	100	70	7	0	30	0	5	200	70	100	50	0	0	5	5	0	0	0	G	2.0	0.2	0	2.0	2.0	0.2	5.0	0.1	3.33	0.15	0.84	0.04	0.80
M108980W	2-10	200	<.7	50	200	2	200	70	30	7	0	20	0	7	200	70	70	70	0	0	3	3	0	0	0	G	2.0	0.2	0	1.5	2.0	0.2	5.0	0.1	3.20	0.08	1.10	0.02	1.08
M108981W	2-11	150	1.5	0	500	0	500	50	300	7	0	50	0	20	3000	300	1000	100	300	0	0	30	200	50	70	G	1.0	0.15	0	10.0	1.5	0.3	G	0.07	19.17	6.80	3.07	1.85	1.22
M108982W	3-2	200	0	50	700	3	300	30	70	10	0	50	0	15	1500	50	200	150	0	0	7	10	0	0	0	G	5.0	0.7	1.0	1.5	1.0	1.0	G	0.2	4.55	20.00	6.36	5.45	0.91
M108983W	3-3	150	0	20	300	3	200	15	50	20	0	30	0	10	1500	50	70	200	0	0	3	5	0	0	0	G	3.0	0.7	1.0	0.5	1.5	0.7	G	0.2	1.87	23.20	6.95	6.33	0.62
M108984W	3-4	100	1	20	500	0	300	70	150	20	0	100	0	20	2000	500	500	100	0	0	3	20	0	0	30	G	2.0	0.3	0.5	7.0	1.0	0.5	G	0.15	17.30	9.20	4.34	2.51	1.83
M108985W	3-5	150	0	20	300	0	200	15	70	15	0	50	0	15	2000	150	150	100	0	0	5	7	0	0	0	100	3.0	0.3	0.7	3.0	1.0	0.7	G	0.15	8.87	23.20	7.17	6.33	0.74
M108986W	3-6	150	0	30	500	3	200	50	100	15	10	70	0	15	2000	70	200	200	0	0	7	10	0	0	0	G	3.0	0.7	0.7	5.0	1.5	1.0	G	0.2	11.52	13.80	5.02	3.76	1.36
M108987W	3-7	200	0	50	300	3	300	30	100	15	0	70	0	15	2000	100	200	200	0	0	7	10	0	0	0	G	3.0	0.7	1.0	3.0	1.5	1.0	G	0.2	8.63	18.00	6.35	4.90	1.45
M108988W	3-8	100	0	50	300	3	200	30	50	15	0	100	0	15	1500	100	100	100	0	0	7	5	0	0	0	100	5.0	0.5	1.0	1.0	1.0	0.7	G	0.15	4.15	26.20	8.75	7.14	1.61
M108989W	3-9	100	0	50	300	3	200	15	50	7	0	50	0	10	1500	70	100	150	0	0	7	5	0	0	0	G	3.0	0.7	1.0	1.5	1.5	0.7	G	0.15	3.75	22.60	7.00	6.16	0.84
M108990W	3-10	150	0	30	500	3	150	15	50	15	0	50	0	15	1500	50	70	100	0	0	7	5	0	0	0	G	5.0	0.7	1.0	1.0	1.5	1.0	G	0.15	3.14	26.30	8.18	7.17	1.01
M108991W	3-11	150	0	50	500	2	150	10	70	10	0	50	0	10	1500	50	150	150	0	0	5	7	0	0	0	100	5.0	0.5	1.0	1.5	1.0	0.7	G	0.15	4.24	26.00	7.74	7.07	0.65
M108992W	3-12	150	0	50	700	3	150	10	70	10	0	50	0	10	1500	50	70	100	0	0	7	5	0	0	0	100	5.0	0.7	1.0	1.0	1.5	1.0	G	0.15	4.03	25.70	8.00	7.01	0.99
M108993W	3-13	150	0	50	1500	5	300	30	70	50	0	70	0	15	1500	70	150	150	0	0	7	7	0	0	0	G	5.0	0.7	1.5	1.5	3.0	1.5	G	0.2	3.95	20.50	6.16	5.59	0.57
M108994W	3-14	100	0	20	300	0	200	10	0	7	0	20	0	7	1500	50	50	100	0	0	2	5	0	0	0	100	3.0	0.5	0.7	0.3	0.7	0.7	G	0.15	1.54	32.10	9.10	8.75	0.35
M108995W	3-15	100	0	0	300	0	200	10	50	7	0	30	0	7	1500	50	100	100	0	0	2	5	0	0	0	70	2.0	0.5	0	1.0	1.0	0.5	G	0.1	4.75	29.80	8.88	8.13	0.75
M108996W	3-16	100	0	30	300	0	300	30	50	15	0	70	0	10	1500	100	100	70	0	0	3	5	0	0	0	100	3.0	0.7	0.7	0.7	0.7	0.7	G	0.15	3.15	28.80	9.23	7.85	0.38
M108997W	3-17	150	0	30	700	3	200	20	70	7	0	50	0	15	2000	50	150	100	0	0	3	10	0	0	0	G	3.0	0.7	0.7	2.0	1.5	0.7	G	0.15	5.63	24.40	7.92	6.65	1.27
M108998W	3-18	100	0	20	300	0	200	10	50	7	0	20	0	10	1500	70	70	100	0	0	2	5	0	0	0	100	3.0	0.7	0.7	0.3	0.7	0.7	G	0.15	2.05	31.00	9.22	8.45	0.77
M108999W	3-19	150	0	30	500	3	200	20	50	7	0	30	0	10	1500	50	100	70	0	0	3	7	0	0	0	100	3.0	0.7	0.7	1.5					5.02	22.10	7.16	6.03	1.13
M109000W	3-20	150	0	50	500	5	300	20	50	10	0	50	0	10	1500	70	100	100	0	0	7	7	0	0	0	G	5.0	0.7	1.0	1.0	1.0	0.7	G	0.15	5.03	18.50	6.18	5.05	1.13
M109001W	3-21	150	0	50	1000	3	300	15	50	7	0	30	0	15	1500	70	100	150	0	0	5	10	0	0	0	G	3.0	0.7	1.0	1.0	1.0	0.7	G	0.2	3.17	18.40	5.59	5.02	0.57
M109002W	3-22	100	0	100	500	5	300	50	50	10	0	70	0	15	1500	100	100	150	0	0	7	10	0	0	0	G	5.0	0.7	1.5	1.5	1.5	1.0	G	0.3	3.66	14.40	5.46	3.93	1.53
M109003W	3-23	100	0	70	700	3	200	30	30	10	0	50	0	15	1500	70	100	150	0	0	10	7	0	0	0	G	5.0	0.7	1.0	1.0	1.5	1.0	G	0.3	3.28	17.90	5.69	4.69	1.00
M109004W	3-24	100	0	30	300	3	200	10	30	5	0	20	0	10	1500	50	70	100	0	0	5	5	0	0	0	100	3.0	0.7	0.7	0.5	0.7	0.5	G	0.2	2.01	23.90	7.08	6.52	0.56
M109005W	3-25	100	0	50	500	3	200	15	70	7	0	30	0	10	1000	70	150	200	0	0	5	7	0	0	0	G	3.0	0.7	0.7	1.0	0.7	0.7	G	0.2	3.14	18.30	5.44	4.99	0.45
M109006W	3-26	100	0	20	300	3	200	10	50	5	0	15	0	10	1500	50	150	150	0	0	5	7	0	0	0	100	3.0	0.7	0.5	2.0	0.7	0.5	G	0.15	6.50	21.30	5.89	5.81	0.08
M109007W	3-27	100	0	50	500	3	200	10	50	10	0	30	0	15	1500	50	150	200	0	0	5	10	0	0	0	G	3.0	0.7	0.7	1.0	1.0	0.7	G	0.2	3.29	18.10	5.72	4.94	0.78
M109008W	3-28	100	0	50	500	3	200	10	50	7	0	20	0	7	700	70	100	150	0	0	5	7	0	0	0	G	3.0	1.0	0.7	0.7	0.7	0.5	G	0.2	1.75	13.30	5.96	3.63	2.27
M109009W	4-1	70	0	20	150	0	150	3	30	2	0	10	0	7	1500	30	70	70	0	0	2	5	0	0	0	G	2.0	0.7	0.5	0.3	0.5	0.5	G	0.15	0.69	24.00	7.08	6.54	0.54
M109010W	4-2	50	0	10	150	0	100	7	50	7	0	10	0	5	1500	30	70	100	0	0	2	3	0	0	0	100	2.0	0.7	0	0.5	0.3	0.3	G	0.1	0.86	28.20	8.27	7.69	0.58
M109011W	4-3	100	0	7	150	0	150	7	100	7	0	15	0	10	2000	50	200	70	0	0	0	10	0	0	0	70	2.0	0.5	0	0.7	0.3	0.5	G	0.1	1.47	32.80	9.40	8.94	0.46
M109012W	5-1	70	0	0	500	0	7	2	0	3	0	5	0	0	1500	20	7	7	0	0	0	0	0	0	0	1.0	0.5	0.1	0	0	0.15	0.2	G	0.015	0.09	41.80	11.90	11.40	0.50
M109013W	5-2	100	0	0	700	0	30	10	0	20	0	30	0	3	2000	100	10	30	0	0	0	1	0	0	0	3.0	1.5	0.2	0	0	0.3	0.5	G	0.03	0.12	39.50	11.30	10.77	0.53
M109014W	5-3	30	0	0	200	0	20	7	0	15	0	15	0	0	1500	70	7	15	0	0	0	0	0	0	0	2.0	0.5	0.15	0	0	0.15	0.5	G	0.15	0.06	40.60	11.60	11.07	0.53
M109015W	5-4	100	0	0	500	0	70	30	0	70	0	70	0	7	1500	300	20	50	0	0	2	1.5	0	0	0	5.0	2.0	0.3	0.5	0	0.7	0.7	G	0.1	0.31	36.80	11.10	10.04	1.06
M109016W	5-5	70	0	0	500	0	70	20	0	70	0	150	0	10	2000	300	20	50	0	0	2	2	0	0	0	5.0	1.5	0.3	0	0	0.5	0.5	G	0.07	0.17	37.00	11.60	10.09	1.51
M109017W	5-6	30	0	0	500	0	50	20	0	50	0	70	0	3	1500	200	15	20	0	0	0	1.5	0	0	0	5.0	1.0	0.2	0	0	0.3	0.5	G	0.05	0.25	38.00	11.60	10.36	1.24
M109018W	5-7	70	.7	0	500	0	100	30	0	70	0	100	0	7	1500	700	30	30	0	0	0	3	0	0	0	3.0	2.0	0.2	0.5	0.2	0.7	0.5	G	0.1	1.06	35.90	11.00	9.79	1.21
M109019W	5-8	50	1.5	0	1500	0	150	30	0	30	0	50	0	10	2000	500	50	30	0	100	0	3	0	0	0	3.0	1.5	0.15	0	0.5	0.5	0.5	G	0.07	1.97	36.80	11.30	10.04	1.26
M109020W	5-9	50	<.7	0	700	0	100	15	0	15	0	20	0	10	200	150	70	20	0	0	3	3	0	0	0	2.0	1.0	0.3	0.5	0	1.0	0.3	G	0.05	5.56	34.30	10.30	9.35	0.95
M109021W	5-10	50	1.5	15	3000	0	300	70	50	50	0	100	0	20	1500	500	150	70	0	200	7	10	0	0	0	7.0	5.0	0.2	0.7	3.0	1.0	1.0	G	0.15	7.76	22.10	8.28	6.03	2.25
M109022W	5-11	30	<.7	0	1000	0	200	15	30	15	0	20	0	10	2000	100	100	30	0	0	0	7	0	0	0	3.0	1.5	0.07	0	3.0	0.2	0.5	G	0.05	11.64	27.20	8.59	7.42	1.17
M109023W	5-12	30	.7	10	1500	0	500	30	50	5	0	50	0	15	2000	70	150	50	0	0	2	7	0	0	0	7.0	2.0	0.15	0	2.0	0.5	1.0	G	0.1	6.65	26.80	8.90	7.31	1.59
M109024W	5-13	30	1	7	1500	0	300	20	30	10	0	50	0	10	2000	70	100	50	0	0	2	5	0	0	0	7.0	2.0	0.15	0	2.0	0.5	0.7	G	0.07	6.41	28.90	9.58	7.88	1.70
M109025W	5-14	30	<.7	10	1500	0	300	20	50	7	0	50	0	10	1500	50	100	70	0	0	3	5	0	0	0	7.0	3.0	0.15	0	1.0	0.5	1.0	G	0.1	3.71	29.80	9.88	8.13	1.75
M109026W	5-15	30	<.7	7	1500	0	300	30	30	3	0	50	0	10	1500	50	70	50	0	0	3	3	0	0	0	7.0	2.0	0.1	0	0.5	0.5	1.0	G	0.1	2.78	31.60	10.70	8.62	2.08
M109027W	5-16	30	<.7	7	1000	0	500	30	30	7	0	70	0	10	1500	50	70	50	0	0	2	5	0	0	0	5.0	2.0	0.1	0	0.3	0.5	1.0	G	0.1	1.63	33.40	11.70	9.11	2.59
M109028W	5-17	50	<.7	7	1000	0	300	15	50	7	0	30	0	10	2000	70	150	50	0	0	2	7	0	0	0	7.0	2.0	0.07	0	1.5	0.3	1.0	G	0.1	6.97	29.10	10.10	7.94	2.16
M109029W	5-18	70	0	0	500	0	200	10	50	20	0	30	0	7	1500	70	150	30	0	0	0	7	0	0	0	3.0	1.5	0.07	0	7.0	0.7	0.7	G	0.05	14.72	22.40	8.03	6.11	1.92
M109030W	5-19	50	0	0	1000	0	150	30	70	30	0	30	0	10	1500	50	70	50	0	0	3	7	0	0	0	5.0	2.0	0.07	0	7.0	7.0	0.3	G	0.07	18.67	9.30	4.07	2.54	1.53
M109031W	6-6	150	0	100	1500	10	500	70	70	0	10	100	7	30	500	300	50	100	0	0	15	5	0	0	0	G	7.0	0.7	1.5	0	3.0	0.7	10.0	0.5	0.23	10.20	4.52	2.78	1.74
M109032W	6-7	150	0	100	1500	10	500	50	70	0	7	100	15	30	500	200	50	150	0	0	15	5	0	0	0	G	7.0	0.7	1.5	0	3.0	0.7	G	0.5	0.23	11.60	4.76	3.16	1.60
M109033W	6-8	150	0	100	2000	10	500	50	70	0	7	70	10	30	300	300	50	100	0	0	15	5	0	0	0	G	7.0	0.7	1.5	0	5.0	0.7	10.0	0.5	0.26	9.40	4.35	2.56	1.79
M109034W	6-9	100	0	100	1500	10	500	50	70	0	7	100	10	30	500	300	70	100	0	0	15	5	0	0	0	G	7.0	0.7	1.5	0	3.0	0.5	G	0.5	0.23	11.80	4.87	3.22	1.65
M109035W	6-10	100	0	100	2000	10	500	70	70	0	7	100	10	30	500	300	50	150	0	0	15	5	0	0	0	G	100	0.7	1.5	0	3.0	0.7	G	0.5	0.22	12.00	4.99	3.27	1.72
M109036W	6-11	70	0	100	1500	10	500	70	70	0	7	100	10	30	300	300	50	100	0	0	15	5	0	0	0	G	7.0	0.7	1.5	0	3.0	0.7	10.0	0.5	0.25	10.00	4.68	2.73	1.95
M109037W	6-12	100	0	100	2000	10	500	70	70	0	10	150	15	30	300	500	50	100	0	0	20	5	0	0	0	G	10.0	0.7	2.0	0	5.0	0.7	10.0	0.5	0.22	7.90	3.94	2.15	1.79
M109038W	6-13	150	0	100	2000	15	500	70	70	0	10	150	15	30	300	500	50	100	0	0	7	5	0	0	0	G	10.0	0.7	1.5	0	5.0	0.7	10.0	0.5	0.24	9.30	4.37	2.54	1.83
M109039W	6-14	150	0	100	2000	10	500	70	70	0	10	100	10	30	300	500	50	150	0	0	15	5	0	0	0	G	7.0	0.7	2.0	0	5.0	1.0	10.0	0.5	0.20	8.20	3.69	2.24	1.45
M109040W	6-15	150	0	100	2000	10	500	70	70	0	10	100	10	30	500	500	50	100	0	0	15	5	0	0	0	G	10.0	0.7	2.0	0	5.0	1.0	10.0	0.5	0.18	9.20	3.77	2.91	0.86
M109041W	6-16	100	0	100	1500	10	500	70	50	0	10	100	10	30	300	500	30	100	0	0	15	5	0	0	0	G	10.0	0.7	2.0	0	3.0	0.7	7.0	0.5	0.17	6.80	3.38	1.85	1.53
M109042W	6-17	100	0	100	1500	10	300	70	50	0	10	100	10	30	300	500	30	100	0	0	15	5	0	0	0	G	10.0	0.7	1.5	0	3.0	0.7	7.0	0.5	0.17	6.70	2.96	1.83	1.13
M109043W	6-18	150	0	100	1500	10	300	70	50	0	10	100	10	30	300	500	30	100	0	0	20	5	0	0	0	G	10.0	0.7	2.0	0	3.0	1.0	7.0	0.5	0.14	7.30	3.14	1.99	1.15
M109044W	6-19	100	0	100	2000	10	300	100	50	0	10	100	10	30	300	500	50	150	0	0	20	5	0	0	0	G	10.0	0.7	1.5	0	3.0	0.7	5.0	0.5	0.18	5.70	2.90	1.55	1.35
M109045W	6-20	100	0	100	2000	10	300	70	50	0	10	100	10	20	300	300	30	100	0	0	20	3	0	0	0	G	7.0	0.7	2.0	0	3.0	0.7	7.0	0.5	0.17	6.20	3.26	1.69	1.57
M109046W	6-21	100	0	100	1500	10	300	70	70	0	10	100	10	30	500	300	50	100	0	0	20	5	0	0	0	G	10.0	0.7	2.0	0	3.0	1.0	10.0	0.5	0.15	12.10	3.50	3.30	0.20
M109047W	6-22	100	0	70	1000	5	300	70	70	10	0	70	7	20	1000	200	100	100	0	0	15	7	0	0	0	G	7.0	0.5	1.0	1.5	5.0	0.7	G	0.3	3.05	14.10	5.51	3.84	1.67
M109048W	6-23	70	0	100	1500	7	300	70	70	7	10	100	10	20	700	200	70	150	0	0	15	7	0	0	0	G	10.0	0.7	1.5	0.7	5.0	0.7	G	0.5	1.70	9.40	4.70	2.56	2.14
M109049W	6-24	70	0	150	2000	10	300	100	70	30	7	150	10	30	500	700	50	100	0	0	20	5	0	0	0	G	G	1.0	2.0	0.5	5.0	0.7	10.0	0.5	1.03	8.80	3.89	2.40	1.49
M109050W	6-25	100	0	150	1500	10	300	70	70	20	10	100	10	30	500	500	70	100	0	0	15	7	0	0	0