

Division of Geological & Geophysical Surveys

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**GEOCHEMICAL TRACE-ELEMENT DATA FOR STREAM SEDIMENT SAMPLES
COLLECTED IN THE CIRCLE MINING DISTRICT, JUNE 1983**

by

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GEOCHEMICAL TRACE ELEMENT DATA FOR STREAM SEDIMENT SAMPLES COLLECTED IN THE CIRCLE MINING, 1983

By

Milton A. Wiltse¹, Paul A. Metz², Mark S. Robinson¹, and DeAnne S. Pinney¹

INTRODUCTION

In the summer of 1983, the Mineral Industry Research Laboratory (MIRL) of the University of Alaska, Fairbanks conducted an extensive stream-sediment sampling program in the Circle mining district. More than 1,100 stream-sediment samples were collected from active stream channels at approximately 1/4-mile spacing between sample sites (plate 1). The samples were analyzed for gold and six other trace elements by atomic absorption analysis of aqua-regia digests. These data were published by Metz (1984). Representative aliquots of the samples were archived at MIRL.

In 1993 the Alaska Division of Geological and Geophysical Surveys (ADGGS) began a coordinated geological, geophysical, and geochemical survey of the central part of the Circle mining district. The archived MIRL stream-sediment sample set provided a cost effective opportunity to generate a detailed district-wide data base stream-sediment geochemistry for this project. The samples had been carefully stored in plastic vials and sample locations were plotted on stable mylar base maps. These samples were submitted to Bondar-Clegg & Company, Ltd. for reanalysis.

Although gold, arsenic, tungsten, and tin are elements of particular interest in the Circle mining district, modern multi-element analytical procedures provide data for a far greater range of elements. The data presented in Appendix 1 represent analyses from two multi-element analytical procedures: instrumental neutron activation analysis (INAA) and inductively coupled plasma (ICP) spectrographic analysis.

ANALYTICAL METHODS

Instrumental Neutron Activation Analysis

Data Characteristics

Neutron activation analytical data represent total analyses. That is, the reported concentrations include the total relative amount of the element in the sample regardless of the mineral phase in which it resides. For some elements this characteristic can be significant. Today, for example, the presence of gold is of interest regardless of whether it occurs as free gold or as sub-microscopic grains encapsulated in silicate minerals. Total analyses of tin, however, do not distinguish between refractory tin silicates, tin sulfides, or tin oxides.

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For some elements the lower limit of detection is higher for neutron activation analysis than it is for chemical digestion procedures. For example the lower INAA detection limit for zinc is 200 parts per million (ppm) but is 1 ppm for ICP or atomic absorption spectrographic (AAS) procedures.

Inductively Coupled Plasma Spectrographic Analysis

Data Characteristics

Inductively couple plasma spectrographic procedures provide a quick and inexpensive method of obtaining a broad range of trace-element data. Much of the data, however, are semi-quantitative. The significance of the data also is strongly dependent on the digestion procedures that are used to prepare the sample for analysis. Sample digestion methods for ICP analysis include a wide variety of wet chemical methods. Common total digestion methods include various borate fusion—acid digestion protocols and various kinds of multi-acid digestion. Partial sample decomposition is commonly accomplished with an aqua-regia digestion. None of the ICP wet chemical digestion procedures is free of data-compromising complications for all elements reported in this Public-Data File.

The ICP data in this Public-Data File were generated from aqua-regia digests of the minus-80-mesh fraction (finer than 0.177 mm) of stream sediments. Therefore, many of the mineral phases in the samples have been only partially decomposed. Aqua-regia digests do, however, provide a good indication of trace elements: present in sulfide mineral particles; present in various precipitated coatings on mineral grains; and present as trace elements loosely bonded to clay minerals. Those elements for which the data are least quantitative have been indicated with an asterisk (*). In some cases alternative data exist in the results compiled from neutron activation analysis of the sample. In general, those results not marked by an asterisk in the column heading may be more useful for geological interpretations.

REFERENCES

Metz, P.A., 1984, Stream sediment sample Analyses for the Circle mining district, Alaska: Mineral Industry Research Laboratory Open-File Report 84-9, 51 p., 12 sheets.

PLATES

LOCATION MAP OF STREAM SEDIMENT SAMPLES COLLECTED IN THE
CRICLE MINING DISTRICT IN 1983, 1:63,360 SCALE, 1 SHEET (IN POCKET)

APPENDIX 1

Concentration of trace elements in Circle mining district stream sediments collected in 1983

Sample locations are stated in decimal degrees. INAA indicates analysis was by instrumental neutron activation analysis; ICP indicates analysis was by inductively coupled plasma spectrography; (*) denotes the procedure yields a partial or otherwise compromised analysis; ppb indicates reported values are stated in parts per billion; ppm indicates the values are stated in parts per million; (-) indicates the element was not detected at a concentration equal to the absolute value of the amount reported.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1	-145.7360	65.4018	16	8	-1	7.7	2.8	1	3	84	-500	-0.2	75	5	79	2	35	19	-1	-5	47	9	3.35	367	-10	76	40	56
2	-145.7310	65.4052	17	5	-1	8.1	2.4	1	2	86	-500	-0.2	113	9	95	-1	48	25	-1	-5	20	7	3.95	441	-10	85	53	80
4	-145.7310	65.4096	16	6	-1	7.8	2.6	1.1	3	75	-500	-0.2	72	4	71	-1	33	17	1	-5	18	-5	3.00	350	-10	61	37	50
5	-145.7960	65.3993	23	10	1	10	3.7	1.4	1	85	-500	-0.2	78	8	89	6	44	23	-1	-5	-5	-5	4.32	572	-10	98	57	73
6	-145.8000	65.3954	23	8	2	9	3.1	1.5	2	77	-500	-0.2	87	7	97	3	49	25	-1	-5	-5	6	4.77	633	-10	90	63	82
7	-145.8050	65.3923	23	6	1	10	3.2	1.2	4	60	-500	-0.2	110	7	112	5	55	27	-1	-5	13	7	5.01	834	-10	142	71	88
8	-145.7860	65.4013	20	6	2	8.4	2.7	1.3	2	88	-500	-0.2	78	7	79	4	39	20	-1	-5	-5	-5	3.79	499	-10	72	47	60
10	-145.7750	65.4022	21	8	1	12	3.5	1	5	150	-500	-0.2	104	14	124	7	55	25	-1	-5	8	-5	4.62	757	-10	131	68	72
13	-145.7850	65.4028	20	6	2	10	3.4	1.1	3	85	-500	-0.2	98	14	111	7	51	25	-1	-5	5	-5	4.63	746	-10	117	61	74
16	-145.7460	65.4011	20	7	-1	9	2.8	1.2	2	63	-500	-0.2	82	9	88	4	42	21	-1	-5	19	-5	4.07	585	-10	84	51	64
17	-145.7400	65.3972	21	7	2	9.5	2.5	1.2	2	68	-500	-0.2	77	8	90	-1	44	23	-1	-5	9	9	4.16	612	-10	83	52	63
18	-145.7380	65.3927	18	5	1	8.1	2.2	1.2	2	80	-500	-0.2	88	8	88	-1	43	21	-1	-5	-5	-5	4.20	542	-10	88	51	63
20	-145.7250	65.3908	21	9	-1	8.1	2.9	1.1	2	53	640	-0.2	72	7	67	-1	32	16	-1	-5	16	8	2.92	317	-10	82	35	47
31	-145.8040	65.3901	18	9	1	10	3.9	1.4	2	75	610	-0.2	57	10	87	3	38	19	-1	-5	8	-5	3.71	787	-10	119	42	53
32	-145.8010	65.3859	19	6	2	11	3.8	1.2	2	89	-500	-0.2	60	13	94	2	40	21	-1	-5	7	-5	4.00	624	-10	131	50	62
33	-145.8000	65.3817	17	7	-1	12	3.9	1.2	4	110	-500	-0.2	56	13	81	7	35	16	-1	-5	21	-5	3.61	462	-10	112	44	50
34	-145.8020	65.3782	22	9	2	12	2.9	1.2	1	78	-500	-0.2	64	9	81	-1	42	22	-1	-5	18	-5	4.55	690	-10	89	54	66
37	-145.8110	65.3900	25	6	1	9.4	3.1	1.5	3	78	-500	-0.2	93	7	96	-1	50	25	-1	-5	8	-5	4.91	665	-10	104	65	66
38	-145.8200	65.3883	25	7	1	8.1	3.1	1.5	1	70	-500	-0.2	90	5	90	5	49	24	-1	-5	7	-5	4.93	516	-10	86	65	69
39	-145.8300	65.3889	25	9	1	8.4	2.8	1.7	2	65	-500	-0.2	81	6	88	-1	47	24	-1	-5	-5	-5	4.73	533	-10	80	63	84
40	-145.8400	65.3860	28	9	2	9.3	3	1.6	1	77	930	-0.2	79	5	88	-1	46	22	-1	-5	-5	-5	4.63	530	-10	83	60	79
42	-145.8480	65.3844	21	7	-1	7.5	2.9	1.4	2	77	-500	-0.2	89	10	93	8	47	23	-1	-5	-5	-5	4.58	567	-10	119	61	80
43	-145.8800	65.3834	25	10	2	8.1	3.1	1.5	2	68	-500	-0.2	86	10	89	2	46	23	-1	-5	-5	-5	4.58	590	-10	101	61	77
61	-145.7320	65.4147	19	8	1	9.2	3.1	1.4	2	55	-500	-0.2	132	7	83	5	47	23	-1	-5	16	7	3.68	314	-10	56	49	76
63	-145.7320	65.4184	20	6	1	9.1	3.1	1.2	3	78	-500	-0.2	132	8	94	15	52	28	1.1	-5	26	11	4.11	291	-10	87	57	88
64	-145.7300	65.4247	21	11	2	9.4	3.4	1.1	3	78	580	-0.2	78	6	89	5	34	17	-1	-5	12	-5	3.07	286	-10	59	37	53
65	-145.7320	65.4309	19	8	1	9.1	2.9	1.1	3	74	-500	-0.2	78	9	78	9	34	18	-1	-5	26	8	3.39	413	-10	84	40	56
67	-145.7380	65.4341	15	7	-1	8.1	2.6	0.91	4	75	-500	-0.2	74	7	76	-1	33	17	-1	-5	24	-5	3.26	379	-10	77	38	55
68	-145.7400	65.4361	16	8	-1	8.9	3.5	1	5	71	-500	-0.2	83	13	90	8	37	20	-1	-5	34	6	3.78	521	-10	104	45	66
69	-145.7440	65.4428	16	8	1	8.9	3.3	0.92	4	58	-500	-0.2	74	9	87	-1	34	19	-1	-5	43	-5	3.42	462	-10	85	40	53
70	-145.7450	65.4470	16	6	-1	8.5	2.9	1	3	61	-500	-0.2	89	7	88	12	39	21	-1	-5	27	-5	3.79	477	-10	81	45	63
72	-145.7480	65.4513	21	7	2	8.8	3.5	1.2	7	82	-500	-0.2	101	12	91	11	46	23	-1	-5	-5	-5	4.46	635	-10	100	57	81
73	-145.7580	65.4542	14	13	2	12	4.1	1.1	4	100	680	-0.2	44	10	86	8	23	14	-1	-5	45	6	2.98	634	-10	92	26	34
74	-145.7820	65.4588	16	7	-1	8.3	3.7	1.1	4	100	-500	-0.2	74	8	85	4	36	20	-1	-5	32	10	3.63	477	-10	100	44	66
75	-145.7890	65.4620	16	11	1	10	4.7	0.88	4	73	-500	-0.2	84	8	78	10	29	16	-1	-5	51	-5	3.05	551	-10	102	34	45
76	-145.7780	65.4645	15	9	-1	13	4.7	1	5	94	620	-0.2	58	14	89	1	31	17	-1	-5	70	-5	3.40	668	-10	158	36	48
78	-145.7870	65.4654	15	8	-1	10	5.3	0.87	7	95	-500	-0.2	79	9	85	12	35	19	1.4	-5	52	-5	3.44	592	-10	125	43	59
79	-145.7980	65.4640	17	8	1	12	6.1	1.2	2	120	-500	-0.2	77	12	99	-1	37	20	-1	-5	63	5	3.66	422	-10	183	47	65
80	-145.8080	65.4622	15	12	1	11	4.2	1	3	91	680	-0.2	70	13	75	5	31	16	-1	-5	49	-5	3.21	421	-10	128	38	53
81	-145.8180	65.4599	16	8	1	9.1	4.5	1	24	68	-500	-0.2	83	11	96	4	37	19	-1	-5	44	-5	3.52	652	-10	95	45	64
83	-145.8270	65.4580	15	11	2	11	5.1	1	4	82	-500	-0.2	67	12	76	6	28	16	-1	-5	59	7	3.05	400	-10	122	35	46

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion, ppm-parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1	-145.7360	65.4018	-20	-20	17	1.86	.93	.32	3	.01	.13	30	2	19	-100	7	.06	-1
2	-145.7310	65.4052	-20	-20	17	2.29	1.20	.37	5	-.01	.20	36	2	23	-100	8	.09	-1
4	-145.7310	65.4096	-20	-20	13	1.66	.87	.25	3	-.01	.13	28	1	15	-100	6	.06	-1
5	-145.7960	65.3993	-20	-20	20	2.43	1.20	.54	4	.02	.15	27	2	37	-100	9	.08	-1
6	-145.8000	65.3954	-20	-20	18	2.68	1.32	.54	4	.02	.16	29	2	36	-100	9	.08	-1
7	-145.8050	65.3923	-20	-20	23	2.92	1.35	.66	3	.02	.20	33	2	49	-100	12	.09	-1
8	-145.7860	65.4013	-20	-20	16	2.03	1.05	.38	3	.01	.16	24	2	24	-100	7	.06	-1
10	-145.7750	65.4022	-20	-20	31	2.63	1.18	.57	3	.01	.27	32	3	43	-100	13	.09	-1
13	-145.7850	65.4028	-20	-20	25	2.57	1.22	.54	-2	.03	.22	31	2	38	-100	11	.09	-1
16	-145.7400	65.4011	-20	-20	19	2.19	1.11	.44	-2	-.01	.16	25	2	30	-100	9	.08	-1
17	-145.7400	65.3972	-20	-20	18	2.20	1.13	.41	3	.01	.16	26	2	28	-100	8	.07	-1
18	-145.7390	65.3927	-20	-20	15	2.19	1.18	.27	-2	-.01	.15	26	1	23	-100	7	.07	-1
20	-145.7250	65.3908	-20	-20	15	1.63	.79	.34	2	.01	.12	23	1	20	-100	7	.06	-1
31	-145.8040	65.3901	-20	-20	27	1.92	.87	.46	-2	.02	.10	23	2	34	-100	9	.05	-1
32	-145.8010	65.3859	-20	-20	30	2.21	.96	.57	-2	.01	.11	26	2	45	-100	11	.05	-1
33	-145.8000	65.3817	-20	-20	28	1.99	.83	.56	2	.01	.11	23	2	45	-100	10	.04	-1
34	-145.8020	65.3782	-20	-20	23	2.24	1.06	.46	-2	.01	.10	21	2	27	-100	9	.05	-1
37	-145.8110	65.3900	-20	-20	16	2.86	1.34	.60	4	-.01	.17	30	2	40	-100	9	.08	-1
38	-145.8200	65.3883	-20	-20	12	2.85	1.38	.55	6	.01	.18	26	2	33	-100	8	.09	-1
39	-145.8300	65.3899	-20	-20	13	2.77	1.35	.52	6	-.01	.14	27	2	32	-100	7	.08	-1
40	-145.8400	65.3890	-20	-20	13	2.69	1.31	.46	5	.01	.14	26	2	29	-100	7	.08	-1
42	-145.8480	65.3844	-20	-20	16	2.73	1.26	.66	4	.01	.15	27	2	42	-100	9	.07	-1
43	-145.8600	65.3834	-20	-20	17	2.69	1.28	.57	5	.01	.15	26	2	35	-100	9	.08	-1
61	-145.7320	65.4147	-20	-20	14	2.11	1.21	.36	5	-.01	.20	29	1	17	-100	6	.10	-1
63	-145.7320	65.4184	-20	-20	16	2.45	1.36	.34	6	.01	.22	35	2	19	-100	7	.10	-1
64	-145.7300	65.4247	-20	-20	15	1.76	.90	.32	4	-.01	.14	26	1	16	-100	6	.07	-1
65	-145.7320	65.4309	-20	-20	17	1.96	.92	.32	4	.01	.15	26	2	20	-100	7	.07	-1
67	-145.7380	65.4341	-20	-20	17	1.92	.90	.30	3	.01	.14	26	2	18	-100	6	.07	-1
68	-145.7400	65.4381	-20	-20	22	2.26	.98	.42	2	.01	.17	34	2	27	-100	9	.07	-1
69	-145.7440	65.4426	-20	-20	19	1.98	.91	.33	-2	.01	.17	34	2	21	-100	6	.07	-1
70	-145.7450	65.4470	-20	-20	17	2.15	1.08	.31	4	.01	.17	31	2	20	-100	7	.08	-1
72	-145.7490	65.4513	-20	-20	17	2.51	1.18	.61	4	.01	.12	30	2	32	-100	9	.06	-1
73	-145.7580	65.4542	-20	-20	27	1.58	.59	.29	-2	.01	.10	24	2	21	-100	8	.04	-1
74	-145.7620	65.4588	-20	-20	17	2.17	.98	.34	4	.01	.14	32	2	24	-100	7	.07	-1
75	-145.7690	65.4620	-20	-20	22	1.83	.73	.35	-2	.01	.16	36	2	25	-100	8	.07	-1
76	-145.7780	65.4645	-20	-20	29	2.16	.71	.36	-2	.01	.15	36	2	30	-100	11	.05	-1
78	-145.7870	65.4654	-20	-20	25	2.26	.85	.42	3	.01	.17	47	2	33	-100	11	.06	-1
79	-145.7980	65.4640	-20	-20	28	2.67	.91	.39	5	.02	.18	51	2	34	-100	11	.08	-1
80	-145.8080	65.4622	-20	-20	24	2.16	.78	.33	4	.01	.18	36	2	29	-100	9	.07	-1
81	-145.8180	65.4599	-20	-20	23	2.23	.91	.53	-2	.01	.18	42	2	35	-100	11	.06	-1
83	-145.8270	65.4580	-20	-20	22	2.01	.72	.31	3	.01	.17	36	2	26	-100	8	.07	-1

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
84	-145.8370	65.4547	14	6	-1	11	3.5	0.9	9	100	-500	-0.2	63	13	80	4	30	16	-1	-5	74	6	3.33	357	-10	143	40	45
85	-145.8430	65.4516	16	17	2	13	4.6	1	4	86	780	-0.2	58	11	70	13	28	13	-1	-5	57	-5	2.88	302	-10	122	34	47
87	-145.8620	65.4490	16	8	2	12	4	1	5	110	-500	-0.2	80	14	81	5	32	16	-1	-5	64	-5	3.31	378	-10	137	41	56
88	-145.7370	65.4288	21	6	1	9.5	3	1.4	3	97	-500	-0.2	210	8	99	6	63	34	-1	-5	-5	-5	4.31	230	-10	94	61	107
89	-145.7470	65.4284	20	7	-1	8.1	3	1.2	6	87	-500	-0.2	136	8	112	6	52	29	-1	-5	-5	-5	4.29	492	-10	118	56	94
90	-145.7580	65.4274	21	9	1	7.8	2.7	1.2	3	62	-500	-0.2	96	8	89	11	39	27	-1	-5	-5	9	4.16	525	-10	95	51	82
91	-145.7680	65.4265	21	10	1	8.3	3	1.2	5	58	-500	-0.2	101	5	90	7	40	22	-1	-5	-5	-5	3.71	484	-10	106	46	72
93	-145.7790	65.4269	20	6	-1	11	5	1.2	5	79	-500	-0.2	98	14	110	11	44	21	-1	-5	-5	-5	4.04	490	-10	150	49	71
94	-145.7920	65.4273	19	10	1	10	3.3	1.3	5	56	-500	-0.2	81	12	93	3	36	20	-1	-5	-5	-5	3.76	614	-10	116	45	69
95	-145.7990	65.4268	20	11	1	9.1	3.4	1.2	4	57	-500	-0.2	67	13	82	9	31	16	-1	-5	-5	-5	3.30	425	-10	111	39	59
97	-145.7548	65.4575	19	10	2	10	3.6	1.2	3	63	-500	-0.2	61	11	84	8	32	16	-1	-5	23	6	3.14	460	-10	75	36	49
99	-145.7420	65.4633	18	10	2	12	3.9	1.2	3	95	-500	-0.2	50	11	79	7	29	14	-1	-5	-5	6	2.98	323	-10	103	31	41
100	-145.7330	65.4655	14	7	-1	12	3.3	1.3	2	84	-500	-0.2	45	12	74	5	28	13	-1	-5	23	10	3.06	260	-10	138	31	44
102	-145.7210	65.4725	14	6	-1	11	3.5	1.1	4	97	-500	-0.2	24	10	88	9	23	10	-1	-5	12	-5	2.75	293	-10	195	31	36
103	-145.7140	65.4762	13	12	2	12	3.9	1.1	3	59	-500	-0.2	34	8	66	7	22	11	-1	-5	11	7	2.55	318	-10	92	22	26
106	-145.7810	65.4672	12	8	1	12	4.5	0.91	3	88	600	-0.2	32	15	75	7	23	16	-1	-5	65	6	2.97	668	-10	134	27	33
107	-145.7790	65.4714	14	9	1	13	3.7	1.1	3	120	-500	-0.2	45	11	76	3	24	11	-1	-5	32	43	3.02	327	-10	140	26	36
108	-145.7770	65.4751	12	8	1	12	3.3	1.1	2	110	-500	-0.2	36	14	74	5	24	9	-1	-5	44	34	2.99	227	-10	111	22	24
109	-145.7760	65.4798	12	9	-1	11	3.9	0.88	3	83	-500	-0.2	32	11	82	8	26	21	-1	-5	41	-5	2.85	605	-10	157	27	33
111	-145.7730	65.4840	11	8	1	10	2.9	0.9	3	90	-500	-0.2	30	10	75	8	21	16	-1	-5	62	-5	2.87	572	-10	89	22	26
112	-145.7890	65.4879	13	8	1	11	3.3	0.89	2	100	-500	-0.2	37	12	72	3	23	17	-1	-5	30	-5	3.13	952	-10	133	28	35
114	-145.8220	65.4108	15	8	-1	11	3.8	1.4	3	89	-500	-0.2	52	14	84	7	29	14	-1	-5	-5	8	3.08	465	-10	145	30	41
115	-145.8240	65.4153	17	9	-1	11	3.7	1.5	2	93	-500	-0.2	57	13	83	7	27	13	-1	-5	5	-5	3.18	379	-10	185	33	49
116	-145.8240	65.4191	17	10	2	12	4	1.2	4	78	-500	-0.2	53	11	84	-1	32	16	1.5	-5	18	20	3.12	482	-10	91	28	33
117	-145.8230	65.4238	16	8	-1	13	3.9	1.1	4	100	-500	-0.2	54	10	94	-1	36	16	1.2	-5	23	16	3.65	454	-10	111	33	38
119	-145.8250	65.4278	15	6	-1	12	4.2	1.1	6	140	-500	-0.2	55	17	97	-1	39	19	1.7	-5	43	22	3.44	704	-10	113	32	37
120	-145.8260	65.4317	15	7	1	12	4	1.2	5	110	-500	-0.2	50	10	85	-1	33	16	-1	-5	33	22	3.23	514	-10	91	28	33
121	-145.8310	65.4362	15	7	-1	13	3.9	1.2	6	110	-500	-0.2	51	10	89	-1	35	17	-1	-5	31	13	3.36	607	-10	92	29	34
122	-145.8310	65.4403	15	9	-1	12	3.7	1.2	5	120	-500	-0.2	49	11	83	-1	33	16	1.4	-5	41	15	3.22	500	-10	81	26	30
124	-145.8350	65.4446	13	8	1	14	6.6	1	13	110	-500	-0.2	42	26	85	4	32	12	1.5	-5	129	5	3.13	355	-10	130	25	26
125	-145.8400	65.4486	13	8	-1	12	3.8	1.2	3	110	-500	-0.2	45	8	74	4	28	13	1.1	-5	38	18	2.94	486	-10	72	24	28
126	-145.8440	65.4528	14	5	1	12	4	1.2	4	120	-500	-0.2	55	14	84	-1	32	15	1.4	-5	48	21	3.32	509	-10	87	28	32
127	-145.8480	65.4569	14	8	1	13	4.2	1.2	5	130	880	-0.2	51	12	80	-1	31	14	-1	-5	48	13	3.13	501	-10	85	26	30
129	-145.8470	65.4612	12	7	1	11	3.2	1.1	3	73	-500	-0.2	37	13	58	-1	24	12	-1	-5	47	13	2.26	359	-10	56	20	21
130	-145.8480	65.4655	11	10	1	12	3.2	1.2	2	93	-500	-0.2	38	11	52	2	21	10	-1	-5	41	9	2.12	364	-10	51	17	18
131	-145.8480	65.4700	12	8	1	12	3.8	1	4	100	-500	-0.2	41	10	57	5	23	10	-1	-5	33	13	2.21	375	-10	62	18	19
132	-145.8530	65.4740	12	8	-1	11	3.5	1.1	3	88	-500	-0.2	31	12	59	-1	23	10	-1	-5	30	14	2.29	382	-10	87	19	20
134	-145.8510	65.4779	12	9	1	12	3	1.1	3	90	-500	-0.2	41	12	64	3	26	12	-1	-5	47	16	2.54	475	-10	61	21	23
135	-145.8500	65.4822	13	9	1	11	3.5	1.1	2	87	-500	-0.2	37	13	57	-1	23	11	-1	-5	38	20	2.39	411	-10	56	20	22
136	-145.8580	65.4768	14	7	-1	11	2.9	1.2	3	130	-500	-0.2	42	14	69	2	24	11	-1	-5	21	-5	2.52	341	-10	116	23	27
139	-145.8690	65.4781	14	7	1	11	3.1	1.1	1	120	-500	-0.2	32	11	60	3	19	9	-1	-5	12	7	2.31	249	-10	106	18	20

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
84	-145.8370	65.4547	-20	-20	23	2.38	.73	.32	5	.02	.19	46	2	33	-100	10	.06	-1
85	-145.8430	65.4516	-20	-20	25	1.97	.68	.32	4	.01	.19	31	2	30	-100	8	.07	-1
87	-145.8620	65.4490	-20	-20	27	2.33	.80	.29	5	.01	.24	40	2	30	-100	11	.08	-1
88	-145.7370	65.4288	-20	-20	18	2.65	1.37	.51	9	.01	.18	32	2	24	-100	9	.11	-1
89	-145.7470	65.4284	-20	-20	18	2.59	1.25	.66	6	.01	.22	34	3	28	-100	10	.10	-1
90	-145.7580	65.4274	-20	-20	16	2.36	1.16	.37	5	-.01	.16	29	2	19	-100	7	.08	-1
91	-145.7680	65.4265	-20	-20	16	2.20	1.00	.52	4	.01	.16	28	2	27	-100	7	.08	-1
93	-145.7790	65.4269	-20	-20	28	2.46	1.04	.70	4	.01	.16	38	3	37	-100	14	.08	-1
94	-145.7920	65.4273	-20	-20	20	2.27	.93	.46	2	.01	.14	29	2	25	-100	9	.07	-1
95	-145.7990	65.4286	-20	-20	20	1.96	.76	.36	3	.01	.10	23	2	23	-100	7	.06	-1
97	-145.7548	65.4575	-20	-20	19	1.85	.86	.36	3	-.01	.11	23	2	24	-100	6	.06	-1
99	-145.7420	65.4633	-20	-20	25	1.78	.74	.37	4	.01	.10	21	2	26	-100	6	.04	-1
100	-145.7330	65.4655	-20	-20	29	1.96	.86	.36	5	.01	.10	20	2	31	-100	6	.04	-1
102	-145.7210	65.4725	-20	-20	26	2.18	.80	.21	5	.01	.08	20	1	23	-100	8	.01	-1
103	-145.7140	65.4762	-20	-20	26	1.46	.58	.34	2	-.01	.07	18	1	26	-100	6	.03	-1
106	-145.7810	65.4672	-20	-20	28	1.82	.56	.23	-2	.01	.10	29	2	20	-100	9	.03	-1
107	-145.7790	65.4714	-20	-20	31	1.73	.56	.24	4	.01	.09	20	1	21	-100	7	.04	-1
108	-145.7770	65.4751	-20	-20	36	1.64	.59	.14	5	.01	.10	21	1	17	-100	7	.02	-1
109	-145.7760	65.4768	-20	-20	26	1.82	.57	.25	-2	.01	.10	32	1	23	-100	9	.03	-1
111	-145.7730	65.4640	-20	-20	24	1.61	.54	.14	-2	-.01	.09	25	-1	14	-100	6	.02	-1
112	-145.7690	65.4679	-20	-20	26	1.86	.60	.20	-2	.01	.11	28	1	18	-100	7	.03	-1
114	-145.8220	65.4108	-20	-20	26	1.78	.63	.44	-2	.02	.10	17	2	33	-100	10	.05	-1
115	-145.8240	65.4153	-20	-20	25	1.87	.64	.50	4	.02	.10	16	2	36	-100	9	.06	-1
116	-145.8240	65.4191	-20	-20	31	1.63	.67	.30	-2	.01	.09	21	1	24	-100	10	.04	-1
117	-145.8230	65.4236	-20	-20	32	1.94	.78	.33	4	.01	.10	25	1	25	-100	11	.04	-1
119	-145.8250	65.4276	-20	-20	32	1.87	.75	.36	-2	.01	.11	24	2	30	-100	12	.04	-1
120	-145.8280	65.4317	-20	-20	26	1.72	.72	.32	2	.01	.09	22	1	25	-100	10	.04	-1
121	-145.8310	65.4362	-20	-20	29	1.77	.75	.28	-2	.01	.10	23	1	23	-100	10	.04	-1
122	-145.8310	65.4403	-20	-20	27	1.86	.72	.27	-2	.01	.09	22	1	22	-100	9	.04	-1
124	-145.8350	65.4445	-20	-20	43	1.82	.59	.30	3	.01	.08	27	1	29	-100	21	.02	-1
125	-145.8400	65.4486	-20	-20	27	1.51	.66	.22	-2	-.01	.09	20	1	18	-100	8	.04	-1
126	-145.8440	65.4526	-20	-20	26	1.74	.75	.26	-2	.01	.10	22	1	22	-100	10	.04	-1
127	-145.8480	65.4569	-20	-20	30	1.64	.70	.29	3	.01	.10	20	1	24	-100	10	.04	-1
129	-145.8470	65.4612	-20	-20	23	1.16	.53	.19	-2	-.01	.07	16	1	17	-100	7	.04	-1
130	-145.8480	65.4655	-20	-20	22	1.08	.49	.21	-2	-.01	.07	15	1	17	-100	6	.04	-1
131	-145.8480	65.4700	-20	-20	23	1.14	.50	.24	-2	-.01	.07	15	1	20	-100	7	.03	-1
132	-145.8530	65.4740	-20	-20	24	1.21	.54	.23	-2	-.01	.08	16	1	19	-100	7	.03	-1
134	-145.8510	65.4779	-20	-20	24	1.30	.59	.21	-2	-.01	.08	17	1	18	-100	7	.03	-1
135	-145.8500	65.4822	-20	-20	23	1.21	.56	.21	-2	-.01	.08	17	1	17	-100	7	.04	-1
136	-145.8580	65.4786	-20	-20	27	1.48	.59	.36	3	.01	.10	17	2	28	-100	9	.03	-1
139	-145.8690	65.4781	-20	-20	25	1.29	.53	.31	2	.01	.09	15	2	24	-100	8	.03	-1

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sr-2+		W-2+		La-2+		Al		Mg		Ca		Ga		Na-2+		K		Li		Nb		Sc		Ta-2+		Y		Tl		Zr-2+		
			ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP
142	-145.5690	65.4269	-20	-20	26	1.67	67	.40	-2	.01	.10	19	2	28	-100	9	.04	-1																	
143	-145.5730	65.4310	-20	-20	28	1.70	72	.36	-2	.01	.10	20	2	25	-100	9	.04	-1																	
144	-145.5750	65.4354	-20	-20	26	1.66	86	.34	2	.01	.10	25	2	24	-100	10	.04	-1																	
145	-145.5750	65.4395	-20	-20	28	1.78	78	.34	-2	.01	.10	23	1	24	-100	9	.04	-1																	
147	-145.5770	65.4441	-20	-20	27	1.82	76	.35	2	.01	.10	25	2	24	-100	10	.04	-1																	
148	-145.5900	65.4481	-20	-20	24	1.88	76	.37	-2	.01	.10	23	2	25	-100	8	.04	-1																	
149	-145.5830	65.4526	-20	-20	28	1.86	77	.27	3	.01	.10	23	1	17	-100	9	.04	-1																	
150	-145.5840	65.4570	-20	-20	26	1.74	71	.22	2	.01	.08	23	1	25	-100	8	.04	-1																	
152	-145.5970	65.4909	-20	-20	28	1.97	74	.34	-2	.01	.08	27	1	25	-100	10	.03	-1																	
153	-145.5900	65.4951	-20	-20	23	2.32	95	.28	6	.01	.12	24	2	19	-100	7	.05	-1																	
154	-145.5950	65.4990	-20	-20	36	1.83	59	.34	-2	.01	.07	24	2	30	-100	16	.03	-1																	
155	-145.5990	65.4732	-20	-20	36	1.78	82	.28	4	.01	.07	25	1	29	-100	9	.03	-1																	
156	-145.5020	65.4555	-20	-20	26	1.69	72	.21	-2	.01	.08	25	1	19	-100	8	.03	-1																	
159	-145.4997	65.4912	-20	-20	28	1.71	71	.24	-2	.01	.08	24	1	21	-100	8	.03	-1																	
160	-145.4998	65.4990	-20	-20	26	1.55	89	.20	-2	.01	.07	23	-1	17	-100	7	.03	-1																	
161	-145.5020	65.4708	-20	-20	27	1.56	88	.21	-2	.01	.07	22	1	18	-100	7	.04	-1																	
163	-145.5050	65.4745	-20	-20	25	1.34	82	.16	-2	.01	.05	21	-1	14	-100	6	.03	-1																	
164	-145.5130	65.4784	-20	-20	26	1.52	70	.15	-2	.01	.06	23	-1	14	-100	7	.03	-1																	
165	-145.5170	65.4916	-20	-20	27	1.44	67	.13	-2	.01	.06	23	-1	13	-100	6	.02	-1																	
166	-145.5180	65.4981	-20	-20	26	1.36	63	.13	-2	.01	.05	22	-1	13	-100	6	.02	-1																	
168	-145.5230	65.4908	-20	-20	26	1.29	61	.14	-2	.01	.05	22	-1	13	-100	6	.02	-1																	
169	-145.5310	65.4941	-20	-20	27	1.48	58	.18	-2	.01	.06	24	-1	17	-100	8	.02	-1																	
170	-145.5410	65.4953	-20	-20	26	1.48	57	.21	-2	.01	.06	23	1	19	-100	9	.02	-1																	
171	-145.5510	65.4984	-20	-20	33	1.67	61	.37	2	.01	.08	26	1	33	-100	12	.02	-1																	
173	-145.5900	65.4976	-20	-20	47	2.35	92	.25	3	.01	.13	34	1	29	-100	12	.02	-1																	
174	-145.5990	65.4998	-20	-20	35	1.78	64	.29	5	.01	.08	24	1	27	-100	11	.03	-1																	
175	-145.5810	65.4989	-20	-20	53	2.02	65	.65	-2	.01	.10	28	2	53	-100	28	.03	-1																	
176	-145.5900	65.4967	-20	-20	34	1.74	64	.32	-2	.01	.10	22	1	27	-100	12	.03	-1																	
178	-145.6010	65.4975	-20	-20	30	1.49	59	.26	-2	.01	.08	20	-1	24	-100	9	.03	-1																	
179	-145.6120	65.4978	-20	-20	30	1.67	65	.25	-2	.01	.09	21	1	21	-100	10	.04	-1																	
180	-145.6230	65.4975	-20	-20	35	1.70	63	.32	-2	.01	.08	21	1	25	-100	12	.04	-1																	
182	-145.5200	65.4780	-20	-20	30	1.75	68	.28	2	.01	.07	25	2	21	-100	11	.04	-1																	
183	-145.5300	65.4786	-20	-20	26	1.74	69	.31	-2	.01	.08	24	1	22	-100	7	.04	-1																	
184	-145.5410	65.4780	-20	-20	36	1.74	82	.35	-2	.01	.08	23	2	33	-100	14	.03	-1																	
185	-145.5510	65.4781	-20	-20	37	1.95	58	.24	-2	.01	.08	21	1	26	-100	14	.03	-1																	
186	-145.5580	65.4812	-20	-20	31	1.58	57	.17	-2	.01	.06	18	1	17	-100	8	.03	-1																	
188	-145.5210	65.4837	-20	-20	28	1.57	67	.17	-2	.01	.06	24	1	16	-100	7	.03	-1																	
189	-145.5150	65.4806	-20	-20	26	1.38	60	.17	-2	.01	.05	21	-1	15	-100	7	.03	-1																	
190	-145.5070	65.4894	-20	-20	28	1.88	67	.19	-2	.01	.07	24	1	18	-100	9	.03	-1																	
191	-145.4980	65.4952	-20	-20	30	1.53	59	.22	-2	.01	.07	22	1	20	-100	8	.03	-1																	
199	-145.4980	65.4999	-20	-20	30	1.46	57	.24	-2	.01	.08	17	1	21	-100	9	.02	-1																	

MAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma Spectrographic Analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au INAA ppb	Ir INAA ppm	Ag-1 INAA ppm	Zn-1 INAA ppm	Mo-1 INAA ppm	Ni-1 INAA ppm	Co-1 INAA ppm	Cd-1 INAA ppm	As-1 INAA ppm	Sb-1 INAA ppm	Fe-1 INAA ppm	Se INAA ppm	Te-1 INAA ppm	Ba-1 INAA ppm	Cr-1 INAA ppm	Sn-1 INAA ppm	W-1 INAA ppm	Cs INAA ppm	La-1 INAA ppm	Ce INAA ppm	Sm INAA ppm	Eu INAA ppm	Tb INAA ppm	Yb INAA ppm	Lu INAA ppm
200	-145.4790	65.4585	-5	-100	-5	-200	-2	-20	18	-10	24	12	3.8	-10	-20	640	110	-200	-2	2	48	93	8	-2	-1	-5	0.5
201	-145.4700	65.4600	6	-100	-5	-200	-2	57	14	-10	23	11	3.7	-10	-20	710	140	-200	2	3	43	82	7.3	-2	-1	-5	0.5
203	-145.4620	65.4624	-5	-100	-5	-200	-2	55	15	-10	10	1.6	4.1	-10	-20	750	82	-200	3	2	48	99	7.7	-2	-1	-5	0.5
208	-145.4570	65.4662	-5	-100	-5	-200	-2	20	16	-10	18	9.1	3.8	-10	-20	890	140	-200	3	4	44	99	7.5	3	-1	-5	0.5
207	-145.4520	65.4746	-5	-100	-5	-200	-2	52	12	-10	13	5.9	4	-10	-20	920	150	-200	-2	3	43	87	7.4	3	-1	-5	0.7
208	-145.4540	65.4789	-5	-100	-5	-200	-2	20	14	-10	22	15	3.3	-10	-20	920	100	-200	-2	3	52	110	8.6	2	1	-5	0.7
211	-145.7350	65.3759	-5	-100	-5	-200	-2	20	15	-10	5	0.9	3.2	-10	-20	650	120	-200	-2	2	42	80	6.9	2	-1	-5	-0.5
212	-145.7270	65.3727	-5	-100	-5	-200	-2	30	-10	-10	7	1	3.9	-10	-20	650	100	-200	-2	3	38	72	6.5	-2	-1	-5	-0.5
213	-145.7170	65.3713	-5	-100	-5	-200	-2	20	11	-10	7	1	3.5	-10	-20	670	110	-200	-2	2	39	79	6.7	-2	-1	-5	-0.5
214	-145.7090	65.3690	10	-100	-5	-200	-2	31	18	-10	8	0.9	3.7	-10	-20	630	130	-200	-2	2	40	78	6.9	-2	-1	-5	-0.5
216	-145.7030	65.3681	24	-100	-5	-200	-2	20	15	-10	7	0.9	3.4	-10	-20	690	110	-200	-2	2	39	72	6.6	3	-1	-5	-0.5
217	-145.6970	65.3630	-5	-100	-5	-200	-2	20	13	-10	7	1	3.5	-10	-20	610	93	-200	-2	2	43	80	7.3	-2	-1	-5	-0.5
218	-145.6990	65.3603	-5	-100	-5	-200	-2	20	20	-10	8	1	4	-10	-20	710	110	-200	-2	2	49	100	8.6	-2	-1	-5	0.6
219	-145.6790	65.3581	14	-100	-5	-200	-2	20	12	-10	5	0.7	2.9	-10	-20	420	67	-200	-2	2	31	61	5.3	-2	-1	-5	0.5
221	-145.6690	65.3577	47	-100	-5	-200	-2	20	12	-10	6	0.9	3.2	-10	-20	520	87	-200	-2	2	36	68	5.9	-2	-1	-5	-0.5
222	-145.6590	65.3566	7	-100	-5	-200	-2	49	19	-10	16	1.2	5.2	-10	-20	1200	140	-200	-2	5	66	120	10	-2	-1	-5	-0.5
223	-145.6470	65.3560	12	-100	-5	-200	-2	20	10	-10	6	1	3	-10	-20	720	160	-200	-2	2	55	110	9	-2	-1	-5	0.6
225	-145.7340	65.3545	5	-100	-5	-200	-2	56	17	-10	10	1.1	4.5	-10	-20	790	130	-200	-2	3	51	93	7.8	-2	1	-5	-0.5
228	-145.7250	65.3554	11	-100	-5	-200	-2	20	16	-10	6	0.9	3.7	-10	-20	710	110	-200	-2	2	50	100	7.4	-2	-1	-5	0.6
227	-145.7150	65.3551	-5	-100	-5	-200	-2	20	24	-10	10	1.1	4.7	-10	-20	740	170	-200	-2	3	64	130	8.9	-2	-1	6	0.7
228	-145.7050	65.3539	-5	-100	-5	-200	-2	20	19	-10	11	1	5.8	-10	-20	960	180	-200	-2	4	76	180	8.7	-2	-1	7	0.8
231	-145.7540	65.3491	-5	-100	-5	-200	-2	20	19	-10	7	1.3	4.6	-10	-20	690	110	-200	-2	2	54	110	6.6	4	-1	6	0.6
232	-145.7650	65.3460	-5	-100	-5	-200	-2	22	18	-10	8	1.1	4.1	-10	-20	740	86	-200	-2	3	50	88	6.9	-2	-1	-5	0.6
233	-145.7740	65.3503	6	-100	-5	-200	-2	20	21	-10	7	1.1	4	-10	-20	770	90	-200	3	3	52	98	7.3	-2	-1	-5	-0.5
235	-145.7830	65.3522	10	-100	-5	-200	-2	43	21	-10	8	0.9	3.8	-10	-20	800	93	-200	2	4	50	88	7.4	-2	1	-5	-0.5
236	-145.7920	65.3539	-5	-100	-5	-200	-2	20	21	-10	9	1	4.1	-10	-20	780	79	-200	-2	4	48	98	6.9	-2	-1	-5	-0.5
237	-145.7990	65.3569	-5	-100	-5	-200	-2	40	17	-10	7	1.1	3.7	-10	-20	710	110	-200	-2	3	52	95	7.5	2	-1	-5	-0.5
238	-145.8070	65.3602	7	-100	-5	-200	-2	20	23	-10	9	1.2	4	-10	-20	880	94	-200	-2	4	50	93	7.4	-2	1	-5	-0.5
240	-145.7550	65.3309	-5	-100	-5	-200	-2	63	16	-10	7	0.8	3.5	-10	-20	710	71	-200	2	3	49	90	7.2	3	-1	-5	0.5
241	-145.7630	65.3303	-5	-100	-5	-200	-2	20	12	-10	5	0.8	2.9	-10	-20	620	86	-200	-2	2	43	76	6.3	-2	-1	-5	-0.5
242	-145.7750	65.3295	5	-100	-5	-200	-2	44	14	-10	8	0.8	3.7	-10	-20	690	68	-200	-2	3	45	88	6.7	-2	-1	-5	-0.5
246	-145.8020	65.3302	-5	-100	-5	-200	-2	20	25	-10	6	1	4	-10	-20	910	110	-200	-2	4	49	94	7.2	-2	-1	-5	-0.5
247	-145.8100	65.3333	6	-100	-5	-200	-2	20	22	-10	8	0.8	3.6	-10	-20	680	97	-200	-2	3	48	88	7	-2	-1	-5	-0.5
248	-145.8200	65.3342	-5	-100	-5	-200	-2	20	11	-10	9	0.8	3.8	-10	-20	840	91	-200	2	3	39	75	5.5	-2	-1	-5	-0.5
249	-145.8340	65.3340	-5	-100	-5	-200	-2	20	23	-10	7	0.9	4.2	-10	-20	750	95	-200	-2	3	55	94	7.9	-2	-1	-5	-0.5
252	-145.8440	65.3402	8	-100	-5	-200	-2	58	24	-10	7	0.9	4	-10	-20	790	76	-200	4	3	51	95	7.6	-2	-1	-5	0.6
256	-145.8090	65.3233	-5	-100	-5	-200	-2	20	11	-10	6	0.7	3.4	-10	-20	810	87	-200	-2	3	67	110	8.9	2	1	-5	0.7
258	-145.8150	65.3157	7	-100	-5	-200	-2	20	97	-10	13	1	5.4	-10	-20	930	85	-200	3	5	55	100	7.9	-2	-1	-5	-0.5
261	-145.7490	65.3046	-5	-100	-5	-200	-2	20	20	-10	10	1	4.3	-10	-20	940	80	-200	-2	3	47	91	6.7	-2	-1	-5	-0.5
262	-145.7590	65.3032	-5	-100	-5	-200	-2	20	14	-10	7	0.8	4.1	-10	-20	920	94	-200	-2	2	47	93	6.7	3	-1	-5	0.7
265	-145.7670	65.3008	-5	-100	-5	-200	-2	20	13	-10	7	1	3.9	-10	-20	880	77	-200	-2	3	48	79	6.7	2	-1	-5	-0.5

INAA=Instrumental Neutron Activation Analysis; IC=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
200	-145.4790	65.4585	13	11	2	14	5	1.2	2	95	-500	-0.2	43	18	68	8	25	12	-1	-5	29	11	2.92	440	-10	87	22	25
201	-145.4700	65.4600	14	10	2	13	4.2	1.2	4	110	-500	-0.2	43	15	78	-1	26	13	-1	-5	8	9	3.04	505	-10	90	22	26
203	-145.4620	65.4624	14	10	2	14	4.1	1.7	1	120	750	-0.2	37	12	70	-1	23	13	-1	-5	15	-5	2.80	482	-10	89	20	21
206	-145.4570	65.4682	15	9	2	14	4	1.2	4	130	-500	-0.2	46	15	85	-1	28	12	1.1	-5	23	10	2.98	562	-10	126	25	31
207	-145.4520	65.4746	17	8	2	13	4	1.4	-1	120	-500	-0.2	53	16	67	5	29	14	-1	-5	12	9	3.11	314	-10	131	32	38
208	-145.4540	65.4789	15	9	2	15	5.3	1.4	-1	150	-500	-0.2	40	18	61	3	19	10	-1	-5	27	11	2.41	160	-10	89	22	25
211	-145.7350	65.3755	14	13	2	12	3.9	1.4	-1	84	-500	-0.2	40	9	54	-1	19	10	-1	-5	18	-5	2.33	313	-10	91	20	25
212	-145.7270	65.3727	14	9	2	11	3.8	1.4	-1	78	-500	-0.2	34	11	57	-1	19	11	1.2	-5	-5	-5	2.55	360	-10	82	20	25
213	-145.7170	65.3713	14	14	2	11	3.9	1.3	-1	85	700	-0.2	36	7	55	2	19	10	-1	-5	11	-5	2.42	309	-10	91	20	26
214	-145.7090	65.3690	14	11	1	12	4.1	1.5	-1	59	-500	-0.2	38	10	58	2	20	10	-1	-5	11	5	2.55	307	-10	100	22	26
216	-145.7030	65.3661	13	12	1	11	3.6	1.4	2	74	-500	-0.2	38	11	59	-1	20	10	-1	-5	-5	-5	2.59	325	-10	101	22	28
217	-145.6970	65.3630	13	12	2	12	4.3	1.4	-1	88	-500	-0.2	41	9	53	-1	18	9	-1	-5	13	-5	2.33	273	-10	87	19	24
218	-145.6890	65.3603	15	18	2	14	5.1	1.4	2	78	-500	-0.2	37	11	61	-1	22	14	-1	-5	13	-5	2.72	381	-10	102	22	28
219	-145.6790	65.3581	10	11	1	8.8	3.1	1.2	-1	81	-500	-0.2	30	10	45	-1	15	8	-1	-5	8	5	2.05	222	-10	89	16	18
221	-145.6690	65.3577	11	8	1	10	3.8	1.1	1	73	890	-0.2	26	11	48	-1	15	8	-1	-5	-5	-5	2.27	229	-10	77	17	17
222	-145.6590	65.3566	18	10	2	22	6.2	1.2	2	180	800	-0.2	43	21	83	-1	29	14	-1	-5	7	6	3.85	312	-10	87	20	13
223	-145.6470	65.3560	15	17	2	15	5.3	1.8	-1	74	590	-0.2	37	12	58	-1	18	9	-1	-5	-5	-5	2.23	211	-10	103	21	26
225	-145.7340	65.3545	16	8	2	15	4	1.5	3	110	-500	-0.2	35	20	74	6	28	14	1.1	-5	14	-5	3.13	651	-10	109	24	27
226	-145.7250	65.3554	14	13	2	14	3.8	1.6	-1	83	-500	-0.2	25	14	58	2	18	12	-1	-5	-5	6	2.55	445	-10	80	18	20
227	-145.7150	65.3551	18	17	2	17	5	2	2	120	-500	-0.2	29	19	65	6	23	16	-1	-5	-5	6	2.78	691	-10	85	19	20
228	-145.7050	65.3539	22	15	2	18	4.8	2.3	2	130	780	-0.2	30	18	70	1	28	19	-1	-5	-5	-5	2.98	1120	-10	95	21	21
231	-145.7540	65.3491	17	15	1	12	3.5	1.5	1	85	590	-0.2	34	7	53	1	17	8	-1	-5	22	-5	2.09	207	-10	91	18	23
232	-145.7650	65.3490	15	9	1	13	3.7	1.1	2	110	-500	-0.2	30	13	72	3	22	13	-1	-5	10	-5	2.61	374	-10	118	21	25
233	-145.7740	65.3503	15	10	2	13	3.7	1.2	3	100	700	-0.2	33	13	71	-1	23	13	-1	-5	10	-5	2.54	402	-10	106	20	23
235	-145.7830	65.3522	14	10	2	14	4.2	1.1	3	83	530	-0.2	35	13	74	2	25	16	-1	-5	6	-5	2.65	621	-10	113	22	25
236	-145.7920	65.3539	13	8	2	13	3.7	0.95	4	95	-500	-0.2	34	15	74	3	25	19	-1	-5	9	-5	2.93	592	-10	140	25	30
237	-145.7990	65.3569	14	10	2	13	3.5	1.1	5	91	590	-0.2	35	15	78	3	27	15	-1	-5	9	-5	2.82	458	-10	146	25	30
238	-145.8070	65.3602	15	8	1	14	3.5	1	6	120	-500	-0.2	38	18	90	6	30	19	-1	-5	-5	-5	3.18	726	-10	189	28	34
240	-145.7660	65.3309	13	12	2	14	4	1.4	2	82	730	-0.2	38	11	68	-1	23	13	-1	-5	13	-5	2.48	506	-10	98	21	21
241	-145.7630	65.3303	12	11	2	12	3.4	1.4	1	82	510	-0.2	33	11	54	2	18	9	-1	-5	-5	-5	2.11	289	-10	84	18	20
242	-145.7750	65.3295	13	9	2	13	3.9	1.3	2	85	-500	-0.2	38	11	72	-1	24	13	-1	-5	-5	-5	2.83	360	-10	105	22	24
246	-145.8020	65.3302	15	8	1	14	4	1.3	3	100	-500	-0.2	47	16	82	-1	28	15	-1	-5	-5	-5	2.95	584	-10	134	25	27
247	-145.8100	65.3333	14	12	2	14	3.6	1.4	2	86	-500	-0.2	37	10	69	2	22	19	-1	-5	-5	-5	2.72	938	-10	93	23	23
248	-145.8200	65.3342	13	8	1	11	3.1	1.3	1	84	-500	-0.2	35	13	59	2	18	8	-1	-5	-5	-5	2.80	202	-10	100	21	27
249	-145.8300	65.3340	15	9	2	14	4.4	1.4	2	100	570	-0.2	49	19	82	4	35	18	-1	-5	-5	-5	3.12	884	-10	118	32	30
252	-145.8440	65.3402	14	7	2	15	4.3	1	3	110	-500	-0.2	39	12	84	2	29	17	-1	-5	-5	-5	3.05	613	-10	137	23	27
256	-145.8080	65.3233	15	15	3	17	4.5	1.8	2	110	690	-0.2	34	14	61	10	19	9	-1	-5	14	-5	2.47	401	-10	101	22	22
258	-145.8150	65.3157	14	5	-1	17	3	0.7	8	120	-500	-0.2	46	33	137	8	45	96	1.8	-5	20	-5	5.35	11596	-10	321	28	38
261	-145.7490	65.3045	14	9	1	14	4.1	1.4	2	98	-500	-0.2	42	16	78	6	22	14	-1	-5	17	-5	3.42	804	-10	154	23	29
262	-145.7580	65.3032	15	9	2	13	3.8	1.5	2	85	-500	-0.2	39	12	66	7	19	9	-1	-5	21	-5	2.59	244	-10	125	21	28
265	-145.7870	65.3008	14	11	2	13	4	1.7	1	120	-500	-0.2	39	14	64	4	20	9	1.1	-5	22	-5	2.52	270	-10	108	20	23

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
200	-145.4790	65.4585	-20	-20	32	1.47	.57	.27	-2	.01	.07	17	1	23	-100	9	.03	-1
201	-145.4700	65.4600	-20	-20	30	1.54	.58	.24	-2	.01	.08	17	1	20	-100	9	.03	-1
203	-145.4620	65.4624	-20	-20	31	1.39	.55	.33	-2	.01	.07	18	2	32	-100	7	.04	-1
206	-145.4570	65.4662	-20	-20	31	1.70	.60	.28	-2	.01	.09	19	2	23	-100	10	.03	-1
207	-145.4520	65.4746	-20	-20	28	1.95	.68	.24	3	.01	.10	18	2	20	-100	9	.05	-1
208	-145.4540	65.4789	-20	-20	40	1.46	.56	.18	4	-.01	.05	19	1	19	-100	9	.04	-1
211	-145.7350	65.3755	-20	-20	24	1.28	.49	.31	-2	.02	.06	14	1	25	-100	7	.06	-1
212	-145.7270	65.3727	-20	-20	23	1.27	.49	.30	-2	.01	.06	15	2	24	-100	7	.04	-1
213	-145.7170	65.3713	-20	-20	22	1.27	.51	.31	-2	.01	.06	14	2	24	-100	7	.05	-1
214	-145.7090	65.3690	-20	-20	24	1.33	.52	.30	-2	.01	.06	14	2	24	-100	7	.05	-1
216	-145.7030	65.3661	-20	-20	24	1.38	.52	.31	-2	.01	.06	15	2	25	-100	7	.05	-1
217	-145.6970	65.3630	-20	-20	23	1.22	.49	.31	-2	.01	.05	14	2	24	-100	6	.05	-1
218	-145.6890	65.3603	-20	-20	27	1.38	.53	.33	-2	.01	.06	16	2	25	-100	8	.05	-1
219	-145.6790	65.3581	-20	-20	20	1.05	.41	.22	-2	-.01	.05	12	1	18	-100	5	.04	-1
221	-145.6690	65.3577	-20	-20	20	1.12	.45	.19	-2	-.01	.04	15	1	17	-100	5	.03	-1
222	-145.6590	65.3566	-20	-20	49	1.55	.57	.42	2	-.01	.10	27	2	25	-100	13	.01	-1
223	-145.6470	65.3560	-20	-20	27	1.30	.47	.32	3	.02	.05	15	2	25	-100	7	.05	-1
225	-145.7340	65.3545	-20	-20	34	1.46	.49	.31	-2	.01	.06	18	2	28	-100	8	.03	-1
226	-145.7250	65.3554	-20	-20	30	1.23	.45	.24	2	.01	.05	15	1	22	-100	6	.03	-1
227	-145.7150	65.3551	-20	-20	33	1.19	.45	.31	-2	.01	.06	15	2	29	-100	6	.03	-1
228	-145.7050	65.3539	-20	-20	36	1.28	.49	.32	-2	.01	.07	17	2	29	-100	9	.03	-1
231	-145.7540	65.3491	-20	-20	25	1.19	.43	.26	3	.01	.05	15	1	23	-100	6	.05	-1
232	-145.7650	65.3490	-20	-20	31	1.46	.46	.29	-2	.01	.06	22	1	29	-100	9	.03	-1
233	-145.7740	65.3503	-20	-20	32	1.42	.47	.26	-2	.01	.06	23	1	27	-100	6	.03	-1
235	-145.7830	65.3522	-20	-20	33	1.57	.46	.29	-2	.01	.07	26	1	29	-100	9	.03	-1
236	-145.7920	65.3539	-20	-20	34	1.82	.51	.27	-2	.02	.07	26	1	27	-100	9	.02	-1
237	-145.7990	65.3569	-20	-20	36	1.86	.53	.27	-2	.02	.08	29	1	28	-100	9	.02	-1
238	-145.8070	65.3602	-20	-20	40	2.03	.58	.28	-2	.02	.10	30	1	30	-100	10	.02	-1
240	-145.7550	65.3309	-20	-20	31	1.25	.51	.34	-2	.01	.06	19	1	39	-100	9	.04	-1
241	-145.7630	65.3303	-20	-20	27	1.13	.43	.28	-2	.01	.06	15	1	28	-100	7	.04	-1
242	-145.7750	65.3295	-20	-20	30	1.37	.55	.30	2	.01	.06	21	2	34	-100	9	.04	-1
246	-145.8020	65.3302	-20	-20	32	1.58	.60	.34	-2	.02	.08	25	2	41	-100	9	.04	-1
247	-145.8100	65.3333	-20	-20	29	1.32	.54	.32	-2	.01	.07	20	1	33	-100	7	.04	-1
248	-145.8200	65.3342	-20	-20	27	1.32	.45	.21	5	.01	.07	16	2	20	-100	7	.04	-1
249	-145.8300	65.3340	-20	-20	33	1.57	.74	.42	-2	.01	.13	26	2	49	-100	10	.05	-1
252	-145.8440	65.3402	-20	-20	35	1.73	.55	.28	-2	.01	.08	30	1	32	-100	10	.03	-1
256	-145.8080	65.3233	-20	-20	48	1.32	.48	.35	-2	.01	.07	20	1	32	-100	10	.03	-1
258	-145.8150	65.3157	-20	-20	48	2.20	.52	.65	-2	.02	.13	26	2	63	-100	15	.02	-1
261	-145.7490	65.3046	-20	-20	31	1.64	.52	.52	-2	.02	.08	20	2	51	-100	9	.04	-1
262	-145.7580	65.3032	-20	-20	30	1.48	.50	.37	3	.02	.06	17	1	34	-100	7	.05	-1
265	-145.7670	65.3006	-20	-20	31	1.31	.46	.32	5	.02	.07	17	1	33	-100	7	.04	-1

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
267	-145.6330	65.2878	14	11	2	14	4.2	1.3	2	110	-500	-0.2	34	15	85	12	22	16	-1	-5	18	-5	2.97	1079	-10	147	22	25
268	-145.6390	65.2914	15	13	1	14	3.9	1.4	2	100	-500	-0.2	35	17	72	7	21	13	-1	-5	16	-5	2.69	814	-10	127	20	23
269	-145.6450	65.2940	15	12	2	15	3.9	1.6	3	98	-500	-0.2	35	14	73	3	19	12	-1	-5	20	-5	2.57	802	-10	125	19	21
270	-145.6520	65.2971	14	10	1	14	4	1.5	3	96	880	-0.2	35	18	78	3	21	15	-1	-5	12	-5	2.71	1092	-10	138	20	23
272	-145.6560	65.3008	14	9	1	14	4.3	1.3	3	120	-500	-0.2	35	17	79	4	21	15	-1	-5	19	-5	2.92	1167	-10	151	21	24
273	-145.6590	65.3052	14	11	2	14	4.2	1.5	2	120	-500	-0.2	33	18	72	4	20	13	-1	-5	14	-5	2.74	622	-10	134	21	25
274	-145.6610	65.3089	13	9	1	13	3.9	1.4	2	110	-500	-0.2	32	15	72	3	20	13	-1	-5	8	-5	2.74	767	-10	143	20	24
275	-145.6620	65.3131	13	13	2	14	4	1.6	1	100	-500	-0.2	30	14	56	-1	15	9	-1	-5	15	-5	2.12	370	-10	101	16	18
277	-145.6620	65.3175	15	14	1	16	4.9	1.6	2	89	690	-0.2	36	16	65	4	20	10	-1	-5	11	-5	2.53	346	-10	127	22	26
278	-145.6630	65.3215	14	11	2	14	4.7	1.4	3	100	-500	-0.2	39	21	76	11	25	16	1	-5	14	-5	2.81	1045	-10	161	25	30
279	-145.6620	65.3255	15	12	1	14	4.5	1.6	-1	88	510	-0.2	34	13	64	3	19	12	-1	-5	-5	-5	2.15	494	-10	138	20	24
280	-145.6610	65.3304	14	16	2	16	5	1.4	2	97	690	-0.2	36	17	76	10	22	17	-1	-5	-5	-5	2.90	995	-10	165	22	29
282	-145.6570	65.3344	13	11	2	13	4	1.5	1	100	-500	-0.2	34	16	60	6	19	10	-1	-5	-5	-5	2.36	370	-10	121	21	26
283	-145.6530	65.3390	14	12	2	14	3.4	1.5	1	89	720	-0.2	36	13	63	5	21	12	-1	-5	-5	-5	2.57	403	-10	122	24	26
284	-145.6490	65.3428	14	8	1	14	2.9	1.2	4	99	-500	-0.2	33	16	81	8	28	22	1.2	-5	8	-5	5.27	1622	-10	160	27	35
291	-145.5610	65.2829	14	9	2	13	3.2	1.6	2	94	-500	-0.2	30	9	65	5	20	12	-1	-5	-5	-5	2.52	437	-10	79	19	19
292	-145.5600	65.2874	14	9	2	14	3.8	1.4	2	110	-500	-0.2	34	11	76	13	26	14	-1	-5	8	-5	2.87	490	-10	101	23	24
293	-145.5610	65.2921	15	8	2	14	3.8	1.5	2	94	650	-0.2	32	12	68	6	22	12	-1	-5	-5	-5	2.67	441	-10	89	20	20
297	-145.5550	65.3042	13	9	2	12	3.4	1.5	1	87	-500	-0.2	31	12	68	7	22	13	-1	-5	-5	-5	2.65	535	-10	85	19	20
298	-145.5570	65.3084	15	17	2	16	4.5	1.6	-1	77	900	-0.2	32	9	57	4	18	10	-1	-5	7	-5	2.24	314	-10	73	17	18
299	-145.5580	65.3125	12	11	1	13	3.5	1.3	1	78	530	-0.2	27	10	60	8	20	11	-1	-5	-5	-5	2.50	399	-10	70	17	16
301	-145.5552	65.3185	13	12	2	14	3.9	1.4	1	94	-500	-0.2	31	11	61	-1	22	11	-1	-5	5	-5	2.49	387	-10	78	20	19
302	-145.5530	65.3201	14	10	2	13	3.6	1.3	2	83	-500	-0.2	29	10	64	-1	22	11	-1	-5	-5	-5	2.72	420	-10	86	19	19
303	-145.5470	65.3240	13	10	1	13	3.6	1.3	2	81	-500	-0.2	24	10	64	-1	21	11	1	-5	-5	-5	2.58	395	-10	85	19	18
304	-145.5530	65.3291	13	15	2	14	4.2	1.2	-1	71	510	-0.2	30	11	58	-1	20	11	-1	-5	-5	-5	2.47	370	-10	76	17	19
306	-145.5590	65.3323	14	12	2	13	3.9	1.3	1	84	-500	-0.2	26	10	60	-1	19	11	-1	-5	-5	-5	2.52	346	-10	75	17	17
307	-145.5610	65.3362	15	11	2	16	4.7	1.2	2	110	-500	-0.2	35	12	65	-1	22	13	-1	-5	9	-5	3.14	418	-10	82	18	19
309	-145.5620	65.3401	14	9	2	13	3.5	1.3	1	83	-500	-0.2	31	11	63	-1	21	11	-1	-5	7	6	2.53	313	-10	94	20	21
310	-145.5690	65.3427	14	12	2	15	4.4	1.3	1	110	-500	-0.2	32	11	63	-1	21	12	-1	-5	-5	-5	2.71	442	-10	96	19	20
311	-145.5760	65.3457	15	10	2	14	4.1	1.3	2	91	-500	-0.2	33	11	66	-1	23	12	-1	-5	-5	-5	2.85	458	-10	96	21	22
312	-145.5830	65.3488	14	8	2	13	3.7	1.1	-1	95	-500	-0.2	35	15	68	-1	25	16	-1	-5	-5	-5	3.28	702	-10	90	21	23
314	-145.5900	65.3500	14	7	2	14	3.3	1.3	2	100	-500	-0.2	29	11	64	-1	20	12	-1	-5	8	-5	2.76	438	-10	114	22	25
315	-145.6000	65.3504	14	8	2	13	3.5	1.3	2	81	-500	-0.2	30	13	62	-1	19	10	-1	-5	-5	-5	2.64	388	-10	110	20	23
316	-145.6100	65.3521	16	8	2	16	4.3	1.3	2	120	-500	-0.2	36	15	74	2	25	12	-1	-5	-5	-5	2.94	268	-10	132	24	26
318	-145.5870	65.3510	14	8	2	13	3.5	1.1	2	72	-500	-0.2	34	13	64	-1	23	11	-1	-5	-5	-5	2.60	380	-10	80	21	22
319	-145.5880	65.3561	14	10	2	13	3.4	1.3	1	95	-500	-0.2	27	14	55	6	18	7	-1	-5	16	-5	2.56	157	-10	68	21	24
320	-145.5880	65.3603	13	8	2	14	4.5	0.84	3	93	-500	-0.2	33	11	64	1	25	13	-1	-5	-5	-5	3.02	587	-10	85	19	18
323	-145.5610	65.3109	15	11	2	18	4.6	1.5	1	96	-500	-0.2	31	13	71	-1	19	12	-1	-5	-5	-5	3.07	570	-10	94	16	18
325	-145.5610	65.3126	15	15	2	20	5.2	1.7	2	120	-500	-0.2	30	16	69	-1	19	12	-1	-5	-5	-5	3.10	647	-10	89	16	17
326	-145.5910	65.3130	15	10	2	18	5.1	1.5	2	130	570	-0.2	37	21	75	3	22	14	-1	-5	8	-5	3.73	884	-10	101	16	19
328	-145.6010	65.3134	16	9	2	19	4.7	1.4	3	110	-500	-0.2	39	16	72	1	22	11	-1	-5	-5	-5	3.26	512	-10	112	20	21

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sr-2		W-2		Li-2		Al		Mg		Ca		Ga		Na-2		K		Li		Nb		Sr		Ta-2		Y		Ti		Zr-2						
			ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	%	ICP	ppm	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm			
267	-145.6330	65.2878	-20	31	1.59	50	49	-2	02	09	20	1	40	-100	10	03	-1																						
268	-145.6390	65.2914	-20	29	1.48	47	44	-2	02	09	18	2	36	-100	9	04	-1																						
269	-145.6450	65.2940	-20	30	1.43	46	41	-2	02	09	18	1	33	-100	8	04	-1																						
270	-145.6520	65.2971	-20	31	1.50	48	43	-2	02	10	19	1	37	-100	9	04	-1																						
272	-145.6560	65.3008	-20	30	1.58	49	44	-2	02	10	19	2	39	-100	9	04	-1																						
273	-145.6590	65.3052	-20	30	1.56	48	39	-2	01	10	18	2	35	-100	8	04	-1																						
274	-145.6610	65.3089	-20	31	1.53	47	37	-2	01	09	17	1	36	-100	8	04	-1																						
275	-145.6620	65.3131	-20	27	1.24	41	29	-2	01	07	14	1	25	-100	6	04	-1																						
277	-145.6620	65.3175	-20	32	1.54	48	33	3	01	10	16	2	33	-100	8	05	-1																						
278	-145.6630	65.3215	-20	34	1.59	47	39	-2	02	10	18	2	44	-100	9	04	-1																						
279	-145.6620	65.3255	-20	28	1.39	43	31	-2	02	09	14	2	29	-100	7	05	-1																						
280	-145.6610	65.3304	-20	36	1.57	45	38	-2	01	11	16	2	38	-100	10	05	-1																						
282	-145.6570	65.3344	-20	28	1.46	46	32	-2	02	10	15	2	30	-100	7	05	-1																						
283	-145.6530	65.3380	-20	33	1.52	52	36	-2	01	09	17	2	31	-100	8	05	-1																						
284	-145.6490	65.3428	-20	43	1.79	57	53	-2	01	15	20	2	49	-100	13	04	-1																						
281	-145.5810	65.2829	-20	32	1.27	50	30	-2	01	07	17	1	29	-100	7	04	-1																						
282	-145.5800	65.2874	-20	32	1.43	54	34	-2	01	06	18	2	36	-100	8	03	-1																						
283	-145.5610	65.2871	-20	30	1.34	53	30	-2	01	06	18	2	29	-100	7	03	-1																						
287	-145.5550	65.3042	-20	28	1.27	51	31	-2	01	06	17	1	30	-100	7	03	-1																						
288	-145.5570	65.3094	-20	32	1.13	46	33	-2	01	05	14	2	30	-100	7	04	-1																						
289	-145.5580	65.3125	-20	29	1.16	47	28	-2	-01	05	16	1	31	-100	6	03	-1																						
301	-145.5562	65.3185	-20	33	1.22	47	28	-2	-01	06	16	1	34	-100	7	03	-1																						
302	-145.5530	65.3201	-20	31	1.31	50	31	-2	01	06	17	1	34	-100	7	03	-1																						
303	-145.5470	65.3240	-20	31	1.29	50	27	-2	01	06	17	1	28	-100	7	03	-1																						
304	-145.5530	65.3281	-20	33	1.19	46	29	-2	01	05	15	1	27	-100	7	03	-1																						
306	-145.5590	65.3323	-20	33	1.20	46	24	-2	-01	05	16	-1	24	-100	6	03	-1																						
307	-145.5610	65.3362	-20	36	1.33	54	37	-2	-01	06	19	1	55	-100	8	02	-1																						
309	-145.5620	65.3401	-20	28	1.33	53	28	2	01	06	17	1	26	-100	7	03	-1																						
310	-145.5680	65.3427	-20	34	1.31	50	28	-2	01	05	17	1	26	-100	6	03	-1																						
311	-145.5700	65.3467	-20	33	1.41	54	34	-2	01	06	18	1	32	-100	8	03	-1																						
312	-145.5630	65.3498	-20	32	1.44	58	25	-2	01	06	19	1	25	-100	9	03	-1																						
314	-145.5600	65.3500	-20	30	1.46	50	26	-2	-01	06	17	1	26	-100	7	03	-1																						
315	-145.6000	65.3504	-20	31	1.43	50	28	2	01	06	17	1	27	-100	7	03	-1																						
316	-145.6100	65.3521	-20	34	1.66	58	36	4	01	06	22	2	37	-100	9	03	-1																						
318	-145.5970	65.3519	-20	31	1.42	52	30	2	01	07	18	1	26	-100	6	03	-1																						
319	-145.5980	65.3561	-20	34	1.29	46	16	5	-01	04	15	1	18	-100	6	03	-1																						
320	-145.5880	65.3603	-20	31	1.30	50	28	-2	-01	06	18	1	27	-100	9	02	-1																						
323	-145.5610	65.3109	-20	37	1.32	46	35	-2	01	06	21	2	31	-100	8	03	-1																						
325	-145.5810	65.3128	-20	41	1.30	45	35	-2	01	07	21	2	31	-100	8	03	-1																						
326	-145.5910	65.3130	-20	37	1.41	47	39	-2	01	07	22	2	36	-100	8	03	-1																						
328	-145.6010	65.3134	-20	36	1.66	50	46	-2	01	07	25	2	39	-100	8	02	-1																						

ICP=Inductively Coupled Plasma spectrographic analysis; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
329	-145.6105	65.3159	-5	-100	-5	-200	-2	-20	13	-10	7	0.8	4.1	-10	-20	910	100	-200	-2	3	61	120	8.4	-2	-1	5	-0.5
331	-145.5620	65.3254	-5	-100	-5	-200	-2	35	19	-10	9	0.9	4.4	-10	-20	850	90	-200	4	3	57	110	8	-2	-1	-5	0.5
332	-145.5600	65.3251	-5	-100	-5	-200	-2	55	20	-10	9	0.9	4.6	-10	-20	980	91	-200	-2	4	60	110	8.3	-2	-1	-5	0.6
333	-145.5710	65.3254	-5	-100	-5	-200	-2	-20	25	-10	9	0.9	4.2	-10	-20	880	110	-200	-2	4	58	130	8.3	3	1	-5	0.6
334	-145.5810	65.3268	-5	-100	-5	-200	-2	58	18	-10	8	0.8	4.2	-10	-20	860	89	-200	2	3	48	94	7.3	-2	-1	-5	-0.5
336	-145.5880	65.3293	-5	-100	-5	-200	-2	30	22	-10	10	1.1	4.4	-10	-20	940	120	-200	2	3	58	130	8.2	-2	1	-5	-0.5
337	-145.5960	65.3319	-5	-100	-5	-200	-2	21	14	-10	11	1	3.5	-10	-20	910	110	-200	-2	4	41	87	5.3	-2	-1	-5	-0.5
339	-145.5550	65.3390	-5	-100	8	-200	-2	35	13	-10	12	2.2	3.6	-10	-20	890	89	-200	-2	3	60	120	8.2	-2	1	-5	0.5
340	-145.5480	65.3417	-5	-100	-5	-200	-2	-20	16	-10	11	1.8	3.6	-10	-20	850	120	-200	3	3	81	170	11	3	1	6	0.7
341	-145.5420	65.3454	-5	-100	-5	-200	-2	-20	14	-10	10	1.7	3.2	-10	-20	870	92	-200	-2	3	69	130	9.4	-2	1	-5	0.9
342	-145.5330	65.3473	-5	-100	-5	-200	-2	-20	18	-10	22	3.3	4.4	-10	-20	730	98	-200	3	3	62	110	8.6	-2	1	-5	0.6
343	-145.5380	65.3241	-5	-100	-5	-200	-2	45	18	-10	14	1.9	3.6	-10	-20	780	97	-200	-2	4	50	100	6.8	-2	-1	-5	0.6
345	-145.5270	65.3251	-5	-100	-5	-200	-2	-20	14	-10	9	1.6	3.5	-10	-20	1000	95	-200	-2	4	47	95	6.6	-2	-1	-5	-0.5
346	-145.5210	65.3288	-5	-100	-5	-200	-2	-20	18	-10	11	1.7	3.8	-10	-20	920	92	-200	3	3	50	94	7.1	-2	-1	-5	0.6
347	-145.5140	65.3327	-5	-100	-5	-200	-2	-20	13	-10	8	1.4	3.4	-10	-20	920	100	-200	-2	3	50	98	6.8	-2	-1	-5	0.6
349	-145.5080	65.3370	8	-100	-5	-200	-2	33	14	-10	7	1.3	3.5	-10	-20	890	95	-200	-2	3	47	86	6.4	-2	1	-5	-0.5
350	-145.5020	65.3402	7	-100	-5	-200	-2	-20	-10	-10	5	1.2	3.2	-10	-20	790	98	-200	-2	3	45	79	6.1	-2	-1	-5	-0.5
351	-145.4920	65.3425	-5	-100	-5	-200	-2	39	19	-10	18	3.4	4.6	-10	-20	840	100	-200	3	4	58	110	8	2	-1	-5	-0.5
352	-145.4850	65.3458	-5	-100	-5	-200	-2	-20	18	-10	18	3.6	4.3	-10	-20	700	83	-200	-2	4	63	130	8.8	-2	1	-5	0.6
353	-145.4840	65.3489	-5	-100	-5	-200	-2	43	16	-10	18	5.1	3.6	-10	-20	540	71	-200	-2	3	61	130	8.8	-2	-1	-5	0.7
355	-145.5280	65.3225	-5	-100	-5	-200	-2	47	19	-10	9	1	4.2	-10	-20	1000	74	-200	-2	4	51	98	7.2	-2	-1	-5	0.6
356	-145.5190	65.3194	-5	-100	-5	-200	-2	-20	16	-10	6	1	3.3	-10	-20	910	100	-200	-2	2	43	67	6.1	-2	-1	-5	-0.5
357	-145.5110	65.3188	-5	-100	-5	-200	-2	-20	-10	-10	5	0.8	3.3	-10	-20	890	93	-200	-2	2	45	90	6.4	2	-1	-5	0.6
359	-145.4140	65.2758	-5	-100	-5	-200	-2	-20	15	-10	7	0.9	3.5	-10	-20	850	94	-200	-2	3	48	81	6.7	-2	-1	-5	0.6
362	-145.4010	65.2873	-5	-100	-5	-200	-2	-20	21	-10	9	1.1	4.1	-10	-20	820	93	-200	2	3	50	99	7.1	-2	-1	-5	0.6
369	-145.4040	65.2957	-5	-100	-5	-200	-2	-20	21	-10	7	1.2	3.8	-10	-20	580	85	-200	-2	2	43	89	6.4	-2	-1	-5	-0.5
370	-145.4180	65.3085	-5	-100	-5	-200	-2	31	20	-10	9	1.3	3.7	-10	-20	580	82	-200	3	2	46	91	6.7	-2	1	-5	-0.5
374	-145.4283	65.4117	9	-100	-5	-200	-2	-20	20	-10	9	1.3	3.6	-10	-20	540	85	-200	-2	2	42	84	6.4	-2	1	-5	-0.5
375	-145.4286	65.4186	-5	-100	-5	-200	-2	52	16	-10	12	1.7	4.4	-10	-20	780	100	-200	3	2	42	88	6.2	-2	1	-5	-0.5
377	-145.4230	65.3256	-5	-100	-5	-200	-2	42	22	-10	12	1.6	4.6	-10	-20	820	100	-200	-2	3	44	93	6.5	2	-1	-5	-0.5
379	-145.4210	65.3297	8	-100	-5	-200	-2	30	17	-10	11	1.7	3.8	-10	-20	780	100	-200	-2	3	40	80	5.9	-2	1	-5	-0.5
380	-145.4180	65.3344	7	-100	-5	-200	-2	37	18	-10	11	1.6	3.8	-10	-20	590	75	-200	-2	3	48	100	6.6	-2	-1	-5	-0.5
381	-145.4230	65.3396	-5	-100	8	-200	-2	40	14	-10	13	1.8	3.9	-10	-20	600	91	-200	-2	2	40	77	5.8	-2	1	-5	-0.5
383	-145.4240	65.3440	-5	-100	-5	-200	-2	52	25	-10	11	1.2	4.5	-10	-20	680	86	-200	-2	3	43	78	6.9	-2	-1	-5	0.6
384	-145.4190	65.3474	9	-100	-5	-200	-2	50	24	-10	12	1.3	5	-10	-20	710	100	-200	-2	3	47	100	7.3	-2	-1	-5	-0.5
386	-145.4150	65.3509	7	-100	-5	-200	-2	82	29	-10	6	0.8	5.1	-10	-20	620	110	-200	-2	2	40	76	6.7	-2	1	-5	-0.5
387	-145.4150	65.3555	-5	-100	-5	-200	-2	-20	35	-10	6	0.8	5.1	-10	-20	580	130	-200	2	3	42	83	7	-2	-1	-5	0.6
388	-145.4150	65.3592	-5	-100	-5	-200	-2	64	28	-10	7	0.9	5.3	-10	-20	600	110	-200	-2	3	40	81	6.6	-2	-1	-5	0.5
389	-145.4110	65.3632	-5	-100	-5	-200	-2	-20	29	-10	4	0.8	5.5	-10	-20	470	130	-200	-2	1	33	57	6.2	-2	-1	-5	-0.5
391	-145.4040	65.3658	-5	-100	-5	-200	-2	68	27	-10	5	0.8	6	-10	-20	470	120	-200	-2	2	36	76	6.8	-2	1	-5	0.5
392	-145.4010	65.3707	8	-100	-5	-200	-2	47	21	-10	10	1.3	4	-10	-20	1000	130	-200	-2	3	47	91	7	-2	-1	-5	-0.5

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
329	-145.6105	65.3159	14	11	2	18	4.5	1.5	2	110	-500	-0.2	32	19	74	-1	20	13	-1	-5	10	-5	3.16	607	-10	91	17	18
331	-145.5520	65.3254	16	12	2	16	4.9	1.5	4	110	530	-0.2	34	18	81	-1	29	16	-1	-5	-5	-5	3.03	625	-10	104	25	24
332	-145.5600	65.3251	16	10	2	16	5.3	1.5	4	96	580	-0.2	37	15	83	-1	29	16	-1	-5	-5	-5	3.13	600	-10	105	26	25
333	-145.5710	65.3254	17	10	2	16	5.8	1.3	4	120	-500	-0.2	43	20	87	-1	29	18	1	-5	-5	-5	3.07	923	-10	128	25	27
334	-145.5810	65.3286	15	7	1	15	5.4	1.2	4	110	530	-0.2	41	20	88	-1	28	16	-1	-5	8	5	3.12	762	-10	118	24	26
336	-145.5880	65.3293	16	9	1	16	8.4	1.2	5	110	-500	-0.2	42	22	93	-1	33	21	-1	-5	13	-5	3.18	1184	-10	132	25	26
337	-145.5980	65.3319	14	9	1	12	3.3	1.3	1	110	-500	-0.2	26	21	61	-1	20	8	-1	-5	-5	-5	2.55	173	-10	119	27	34
339	-145.5550	65.3390	13	11	2	15	3.9	1.2	1	110	-500	-0.2	26	12	64	-1	20	12	-1	-5	-5	-5	2.70	364	-10	76	17	17
340	-145.5480	65.3417	15	21	3	18	4.9	1.3	-1	88	680	-0.2	22	7	49	2	15	8	-1	-5	-5	-5	2.13	268	-10	86	14	14
341	-145.5420	65.3454	13	15	2	15	4.2	1.2	1	92	-500	-0.2	24	12	53	-1	16	9	-1	-5	10	7	2.26	248	-10	82	14	13
342	-145.5330	65.3473	13	11	2	15	3.3	1.1	2	88	-500	-0.2	27	13	63	-1	19	14	-1	-5	16	-5	3.44	361	-10	70	16	17
343	-145.5380	65.3241	13	10	2	12	3.5	1.4	1	110	620	-0.2	32	12	67	-1	24	13	-1	-5	-5	-5	2.87	400	-10	101	22	23
345	-145.5270	65.3251	16	8	1	13	3.3	1.5	2	110	550	-0.2	35	14	68	-1	23	11	-1	-5	13	9	2.61	236	-10	122	26	29
346	-145.5210	65.3288	16	7	2	13	3.3	1.6	-1	95	-500	-0.2	35	11	68	-1	24	12	-1	-5	-5	-5	2.76	367	-10	110	23	25
347	-145.5140	65.3327	15	7	2	13	3.2	1.4	-1	100	500	-0.2	31	13	64	-1	20	10	-1	-5	-5	-5	2.58	246	-10	108	22	26
349	-145.5080	65.3370	14	6	2	11	3	1.5	-1	87	-500	-0.2	29	13	56	-1	16	8	-1	-5	-5	-5	2.25	181	-10	98	19	22
350	-145.5020	65.3402	13	7	2	11	3	1.5	-1	70	-500	-0.2	29	11	51	1	15	8	-1	-5	-5	-5	1.94	138	-10	83	18	20
351	-145.4920	65.3425	16	8	2	16	4.1	1.3	2	110	-500	-0.2	43	11	81	3	28	14	-1	-5	6	5	3.56	483	-10	98	22	24
352	-145.4850	65.3456	16	12	2	17	4.6	1.2	-1	98	-500	-0.2	37	9	69	-1	25	14	-1	-5	10	-5	3.16	483	-10	70	17	18
353	-145.4840	65.3489	13	14	2	14	3.9	0.86	1	94	740	-0.2	24	8	57	-1	19	10	-1	-5	9	-5	2.65	232	-10	83	15	15
355	-145.5280	65.3225	15	14	2	15	4.2	1.3	3	95	640	-0.2	34	17	73	4	21	13	-1	-5	9	-5	2.79	285	-10	142	25	33
356	-145.5190	65.3194	14	10	2	12	3.2	1.6	1	99	-500	-0.2	36	12	59	-1	17	9	-1	-5	10	-5	2.26	218	-10	114	21	25
357	-145.5110	65.3169	13	11	2	13	3.5	1.7	-1	92	700	-0.2	27	12	53	-1	17	8	-1	-5	13	-5	1.96	165	-10	93	19	21
359	-145.4140	65.2758	14	11	2	12	3.4	1.4	1	93	-500	-0.2	31	8	61	5	21	12	-1	-5	17	-5	2.53	464	-10	89	18	19
362	-145.4010	65.2873	15	9	2	13	3.4	1.3	2	91	-500	-0.2	34	12	72	5	22	13	-1	-5	10	-5	2.82	536	-10	84	21	22
369	-145.4040	65.2957	12	10	2	13	3.3	1.2	1	81	610	-0.2	34	11	63	-1	21	13	-1	-5	12	-5	2.68	507	-10	88	17	18
370	-145.4180	65.3085	14	9	2	12	3.3	1.2	2	73	620	-0.2	33	7	61	2	21	12	-1	-5	11	-5	2.64	449	-10	74	21	24
374	-145.4283	65.4117	13	8	2	10	2.9	1.1	2	61	-500	-0.2	34	7	56	-1	20	12	-1	-5	14	-5	2.50	388	-10	80	20	22
375	-145.4288	65.4166	15	7	2	11	3.1	1.3	-1	79	640	-0.2	44	10	74	7	26	13	-1	-5	15	-5	3.22	444	-10	117	28	35
377	-145.4230	65.3258	17	7	2	12	3.6	1.2	3	94	-500	-0.2	42	9	77	1	28	15	-1	-5	19	-5	3.26	505	-10	108	29	35
379	-145.4210	65.3297	14	7	1	10	3	1.2	1	85	-500	-0.2	41	9	65	8	21	12	-1	-5	16	-5	2.88	318	-10	100	24	31
380	-145.4180	65.3344	14	10	2	11	3.2	1.2	-1	79	-500	-0.2	35	13	62	4	23	12	-1	-5	8	-5	2.67	365	-10	76	23	27
381	-145.4230	65.3398	14	7	1	10	2.7	1.3	2	63	-500	-0.2	41	7	59	-1	22	11	-1	-5	13	-5	2.77	264	-10	89	22	29
383	-145.4240	65.3440	17	7	1	11	3.7	1	3	93	-500	-0.2	45	12	94	4	34	19	-1	-5	21	-5	3.63	1154	-10	115	33	40
384	-145.4180	65.3474	17	7	2	12	3.6	1.1	3	94	-500	-0.2	44	10	86	3	32	17	-1	-5	-5	-5	3.46	699	-10	99	31	37
386	-145.4150	65.3509	21	8	1	10	3.4	1.1	3	88	980	-0.2	56	8	85	4	35	19	-1	-5	20	-5	3.57	714	-10	93	39	46
387	-145.4150	65.3555	21	8	1	10	3.7	1	5	76	-500	-0.2	72	11	107	10	43	25	1.1	-5	5	-5	4.20	1159	-10	127	46	62
388	-145.4150	65.3592	21	7	1	10	3.4	1.2	3	77	-500	-0.2	65	8	86	9	35	20	-1	-5	-5	-5	4.03	698	-10	100	44	57
389	-145.4110	65.3632	26	7	-1	7.8	2.4	1.3	3	50	-500	-0.2	91	9	78	2	42	23	-1	-5	-5	-5	4.52	471	-10	82	58	78
391	-145.4040	65.3659	26	8	1	8.6	2.7	1.4	2	57	-500	-0.2	71	6	76	-1	37	21	-1	-5	-5	-5	4.14	513	-10	74	46	66
392	-145.4010	65.3707	16	6	2	12	3	1.2	3	100	530	-0.2	49	18	89	4	30	16	-1	-5	10	-5	3.45	670	-10	151	34	43

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million. - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Tl*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
329	-145.6106	65.3159	-20	-20	41	1.35	.47	.32	-2	.01	.08	21	1	30	-100	8	.03	-1
331	-145.5520	65.3254	-20	-20	38	1.64	.60	.41	-2	.01	.10	26	2	39	-100	11	.04	-1
332	-145.5000	65.3251	-20	-20	38	1.71	.63	.43	-2	.01	.11	27	2	42	-100	12	.04	-1
333	-145.5710	65.3254	-20	-20	37	1.76	.58	.52	-2	.01	.11	26	2	46	-100	12	.04	-1
334	-145.5810	65.3266	-20	-20	35	1.75	.55	.42	-2	.01	.12	25	2	44	-100	11	.04	-1
336	-145.5880	65.3293	-20	-20	41	1.86	.57	.52	-2	.01	.12	26	2	56	-100	15	.04	-1
337	-145.5090	65.3319	-20	-20	24	1.77	.48	.18	5	.01	.09	16	1	18	-100	5	.03	-1
339	-145.5550	65.3360	-20	-20	37	1.25	.40	.25	2	.01	.05	16	1	27	-100	6	.02	-1
340	-145.5480	65.3417	-20	-20	43	1.07	.41	.16	3	-.01	.04	13	1	15	-100	5	.03	-1
341	-145.5420	65.3454	-20	-20	39	1.07	.43	.17	-2	-.01	.04	14	-1	20	-100	5	.03	-1
342	-145.5330	65.3473	-20	-20	37	1.07	.43	.19	-2	-.01	.04	14	-1	21	-100	6	.02	-1
343	-145.5360	65.3241	-20	-20	29	1.46	.54	.31	-2	.01	.07	18	2	34	-100	7	.03	-1
345	-145.5270	65.3251	-20	-20	30	1.57	.51	.29	4	.01	.08	18	2	35	-100	7	.03	-1
346	-145.5210	65.3266	-20	-20	29	1.54	.55	.35	-2	.01	.07	18	2	37	-100	7	.04	-1
347	-145.5140	65.3327	-20	-20	29	1.50	.52	.29	3	.02	.06	17	2	31	-100	6	.04	-1
349	-145.5080	65.3370	-20	-20	28	1.37	.46	.24	3	.01	.06	15	2	26	-100	5	.04	-1
350	-145.5020	65.3402	-20	-20	25	1.25	.43	.24	4	.01	.05	13	1	24	-100	5	.04	-1
351	-145.4920	65.3425	-20	-20	31	1.46	.56	.39	-2	.02	.07	19	2	36	-100	6	.04	-1
352	-145.4850	65.3458	-20	-20	33	1.17	.48	.26	-2	.01	.06	16	1	25	-100	6	.03	-1
353	-145.4840	65.3499	-20	-20	36	1.09	.44	.25	3	-.01	.05	14	1	23	-100	7	.03	-1
355	-145.5280	65.3225	-20	-20	29	1.75	.50	.34	4	.02	.11	19	2	28	-100	8	.04	-1
356	-145.5180	65.3184	-20	-20	24	1.47	.47	.31	2	.02	.09	15	2	25	-100	6	.05	-1
357	-145.5110	65.3168	-20	-20	25	1.28	.41	.27	3	.01	.07	15	-1	25	-100	5	.04	-1
359	-145.4140	65.2758	-20	-20	25	1.16	.40	.31	-2	.01	.06	14	1	26	-100	7	.03	-1
362	-145.4010	65.2873	-20	-20	28	1.30	.52	.37	-2	.01	.08	16	1	30	-100	8	.03	-1
369	-145.4040	65.2957	-20	-20	25	1.08	.46	.39	-2	.01	.07	14	-1	27	-100	8	.03	-1
370	-145.4180	65.3065	-20	-20	24	1.34	.55	.31	-2	.01	.06	16	-1	26	-100	6	.04	-1
374	-145.4283	65.4117	-20	-20	23	1.25	.54	.28	-2	-.01	.05	15	1	22	-100	5	.04	-1
375	-145.4288	65.4165	-20	-20	23	1.74	.65	.36	-2	.02	.08	19	1	34	-100	7	.04	-1
377	-145.4230	65.3256	-20	-20	25	1.75	.66	.38	-2	.02	.08	20	2	33	-100	8	.04	-1
379	-145.4210	65.3297	-20	-20	22	1.54	.59	.30	-2	.02	.06	16	1	25	-100	6	.05	-1
380	-145.4180	65.3344	-20	-20	25	1.34	.54	.27	-2	.01	.05	16	1	25	-100	6	.04	-1
381	-145.4230	65.3398	-20	-20	21	1.47	.58	.29	-2	.02	.06	14	1	23	-100	5	.05	-1
383	-145.4240	65.3440	-20	-20	23	1.88	.79	.41	-2	.01	.09	24	1	33	-100	9	.04	-1
384	-145.4180	65.3474	-20	-20	23	1.86	.74	.35	-2	.01	.09	23	1	27	-100	8	.03	-1
386	-145.4150	65.3509	-20	-20	20	2.04	.80	.43	-2	.01	.10	24	1	30	-100	8	.05	-1
387	-145.4150	65.3555	-20	-20	26	2.45	.86	.48	-2	.01	.13	28	2	37	-100	11	.06	-1
388	-145.4150	65.3582	-20	-20	20	2.28	1.01	.38	-2	.01	.12	25	1	25	-100	7	.06	-1
389	-145.4110	65.3632	-20	-20	13	2.55	1.27	.42	4	.01	.13	25	2	20	-100	7	.09	-1
391	-145.4040	65.3658	-20	-20	15	2.31	1.15	.37	3	-.01	.12	24	2	20	-100	7	.08	-1
392	-145.4010	65.3707	-20	-20	30	2.18	.70	.39	-2	.02	.17	22	2	32	-100	8	.06	-1

INAA-Instrumental Neutron Activation Analysis, ICP-Inductively Coupled Plasma spectrographic analysis, ppb-parts per billion, ppm-parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
395	-145.4110	65.3497	15	8	2	11	3	1	2	89	-500	-0.2	37	8	76	-1	27	14	-1	-5	-5	-5	3.17	906	-10	81	24	28
396	-145.3680	65.3507	14	10	1	11	2.9	1.1	2	81	-500	-0.2	38	10	71	-1	25	13	-1	-5	13	-5	2.89	520	-10	78	24	27
397	-145.3690	65.3523	14	7	2	10	2.8	0.94	3	72	630	-0.2	37	11	74	-1	26	15	-1	-5	14	-5	3.24	946	-10	91	25	30
398	-145.3800	65.3550	16	15	2	22	5.5	1.2	1	120	730	-0.2	40	14	65	-1	22	11	-1	-5	18	-5	2.91	291	-10	90	19	23
400	-145.3710	65.3573	15	7	1	10	2.5	0.92	3	84	580	-0.2	40	10	81	4	28	14	-1	-5	-5	-5	3.48	702	-10	112	32	41
401	-145.3620	65.3600	13	7	1	11	2.9	0.76	3	98	-500	-0.2	31	15	62	2	22	11	-1	-5	12	-5	2.90	518	-10	102	22	25
402	-145.4290	65.3117	14	11	2	17	4.1	1.5	2	110	-500	-0.2	33	19	64	-1	19	11	-1	-5	8	-5	3.07	640	-10	69	15	16
404	-145.4390	65.3116	14	12	2	18	3.8	1.6	2	110	550	-0.2	23	12	60	6	15	9	-1	-5	8	-5	2.70	253	-10	55	12	10
405	-145.4500	65.3118	13	12	2	16	3.7	1.4	2	120	710	-0.2	28	16	65	-1	17	11	-1	-5	-5	-5	2.63	830	-10	77	14	14
406	-145.4580	65.3099	13	8	2	15	3.4	1.2	6	97	-500	-0.2	34	17	73	-1	17	10	-1	-5	12	-5	2.78	594	-10	66	12	8
408	-145.4300	65.3201	15	8	1	12	3.9	1.3	2	89	640	-0.2	36	14	67	-1	22	11	-1	-5	5	-5	2.83	378	-10	117	25	28
409	-145.4370	65.3224	14	11	2	14	3.6	1.4	1	110	-500	-0.2	29	13	60	10	20	11	-1	-5	-5	-5	2.58	360	-10	99	22	22
410	-145.4470	65.3244	11	11	2	11	3.3	1.2	2	94	-500	-0.2	25	14	50	-1	17	8	-1	-5	12	-5	2.09	171	-10	101	20	19
412	-145.4520	65.3259	15	8	3	13	3.3	1.2	5	97	-500	-0.2	37	12	66	5	25	14	-1	-5	-5	-5	2.62	859	-10	117	27	27
413	-145.4600	65.3291	14	10	2	12	3.1	1.2	2	98	-500	-0.2	31	14	59	-1	23	13	-1	-5	5	-5	2.62	592	-10	112	27	28
416	-145.4290	65.3429	14	9	2	12	3.7	1.1	2	75	-500	-0.2	40	11	72	-1	27	14	-1	-5	9	-5	3.21	440	-10	72	25	25
417	-145.4380	65.3448	15	8	2	13	4.4	1.1	3	83	-500	-0.2	39	10	78	5	30	17	-1	-5	-5	-5	3.53	555	-10	82	30	32
418	-145.4460	65.3466	16	10	2	12	3.7	1	2	82	-500	-0.2	36	11	72	-1	27	14	-1	-5	-5	-5	3.25	563	-10	73	26	29
419	-145.4520	65.3494	14	9	2	8.5	2.3	1	2	58	-500	-0.2	33	9	57	-1	23	11	-1	-5	-5	-5	2.74	271	-10	63	27	31
421	-145.4150	65.3389	13	10	2	14	4.1	1.2	2	100	-500	-0.2	34	13	79	10	27	17	-1	-5	-5	-5	3.47	665	-10	98	20	20
422	-145.4040	65.3399	14	10	2	17	4.5	1.2	3	110	-500	-0.2	35	15	80	-1	30	17	1.1	-5	23	-5	3.52	1007	-10	91	20	18
423	-145.3940	65.3397	14	12	3	15	4	1.2	2	110	550	-0.2	26	11	70	-1	24	13	-1	-5	24	-5	2.91	597	-10	76	19	17
426	-145.3870	65.3382	14	8	2	18	4.5	0.82	3	98	-500	-0.2	40	17	83	-1	24	10	1	-5	20	-5	6.07	353	-10	82	25	25
429	-145.3810	65.3352	15	10	2	13	3.9	1.1	-1	100	-500	-0.2	32	15	64	-1	23	10	-1	-5	-5	-5	2.90	253	-10	76	24	21
430	-145.3690	65.3401	13	5	1	12	5.2	0.89	7	79	670	-0.2	58	15	54	7	25	21	1.3	-5	28	-5	3.90	1136	-10	106	22	22
431	-145.3800	65.3431	16	8	2	16	3.4	1.2	3	160	-500	-0.2	25	15	71	-1	20	15	-1	-5	12	6	3.18	482	-10	93	19	20
432	-145.3970	65.2876	12	10	2	14	3.6	1.5	2	91	-500	-0.2	31	13	66	-1	20	11	-1	-5	7	-5	2.62	518	-10	75	16	14
434	-145.3900	65.2927	14	9	1	15	3.5	1.6	3	110	-500	-0.2	34	14	80	3	21	12	1	-5	18	-5	2.80	462	-10	86	19	17
435	-145.3780	65.2941	11	8	2	12	3.2	1.6	2	78	590	-0.2	32	16	66	-1	20	11	-1	-5	-5	-5	2.57	434	-10	76	17	15
436	-145.3950	65.2944	11	10	2	13	3.1	1.7	3	77	-500	-0.2	30	18	78	-1	21	11	-1	-5	20	8	2.81	444	-10	78	19	15
437	-145.3650	65.2955	13	8	2	14	3.4	1.6	3	100	-500	-0.2	36	17	75	-1	24	13	-1	-5	5	6	2.90	516	-10	92	21	17
439	-145.3450	65.2940	14	12	2	15	3.7	1.9	1	96	-500	-0.2	26	15	70	-1	22	12	-1	-5	9	-5	3.13	539	-10	76	18	13
440	-145.3380	65.2915	13	11	2	13	3.5	1.7	3	88	-500	-0.2	30	17	77	-1	20	13	-1	-5	16	-5	3.00	771	-10	87	19	16
441	-145.3280	65.2896	10	16	3	12	3.5	1.6	2	68	-500	-0.2	25	12	56	-1	18	9	-1	-5	-5	-5	2.35	335	-10	61	17	12
442	-145.3150	65.2908	13	16	2	16	5.3	1.7	4	89	790	-0.2	42	18	75	5	26	13	-1	-5	7	-5	2.68	376	-10	100	29	26
444	-145.3050	65.2910	11	12	2	13	3.9	1.7	2	90	900	-0.2	31	14	71	-1	24	12	-1	-5	-5	-5	2.79	510	-10	85	23	16
445	-145.2950	65.2925	12	22	3	16	5.4	1.6	4	98	710	-0.2	35	21	78	1	31	14	-1	-5	-5	8	3.28	736	-10	94	31	21
446	-145.2850	65.2935	9.1	10	2	11	3.7	1.7	4	67	-500	-0.2	32	13	64	-1	20	11	-1	-5	-5	-5	2.58	521	-10	82	18	13
447	-145.2780	65.2955	13	12	2	15	4.5	1.4	5	100	-500	-0.2	40	18	67	3	26	14	-1	-5	-5	-5	3.01	980	-10	110	20	19
449	-145.2670	65.2964	14	12	2	17	6.1	1.4	5	110	550	-0.2	37	17	78	-1	25	11	-1	-5	-5	13	2.58	257	-10	103	21	22
450	-145.2580	65.2978	14	8	1	15	4.5	1.2	6	99	-500	-0.2	42	19	85	8	24	15	-1	-5	-5	-5	3.27	1312	-10	136	22	24

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sr-2		W-2		La-2		Al*		Mg*		Ca*		Ga*		Na-2*		K*		Li*		Nb*		Sr*		Ta-2*		Y*		Ti*		Zr-2*		
			ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP
395	-145.4110	65.3497	-20	24	1.60	.63	27	-2	01	.07	20	1	20	-100	7	.03	-1																		
396	-145.3980	65.3507	-20	20	1.56	.60	29	-2	01	.07	19	-1	20	-100	7	.04	-1																		
397	-145.3990	65.3523	-20	20	1.67	.60	25	-2	01	.08	20	-1	19	-100	7	.03	-1																		
399	-145.3900	65.3550	-20	20	1.43	.50	22	3	01	.06	18	1	19	-100	9	.04	-1																		
400	-145.3710	65.3573	-20	20	1.98	.72	30	-2	01	.08	21	1	21	-100	6	.04	-1																		
401	-145.3620	65.3600	-20	20	1.68	.56	19	-2	01	.10	21	1	17	-100	5	.03	-1																		
402	-145.4290	65.3117	-20	20	1.24	.45	46	-2	01	.08	17	2	32	-100	8	.03	-1																		
404	-145.4390	65.3116	-20	20	1.01	.38	47	-2	01	.08	16	1	38	-100	10	.03	2																		
405	-145.4500	65.3118	-20	20	1.24	.43	51	-2	01	.09	18	2	38	-100	9	.02	-1																		
406	-145.4680	65.3090	-20	20	.97	.37	97	-2	01	.08	18	2	60	-100	11	.01	-1																		
408	-145.4300	65.3201	-20	20	1.65	.56	44	-2	02	.10	17	2	43	-100	7	.04	-1																		
409	-145.4370	65.3224	-20	20	1.46	.52	32	-2	01	.08	15	1	32	-100	7	.04	-1																		
410	-145.4470	65.3244	-20	20	1.43	.43	27	4	01	.08	14	1	22	-100	5	.03	-1																		
412	-145.4620	65.3259	-20	20	1.51	.54	52	-2	02	.08	16	2	37	-100	8	.04	-1																		
413	-145.4900	65.3291	-20	20	1.60	.52	49	-2	01	.09	16	2	33	-100	6	.04	-1																		
416	-145.4290	65.3429	-20	20	1.58	.66	34	-2	01	.08	22	1	33	-100	7	.03	-1																		
417	-145.4390	65.3448	-20	20	1.81	.74	43	-2	01	.08	25	2	40	-100	8	.03	-1																		
418	-145.4460	65.3468	-20	20	1.66	.66	31	-2	01	.07	22	1	30	-100	7	.03	-1																		
419	-145.4620	65.3494	-20	20	1.81	.66	31	-2	01	.07	20	1	23	-100	5	.04	-1																		
421	-145.4150	65.3390	-20	20	1.47	.51	30	-2	01	.06	23	1	27	-100	7	.03	-1																		
422	-145.4040	65.3399	-20	20	1.27	.46	35	-2	01	.06	19	1	33	-100	9	.02	-1																		
423	-145.3940	65.3397	-20	20	1.24	.49	40	-2	01	.06	17	1	32	-100	8	.03	-1																		
428	-145.3970	65.3382	-20	20	1.46	.50	43	4	01	.07	17	2	33	-100	11	.02	-1																		
429	-145.3810	65.3352	-20	20	1.53	.58	22	4	01	.04	19	1	19	-100	7	.03	-1																		
430	-145.3990	65.3401	-20	20	1.17	.38	146	-2	02	.06	15	3	67	-100	9	.02	-1																		
431	-145.3900	65.3431	-20	20	1.46	.50	16	-2	02	.06	22	-1	16	-100	4	.01	-1																		
432	-145.3970	65.2976	-20	20	1.13	.44	39	-2	01	.07	16	1	35	-100	8	.03	-1																		
434	-145.3900	65.2927	-20	20	1.28	.50	44	-2	01	.06	17	1	38	-100	8	.03	-1																		
435	-145.3780	65.2941	-20	20	1.18	.47	46	-2	02	.07	16	2	38	-100	8	.03	-1																		
438	-145.3650	65.2944	-20	20	1.28	.53	47	-2	01	.07	17	1	42	-100	9	.03	-1																		
437	-145.3650	65.2955	-20	20	1.37	.54	61	-2	01	.06	19	2	52	-100	10	.03	-1																		
439	-145.3450	65.2940	-20	20	1.36	.59	44	-2	01	.06	16	1	38	-100	10	.02	-1																		
440	-145.3390	65.2915	-20	20	1.31	.54	43	-2	01	.06	16	1	38	-100	8	.03	-1																		
441	-145.3290	65.2898	-20	20	1.09	.48	39	-2	-01	.08	15	1	34	-100	7	.02	-1																		
442	-145.3150	65.2908	-20	20	1.51	.59	62	-2	02	.09	19	2	58	-100	11	.04	-1																		
444	-145.3050	65.2910	-20	20	1.38	.59	50	-2	01	.07	18	2	45	-100	9	.03	-1																		
446	-145.2950	65.2926	-20	20	1.59	.72	57	-2	01	.08	19	2	51	-100	11	.03	-1																		
448	-145.2850	65.2935	-20	20	1.21	.50	43	-2	01	.07	17	1	38	-100	8	.03	-1																		
447	-145.2780	65.2955	-20	20	1.58	.53	64	-2	01	.10	21	2	58	-100	12	.03	-1																		
449	-145.2670	65.2964	-20	20	1.57	.52	46	3	02	.10	21	2	43	-100	9	.03	-1																		
450	-145.2560	65.2979	-20	20	1.63	.48	68	-2	01	.09	19	2	66	-100	10	.03	-1																		

ICP-Inductively Coupled Plasma spectrographic analysis; ppm-parts per million; - Indicates element detection limit not exceeded; * Indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sr-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
451	-145.2490	65.3009	-5	-100	-5	-200	-2	34	24	-10	8	0.8	3.7	-10	-20	790	86	-200	-2	2	50	100	7.4	-2	-1	-5	0.6
452	-145.2440	65.3049	-5	-100	-5	-200	-2	37	19	-10	10	0.9	4.1	-10	-20	850	110	-200	-2	4	56	93	8.2	-2	1	-5	0.5
454	-145.2440	65.3091	-5	-100	-5	-200	-2	-20	25	-10	9	0.9	3.8	-10	-20	920	110	-200	-2	3	59	120	8.3	2	1	-5	0.7
455	-145.2480	65.3134	-5	-100	-5	-200	-2	40	23	-10	8	0.9	4	-10	-20	800	89	-200	3	3	58	110	7.9	3	1	8	0.7
456	-145.2510	65.3172	-5	-100	-5	-200	-2	-20	14	-10	9	0.9	3.7	-10	-20	780	77	-200	5	3	47	92	6.9	-2	1	-5	0.6
457	-145.2530	65.3211	-5	-100	-5	-200	-2	-20	21	-10	9	0.9	3.6	-10	-20	860	110	-200	3	3	57	110	7.8	-2	1	5	0.6
458	-145.2530	65.3254	83	-100	-5	-200	-2	37	34	-10	12	1	4.6	-10	-20	900	120	-200	-2	3	56	120	7.8	3	1	5	0.5
459	-145.3650	65.2971	-5	-100	-5	-200	-2	-20	14	-10	9	1.3	3.4	-10	-20	720	77	-200	-2	3	50	99	7.1	-2	-1	-5	0.7
460	-145.3610	65.3010	11	-100	-5	-200	-2	29	19	-10	9	1.2	3.6	-10	-20	640	78	-200	-2	2	55	97	7	2	-1	-5	0.7
461	-145.3580	65.3043	10	-100	-5	-200	-2	35	16	-10	9	1.1	4.1	-10	-20	770	96	-200	-2	3	53	110	6.8	-2	-1	-5	0.8
462	-145.3540	65.3088	-5	-100	-5	-200	-2	-20	15	-10	8	1	3.8	-10	-20	580	84	-200	-2	2	52	110	8	3	-1	-5	0.6
464	-145.3540	65.3134	-5	-100	-5	-200	-2	-20	-10	-10	9	1.2	2.9	-10	-20	620	81	-200	-2	2	53	97	7.7	-2	-1	-5	0.5
465	-145.3490	65.3170	-5	-100	-5	-200	-2	42	13	-10	10	1.3	3.4	-10	-20	680	95	-200	3	3	53	100	7.4	-2	-1	-5	0.6
467	-145.3420	65.3216	-5	-100	-5	-200	-2	-20	14	-10	11	1.3	3.2	-10	-20	650	89	-200	-2	2	59	110	8	3	-1	-5	-0.5
468	-145.3423	65.3272	-5	-100	-5	-200	-2	38	16	-10	12	1.4	3.4	-10	-20	680	74	-200	-2	2	53	100	7.4	3	-1	-5	0.6
469	-145.3410	65.3305	-5	-100	8	-200	-2	41	18	-10	14	1.5	3.6	-10	-20	680	96	-200	-2	3	50	98	7.2	-2	1	-5	-0.5
470	-145.3370	65.3334	8	-100	-5	-200	-2	-20	19	-10	14	1.6	4	-10	-20	700	74	-200	2	3	55	99	7.6	2	-1	-5	-0.5
472	-145.3281	65.3366	-5	-100	-5	-200	-2	48	36	-10	24	1.8	4.4	-10	-20	900	82	-200	-2	4	53	100	7.3	-2	-1	-5	-0.5
473	-145.3170	65.3368	-5	-100	-5	-200	-2	56	16	-10	9	1.8	3.5	-10	-20	770	85	-200	2	3	64	120	8.8	-2	1	-5	-0.5
474	-145.3070	65.3382	-5	-100	-5	-200	-2	-20	26	-10	27	3.8	4.6	-10	-20	900	95	-200	3	4	63	100	8.6	-2	1	-5	0.5
475	-145.2990	65.3397	26	-100	-5	-200	-2	72	23	-10	16	2.4	4.3	-10	-20	910	120	-200	-2	4	59	95	8.1	3	1	-5	-0.5
477	-145.3390	65.3202	-5	-100	-5	-200	-2	-20	16	-10	8	1.2	3.4	-10	-20	930	75	-200	-2	3	59	100	7.9	-2	-1	-5	0.6
478	-145.3280	65.3199	-5	-100	-5	-200	-2	54	17	-10	7	1	3.4	-10	-20	910	81	-200	-2	3	62	120	8.7	-2	1	5	0.8
479	-145.3180	65.3187	-5	-100	-5	-200	-2	55	11	-10	10	0.9	4.1	-10	-20	950	88	-200	-2	3	62	120	8.7	3	1	5	0.6
480	-145.3100	65.3164	-5	-100	-5	-200	-2	-20	14	-10	7	0.9	3.6	-10	-20	860	87	-200	-2	3	67	130	9	4	1	6	0.9
482	-145.3000	65.3170	-5	-100	-5	-200	-2	-20	24	-10	11	1	4.1	-10	-20	850	85	-200	-2	4	67	120	9.3	2	1	5	0.6
483	-145.2950	65.3213	-5	-100	-5	-200	-2	-20	29	-10	9	1	4	-10	-20	880	120	-200	-2	3	51	100	7.5	2	-1	-5	0.5
484	-145.2910	65.3249	8	-100	-5	-200	-2	45	28	-10	8	0.8	3.8	-10	-20	870	74	-200	-2	3	51	98	7.4	-2	-1	-5	-0.5
486	-145.3380	65.3363	12	-100	-5	-200	-2	-20	20	-10	10	1.4	3	-10	-20	650	93	-200	-2	3	60	100	8.1	2	1	-5	0.6
487	-145.3440	65.3392	-5	-100	-5	-200	-2	-20	20	-10	15	1.6	4	-10	-20	780	100	-200	-2	5	56	100	7.5	-2	-1	-5	-0.5
488	-145.3530	65.3407	8	-100	-5	-200	-2	67	45	-10	10	1.6	4.2	-10	-20	860	95	-200	-2	4	50	96	7.5	-2	1	-5	0.6
491	-145.5070	65.2822	-5	-100	-5	-200	-2	64	17	-10	7	1.1	3.6	-10	-20	790	70	-200	-2	2	45	92	6.7	-2	-1	-5	-0.5
492	-145.5020	65.2847	-5	-100	-5	-200	-2	-20	15	-10	7	1	3.8	-10	-20	810	71	-200	-2	2	45	79	6.3	-2	-1	-5	-0.5
493	-145.4984	65.2903	-5	-100	-5	290	-2	34	14	-10	7	0.9	3.7	-10	-20	740	95	-200	2	2	50	94	6.9	-2	-1	-5	0.7
496	-145.2400	65.2707	-5	-100	-5	-200	-2	34	17	-10	8	0.8	4.3	-10	-20	900	90	-200	-2	3	62	140	10	-2	1	6	0.8
497	-145.2420	65.2747	-5	-100	-5	-200	-2	-20	15	-10	5	0.7	3.7	-10	-20	840	89	-200	-2	3	92	160	11	2	2	7	0.9
500	-145.1678	65.3718	-5	-100	-5	-200	-2	31	22	-10	9	1.1	3.9	-10	-20	900	86	-200	-2	2	63	120	8.4	-2	1	-5	0.6
501	-145.1689	65.3759	-5	-100	-5	-200	-2	40	18	-10	9	1.4	3.7	-10	-20	800	72	-200	-2	3	64	110	8.6	-2	-1	5	0.7
502	-145.1724	65.3795	-5	-100	-5	-200	-2	-20	13	-10	8	1	3.2	-10	-20	750	65	-200	-2	1	60	120	8.1	-2	1	6	0.8
504	-145.0272	65.4053	-5	-100	-5	-200	-2	-20	22	-10	10	0.9	4.1	-10	-20	890	79	-200	-2	3	65	120	8.6	-2	-1	5	0.7
505	-145.0340	65.3095	-5	-100	-5	-200	-2	-20	18	-10	11	0.7	4.4	-10	-20	970	99	-200	-2	4	64	120	8.6	-2	1	-5	0.5

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Nb-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mn-2	Ni-2	Co-2	Cd-2	Bi	As-2	Sb-2	Fe-2	Mn*	Te-2	Ba-2	Cr-2	V
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
451	-145.2490	65.3009	13	12	2	14	4.5	1.3	7	120	500	-0.2	38	18	86	13	29	18	-1	-5	-5	-5	2.72	1656	-10	103	20	19
452	-145.2440	65.3049	15	9	2	15	6.5	1.2	7	110	620	-0.2	37	16	87	1	27	14	-1	-5	-5	-5	2.81	832	-10	98	21	21
454	-145.2440	65.3091	15	12	1	16	5.7	1.1	9	90	500	-0.2	38	17	105	5	30	18	-1	-5	-5	-5	2.95	1361	-10	138	21	23
455	-145.2480	65.3134	15	13	2	16	5.8	1.2	7	100	520	-0.2	32	14	99	5	29	16	-1	-5	-5	-5	2.73	2164	-10	110	19	18
456	-145.2510	65.3172	12	10	2	14	3.8	1.1	5	97	500	-0.2	36	16	74	-1	24	15	-1	-5	-5	-5	2.84	819	-10	94	19	19
457	-145.2530	65.3211	15	16	2	15	5	1.3	5	93	710	-0.2	30	16	76	-1	30	14	-1	-5	11	-5	2.67	663	-10	111	24	25
458	-145.2530	65.3254	15	12	2	16	4.2	1.2	4	88	790	-0.2	24	17	81	10	28	24	-1	-5	20	-5	3.46	1581	-10	123	23	26
459	-145.2650	65.2971	13	10	2	15	3.9	1.3	3	95	500	-0.2	29	13	88	3	21	11	-1	-5	16	-5	2.64	620	-10	80	15	15
460	-145.2610	65.3010	13	14	2	15	3.8	1.3	2	85	630	-0.2	30	12	70	3	20	12	-1	-5	10	-5	2.68	625	-10	83	15	15
461	-145.2500	65.3043	15	12	2	14	3.6	1.4	2	85	500	-0.2	29	12	65	2	20	11	-1	-5	10	-5	2.50	634	-10	86	16	17
462	-145.2540	65.3086	13	11	1	12	3.2	1.3	2	82	500	-0.2	22	8	52	5	17	10	-1	-5	-5	-5	2.15	404	-10	84	11	10
464	-145.2540	65.3134	94	24	2	16	5.1	1.1	-1	77	1100	-0.2	23	12	47	-1	16	8	-1	-5	-5	-5	1.97	320	-10	46	11	8
465	-145.2490	65.3170	11	13	2	14	3.8	1.2	2	92	500	-0.2	29	12	58	-1	19	10	-1	-5	7	-5	2.39	411	-10	70	14	14
467	-145.2420	65.3218	12	15	2	15	4.3	1.3	2	97	710	-0.2	30	11	61	-1	20	10	-1	-5	13	-5	2.52	479	-10	66	15	13
468	-145.2423	65.3272	11	12	2	14	3.9	1.2	2	85	500	-0.2	32	11	71	-1	23	13	-1	-5	6	5	2.89	641	-10	78	16	18
469	-145.2410	65.3305	13	6	1	14	3.6	1.1	3	100	780	-0.2	43	17	91	-1	31	15	-1	-5	13	-5	3.46	875	-10	112	22	23
470	-145.2370	65.3334	13	10	2	14	3.7	1.2	2	110	500	-0.2	36	13	78	-1	26	13	-1	-5	9	-5	3.05	653	-10	86	19	19
472	-145.2281	65.3365	14	8	1	14	4.7	1	4	99	500	-0.2	43	17	96	-1	51	30	13	-5	18	-5	4.20	13759	-10	262	21	22
473	-145.2170	65.3388	14	13	2	17	5.1	1.3	4	98	720	-0.2	37	14	79	3	25	12	-1	-5	-5	-5	2.57	356	-10	79	20	17
474	-145.2070	65.3392	15	10	2	17	4.2	1.1	12	140	500	-0.2	44	19	110	-1	35	16	-1	-5	27	8	3.71	730	-10	88	21	16
475	-145.2960	65.3397	15	10	2	17	4.2	1.1	10	130	500	-0.2	48	21	108	5	36	16	-1	-5	18	-5	3.65	829	-10	87	26	20
477	-145.2900	65.3202	13	12	1	17	4.9	1.5	2	110	700	-0.2	34	16	69	-1	19	11	-1	-5	7	-5	2.85	595	-10	101	16	17
478	-145.2280	65.3199	13	16	2	18	5.3	1.4	2	110	500	-0.2	37	16	85	-1	19	10	-1	-5	-5	-5	2.59	464	-10	103	17	19
479	-145.2180	65.3187	15	9	2	17	5.8	1.3	4	150	930	-0.2	36	22	91	-1	26	15	-1	-5	10	-5	3.49	653	-10	142	20	20
480	-145.2100	65.3184	13	17	2	19	5.8	1.5	3	110	670	-0.2	33	14	67	-1	18	11	-1	-5	12	-5	2.81	577	-10	99	16	15
482	-145.2000	65.3170	14	15	2	17	6	1.3	4	110	500	-0.2	39	18	96	-1	28	19	-1	-5	11	-5	3.86	1799	-10	166	22	25
484	-145.2910	65.3213	14	11	2	14	3.8	1.2	5	120	500	-0.2	41	21	86	4	30	22	13	-5	21	-5	3.15	1275	-10	133	26	30
486	-145.2910	65.3249	13	8	2	13	3.2	1	7	110	500	-0.2	41	19	96	5	29	27	-1	-5	11	-5	3.44	1699	-10	158	27	31
488	-145.2080	65.3383	13	12	2	14	4.6	1.2	4	81	670	-0.2	34	13	70	1	25	16	-1	-5	28	-5	2.54	375	-10	94	19	20
487	-145.2440	65.3392	14	9	3	13	4.8	1.2	4	110	500	-0.2	54	17	82	2	35	17	-1	-5	28	-5	3.33	727	-10	86	34	33
488	-145.2530	65.3407	15	7	2	17	5.2	1	5	120	500	-0.2	40	19	108	10	38	36	11	-5	28	-5	3.57	2345	-10	149	26	26
491	-145.2070	65.2822	13	12	2	13	3.8	1.9	2	92	910	-0.2	36	10	72	7	17	9	-1	-5	6	-5	2.44	415	-10	84	16	20
492	-145.2020	65.2847	14	11	2	13	3.2	1.7	2	86	500	-0.2	42	14	87	-1	19	11	-1	-5	-5	-5	2.73	472	-10	111	20	25
493	-145.2884	65.2903	14	13	2	14	3.8	1.7	2	95	980	-0.2	43	16	107	5	19	11	-1	-5	28	-5	2.82	531	-10	95	17	21
496	-145.2400	65.2707	13	17	2	21	4.8	1.2	3	110	680	-0.2	48	15	70	4	23	11	-1	-5	15	-5	3.04	479	-10	56	15	8
497	-145.2420	65.2747	14	14	2	21	4.7	1.5	3	130	720	-0.2	35	14	69	4	20	11	-1	-5	16	-5	2.86	445	-10	55	16	10
500	-145.1878	65.2716	13	11	2	17	4.3	1.5	2	96	500	-0.2	33	19	69	4	20	14	-1	-5	11	-5	2.56	620	-10	101	17	15
501	-145.1699	65.2799	12	12	2	18	4.6	1.5	3	110	500	-0.2	35	22	79	6	21	14	-1	-5	24	-5	2.85	629	-10	111	19	17
502	-145.1724	65.2785	11	12	2	16	4.4	1.6	-1	83	500	-0.2	27	18	62	-1	16	11	-1	-5	21	-5	2.12	359	-10	77	15	13
504	-145.0272	65.4053	15	11	2	18	5.9	1.5	4	140	500	-0.2	37	18	91	-1	27	15	-1	-5	9	-5	3.05	727	-10	109	20	17
505	-145.0340	65.3085	15	10	3	17	5.4	1.5	5	120	500	-0.2	38	21	89	9	27	15	-1	-5	22	-5	3.06	665	-10	111	20	18

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion, ppm=parts per million. - Indicates element detection limit not estimated; * Indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sr-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Tl*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
451	-145.2480	65.3009	-20	-20	33	1.34	45	44	-2	01	09	20	2	44	-100	11	03	-1
452	-145.2440	65.3049	-20	-20	33	1.52	46	54	-2	01	09	22	2	48	-100	12	02	-1
454	-145.2440	65.3091	-20	-20	33	1.64	46	53	-2	01	10	23	1	54	-100	13	02	-1
455	-145.2480	65.3134	-20	-20	30	1.39	44	41	-2	01	08	20	1	64	-100	9	02	-1
456	-145.2510	65.3172	-20	-20	31	1.35	44	32	-2	01	09	18	1	31	-100	9	02	-1
457	-145.2530	65.3211	-20	-20	34	1.49	44	33	-2	01	10	19	-1	35	-100	11	03	-1
458	-145.2530	65.3254	-20	-20	35	1.61	45	24	-2	01	09	20	1	25	-100	10	03	-1
459	-145.3650	65.2971	-20	-20	29	1.10	39	35	-2	01	07	16	1	30	-100	8	02	-1
460	-145.3610	65.3010	-20	-20	30	1.13	40	35	-2	01	07	15	-1	32	-100	8	03	-1
461	-145.3580	65.3043	-20	-20	27	1.14	40	36	-2	02	06	14	1	34	-100	7	03	-1
462	-145.3540	65.3088	-20	-20	24	0.88	32	29	-2	01	05	11	-1	27	-100	6	02	-1
464	-145.3540	65.3134	-20	-20	26	0.74	26	22	-2	01	05	9	-1	20	-100	6	02	-1
465	-145.3400	65.3170	-20	-20	27	1.08	36	30	-2	01	06	12	1	22	-100	6	02	-1
467	-145.3420	65.3216	-20	-20	29	1.06	36	30	-2	01	06	13	1	26	-100	7	02	-1
468	-145.3423	65.3272	-20	-20	29	1.20	41	31	-2	01	06	15	1	27	-100	7	02	-1
469	-145.3410	65.3305	-20	-20	29	1.59	51	43	-2	01	07	21	2	37	-100	9	02	-1
470	-145.3370	65.3334	-20	-20	26	1.35	44	30	-2	01	06	17	1	26	-100	7	02	-1
472	-145.3281	65.4368	-20	-20	26	1.51	47	44	-2	01	07	20	2	57	-100	10	02	-1
473	-145.3170	65.4368	-20	-20	33	1.37	45	40	-2	01	07	18	1	32	-100	8	02	-1
474	-145.3070	65.4362	-20	-20	36	1.41	45	50	-2	01	09	19	1	42	-100	13	01	-1
475	-145.2960	65.4397	-20	-20	36	1.52	53	62	-2	01	10	19	2	49	-100	12	02	-1
477	-145.3360	65.3202	-20	-20	34	1.27	41	33	-2	01	06	17	1	32	-100	7	03	-1
478	-145.3280	65.3189	-20	-20	37	1.31	41	35	-2	01	06	17	1	35	-100	7	03	-1
479	-145.3180	65.3187	-20	-20	41	1.62	48	54	-2	01	10	26	2	59	-100	11	02	-1
480	-145.3100	65.3164	-20	-20	34	1.25	40	36	-2	01	07	19	1	38	-100	8	02	-1
482	-145.3000	65.3170	-20	-20	41	1.75	49	42	-2	01	10	25	2	50	-100	11	03	-1
483	-145.2950	65.3213	-20	-20	35	1.78	51	28	-2	01	10	23	1	29	-100	10	03	-1
484	-145.2910	65.3248	-20	-20	35	2.05	55	30	-2	01	10	26	1	30	-100	11	02	-1
486	-145.3360	65.3363	-20	-20	27	1.41	46	33	-2	01	05	22	2	29	-100	6	02	-1
487	-145.3440	65.3382	-20	-20	32	1.61	73	72	-2	01	12	26	3	60	-100	10	05	-1
488	-145.3530	65.3407	-20	-20	29	1.82	52	40	-2	01	07	30	2	40	-100	11	02	-1
491	-145.5070	65.2822	-20	-20	25	1.15	42	47	-2	02	06	13	2	34	-100	8	04	-1
492	-145.5020	65.2847	-20	-20	27	1.33	46	55	-2	02	06	14	2	38	-100	9	04	-1
493	-145.4984	65.2903	-20	-20	30	1.24	45	52	-2	02	07	15	2	38	-100	10	04	-1
496	-145.2400	65.2707	-20	-20	37	1.35	53	197	-2	01	06	21	4	128	-100	6	01	1
497	-145.2420	65.2747	-20	-20	55	1.39	53	60	-2	-01	05	21	2	49	-100	6	02	-1
500	-145.1678	65.3718	-20	-20	35	1.30	45	36	-2	01	07	13	1	31	-100	6	02	-1
501	-145.1689	65.3759	-20	-20	35	1.38	47	36	-2	01	07	14	1	33	-100	6	02	-1
502	-145.1724	65.3795	-20	-20	36	1.15	41	27	-2	01	06	10	1	25	-100	5	03	-1
504	-145.0272	65.4053	-20	-20	37	1.57	58	47	-2	01	09	28	2	50	-100	10	03	-1
505	-145.0340	65.4065	-20	-20	37	1.55	55	44	-2	01	09	27	1	52	-100	10	02	-1

NAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion; ppm-parts per million; - Indicates element detection limit not exceeded; * Indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
506	-145.0410	65.3124	-5	-100	-5	-200	-2	40	20	-10	10	0.7	3.9	-10	-20	810	77	-200	-2	3	66	130	8.7	-2	1	-5	0.8
507	-145.0510	65.3140	-5	-100	-5	-200	-2	-20	25	-10	11	0.9	4.8	-10	-20	990	85	-200	-2	3	69	120	9.1	3	1	-5	0.5
509	-145.0600	65.3144	6	-100	-5	-200	-2	-20	16	-10	11	0.7	4.5	-10	-20	880	87	-200	-2	3	68	120	9	-2	-1	5	0.8
510	-145.0700	65.3145	-5	-100	-5	-200	-2	42	20	-10	10	0.7	4.1	-10	-20	870	87	-200	-2	3	64	130	8.5	3	-1	-5	0.6
511	-145.0800	65.3141	-5	-100	6	-200	-2	-20	19	-10	9	0.7	4	-10	-20	720	70	-200	-2	2	64	130	8.4	-2	1	-5	-0.5
512	-145.0900	65.3140	-5	-100	-5	-200	-2	38	23	-10	10	0.8	4.2	-10	-20	930	95	-200	-2	4	66	120	8.7	-2	1	-5	0.6
514	-145.0990	65.3139	-5	-100	-5	-200	-2	-20	22	-10	10	0.8	4	-10	-20	880	86	-200	-2	4	69	120	9.1	-2	-1	6	0.6
515	-145.1090	65.3135	8	-100	-5	-200	-2	44	27	-10	9	0.7	4.5	-10	-20	800	92	-200	-2	3	66	110	8.8	-2	-1	-5	0.7
519	-145.1380	65.3146	-5	-100	-5	-200	-2	-20	16	-10	9	1.2	3.7	-10	-20	640	58	-200	-2	2	51	96	7.2	-2	-1	-5	0.6
520	-145.1470	65.3154	-5	-100	6	-200	-2	-20	21	-10	9	0.8	4.2	-10	-20	810	100	-200	-2	4	64	120	8.3	-2	1	5	0.7
521	-145.1588	65.4150	11	-100	-5	-200	-2	-20	18	-10	9	0.9	4	-10	-20	890	50	-200	2	3	66	120	8.8	3	1	-5	0.7
522	-145.1690	65.3185	10	-100	-5	-200	-2	-20	26	-10	9	0.8	4.8	-10	-20	1000	100	-200	-2	4	90	170	11	-2	1	5	1
524	-145.1780	65.3164	-5	-100	-5	280	-2	-20	21	-10	10	0.9	4.4	-10	-20	900	89	-200	-2	4	68	120	10	3	1	-5	0.8
525	-145.1880	65.3187	-5	-100	-5	-200	-2	52	23	-10	10	0.9	4.4	-10	-20	920	110	-200	-2	3	59	100	8.2	3	-1	5	0.5
526	-145.1920	65.3210	-5	-100	-5	-200	-2	-20	23	-10	8	0.9	4	-10	-20	780	58	-200	-2	2	48	78	7	3	-1	-5	-0.5
527	-145.1930	65.3247	-6	-100	10	-200	-2	-20	32	-10	10	0.9	4.2	-10	-20	970	71	-200	-2	4	50	110	7.5	3	2	-5	0.6
528	-145.1940	65.3288	-5	-100	-5	-200	-2	-20	23	-10	12	0.9	4.2	-10	-20	940	120	-200	3	4	51	97	7.3	-2	1	-5	-0.5
529	-145.1770	65.3149	-5	-100	-5	-200	-2	50	27	-10	12	0.6	4.9	-10	-20	1000	85	-200	-2	4	70	130	9.3	2	1	-5	0.6
530	-145.1850	65.3122	-5	-100	7	-200	-2	-20	49	-10	22	0.5	6.2	-10	-20	1200	120	-200	-2	5	83	140	12	2	2	6	0.7
531	-145.1930	65.3097	-5	-100	-5	-200	-2	78	28	-10	8	0.6	4.6	-10	-20	950	120	-200	-2	3	82	150	11	3	1	5	0.8
532	-145.2000	65.3084	-5	-100	-5	-200	-2	-20	23	-10	10	0.8	4.5	-10	-20	950	99	-200	-2	2	56	120	7.7	3	-1	-5	0.5
534	-145.0380	65.3119	5	-100	-5	-200	-2	-20	18	-10	9	0.7	3.9	-10	-20	840	98	-200	-2	3	85	120	8.8	-2	1	-5	0.7
535	-145.0320	65.3157	-5	-100	-5	-200	-2	-20	16	-10	10	0.8	4.2	-10	-20	920	85	-200	-2	4	66	110	8.8	-2	1	5	0.6
536	-145.0310	65.3197	7	-100	-5	-200	-2	-20	20	-10	11	0.7	4.4	-10	-20	940	93	-200	-2	3	64	110	9.2	3	-1	-5	0.6
537	-145.0300	65.3235	-5	-100	-5	-200	-2	-20	17	-10	9	0.7	3.7	-10	-20	880	110	-200	-2	3	55	110	7.3	2	-1	-5	0.7
539	-144.9400	65.3192	7	-100	-5	-200	-2	-20	21	-10	21	2.7	4.6	-10	-20	850	79	-200	-2	3	49	92	6.8	2	1	-5	-0.5
540	-144.9410	65.3232	8	-100	-5	-200	-2	43	25	-10	15	0.7	4.4	-10	-20	830	120	-200	-2	3	52	100	7.2	-2	-1	-5	0.5
541	-144.9470	65.3273	-5	-100	-5	-200	-2	-20	15	-10	12	0.8	3.7	-10	-20	800	100	-200	2	3	54	120	7.3	-2	1	-5	-0.5
542	-144.9500	65.3313	-5	-100	-5	-200	-2	30	14	-10	9	0.7	3.7	-10	-20	810	120	-200	2	3	49	89	6.4	-2	-1	-5	-0.5
545	-144.9800	65.3132	-5	-100	-5	-200	-2	35	17	-10	9	0.8	3.6	-10	-20	770	91	-200	-2	3	48	88	6.6	-2	-1	-5	0.5
546	-144.9840	65.3184	-5	-100	-5	-200	-2	-20	16	-10	14	0.8	4	-10	-20	880	100	-200	3	3	54	91	7.6	-2	-1	-5	0.6
551	-144.7850	65.3614	10	-100	-5	210	-2	57	30	-10	9	0.6	6.3	-10	-20	680	120	-200	-2	4	48	90	7.4	-2	-1	-5	0.6
552	-144.7580	65.3640	-5	-100	-5	-200	-2	-20	26	-10	8	0.5	5.1	-10	-20	630	95	-200	-2	3	43	71	6.8	-2	1	-5	0.5
553	-144.7510	65.3689	-5	-100	-5	-200	-2	72	32	-10	10	0.6	5.5	-10	-20	750	110	-200	-2	4	49	100	7.9	-2	-1	-5	0.6
554	-144.7440	65.3700	-5	-100	-5	-200	-2	75	34	-10	8	0.6	6	-10	-20	690	110	-200	-2	4	47	84	7.6	-2	-1	-5	-0.5
555	-144.7370	65.3730	7	-100	-5	-200	-2	54	37	-10	8	0.6	6.8	-10	-20	520	75	-200	3	2	36	66	5.9	-2	-1	5	0.5
556	-144.7370	65.3729	6	-100	6	-200	-2	-20	28	-10	10	0.6	5.7	-10	-20	680	92	-200	-2	4	46	92	7.6	-2	1	-5	0.5
557	-144.7310	65.3759	-5	-100	-5	-200	-2	49	14	-10	6	0.8	3.4	-10	-20	680	100	-200	-2	3	44	82	5.7	-2	-1	-5	-0.5
558	-144.7280	65.3797	-5	-100	-5	-200	-2	83	29	-10	10	1.2	6.4	-10	-20	550	110	-200	-2	3	39	82	6	3	-1	-5	-0.5
559	-144.7220	65.3834	-5	-100	-5	-200	-2	53	33	-10	11	0.8	6.7	-10	-20	770	130	-200	2	3	45	110	7.2	3	1	-5	0.6
561	-144.7170	65.3874	7	-100	-5	-200	-2	-20	21	-10	8	0.8	5.7	-10	-20	580	93	-200	-2	3	39	89	6.3	-2	1	-5	0.6

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
506	-145.0410	65.3124	14	12	2	17	5.2	1.7	4	120	-500	-0.2	28	18	79	1	22	13	-1	-5	10	-5	2.79	674	-10	92	16	14
507	-145.0510	65.3140	16	10	2	18	6.3	1.6	3	130	-500	-0.2	34	22	93	3	26	16	-1	-5	15	5	3.28	723	-10	115	20	18
509	-145.0600	65.3144	15	10	2	18	5.6	1.7	3	120	820	-0.2	34	22	88	3	25	15	-1	-5	11	-5	3.04	779	-10	108	19	17
510	-145.0700	65.3145	14	11	2	16	5.3	1.6	3	110	-500	-0.2	33	24	88	4	25	15	-1	-5	14	6	3.11	792	-10	111	19	18
511	-145.0800	65.3141	14	12	2	17	5.2	1.6	3	100	-500	-0.2	33	21	83	3	24	14	-1	-5	8	6	2.94	766	-10	102	18	16
512	-145.0900	65.3140	15	10	2	17	5.7	1.7	3	130	-500	-0.2	38	23	92	8	27	16	-1	-5	22	-5	3.22	848	-10	116	27	19
514	-145.0960	65.3139	15	10	2	18	6	1.7	3	110	-500	-0.2	31	22	85	6	25	15	-1	-5	11	-5	3.00	681	-10	111	20	18
515	-145.1090	65.3135	15	11	2	17	6	1.6	4	130	630	-0.2	33	20	90	-1	25	16	1.1	-5	19	-5	3.21	965	-10	110	18	16
519	-145.1380	65.3146	11	8	1	14	4.8	1.5	2	110	-500	-0.2	32	21	77	-1	22	13	-1	-5	7	-5	2.85	721	-10	89	16	14
520	-145.1470	65.3154	15	12	2	17	5.3	1.7	3	120	-500	-0.2	33	18	76	5	23	14	-1	-5	9	-5	2.82	683	-10	98	17	15
521	-145.1586	65.4150	15	11	2	18	5.8	1.7	3	120	-500	-0.2	45	22	90	9	31	18	-1	-5	8	7	3.17	1037	-10	134	23	21
522	-145.1680	65.3165	18	16	2	22	7	1.6	3	140	-500	-0.2	38	23	86	9	29	19	-1	-5	11	7	3.40	743	-10	123	22	18
524	-145.1760	65.3164	17	10	1	19	8	1.3	11	120	-500	-0.2	37	21	94	10	30	17	-1	-5	-5	-5	3.15	507	-10	121	21	20
525	-145.1800	65.3167	16	9	-1	17	8.2	1.2	11	140	-500	-0.2	43	22	101	-1	29	20	-1	-5	19	-5	3.28	1039	-10	138	23	23
526	-145.1920	65.3210	14	10	1	14	10	1.3	7	90	640	-0.2	40	15	77	-1	24	17	-1	-5	8	-5	2.88	810	-10	96	24	27
527	-145.1930	65.3247	15	10	2	13	4.9	1.1	8	110	-500	-0.2	34	19	85	7	25	23	-1	-5	18	-5	2.96	1692	-10	155	23	28
528	-145.1940	65.3266	15	10	2	13	6.3	1.2	8	110	-500	-0.2	30	23	65	11	22	15	-1	-5	8	-5	2.93	857	-10	96	24	32
529	-145.1770	65.3149	15	8	2	17	4.5	1.6	1	130	-500	-0.2	41	22	98	8	34	21	-1	-5	9	-5	3.85	1146	-10	100	20	16
530	-145.1850	65.3122	19	7	2	22	5.8	1.2	-1	140	-500	-0.2	60	26	121	10	54	34	-1	-5	22	-5	5.04	1686	-10	92	26	17
531	-145.1930	65.3097	16	14	3	21	6.3	1.5	3	120	850	-0.2	41	23	90	4	30	18	-1	-5	7	-5	3.04	899	-10	115	22	16
532	-145.2000	65.3084	14	7	2	14	3.5	1.4	7	97	-500	-0.2	41	14	70	8	29	16	-1	-5	8	-5	3.33	2123	-10	150	21	17
534	-145.0360	65.3119	15	10	2	16	5.7	1.5	4	120	-500	-0.2	39	16	73	10	24	13	-1	-5	-5	-5	2.97	533	-10	101	19	18
535	-145.0320	65.3157	15	9	2	16	7.6	1.4	4	120	-500	-0.2	42	19	74	9	25	14	-1	-5	-5	-5	3.06	523	-10	106	20	20
536	-145.0310	65.3197	16	9	2	15	8.7	1.2	6	130	-500	-0.2	44	18	79	5	28	13	1.3	-5	10	-5	3.00	660	-10	108	21	19
537	-145.0300	65.3235	14	12	2	14	3.8	1.3	4	110	720	-0.2	31	18	56	5	21	11	1.1	-5	17	-5	2.49	438	-10	103	21	23
539	-144.9400	65.3192	15	8	2	13	3.4	1.1	2	93	-500	-0.2	52	14	85	7	32	16	-1	-5	28	7	3.54	469	-10	85	27	28
540	-144.9410	65.3232	16	9	2	14	8.1	1.2	4	120	-500	-0.2	36	17	65	7	27	16	-1	-5	17	-5	3.04	628	-10	139	24	27
541	-144.9470	65.3273	15	11	3	15	4.6	1.4	2	110	-500	-0.2	32	16	56	6	19	10	-1	-5	6	-5	2.48	296	-10	110	21	21
542	-144.9500	65.3313	13	9	1	13	3.2	1.2	3	100	-500	-0.2	34	12	58	7	21	11	-1	-5	9	-5	2.85	423	-10	102	22	26
545	-144.9600	65.3132	14	11	1	12	6	1.4	3	78	530	-0.2	42	13	66	10	22	10	-1	-5	-5	-5	2.64	276	-10	113	23	26
546	-144.9640	65.3164	15	10	1	15	6.8	1.3	3	100	580	-0.2	39	12	82	9	27	13	-1	-5	25	-5	2.91	464	-10	117	22	23
551	-144.7650	65.3614	22	7	2	11	3	1.3	4	90	-500	-0.2	64	23	117	9	39	23	1	-5	11	6	4.42	716	-10	111	46	56
552	-144.7580	65.3640	16	6	-1	10	3.1	1.1	5	76	-500	-0.2	61	22	107	9	37	20	-1	-5	6	-5	3.95	593	-10	110	41	50
553	-144.7510	65.3699	20	7	2	12	3.4	1.3	6	70	-500	-0.2	76	26	111	7	36	21	-1	-5	-5	-5	3.86	647	-10	120	41	49
554	-144.7440	65.3700	19	7	-1	12	3.4	1.2	3	95	-500	-0.2	81	25	113	2	41	26	-1	-5	8	-5	4.36	852	-10	118	42	54
555	-144.7370	65.3730	23	9	1	10	3	1.2	2	93	-500	-0.2	80	19	111	11	37	23	-1	-5	9	-5	4.45	646	-10	76	44	55
556	-144.7370	65.3729	20	6	2	11	3.4	1.2	6	96	-500	-0.2	76	25	112	2	40	20	1.1	-5	8	-5	4.09	556	-10	130	47	57
557	-144.7310	65.3759	15	6	1	9.3	3.6	0.89	3	62	-500	-0.2	57	19	65	10	24	11	-1	-5	-5	-5	2.62	210	-10	158	25	29
558	-144.7260	65.3797	21	7	1	10	3.1	1.3	3	54	630	-0.2	67	23	96	6	41	22	-1	-5	-5	-5	4.31	703	-10	140	53	69
559	-144.7220	65.3834	23	9	1	10	3.8	1.3	4	67	-500	-0.2	66	21	104	13	42	24	-1	-5	6	-5	4.33	770	-10	136	56	71
561	-144.7170	65.3874	22	10	1	9.2	3	1.5	3	75	-500	-0.2	67	20	81	8	34	17	-1	-5	8	6	3.67	388	-10	103	49	59

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*		W-2*		La-2*		Al*		Mg*		Ca*		Ga*		Na-2*		K*		Li*		Nb*		Sr*		Ta-2*		Y*		Ti*		Zr-2*	
			ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm
506	-145.0410	65.3124	-20	36	1.37	50	38	-2	01	07	23	1	43	-100	9	02	-1																	
507	-145.0510	65.3140	-20	38	1.62	57	44	-2	01	08	27	1	46	-100	10	02	-1																	
508	-145.0600	65.3144	-20	38	1.54	55	44	-2	01	08	26	1	50	-100	9	02	-1																	
510	-145.0700	65.3145	-20	39	1.56	56	41	-2	01	08	26	1	46	-100	9	02	-1																	
511	-145.0800	65.3141	-20	38	1.46	52	39	-2	01	07	25	2	45	-100	9	02	-1																	
512	-145.0900	65.3140	-20	41	1.62	57	44	-2	01	08	27	1	50	-100	9	02	-1																	
514	-145.0980	65.3139	-20	40	1.51	54	40	-2	01	07	26	1	48	-100	9	02	-1																	
515	-145.1080	65.3135	-20	38	1.52	53	42	-2	01	07	27	1	50	-100	9	02	-1																	
519	-145.1380	65.3146	-20	33	1.35	49	33	-2	01	07	24	1	37	-100	8	02	-1																	
520	-145.1470	65.3154	-20	37	1.44	52	34	-2	01	07	25	1	37	-100	8	02	-1																	
521	-145.1586	65.4150	-20	44	1.74	58	43	-2	01	08	31	1	51	-100	10	02	-1																	
522	-145.1680	65.3165	-20	54	1.71	62	39	-2	01	08	31	1	46	-100	10	02	-1																	
524	-145.1780	65.3164	-20	35	1.90	53	59	-2	01	08	31	2	66	-100	13	02	-1																	
525	-145.1880	65.3187	-20	35	1.98	53	59	-2	01	10	31	1	67	-100	13	02	-1																	
526	-145.1920	65.3210	-20	31	1.81	50	46	-2	01	10	25	1	55	-100	10	03	-1																	
527	-145.1930	65.3247	-20	28	1.92	43	42	-2	01	08	23	1	45	-100	11	02	-1																	
528	-145.1940	65.3286	-20	28	1.83	44	37	-2	01	08	24	1	38	-100	10	02	-1																	
529	-145.1770	65.3149	-20	46	1.72	65	33	-2	01	08	44	1	35	-100	9	02	-1																	
530	-145.1850	65.3122	-20	57	2.12	77	31	-2	01	05	70	1	29	-100	14	01	-1																	
531	-145.1930	65.3097	-20	48	1.56	61	56	-2	01	08	28	1	56	-100	11	02	-1																	
532	-145.2000	65.3084	-20	26	1.44	53	107	-2	01	07	25	2	86	-100	9	02	-1																	
534	-145.0380	65.3119	-20	36	1.62	53	47	-2	01	08	28	1	45	-100	9	02	-1																	
535	-145.0320	65.3157	-20	35	1.71	53	55	-2	01	08	29	2	52	-100	11	02	-1																	
536	-145.0310	65.3197	-20	34	1.82	54	77	-2	01	09	32	2	69	-100	14	02	-1																	
537	-145.0300	65.3235	-20	31	1.46	44	25	-2	01	08	17	1	24	-100	6	02	-1																	
539	-144.9400	65.3192	-20	28	1.46	68	30	-2	01	09	19	1	24	-100	8	04	-1																	
540	-144.9410	65.3232	-20	27	1.89	52	43	-2	01	09	26	1	42	-100	8	02	-1																	
541	-144.9470	65.3273	-20	28	1.54	46	26	-2	01	08	16	1	24	-100	6	02	-1																	
542	-144.9500	65.3313	-20	27	1.62	46	20	-2	01	07	19	1	19	-100	5	02	-1																	
545	-144.9800	65.3132	-20	23	1.61	51	48	3	02	08	20	2	42	-100	7	04	-1																	
546	-144.9840	65.3184	-20	30	1.77	51	36	-2	01	08	27	1	34	-100	8	02	-1																	
551	-144.7650	65.3614	-20	24	2.21	103	56	-2	01	10	32	2	32	-100	11	06	-1																	
552	-144.7580	65.3640	-20	24	2.04	91	62	-2	01	10	31	2	35	-100	11	06	-1																	
553	-144.7510	65.3689	-20	26	2.07	87	63	-2	01	10	30	2	36	-100	13	06	-1																	
554	-144.7440	65.3700	-20	27	2.14	97	60	-2	02	12	33	3	34	-100	13	06	-1																	
555	-144.7370	65.3730	-20	17	2.02	104	44	-2	01	09	31	2	24	-100	9	07	-1																	
556	-144.7370	65.3729	-20	26	2.27	94	60	-2	01	09	32	2	35	-100	13	05	-1																	
557	-144.7310	65.3759	-20	24	1.80	56	89	4	02	08	17	3	47	-100	10	02	-1																	
558	-144.7280	65.3797	-20	20	2.31	102	56	-2	01	08	27	2	31	-100	9	05	-1																	
559	-144.7220	65.3834	-20	19	2.31	108	68	-2	01	08	28	2	35	-100	11	06	-1																	
561	-144.7170	65.3874	-20	17	1.94	91	51	2	01	06	23	2	26	-100	7	06	-1																	

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppt=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
562	-144.7140	65.3915	-5	-100	-5	-200	-2	65	31	-10	9	1	5.4	-10	-20	570	140	-200	3	3	43	81	6.6	-2	1	-5	0.5
563	-144.7140	65.3958	-5	-100	-5	-200	-2	-20	16	-10	6	0.7	4.7	-10	-20	720	140	-200	-2	3	45	85	7.1	-2	-1	-5	0.5
564	-144.7130	65.3999	-5	-100	-5	-200	-2	-20	23	-10	11	0.8	4.5	-10	-20	730	110	-200	-2	3	43	97	6.9	-2	-1	-5	-0.5
566	-144.7190	65.4035	-5	-100	-5	210	-2	44	13	-10	7	0.7	3	-10	-20	810	100	-200	-2	3	38	74	6.1	-2	-1	-5	-0.5
567	-144.7220	65.4075	-5	-100	-5	230	-2	43	-10	-10	10	1	3.5	-10	-20	860	120	-200	-2	3	43	79	6.2	-2	-1	-5	-0.5
568	-144.7230	65.4118	8	-100	-5	-200	-2	35	10	-10	6	1	2.7	-10	-20	870	110	-200	-2	3	43	87	6.7	-2	-1	-5	-0.5
569	-144.7230	65.4157	9	-100	-5	-200	-2	-20	-10	-10	13	0.9	3.3	-10	-20	720	85	-200	3	4	40	82	6	-2	-1	-5	0.6
571	-144.8090	65.4004	-5	-100	-5	-200	-2	51	23	-10	11	0.8	4.5	-10	-20	740	92	-200	-2	3	41	75	6.3	-2	-1	-5	-0.5
572	-144.7990	65.4005	-5	-100	-5	-200	-2	46	13	-10	12	0.9	4.3	-10	-20	910	160	-200	-2	4	45	80	6.1	2	-1	-5	-0.5
573	-144.7890	65.4005	-5	-100	-5	-200	-2	39	22	-10	9	0.7	4.7	-10	-20	850	83	-200	-2	4	37	76	5.6	-2	-1	-5	0.7
574	-144.7790	65.4008	14	-100	-5	-200	-2	-20	25	-10	10	0.8	4.4	-10	-20	690	110	-200	2	4	45	98	6.6	-2	-1	-5	-0.5
575	-144.7690	65.3999	-5	-100	-5	-200	-2	37	20	-10	9	0.7	4.7	-10	-20	780	97	-200	-2	2	44	84	6.5	-2	1	-5	0.6
577	-144.8150	65.4004	-5	-100	-5	-200	-2	44	26	-10	10	0.9	5.3	-10	-20	810	130	-200	-2	2	38	77	5.9	-2	1	-5	0.5
578	-144.8250	65.4012	17	-100	-5	-200	-2	59	29	-10	10	0.8	5.5	-10	-20	690	130	-200	-2	2	39	74	6	-2	1	-5	-0.5
579	-144.8340	65.4025	-5	-100	-5	-200	-2	-20	26	-10	9	0.8	5.2	-10	-20	590	110	-200	-2	2	37	76	5.7	-2	1	-5	-0.5
580	-144.8440	65.4036	7	-100	-5	-200	-2	-20	13	-10	4	0.5	3.5	-10	-20	630	110	-200	-2	2	31	58	4.6	-2	-1	-5	-0.5
581	-144.8550	65.4047	-5	-100	6	-200	-2	-20	26	-10	8	0.6	5.4	-10	-20	530	120	-200	-2	2	37	76	5.8	-2	-1	-5	0.5
583	-144.7720	65.4250	94	-100	-5	200	-2	-20	13	-10	5	0.8	3	-10	-20	820	130	-200	-2	4	42	70	6.1	-2	-1	-5	0.5
584	-144.7610	65.4237	11	-100	-5	-200	-2	-20	12	-10	13	1.5	3.7	-10	-20	810	84	-200	-2	3	36	67	5.3	2	-1	-5	-0.5
585	-144.7520	65.4211	-5	-100	-5	-200	-2	-20	30	-10	9	0.8	3.9	-10	-20	830	82	-200	-2	4	37	74	5.3	-2	-1	-5	0.5
588	-144.7630	65.4306	13	-100	-5	-200	-2	50	14	-10	13	1.5	3.7	-10	-20	980	110	-200	-2	2	40	69	5.8	-2	-1	-5	-0.5
589	-144.7840	65.4349	13	-100	-5	-200	-2	59	13	-10	132	1.2	3.9	-10	-20	1000	120	-200	-2	3	36	69	6	-2	1	-5	-0.5
592	-144.8110	65.4211	10	-100	-5	-200	-2	-20	17	-10	59	1.7	3.8	-10	-20	980	100	-200	-2	4	47	96	7.2	-2	-1	-5	-0.5
593	-144.8200	65.4231	41	-100	-5	-200	-2	-20	15	-10	70	1.7	4.2	-10	-20	840	85	-200	4	3	62	110	9.1	-2	1	5	0.6
594	-144.8270	65.4267	100	-100	-5	-200	-2	-20	14	-10	47	1.9	3.6	-10	-20	670	130	-200	6	4	95	170	13	-2	1	9	1.1
596	-144.8240	65.4279	190	-100	-5	-200	-2	-20	17	-10	135	1.3	3.5	-10	-20	660	83	-200	-2	4	49	92	8.4	2	-1	-5	0.5
597	-144.8180	65.4304	21	-100	-5	-200	-2	26	14	-10	125	1.3	3.6	-10	-20	790	110	-200	2	3	44	83	6.5	-2	-1	-5	0.7
598	-144.8070	65.4330	18	-100	-5	-200	-2	42	11	-10	94	1.5	3.4	-10	-20	630	94	-200	-2	4	41	77	6.6	-2	-1	-5	-0.5
599	-144.8340	65.4292	8	-100	-5	-200	-2	29	12	-10	54	1.6	3.2	-10	-20	980	64	-200	-2	4	47	85	7	-2	-1	-5	0.5
601	-144.8370	65.4312	19	-100	-5	-200	-2	-20	-10	-10	43	3	2.9	-10	-20	920	80	-200	2	4	46	83	6.8	-2	-1	-5	0.6
602	-144.8390	65.4349	58	-100	-5	-200	-2	-20	19	-10	148	3.2	3.6	-10	-20	800	87	-200	-2	3	42	79	6.8	-2	-1	-5	0.6
603	-144.8440	65.4389	26	-100	-5	-200	-2	26	22	-10	349	6.1	4.4	-10	-20	820	62	-200	-2	2	42	80	6.2	-2	-1	-5	-0.5
605	-144.8400	65.4289	-5	-100	6	210	-2	-20	24	-10	50	1.4	4	-10	-20	830	87	-200	-2	3	45	87	6.8	2	-1	-5	-0.5
608	-144.8500	65.4295	-5	-100	-5	-200	-2	-20	13	-10	31	1.1	3	-10	-20	820	110	-200	-2	3	41	79	5.9	-2	-1	-5	-0.5
607	-144.8600	65.4299	6	-100	7	-200	-2	73	14	-10	41	1.3	3.6	-10	-20	950	130	-200	-2	4	45	76	6.8	-2	1	-5	-0.5
609	-144.8910	65.3708	-5	-100	-5	-200	-2	-20	25	-10	15	0.7	4.3	-10	-20	780	90	-200	-2	4	55	100	7.9	-2	1	-5	0.6
610	-144.8670	65.3699	-5	-100	-5	-200	-2	-20	27	-10	11	0.6	4.3	-10	-20	740	120	-200	-2	4	57	100	7.7	-2	1	-5	-0.5
611	-144.8630	65.3626	-5	-100	-5	-200	-2	-20	13	-10	10	0.5	4.2	-10	-20	530	78	-200	4	3	66	140	9.2	-2	1	-5	0.8
612	-144.8790	65.3586	-5	-100	-5	-200	-2	-20	29	-10	17	0.7	3.9	-10	-20	790	110	-200	3	4	60	130	8.3	3	1	-5	0.6
614	-144.9200	65.3973	11	-100	-5	-200	-2	-20	27	-10	16	1.2	5.8	-10	-20	500	130	-200	-2	3	39	84	6.5	2	-1	-5	0.6
615	-144.9170	65.4017	-5	-100	7	-200	-2	-20	31	-10	11	0.9	5.7	-10	-20	560	140	-200	3	3	45	88	7.3	3	1	-5	0.5

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
562	-144.7140	65.3915	20	8	2	10	3.1	1.4	4	74	-500	-0.2	58	26	109	-1	37	22	-1	-5	10	-5	4.07	661	-10	121	55	60
563	-144.7140	65.3958	20	12	2	11	4.1	1.5	3	69	-500	-0.2	63	26	95	7	32	13	-1	-5	10	-5	3.07	255	-10	109	46	49
564	-144.7130	65.3999	15	5	2	12	3.9	1.3	6	73	-500	-0.2	46	29	112	8	28	20	1.3	-5	18	-5	3.62	735	-10	173	38	47
566	-144.7190	65.4035	15	8	2	11	3.8	1.5	3	80	-500	-0.2	52	23	98	5	22	10	-1	-5	22	-5	2.30	218	-10	163	33	37
567	-144.7220	65.4075	15	11	2	11	3.9	1.9	3	92	810	-0.2	39	20	91	11	15	6	-1	-5	16	-5	2.45	218	-10	119	26	34
568	-144.7230	65.4118	14	6	-1	11	3.7	1.4	7	69	560	-0.2	38	42	122	2	22	6	1.6	-5	22	7	1.98	183	-10	200	28	35
569	-144.7230	65.4157	13	12	2	11	3.8	1.7	5	87	600	-0.2	35	16	84	-1	13	7	-1	-5	12	-5	2.57	380	-10	133	24	38
571	-144.8090	65.4004	18	8	1	10	2.9	1.3	4	81	-500	-0.2	55	18	66	5	29	17	-1	-5	13	8	3.04	497	-10	131	35	47
572	-144.7990	65.4005	18	6	1	11	3.5	1.2	3	110	-500	-0.2	47	17	72	2	37	11	-1	-5	15	-5	3.25	218	-10	186	57	47
573	-144.7890	65.4005	18	7	2	8.8	2.7	1.4	2	73	-500	-0.2	71	15	70	-1	33	18	-1	-5	-5	-5	3.39	476	-10	143	42	61
574	-144.7780	65.4008	17	8	-1	11	3.4	1.3	5	80	-500	-0.2	68	17	65	-1	30	18	-1	-5	5	-5	2.97	501	-10	145	33	48
575	-144.7890	65.3999	18	9	1	11	3	1.4	4	76	-500	-0.2	63	11	66	3	30	16	-1	-5	-5	-5	2.94	471	-10	146	33	50
577	-144.8150	65.4004	20	8	1	9.4	2.8	1.4	3	73	-500	-0.2	74	8	82	-1	37	21	-1	-5	-5	-5	3.58	548	-10	132	48	60
578	-144.8250	65.4012	22	7	2	8.4	2.7	1.4	3	68	-500	-0.2	69	11	75	6	36	21	-1	-5	-5	-5	3.55	532	-10	123	49	60
579	-144.8340	65.4025	22	8	1	8.9	2.6	1.4	2	74	-500	-0.2	78	11	77	-1	39	20	-1	-5	-5	-5	3.69	495	-10	112	51	65
580	-144.8440	65.4036	15	8	1	7.7	2.6	1.3	3	75	770	-0.2	31	8	37	4	17	7	-1	-5	-5	-5	1.97	108	-10	53	23	24
581	-144.8550	65.4047	20	7	2	8.6	2.3	1.3	2	73	560	-0.2	77	8	79	2	43	24	-1	-5	17	-5	3.96	614	-10	119	54	65
583	-144.7720	65.4250	14	12	2	12	4	1.9	-1	89	-500	-0.2	43	15	83	2	14	6	-1	-5	-5	-5	1.99	286	-10	131	24	33
584	-144.7810	65.4237	13	5	2	12	2.9	1.4	4	78	-500	-0.2	41	20	106	8	18	13	-1	-5	13	-5	3.12	923	-10	181	31	41
585	-144.7520	65.4211	14	7	1	14	3.6	1.6	3	91	-500	-0.2	41	27	104	7	18	23	-1	-5	6	-5	2.87	1786	-10	213	32	49
588	-144.7830	65.4308	15	6	1	11	3.6	1.8	2	77	-500	-0.2	53	14	98	2	18	9	-1	-5	11	-5	2.42	260	-10	212	27	42
589	-144.7840	65.4349	14	8	2	10	3.4	1.6	4	80	-500	-0.2	52	15	94	2	17	9	-1	-5	131	-5	3.12	303	-10	194	26	40
592	-144.8110	65.4211	15	10	2	14	6.3	1.8	2	83	800	-0.2	41	40	103	-1	17	11	1.1	-5	53	-5	2.87	478	-10	174	25	40
593	-144.8200	65.4231	15	18	2	18	7.5	1.6	3	94	880	-0.2	48	40	97	3	20	13	2.2	-5	78	-5	2.93	502	-10	178	30	47
594	-144.8270	65.4267	18	35	3	28	11	1.9	2	93	1200	-0.2	44	31	79	-1	15	10	-1	-5	53	5	2.40	469	-10	129	24	37
596	-144.8240	65.4279	13	8	1	13	8.4	1.6	11	82	-500	-0.2	33	17	95	1	17	9	1.6	-5	142	6	2.60	728	-10	181	22	30
597	-144.8180	65.4304	13	11	2	12	4.6	1.8	4	84	-500	-0.2	35	18	78	-1	13	11	1.2	-5	122	-5	2.73	778	-10	159	22	35
598	-144.8070	65.4330	14	9	2	12	4.7	1.9	3	81	520	-0.2	44	20	73	5	15	7	1.2	-5	95	-5	2.36	271	-10	171	26	39
599	-144.8340	65.4282	13	11	2	15	4.8	2.2	-1	120	530	-0.2	43	32	91	3	13	8	1.3	-5	47	-5	2.42	444	-10	121	19	32
601	-144.8370	65.4312	14	12	2	13	5.2	1.8	2	100	550	-0.2	33	40	82	-1	13	7	1.2	-5	46	-5	2.03	247	-10	144	21	30
602	-144.8390	65.4349	14	7	1	12	4.6	1.5	4	92	-500	-0.2	36	41	100	-1	18	14	1.6	-5	154	6	3.00	606	-10	183	24	39
603	-144.8440	65.4389	13	7	-1	12	5.2	1.6	7	75	-500	-0.2	35	68	123	3	15	15	2.5	-5	384	-5	3.48	1268	-10	204	24	44
605	-144.8400	65.4289	16	7	2	12	5.2	1.4	4	95	-500	-0.2	41	22	90	9	26	19	1.2	-5	55	8	3.07	1080	-10	199	35	42
608	-144.8500	65.4285	14	8	1	11	4.6	1.4	5	75	-500	-0.2	44	16	77	9	24	11	1.1	-5	30	-5	2.34	476	-10	189	31	34
607	-144.8800	65.4299	16	10	1	12	6.7	1.9	2	89	-500	-0.2	52	11	77	7	23	10	1	-5	43	8	2.40	299	-10	172	30	39
609	-144.8910	65.3708	16	8	2	13	3.6	1.2	3	100	-500	-0.2	36	16	84	3	24	17	-1	-5	22	-5	3.29	729	-10	118	22	28
610	-144.8870	65.3989	16	7	2	14	4	1.1	8	120	560	-0.2	43	16	84	10	26	18	1.3	-5	20	7	3.19	870	-10	102	20	24
611	-144.8830	65.3628	15	11	2	14	3.3	1.1	1	82	-500	-0.2	27	12	54	1	18	8	-1	-5	-5	-5	2.31	185	-10	55	18	20
612	-144.8790	65.3586	15	9	2	15	3.2	1.4	3	130	-500	-0.2	27	16	67	-1	20	18	-1	-5	-5	-5	2.59	826	-10	101	19	24
614	-144.9200	65.3973	25	8	2	8.8	3	1.3	5	74	-500	-0.2	103	9	76	-1	43	19	-1	-5	16	-5	3.59	455	-10	103	52	71
615	-144.9170	65.4017	26	9	2	8.8	2.8	1.5	4	82	-500	-0.2	91	11	77	4	49	20	-1	-5	-5	8	3.88	549	-10	88	70	78

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
562	-144.7140	65.3915	-20	-20	19	2.22	1.03	.47	-2	.01	.07	31	2	27	-100	8	.06	-1
563	-144.7140	65.3958	-20	-20	22	1.96	.85	.45	4	.01	.06	26	2	28	-100	8	.07	-1
564	-144.7130	65.3999	-20	-20	22	1.99	.65	.41	-2	.02	.07	26	2	30	-100	10	.04	-1
566	-144.7190	65.4035	-20	-20	20	1.86	.62	.47	4	.02	.06	24	2	34	-100	9	.06	-1
567	-144.7220	65.4075	-20	-20	19	1.81	.50	.39	4	.02	.06	20	3	28	-100	7	.07	-1
568	-144.7230	65.4118	-20	-20	23	1.78	.49	.41	4	.02	.07	20	2	33	-100	12	.04	-1
569	-144.7230	65.4157	-20	-20	19	1.81	.46	.40	3	.02	.06	19	3	30	-100	7	.06	-1
571	-144.8090	65.4004	-20	-20	22	1.83	.69	.37	-2	.01	.08	18	1	23	-100	8	.04	-1
572	-144.7990	65.4005	-20	-20	26	2.39	.72	.21	7	.01	.09	20	2	22	-100	8	.05	-1
573	-144.7890	65.4005	-20	-20	22	2.17	.84	.34	4	.01	.09	22	2	22	-100	8	.06	-1
574	-144.7780	65.4008	-20	-20	27	1.84	.66	.33	-2	.02	.10	19	1	23	-100	8	.04	-1
575	-144.7890	65.3999	-20	-20	23	1.83	.70	.36	3	.01	.09	20	2	24	-100	7	.05	-1
577	-144.8150	65.4004	-20	-20	17	2.15	.94	.52	-2	.01	.09	22	2	37	-100	7	.06	-1
578	-144.8250	65.4012	-20	-20	17	2.11	.94	.44	-2	.01	.08	22	2	30	-100	6	.06	-1
579	-144.8340	65.4025	-20	-20	17	2.17	1.00	.42	4	.01	.08	22	2	27	-100	6	.07	-1
580	-144.8440	65.4038	-20	-20	15	1.38	.50	.13	3	.01	.08	11	1	11	-100	4	.04	-1
581	-144.8550	65.4047	-20	-20	19	2.30	1.03	.41	-2	.01	.09	23	2	28	-100	7	.07	-1
583	-144.7720	65.4250	-20	-20	22	1.72	.50	.47	4	.02	.06	23	3	34	-100	8	.06	-1
584	-144.7610	65.4237	-20	-20	24	2.07	.57	.66	-2	.03	.11	30	3	45	-100	9	.06	-1
585	-144.7520	65.4211	-20	-20	23	2.32	.58	.63	-2	.02	.08	29	2	51	-100	9	.06	-1
588	-144.7830	65.4308	-20	-20	20	1.78	.58	.61	4	.03	.07	24	3	38	-100	10	.07	2
589	-144.7840	65.4349	-20	-20	19	1.70	.55	.67	3	.02	.07	23	3	41	-100	9	.07	-1
592	-144.8110	65.4211	-20	-20	27	1.78	.58	.48	2	.02	.07	25	3	36	-100	12	.07	-1
593	-144.8200	65.4231	-20	-20	36	1.79	.56	.50	-2	.02	.07	23	3	37	-100	13	.07	-1
594	-144.8270	65.4287	-20	-20	41	1.51	.49	.47	-2	.02	.06	20	3	31	-100	13	.08	-1
598	-144.8240	65.4279	-20	-20	29	1.81	.42	.68	-2	.02	.06	22	3	54	-100	16	.03	-1
597	-144.8180	65.4304	-20	-20	21	1.58	.46	.66	-2	.02	.06	18	3	44	-100	10	.06	-1
598	-144.8070	65.4330	-20	-20	21	1.88	.47	.63	3	.02	.06	18	3	41	-100	11	.06	-1
599	-144.8340	65.4292	-20	-20	29	1.44	.48	.44	-2	.02	.06	23	3	35	-100	12	.06	-1
601	-144.8370	65.4312	-20	-20	25	1.58	.47	.36	3	.02	.06	21	2	26	-100	9	.06	-1
602	-144.8390	65.4349	-20	-20	24	1.88	.50	.50	-2	.02	.07	20	3	38	-100	11	.05	-1
603	-144.8440	65.4389	-20	-20	22	1.74	.47	.55	-2	.02	.07	20	2	42	-100	10	.04	-1
605	-144.8400	65.4289	-20	-20	24	1.87	.62	.56	-2	.02	.07	22	2	41	-100	11	.05	-1
608	-144.8500	65.4295	-20	-20	20	1.83	.56	.57	-2	.02	.06	18	2	42	-100	9	.05	-1
607	-144.8800	65.4299	-20	-20	20	1.54	.61	.62	2	.03	.07	17	3	43	-100	9	.08	1
609	-144.8910	65.3708	-20	-20	29	1.89	.57	.42	-2	.01	.07	21	2	31	-100	7	.03	-1
610	-144.8870	65.3689	-20	-20	27	1.54	.56	.66	-2	.01	.06	20	3	53	-100	9	.03	-1
611	-144.8830	65.3828	-20	-20	29	1.30	.49	.14	4	.01	.05	15	1	12	-100	4	.03	-1
612	-144.8790	65.3588	-20	-20	27	1.37	.46	.20	-2	.01	.06	17	-1	17	-100	5	.02	-1
614	-144.9200	65.3973	-20	-20	16	2.07	.98	.65	3	.01	.10	22	2	42	-100	9	.06	-1
615	-144.9170	65.4017	-20	-20	15	2.13	1.13	.74	3	.01	.11	21	3	52	-100	8	.07	-1

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sr-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
616	-144.9180	65.4057	-5	-100	-5	-200	-2	-20	27	-10	10	0.9	5.7	-10	-20	510	130	-200	-2	3	39	88	6.7	-2	-1	-5	-0.5
619	-144.9370	65.3978	8	-100	-5	-200	-2	-20	30	-10	15	1.9	6.1	-10	-20	390	130	-200	-2	2	30	49	5.5	3	1	-5	-0.5
620	-144.9470	65.3993	-5	-100	-5	-200	-2	110	45	-10	17	2.3	7.9	-10	-20	480	140	-200	3	3	28	45	5.5	2	-1	-5	-0.5
621	-144.9550	65.4017	12	-100	-5	-200	-2	43	23	-10	22	2.7	5.8	-10	-20	440	110	-200	-2	2	31	59	5.9	3	1	-5	-0.5
623	-144.9640	65.4030	-5	-100	-5	-200	-2	56	29	-10	22	1.9	5.5	-10	-20	750	140	-200	-2	4	29	44	5.3	-2	1	-5	-0.5
624	-144.9730	65.4024	-5	-100	-5	-200	-2	50	32	-10	15	2.4	5.6	-10	-20	480	110	-200	-2	3	26	50	5.1	2	-1	-5	-0.5
626	-144.9960	65.3596	-5	-100	-5	-200	-2	-20	16	-10	10	1.4	3.6	-10	-20	860	110	-200	-2	3	34	67	5.7	-2	-1	-5	-0.5
627	-145.0010	65.3631	-5	-100	-5	-200	-2	85	27	-10	9	1.3	4.5	-10	-20	600	79	-200	-2	3	37	71	6.4	-2	1	-5	-0.5
628	-145.0080	65.3688	10	-100	-5	-200	-2	36	15	-10	8	1.1	4	-10	-20	780	110	-200	-2	3	37	65	5.8	2	1	-5	-0.5
630	-145.0070	65.3718	-5	-100	-5	-200	-2	63	24	-10	9	1.2	4.5	-10	-20	840	110	-200	2	4	43	74	6.3	-2	-1	-5	-0.5
631	-145.0020	65.3758	9	-100	6	-200	-2	90	28	-10	9	1.4	5.5	-10	-20	530	110	-200	-2	2	34	62	5.8	2	1	-5	0.5
632	-145.0010	65.3803	9	-100	-5	-200	-2	-20	27	-10	13	1.5	5.5	-10	-20	530	120	-200	-2	2	34	49	5.8	-2	-1	-5	-0.5
633	-145.0030	65.3848	-5	-100	-5	-200	-2	45	30	-10	8	1.2	6	-10	-20	450	140	-200	-2	2	29	56	4.9	-2	-1	-5	-0.5
635	-145.0110	65.3705	16	-100	-5	-200	-2	-20	30	-10	7	1.4	5	-10	-20	570	120	-200	-2	3	39	85	6.3	3	-1	-5	0.5
636	-145.0190	65.3732	-5	-100	-5	-200	-2	-20	39	-10	7	1.3	5.2	-10	-20	670	110	-200	-2	2	39	62	5.9	-2	-1	-5	-0.5
637	-145.0270	65.3781	-5	-100	-5	-200	-2	-20	32	-10	7	1.3	5.7	-10	-20	550	130	-200	-2	2	33	73	6	-2	-1	-5	-0.5
640	-145.0430	65.3568	-5	-100	-5	-200	-2	38	12	-10	9	0.8	3.8	-10	-20	680	120	-200	2	3	47	87	6.4	2	-1	-5	-0.5
641	-145.0420	65.3531	-5	-100	-5	-200	-2	-20	16	-10	11	0.7	4	-10	-20	660	100	-200	-2	5	48	83	6.4	-2	-1	-5	-0.5
642	-145.0400	65.3489	-5	-100	-5	-200	-2	-20	23	-10	11	0.9	4.4	-10	-20	910	100	-200	-2	3	52	100	7.1	2	-1	-5	0.6
643	-145.0410	65.3450	9	-100	-5	-200	-2	-20	13	-10	11	0.8	3.5	-10	-20	830	73	-200	2	4	51	97	6.6	-2	-1	-5	0.5
644	-145.0420	65.3412	-5	-100	-5	-200	-2	-20	17	-10	10	0.8	3.7	-10	-20	870	110	-200	3	4	48	86	6.4	-2	-1	-5	0.5
646	-145.0680	65.3540	-5	-100	-5	-200	-2	-20	13	-10	8	0.9	3.6	-10	-20	680	85	-200	-2	3	45	76	5.9	-2	-1	-5	-0.5
647	-145.0680	65.3501	-5	-100	-5	-200	-2	68	18	-10	8	0.9	4.5	-10	-20	820	110	-200	-2	4	45	86	6.1	-2	-1	-5	-0.5
648	-145.0690	65.3464	-5	-100	-5	-200	-2	-20	16	-10	7	0.9	3	-10	-20	770	120	-200	-2	3	59	110	8.2	-2	1	5	0.8
649	-145.0700	65.3420	-5	-100	-5	-200	-2	47	15	-10	7	0.9	3.6	-10	-20	800	79	-200	4	4	47	96	6.3	-2	-1	-5	-0.5
651	-145.1000	65.3551	-5	-100	-5	230	-2	-20	19	-10	13	1.1	4.6	-10	-20	830	120	-200	2	4	51	120	7.1	3	-1	-5	0.7
653	-145.1080	65.3482	-5	-100	-5	-200	-2	39	14	-10	11	0.9	4.1	-10	-20	680	94	-200	-2	3	39	83	5.5	3	-1	-5	-0.5
654	-145.1050	65.3441	7	-100	-5	-200	-2	52	22	-10	15	1.1	4.7	-10	-20	790	100	-200	-2	3	44	82	6.5	-2	-1	-5	0.5
655	-145.1080	65.3399	6	-100	-5	-200	-2	37	36	-10	18	1.1	6.9	-10	-20	820	110	-200	-2	4	48	77	6.8	-2	-1	-5	-0.5
657	-145.1220	65.3598	7	-100	-5	-200	-2	42	24	-10	11	1	4	-10	-20	880	86	-200	3	5	46	85	6.9	-2	1	-5	-0.5
658	-145.1240	65.3558	-5	-100	-5	-200	-2	60	25	-10	16	1	4.8	-10	-20	950	94	-200	-2	3	51	96	7.3	-2	-1	-5	0.6
659	-145.1250	65.3517	-5	-100	-5	-200	-2	-20	23	-10	12	0.9	4	-10	-20	820	95	-200	-2	3	50	96	7.3	-2	-1	-5	0.6
660	-145.1270	65.3476	-5	-100	-5	-200	-2	41	17	-10	12	1	3.8	-10	-20	780	120	-200	-2	4	56	110	7.3	2	1	-5	0.5
662	-145.1320	65.3444	280	-100	-5	-200	-2	35	25	-10	14	1.2	4.6	-10	-20	820	110	-200	3	4	68	130	8.2	-2	1	6	0.6
663	-145.1370	65.3408	-5	-100	-5	-200	-2	-20	30	-10	17	1.3	6	-10	-20	860	170	-200	-2	4	65	130	6.9	-2	-1	5	0.7
665	-145.1600	65.3590	-5	-100	-5	-200	-2	-20	21	-10	13	1	4.5	-10	-20	750	91	-200	-2	3	46	84	7.4	-2	-1	-5	-0.5
666	-145.1620	65.3550	16	-100	-5	-200	-2	29	12	-10	10	1	4.3	-10	-20	800	130	-200	-2	3	57	100	9	-2	-1	-5	-0.5
667	-145.1630	65.3514	-5	-100	-5	-200	-2	50	16	-10	14	1.1	4.4	-10	-20	810	110	-200	-2	3	52	110	8.4	3	-1	-5	-0.5
668	-145.1640	65.3489	-5	-100	-5	-200	-2	-20	21	-10	14	1.3	4.1	-10	-20	1000	95	-200	-2	4	52	92	8.6	3	-1	-5	-0.5
669	-145.1680	65.3437	-5	-100	-5	-200	-2	69	22	-10	16	1.3	4.4	-10	-20	880	120	-200	-2	3	50	90	8	-2	-1	-5	-0.5
671	-145.2080	65.3808	-5	-100	-5	-200	-2	39	18	-10	14	1.3	4.1	-10	-20	790	99	-200	-2	3	52	88	8.5	-2	-1	-5	-0.5

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
616	-144.9180	65.4057	23	7	2	7.7	1.9	1.5	2	67	590	-0.2	95	11	82	10	50	21	-1	-5	-5	-5	4.01	570	-10	94	73	81
619	-144.9370	65.3978	24	7	2	6.9	1.8	1.6	4	51	-500	-0.2	103	7	79	8	46	23	-1	-5	9	-5	3.95	450	-10	74	56	81
620	-144.9470	65.3993	28	6	1	7.5	1.7	1.4	1	79	-500	-0.2	168	8	102	8	76	35	-1	-5	5	-5	5.23	573	-10	92	81	121
621	-144.9650	65.4017	20	7	2	6.5	1.8	1.5	2	61	-500	-0.2	82	7	74	5	41	20	-1	-5	-5	7	3.97	456	-10	78	56	75
623	-144.9840	65.4030	21	3	-1	6.9	2.3	1	8	57	-500	-0.2	114	9	82	12	50	21	-1	-5	13	9	3.74	573	-10	150	64	80
624	-144.9730	65.4024	21	4	-1	6.1	2.1	1	4	56	-500	-0.2	108	6	78	7	42	22	-1	-5	-5	-5	3.77	644	-10	115	52	74
626	-144.9960	65.3596	15	7	1	10	3.2	1.6	1	81	-500	-0.2	56	10	61	-1	20	10	-1	-5	7	-5	2.32	265	-10	154	24	41
627	-145.0010	65.3631	19	6	2	9.2	2.6	1.2	5	74	-500	-0.2	63	10	77	14	33	18	-1	-5	-5	-5	3.17	537	-10	109	36	51
628	-145.0060	65.3666	16	7	1	9.2	3.1	1.2	2	110	-500	-0.2	48	11	59	2	22	11	-1	-5	-5	11	2.66	349	-10	122	26	39
630	-145.0070	65.3718	15	8	1	12	2.9	1.1	3	110	-500	-0.2	51	21	78	-1	33	20	-1	-5	-5	-5	3.73	961	-10	190	31	46
631	-145.0020	65.3758	23	6	-1	8.3	2.5	1.5	3	53	-500	-0.2	87	7	78	-1	38	20	1.3	-5	-5	-5	3.71	461	-10	90	45	69
632	-145.0010	65.3803	23	6	1	7.4	2.3	1.4	4	69	-500	-0.2	91	9	79	5	40	20	-1	-5	13	-5	3.70	405	-10	98	49	73
633	-145.0030	65.3848	24	5	-1	8.8	2.2	1.3	3	65	-500	-0.2	105	5	80	8	42	25	-1	-5	15	-5	4.35	495	-10	84	56	85
635	-145.0110	65.3705	21	7	1	9.2	2.3	1.2	3	68	-500	-0.2	55	9	72	-1	31	22	-1	-5	11	-5	3.35	782	-10	109	36	52
636	-145.0190	65.3732	19	6	1	8.3	2.5	1.2	4	83	-500	-0.2	65	9	90	-1	34	28	1.2	-5	8	8	3.69	1090	-10	146	39	57
637	-145.0270	65.3761	22	6	1	8.2	2.3	1.3	3	75	-500	-0.2	75	10	80	12	37	20	1.1	-5	10	-5	3.66	557	-10	116	44	66
640	-145.0430	65.3568	16	10	2	10	3.1	1.4	-1	70	-500	-0.2	24	10	60	6	19	9	-1	-5	6	5	2.53	272	-10	102	22	30
641	-145.0420	65.3531	15	9	2	12	2.8	1.4	2	91	-500	-0.2	22	9	61	8	20	13	-1	-5	-5	-5	2.88	594	-10	109	23	29
642	-145.0400	65.3489	16	10	2	12	3.7	1.4	3	95	-500	-0.2	20	12	84	7	20	17	-1	-5	6	-5	2.84	998	-10	120	21	26
643	-145.0410	65.3450	15	8	2	13	3.1	1.5	2	99	840	-0.2	21	12	58	6	19	10	-1	-5	-5	-5	2.53	403	-10	110	20	22
644	-145.0420	65.3412	15	9	1	12	3.2	1.4	2	110	-500	-0.2	22	11	85	4	19	10	-1	-5	7	7	2.54	331	-10	101	20	23
646	-145.0680	65.3540	14	6	1	10	2.7	1.4	-1	76	-500	-0.2	26	9	58	-1	17	9	-1	-5	-5	-5	2.32	270	-10	96	19	20
647	-145.0680	65.3501	18	7	1	10	2.9	1	1	120	790	-0.2	37	11	63	4	25	13	-1	-5	-5	-5	3.16	436	-10	102	29	39
648	-145.0690	65.3464	14	12	2	12	3.8	1.5	1	100	-500	-0.2	28	9	58	4	19	10	-1	-5	9	-5	2.12	408	-10	96	19	21
649	-145.0700	65.3420	15	10	1	11	3	1.3	-1	83	-500	-0.2	23	10	63	2	21	11	-1	-5	-5	-5	2.64	289	-10	115	25	31
651	-145.1000	65.3551	17	9	1	14	3.3	1.3	4	65	-500	-0.2	38	13	83	8	29	17	-1	-5	8	-5	3.26	1268	-10	138	24	29
653	-145.1080	65.3482	13	8	-1	9.3	3.2	1.2	1	74	550	-0.2	23	9	66	2	22	13	-1	-5	5	6	2.86	1033	-10	117	21	27
654	-145.1050	65.3441	14	10	1	11	3.7	1.4	2	78	-500	-0.2	29	11	61	7	21	12	-1	-5	10	-5	2.83	1205	-10	108	19	23
655	-145.1080	65.3399	15	7	1	14	5.5	1.2	4	110	-500	-0.2	28	11	78	-1	29	23	-1	-5	14	-5	4.83	2578	-10	159	19	21
657	-145.1220	65.3598	15	7	1	12	3.4	1.4	3	93	-500	-0.2	29	9	78	8	24	17	-1	-5	-5	-5	2.93	1056	-10	160	23	27
658	-145.1240	65.3558	16	8	1	13	4.3	1.2	5	91	-500	-0.2	38	14	82	3	28	19	-1	-5	-5	-5	3.48	1204	-10	185	25	29
659	-145.1250	65.3517	15	9	2	13	3.3	1.4	2	98	670	-0.2	28	8	72	9	23	16	-1	-5	-5	-5	2.72	1043	-10	151	21	24
660	-145.1270	65.3476	14	11	1	13	3.9	1.4	2	87	610	-0.2	29	7	63	5	21	12	-1	-5	5	-5	2.52	500	-10	126	19	21
662	-145.1320	65.3444	17	14	1	15	4.4	1.7	2	100	920	-0.2	25	10	68	2	22	14	-1	-5	13	-5	2.75	490	-10	106	20	21
663	-145.1370	65.3409	21	11	1	15	4.3	1.7	4	110	620	-0.2	29	11	75	5	25	18	-1	-5	19	-5	3.20	562	-10	113	23	27
665	-145.1600	65.3590	15	9	1	13	4.6	1.1	3	120	-500	-0.2	39	11	70	5	25	14	-1	-5	-5	8	2.78	778	-10	115	21	22
668	-145.1620	65.3550	16	11	2	15	7	1.3	3	120	-500	-0.2	36	11	83	-1	22	11	-1	-5	-5	-5	2.43	215	-10	101	20	18
667	-145.1630	65.3514	17	9	1	15	5.5	1.2	4	120	-500	-0.2	39	10	73	-1	27	15	-1	-5	15	-5	2.93	885	-10	126	22	24
668	-145.1640	65.3489	17	8	2	16	5.7	1.3	5	140	-500	-0.2	32	13	83	-1	25	15	-1	-5	-5	-5	2.97	799	-10	151	22	22
669	-145.1680	65.3437	16	8	2	16	4.8	1.2	5	160	-500	-0.2	30	13	94	-1	30	17	-1	-5	8	-5	3.20	1363	-10	153	22	24
671	-145.2080	65.3608	15	9	2	15	5.9	1.2	4	110	-500	-0.2	40	12	68	-1	28	13	-1	-5	10	-5	2.90	468	-10	111	23	24

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
616	-144.9180	65.4057	-20	-20	15	2.19	1.18	.64	4	.01	.12	20	3	38	-100	7	.08	-1
619	-144.9370	65.3978	-20	-20	12	2.17	1.13	.47	5	.01	.09	23	2	22	-100	7	.08	-1
620	-144.9470	65.3993	-20	-20	11	3.05	1.46	.39	7	.01	.10	41	2	18	-100	7	.11	-1
621	-144.9550	65.4017	-20	-20	14	2.15	1.15	.48	4	.01	.07	21	2	21	-100	6	.06	-1
623	-144.9640	65.4030	-20	-20	13	2.26	1.06	1.05	2	.01	.08	23	3	52	-100	9	.05	-1
624	-144.9730	65.4024	-20	-20	11	2.12	1.01	.70	-2	.01	.09	22	2	32	-100	9	.06	-1
626	-144.9660	65.3596	-20	-20	16	1.39	.53	.49	-2	.03	.07	12	2	31	-100	7	.08	-1
627	-145.0010	65.3631	-20	-20	19	1.92	.77	.48	-2	.01	.09	22	2	27	-100	8	.04	-1
628	-145.0060	65.3666	-20	-20	19	1.60	.59	.48	3	.01	.08	16	2	29	-100	5	.03	-1
630	-145.0070	65.3718	-20	-20	31	2.02	.60	.45	-2	.01	.09	21	2	36	-100	9	.03	-1
631	-145.0020	65.3758	-20	-20	15	2.16	.99	.50	4	.01	.10	25	2	24	-100	8	.06	-1
632	-145.0010	65.3603	-20	-20	14	2.22	1.02	53	5	.01	.10	25	2	22	-100	8	.07	-1
633	-145.0030	65.3648	-20	-20	10	2.40	1.15	.31	5	.01	.10	24	2	15	-100	6	.09	-1
636	-145.0110	65.3705	-20	-20	18	1.90	.76	.37	-2	.01	.08	20	2	20	-100	7	.05	-1
638	-145.0190	65.3732	-20	-20	20	2.14	.83	.46	-2	.01	.10	22	2	26	-100	7	.04	-1
637	-145.0270	65.3761	-20	-20	15	2.15	.92	.49	3	.01	.10	22	2	25	-100	7	.05	-1
640	-145.0430	65.3568	-20	-20	20	1.49	.52	.77	4	.01	.05	14	1	20	-100	5	.04	-1
641	-145.0420	65.3531	-20	-20	22	1.54	.50	.23	-2	.01	.06	16	-1	19	-100	5	.02	-1
642	-145.0400	65.3489	-20	-20	24	1.48	.46	.28	-2	.01	.06	16	1	23	-100	6	.02	-1
643	-145.0410	65.3450	-20	-20	26	1.43	.42	.22	-2	.01	.06	17	1	19	-100	5	.02	-1
644	-145.0420	65.3412	-20	-20	27	1.46	.44	.21	-2	.01	.07	17	1	19	-100	5	.02	-1
646	-145.0660	65.3540	-20	-20	23	1.34	.46	.21	4	.01	.07	14	1	19	-100	4	.02	-1
647	-145.0660	65.3501	-20	-20	20	1.89	.65	.27	3	.01	.11	17	1	20	-100	5	.02	-1
648	-145.0660	65.3464	-20	-20	31	1.22	.40	.24	-2	.01	.06	13	1	24	-100	5	.03	-1
649	-145.0700	65.3420	-20	-20	25	1.65	.50	.16	4	.01	.06	15	1	16	-100	5	.03	-1
651	-145.1000	65.3551	-20	-20	24	1.67	.56	.55	-2	.01	.06	22	2	56	-100	8	.03	-1
653	-145.1060	65.3482	-20	-20	21	1.44	.46	.32	-2	.01	.07	17	1	31	-100	6	.03	-1
654	-145.1050	65.3441	-20	-20	22	1.31	.45	.36	-2	.01	.06	16	1	35	-100	6	.03	-1
655	-145.1060	65.3399	-20	-20	22	1.38	.43	.52	-2	.01	.07	21	2	67	-100	6	.02	-1
657	-145.1220	65.3596	-20	-20	22	1.65	.55	.35	-2	.01	.07	19	1	35	-100	6	.03	-1
658	-145.1240	65.3558	-20	-20	22	1.79	.54	.44	-2	.01	.06	21	2	45	-100	6	.03	-1
659	-145.1250	65.3517	-20	-20	23	1.52	.50	.31	-2	.01	.07	16	1	33	-100	6	.03	-1
660	-145.1270	65.3476	-20	-20	21	1.35	.46	.28	-2	.01	.05	17	1	27	-100	5	.03	-1
662	-145.1320	65.3444	-20	-20	23	1.43	.47	.27	-2	.01	.05	19	-1	25	-100	5	.02	-1
663	-145.1370	65.3409	-20	-20	24	1.64	.49	.24	-2	.01	.05	23	1	21	-100	6	.02	-1
665	-145.1600	65.3590	-20	-20	21	1.46	.57	.35	-2	.01	.07	20	1	35	-100	6	.02	-1
666	-145.1620	65.3550	-20	-20	21	1.40	.52	.37	-2	.01	.07	21	1	35	-100	6	.02	-1
667	-145.1630	65.3514	-20	-20	21	1.52	.58	.37	-2	.01	.07	21	1	39	-100	7	.02	-1
668	-145.1640	65.3469	-20	-20	20	1.56	.52	.36	-2	.01	.06	22	1	39	-100	7	.02	-1
669	-145.1660	65.3437	-20	-20	25	1.61	.48	.39	-2	.01	.07	23	1	42	-100	9	.02	-1
671	-145.2060	65.3608	-20	-20	23	1.55	.55	.36	-2	.01	.06	20	2	33	-100	9	.02	-1

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
672	-145.2070	65.3569	16	7	1	14	5.5	1.3	4	120	610	-0.2	26	11	70	2	22	11	-1	-5	-5	2.38	474	-10	98	19	20	
673	-145.2070	65.3528	15	7	2	15	5.1	1.2	3	120	-500	-0.2	28	14	66	-1	21	12	-1	-5	6	6	2.53	610	-10	110	21	25
674	-145.2060	65.3491	16	7	2	16	4.9	1.4	4	140	-500	-0.2	25	13	71	-1	24	11	-1	-5	-5	2.96	202	-10	134	24	27	
676	-145.2070	65.3450	15	15	2	17	5.5	1.4	3	120	-500	-0.2	28	13	67	2	22	11	-1	-5	8	5	2.62	467	-10	108	20	22
677	-145.2180	65.4429	16	8	2	15	4.9	1.3	5	110	-500	-0.2	33	14	81	2	26	12	-1	-5	7	-5	2.62	300	-10	97	23	22
678	-145.2286	65.4393	14	16	2	18	5.7	1.3	8	140	780	-0.2	33	15	75	1	22	12	-1	-5	8	-5	2.46	743	-10	101	21	24
680	-145.2400	65.3582	17	8	-1	18	5.8	1.1	9	120	-500	-0.2	39	14	88	-1	32	16	-1	-5	-5	-5	3.00	1353	-10	105	21	20
681	-145.2440	65.3547	18	8	-1	11	3.6	1.3	-1	120	-500	-0.2	42	14	66	-1	26	12	-1	-5	6	6	3.20	242	-10	93	35	48
682	-145.2440	65.3507	15	9	2	18	6.2	1.3	4	170	-500	-0.2	36	10	73	4	28	12	-1	-5	8	-5	2.69	406	-10	79	17	16
683	-145.2450	65.3471	18	9	1	20	7.2	1.3	5	140	980	-0.2	41	17	71	2	29	15	-1	-5	25	-5	3.18	481	-10	115	23	23
685	-145.2020	65.3640	19	7	2	9.1	4.3	1.2	11	95	-500	-0.2	50	8	72	3	29	16	-1	-5	14	-5	3.12	639	-10	96	34	44
686	-145.2040	65.3677	20	6	-1	8.7	3	1.2	4	83	-500	-0.2	66	11	74	6	34	18	-1	-5	11	-5	3.65	403	-10	82	42	80
687	-145.2040	65.3718	23	9	1	8.1	3	1.3	6	71	-500	-0.2	57	10	65	3	30	16	-1	-5	14	-5	3.11	402	-10	69	36	49
688	-145.2050	65.3764	22	7	1	8.5	2.7	1.2	4	66	-500	-0.2	68	11	69	5	32	16	-1	-5	10	-5	3.40	458	-10	89	45	63
691	-145.2100	65.3642	16	5	2	7.7	2.4	1	3	98	-500	-0.2	58	12	54	1	28	17	1.1	-5	7	-5	3.17	461	-10	84	36	55
694	-145.2380	65.3649	21	5	1	7.9	2.5	1.2	4	31	-500	-0.2	93	4	70	2	38	19	-1	-5	11	-5	3.61	374	-10	74	44	65
696	-145.2410	65.3741	24	6	1	8.2	2.8	1.4	3	79	-500	-0.2	103	6	72	-1	41	20	1.1	-5	-5	-5	3.86	314	-10	74	48	72
697	-145.2440	65.3783	27	9	-1	7.7	2.7	1.6	2	71	-500	-0.2	95	6	66	-1	37	19	-1	-5	6	7	3.80	295	-10	66	45	67
699	-145.2970	65.3713	24	9	1	14	6.2	1.2	3	150	-500	-0.2	75	14	83	2	46	21	1.1	-5	13	-5	4.27	682	-10	71	40	44
700	-145.3050	65.3743	22	9	1	11	3.5	1.3	3	97	-500	-0.2	62	13	71	5	33	16	-1	-5	-5	-5	3.68	407	-10	68	39	46
701	-145.3130	65.3785	22	10	2	12	3.8	1.2	5	89	-500	-0.2	65	12	80	-1	39	18	1	-5	-5	-5	3.82	413	-10	69	44	52
702	-145.3230	65.3770	22	9	2	13	3.7	1.2	5	120	-500	-0.2	67	14	78	1	38	18	1.3	-5	14	5	3.87	473	-10	82	42	48
704	-145.3340	65.3777	22	8	-1	11	3.2	1.2	3	100	-500	-0.2	68	6	73	-1	39	19	1.1	-5	8	-5	3.97	610	-10	72	46	55
705	-145.3430	65.3799	28	10	1	12	3.6	1.2	6	82	710	-0.2	78	14	83	5	49	22	-1	-5	11	-5	4.41	627	-10	93	56	66
706	-145.3440	65.3839	18	7	-1	10	2.7	1	16	79	-500	-0.2	47	12	73	1	33	16	-1	-5	-5	-5	3.58	355	-10	70	34	40
707	-145.3450	65.3879	24	8	2	9.5	3	1.3	4	73	-500	-0.2	71	8	71	3	39	20	-1	-5	6	-5	4.19	592	-10	70	50	61
709	-145.3400	65.3917	24	10	1	11	3.8	1.3	4	98	-500	-0.2	71	12	67	2	37	16	-1	-5	-5	-5	3.83	413	-10	87	46	55
710	-145.3390	65.3957	30	5	-1	9	2.6	1.5	-1	100	-500	-0.2	95	15	78	2	45	22	-1	-5	13	5	4.64	486	-10	77	59	75
711	-145.3300	65.3988	20	5	1	11	3.4	1.3	1	130	-500	-0.2	65	12	72	1	35	18	-1	-5	-5	-5	4.00	423	-10	80	38	47
713	-145.1220	65.3773	23	6	-1	9.1	3	1.2	16	98	-500	-0.2	66	7	84	5	40	18	-1	-5	-5	-5	3.76	350	-10	90	42	56
714	-145.1300	65.3776	23	6	-1	8.5	2.9	1.2	9	71	-500	-0.2	76	10	86	2	36	21	1	-5	-5	-5	3.69	639	-10	93	44	61
715	-145.1390	65.3798	24	5	-1	8.1	2.8	1.2	5	49	-500	-0.2	70	8	74	-1	35	21	-1	-5	-5	-5	4.08	629	-10	73	43	63
716	-145.1480	65.3817	25	6	1	8.6	2.7	1.2	5	89	-500	-0.2	88	13	92	5	36	20	-1	-5	-5	6	3.94	599	-10	103	47	68
722	-145.1020	65.3879	23	7	1	8.7	2.7	1.3	4	91	-500	-0.2	54	11	75	-1	32	16	-1	-5	-5	-5	3.53	311	-10	82	40	52
723	-145.0930	65.3874	24	8	1	7.8	2.8	1.5	4	56	-500	-0.2	56	7	65	8	28	15	-1	-5	-5	-5	3.08	315	-10	69	38	46
724	-145.0820	65.3898	22	3	-1	6.4	2.3	0.94	6	72	-500	-0.2	127	6	84	4	51	29	-1	-5	-5	7	4.58	622	-10	106	64	94
726	-145.0730	65.3908	26	8	-1	8	2.2	1.6	2	71	-500	-0.2	90	7	75	3	41	23	-1	-5	6	6	4.10	602	-10	87	55	78
727	-145.0680	65.3927	25	7	1	8	3.1	1.3	5	89	-500	-0.2	74	9	81	5	39	19	-1	-5	-5	11	4.08	503	-10	73	53	73
731	-145.1390	65.3821	25	6	-1	8	2.6	1.3	3	82	-500	-0.2	94	3	75	2	43	24	-1	-5	-5	-5	4.29	376	-10	100	61	84
736	-145.1200	65.4100	25	6	2	8.1	2.9	1.5	6	45	-500	-0.2	78	10	80	8	53	22	-1	-5	-5	-5	4.66	750	-10	77	74	72
738	-145.1120	65.4121	27	8	1	7.4	2.4	1.6	3	79	-500	-0.2	86	6	85	2	51	27	-1	-5	-5	-5	5.76	841	-10	82	78	86

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded.

* indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2* ICP ppm	W-2* ICP ppm	La-2* ICP ppm	Al* ICP %	Mg* ICP %	Ca* ICP %	Ga* ICP ppm	Na-2* ICP %	K* ICP %	Li* ICP ppm	Nb* ICP ppm	Sr* ICP ppm	Ta-2* ICP ppm	Y* ICP ppm	Ti* ICP %	Zr-2* ICP ppm
672	-145.2070	65.3569	-20	-20	19	1.35	.46	.32	-2	-.01	.06	17	1	30	-100	6	.02	-1
673	-145.2070	65.3528	-20	-20	18	1.43	.43	.24	-2	-.01	.06	15	1	22	-100	5	.02	-1
674	-145.2060	65.3491	-20	-20	24	1.76	.52	.22	3	-.01	.05	23	1	22	-100	6	.01	-1
676	-145.2070	65.3450	-20	-20	27	1.33	.44	.28	-2	-.01	.06	17	1	27	-100	7	.02	-1
677	-145.2180	65.4429	-20	-20	25	1.58	.47	.34	-2	-.01	.06	24	1	34	-100	8	.02	-1
678	-145.2286	65.4393	-20	-20	32	1.43	.43	.32	-2	-.01	.07	17	1	30	-100	9	.02	-1
680	-145.2400	65.3582	-20	-20	23	1.40	.51	.55	-2	-.01	.07	22	2	45	-100	9	.01	-1
681	-145.2440	65.3547	-20	-20	15	1.98	.71	.34	6	-.01	.08	19	2	27	-100	4	.04	-1
682	-145.2440	65.3507	-20	-20	24	1.21	.43	.37	-2	-.01	.05	18	1	28	-100	9	.01	-1
683	-145.2450	65.3471	-20	-20	27	1.50	.47	.33	-2	-.01	.04	22	1	29	-100	9	.01	-1
685	-145.2020	65.3640	-20	-20	16	1.88	.74	.52	-2	-.01	.08	22	2	33	-100	8	.03	-1
686	-145.2040	65.3677	-20	-20	15	2.09	.94	.43	3	-.01	.08	24	2	25	-100	6	.04	-1
687	-145.2040	65.3718	-20	-20	13	1.78	.83	.29	3	-.01	.09	20	1	18	-100	6	.04	-1
688	-145.2050	65.3764	-20	-20	14	2.03	.88	.29	2	-.01	.09	20	1	19	-100	5	.05	-1
691	-145.2100	65.3842	-20	-20	13	1.70	.78	.30	3	-.01	.10	18	2	19	-100	5	.04	-1
694	-145.2380	65.3840	-20	-20	12	2.00	1.04	.33	3	-.01	.13	22	2	15	-100	6	.07	-1
696	-145.2410	65.3741	-20	-20	8	2.15	1.14	.30	5	-.01	.15	23	1	13	-100	5	.09	-1
697	-145.2440	65.3783	-20	-20	7	1.95	1.08	.27	6	-.01	.13	20	2	10	-100	4	.08	-1
699	-145.2970	65.3713	-20	-20	26	1.98	.98	.27	-2	-.01	.13	24	1	17	-100	12	.04	-1
700	-145.3050	65.3743	-20	-20	19	1.87	.90	.23	-2	-.01	.10	20	1	14	-100	7	.04	-1
701	-145.3130	65.3785	-20	-20	19	1.97	.90	.42	3	-.01	.11	22	2	24	-100	8	.04	-1
702	-145.3230	65.3770	-20	-20	24	1.99	.83	.31	3	-.01	.11	20	1	19	-100	8	.03	-1
704	-145.3340	65.3777	-20	-20	17	1.98	1.02	.35	-2	-.01	.10	21	1	19	-100	7	.04	-1
705	-145.3430	65.3799	-20	-20	23	2.34	1.10	.37	-2	-.01	.13	23	1	24	-100	10	.05	-1
706	-145.3440	65.3839	-20	-20	27	1.83	.73	.52	-2	-.01	.12	21	2	33	-100	10	.04	-1
707	-145.3450	65.3879	-20	-20	16	2.16	1.09	.26	-2	-.01	.10	20	1	18	-100	7	.05	-1
709	-145.3400	65.3917	-20	-20	20	2.09	.97	.37	3	-.01	.10	19	2	21	-100	7	.04	-1
710	-145.3380	65.3957	-20	-20	14	2.49	1.30	.36	5	-.01	.17	22	2	17	-100	6	.07	-1
711	-145.3300	65.3988	-20	-20	23	1.95	.95	.23	-2	-.01	.10	20	-1	15	-100	9	.03	-1
713	-145.1220	65.3773	-20	-20	16	2.19	.90	.54	-2	-.01	.12	29	1	27	-100	11	.05	-1
714	-145.1300	65.3776	-20	-20	15	2.05	.90	.46	-2	-.01	.11	24	1	24	-100	8	.05	-1
715	-145.1390	65.3798	-20	-20	11	2.01	.97	.41	-2	-.01	.11	22	1	19	-100	6	.05	-1
718	-145.1480	65.3817	-20	-20	11	2.19	1.00	.40	-2	-.01	.12	24	2	20	-100	7	.07	-1
722	-145.1020	65.3879	-20	-20	12	1.88	.89	.44	4	-.01	.08	20	2	28	-100	5	.04	-1
723	-145.0930	65.3874	-20	-20	10	1.75	.83	.35	2	-.01	.07	18	1	17	-100	5	.04	-1
724	-145.0820	65.3888	-20	-20	11	2.62	1.31	1.05	3	-.01	.11	28	2	43	-100	9	.06	-1
726	-145.0730	65.3906	-20	-20	9	2.18	1.09	.40	2	-.01	.12	23	1	17	-100	5	.07	-1
727	-145.0680	65.3927	-20	-20	11	2.38	1.08	.53	3	-.01	.09	30	1	28	-100	6	.05	-1
731	-145.1390	65.3921	-20	-20	8	2.52	1.28	.37	5	-.01	.13	25	2	18	-100	5	.10	-1
735	-145.1200	65.4100	-20	-20	16	2.22	1.29	.67	-2	-.01	.08	19	2	43	-100	9	.04	-1
738	-145.1120	65.4121	-20	-20	13	2.62	1.44	.67	-2	-.01	.08	23	1	41	-100	8	.04	-1

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
737	-145.1030	65.4144	-5	-100	-5	-200	-2	70	23	-10	6	1.8	5.3	-10	-20	420	170	-200	-2	2	38	69	7	-2	-1	-5	-0.5
738	-145.0930	65.4153	12	-100	-5	-200	-2	66	24	-10	12	3.3	5	-10	-20	600	180	-200	-2	3	50	98	8.8	3	-1	-5	-0.5
740	-145.1730	65.4213	-5	-100	-5	-200	-2	37	19	-10	11	1.6	5.2	-10	-20	770	120	-200	-2	2	45	84	8	-2	-1	-5	0.6
741	-145.1750	65.4255	7	-100	-5	-200	-2	82	27	-10	13	2	5.9	-10	-20	880	180	-200	-2	3	38	56	6.3	-2	-1	-5	-0.5
742	-145.1780	65.4305	130	-100	-5	-200	-2	54	17	-10	9	1.8	4	-10	-20	770	130	-200	-2	3	47	92	7.8	-2	-1	-5	-0.5
744	-145.2040	65.4178	9	-100	-5	-200	-2	38	26	-10	13	1.3	6.1	-10	-20	440	120	-200	-2	3	32	62	6.7	-2	-1	-5	0.5
745	-145.2030	65.4138	7	-100	-5	-200	-2	-20	34	-10	7	1	6.1	-10	-20	620	150	-200	-2	2	35	63	7.1	3	-1	-5	0.6
746	-145.2040	65.4094	-5	-100	-5	-200	-2	-20	26	-10	7	1	5.7	-10	-20	600	120	-200	-2	2	31	61	6.2	3	-1	-5	0.5
747	-145.2070	65.4045	290	-100	-5	-200	-2	58	23	-10	6	1	5.1	-10	-20	540	110	-200	-2	2	34	57	6.3	-2	-1	-5	-0.5
749	-145.2520	65.4144	5	-100	-5	-200	-2	42	18	-10	10	1.1	4.7	-10	-20	620	91	-200	-2	3	39	60	6.7	-2	-1	-5	-0.5
750	-145.2540	65.4095	-5	-100	-5	-200	-2	-20	19	-10	12	1	4.8	-10	-20	610	120	-200	-2	2	38	70	6.8	3	-1	-5	-0.5
751	-145.2590	65.4067	-5	-100	-5	-200	-2	64	23	-10	9	1.1	5	-10	-20	490	120	-200	-2	2	36	75	7	3	1	-5	0.5
752	-145.2850	65.4028	-5	-100	-5	-200	-2	-20	26	-10	10	1.2	5.9	-10	-20	450	120	-200	-2	2	34	65	6.9	3	1	-5	0.6
753	-145.2880	65.3984	34	-100	-5	380	-2	-20	26	-10	11	1.3	4.5	-10	-20	620	89	-200	-2	2	37	62	6.8	-2	-1	-5	-0.5
762	-145.3090	65.4234	38	-100	-5	-200	-2	41	16	-10	334	1.9	5.2	-10	-20	880	180	-200	2	4	54	91	8.4	-2	-1	-5	0.6
765	-144.6720	65.3614	-5	-100	-5	230	-2	-20	27	-10	8	0.6	5.4	-10	-20	590	130	-200	3	1	42	79	8.2	2	1	-5	-0.5
768	-144.6700	65.3658	-5	-100	-5	210	-2	53	21	-10	6	0.6	5	-10	-20	720	110	-200	2	3	42	79	7.6	-2	-1	-5	-0.5
767	-144.6880	65.3704	-5	-100	-5	-200	-2	-20	17	-10	7	0.6	4.7	-10	-20	620	130	-200	-2	2	43	74	7.4	-2	-1	-5	0.5
769	-144.6880	65.3752	-5	-100	-5	210	-2	-20	19	-10	6	0.7	4.6	-10	-20	590	130	-200	-2	2	43	81	7.7	3	-1	-5	0.5
770	-144.6840	65.3791	-5	-100	-5	290	-2	-20	22	-10	8	0.7	4.9	-10	-20	690	140	-200	-2	2	45	82	7.8	-2	-1	-5	-0.5
771	-144.6810	65.3834	-5	-100	-5	-200	-2	-20	25	-10	7	0.9	4.7	-10	-20	660	120	-200	-2	3	47	76	8	3	1	-5	-0.5
772	-144.6610	65.3879	-5	-100	-5	-200	-2	37	17	-10	7	0.8	4.6	-10	-20	830	120	-200	-2	2	44	80	7.1	-2	-1	-5	-0.5
774	-144.6590	65.3934	5	-100	-5	-200	-2	34	22	-10	9	0.9	4.5	-10	-20	800	120	-200	-2	3	50	97	8.1	-2	1	-5	-0.5
775	-144.6540	65.3969	-5	-100	-5	290	-2	48	21	-10	7	1	4.2	-10	-20	830	120	-200	-2	2	53	85	8.5	-2	1	-5	0.6
776	-144.6470	65.4001	-5	-100	-5	-200	-2	-20	20	-10	7	0.8	4	-10	-20	770	140	-200	4	3	46	85	7.5	-2	-1	-5	0.5
777	-144.6390	65.4025	-5	-100	-5	230	-2	-20	48	-10	11	0.9	5.3	-10	-20	760	85	-200	5	3	52	110	9.2	3	1	-5	-0.5
779	-144.6290	65.4024	6	-100	-5	-200	-2	27	40	-10	6	0.7	5.2	-10	-20	670	130	-200	-2	3	50	100	9.1	-2	-1	-5	0.6
780	-144.6210	65.4008	14	-100	-5	250	-2	44	24	-10	6	0.7	4.9	-10	-20	650	160	-200	-2	3	38	79	7.2	-2	-1	-5	-0.5
782	-144.6137	65.3448	-5	-100	-5	-200	-2	-20	17	-10	8	0.6	4.3	-10	-20	690	120	-200	-2	3	50	92	7.5	-2	-1	-5	-0.5
783	-144.6090	65.3472	-5	-100	-5	-200	-2	-20	15	-10	11	1.4	4.1	-10	-20	960	170	-200	-2	2	51	94	8.2	-2	1	-5	-0.5
784	-144.6060	65.3513	-5	-100	-5	-200	-2	-20	18	-10	6	0.5	4.4	-10	-20	690	100	-200	-2	3	48	93	7.4	-2	-1	-5	-0.5
785	-144.6040	65.3549	-5	-100	-5	-200	-2	35	19	-10	8	0.6	4.6	-10	-20	730	120	-200	-2	3	49	86	7.7	-2	1	-5	0.5
787	-144.6000	65.3592	-5	-100	-5	-200	-2	-20	17	-10	9	0.8	4.4	-10	-20	720	100	-200	-2	2	40	83	6.6	-2	-1	-5	-0.5
788	-144.5970	65.3639	-5	-100	-5	-200	-2	-20	27	-10	12	1	5.2	-10	-20	780	130	-200	-2	3	39	75	5.9	-2	-1	-5	-0.5
789	-144.5950	65.3683	-5	-100	-5	-200	-2	33	17	-10	7	0.5	3.8	-10	-20	690	99	-200	-2	2	41	77	6.4	-2	-1	-5	-0.5
790	-144.5930	65.3727	-5	-100	-5	-200	-2	47	13	-10	6	0.5	4.2	-10	-20	590	150	-200	-2	2	41	71	6.6	-2	-1	-5	0.5
792	-144.5950	65.3775	-5	-100	-5	-200	-2	28	16	-10	6	0.6	3.1	-10	-20	640	120	-200	2	3	44	81	6.2	-2	-1	-5	-0.5
793	-144.5980	65.3818	-5	-100	-5	-200	-2	76	21	-10	5	0.6	5.6	-10	-20	500	140	-200	-2	3	43	82	7.5	3	-1	-5	0.5
794	-144.5970	65.3862	-5	-100	-5	-200	-2	-20	18	-10	5	0.5	4.6	-10	-20	560	130	-200	-2	3	40	79	6.6	2	-1	-5	-0.5
796	-144.5830	65.3319	-5	-100	-5	-200	-2	-20	15	-10	8	0.7	3.6	-10	-20	780	130	-200	4	3	49	94	7.7	-2	-1	-5	0.6
799	-144.5850	65.3364	-5	-100	-5	-200	-2	29	16	-10	7	0.7	3.9	-10	-20	880	110	-200	-2	2	51	94	7.9	-2	-1	-5	0.6

INAA—Instrumental Neutron Activation Analysis; ICP—Inductively Coupled Plasma spectrographic analysis; ppb—parts per billion, ppm—parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			(INAA ppm)	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
737	-145.1030	65.4144	21	6	2	7.5	2	1.8	4	82	690	-0.2	62	10	71	3	46	21	-1	-5	-5	9	4.21	585	-10	53	64	62
738	-145.0930	65.4153	21	9	2	10	3.2	1.3	12	96	-500	-0.2	68	12	82	-1	44	17	-1	-5	6	8	3.88	517	-10	80	59	56
740	-145.1730	65.4213	20	8	2	11	3.4	1.6	2	100	-500	-0.2	49	10	78	4	35	16	-1	-5	11	5	3.64	521	-10	119	46	48
741	-145.1750	65.4255	20	9	-1	10	3.6	1.1	3	140	-500	-0.2	75	11	91	-1	50	22	-1	-5	6	6	4.71	591	-10	167	70	73
742	-145.1760	65.4305	18	10	1	13	3.9	1.5	3	120	-500	-0.2	42	15	79	5	34	15	-1	-5	6	7	3.45	752	-10	143	42	44
744	-145.2040	65.4178	26	7	-1	9.3	3	1.3	5	81	-500	-0.2	78	10	80	2	44	21	-1	-5	12	-5	4.35	582	-10	89	52	67
745	-145.2030	65.4138	27	9	1	10	3.7	1.2	4	66	-500	-0.2	67	9	80	3	39	27	-1	-5	-5	5	4.10	1268	-10	99	47	63
746	-145.2040	65.4094	26	8	1	9.2	3	1.2	4	68	-500	-0.2	60	8	73	8	35	17	-1	-5	-5	8	3.81	436	-10	70	44	58
747	-145.2070	65.4045	24	8	1	9.1	3.1	1.2	4	85	-500	-0.2	64	13	74	5	37	17	1.1	-5	-5	-5	3.71	441	-10	74	44	58
749	-145.2520	65.4144	19	6	1	10	3.3	1.2	4	72	-500	-0.2	71	8	65	5	34	15	-1	-5	-5	6	3.32	362	-10	79	35	47
750	-145.2540	65.4065	21	9	1	10	3.6	1.6	2	47	680	-0.2	47	11	64	5	29	15	-1	-5	-5	7	3.39	325	-10	93	37	53
751	-145.2590	65.4057	22	10	1	10	3.2	1.1	6	80	-500	-0.2	77	11	67	5	35	18	-1	-5	-5	12	3.39	587	-10	67	37	49
752	-145.2850	65.4028	25	9	1	10	3.1	1.4	4	80	-500	-0.2	69	7	69	-1	37	19	-1	-5	-5	-5	3.53	468	-10	56	37	49
753	-145.2880	65.3984	18	5	-1	10	3.7	1.4	3	130	-500	-0.2	65	37	134	2	35	17	-1	-5	-5	-5	3.73	557	-10	96	46	53
762	-145.3090	65.4234	17	7	1	18	4.6	0.77	7	130	-500	-0.2	42	45	108	-1	55	16	-1	-5	351	7	4.13	620	-10	85	47	28
765	-144.6720	65.3814	20	10	2	12	4.4	1.6	3	95	-500	-0.2	69	30	125	7	36	19	1	-5	-5	-5	3.93	604	-10	83	46	60
766	-144.6700	65.3858	18	9	2	11	4.3	1.6	2	96	-500	-0.2	64	40	150	-1	33	17	-1	-5	7	-5	3.72	569	-10	103	46	53
767	-144.6680	65.3704	17	8	1	11	4.2	1.5	2	89	-500	-0.2	64	39	137	5	33	16	-1	-5	-5	-5	3.53	577	-10	97	44	50
769	-144.6680	65.3752	17	9	2	11	4.2	1.4	2	110	800	-0.2	61	38	142	6	32	17	-1	-5	10	-5	3.51	597	-10	97	43	49
770	-144.6540	65.3791	19	9	1	12	4.4	1.3	2	100	-500	-0.2	78	49	161	8	38	19	-1	-5	11	6	4.08	726	-10	87	50	56
771	-144.6610	65.3834	18	9	2	11	5	1.3	5	84	-500	-0.2	70	45	153	4	34	19	1.2	-5	-5	-5	3.55	566	-10	134	46	53
772	-144.6610	65.3679	17	7	2	11	4.1	1.4	2	110	-500	-0.2	50	33	126	1	31	13	-1	-5	-5	-5	3.12	393	-10	137	41	42
774	-144.6590	65.3634	18	10	1	12	4.6	1.3	2	99	1000	-0.2	47	29	98	2	33	12	-1	-5	-5	7	3.13	298	-10	146	45	46
775	-144.6540	65.3689	16	9	2	15	5.1	1.3	2	120	-500	-0.2	58	72	201	9	29	14	1.4	-5	22	-5	3.05	705	-10	118	39	39
776	-144.6470	65.4001	17	9	1	12	4.6	1.5	2	77	-500	-0.2	51	27	147	6	30	15	-1	-5	10	-5	2.92	426	-10	123	43	42
777	-144.6390	65.4025	14	6	-1	12	5.3	1.3	6	110	-500	-0.2	59	30	218	6	31	40	1.8	-5	17	-5	4.27	2008	-10	192	36	54
779	-144.6290	65.4024	21	8	1	11	4.5	1.4	4	80	-500	-0.2	70	21	110	11	38	32	-1	-5	6	-5	3.60	757	-10	114	49	58
780	-144.6210	65.4008	22	7	2	10	3.3	1.2	4	89	780	-0.2	78	35	104	6	43	19	1.1	-5	12	-5	3.89	447	-10	130	66	73
782	-144.6137	65.3446	18	8	1	14	4.6	1.3	3	110	-500	-0.2	46	14	64	9	20	11	-1	-5	-5	-5	3.05	363	-10	103	25	28
783	-144.6090	65.3472	17	11	1	14	4.5	1.8	-1	88	-500	-0.2	52	8	66	9	23	10	-1	-5	9	-5	2.73	261	-10	220	27	39
784	-144.6060	65.3513	15	8	1	13	4.3	1.2	2	110	-500	-0.2	37	14	66	8	22	12	-1	-5	8	-5	2.99	397	-10	100	25	27
785	-144.6040	65.3549	16	7	1	13	4.5	1.3	3	110	-500	-0.2	56	17	82	4	28	15	-1	-5	15	-5	3.47	452	-10	116	32	39
787	-144.6000	65.3592	18	8	1	11	3.6	1.4	1	74	-500	-0.2	44	15	67	6	21	10	-1	-5	-5	-5	3.11	222	-10	131	29	40
788	-144.5970	65.3639	15	8	1	10	3.6	1.5	1	98	-500	-0.2	37	15	67	15	18	22	-1	-5	19	-5	3.99	1099	-10	117	32	55
789	-144.5950	65.3983	16	7	2	12	3.8	1.2	4	99	-500	-0.2	52	17	68	5	25	16	-1	-5	-5	-5	3.19	485	-10	99	33	42
790	-144.5930	65.3727	19	7	2	10	3.4	1.5	2	80	-500	-0.2	58	19	64	1	23	11	-1	-5	12	-5	2.87	278	-10	83	36	45
792	-144.5890	65.3775	13	5	-1	8.7	3.7	1.1	4	65	-500	-0.2	50	22	58	5	22	7	-1	-5	16	-5	2.55	155	-10	138	29	25
793	-144.5980	65.3818	23	10	2	10	3.4	1.8	2	70	-500	-0.2	78	18	84	6	31	18	-1	-5	15	-5	3.71	397	-10	97	52	78
794	-144.5970	65.3852	19	7	1	9.2	3.1	1.4	2	68	-500	-0.2	71	14	78	-1	29	13	-1	-5	9	-5	3.39	310	-10	77	47	65
796	-144.5830	65.3319	14	7	-1	11	3.8	1.5	2	75	-500	-0.2	36	9	68	6	28	11	-1	-5	10	-5	2.57	271	-10	107	22	28
799	-144.5860	65.3364	15	7	1	11	4.2	1.6	2	87	-500	-0.2	31	12	64	-1	25	11	-1	-5	9	-5	2.38	255	-10	91	21	23

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion; ppm-parts per million, - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2* ICP ppm	W-2* ICP ppm	La-2* ICP ppm	Al* ICP %	Mg* ICP %	Ca* ICP %	Ga* ICP ppm	Na-2* ICP %	K* ICP %	Li* ICP ppm	Nb* ICP ppm	Sr* ICP ppm	Ta-2* ICP ppm	Y* ICP ppm	Ti* ICP %	Zr-2* ICP ppm
737	-145.1030	65.4144	-20	-20	16	1.87	1.18	.68	3	-.01	.09	15	2	39	-100	8	.03	-1
738	-145.0930	65.4153	-20	-20	21	1.83	.99	.99	-2	-.01	.10	17	3	57	-100	10	.03	-1
740	-145.1730	65.4213	-20	-20	17	1.89	.85	.36	-2	.01	.13	18	2	24	-100	6	.05	-1
741	-145.1750	65.4255	-20	-20	16	2.58	1.16	.47	4	-.01	.20	22	2	30	-100	6	.07	-1
742	-145.1760	65.4305	-20	-20	22	1.82	.70	.36	-2	.01	.09	18	2	26	-100	7	.03	-1
744	-145.2040	65.4178	-20	-20	15	2.28	1.11	.41	-2	-.01	.10	26	1	22	-100	8	.05	-1
745	-145.2030	65.4138	-20	-20	15	2.23	1.02	.26	-2	.01	.09	27	1	15	-100	7	.04	-1
746	-145.2040	65.4094	-20	-20	11	2.05	.98	.32	-2	-.01	.09	24	-1	16	-100	5	.04	-1
747	-145.2070	65.4045	-20	-20	16	2.04	.93	.30	-2	-.01	.09	25	-1	19	-100	7	.04	-1
749	-145.2520	65.4144	-20	-20	18	1.84	.80	.30	-2	-.01	.09	19	-1	18	-100	8	.04	-1
750	-145.2540	65.4095	-20	-20	15	1.98	.77	.31	3	-.01	.07	17	1	19	-100	6	.05	-1
751	-145.2590	65.4067	-20	-20	16	1.83	.87	.30	-2	-.01	.10	18	1	16	-100	8	.05	-1
752	-145.2850	65.4028	-20	-20	14	1.84	.95	.24	3	-.01	.11	19	1	13	-100	7	.05	-1
753	-145.2880	65.3984	-20	-20	18	2.07	.97	.42	-2	.01	.12	31	2	23	-100	8	.06	-1
782	-145.3090	65.4234	-20	-20	22	1.41	.82	.29	-2	-.01	.09	12	-1	27	-100	8	.02	-1
785	-144.6720	65.3614	-20	-20	17	2.07	1.02	.46	-2	.01	.13	35	2	26	-100	8	.09	-1
788	-144.6700	65.3656	-20	-20	17	2.08	.95	.42	-2	-.01	.11	33	2	23	-100	8	.09	-1
787	-144.6880	65.3704	-20	-20	18	1.99	.90	.44	-2	.01	.11	30	2	26	-100	8	.08	-1
789	-144.6880	65.3752	-20	-20	16	1.95	.90	.44	-2	-.01	.11	31	2	23	-100	8	.08	-1
770	-144.6840	65.3791	-20	-20	18	2.13	1.01	.42	-2	-.01	.13	36	2	22	-100	9	.09	-1
771	-144.6610	65.3834	-20	-20	21	2.15	.87	.57	-2	.01	.12	35	3	29	-100	12	.07	-1
772	-144.6610	65.3879	-20	-20	20	2.00	.77	.43	-2	.01	.09	28	2	22	-100	9	.06	-1
774	-144.6590	65.3934	-20	-20	28	2.11	.74	.40	3	.01	.07	28	2	21	-100	10	.05	-1
775	-144.6540	65.3989	-20	-20	23	1.87	.72	.36	-2	.01	.05	37	2	24	-100	10	.09	-1
776	-144.6470	65.4001	-20	-20	22	2.06	.78	.37	-2	.01	.07	31	2	23	-100	9	.07	-1
777	-144.6390	65.4025	-20	-20	32	2.17	.63	.57	-2	.01	.07	30	2	36	-100	18	.06	-1
779	-144.6290	65.4024	-20	-20	22	2.19	.96	.46	-2	.01	.08	31	2	23	-100	13	.07	-1
780	-144.6210	65.4008	-20	-20	18	2.61	1.21	.42	5	.01	.09	28	3	24	-100	9	.08	-1
782	-144.6137	65.3446	-20	-20	25	1.89	.58	.31	-2	.01	.07	20	2	22	-100	7	.03	-1
783	-144.6090	65.3472	-20	-20	21	1.71	.57	.37	4	.02	.07	15	2	29	-100	8	.06	-1
784	-144.6080	65.3513	-20	-20	23	1.66	.59	.33	-2	.01	.07	19	2	22	-100	8	.03	-1
785	-144.6040	65.3549	-20	-20	25	1.94	.73	.37	2	.01	.09	23	2	24	-100	9	.04	-1
787	-144.6000	65.3592	-20	-20	19	1.78	.59	.25	3	.01	.07	16	2	21	-100	6	.04	-1
788	-144.5970	65.3639	-20	-20	15	1.79	.62	.25	-2	.01	.08	18	2	20	-100	4	.05	-1
789	-144.5950	65.3683	-20	-20	21	1.85	.69	.28	3	.01	.09	18	2	20	-100	7	.04	-1
790	-144.5930	65.3727	-20	-20	17	1.71	.73	.23	4	-.01	.08	18	2	18	-100	5	.07	-1
792	-144.5950	65.3775	-20	-20	27	1.84	.48	.18	5	.01	.07	15	2	18	-100	9	.03	-1
793	-144.5980	65.3818	-20	-20	11	2.17	1.02	.32	5	.01	.13	24	2	20	-100	5	.10	-1
794	-144.5970	65.3882	-20	-20	14	2.03	.82	.21	4	.01	.12	23	2	18	-100	5	.09	-1
798	-144.5630	65.3319	-20	-20	27	1.52	.51	.29	-2	.02	.07	18	2	21	-100	11	.04	-1
799	-144.5650	65.3364	-20	-20	24	1.38	.49	.27	-2	.02	.07	17	2	19	-100	11	.04	-1

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
800	-144.5630	65.3406	7	-100	-5	-200	-2	32	14	-10	7	0.6	3.5	-10	-20	780	89	-200	-2	2	50	89	7.8	-2	-1	-5	-0.5
801	-144.5590	65.3444	-5	-100	-5	-200	-2	-20	14	-10	8	0.7	3.7	-10	-20	770	100	-200	-2	3	50	110	7.8	-2	-1	-5	-0.5
803	-144.5540	65.3475	-5	-100	-5	-200	-2	-20	-10	-10	8	0.6	3.6	-10	-20	640	110	-200	2	2	55	100	8.2	2	-1	-5	-0.5
804	-144.5510	65.3516	5	-100	-5	-200	-2	-20	-10	-10	5	0.6	3.8	-10	-20	740	130	-200	-2	2	55	110	7.9	-2	-1	-5	0.6
805	-144.5460	65.3557	-5	-100	-5	-200	-2	-20	15	-10	7	0.8	3.7	-10	-20	930	140	-200	-2	2	56	100	8.9	4	-1	-5	-0.5
808	-144.5430	65.3597	8	-100	-5	-200	-2	67	13	-10	7	1	3.6	-10	-20	920	96	-200	-2	2	54	94	8.8	-2	-1	-5	0.6
808	-144.5410	65.3639	-5	-100	-5	-200	-2	-20	15	-10	9	1.1	3.8	-10	-20	1100	130	-200	-2	2	45	76	7.6	-2	-1	-5	-0.5
809	-144.5400	65.3684	-5	-100	-5	-200	-2	-20	15	-10	8	1	3.1	-10	-20	870	110	-200	-2	2	40	77	6.9	-2	-1	-5	-0.5
810	-144.5360	65.3724	-5	-100	-5	-200	-2	42	13	-10	7	0.7	3	-10	-20	840	120	-200	-2	2	44	88	7.3	3	1	-5	-0.5
811	-144.5320	65.3764	17	-100	-5	-200	-2	24	12	-10	7	0.9	3.1	-10	-20	860	120	-200	-2	2	43	71	7.1	-2	-1	-5	-0.5
813	-144.5270	65.3799	-5	-100	-5	-200	-2	-20	24	-10	7	0.5	4.4	-10	-20	830	110	-200	-2	3	52	94	7.8	-2	-1	-5	-0.5
814	-144.5180	65.3816	-5	-100	-5	-200	-2	-20	25	-10	7	0.5	4.1	-10	-20	860	98	-200	3	4	55	100	7.9	-2	-1	-5	-0.5
815	-144.5100	65.3798	-5	-100	-5	-200	-2	28	15	-10	7	0.5	4.1	-10	-20	820	100	-200	2	3	52	86	7.9	-2	-1	-5	0.5
817	-144.5340	65.3810	-5	-100	-5	-200	-2	-20	11	-10	6	0.5	3	-10	-20	680	72	-200	-2	3	41	70	6	-2	-1	-5	0.5
818	-144.5360	65.3852	-5	-100	-5	-200	-2	-20	-10	-10	6	0.7	2.9	-10	-20	660	110	-200	-2	2	49	89	7.4	2	1	-5	-0.5
821	-145.6310	65.4040	-5	-100	-5	-200	-2	-20	25	-10	7	1.9	4.8	-10	-20	500	140	-200	-2	2	39	71	7.2	3	1	-5	-0.5
822	-145.6280	65.4001	-5	-100	-5	-200	-2	-20	27	-10	8	1.6	5.7	-10	-20	590	150	-200	-2	2	42	82	7.7	2	-1	-5	-0.5
824	-145.6280	65.3985	-5	-100	-5	-200	-2	-20	23	-10	9	1.6	4.6	-10	-20	850	120	-200	2	2	57	100	10	-2	-1	-5	-0.5
825	-145.6240	65.3927	-5	-100	-5	-200	-2	29	20	-10	10	1.5	4.4	-10	-20	750	130	-200	3	3	40	84	6.4	-2	-1	-5	-0.5
826	-145.6240	65.3881	6	-100	-5	-200	-2	-20	36	-10	16	1.6	6.1	-10	-20	810	110	-200	-2	4	62	110	10	-2	1	-5	-0.5
827	-145.6250	65.3839	-5	-100	-5	-200	-2	-20	15	-10	11	1.3	3.9	-10	-20	860	110	-200	-2	5	52	100	7.2	-2	-1	-5	-0.5
828	-145.6250	65.3801	-5	-100	-5	-200	-2	-20	20	-10	11	2.1	3.9	-10	-20	740	100	-200	-2	2	58	100	9	3	-1	-5	0.6
829	-145.6240	65.3781	-5	-100	-5	-200	-2	-20	20	-10	11	1.5	4	-10	-20	790	110	-200	-2	3	57	110	10	-2	-1	-5	-0.5
837	-145.5440	65.3894	18	-100	-5	-200	-2	31	21	-10	12	1.1	4.7	-10	-20	780	86	-200	-2	4	47	79	8.6	-2	-1	-5	0.5
838	-145.5530	65.3887	33	-100	-5	-200	-2	46	16	-10	14	1.3	4.7	-10	-20	820	150	-200	-2	4	55	86	10	-2	1	-5	-0.5
839	-145.5590	65.3835	-5	-100	-5	-200	-2	-20	24	-10	13	1.6	4.7	-10	-20	880	120	-200	4	3	56	110	10	2	-1	-5	0.6
840	-145.5680	65.3812	5	-100	-5	-200	-2	-20	18	-10	10	2.1	4.4	-10	-20	790	140	-200	2	3	55	94	9	-2	-1	-5	0.5
844	-145.5360	65.3925	6	-100	-5	-200	-2	54	23	-10	19	1.4	5.5	-10	-20	590	140	-200	-2	2	37	70	6.8	-2	-1	-5	0.5
846	-145.5270	65.3798	19	-100	-5	-200	-2	32	16	-10	40	2.5	5.1	-10	-20	640	170	-200	3	2	49	96	8.3	-2	-1	-5	0.6
846	-145.5290	65.3753	7	-100	-5	-200	-2	-20	18	-10	12	2.6	4.4	-10	-20	700	120	-200	-2	2	50	82	8.6	-2	-1	-5	0.7
849	-145.5250	65.3716	13	-100	-5	-200	-2	-20	24	-10	13	2	4.8	-10	-20	690	150	-200	-2	3	42	83	7.6	-2	-1	-5	-0.5
850	-145.5190	65.3683	7	-100	-5	-200	-2	83	24	-10	8	1.3	4.6	-10	-20	610	130	-200	-2	2	43	80	7.8	-2	1	-5	0.6
851	-145.5100	65.3655	-5	-100	-5	-200	-2	-20	23	-10	7	1.3	5.4	-10	-20	820	140	-200	-2	3	49	78	6.8	-2	1	-5	0.6
853	-145.5016	65.3657	5	-100	-5	-200	-2	48	22	-10	5	1.5	5.1	-10	-20	820	130	-200	-2	3	46	83	8.3	-2	-1	-5	0.7
854	-145.4930	65.3633	7	-100	-5	-200	-2	49	21	-10	9	1.2	4.5	-10	-20	850	100	-200	4	2	40	85	7	-2	-1	-5	-0.5
855	-145.4830	65.3650	-5	-100	-5	-200	-2	-20	18	-10	9	1.2	4.5	-10	-20	700	140	-200	2	2	44	80	7.3	-2	1	-5	0.6
857	-145.5251	65.3652	19	-100	-5	-200	-2	85	33	-10	14	2.5	7.1	-10	-20	430	130	-200	-2	3	31	60	5.9	-2	1	-5	-0.5
858	-145.5150	65.3681	8	-100	-5	-200	-2	-20	25	-10	29	1.5	6.1	-10	-20	580	150	-200	-2	2	39	83	7.4	3	-1	-5	0.6
859	-145.5046	65.3654	-5	-100	-5	-200	-2	-20	26	-10	10	0.8	5.8	-10	-20	540	160	-200	-2	2	37	68	7.4	3	1	-5	0.6
860	-145.4980	65.3632	13	-100	-5	-200	-2	82	29	-10	16	1.1	6.1	-10	-20	590	150	-200	-2	2	39	72	7.2	3	1	-5	0.5
862	-145.6820	65.4281	21	-100	-5	-200	-2	98	23	-10	29	4.8	6.7	-10	-20	980	130	-200	5	3	53	100	8.9	3	2	-5	0.5

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
800	-144.5630	65.3406	14	8	1	11	3.9	1.5	2	100	-500	-0.2	38	10	68	-1	28	11	-1	-5	7	-5	2.57	250	-10	89	23	26
801	-144.5590	65.3444	14	7	1	12	4.1	1.5	2	75	-500	-0.2	36	10	64	3	25	10	-1	-5	21	-5	2.50	242	-10	91	22	26
803	-144.5540	65.3475	14	10	2	12	4.1	1.3	2	92	-500	-0.2	33	12	63	-1	22	10	-1	-5	6	-5	2.66	259	-10	79	22	26
804	-144.5510	65.3516	15	11	1	11	3.9	1.7	-1	85	-500	-0.2	34	13	53	4	17	7	1.1	-5	7	-5	2.07	158	-10	79	19	18
805	-144.5460	65.3557	14	10	1	12	4.3	1.6	2	130	-500	-0.2	24	14	55	6	17	6	-1	-5	9	-5	2.15	157	-10	84	18	18
806	-144.5430	65.3597	15	11	2	11	4.1	1.7	-1	83	-500	-0.2	34	8	57	-1	20	8	-1	-5	13	-5	2.08	180	-10	118	18	21
808	-144.5410	65.3639	16	8	1	13	4.7	1.7	-1	97	-500	-0.2	48	10	67	4	23	10	-1	-5	24	-5	2.51	287	-10	192	25	34
809	-144.5400	65.3684	15	9	-1	12	4.2	1.7	2	83	550	-0.2	39	8	56	-1	18	8	-1	-5	17	-5	2.21	198	-10	142	22	26
810	-144.5390	65.3724	14	7	1	11	3.8	1.4	3	76	-500	-0.2	31	9	60	-1	22	11	1.1	-5	16	-5	2.31	284	-10	104	24	24
811	-144.5320	65.3784	14	9	1	12	4.1	1.7	-1	89	520	-0.2	41	7	56	-1	18	9	-1	-5	13	-5	2.18	198	-10	147	22	28
813	-144.5270	65.3799	14	7	2	15	4.4	1.3	2	130	-500	-0.2	39	9	78	3	29	18	-1	-5	15	-5	3.04	541	-10	82	22	21
814	-144.5180	65.3816	14	6	2	15	4.4	1.2	3	130	-500	-0.2	40	10	73	6	32	22	-1	-5	17	-5	3.23	669	-10	85	24	22
815	-144.5100	65.3798	15	8	2	15	4.6	1.3	3	120	-500	-0.2	37	9	63	4	26	12	-1	-5	17	-5	2.87	325	-10	90	23	21
817	-144.5340	65.3810	14	8	1	11	3.7	1.3	2	100	-500	-0.2	31	8	46	4	14	5	-1	-5	7	-5	2.16	135	-10	67	18	14
818	-144.5390	65.3852	13	12	1	13	4.6	1.2	3	83	-500	-0.2	31	7	47	9	14	7	-1	-5	18	-5	2.16	138	-10	71	19	17
821	-145.6310	65.4040	21	7	1	11	3.8	1.3	2	60	600	-0.2	62	5	75	3	38	20	-1	-5	23	-5	3.89	548	-10	69	44	49
822	-145.6280	65.4001	23	9	1	11	3.9	1.4	3	90	-500	-0.2	28	14	66	4	19	17	-1	-5	18	-5	3.13	639	-10	78	22	24
824	-145.6290	65.3995	16	9	2	17	5.9	1.2	3	120	-500	-0.2	45	14	84	3	31	18	1.5	-5	14	-5	3.13	1029	-10	107	22	21
825	-145.6240	65.3927	14	7	-1	13	3.5	1.1	2	98	-500	-0.2	15	15	62	-1	20	18	-1	7	16	-5	3.18	685	-10	77	24	37
826	-145.6240	65.3881	15	9	2	16	6.5	1.1	6	130	-500	-0.2	37	14	91	6	35	29	1.7	-5	24	-5	4.68	3181	-10	137	21	22
827	-145.6250	65.3839	16	7	2	15	4.1	1.1	3	140	-500	-0.2	25	13	58	-1	19	9	-1	-5	17	-5	2.78	233	-10	92	23	26
828	-145.6250	65.3801	15	11	1	15	5.2	1.1	2	100	650	-0.2	34	14	77	3	28	14	-1	-5	33	-5	2.74	349	-10	100	23	20
829	-145.6240	65.3781	16	8	1	16	6.4	1	6	120	-500	-0.2	35	13	82	3	29	14	-1	-5	16	-5	3.02	431	-10	112	26	20
837	-145.5440	65.3894	19	7	1	13	5.4	1	7	110	-500	-0.2	57	9	78	10	34	15	-1	-5	20	-5	3.34	689	-10	112	36	36
838	-145.5630	65.3867	17	6	-1	16	7.5	0.89	6	140	-500	-0.2	47	14	90	-1	33	15	-1	-5	32	-5	3.45	1074	-10	116	28	24
839	-145.5590	65.3835	18	8	-1	17	6.4	1.1	5	130	870	-0.2	36	11	82	-1	29	13	1.5	-5	20	-5	3.07	837	-10	111	26	22
840	-145.5680	65.3812	17	7	1	15	5	1	4	140	-500	-0.2	42	11	76	7	30	13	-1	-5	19	-5	3.03	649	-10	106	25	21
844	-145.5390	65.3925	21	8	1	10	3.1	1.3	3	62	990	-0.2	56	6	70	-1	38	18	-1	-5	21	-5	3.66	1100	-10	84	44	50
846	-145.5270	65.3798	16	8	2	13	4.8	1	6	130	-500	-0.2	42	10	76	3	27	14	-1	-5	37	-5	3.10	590	-10	88	24	20
848	-145.5290	65.3753	18	14	1	14	5.5	1	2	100	-500	-0.2	40	13	67	5	27	12	-1	-5	10	-5	2.76	278	-10	88	27	24
849	-145.5250	65.3716	18	8	2	12	4.2	1	3	100	-500	-0.2	43	11	76	6	31	16	-1	-5	21	6	3.39	516	-10	96	33	33
850	-145.5190	65.3683	16	10	2	12	3.9	1	4	84	-500	-0.2	40	9	81	3	33	16	1	-5	6	-5	3.26	556	-10	112	35	31
851	-145.5100	65.3655	21	8	2	14	4.5	0.95	3	110	-500	-0.2	55	13	78	9	35	17	-1	-5	16	-5	3.50	421	-10	102	38	32
853	-145.5016	65.3657	19	9	2	13	4.3	0.79	4	83	-500	-0.2	56	14	74	-1	34	18	1.4	-5	26	5	3.58	764	-10	78	32	27
854	-145.4930	65.3633	17	8	1	11	4	1	4	82	530	-0.2	37	8	79	-1	31	15	-1	-5	14	-5	3.12	444	-10	115	35	31
855	-145.4830	65.3650	18	9	1	12	4	1	4	100	-500	-0.2	37	12	103	4	31	17	-1	-5	26	-5	3.43	525	-10	136	36	35
857	-145.6251	65.3652	26	8	1	6.7	2.3	1.2	8	52	-500	-0.2	103	8	106	5	57	26	-1	-5	22	-5	5.33	712	-10	84	78	97
858	-145.5150	65.3681	25	8	2	10	3.4	1.3	6	73	-500	-0.2	65	11	85	12	45	20	-1	-5	17	-5	4.14	707	-10	98	54	61
859	-145.5048	65.3654	28	9	1	8.1	2.6	1.7	9	34	-500	-0.2	73	8	77	4	40	20	-1	-5	-5	-5	4.08	461	-10	72	54	66
860	-145.4980	65.3632	25	8	2	9.2	2.8	1.6	4	69	-500	-0.2	69	15	78	1	37	19	-1	-5	-5	-5	4.01	365	-10	78	48	59
862	-145.5620	65.4281	20	6	1	16	4.6	0.83	2	140	-500	-0.2	53	18	73	2	29	14	-1	-5	19	-5	5.41	239	-10	152	23	26

INAA=instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded;

* indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
800	-144.5630	65.3406	-20	-20	28	1.50	.52	.26	3	.02	.07	19	2	19	-100	13	.04	-1
801	-144.5590	65.3444	-20	-20	25	1.48	.50	.24	4	.02	.06	17	2	17	-100	11	.04	-1
803	-144.5540	65.3475	-20	-20	29	1.54	.49	.18	2	.01	.06	18	2	15	-100	13	.03	-1
804	-144.5510	65.3518	-20	-20	28	1.25	.44	.21	4	.01	.04	18	1	17	-100	8	.03	-1
805	-144.5480	65.3557	-20	-20	25	1.30	.46	.19	3	.01	.04	16	1	15	-100	8	.03	-1
806	-144.5430	65.3597	-20	-20	21	1.20	.45	.27	2	.02	.04	13	1	18	-100	8	.04	-1
808	-144.5410	65.3639	-20	-20	20	1.47	.53	.38	-2	.02	.07	15	2	28	-100	9	.06	-1
809	-144.5400	65.3684	-20	-20	18	1.37	.49	.30	3	.02	.06	14	2	22	-100	7	.05	-1
810	-144.5380	65.3724	-20	-20	24	1.45	.48	.29	-2	.02	.07	18	1	22	-100	11	.04	-1
811	-144.5320	65.3764	-20	-20	20	1.42	.47	.29	2	.02	.06	15	2	21	-100	8	.05	-1
813	-144.5270	65.3799	-20	-20	27	1.54	.56	.19	-2	.01	.07	23	2	19	-100	10	.04	-1
814	-144.5180	65.3818	-20	-20	30	1.83	.60	.19	-2	.01	.07	25	1	20	-100	12	.03	-1
815	-144.5100	65.3798	-20	-20	28	1.82	.55	.22	3	-.01	.06	21	2	19	-100	11	.03	-1
817	-144.5340	65.3810	-20	-20	22	1.29	.41	.13	4	-.01	.05	13	1	13	-100	7	.03	-1
818	-144.5380	65.3852	-20	-20	23	1.32	.40	.15	3	.01	.06	14	1	14	-100	7	.03	-1
821	-145.6310	65.4040	-20	-20	20	1.89	1.00	.40	-2	.01	.10	23	1	27	-100	8	.05	-1
822	-145.6280	65.4001	-20	-20	22	1.43	.50	.15	-2	-.01	.07	16	1	14	-100	5	.03	-1
824	-145.6280	65.3985	-20	-20	38	1.51	.56	.34	-2	.01	.07	23	1	30	-100	10	.03	-1
825	-145.6240	65.3927	-20	-20	22	1.45	.52	.16	7	-.01	.06	16	1	9	-100	5	.03	-1
828	-145.6240	65.3881	-20	-20	41	1.54	.52	.35	-2	.01	.06	24	1	35	-100	12	.02	-1
827	-145.6250	65.3839	-20	-20	29	1.88	.49	.22	3	-.01	.07	18	1	20	-100	5	.02	-1
828	-145.6250	65.3801	-20	-20	35	1.48	.53	.24	-2	-.01	.06	23	1	25	-100	9	.03	-1
829	-145.6240	65.3781	-20	-20	32	1.89	.58	.43	2	-.01	.07	29	2	41	-100	12	.02	-1
837	-145.5440	65.3894	-20	-20	27	1.79	.77	.54	-2	-.01	.12	25	2	41	-100	11	.03	-1
838	-145.5530	65.3887	-20	-20	37	1.71	.65	.52	-2	-.01	.11	26	2	44	-100	12	.03	-1
839	-145.5590	65.3835	-20	-20	32	1.62	.60	.49	-2	-.01	.09	28	2	40	-100	11	.02	-1
840	-145.5680	65.3812	-20	-20	31	1.48	.59	.46	-2	.01	.07	21	2	37	-100	10	.02	-1
844	-145.5380	65.3925	-20	-20	14	1.89	1.02	.41	-2	.01	.09	21	1	30	-100	7	.04	-1
848	-145.5270	65.3798	-20	-20	21	1.38	.61	.41	-2	.01	.07	18	1	32	-100	8	.02	-1
848	-145.5280	65.3753	-20	-20	24	1.52	.69	.35	3	.01	.06	20	1	26	-100	8	.02	-1
849	-145.5250	65.3718	-20	-20	24	1.79	.78	.34	-2	-.01	.08	22	1	27	-100	9	.03	-1
850	-145.5180	65.3683	-20	-20	23	1.81	.79	.41	-2	-.01	.08	24	2	30	-100	10	.03	-1
851	-145.5100	65.3665	-20	-20	25	2.01	.85	.40	3	-.01	.09	26	2	29	-100	12	.03	-1
853	-145.5016	65.3657	-20	-20	24	1.84	.85	.42	-2	-.01	.09	24	2	32	-100	12	.03	-1
854	-145.4830	65.3633	-20	-20	18	1.78	.76	.41	-2	-.01	.08	25	2	29	-100	8	.03	-1
855	-145.4830	65.3650	-20	-20	21	2.03	.76	.46	-2	-.01	.09	29	2	34	-100	9	.02	-1
857	-145.5251	65.3652	-20	-20	14	2.88	1.42	.67	4	.01	.16	29	2	40	-100	9	.07	-1
858	-145.5150	65.3681	-20	-20	17	2.08	1.02	.67	-2	.01	.12	20	2	42	-100	10	.04	-1
859	-145.5048	65.3854	-20	-20	10	2.13	1.15	.59	-2	-.01	.12	21	2	31	-100	7	.05	-1
880	-145.4980	65.3832	-20	-20	14	2.01	1.03	.42	3	-.01	.10	19	1	24	-100	8	.04	-1
882	-145.5520	65.4281	-20	-20	29	1.33	.39	.34	4	-.01	.10	12	1	22	-100	14	.01	-1

INAA—Instrumental Neutron Activation Analysis; ICP—Inductively Coupled Plasma spectrographic analysis; ppb—parts per billion; ppm—parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
863	-145.5410	65.4252	11	-100	-5	-200	-2	-20	20	-10	16	5	4.2	-10	-20	830	120	-200	-2	2	45	89	7.8	3	1	-5	0.6
864	-145.5320	65.4229	9	-100	-5	-200	-2	59	20	-10	15	1.6	3.7	-10	-20	620	130	-200	3	1	44	88	7.4	-2	-1	-5	0.6
865	-145.5260	65.4195	-5	-100	-5	-200	-2	-20	17	-10	13	1.5	4.2	-10	-20	660	130	-200	-2	2	46	94	8	-2	-1	-5	0.8
867	-145.5210	65.4166	17	-100	-5	-200	-2	-20	19	-10	14	1.6	4.1	-10	-20	670	140	-200	2	2	42	77	7.4	3	-1	-5	0.5
868	-145.5170	65.4128	6	-100	-5	-200	-2	-20	20	-10	21	1.6	4.7	-10	-20	650	150	-200	2	2	38	75	6.7	-2	1	-5	-0.5
869	-145.5130	65.4089	13	-100	-5	-200	-2	-20	21	-10	13	1.6	5	-10	-20	570	150	-200	-2	2	49	97	8.5	-2	-1	-5	0.5
870	-145.5080	65.4051	9	-100	-5	-200	-2	84	23	-10	11	1.7	4.6	-10	-20	790	120	-200	-2	1	42	87	7	-2	-1	-5	-0.5
872	-145.5040	65.4020	-5	-100	-5	-200	-2	47	22	-10	13	1.6	4.4	-10	-20	920	110	-200	3	2	46	90	7.4	-2	-1	-5	-0.5
882	-145.4520	65.4068	15	-100	-5	-200	-2	-20	24	-10	21	1.6	5.1	-10	-20	700	150	-200	-2	2	44	92	7.7	-2	-1	-5	-0.5
883	-145.4480	65.4028	-5	-100	-5	-200	-2	-20	26	-10	18	1.1	5.2	-10	-20	680	200	-200	-2	2	42	82	7.8	2	-1	-5	0.6
884	-145.4500	65.3982	11	-100	-5	-200	-2	70	24	-10	23	1.5	5.4	-10	-20	660	130	-200	3	2	44	83	8.6	-2	-1	-5	0.8
885	-145.4470	65.3938	8	-100	-5	-200	-2	-20	29	-10	11	1	5.6	-10	-20	600	160	-200	-2	2	37	76	7.5	2	-1	-5	0.6
888	-145.4300	65.3890	-5	-100	-5	-200	-2	-20	25	-10	11	1	5.2	-10	-20	610	130	-200	-2	3	38	70	7.3	3	-1	-5	0.5
890	-145.4080	65.4086	-5	-100	-5	-200	-2	-20	21	-10	53	1.2	4.6	-10	-20	700	140	-200	3	3	56	84	10	-2	-1	-5	0.5
891	-145.3980	65.4091	23	-100	-5	-200	-2	-20	24	-10	36	2.2	4.8	-10	-20	530	110	-200	-2	1	56	86	8.4	-2	-1	-5	-0.5
892	-145.3890	65.4105	12	-100	-5	-200	-2	-20	25	-10	44	2.4	5.7	-10	-20	690	140	-200	-2	2	47	90	8.4	-2	-1	-5	0.5
893	-145.3800	65.4125	130	-100	-5	-200	-2	-20	19	-10	80	1.5	4.5	-10	-20	830	150	-200	2	2	66	120	11	2	-1	-5	0.6
895	-145.3720	65.4144	20	-100	-5	-200	-2	-20	19	-10	93	1.6	4.2	-10	-20	810	90	-200	5	3	54	98	9.2	-2	-1	5	0.6
898	-145.3650	65.4175	28	-100	-5	-200	-2	100	23	-10	103	1.9	4.7	-10	-20	970	120	-200	-2	3	51	91	8.7	-2	-1	-5	0.6
897	-145.3570	65.4192	11	-100	-5	-200	-2	53	19	-10	88	1.2	4.5	-10	-20	900	140	-200	-2	3	46	80	7.4	-2	-1	-5	-0.5
899	-145.4110	65.4102	41	-100	8	-200	-2	-20	19	-10	44	2	3.7	-10	-20	830	110	-200	-2	4	59	110	6.3	-2	2	5	-0.5
900	-145.4080	65.4143	22	-100	-5	-200	-2	-20	21	-10	71	2.3	4.7	-10	-20	680	110	-200	2	4	58	100	8.3	-2	1	-5	-0.5
901	-145.4080	65.4180	18	-100	-5	-200	-2	-20	17	-10	66	1.7	3.5	-10	-20	760	52	-200	-2	3	50	85	7.7	-2	1	-5	-0.5
902	-145.4030	65.4218	11	-100	-5	-200	-2	57	14	-10	95	2.2	4.3	-10	-20	960	120	-200	-2	4	57	100	8.4	-2	-1	-5	0.6
903	-145.3940	65.4241	-5	-100	-5	-200	-2	55	22	-10	40	1.5	3.9	-10	-20	800	110	-200	-2	3	50	93	7.3	2	-1	-5	-0.5
905	-145.4480	65.4418	21	-100	-5	-200	-2	-20	18	-10	39	2.5	4	-10	-20	690	140	-200	-2	4	50	85	7.3	-2	1	-5	-0.5
906	-145.4420	65.4383	-5	-100	-5	-200	-2	68	18	-10	44	2.3	4.5	-10	-20	780	140	-200	-2	4	47	95	6.7	3	-1	-5	0.6
907	-145.4340	65.4351	11	-100	-5	-200	-2	71	17	-10	36	1.8	3.9	-10	-20	790	130	-200	-2	3	50	110	7.3	-2	1	-5	-0.5
908	-145.4280	65.4342	12	-100	-5	-200	-2	-20	17	-10	46	3	4.7	-10	-20	840	130	-200	-2	2	46	84	6.6	-2	-1	-5	-0.5
909	-145.4170	65.4322	8	-100	-5	-200	-2	61	17	-10	33	2.3	3.9	-10	-20	720	130	-200	4	3	45	74	6.9	-2	1	-5	-0.5
911	-145.3880	65.4480	110	-100	-5	250	-2	58	16	-10	141	4.2	4.9	-10	-20	730	81	-200	4	3	43	67	7	-2	1	-5	0.8
912	-145.3770	65.4489	63	-100	7	-200	-2	-20	14	-10	380	4	5.4	-10	-20	900	180	-200	-2	4	54	87	8.3	-2	1	-5	0.5
918	-145.3580	65.4388	19	-100	-5	-200	-2	-20	30	-10	154	3.8	5.3	-10	-20	780	140	-200	-2	4	48	81	7.3	3	-1	-5	0.5
920	-145.4180	65.4544	24	-100	-5	-200	-2	-20	13	-10	36	4.9	3.8	-10	-20	710	110	-200	3	2	47	95	7.3	-2	-1	-5	-0.5
922	-145.4090	65.4621	13	-100	-5	-200	-2	57	17	-10	53	6	3.6	-10	-20	730	110	-200	-2	3	49	96	7.4	-2	-1	-5	0.6
923	-145.4030	65.4654	13	-100	-5	-200	-2	53	17	-10	57	4.5	3.7	-10	-20	750	94	-200	4	2	46	89	6.7	-2	-1	-5	-0.5
925	-145.4000	65.4696	38	-100	-5	-200	-2	-20	17	-10	73	6	4.4	-10	-20	690	140	-200	-2	4	48	84	7.2	-2	1	-5	-0.5
926	-145.3920	65.4710	17	-100	-5	-200	-2	-20	25	-10	63	7.5	4.6	-10	-20	670	96	-200	-2	3	49	92	7.5	-2	1	-5	-0.5
927	-145.3830	65.4719	27	-100	-5	-200	-2	-20	20	-10	69	4.8	3.9	-10	-20	680	83	-200	-2	2	47	89	7.3	2	-1	-5	0.7
928	-145.3720	65.4716	20	-100	-5	-200	-2	37	16	-10	79	4.6	4.2	-10	-20	1000	84	-200	-2	3	40	70	6.5	-2	-1	-5	-0.5
938	-145.6800	65.6283	9	-100	-5	-200	-2	-20	16	-10	27	2.5	3.2	-10	-20	580	63	-200	-2	4	33	78	5.3	-2	-1	-5	-0.5

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
863	-145.5410	65.4252	17	9	1	13	3.7	1.4	2	110	800	-0.2	45	17	70	12	25	15	-1	-5	8	6	2.98	425	-10	117	30	36
864	-145.5320	65.4229	17	9	1	12	3.5	1.4	2	62	670	-0.2	37	14	71	8	27	14	-1	-5	10	-5	2.98	398	-10	90	31	34
865	-145.5260	65.4195	18	13	2	13	4.1	1.4	1	69	-500	-0.2	35	13	67	11	27	14	-1	-5	-5	5	2.85	361	-10	81	31	35
867	-145.5210	65.4166	18	8	2	12	3.3	1.4	2	83	-500	-0.2	39	9	68	1	29	13	-1	-5	11	-5	2.91	362	-10	81	32	35
868	-145.5170	65.4128	19	8	1	11	3.5	1.5	2	96	-500	-0.2	32	13	72	7	29	15	-1	-5	22	-5	3.71	328	-10	100	38	48
869	-145.5130	65.4099	20	12	2	14	4.3	1.4	3	88	810	-0.2	47	12	73	9	32	15	-1	-5	11	-5	3.50	319	-10	75	35	40
870	-145.5080	65.4051	19	7	1	11	3.3	1.3	7	89	-500	-0.2	41	15	93	8	34	16	-1	-5	-5	-5	3.37	532	-10	94	35	35
872	-145.5040	65.4020	16	7	-1	15	4.3	1.1	5	130	-500	-0.2	35	14	83	8	28	18	-1	-5	-5	-5	3.14	1516	-10	165	24	28
882	-145.4520	65.4098	21	8	-1	12	3.3	1.3	5	100	-500	-0.2	51	16	89	3	42	18	-1	-5	17	-5	3.77	737	-10	104	43	45
883	-145.4490	65.4028	23	9	2	12	3.3	1.5	2	77	-500	-0.2	54	14	85	4	42	19	-1	-5	-5	-5	3.99	662	-10	77	46	51
884	-145.4500	65.3982	21	11	2	14	4.3	1.3	4	90	-500	-0.2	57	14	85	11	41	18	1.6	-5	27	-5	3.80	443	-10	77	44	50
885	-145.4470	65.3936	23	8	2	10	3.3	1.4	6	78	-500	-0.2	57	7	84	9	39	19	-1	-5	7	-5	3.83	655	-10	79	48	54
888	-145.4300	65.3990	21	7	1	11	2.9	1.3	2	110	670	-0.2	58	9	77	11	36	19	-1	-5	15	-5	3.89	708	-10	90	44	53
890	-145.4080	65.4088	18	8	1	16	5.1	1.1	12	120	-500	-0.2	50	15	80	-1	33	14	1.5	-5	45	-5	3.09	518	-10	78	28	20
891	-145.3980	65.4081	14	5	-1	14	5.6	0.79	13	100	-500	-0.2	50	13	53	7	26	17	-1	-5	34	-5	3.70	407	-10	88	24	16
892	-145.3990	65.4105	20	6	1	13	4.9	0.94	17	100	-500	-0.2	65	18	97	3	47	18	1.7	-5	33	-5	4.03	739	-10	98	49	44
893	-145.3800	65.4125	17	10	2	19	5.5	1.2	6	120	-500	-0.2	36	21	85	3	36	13	1.2	-5	65	-5	3.35	493	-10	64	28	18
895	-145.3720	65.4144	16	7	1	17	6	1	12	110	-500	-0.2	42	25	89	2	36	14	1.2	-5	77	-5	3.16	314	-10	74	27	18
896	-145.3650	65.4175	17	4	1	17	5.4	1	13	130	-500	-0.2	43	23	91	4	42	15	1.2	-5	91	-5	3.32	487	-10	112	26	23
897	-145.3570	65.4182	15	7	1	13	4.6	1	9	99	-500	-0.2	34	18	82	4	33	12	-1	-5	80	-5	2.98	404	-10	107	26	26
899	-145.4110	65.4102	14	11	2	16	4.1	0.89	9	110	-500	-0.2	26	26	87	4	33	11	-1	-5	51	-5	2.80	274	-10	100	28	28
900	-145.4080	65.4143	17	10	2	15	4	0.87	7	140	-500	-0.2	30	30	84	1	40	16	-1	-5	78	-5	3.50	775	-10	117	30	33
901	-145.4080	65.4180	12	5	-1	13	3.5	0.62	8	110	-500	-0.2	26	33	81	2	32	17	1.1	-5	78	-5	3.17	1536	-10	172	24	26
902	-145.4030	65.4218	16	7	2	17	4.5	0.87	8	130	-500	-0.2	30	46	87	3	42	13	1.2	-5	112	-5	3.69	457	-10	101	30	33
903	-145.3940	65.4241	15	6	1	13	4.2	1.2	5	110	-500	-0.2	32	17	84	2	40	16	-1	-5	50	-5	3.00	574	-10	116	27	37
905	-145.4490	65.4418	15	9	1	14	3.8	0.81	9	120	-500	-0.2	30	22	84	4	42	16	-1	-5	43	-5	3.36	625	-10	112	38	33
906	-145.4420	65.4383	14	7	1	13	3.2	0.79	3	110	530	-0.2	27	21	82	7	36	18	-1	-5	48	6	3.79	521	-10	84	38	35
907	-145.4340	65.4351	14	7	1	14	3.5	0.8	4	120	-500	-0.2	23	17	62	5	33	12	-1	-5	39	-5	3.05	496	-10	86	31	29
908	-145.4280	65.4342	16	7	2	14	3.8	0.84	6	110	-500	-0.2	26	23	84	3	42	15	-1	-5	52	-5	3.65	477	-10	86	50	38
909	-145.4170	65.4322	16	8	1	12	4	1	6	120	-500	-0.2	26	21	93	3	39	14	-1	-5	37	-5	3.14	368	-10	103	39	38
911	-145.3980	65.4480	20	9	1	13	3.4	1	6	92	-500	-0.2	46	20	71	-1	35	14	-1	-5	159	-5	3.75	319	-10	105	44	51
912	-145.3770	65.4489	20	8	2	15	4.2	0.87	10	140	-500	0.8	40	20	77	6	40	17	1.5	-5	405	-5	3.66	565	-10	104	48	39
916	-145.3580	65.4398	17	6	2	14	3.5	0.95	8	89	-500	0.3	39	43	80	-1	37	27	1.1	-5	160	-5	4.08	1902	-10	133	44	40
920	-145.4180	65.4544	16	10	2	14	4	1.2	3	70	-500	-0.2	29	12	72	-1	27	12	-1	-5	41	5	2.64	206	-10	90	28	36
922	-145.4090	65.4621	14	11	2	14	4.2	1	5	92	-500	-0.2	27	14	76	6	24	13	-1	-5	59	-5	2.63	408	-10	85	22	30
923	-145.4030	65.4654	14	10	1	13	3.6	1	3	92	-500	-0.2	22	15	66	3	21	10	-1	-5	72	-5	2.73	429	-10	132	23	33
925	-145.4000	65.4696	15	11	1	14	4.4	1.1	4	88	690	-0.2	27	20	84	7	26	12	-1	-5	75	-5	2.90	418	-10	102	27	41
926	-145.3920	65.4710	16	8	2	17	4.1	0.89	4	160	-500	-0.2	44	21	82	7	33	16	1.3	-5	86	-5	3.32	370	-10	93	21	25
927	-145.3930	65.4719	14	8	2	14	3.7	0.82	6	110	-500	-0.2	24	17	78	4	24	14	1.3	-5	82	-5	2.74	657	-10	141	25	35
928	-145.3720	65.4716	15	7	1	13	3.6	1.1	7	120	-500	-0.2	24	20	96	3	26	13	1	-5	82	-5	2.70	714	-10	162	28	39
938	-145.8900	65.8253	10	8	-1	11	2.8	0.89	2	61	-500	-0.2	19	9	67	5	20	13	-1	-5	31	-5	2.29	460	-10	89	18	20

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
863	-145.5410	65.4252	-20	-20	22	1.50	.55	.28	-2	.01	.06	13	-1	22	-100	6	.03	-1
864	-145.5320	65.4229	-20	-20	17	1.38	.64	.37	-2	-.01	.05	13	-1	26	-100	6	.03	-1
865	-145.5260	65.4195	-20	-20	18	1.33	.63	.38	-2	-.01	.05	12	-1	26	-100	6	.03	-1
867	-145.5210	65.4166	-20	-20	16	1.38	.66	.37	-2	-.01	.05	13	-1	25	-100	6	.03	-1
868	-145.5170	65.4128	-20	-20	14	1.61	.78	.39	3	.01	.05	14	1	27	-100	5	.03	-1
869	-145.5130	65.4089	-20	-20	17	1.47	.67	.42	-2	-.01	.06	14	1	30	-100	7	.03	-1
870	-145.5080	65.4051	-20	-20	15	1.53	.66	.56	-2	-.01	.06	15	1	43	-100	8	.03	-1
872	-145.5040	65.4020	-20	-20	17	1.36	.44	.41	-2	.01	.05	12	1	37	-100	7	.02	-1
882	-145.4520	65.4068	-20	-20	19	1.92	.88	.47	-2	-.01	.08	21	1	30	-100	9	.03	-1
883	-145.4490	65.4028	-20	-20	18	1.94	.99	.33	-2	-.01	.07	22	-1	21	-100	7	.04	-1
884	-145.4600	65.3982	-20	-20	22	1.86	.89	.36	-2	-.01	.07	21	1	24	-100	8	.04	-1
885	-145.4470	65.3938	-20	-20	12	1.98	1.01	.41	-2	-.01	.09	20	1	23	-100	7	.04	-1
888	-145.4300	65.3890	-20	-20	19	2.04	.97	.32	-2	-.01	.10	20	1	19	-100	8	.03	-1
890	-145.4080	65.4088	-20	-20	19	1.29	.58	.40	-2	-.01	.06	14	-1	29	-100	8	.01	-1
891	-145.3980	65.4091	-20	-20	25	1.18	.45	.88	-2	.01	.08	12	1	46	-100	10	.01	-1
892	-145.3890	65.4105	-20	-20	18	1.95	.95	.45	-2	-.01	.12	20	1	32	-100	10	.03	-1
893	-145.3800	65.4125	-20	-20	24	1.29	.59	.24	-2	-.01	.05	16	-1	22	-100	8	.02	-1
895	-145.3720	65.4144	-20	-20	22	1.32	.52	.32	-2	-.01	.06	16	-1	29	-100	10	.01	-1
896	-145.3850	65.4175	-20	-20	23	1.48	.49	.32	-2	-.01	.07	16	-1	30	-100	12	.02	-1
897	-145.3570	65.4192	-20	-20	19	1.52	.49	.35	-2	-.01	.08	15	-1	31	-100	8	.01	-1
899	-145.4110	65.4102	-20	-20	34	1.31	.48	.39	3	.01	.09	13	2	30	-100	10	.02	-1
900	-145.4080	65.4143	-20	-20	35	1.39	.48	.34	-2	.01	.10	14	2	29	-100	11	.02	-1
901	-145.4080	65.4180	-20	-20	35	1.38	.43	.89	-2	.01	.09	12	2	49	-100	14	.02	-1
902	-145.4030	65.4216	-20	-20	33	1.49	.48	.25	-2	.01	.09	16	1	28	-100	9	.02	-1
903	-145.3940	65.4241	-20	-20	29	1.39	.53	.33	-2	.02	.09	14	2	28	-100	10	.06	-1
905	-145.4490	65.4418	-20	-20	29	1.50	.57	.47	-2	.01	.10	16	2	36	-100	12	.03	-1
908	-145.4420	65.4383	-20	-20	27	1.41	.57	.27	-2	.01	.10	16	2	22	-100	8	.03	-1
907	-145.4340	65.4351	-20	-20	28	1.17	.47	.42	-2	.01	.09	13	2	33	-100	7	.02	-1
908	-145.4280	65.4342	-20	-20	28	1.55	.65	.50	-2	.01	.11	16	2	40	-100	8	.03	-1
909	-145.4170	65.4322	-20	-20	29	1.61	.58	.45	2	.01	.12	19	2	35	-100	12	.03	-1
911	-145.3890	65.4480	-20	-20	23	1.98	.78	.21	4	.01	.08	22	1	16	-100	8	.02	-1
912	-145.3770	65.4489	-20	-20	30	1.48	.59	.39	-2	.02	.12	16	2	31	-100	12	.01	-1
918	-145.3680	65.4388	-20	-20	25	1.64	.82	.33	-2	.01	.09	16	1	26	-100	9	.02	-1
920	-145.4180	65.4544	-20	-20	29	1.68	.64	.33	4	.01	.08	21	2	25	-100	8	.04	-1
922	-145.4080	65.4621	-20	-20	30	1.38	.53	.34	-2	.02	.10	15	2	29	-100	9	.04	-1
923	-145.4030	65.4654	-20	-20	28	1.54	.51	.33	-2	.01	.09	15	1	28	-100	8	.02	-1
925	-145.4000	65.4696	-20	-20	31	1.58	.51	.23	-2	.02	.12	16	2	22	-100	8	.06	-1
926	-145.3920	65.4710	-20	-20	37	1.55	.66	.37	-2	.01	.15	19	2	36	-100	11	.04	-1
927	-145.3830	65.4719	-20	-20	29	1.68	.49	.21	-2	.01	.10	17	1	21	-100	7	.03	-1
928	-145.3720	65.4716	-20	-20	26	1.83	.52	.28	-2	.01	.12	19	2	25	-100	8	.04	-1
938	-145.6900	65.6283	-20	-20	22	1.24	.50	.24	-2	.01	.07	26	1	25	-100	7	.03	-1

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
939	-145.6820	65.6224	-5	-100	-5	-200	-2	-20	18	-10	32	2.6	3.8	-10	-20	640	92	-200	-2	3	37	76	5.5	-2	-1	-5	-0.5
941	-145.6840	65.6185	10	-100	-5	-200	-2	-20	15	-10	40	4	4.4	-10	-20	720	83	-200	-2	4	43	76	5.9	-2	-1	-5	-0.5
942	-145.6860	65.6143	-5	-100	-5	-200	-2	-20	10	-10	24	2.5	2.9	-10	-20	380	63	-200	-2	2	30	62	4.2	-2	-1	-5	-0.5
943	-145.6890	65.6099	-5	-100	-5	-200	-2	-20	22	-10	32	2.6	3.8	-10	-20	710	79	-200	3	4	42	71	6	3	-1	-5	0.5
944	-145.6910	65.6059	7	-100	-5	-200	-2	45	17	-10	26	2.1	3.7	-10	-20	730	74	-200	-2	4	39	77	5.6	-2	-1	-5	0.5
946	-145.6940	65.6021	8	-100	-5	-200	-2	46	18	-10	31	2.1	3.4	-10	-20	830	73	-200	-2	3	41	80	5.7	-2	-1	-5	-0.5
947	-145.6970	65.5985	6	-100	-5	-200	-2	22	16	-10	32	2.5	3.4	-10	-20	630	65	-200	3	4	38	76	5.6	-2	1	-5	-0.5
948	-145.7040	65.5953	8	-100	-5	-200	-2	20	16	-10	26	2.3	3.5	-10	-20	580	-50	-200	-2	3	36	68	5.2	2	-1	-5	-0.5
949	-145.7090	65.5914	9	-100	-5	-200	-2	36	14	-10	29	2.6	3.3	-10	-20	680	61	-200	-2	3	37	76	5.2	-2	-1	-5	-0.5
951	-145.7081	65.5874	15	-100	-5	-200	-2	-20	19	-10	54	4.1	3.9	-10	-20	740	80	-200	3	4	46	93	6.4	-2	1	-5	-0.5
952	-145.7090	65.5831	8	-100	-5	-200	-2	-20	15	-10	29	2.7	3.7	-10	-20	840	66	-200	4	5	45	77	6.1	-2	1	-5	-0.5
953	-145.7130	65.5790	-5	-100	-5	-200	-2	43	16	-10	37	3	3.3	-10	-20	520	61	-200	3	4	37	70	5.5	-2	1	-5	0.5
954	-145.7170	65.5751	11	-100	-5	-200	-2	40	18	-10	45	3.5	3.6	-10	-20	620	68	-200	4	3	44	82	6.2	-2	-1	-5	-0.5
956	-145.7220	65.5714	26	-100	-5	-200	-2	76	24	-10	116	7.8	4.4	-10	-20	980	78	-200	-2	5	52	91	7.4	-2	1	-5	0.6
957	-145.7220	65.5671	11	-100	-5	-200	-2	48	21	-10	81	6.6	3.8	-10	-20	740	99	-200	4	5	46	95	6.6	-2	-1	-5	-0.5
958	-145.7290	65.5626	13	-100	-5	-200	-2	52	15	-10	49	3.5	3.9	-10	-20	790	73	-200	3	4	45	85	6.5	-2	-1	-5	0.5
959	-145.7290	65.5588	12	-100	-5	-200	-2	-20	18	-10	53	4.3	3.4	-10	-20	630	72	-200	2	4	39	92	5.7	-2	-1	-5	0.5
961	-145.7290	65.5546	14	-100	-5	-200	-2	-20	18	-10	66	6.6	4.2	-10	-20	690	90	-200	-2	4	40	91	5.9	2	-1	-5	-0.5
962	-145.7290	65.5509	-5	-100	-5	-200	-2	42	19	-10	47	3.6	3.5	-10	-20	520	57	-200	4	3	41	82	5.9	2	-1	-5	0.5
963	-145.7290	65.5465	9	-100	-5	-200	-2	55	21	-10	46	2.7	3.7	-10	-20	590	77	-200	-2	4	42	85	6.1	-2	-1	-5	0.6
964	-145.7290	65.5421	16	-100	-5	-200	-2	33	23	-10	77	6.1	3.7	-10	-20	510	53	-200	3	4	37	74	5.3	-2	-1	-5	-0.5
966	-145.7210	65.5376	13	-100	-5	-200	-2	31	15	-10	71	5.1	3.5	-10	-20	520	67	-200	3	4	35	70	5.2	-2	-1	-5	-0.5
967	-145.7196	65.5342	11	-100	-5	-200	-2	54	21	-10	87	6.7	4	-10	-20	600	83	-200	-2	4	40	92	5.6	-2	-1	-5	-0.5
969	-145.7120	65.5313	10	-100	-5	-200	-2	52	16	-10	49	3.8	3.7	-10	-20	540	-50	-200	2	3	37	80	5.5	-2	-1	-5	-0.5
970	-145.7030	65.5297	19	-100	-5	-200	-2	-20	17	-10	99	9.2	4.2	-10	-20	610	68	-200	2	4	47	100	6.5	-2	-1	-5	0.5
971	-145.6940	65.5291	11	-100	-5	-200	-2	36	12	-10	51	2.3	3.8	-10	-20	640	100	-200	6	4	57	97	6.9	-2	1	-5	0.7
972	-145.6850	65.5271	16	-100	-5	-200	-2	54	23	-10	115	12	4.3	-10	-20	780	110	-200	4	4	49	93	7.1	-2	-1	-5	-0.5
974	-145.6780	65.5244	11	-100	-5	-200	-2	56	20	-10	111	12	4.5	-10	-20	790	87	-200	-2	5	46	82	6.5	-2	-1	-5	-0.5
975	-145.6690	65.5214	18	-100	-5	-200	-2	57	19	-10	111	14	4.4	-10	-20	630	53	-200	-2	4	46	96	6.7	-2	-1	-5	-0.5
976	-145.6610	65.5194	15	-100	-5	-200	-2	51	23	-10	111	15	4.2	-10	-20	630	63	-200	3	3	46	93	6.5	-2	-1	-5	-0.5
978	-145.6520	65.5189	33	-100	-5	-200	-2	-20	22	-10	165	19	4.8	-10	-20	890	91	-200	2	6	64	110	8.9	-2	1	-5	-0.5
979	-145.6415	65.5184	30	-100	-5	-200	-2	-20	25	-10	147	18	4.6	-10	-20	660	100	-200	4	5	57	110	8.1	-2	1	-5	0.6
980	-145.6310	65.5176	12	-100	-5	-200	-2	-20	35	-10	79	3.1	4.4	-10	-20	750	96	-200	-2	4	53	100	8.2	3	2	-5	0.6
981	-145.6220	65.5171	17	-100	-5	-200	-2	76	41	-10	107	4	4.1	-10	-20	660	120	-200	3	6	59	110	9.5	-2	1	-5	0.6
983	-145.6610	65.5154	19	-100	-5	-200	-2	57	21	-10	117	15	4.8	-10	-20	690	-50	-200	4	5	45	91	6.6	-2	-1	-5	-0.5
984	-145.6630	65.5112	11	-100	-5	-200	-2	58	20	-10	85	4.9	3.8	-10	-20	750	120	-200	-2	4	48	81	8.7	3	-1	-5	-0.5
985	-145.6690	65.5090	16	-100	-5	-200	-2	-20	12	-10	78	5.6	3.5	-10	-20	820	86	-200	-2	3	46	92	6.6	3	-1	-5	-0.5
987	-145.7168	65.5295	-5	-100	-5	-200	-2	-20	25	-10	11	1.1	5.2	-10	-20	600	120	-200	-2	3	36	62	6.6	-2	1	-5	-0.5
988	-145.7170	65.5295	-5	-100	-5	-200	-2	-20	12	-10	5	2.3	2.9	-10	-20	710	86	-200	-2	4	37	65	5.2	2	1	-5	-0.5
989	-145.7200	65.5295	6	-100	-5	-200	-2	29	19	-10	44	2.8	3.6	-10	-20	540	93	-200	2	4	37	77	5.7	-2	-1	-5	-0.5
990	-145.7240	65.5213	13	-100	-5	-200	-2	-20	25	-10	89	3.2	4.1	-10	-20	730	120	-200	4	5	46	100	7.8	2	1	-5	-0.5

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
939	-145.6820	65.6224	11	8	1	11	3.1	0.95	2	110	-500	-0.2	21	11	71	4	22	14	-1	-5	28	-5	2.40	548	-10	105	20	23
941	-145.6840	65.6185	14	8	2	12	3.2	1	3	90	-500	-0.2	24	11	74	3	23	13	-1	-5	35	-5	2.43	302	-10	80	20	23
942	-145.6860	65.6143	8.4	9	1	8.8	2.5	0.94	1	60	-500	-0.2	13	6	48	1	15	9	-1	-5	17	-5	1.76	329	-10	54	12	12
943	-145.6890	65.6099	12	8	1	12	3.4	1.1	3	110	-500	-0.2	22	11	71	1	22	14	-1	-5	24	5	2.29	595	-10	111	20	23
944	-145.6910	65.6059	11	8	1	11	3.3	1	3	84	-500	-0.2	21	13	68	5	22	12	-1	-5	20	-5	2.26	491	-10	113	21	24
946	-145.6940	65.6021	13	8	1	12	3	0.93	2	91	-500	-0.2	21	11	73	10	24	15	1.1	-5	24	-5	2.36	534	-10	133	22	25
947	-145.6970	65.5985	12	8	2	11	3.2	0.95	2	95	-500	-0.2	19	10	62	8	19	11	-1	-5	23	-5	2.13	398	-10	89	19	20
948	-145.7040	65.5953	11	7	1	10	2.8	1	1	76	610	-0.2	18	11	65	4	20	10	-1	-5	38	-5	2.29	350	-10	90	19	21
949	-145.7060	65.5914	11	8	1	10	3	0.89	2	81	530	-0.2	18	13	65	2	21	11	1.1	-5	47	-5	2.29	380	-10	90	19	21
951	-145.7081	65.5874	13	8	2	13	3.7	1	3	97	-500	-0.2	23	14	78	10	25	14	1.2	-5	76	-5	2.61	538	-10	92	22	25
952	-145.7090	65.5831	13	9	1	12	3.6	1	2	94	510	-0.2	19	14	69	2	22	12	-1	-5	34	-5	2.41	433	-10	108	22	24
953	-145.7130	65.5790	11	9	1	10	2.9	0.9	3	85	810	-0.2	18	9	62	2	20	12	-1	-5	42	-5	2.23	395	-10	74	18	20
954	-145.7170	65.5751	12	11	2	13	3.6	0.92	2	77	-500	-0.2	21	10	67	3	22	13	1.2	-5	51	-5	2.35	408	-10	83	20	23
956	-145.7220	65.5714	16	7	1	15	4.4	0.92	5	110	-500	-0.2	38	19	96	7	35	20	2.1	-5	108	-5	3.15	689	-10	103	28	33
957	-145.7220	65.5671	15	7	-1	13	3.1	1	3	95	-500	-0.2	30	19	88	14	30	17	-1	-5	95	-5	2.99	633	-10	93	25	28
958	-145.7280	65.5626	14	8	1	12	3.7	1	3	120	-500	-0.2	27	16	81	10	27	15	-1	-5	65	-5	2.75	580	-10	124	25	28
959	-145.7280	65.5586	12	8	1	11	3.3	0.92	2	84	-500	-0.2	24	15	76	3	28	14	-1	-5	64	-5	2.74	525	-10	102	23	28
961	-145.7280	65.5548	13	7	1	12	2.9	0.94	3	140	-500	-0.2	27	14	77	9	28	14	-1	-5	89	7	2.85	475	-10	77	23	28
962	-145.7280	65.5509	12	10	1	11	3.5	0.91	3	71	-500	-0.2	24	14	76	4	24	15	-1	-5	53	-5	2.59	633	-10	89	21	25
963	-145.7280	65.5465	11	9	1	12	3.1	0.91	4	80	-500	-0.2	23	14	76	5	25	17	-1	-5	66	-5	2.70	784	-10	97	22	28
964	-145.7280	65.5421	11	7	1	10	2.7	0.79	2	95	530	-0.2	25	16	71	9	28	14	-1	-5	103	-5	2.72	440	-10	67	21	23
966	-145.7210	65.5376	11	6	-1	10	2.6	0.78	3	75	-500	-0.2	26	19	70	9	25	13	-1	-5	79	5	2.78	412	-10	80	24	29
967	-145.7198	65.5342	13	6	1	11	3.3	0.83	3	120	-500	-0.2	30	18	83	7	31	16	-1	-5	114	8	3.04	571	-10	75	24	27
969	-145.7120	65.5313	12	11	1	10	2.7	0.82	1	86	-500	-0.2	21	13	64	6	23	12	-1	-5	58	7	2.67	340	-10	69	24	30
970	-145.7030	65.5297	14	10	2	14	3.8	1	2	100	-500	-0.2	29	16	71	8	28	13	-1	-5	101	5	2.73	390	-10	66	22	28
971	-145.6940	65.5281	15	11	2	21	6.1	1.4	2	110	590	-0.2	24	18	71	5	23	11	-1	-5	57	-5	2.59	270	-10	154	33	47
972	-145.6850	65.5271	14	7	2	14	3.5	0.94	3	120	-500	-0.2	35	15	85	4	33	16	-1	-5	120	7	3.22	461	-10	64	25	28
974	-145.6790	65.5244	14	8	2	13	3.3	0.83	3	150	610	-0.2	32	17	81	3	31	15	-1	-5	124	7	3.11	439	-10	58	24	28
975	-145.6690	65.5214	13	8	2	13	2.9	0.91	2	110	-500	-0.2	31	18	76	5	32	15	-1	-5	123	10	2.99	424	-10	51	23	25
976	-145.6610	65.5194	12	7	2	13	3.3	0.81	3	110	-500	-0.2	32	19	74	3	33	15	-1	-5	127	13	3.02	435	-10	44	21	22
978	-145.6520	65.5169	16	10	2	19	4	0.89	5	150	-500	-0.2	34	44	116	6	37	18	-1	-5	164	16	3.42	653	-10	71	22	20
979	-145.6415	65.5164	15	9	2	17	3.7	0.88	4	130	-500	-0.2	31	37	109	5	34	17	1	-5	167	12	3.29	622	-10	62	21	19
980	-145.6310	65.5176	15	5	2	14	3.9	0.81	6	120	-500	-0.2	46	27	126	7	53	29	2	-5	107	-5	3.17	703	-10	94	28	32
981	-145.6220	65.5171	15	5	1	17	4.7	0.78	8	140	-500	-0.2	40	38	165	7	68	32	2.5	-5	125	-5	3.39	887	-10	114	25	27
983	-145.6610	65.5154	14	8	2	14	2.9	0.8	3	120	-500	-0.2	34	18	86	4	37	18	-1	-5	132	13	3.45	466	-10	43	24	24
984	-145.6630	65.5112	12	8	1	12	3.7	1.1	2	100	610	-0.2	23	22	79	5	29	13	-1	-5	105	-5	2.70	399	-10	76	21	25
985	-145.6690	65.5090	14	8	1	13	3.5	1.1	2	110	-500	-0.2	20	24	71	-1	25	11	-1	-5	88	7	2.45	320	-10	74	21	22
987	-145.7168	65.5295	20	7	-1	8.8	2.5	0.91	6	70	-500	-0.2	56	13	107	3	49	21	-1	-5	14	-5	3.84	957	-10	118	56	69
988	-145.7170	65.5295	13	8	-1	11	2.7	0.83	1	94	570	-0.2	38	16	63	5	21	7	-1	-5	6	-5	2.08	202	-10	97	26	19
989	-145.7200	65.5285	12	8	1	11	2.9	0.72	3	83	-800	-0.2	25	16	73	3	25	14	-1	-5	56	-5	2.65	481	-10	89	23	26
990	-145.7240	65.5213	14	7	1	13	3.7	0.83	5	94	-800	-0.2	32	16	103	3	38	20	1.1	-5	71	-5	3.03	677	-10	121	27	31

INAA-Instrumental Neutron Activation Analysis, ICP-Inductively Coupled Plasma spectrographic analysis, ppb-parts per billion, ppm-parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
939	-145.6820	65.6224	-20	-20	24	1.34	.52	.28	-2	.01	.08	27	1	30	-100	7	.03	-1
941	-145.6840	65.6185	-20	-20	25	1.39	.58	.25	2	.01	.09	28	1	27	-100	7	.03	-1
942	-145.6860	65.6143	-20	-20	17	.90	.39	.14	-2	-.01	.05	21	1	15	-100	5	.02	-1
943	-145.6890	65.6099	-20	-20	25	1.35	.50	.31	-2	.01	.08	28	2	35	-100	8	.03	-1
944	-145.6910	65.6059	-20	-20	25	1.37	.51	.34	-2	.01	.08	27	2	39	-100	8	.03	-1
946	-145.6940	65.6021	-20	-20	26	1.48	.54	.37	-2	.01	.09	30	2	44	-100	7	.03	-1
947	-145.6970	65.5985	-20	-20	23	1.31	.49	.23	-2	-.01	.07	28	1	24	-100	6	.03	-1
948	-145.7040	65.5953	-20	-20	24	1.29	.51	.24	-2	.01	.07	24	1	24	-100	6	.03	-1
949	-145.7080	65.5914	-20	-20	23	1.29	.51	.24	-2	.01	.08	24	1	24	-100	7	.03	-1
951	-145.7081	65.5874	-20	-20	26	1.43	.59	.24	-2	.01	.09	29	1	25	-100	8	.03	-1
952	-145.7090	65.5831	-20	-20	26	1.47	.54	.26	-2	.01	.08	25	1	26	-100	7	.02	-1
953	-145.7130	65.5790	-20	-20	23	1.22	.51	.19	-2	-.01	.07	26	-1	21	-100	6	.03	-1
954	-145.7170	65.5751	-20	-20	25	1.33	.54	.22	-2	.01	.08	28	1	22	-100	7	.03	-1
956	-145.7220	65.5714	-20	-20	35	1.81	.75	.27	-2	.01	.12	34	1	28	-100	12	.03	-1
957	-145.7220	65.5671	-20	-20	31	1.61	.71	.24	-2	.01	.11	30	1	28	-100	9	.04	-1
958	-145.7280	65.5628	-20	-20	29	1.59	.62	.29	2	.01	.10	30	1	32	-100	10	.03	-1
959	-145.7280	65.5588	-20	-20	26	1.50	.63	.26	3	.01	.10	29	1	28	-100	8	.04	-1
961	-145.7280	65.5548	-20	-20	26	1.47	.66	.21	2	.01	.10	28	1	25	-100	8	.04	-1
962	-145.7280	65.5509	-20	-20	26	1.37	.57	.26	-2	.01	.09	32	1	26	-100	9	.03	-1
963	-145.7280	65.5465	-20	-20	26	1.42	.55	.35	-2	.01	.09	27	1	28	-100	10	.03	-1
964	-145.7280	65.5421	-20	-20	25	1.35	.63	.18	3	-.01	.09	27	1	21	-100	7	.03	-1
966	-145.7210	65.5378	-20	-20	24	1.46	.65	.20	3	.01	.11	32	1	22	-100	7	.04	-1
967	-145.7198	65.5342	-20	-20	30	1.57	.73	.21	3	.01	.11	29	1	25	-100	9	.04	-1
969	-145.7120	65.5313	-20	-20	24	1.42	.64	.20	3	.01	.11	31	1	19	-100	7	.05	-1
970	-145.7030	65.5297	-20	-20	26	1.39	.65	.23	4	.01	.10	24	1	22	-100	8	.04	-1
971	-145.6940	65.5281	-20	-20	25	1.65	.59	.28	6	.01	.12	26	3	23	-100	8	.06	-1
972	-145.6850	65.5271	-20	-20	31	1.62	.63	.22	4	.01	.11	28	1	23	-100	8	.04	-1
974	-145.6780	65.5244	-20	-20	31	1.55	.60	.20	3	-.01	.11	25	1	21	-100	8	.04	-1
975	-145.6690	65.5214	-20	-20	34	1.41	.76	.20	4	-.01	.09	22	1	22	-100	8	.04	-1
976	-145.6610	65.5194	-20	-20	33	1.36	.77	.20	3	-.01	.09	21	1	20	-100	8	.03	-1
976	-145.6520	65.5169	-20	-20	41	1.66	.80	.25	3	-.01	.08	27	1	27	-100	11	.02	-1
979	-145.6415	65.5164	-20	-20	39	1.57	.77	.23	2	.01	.08	26	-1	26	-100	10	.02	-1
980	-145.6310	65.5176	-20	-20	40	1.72	.78	.34	-2	.01	.10	26	1	26	-100	18	.03	-1
981	-145.6220	65.5171	-20	-20	49	1.84	.69	.29	-2	.01	.10	29	1	27	-100	22	.02	-1
983	-145.6610	65.5154	-20	-20	34	1.59	.93	.19	4	-.01	.10	25	1	20	-100	8	.03	-1
984	-145.6630	65.5112	-20	-20	33	1.39	.62	.23	4	.01	.08	21	1	24	-100	10	.04	-1
985	-145.6690	65.5080	-20	-20	34	1.36	.62	.22	4	.01	.08	20	1	23	-100	9	.04	-1
987	-145.7168	65.5295	-20	-20	23	2.39	1.13	.67	2	.01	.14	23	2	37	-100	13	.04	-1
988	-145.7170	65.5295	-20	-20	23	1.58	.70	.21	6	.01	.09	22	1	22	-100	5	.03	-1
989	-145.7200	65.5255	-20	-20	26	1.45	.62	.25	2	.01	.08	22	1	24	-100	9	.03	-1
990	-145.7240	65.5213	-20	-20	33	1.75	.66	.36	-2	.01	.10	26	1	34	-100	14	.03	-1

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
991	-145.7280	65.5174	13	7	1	12	3.3	0.7	4	95	-500	-0.2	31	19	92	3	35	20	-1	-5	68	-5	2.97	651	-10	123	27	31
993	-145.7280	65.5139	13	9	2	14	3.9	0.8	8	86	-500	-0.2	31	19	98	4	35	21	-1	-5	91	-5	2.88	654	-10	125	26	31
994	-145.7290	65.5095	12	9	1	12	3.1	0.67	3	84	510	-0.2	28	16	75	1	29	16	-1	-5	74	-5	2.59	499	-10	77	22	25
995	-145.7280	65.5059	12	8	-1	11	2.5	0.75	2	91	-500	-0.2	20	14	76	2	25	13	-1	-5	49	-5	2.55	361	-10	70	22	24
996	-145.7280	65.5019	13	9	-1	11	3.6	0.76	4	90	-500	-0.2	27	19	81	2	30	16	-1	-5	72	-5	2.82	390	-10	101	25	28
998	-145.7270	65.5391	13	9	2	13	4	1.1	3	89	810	-0.2	17	14	65	4	24	11	-1	-5	17	-5	2.56	347	-10	119	22	26
999	-145.7330	65.5361	11	11	2	12	3.7	1.2	3	71	-500	-0.2	12	10	56	3	19	10	-1	-5	13	-5	2.02	368	-10	86	17	14
1000	-145.7410	65.5325	13	9	1	13	4.5	1	5	83	600	-0.2	16	15	72	-1	26	24	-1	-5	18	-5	2.52	520	-10	157	23	27
1001	-145.7480	65.5294	14	8	1	12	3.1	1.1	4	98	-500	-0.2	15	15	72	-1	23	12	-1	-5	11	-5	2.48	245	-10	138	26	27
1002	-145.7540	65.5266	13	7	2	12	3.8	1	4	96	-500	-0.2	17	15	74	-1	25	18	-1	-5	9	7	2.86	702	-10	149	28	32
1004	-145.7340	65.5542	13	9	1	13	5.2	1.3	3	99	-500	-0.2	20	18	84	3	27	18	-1	-5	10	-5	2.44	696	-10	169	23	23
1005	-145.7450	65.5521	13	8	1	13	5.5	1.3	6	81	-500	-0.2	19	13	85	-1	26	19	-1	-5	-5	-5	2.44	843	-10	158	21	22
1008	-145.7550	65.5517	12	10	2	13	5.4	1.2	4	93	-500	-0.2	17	14	77	-1	25	21	-1	-5	14	-5	2.86	1366	-10	152	21	21
1007	-145.7650	65.5518	12	8	1	12	4.2	1.2	3	70	-500	-0.2	17	13	70	-1	21	13	-1	-5	-5	-5	2.30	705	-10	148	20	21
1009	-145.7750	65.5511	13	7	2	13	4	1.2	3	100	-500	-0.2	16	12	74	-1	22	14	-1	-5	-5	-5	2.34	414	-10	172	23	23
1010	-145.7880	65.5508	13	8	2	14	3.9	1.3	4	89	-500	-0.2	17	11	78	-1	23	13	-1	-5	12	-5	2.45	550	-10	151	19	18
1011	-145.7950	65.5508	12	8	1	14	3.7	1.2	5	100	-500	-0.2	22	15	91	3	28	15	-1	-5	7	-5	2.93	1127	-10	176	22	21
1012	-145.8040	65.5501	11	8	1	13	3.8	1.4	4	75	-500	-0.2	14	13	70	-1	21	10	-1	-5	-5	-5	2.04	333	-10	128	18	17
1014	-145.7230	65.5839	14	16	2	14	4.3	1.2	3	85	-500	-0.2	17	14	64	3	25	24	-1	-5	22	-5	2.23	785	-10	108	21	27
1015	-145.7160	65.5812	12	9	2	12	3.2	1	3	100	-500	-0.2	16	11	85	6	24	30	-1	-5	12	-5	2.42	1039	-10	95	20	22
1016	-145.7070	65.5590	13	7	1	11	3.5	1.1	2	86	-500	-0.2	16	12	65	6	24	25	-1	-5	15	-5	2.44	799	-10	105	22	26
1017	-145.7010	65.5573	11	7	1	12	4.9	0.89	8	63	-500	-0.2	25	13	63	2	28	44	-1	-5	20	-5	4.49	1593	-10	109	19	22
1018	-145.6930	65.5544	14	9	1	13	4.4	1	9	80	-500	-0.2	28	14	67	5	36	62	-1	-5	33	-5	3.66	1716	-10	142	23	28
1020	-145.6830	65.5511	13	7	1	12	4.2	1.1	4	88	-500	-0.2	25	12	97	4	34	36	-1	-5	28	-5	2.47	909	-10	126	24	26
1022	-145.6637	65.5478	12	7	2	10	3.8	0.94	5	90	-500	-0.2	43	14	101	1	33	47	-1	-5	52	-5	2.96	1114	-10	128	28	29
1023	-145.6590	65.5437	15	5	-1	10	2.9	1	4	85	-500	-0.2	37	9	79	-1	28	14	-1	-5	65	-5	2.63	370	-10	145	34	47
1026	-145.7160	65.5787	11	11	1	12	3.4	1.6	2	82	-500	-0.2	10	10	62	4	15	9	-1	-5	7	-5	1.83	452	-10	117	15	18
1027	-145.7320	65.5768	11	11	1	12	3.5	1.7	2	65	580	-0.2	11	11	54	-1	15	9	-1	-5	-5	-5	1.81	427	-10	101	14	17
1028	-145.7430	65.5770	11	12	2	13	3.4	1.5	2	77	810	-0.2	12	13	63	4	17	10	-1	-5	-5	-5	2.05	561	-10	118	15	18
1030	-145.7530	65.5767	7.7	11	1	10	3.2	1.6	1	67	-500	-0.2	9	10	53	1	13	7	-1	-5	-5	-5	1.74	486	-10	95	10	9
1031	-145.7640	65.5761	9.1	9	-1	12	3.1	1.5	2	83	-500	-0.2	10	10	61	5	15	9	-1	-5	-5	-5	1.91	694	-10	98	11	10
1032	-145.7730	65.5738	8.7	10	1	12	3.3	1.6	2	68	-500	-0.2	10	12	56	1	14	6	-1	-5	-5	-5	1.84	540	-10	112	12	10
1035	-145.7013	65.5991	14	10	-1	13	3.5	1.2	4	100	-500	-0.2	20	15	73	-1	24	18	-1	-5	7	5	2.89	905	-10	194	24	34
1036	-145.6932	65.5973	11	8	1	10	3.1	1.3	2	71	580	-0.2	15	12	66	4	20	11	-1	-5	-5	-5	2.27	387	-10	160	22	30
1037	-145.6880	65.5846	13	8	1	11	3	1.1	2	75	-500	-0.2	13	11	59	3	18	7	-1	-5	11	-5	2.08	195	-10	149	22	27
1038	-145.6790	65.5818	13	10	2	11	3	1.2	2	92	-500	-0.2	12	11	65	2	20	10	-1	-5	-5	-5	2.64	340	-10	97	23	27
1040	-145.6970	65.6043	10	9	1	10	3	1.3	2	67	570	-0.2	14	12	60	4	17	10	-1	-5	-5	-5	2.08	385	-10	132	17	20
1041	-145.7070	65.6043	14	10	1	13	4.2	1.5	3	82	-500	-0.2	19	14	93	7	24	14	-1	-5	-5	7	2.47	491	-10	171	23	34
1042	-145.7160	65.6032	12	9	-1	12	2.9	1.2	4	81	-500	-0.2	19	20	90	8	21	19	-1	-5	9	-5	2.46	1017	-10	180	18	22
1043	-145.7270	65.6018	12	10	1	13	3.4	1.1	2	78	-500	-0.2	19	22	83	6	21	17	-1	-5	-5	-5	2.52	791	-10	179	20	23
1045	-145.7370	65.6017	11	7	-1	12	2.9	1.1	2	100	-500	-0.2	17	19	77	6	19	11	-1	-5	5	-5	2.35	494	-10	157	20	22

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2		W-2		La-2		Al		Mg		Ca		Ga		Na-2		K		Li		Nb		Sr		Ta-2		Y		Ti		Zr-2	
			ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm
991	-145.7280	65.5174	-20	32	1.72	68	34	-2	.02	10	26	1	32	-100	13	.03	-1																	
993	-145.7280	65.5139	-20	36	1.65	82	41	-2	.02	10	27	1	39	-100	15	.03	-1																	
994	-145.7280	65.5085	-20	25	1.34	80	25	-2	.01	08	22	1	23	-100	9	.03	-1																	
995	-145.7280	65.5059	-20	20	1.34	82	24	3	.01	08	22	1	23	-100	6	.03	-1																	
996	-145.7280	65.5019	-20	29	1.57	64	23	4	.01	10	25	1	23	-100	10	.02	-1																	
998	-145.7270	65.5391	-20	28	1.54	49	21	4	.01	05	21	1	21	-100	8	.02	-1																	
999	-145.7330	65.5361	-20	27	1.18	43	14	2	-.01	04	18	-1	15	-100	7	.02	-1																	
1000	-145.7410	65.5325	-20	29	1.62	51	25	-2	.01	07	23	1	25	-100	11	.02	-1																	
1001	-145.7490	65.5294	-20	29	1.74	55	18	5	.01	06	27	1	19	-100	6	.02	-1																	
1002	-145.7540	65.5288	-20	29	1.88	58	22	-2	-.01	06	32	1	22	-100	9	.02	-1																	
1004	-145.7340	65.5542	-20	32	1.84	49	45	-2	.01	06	23	2	47	-100	12	.02	-1																	
1005	-145.7450	65.5521	-20	34	1.83	46	53	-2	.01	06	23	2	54	-100	14	.02	-1																	
1008	-145.7550	65.5517	-20	32	1.53	45	42	-2	.01	06	20	2	43	-100	11	.02	-1																	
1007	-145.7650	65.5518	-20	29	1.42	44	39	-2	.01	06	17	2	41	-100	9	.02	-1																	
1009	-145.7750	65.5511	-20	32	1.67	48	31	-2	.01	07	21	1	32	-100	12	.02	-1																	
1010	-145.7800	65.5508	-20	34	1.38	45	56	-2	.01	09	21	2	54	-100	12	.02	-1																	
1011	-145.7850	65.5508	-20	30	1.59	51	73	-2	.01	13	24	2	68	-100	15	.02	-1																	
1012	-145.8040	65.5501	-20	31	1.28	42	51	-2	.01	09	18	2	45	-100	11	.02	-1																	
1014	-145.7230	65.5639	-20	29	1.35	46	30	-2	.01	07	19	2	25	-100	10	.04	-1																	
1015	-145.7180	65.5612	-20	28	1.37	47	24	-2	.01	07	22	1	20	-100	10	.03	-1																	
1016	-145.7070	65.5590	-20	28	1.51	48	21	-2	.01	07	22	1	19	-100	8	.02	-1																	
1017	-145.7010	65.5573	-20	31	1.38	40	34	-2	.01	07	20	2	27	-100	23	.02	-1																	
1018	-145.6930	65.5544	-20	36	1.68	48	45	-2	.02	10	25	2	33	-100	23	.02	-1																	
1020	-145.6830	65.5511	-20	28	1.85	49	30	-2	.01	08	29	1	24	-100	12	.03	-1																	
1022	-145.6837	65.5478	-20	31	1.80	56	31	-2	.01	11	32	1	26	-100	14	.02	-1																	
1023	-145.6590	65.5437	-20	22	1.91	65	40	4	.02	17	33	2	36	-100	9	.06	-1																	
1028	-145.7180	65.5767	-20	24	1.01	37	35	-2	.02	06	12	2	28	-100	7	.04	-1																	
1028	-145.7430	65.5770	-20	24	1.03	35	28	-2	.01	07	12	2	28	-100	7	.04	-1																	
1030	-145.7530	65.5767	-20	27	1.00	36	35	-2	.01	07	12	1	26	-100	6	.03	-1																	
1031	-145.7640	65.5761	-20	21	.78	28	25	-2	-.01	05	10	1	19	-100	6	.02	-1																	
1032	-145.7730	65.5738	-20	25	1.03	30	28	-2	-.01	06	11	-1	20	-100	7	.02	-1																	
1035	-145.7013	65.5891	-20	27	1.51	53	36	-2	-.01	06	11	1	22	-100	7	.02	-1																	
1036	-145.6932	65.5873	-20	24	1.36	49	31	-2	.02	09	16	2	29	-100	6	.04	-1																	
1037	-145.6880	65.5845	-20	24	1.47	45	23	4	.01	06	16	2	20	-100	5	.02	-1																	
1038	-145.6780	65.5818	-20	20	1.59	54	13	3	.01	05	23	-1	14	-100	5	.03	-1																	
1040	-145.6670	65.6043	-20	22	1.14	41	29	-2	.01	06	14	1	23	-100	6	.03	-1																	
1041	-145.7070	65.6043	-20	26	1.40	49	53	-2	.02	06	16	2	39	-100	10	.04	-1																	
1042	-145.7180	65.6032	-20	28	1.30	44	39	-2	.01	06	16	2	32	-100	9	.02	-1																	
1043	-145.7270	65.6018	-20	29	1.40	46	37	-2	.01	07	17	2	31	-100	9	.02	-1																	
1045	-145.7370	65.6017	-20	27	1.38	45	31	-2	.01	06	16	1	27	-100	7	.02	-1																	

AAA-Instrumental Neutron Activation Analysis, ICP-Inductively Coupled Plasma Spectrographic analysis, ppb-parts per billion, ppm-parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
1046	-145.7467	65.6001	-5	-100	-5	-200	-2	-20	22	-10	7	0.8	3.7	-10	-20	790	82	-200	4	3	51	100	7.6	2	1	-5	0.5
1047	-145.7506	65.5979	-5	-100	8	-200	-2	55	18	-10	5	0.7	4	-10	-20	900	70	-200	-2	3	45	76	6.2	-2	-1	-5	-0.5
1065	-145.5553	65.6236	5	-100	-5	-200	-2	-20	12	-10	8	1.1	2.9	-10	-20	690	64	-200	-2	2	37	70	5.5	-2	-1	-5	-0.5
1066	-145.5584	65.6188	10	-100	-5	-200	-2	-20	12	-10	23	1.2	3.3	-10	-20	750	78	-200	-2	2	38	76	5.2	-2	-1	-5	-0.5
1067	-145.5817	65.6159	-5	-100	-5	-200	-2	35	15	-10	16	1	3	-10	-20	640	78	-200	-2	2	33	72	4.8	-2	-1	-5	0.6
1069	-145.5890	65.6107	-5	-100	-5	-200	-2	35	10	-10	11	0.9	2.4	-10	-20	570	77	-200	3	1	33	65	4.8	-2	-1	-5	0.6
1070	-145.5740	65.6073	-5	-100	-5	-200	-2	40	22	-10	20	1.1	3.5	-10	-20	580	61	-200	4	2	35	65	5.2	-2	-1	-5	-0.5
1074	-145.5914	65.6005	-5	-100	-5	-200	-2	27	-10	-10	12	0.9	2.8	-10	-20	560	55	-200	-2	2	32	65	4.6	-2	-1	-5	-0.5
1075	-145.6000	65.5977	-5	-100	-5	-200	-2	25	13	-10	12	1	3.1	-10	-20	600	65	-200	3	2	33	62	4.9	-2	-1	-5	-0.5
1076	-145.6080	65.5959	-5	-100	-5	-200	-2	-20	-10	-10	11	0.6	2.5	-10	-20	480	-50	-200	-2	1	27	56	3.5	-2	-1	-5	-0.5
1077	-145.6180	65.5933	6	-100	-5	-200	-2	-20	21	-10	23	0.7	3	-10	-20	560	65	-200	2	-1	31	70	4.5	-2	-1	-5	-0.5
1078	-145.6250	65.5909	7	-100	-5	-200	-2	56	24	-10	33	1.3	4.2	-10	-20	560	69	-200	2	2	24	43	3.7	-2	-1	-5	-0.5
1079	-145.6240	65.5916	10	-100	-5	-200	-2	-20	-10	-10	12	0.7	2.5	-10	-20	600	77	-200	-2	2	30	55	4.2	-2	-1	-5	-0.5
1080	-145.6300	65.5875	-5	-100	6	-200	-2	37	15	-10	17	1.1	3.6	-10	-20	670	94	-200	-2	3	38	71	5.2	-2	-1	-5	-0.5
1081	-145.6370	65.5837	8	-100	-5	-200	-2	-20	11	-10	26	1	3.1	-10	-20	660	69	-200	4	2	38	71	5.6	-2	-1	-5	-0.5
1082	-145.6400	65.5801	-5	-100	-5	-200	-2	-20	20	-10	12	1.1	3.7	-10	-20	910	61	-200	2	3	30	53	4.5	-2	-1	-5	-0.5
1084	-145.6420	65.5758	14	-100	-5	-200	-2	-20	16	-10	46	1.1	3.4	-10	-20	720	95	-200	2	3	40	62	5.8	-2	-1	-5	0.5
1085	-145.6420	65.5715	16	-100	-5	-200	-2	42	37	-10	29	1	3	-10	-20	760	64	-200	2	2	40	69	5.9	-2	-1	-5	-0.5
1086	-145.6400	65.5678	13	-100	-5	-200	-2	-20	18	-10	56	1.4	3.5	-10	-20	660	79	-200	3	3	42	60	5.7	-2	-1	-5	-0.5
1087	-145.6370	65.5634	15	-100	-5	-200	-2	-20	28	-10	66	1.3	3.5	-10	-20	850	80	-200	-2	4	43	67	6.7	-2	2	-5	-0.5
1090	-145.5870	65.5984	110	-100	-5	-200	-2	-20	15	-10	19	1.3	3.3	-10	-20	760	100	-200	-2	2	36	62	5.7	-2	-1	-5	-0.5
1091	-145.5850	65.5947	17	-100	-5	-200	-2	-20	12	-10	8	1.1	3.2	-10	-20	670	90	-200	-2	2	41	76	6.1	-2	-1	-5	0.6
1092	-145.5820	65.5903	7	-100	-5	-200	-2	-20	-10	-10	6	0.9	3	-10	-20	790	95	-200	2	1	35	72	5.3	-2	-1	-5	0.6
1093	-145.5790	65.5863	-5	-100	-5	-200	-2	-20	12	-10	6	0.9	2.9	-10	-20	740	96	-200	-2	2	37	70	5.6	-2	-1	-5	0.6
1095	-145.5770	65.5823	-5	-100	-5	-200	-2	-20	12	-10	9	1	3.4	-10	-20	960	68	-200	-2	3	39	74	5.6	-2	-1	-5	-0.5
1096	-145.5750	65.5776	5	-100	-5	-200	-2	39	12	-10	23	1.9	3.5	-10	-20	720	100	-200	3	2	36	72	5.5	-2	-1	-5	-0.5
1097	-145.5780	65.5739	9	-100	-5	-200	-2	45	20	-10	15	1.5	3.9	-10	-20	930	120	-200	2	2	40	64	6.4	-2	-1	-5	0.5
1099	-145.5830	65.5703	7	-100	-5	-200	-2	-20	14	-10	13	1.2	3.3	-10	-20	770	94	-200	-2	2	36	71	5.4	-2	1	-5	-0.5
1100	-145.5900	65.5665	23	-100	-5	-200	-2	24	17	-10	45	2.6	3.9	-10	-20	750	84	-200	-2	3	42	74	6.1	-2	-1	-5	0.5
1101	-145.5939	65.5635	12	-100	-5	-200	-2	-20	14	-10	36	2.2	3.4	-10	-20	760	83	-200	3	3	40	67	5.8	-2	-1	-5	-0.5
1103	-145.5610	65.6123	11	-100	-5	-200	-2	42	12	-10	7	1	3.4	-10	-20	800	92	-200	-2	2	37	57	5.3	-2	-1	-5	-0.5
1104	-145.5540	65.6091	8	-100	-5	-200	-2	-20	12	-10	6	0.9	3.1	-10	-20	800	76	-200	-2	2	36	65	5.4	-2	-1	-5	-0.5
1105	-145.5490	65.6053	-5	-100	-5	-200	-2	-20	13	-10	7	0.9	3.1	-10	-20	660	83	-200	-2	2	37	67	5.4	-2	1	-5	-0.5
1106	-145.5430	65.6023	-5	-100	-5	-200	-2	-20	11	-10	6	1	3.3	-10	-20	910	69	-200	3	1	39	70	5.7	2	-1	-5	0.5
1108	-145.5300	65.5985	5	-100	7	-200	-2	50	11	-10	6	0.8	3.3	-10	-20	620	100	-200	-2	3	36	72	5.1	-2	-1	-5	-0.5
1109	-145.5320	65.5953	-5	-100	-5	-200	-2	-20	11	-10	7	0.7	3.1	-10	-20	610	96	-200	2	2	40	69	5.2	4	-1	-5	0.6
1110	-145.5270	65.5917	-5	-100	-5	-200	-2	-20	-10	-10	3	0.6	2.6	-10	-20	780	68	-200	-2	2	38	62	5	-2	-1	-5	-0.5
1111	-145.5230	65.5875	-5	-100	-5	-200	-2	-20	13	-10	11	1	3.6	-10	-20	760	100	-200	-2	3	44	79	6.5	-2	-1	-5	-0.5
1112	-145.5200	65.5839	-5	-100	-5	-200	-2	-20	16	-10	7	0.8	3.4	-10	-20	650	96	-200	3	3	49	69	6.7	-2	-1	-5	0.7
1113	-145.5140	65.5802	5	-100	-5	-200	-2	32	17	-10	9	0.9	3.8	-10	-20	800	99	-200	-2	3	43	73	6	-2	-1	-5	-0.5
1116	-145.5710	65.6207	6	-100	-5	-200	-2	66	67	-10	25	1.8	7.9	-10	-20	1100	62	-200	-2	3	39	74	5.9	-2	-1	-5	-0.5

INAA—Instrumental Neutron Activation Analysis, ICP—Inductively Coupled Plasma spectrographic analysis, ppb—parts per billion, ppm—parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1046	-145.7467	65.6001	13	11	-1	15	4.3	1.2	4	85	-500	-0.2	25	20	102	5	25	14	-1	-5	7	-5	2.56	637	-10	164	20	21
1047	-145.7566	65.5979	12	9	1	13	3.1	1.2	2	100	-500	-0.2	24	23	101	5	26	12	-1	-5	-5	-5	2.41	682	-10	127	17	18
1065	-145.5653	65.6236	12	9	-1	10	2.9	1.4	2	58	-500	-0.2	12	11	66	2	19	10	-1	-5	-5	-5	1.96	256	-10	142	21	26
1066	-145.5684	65.6188	11	10	-1	11	3	1.1	2	70	-500	-0.2	12	11	58	4	18	9	-1	-5	27	-5	2.27	255	-10	113	19	21
1067	-145.5617	65.6159	10	11	2	9.4	2.7	1.1	2	73	520	-0.2	7	8	55	5	14	12	-1	-5	19	-5	1.89	657	-10	94	17	19
1069	-145.5690	65.6107	8.8	18	2	9.2	3.3	1	2	52	690	-0.2	7	9	43	7	13	8	-1	-5	-5	-5	1.68	241	-10	78	13	14
1070	-145.5740	65.6073	10	13	2	10	3	1	3	54	-500	-0.2	11	9	55	7	17	15	-1	-5	9	-5	2.18	692	-10	123	17	20
1074	-145.5914	65.6005	10	14	2	8.8	3	1.1	1	59	680	-0.2	8	5	44	-1	13	7	-1	-5	7	-5	1.68	198	-10	74	14	12
1075	-145.6000	65.5977	10	11	2	10	2.7	1.2	1	48	-500	-0.2	10	9	51	3	15	9	-1	-5	15	-5	1.98	282	-10	121	17	22
1076	-145.6080	65.5959	7.3	10	2	7.3	2.2	1	-1	48	510	-0.2	7	8	44	1	13	6	-1	-5	-5	-5	1.61	178	-10	80	12	10
1077	-145.6180	65.5933	9.1	10	1	9	2.8	1	2	38	550	-0.2	11	10	61	2	17	16	-1	-5	22	-5	2.19	803	-10	100	16	16
1078	-145.6250	65.5909	7.4	9	1	8.9	2	0.77	2	62	-500	-0.2	192	8	58	6	39	19	-1	-5	27	-5	3.26	1019	-10	61	64	10
1079	-145.6240	65.5916	8.2	9	1	8.1	2.6	0.94	2	56	640	-0.2	8	7	46	8	14	8	-1	-5	13	-5	1.60	222	-10	74	14	11
1080	-145.6300	65.5875	12	9	2	11	2.9	1.1	3	99	-500	-0.2	13	13	64	4	20	12	-1	-5	14	-5	2.51	433	-10	92	21	22
1081	-145.6370	65.5837	11	13	2	11	3.3	1	2	71	630	-0.2	10	10	55	5	16	9	-1	-5	23	-5	2.00	269	-10	100	18	20
1082	-145.6400	65.5801	11	6	-1	10	3.2	1	5	70	-500	-0.2	12	12	58	6	16	12	-1	-5	10	-5	2.57	468	-10	124	22	31
1084	-145.6420	65.5758	12	10	2	11	3.3	1.1	3	70	-500	-0.2	10	12	62	2	17	13	-1	-5	45	-5	2.14	653	-10	140	20	25
1085	-145.6420	65.5715	11	11	2	10	3.3	1.1	3	78	-500	-0.2	10	16	69	1	17	26	-1	-5	26	-5	2.20	1648	-10	161	21	26
1086	-145.6400	65.5678	12	7	1	11	2.8	1.1	3	84	-500	-0.2	10	18	71	7	18	13	-1	-5	61	-5	2.29	483	-10	141	23	30
1087	-145.6370	65.5634	14	7	2	12	3.4	1.1	4	92	-500	-0.2	15	19	85	3	20	21	-1	-5	58	-5	2.46	1199	-10	185	24	31
1090	-145.5870	65.5984	12	8	2	11	2.9	1.1	3	62	-500	-0.2	14	10	56	3	19	11	-1	-5	22	-5	2.21	448	-10	139	24	27
1091	-145.5850	65.5947	12	12	2	10	3.5	1.3	2	53	520	-0.2	14	9	59	3	17	9	-1	-5	-5	-5	2.03	241	-10	168	22	32
1092	-145.5820	65.5903	11	9	2	9.5	3	1.4	-1	85	-500	-0.2	9	10	53	5	15	7	-1	-5	12	-5	1.94	166	-10	126	21	30
1093	-145.5790	65.5863	11	14	2	10	3.6	1.3	-1	50	590	-0.2	11	7	57	5	17	8	-1	-5	15	-5	2.32	229	-10	153	19	30
1095	-145.5770	65.5823	12	8	-1	10	3.2	1.5	-1	58	-500	-0.2	15	10	75	2	17	8	-1	-5	-5	-5	2.66	183	-10	197	24	38
1096	-145.5750	65.5778	12	8	1	10	3	1	3	77	-500	-0.2	13	10	70	4	17	12	-1	-5	20	-5	2.90	493	-10	134	21	30
1097	-145.5780	65.5739	15	9	1	11	3.4	1.4	-1	72	530	-0.2	21	8	74	2	22	11	-1	-5	11	-5	2.66	387	-10	221	24	43
1099	-145.5830	65.5703	13	8	1	8.9	2.6	1.1	2	64	-500	-0.2	16	12	65	7	19	9	-1	-5	7	-5	2.97	278	-10	141	24	36
1100	-145.5900	65.5685	13	6	1	11	3	0.86	3	81	-500	-0.2	16	14	76	3	19	17	-1	-5	42	8	3.23	602	-10	176	23	31
1101	-145.5939	65.5635	11	7	1	10	2.6	0.8	2	57	-500	-0.2	13	15	67	4	17	11	-1	-5	37	-5	2.85	331	-10	148	20	27
1103	-145.5810	65.6123	12	9	2	9.2	2.9	1.3	1	61	850	-0.2	15	8	70	2	19	10	-1	-5	9	-5	2.65	318	-10	163	22	34
1104	-145.5540	65.6091	12	9	-1	9.3	2.7	1.3	1	64	580	-0.2	14	9	65	1	16	9	-1	-5	-5	-5	2.58	229	-10	184	22	37
1105	-145.5480	65.6053	12	8	2	9.5	3.2	1.3	-1	57	-500	-0.2	17	10	70	4	20	10	-1	-5	8	-5	2.69	270	-10	168	23	36
1106	-145.5430	65.6023	13	9	-1	10	3.2	1.5	2	55	620	-0.2	14	7	60	1	16	8	-1	-5	6	-5	2.40	224	-10	177	21	37
1108	-145.5360	65.5985	12	7	2	9.1	2.7	1.1	2	71	750	-0.2	11	8	61	6	13	6	-1	-5	-5	-5	2.39	166	-10	101	20	31
1109	-145.5320	65.5953	11	13	1	10	2.9	1	2	67	520	-0.2	10	7	53	-1	14	7	-1	-5	8	-5	2.40	220	-10	76	16	22
1110	-145.5270	65.5917	11	10	2	10	3	1.1	-1	92	-500	-0.2	10	9	51	1	14	6	-1	-5	-5	-5	2.08	153	-10	88	20	15
1111	-145.5230	65.5875	13	9	2	11	2.9	1.3	2	64	-500	-0.2	14	10	63	3	19	10	-1	-5	-5	-5	2.69	320	-10	120	30	30
1112	-145.5200	65.5839	13	15	1	12	3.8	1.1	3	72	-500	-0.2	11	9	60	6	18	11	-1	-5	19	-5	2.19	335	-10	99	21	26
1113	-145.5140	65.5802	13	9	2	11	3	1.1	3	76	-500	-0.2	14	13	70	6	19	14	-1	-5	17	-5	2.76	445	-10	121	25	35
1116	-145.5710	65.6207	11	5	1	10	2.7	1	10	98	-500	0.5	19	15	131	8	32	46	2.3	-5	36	7	5.08	6312	-10	447	20	34

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1046	-145.7467	65.6001	-20	-20	35	1.42	.47	.42	-2	.01	.07	20	2	35	-100	12	.02	-1
1047	-145.7566	65.5979	-20	-20	29	1.38	.73	.36	-2	-.01	.06	17	1	28	-100	9	.02	-1
1065	-145.5553	65.6236	-20	-20	21	1.26	.46	.35	-2	.02	.07	15	2	30	-100	7	.04	-1
1066	-145.5584	65.6188	-20	-20	22	1.29	.46	.22	3	.01	.06	18	1	22	-100	6	.02	-1
1067	-145.5617	65.6159	-20	-20	19	1.11	.40	.28	-2	.01	.05	15	1	22	-100	4	.03	-1
1069	-145.5690	65.6107	-20	-20	19	.97	.36	.19	-2	-.01	.04	13	1	16	-100	4	.03	-1
1070	-145.5740	65.6073	-20	-20	20	1.16	.40	.22	-2	.01	.05	15	1	21	-100	6	.03	-1
1074	-145.5914	65.6005	-20	-20	19	1.00	.36	.12	3	-.01	.04	14	-1	12	-100	4	.02	-1
1075	-145.6000	65.5977	-20	-20	19	1.16	.39	.18	-2	.01	.05	14	1	17	-100	5	.03	-1
1076	-145.6080	65.5959	-20	-20	17	.94	.36	.09	-2	-.01	.04	14	-1	10	-100	3	.02	-1
1077	-145.6180	65.5933	-20	-20	21	1.18	.41	.15	-2	-.01	.06	16	-1	16	-100	6	.02	-1
1078	-145.6250	65.5909	-20	-20	14	.93	.40	.08	-2	-.01	.06	16	-1	10	-100	4	.02	-1
1079	-145.6240	65.5916	-20	-20	18	1.03	.38	.12	2	-.01	.05	15	-1	13	-100	4	.02	-1
1080	-145.6300	65.5875	-20	-20	24	1.47	.52	.13	-2	-.01	.07	20	1	16	-100	5	.03	-1
1081	-145.6370	65.5837	-20	-20	24	1.25	.41	.17	3	-.01	.06	16	1	17	-100	5	.03	-1
1082	-145.6400	65.5801	-20	-20	16	1.39	.39	.16	-2	.01	.07	13	1	18	-100	5	.02	-1
1084	-145.6420	65.5758	-20	-20	22	1.37	.44	.23	-2	.01	.07	18	1	22	-100	6	.03	-1
1085	-145.6420	65.5715	-20	-20	23	1.40	.43	.26	-2	.01	.06	17	1	25	-100	6	.03	-1
1086	-145.6400	65.5678	-20	-20	23	1.53	.48	.21	-2	.01	.06	20	1	21	-100	5	.03	-1
1087	-145.6370	65.5634	-20	-20	26	1.68	.49	.27	-2	.01	.06	23	1	24	-100	8	.03	-1
1090	-145.5670	65.5964	-20	-20	22	1.38	.45	.22	-2	.01	.06	17	1	21	-100	6	.03	-1
1091	-145.5850	65.5947	-20	-20	21	1.33	.45	.28	3	.02	.05	14	2	23	-100	7	.05	-1
1092	-145.5820	65.5903	-20	-20	20	1.38	.44	.21	4	.01	.05	14	2	20	-100	5	.05	-1
1093	-145.5790	65.5863	-20	-20	18	1.22	.46	.34	4	.02	.06	11	2	25	-100	6	.05	-1
1095	-145.5770	65.5823	-20	-20	20	1.64	.54	.26	5	.02	.06	15	2	23	-100	6	.04	-1
1096	-145.5750	65.5776	-20	-20	20	1.58	.53	.22	2	.01	.07	16	1	19	-100	5	.02	-1
1097	-145.5780	65.5739	-20	-20	18	1.51	.60	.56	3	.03	.06	14	2	34	-100	8	.07	-1
1099	-145.5630	65.5703	-20	-20	20	1.69	.59	.20	5	.01	.06	15	2	17	-100	5	.03	-1
1100	-145.5900	65.5865	-20	-20	23	1.66	.57	.22	-2	.01	.07	20	1	21	-100	5	.02	-1
1101	-145.5939	65.5835	-20	-20	23	1.61	.51	.20	4	.01	.07	16	1	18	-100	5	.02	-1
1103	-145.5610	65.6123	-20	-20	19	1.51	.55	.40	3	.02	.07	15	2	26	-100	6	.05	-1
1104	-145.5540	65.6091	-20	-20	18	1.52	.50	.30	4	.02	.07	13	2	22	-100	6	.04	-1
1105	-145.5480	65.6053	-20	-20	20	1.56	.55	.37	4	.02	.07	15	2	28	-100	7	.05	-1
1106	-145.5430	65.6023	-20	-20	18	1.39	.50	.44	4	.02	.06	12	2	26	-100	6	.06	-1
1108	-145.5390	65.5985	-20	-20	18	1.57	.46	.16	5	.02	.06	16	2	13	-100	3	.03	-1
1109	-145.5320	65.5953	-20	-20	21	1.29	.46	.16	4	.01	.06	16	1	13	-100	4	.03	-1
1110	-145.5270	65.5917	-20	-20	24	1.53	.48	.12	5	.01	.06	16	1	11	-100	4	.03	-1
1111	-145.5230	65.5875	-20	-20	25	1.53	.52	.26	4	.02	.07	16	2	21	-100	5	.04	-1
1112	-145.5200	65.5839	-20	-20	30	1.32	.46	.19	4	.02	.06	19	1	20	-100	6	.03	-1
1113	-145.5140	65.5802	-20	-20	26	1.56	.52	.18	4	.02	.07	22	1	21	-100	5	.03	-1
1116	-145.5710	65.6207	-20	-20	20	1.33	.42	1.20	-2	.02	.07	15	3	75	-100	11	.01	-1

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Tl*	Zr-2*
			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
			ppm	ppm	ppm	%	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm
1117	-145.5810	65.6202	-20	-20	27	1.53	.52	.93	-2	.02	.11	18	3	57	-100	11	.02	1
1118	-145.5910	65.6196	-20	-20	23	1.37	.57	.68	2	.03	.08	15	2	37	-100	9	.05	1
1120	-145.6030	65.6189	-20	-20	30	1.16	.42	.49	-2	.01	.06	15	2	31	-100	7	.02	-1
1121	-145.6130	65.6171	-20	-20	37	1.45	.53	.52	-2	.01	.09	20	2	34	-100	11	.01	1
1122	-145.6180	65.6139	-20	-20	31	1.13	.47	.38	-2	.01	.07	17	1	24	-100	9	.01	1
1125	-145.5920	65.5082	-20	-20	33	1.75	.58	.25	3	.01	.09	25	1	26	-100	11	.03	-1
1126	-145.3680	65.5603	-20	-20	22	2.57	1.09	.42	3	.01	.11	32	2	29	-100	11	.06	-1
1128	-145.3680	65.5609	-20	-20	22	.97	.49	.14	-2	-.01	.04	16	-1	11	-100	5	.02	-1
1129	-145.3770	65.5625	-20	-20	26	1.45	.72	.15	2	-.01	.07	21	-1	15	-100	6	.02	-1
1130	-145.3850	65.5636	-20	-20	21	1.00	.50	.13	-2	-.01	.05	18	-1	13	-100	6	.02	-1
1131	-145.3950	65.5623	-20	-20	25	1.07	.52	.16	2	-.01	.05	16	-1	14	-100	6	.02	-1
1133	-145.4060	65.5621	-20	-20	26	1.53	.66	.17	4	-.01	.07	21	-1	18	-100	6	.02	-1
1134	-145.4180	65.5632	-20	-20	22	1.21	.61	.14	-2	-.01	.06	19	-1	13	-100	6	.02	-1
1135	-145.4250	65.5618	-20	-20	23	1.27	.63	.13	-2	-.01	.06	19	-1	12	-100	5	.02	-1
1136	-145.7570	65.5977	-20	-20	25	1.10	.54	.15	-2	-.01	.05	16	-1	13	-100	6	.02	-1
1147	-145.5630	65.5368	-20	-20	24	1.35	.57	.36	-2	.01	.09	21	1	26	-100	11	.02	-1
1148	-145.5720	65.5364	-20	-20	30	1.76	.72	.36	-2	.01	.09	26	1	30	-100	12	.02	-1
1150	-145.5820	65.5385	-20	-20	30	1.63	.62	.54	-2	.01	.10	25	2	36	-100	17	.02	-1
1151	-145.5910	65.5376	-20	-20	23	1.42	.62	.26	-2	.02	.09	24	1	24	-100	10	.02	-1
1152	-145.5970	65.5340	-20	-20	21	1.57	.67	.39	2	.01	.08	25	2	32	-100	8	.02	-1
1155	-145.5990	65.5301	-20	-20	31	1.52	.68	.30	-2	.01	.09	24	1	24	-100	14	.02	-1
1156	-145.5590	65.6190	-20	-20	30	1.73	.71	.26	4	.01	.09	25	1	24	-100	11	.02	-1
1158	-145.5640	65.5374	-20	-20	26	1.44	.68	.12	-2	-.01	.06	23	-1	16	-100	5	.02	-1
1159	-145.5690	65.5335	-20	-20	23	1.76	.74	.51	-2	.01	.10	25	2	39	-100	9	.03	-1
1160	-145.5640	65.5289	-20	-20	49	1.65	.61	.90	-2	.02	.10	21	2	55	-100	41	-.01	-1
1161	-145.5650	65.5249	-20	-20	36	1.80	.67	.13	3	-.01	.06	23	-1	17	-100	9	.02	-1
1162	-145.5660	65.5214	-20	-20	34	1.80	.69	.13	5	.01	.07	23	1	21	-100	8	.01	-1
1164	-145.5210	65.5427	-20	-20	21	1.97	.61	.47	-2	.02	.10	13	2	39	-100	8	.02	-1
1165	-145.5220	65.5386	-20	-20	22	1.63	.69	.52	4	.03	.09	12	2	36	-100	10	.07	2
1166	-145.5250	65.5350	-20	-20	30	1.63	.75	.24	-2	.01	.06	21	1	23	-100	12	.02	-1
1168	-145.5290	65.5316	-20	-20	34	1.71	.75	.22	-2	-.01	.07	21	-1	24	-100	10	.02	-1
1169	-145.5360	65.5277	-20	-20	26	1.93	.68	.22	6	.02	.06	18	1	23	-100	10	.02	-1
1170	-145.5370	65.5239	-20	-20	26	1.77	.75	.19	4	.01	.09	17	1	19	-100	7	.04	-1
1172	-145.4976	65.5534	-20	-20	22	1.69	.62	.25	6	.01	.07	15	2	22	-100	5	.03	-1
1173	-145.5040	65.5548	-20	-20	24	1.94	.62	.34	2	.01	.06	19	1	31	-100	9	.02	-1
1174	-145.5130	65.5565	-20	-20	26	2.00	.62	.46	-2	.02	.08	20	2	39	-100	14	.02	-1
1175	-145.5199	65.5594	-20	-20	31	1.90	.68	.17	4	.01	.09	18	1	19	-100	6	.02	-1
1178	-145.5310	65.5606	-20	-20	24	1.93	.59	.32	-2	.01	.06	18	1	27	-100	8	.02	-1
1177	-145.5399	65.5617	-20	-20	22	1.77	.57	.42	-2	.01	.07	18	1	37	-100	8	.01	-1
1178	-145.4560	65.6177	-20	-20	20	1.59	.61	.41	5	.03	.06	12	2	33	-100	7	.05	-1
1179	-145.4560	65.6145	-20	-20	19	1.34	.56	.45	4	.03	.07	14	2	36	-100	6	.05	1

INAA-Instrumental Neutron Activation Analysis, ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion, ppm-parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
1180	-145.4500	65.6098	-5	-100	-5	210	-2	-20	17	-10	10	1.2	3.5	-10	-20	1000	130	-200	-2	2	43	76	7.1	4	-1	-5	-0.5
1181	-145.4470	65.6060	-5	-100	-5	-200	-2	55	-10	-10	6	1	3.2	-10	-20	830	120	-200	-2	2	36	78	5.9	4	-1	-5	-0.5
1182	-145.4440	65.6026	8	-100	-5	-200	-2	-20	15	-10	36	1.4	3.8	-10	-20	870	130	-200	-2	3	49	87	7.5	-2	-1	-5	0.6
1183	-145.4420	65.6022	10	-100	-5	-200	-2	-20	13	-10	7	0.9	3.1	-10	-20	750	93	-200	-2	1	35	56	5.6	2	-1	-5	-0.5
1184	-145.4450	65.5968	-5	-100	-5	-200	-2	-20	-10	-10	4	0.7	2.5	-10	-20	650	77	-200	3	2	34	54	5.2	-2	-1	-5	-0.5
1185	-145.4480	65.5930	-5	-100	-5	-200	-2	-20	11	-10	8	0.9	3.1	-10	-20	830	120	-200	-2	2	38	78	5.8	-2	-1	-5	-0.5
1186	-145.4790	65.6172	-5	-100	-5	-200	-2	25	16	-10	11	1.3	3	-10	-20	620	78	-200	-2	3	37	75	5.4	-2	-1	-5	-0.5
1197	-145.4890	65.6136	-5	-100	-5	-200	-2	43	12	-10	5	0.8	2.9	-10	-20	660	-50	-200	3	2	35	72	4.7	-2	-1	-5	-0.5
1198	-145.4910	65.6102	-5	-100	-5	-200	-2	-20	13	-10	7	1	3.3	-10	-20	870	130	-200	-2	2	37	75	5.9	3	-1	-5	-0.5
1200	-145.4910	65.6052	7	-100	-5	-200	-2	-20	-10	-10	4	1	2.6	-10	-20	560	65	-200	2	1	27	37	4.1	-2	-1	-5	-0.5
1201	-145.4890	65.6012	-5	-100	-5	-200	-2	38	-10	-10	3	0.7	2	-10	-20	700	100	-200	-2	1	29	53	4.5	-2	-1	-5	-0.5
1202	-145.4880	65.5970	10	-100	-5	-200	-2	-20	-10	-10	7	1	2.8	-10	-20	860	84	-200	-2	2	34	59	5.1	-2	-1	-5	-0.5
1204	-145.3950	65.6114	-5	-100	-5	-200	-2	-20	11	-10	10	0.7	3.3	-10	-20	600	94	-200	-2	2	28	48	4.2	4	-1	-5	-0.5
1205	-145.3980	65.6042	-5	-100	-5	-200	-2	-20	-10	-10	6	1.1	2.7	-10	-20	670	87	-200	-2	2	37	77	5.4	-2	-1	-5	-0.5
1207	-145.4030	65.5958	6	-100	-5	-200	-2	-20	12	-10	5	0.9	2.8	-10	-20	890	120	-200	-2	3	37	65	5.5	-2	-1	-5	0.5
1208	-145.4050	65.5915	-5	-100	-5	-200	-2	-20	13	-10	6	0.9	3.4	-10	-20	990	98	-200	-2	2	43	82	6.7	-2	-1	-5	-0.5
1210	-145.3360	65.6063	-5	-100	-5	-200	2	-20	-10	-10	8	1	2.7	-10	-20	690	72	-200	-2	2	38	84	5.7	-2	-1	-5	-0.5
1211	-145.3490	65.6028	-5	-100	-5	-200	-2	-20	-10	-10	3	0.7	2.1	-10	-20	560	71	-200	-2	-1	33	65	5	-2	-1	-5	-0.5
1212	-145.3560	65.5998	-5	-100	-5	-200	-2	-20	-10	-10	4	0.7	2.6	-10	-20	750	98	-200	2	2	34	66	5.2	-2	-1	-5	-0.5
1213	-145.3620	65.5958	9	-100	-5	-200	-2	46	-10	-10	6	1.7	2.5	-10	-20	650	64	-200	-2	2	30	55	4.6	-2	-1	-5	-0.5
1215	-145.3670	65.5925	14	-100	-5	-200	-2	28	16	-10	6	1	3.3	-10	-20	880	84	-200	-2	3	41	63	5.7	-2	1	-5	-0.5
1216	-145.3720	65.5888	-5	-100	-5	200	-2	33	-10	-10	5	0.6	2.9	-10	-20	860	110	-200	-2	3	46	81	6.5	-2	1	-5	0.6
1218	-145.3310	65.6095	6	-100	-5	-200	-2	-20	12	-10	8	0.9	3.6	-10	-20	1000	92	-200	-2	1	41	80	6.4	-2	-1	-5	-0.5
1219	-145.3300	65.6017	-5	-100	-5	-200	-2	-20	15	-10	6	0.7	3	-10	-20	980	99	-200	3	2	39	79	5.9	3	-1	-5	-0.5
1220	-145.3310	65.5981	-5	-100	-5	-200	-2	-20	-10	-10	5	0.9	2.7	-10	-20	740	75	-200	-2	2	37	76	5.5	-2	-1	-5	-0.5
1221	-145.3300	65.5934	7	-100	-5	-200	-2	-20	-10	-10	5	0.9	3.5	-10	-20	770	120	-200	-2	2	43	81	5.9	-2	-1	-5	-0.5
1222	-145.3320	65.5898	-5	-100	-5	-200	-2	31	16	-10	9	0.8	3.6	-10	-20	900	120	-200	-2	2	46	90	6.4	-2	-1	-5	-0.5
1225	-145.1790	65.5875	-5	-100	-5	-200	-2	-20	-10	-10	8	0.9	2.7	-10	-20	520	86	-200	-2	2	40	77	5.7	3	-1	-5	0.6
1230	-145.3920	65.5819	11	-100	-5	-200	-2	46	13	-10	28	2.2	3.6	-10	-20	610	110	-200	3	2	40	78	6.7	2	-1	-5	-0.5
1231	-145.3950	65.5777	-5	-100	-5	-200	-2	-20	13	-10	14	1.5	4.3	-10	-20	890	87	-200	-2	3	48	99	7.9	-2	-1	-5	-0.5
1233	-145.3980	65.5492	-5	-100	-5	-200	-2	-20	15	-10	21	1.8	3.7	-10	-20	620	72	-200	-2	1	37	68	5.9	-2	-1	-5	-0.5
1235	-145.4380	65.5594	26	-100	-5	-200	-2	45	25	-10	40	2.8	4	-10	-20	680	100	-200	-2	2	44	84	7.7	2	1	-5	0.6
1236	-145.4370	65.5549	12	-100	-5	-200	-2	34	29	-10	46	2.7	4.1	-10	-20	750	100	-200	-2	2	45	95	7.7	-2	-1	-5	0.6
1237	-145.4350	65.5501	11	-100	-5	-200	-2	-20	16	-10	36	2.7	3.6	-10	-20	700	93	-200	-2	3	45	89	7.5	3	1	-5	0.6
1238	-145.4340	65.5459	35	-100	-5	-200	-2	-20	19	-10	47	5.2	4.1	-10	-20	970	120	-200	-2	3	53	100	8.8	2	2	-5	-0.5
1240	-145.4830	65.5415	13	-100	-5	-200	-2	31	18	-10	112	2.3	3.9	-10	-20	630	81	-200	3	2	48	92	8.1	-2	-1	-5	0.7
1241	-145.4790	65.5374	13	-100	-5	-200	-2	-20	22	-10	138	2.9	4.4	-10	-20	730	86	-200	6	3	52	97	8.5	-2	-1	-5	-0.5
1242	-145.4790	65.5338	150	-100	-5	-200	-2	62	20	-10	118	3.1	4.8	-10	-20	710	110	-200	2	3	56	110	8.9	-2	-1	-5	-0.5
1243	-145.4820	65.5298	21	-100	-5	-200	-2	-20	12	-10	156	2.7	4.5	-10	-20	930	120	-200	5	5	57	100	9	2	-1	-5	0.6
1244	-145.4840	65.5259	22	-100	-5	-200	-2	-20	-10	-10	103	2.5	3.5	-10	-20	870	120	-200	3	4	58	110	8.9	-2	-1	-5	0.6
1246	-145.3430	65.5402	822	-100	-5	-200	-2	-20	36	-10	155	1.4	4	-10	-20	940	110	-200	4	2	44	84	7.2	-2	-1	-5	-0.5

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1180	-145.4500	65.6068	15	11	-1	12	4.2	1.6	2	91	-500	-0.2	19	10	76	-1	22	10	1.1	-5	-5	-5	2.29	262	-10	200	25	36
1181	-145.4470	65.6060	11	10	2	10	3.1	1.3	1	91	670	-0.2	15	11	68	-1	20	9	-1	-5	9	-5	2.12	248	-10	171	23	28
1182	-145.4440	65.6026	15	7	-1	13	4.6	1.3	-1	130	-500	-0.2	19	17	82	1	32	12	1.3	-5	39	-5	2.74	257	-10	141	50	42
1183	-145.4420	65.6022	11	9	1	9.5	3.2	1.2	2	68	-500	-0.2	13	9	62	-1	18	8	-1	-5	7	-5	2.10	220	-10	144	21	26
1184	-145.4450	65.5968	10	12	2	10	3	1.1	-1	81	-500	-0.2	10	10	54	-1	16	6	-1	-5	-5	-5	1.76	170	-10	105	17	14
1185	-145.4480	65.5930	11	9	1	11	3.5	1.2	2	83	-500	-0.2	10	13	59	3	17	8	-1	-5	6	-5	2.09	221	-10	113	20	21
1186	-145.4790	65.6172	11	9	1	9.5	3	1.1	1	73	-500	-0.2	22	9	64	-1	19	10	-1	-5	14	7	2.91	304	-10	132	20	23
1197	-145.4890	65.6136	9.2	7	-1	10	2.8	1.1	-1	80	580	-0.2	23	7	62	-1	18	8	-1	-5	8	-5	2.53	250	-10	116	18	14
1198	-145.4910	65.6102	13	9	2	11	3.5	1.3	4	86	770	-0.2	11	8	57	-1	16	8	-1	-5	10	-5	2.16	263	-10	167	22	27
1200	-145.4910	65.6052	8.3	12	1	7.9	3	1.1	3	51	510	-0.2	6	8	40	-1	11	9	-1	-5	-5	-5	1.78	362	-10	87	14	14
1201	-145.4890	65.6012	9.4	11	-1	8.2	3	1.2	-1	63	-500	-0.2	6	7	49	-1	13	5	-1	-5	-5	-5	1.50	132	-10	119	17	16
1202	-145.4880	65.5970	11	9	1	11	3.1	1.2	4	97	-500	-0.2	9	12	59	-1	17	9	-1	-5	-5	-5	2.34	188	-10	154	23	27
1204	-145.3950	65.6114	8.1	-2	1	9.1	2.5	0.89	11	86	-500	-0.2	21	10	50	1	22	9	-1	-5	14	-5	2.94	127	-10	238	19	26
1205	-145.3980	65.6042	11	9	1	10	3.2	1.2	2	82	-500	-0.2	12	13	54	3	16	6	-1	-5	-5	-5	1.95	148	-10	141	20	24
1207	-145.4030	65.5958	12	8	1	11	3.3	1.2	2	91	-500	-0.2	11	15	65	-1	20	9	-1	-5	9	-5	2.25	229	-10	140	25	24
1208	-145.4050	65.5915	13	9	2	13	4	1.3	1	120	650	-0.2	20	14	82	-1	28	11	-1	-5	-5	-5	2.68	290	-10	182	28	30
1210	-145.3390	65.6083	11	7	-1	11	3	1.1	4	94	-500	-0.2	14	12	53	3	17	7	-1	-5	15	-5	2.18	235	-10	154	20	24
1211	-145.3490	65.6028	8.9	12	1	10	3.2	1.3	2	73	-500	-0.2	9	10	45	-1	13	5	-1	-5	-5	-5	1.46	153	-10	99	14	12
1212	-145.3590	65.5998	9.5	8	1	10	2.9	1.2	2	97	-500	-0.2	11	9	52	-1	16	7	-1	-5	-5	-5	1.80	198	-10	110	17	18
1213	-145.3820	65.5958	9.2	7	-1	10	2.4	0.87	4	87	-500	-0.2	16	18	56	-1	17	9	-1	-5	-5	-5	2.17	319	-10	158	16	19
1215	-145.3970	65.5925	13	7	1	12	3.6	1.2	2	68	-500	-0.2	38	13	80	-1	27	11	-1	-5	-5	-5	2.71	282	-10	192	27	30
1216	-145.3720	65.5898	12	17	1	12	3.9	1.2	2	110	-500	-0.2	8	10	58	-1	17	8	-1	-5	-5	-5	2.09	209	-10	95	20	20
1218	-145.3310	65.6065	13	6	1	13	3.4	1.3	3	100	-500	-0.2	15	14	68	1	22	9	-1	-5	8	-5	2.62	224	-10	178	27	32
1219	-145.3300	65.6017	12	11	2	10	3.3	1.2	1	74	-500	-0.2	10	12	62	2	20	8	-1	-5	16	-5	2.47	239	-10	166	24	29
1220	-145.3310	65.5981	11	10	1	10	2.9	1.2	2	67	-500	-0.2	11	12	60	4	16	8	-1	-5	-5	-5	1.95	189	-10	151	20	17
1221	-145.3300	65.5934	13	11	2	12	4.1	1.5	2	84	-500	-0.2	18	14	68	2	21	9	-1	-5	15	-5	2.44	216	-10	158	24	28
1222	-145.3320	65.5895	14	10	1	12	3.7	1.2	4	78	-500	-0.2	11	16	66	3	19	11	-1	-5	10	-5	2.72	365	-10	128	25	31
1225	-145.1790	65.5875	10	9	1	8.7	3.2	1.1	2	69	-500	-0.2	11	10	53	-1	14	6	-1	-5	14	-5	2.11	136	-10	102	17	20
1230	-145.3920	65.5819	13	9	1	12	3.3	1	2	100	-500	-0.2	20	15	70	8	22	13	1.1	-5	42	-5	2.96	427	-10	130	25	32
1231	-145.3950	65.5577	14	8	1	14	4.8	1.3	1	83	-500	-0.2	25	14	72	5	21	10	-1	-5	11	-5	2.81	267	-10	136	25	31
1233	-145.3980	65.5492	13	8	2	9.1	2.7	0.94	2	82	580	-0.2	18	10	61	4	22	12	1	-5	13	-5	2.73	432	-10	103	26	33
1235	-145.4380	65.5594	14	10	1	12	3.6	0.84	3	92	-500	-0.2	28	17	80	4	26	20	1.1	-5	33	-5	2.86	1105	-10	134	22	25
1236	-145.4370	65.5549	15	9	1	13	3.4	0.94	2	93	-500	-0.2	27	14	82	-1	27	20	1.3	-5	45	-5	2.91	1109	-10	150	23	28
1237	-145.4350	65.5501	14	11	-1	13	3.6	1	2	110	-500	-0.2	20	16	74	4	22	14	1.1	-5	35	-5	2.65	767	-10	129	21	24
1238	-145.4340	65.5459	17	10	1	17	4.4	1	1	130	620	-0.2	37	21	81	6	29	16	-1	-5	49	-5	2.89	593	-10	169	27	29
1240	-145.4830	65.5415	14	12	1	13	3.8	0.73	-1	110	-500	-0.2	28	29	74	3	27	14	1.1	-5	115	-5	2.87	680	-10	63	19	18
1241	-145.4790	65.5374	16	8	1	16	4.8	1	5	110	-500	-0.2	34	33	102	7	33	16	1.8	-5	142	-5	3.20	723	-10	90	23	25
1242	-145.4700	65.5336	16	8	1	16	4.5	0.89	4	110	-500	-0.2	36	31	107	6	36	17	1.8	-5	128	-5	3.32	754	-10	95	23	25
1243	-145.4820	65.5296	16	8	1	16	5.1	0.88	6	150	-500	0.2	33	27	70	3	22	9	1.2	-5	159	-5	3.24	306	-10	126	21	23
1244	-145.4840	65.5259	15	8	1	17	4.9	0.77	6	120	-500	-0.2	38	34	82	9	29	12	1.1	-5	118	-5	3.05	486	-10	107	21	22
1246	-145.3430	65.5402	14	7	1	13	4.2	1	6	130	-500	-0.2	33	58	141	10	31	30	3.3	-5	206	-5	3.42	1752	-10	178	24	34

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion, ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2		W-2		La-2		Al		Mg		Ca		Ga		Na-2		K		Li		Nb		Sr		Ta-2		Y		Ti		Zr-2	
			ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm
1180	-145.4500	65.6098	-20	22	1.36	56	.44	4	.03	.08	15	2	34	-100	8	.06	1																	
1181	-145.4470	65.6060	-20	22	1.33	52	.29	4	.02	.06	16	2	25	-100	7	.03	-1																	
1182	-145.4440	65.6026	-20	26	1.91	80	.33	7	.01	.06	25	2	28	-100	6	.03	-1																	
1183	-145.4420	65.6022	-20	21	1.27	49	.24	4	.02	.06	15	1	22	-100	6	.03	-1																	
1184	-145.4450	65.5968	-20	23	1.20	44	.13	4	.01	.05	15	-1	14	-100	5	.02	-1																	
1185	-145.4480	65.5930	-20	23	1.37	48	.14	4	.01	.06	17	1	16	-100	4	.02	-1																	
1186	-145.4780	65.6172	-20	24	1.38	46	.22	2	.01	.06	16	1	21	-100	6	.02	-1																	
1187	-145.4860	65.6136	-20	24	1.31	45	.15	2	.01	.05	13	-1	15	-100	5	.01	-1																	
1188	-145.4910	65.6102	-20	20	1.45	48	.28	6	.02	.06	15	1	27	-100	5	.02	-1																	
1200	-145.4910	65.6052	-20	14	.93	32	.13	2	-.01	.04	11	-1	14	-100	3	.02	-1																	
1201	-145.4900	65.6012	-20	17	1.16	39	.17	4	.01	.05	13	1	17	-100	4	.02	-1																	
1202	-145.4880	65.5970	-20	20	1.52	43	.19	6	.02	.07	17	1	20	-100	5	.02	-1																	
1204	-145.3950	65.6114	-20	19	1.09	26	.21	5	.02	.05	8	1	26	-100	6	.01	-1																	
1205	-145.3960	65.6042	-20	24	1.34	41	.24	5	.02	.05	15	1	23	-100	5	.02	-1																	
1207	-145.4030	65.5958	-20	25	1.54	49	.18	5	.02	.07	17	1	21	-100	5	.02	-1																	
1208	-145.4050	65.5915	-20	30	1.88	61	.25	5	.02	.06	22	1	26	-100	9	.03	-1																	
1210	-145.3360	65.6003	-20	24	1.37	42	.19	4	.01	.06	15	1	19	-100	6	.02	-1																	
1211	-145.3480	65.6028	-20	22	1.01	34	.16	3	.01	.05	12	-1	15	-100	4	.02	-1																	
1212	-145.3590	65.5996	-20	22	1.16	39	.17	3	.01	.06	13	1	18	-100	5	.02	-1																	
1213	-145.3620	65.5958	-20	22	1.10	37	.27	3	.02	.09	9	1	26	-100	6	.01	-1																	
1215	-145.3670	65.5925	-20	26	1.65	56	.26	-2	.02	.09	20	2	25	-100	9	.03	-1																	
1216	-145.3720	65.5888	-20	23	1.45	49	.16	4	.01	.05	18	1	16	-100	4	.02	-1																	
1218	-145.3310	65.6005	-20	29	1.84	56	.17	6	.01	.06	20	1	19	-100	6	.02	-1																	
1219	-145.3300	65.6017	-20	27	1.62	51	.22	4	.01	.06	19	1	21	-100	5	.02	-1																	
1220	-145.3310	65.5981	-20	24	1.38	47	.15	4	.01	.05	16	-1	17	-100	5	.02	-1																	
1221	-145.3300	65.5934	-20	29	1.62	52	.15	5	.01	.07	18	1	17	-100	6	.02	-1																	
1222	-145.3320	65.5898	-20	27	1.63	51	.15	4	.01	.06	18	1	17	-100	6	.02	-1																	
1225	-145.1790	65.5875	-20	25	1.24	36	.12	5	-.01	.04	14	-1	13	-100	4	.02	-1																	
1230	-145.3920	65.5919	-20	28	1.62	62	.21	3	.01	.06	19	1	23	-100	6	.02	-1																	
1231	-145.3950	65.5877	-20	28	1.54	60	.23	4	.02	.07	19	1	25	-100	7	.04	-1																	
1235	-145.4380	65.5894	-20	21	1.63	65	.19	4	.01	.07	16	1	19	-100	5	.02	-1																	
1236	-145.4380	65.5894	-20	28	1.51	59	.26	-2	.01	.09	17	1	25	-100	8	.02	-1																	
1238	-145.4370	65.5849	-20	28	1.60	60	.31	-2	.01	.10	18	1	26	-100	8	.02	-1																	
1237	-145.4390	65.5901	-20	28	1.51	58	.31	-2	.01	.08	17	1	25	-100	6	.02	-1																	
1238	-145.4340	65.5469	-20	34	1.86	67	.23	2	.01	.12	20	1	25	-100	9	.02	-1																	
1240	-145.4830	65.5415	-20	30	1.38	70	.18	-2	-.01	.06	22	-1	16	-100	6	.02	-1																	
1241	-145.4790	65.5374	-20	32	1.65	73	.23	-2	.01	.07	25	-1	24	-100	9	.02	-1																	
1242	-145.4790	65.5336	-20	30	1.69	74	.23	-2	.01	.08	26	-1	25	-100	10	.02	-1																	
1243	-145.4820	65.5296	-20	35	1.61	59	.14	4	.02	.06	22	-1	21	-100	10	.01	-1																	
1244	-145.4840	65.5259	-20	36	1.65	68	.32	3	.01	.06	26	-1	31	-100	11	.01	-1																	
1248	-145.3430	65.5402	-20	26	1.69	60	.63	-2	.02	.10	20	2	50	-100	10	.02	-1																	

ICP=Instrumental Neutron Activation Analysis; IC-P=Inductively Coupled Plasma Spectrographic Analysis; ppb=parts per billion; ppm=parts per million; - Indicates element detection limit not exceeded; * Indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sr-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
1247	-145.3350	65.5350	11	-100	-5	280	-2	-20	21	-10	172	1.3	3.6	-10	-20	780	71	-200	3	3	47	86	7.5	-2	-1	-5	0.6
1248	-145.3280	65.5307	6	-100	-5	-200	-2	-20	22	-10	121	1.2	3.2	-10	-20	810	130	-200	3	2	50	93	8	-2	-1	-5	-0.5
1258	-145.4110	65.5044	43	-100	-5	-200	-2	65	22	-10	52	7.3	4.8	-10	-20	750	99	-200	-2	2	49	88	8	-2	-1	-5	0.6
1259	-145.4080	65.5002	-5	-100	-5	210	-2	63	19	-10	43	7.4	4.6	-10	-20	840	110	-200	-2	3	44	80	7.8	3	1	-5	0.6
1260	-145.4151	65.4967	170	-100	-5	-200	-2	63	23	-10	21	3.3	5.3	-10	-20	660	120	-200	-2	2	39	83	6.9	3	-1	-5	-0.5
1261	-145.4164	65.4924	-5	-100	-5	-200	-2	32	24	-10	8	1.8	5.6	-10	-20	630	140	-200	-2	2	30	60	5.9	-2	-1	-5	-0.5
1265	-145.4370	65.5059	36	-100	-5	-200	-2	-20	25	-10	42	15	5.1	-10	-20	530	170	-200	-2	3	52	95	8.4	-2	-1	-5	-0.5
1266	-145.4430	65.5029	-5	-100	-5	-200	-2	-20	20	-10	33	13	4.5	-10	-20	950	180	-200	3	3	44	79	7.6	3	1	-5	-0.5
1268	-145.3980	65.5283	23	-100	-5	-200	-2	-20	21	-10	122	2.2	4.8	-10	-20	780	110	-200	4	2	49	92	7.8	3	-1	-5	0.6
1269	-145.4080	65.5290	19	-100	-5	-200	-2	-20	18	-10	122	2.4	4.3	-10	-20	590	82	-200	-2	2	45	80	7.4	-2	-1	-5	-0.5
1270	-145.4170	65.5300	13	-100	-5	230	-2	-20	14	-10	88	2	3.5	-10	-20	780	93	-200	3	3	41	77	6.8	-2	-1	-5	-0.5
1271	-145.4290	65.5296	38	-100	-5	210	-2	32	21	-10	119	2.7	4	-10	-20	830	110	-200	3	3	47	92	7.7	-2	-1	-5	-0.5
1273	-145.4370	65.5287	19	-100	-5	-200	-2	-20	13	-10	78	2.2	3.5	-10	-20	940	98	-200	-2	3	50	96	8.6	-2	-1	-5	-0.5
1274	-145.4440	65.5240	25	-100	-5	-200	-2	-20	24	-10	139	3.5	3.5	-10	-20	870	110	-200	-2	3	52	91	9	2	1	-5	-0.5
1276	-145.2920	65.5674	-5	-100	-5	-200	-2	38	16	-10	27	1	3.2	-10	-20	930	80	-200	3	2	44	74	7.2	-2	-1	-5	-0.5
1277	-145.2950	65.5540	28	-100	-5	210	-2	-20	16	-10	44	1.1	3.7	-10	-20	840	140	-200	-2	2	54	94	8.9	-2	-1	-5	0.7
1278	-145.2980	65.5488	10	-100	-5	-200	-2	-20	37	-10	171	0.7	4.6	-10	-20	760	100	-200	3	2	53	86	8.7	3	1	-5	0.6
1279	-145.2960	65.5436	10	-100	-5	-200	-2	48	15	-10	53	0.8	2.7	-10	-20	760	91	-200	5	2	41	84	6.6	-2	-1	-5	-0.5
1281	-145.2450	65.5632	-5	-100	-5	-200	-2	-20	15	-10	53	0.9	3.8	-10	-20	720	74	-200	5	2	43	72	7.1	-2	1	-5	-0.5
1282	-145.2480	65.5496	-5	-100	-5	-200	-2	-20	16	-10	62	0.8	3.5	-10	-20	580	78	-200	5	1	41	84	6.7	-2	-1	-5	0.5
1283	-145.2540	65.5453	12	-100	-5	-200	-2	-20	25	-10	118	1	3.7	-10	-20	810	80	-200	4	3	40	87	6.9	2	-1	-5	-0.5
1284	-145.2560	65.5407	7	-100	-5	250	-2	-20	30	-10	62	0.9	4.1	-10	-20	850	72	-200	-2	2	37	68	5.7	-2	-1	-5	-0.5
1285	-145.3110	65.5087	20	-100	6	-200	-2	52	23	-10	62	6.2	4.9	-10	-20	640	110	-200	-2	3	41	86	7.7	-2	-1	-5	-0.5
1287	-145.3200	65.5100	20	-100	-5	-200	-2	-20	23	-10	77	7.6	4.9	-10	-20	840	140	-200	-2	3	54	110	8.9	2	1	-5	0.6
1288	-145.3310	65.5108	22	-100	-5	-200	-2	-20	30	-10	58	6.9	5.3	-10	-20	680	120	-200	-2	3	44	92	8.2	4	-1	-5	-0.5
1290	-145.3410	65.5101	21	-100	-5	-200	-2	-20	28	-10	69	7.7	4.9	-10	-20	810	90	-200	-2	3	48	85	8.6	4	-1	-5	0.6
1291	-145.3510	65.5085	7	-100	-5	-200	-2	-20	12	-10	31	4.3	4.1	-10	-20	840	110	-200	-2	3	52	91	8	-2	-1	-5	-0.5
1292	-145.3810	65.5088	18	-100	-5	-200	-2	-20	29	-10	28	3.9	6.2	-10	-20	640	150	-200	-2	3	42	87	8.3	-2	-1	-5	-0.5
1295	-145.2130	65.5157	-5	-100	-5	-200	-2	-20	18	-10	64	0.8	3.2	-10	-20	640	120	-200	-2	3	59	110	12	-2	-1	5	-0.5
1297	-145.1990	65.5118	28	-100	-5	-200	-2	-20	13	-10	77	2	3.8	-10	-20	740	140	-200	5	4	67	130	14	-2	1	7	-0.5
1298	-145.1900	65.5092	17	-100	-5	-200	-2	-20	12	-10	75	3.1	4	-10	-20	710	87	-200	-2	4	52	100	9.2	2	1	6	0.7
1300	-145.1810	65.5089	12	-100	-5	-200	-2	-20	15	-10	117	1.4	3.9	-10	-20	850	110	-200	-2	6	54	98	13	3	2	6	0.5
1301	-145.1730	65.5041	-5	-100	-5	200	-2	-20	10	-10	130	1.3	4.2	-10	-20	710	120	-200	-2	6	53	110	11	2	1	5	-0.5
1302	-145.3470	65.4900	14	-100	-5	-200	-2	38	30	-10	44	3.4	5.9	-10	-20	610	120	-200	-2	2	37	70	6.8	-2	-1	-5	0.6
1303	-145.3570	65.4883	9	-100	-5	-200	-2	-20	22	-10	38	3.2	5.1	-10	-20	520	110	-200	-2	2	41	84	7.1	2	-1	-5	0.5
1305	-145.3389	65.4881	7	-100	-5	-200	-2	58	20	-10	26	2.9	4.8	-10	-20	850	160	-200	-2	2	34	74	6.1	-2	-1	-5	-0.5
1306	-145.3330	65.4834	5	-100	-5	-200	-2	47	17	-10	25	3.6	4.5	-10	-20	610	140	-200	-2	2	33	69	6.6	-2	-1	-5	-0.5
1308	-145.1550	65.5506	-5	-100	-5	-200	-2	-20	19	-10	13	0.8	4.4	-10	-20	800	110	-200	-2	3	62	110	9.4	2	-1	-5	-0.5
1309	-145.1580	65.5487	-5	-100	-5	-200	-2	-20	15	-10	14	1.2	4	-10	-20	870	110	-200	-2	2	37	71	6.1	3	-1	-5	-0.5
1310	-145.1550	65.5423	8	-100	-5	-200	-2	-20	10	-10	9	0.8	3.5	-10	-20	800	150	-200	-2	2	45	77	6.8	-2	-1	-5	-0.5
1311	-145.1580	65.5378	-5	-100	-5	-200	-2	-20	13	-10	10	0.9	3.5	-10	-20	720	99	-200	-2	2	48	85	6.8	3	-1	-5	-0.5

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1247	-145.3350	65.5350	14	9	-1	14	4.7	1	6	100	-500	-0.2	32	53	137	6	28	21	2.7	-5	212	5	3.27	1003	-10	156	23	29
1248	-145.3280	65.5307	15	7	-1	13	4.6	1.2	5	110	-500	-0.2	32	60	174	5	26	17	4.5	-5	161	-5	2.97	818	-10	170	23	31
1258	-145.4110	65.5044	19	9	2	15	4.6	1.1	5	100	-500	-0.2	49	20	105	5	39	21	-1	-5	66	9	4.12	856	-10	95	31	43
1259	-145.4080	65.5002	17	8	1	14	3.9	1.1	10	130	-500	-0.2	42	19	109	6	36	20	-1	-5	63	8	3.69	757	-10	117	31	44
1260	-145.4151	65.4967	23	8	1	12	3.4	1	5	87	-500	-0.2	70	14	106	6	45	22	-1	-5	29	-5	4.76	766	-10	116	46	65
1261	-145.4164	65.4924	24	7	-1	10	3.2	1.2	1	76	-500	-0.2	57	11	89	9	40	22	-1	-5	11	-5	4.67	752	-10	132	51	72
1265	-145.4370	65.5059	19	12	2	14	4.4	1.1	3	110	870	-0.2	39	13	87	4	35	17	-1	-5	45	7	4.06	508	-10	68	26	34
1266	-145.4430	65.5029	19	9	2	14	4.8	1.2	5	130	-500	-0.2	46	16	98	-1	36	19	-1	-5	44	12	3.93	791	-10	131	37	51
1268	-145.3980	65.5283	14	9	1	14	4.6	1	3	140	-500	-0.2	26	37	109	3	24	14	-1	-5	150	6	3.70	621	-10	102	21	27
1269	-145.4080	65.5290	13	9	2	13	4.6	0.88	2	100	-500	-0.2	27	31	94	-1	26	14	-1	-5	136	-5	3.27	664	-10	68	18	20
1270	-145.4170	65.5300	14	7	-1	13	3.6	1	2	110	-500	-0.2	20	37	91	1	24	13	-1	-5	111	-5	3.27	625	-10	138	25	30
1271	-145.4290	65.5298	16	7	-1	15	4.9	0.86	6	130	-500	-0.2	34	41	149	2	31	16	1.5	-5	149	-5	3.58	816	-10	128	23	27
1273	-145.4370	65.5267	15	6	-1	14	4.8	1	4	110	-500	-0.2	36	29	90	5	36	15	1.4	-5	100	-5	3.12	796	-10	154	23	28
1274	-145.4440	65.5240	14	9	1	15	5.1	1	7	120	-500	-0.2	33	47	140	1	36	20	1.5	-5	174	-5	3.39	625	-10	123	24	29
1276	-145.2920	65.5574	13	7	1	11	3.6	1.4	2	55	-500	-0.2	15	17	73	4	21	10	-1	-5	37	-5	2.17	279	-10	151	24	29
1277	-145.2950	65.5540	15	15	2	14	4.7	1.4	3	99	-500	-0.2	14	16	76	2	22	12	-1	-5	44	-5	2.51	456	-10	146	26	38
1278	-145.2980	65.5486	13	16	1	13	4.1	1	4	99	920	-0.2	13	22	70	4	18	29	1.2	-5	178	-5	3.18	1743	-10	135	19	30
1279	-145.2950	65.5436	12	10	1	11	3.8	1	1	91	760	0.4	15	23	78	6	19	10	1.1	-5	57	-5	1.99	261	-10	132	22	22
1281	-145.2450	65.5532	13	9	2	12	3.7	1	1	120	-500	-0.2	18	16	66	2	21	15	-1	-5	60	-5	2.66	529	-10	107	23	28
1282	-145.2480	65.5495	11	9	2	11	3.8	0.88	2	80	660	-0.2	18	15	62	-1	21	14	-1	-5	61	-5	2.70	484	-10	78	20	23
1283	-145.2540	65.5453	13	12	2	12	3.4	0.87	3	110	750	-0.2	17	20	73	-1	21	21	-1	-5	143	-5	3.04	807	-10	119	24	31
1284	-145.2580	65.5407	14	7	-1	13	3.5	0.85	6	78	-500	-0.2	20	25	67	2	22	23	1.4	-5	83	-5	2.89	877	-10	161	25	27
1286	-145.3110	65.5087	19	9	2	13	4.5	1	5	120	-500	-0.2	51	17	87	1	41	23	-1	-5	74	-5	3.78	887	-10	113	40	51
1287	-145.3200	65.5100	20	10	2	15	4.1	1.2	4	100	-500	-0.2	43	18	88	5	36	20	-1	-5	78	-5	3.54	805	-10	103	34	44
1288	-145.3310	65.5108	19	10	2	14	4	1.1	3	79	660	-0.2	42	16	88	-1	38	21	-1	-5	56	5	3.61	772	-10	106	37	49
1290	-145.3410	65.5101	20	9	2	14	4.8	1	4	130	-500	-0.2	44	17	92	5	41	25	-1	-5	87	-5	3.67	631	-10	120	38	46
1291	-145.3610	65.5085	16	8	-1	17	5.4	1.1	3	120	-500	-0.2	29	16	66	-1	23	9	-1	-5	38	-5	2.99	190	-10	104	30	35
1292	-145.3610	65.5088	28	11	2	13	4.5	1	2	97	-500	-0.2	55	15	92	4	40	23	-1	-5	34	-5	4.30	696	-10	86	50	69
1295	-145.2130	65.5157	12	5	1	16	2.2	1.1	11	110	-500	-0.2	27	27	112	6	22	16	1.1	-5	72	-5	2.74	847	-10	190	26	41
1297	-145.1880	65.5116	13	6	3	19	3.7	1.1	11	110	-500	-0.2	26	30	145	3	23	14	-1	-5	83	-5	2.67	746	-10	172	28	38
1298	-145.1900	65.5092	15	10	3	19	10	1.5	5	130	-500	-0.2	19	22	67	5	19	8	-1	-5	81	-5	2.71	214	-10	107	30	40
1300	-145.1810	65.5069	15	6	2	19	20	1.2	11	140	-500	-0.2	34	33	99	-1	28	14	-1	-5	124	-5	3.02	510	-10	177	34	48
1301	-145.1730	65.5041	15	6	2	19	15	1.2	12	110	-500	-0.2	34	38	102	2	28	11	-1	-5	152	-5	3.11	296	-10	141	36	51
1302	-145.3470	65.4900	22	8	1	11	3.6	1.1	5	120	-500	-0.2	55	18	94	4	43	21	-1	-5	57	-5	4.21	654	-10	76	46	61
1303	-145.3670	65.4883	19	9	2	11	4	1.2	5	84	-500	-0.2	40	14	89	-1	37	17	-1	-5	39	7	3.64	603	-10	79	37	46
1305	-145.3389	65.4881	21	8	1	10	3.3	1.3	2	93	-500	-0.2	39	14	76	-1	33	16	-1	-5	32	-5	3.61	356	-10	117	45	63
1306	-145.3330	65.4834	20	9	-1	10	3.1	1.1	4	85	-500	-0.2	62	13	86	3	37	16	-1	-5	26	5	3.30	562	-10	127	41	52
1308	-145.1550	65.5506	14	8	1	14	4.2	1.2	2	110	-500	-0.2	31	23	92	2	29	16	-1	-5	12	-5	3.08	527	-10	128	25	28
1309	-145.1580	65.5467	14	6	-1	11	3.6	1.4	2	100	-500	-0.2	21	17	73	1	22	11	-1	-5	25	-5	2.98	264	-10	220	30	45
1310	-145.1550	65.5423	14	8	1	12	4.3	1.3	1	110	-500	-0.2	16	14	65	-1	20	8	-1	-5	19	-5	2.42	191	-10	139	27	34
1311	-145.1580	65.5378	14	8	2	12	3.9	1.4	2	85	-500	-0.2	16	12	64	-1	18	7	-1	-5	13	-5	2.68	197	-10	147	23	30

INAA-Instrumental Neutron Activation Analysis, ICP-Inductively Coupled Plasma spectrographic analysis, ppb-parts per billion, ppm-parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2* ICP ppm	W-2* ICP ppm	La-2* ICP ppm	Al* ICP %	Mg* ICP %	Ca* ICP %	Ga* ICP ppm	Na-2* ICP %	K* ICP %	Li* ICP ppm	Nb* ICP ppm	Sr* ICP ppm	Ta-2* ICP ppm	Y* ICP ppm	Ti* ICP %	Zr-2* ICP ppm
1247	-145.3350	65.5350	-20	-20	27	1.65	.58	.49	-2	.02	.10	18	2	46	-100	10	.02	-1
1248	-145.3280	65.5307	-20	-20	28	1.73	.58	.57	-2	.01	.09	20	2	51	-100	10	.02	-1
1258	-145.4110	65.5044	-20	-20	29	2.05	.88	.39	-2	-.01	.11	23	2	28	-100	11	.04	-1
1259	-145.4080	65.5002	-20	-20	29	2.14	.79	.46	-2	.01	.11	23	2	31	-100	12	.04	-1
1260	-145.4151	65.4967	-20	-20	21	2.62	1.18	.40	4	.01	.16	27	2	24	-100	8	.05	-1
1261	-145.4164	65.4924	-20	-20	18	2.90	1.20	.30	6	-.01	.09	28	1	19	-100	6	.03	-1
1265	-145.4370	65.5059	-20	-20	29	1.89	.90	.24	4	-.01	.08	24	1	16	-100	9	.03	-1
1266	-145.4430	65.5029	-20	-20	25	2.30	.87	.37	3	.01	.12	22	2	25	-100	9	.05	-1
1268	-145.3980	65.5283	-20	-20	27	1.69	.70	.23	2	-.01	.07	23	1	23	-100	8	.02	-1
1269	-145.4080	65.5290	-20	-20	24	1.47	.67	.20	-2	-.01	.06	21	-1	20	-100	6	.02	-1
1270	-145.4170	65.5300	-20	-20	24	1.83	.72	.28	-2	-.01	.07	23	1	25	-100	5	.02	-1
1271	-145.4290	65.5298	-20	-20	25	1.79	.77	.31	-2	.01	.09	26	1	27	-100	9	.02	-1
1273	-145.4370	65.5287	-20	-20	27	1.73	.65	.40	-2	.01	.07	22	2	38	-100	14	.02	-1
1274	-145.4440	65.5240	-20	-20	33	1.82	.67	.32	2	.01	.08	23	1	29	-100	15	.02	-1
1276	-145.2920	65.5574	-20	-20	24	1.48	.55	.32	4	.02	.07	15	2	29	-100	6	.03	-1
1277	-145.2950	65.5540	-20	-20	26	1.45	.55	.42	2	.02	.08	14	2	34	-100	7	.05	-1
1278	-145.2980	65.5488	-20	-20	27	1.29	.46	.30	-2	.01	.07	13	1	30	-100	6	.02	-1
1279	-145.2950	65.5438	-20	-20	23	1.42	.58	.25	3	.01	.07	15	1	25	-100	5	.02	-1
1281	-145.2450	65.5532	-20	-20	26	1.38	.52	.18	-2	.01	.08	14	1	19	-100	5	.02	-1
1282	-145.2480	65.5498	-20	-20	27	1.32	.52	.13	-2	-.01	.07	15	-1	15	-100	5	.02	-1
1283	-145.2540	65.5453	-20	-20	27	1.56	.57	.17	-2	-.01	.09	15	1	20	-100	5	.02	-1
1284	-145.2580	65.5407	-20	-20	20	1.58	.49	.34	-2	.01	.09	14	2	31	-100	5	-.01	-1
1286	-145.3110	65.5087	-20	-20	27	2.10	1.01	.41	-2	.01	.12	24	2	33	-100	10	.03	-1
1287	-145.3200	65.5100	-20	-20	26	1.89	.91	.33	2	.01	.09	22	1	28	-100	8	.03	-1
1288	-145.3310	65.5108	-20	-20	26	2.03	.99	.33	3	.01	.10	24	1	27	-100	9	.03	-1
1290	-145.3410	65.5101	-20	-20	28	2.14	.98	.28	2	-.01	.09	25	1	24	-100	11	.03	-1
1291	-145.3510	65.5085	-20	-20	33	1.90	.68	.22	6	-.01	.08	20	1	22	-100	8	.02	-1
1292	-145.3810	65.5088	-20	-20	24	2.54	1.25	.28	6	-.01	.08	27	1	17	-100	8	.04	-1
1295	-145.2130	65.5157	-20	-20	44	1.82	.48	.68	-2	.02	.10	28	3	52	-100	32	.03	-1
1297	-145.1990	65.5118	-20	-20	42	2.11	.47	.67	-2	.02	.11	31	3	45	-100	39	.03	-1
1298	-145.1900	65.5092	-20	-20	25	1.57	.58	.34	7	.02	.12	25	3	29	-100	13	.04	-1
1300	-145.1810	65.5089	-20	-20	32	1.99	.63	.59	5	.02	.13	33	4	37	-100	38	.04	-1
1301	-145.1730	65.5041	-20	-20	31	1.99	.65	.41	7	.02	.13	34	4	30	-100	29	.04	-1
1302	-145.3470	65.4900	-20	-20	20	2.31	1.16	.36	6	-.01	.11	26	1	24	-100	8	.04	-1
1303	-145.3570	65.4883	-20	-20	22	1.97	.94	.34	4	-.01	.08	22	1	23	-100	7	.03	-1
1305	-145.3389	65.4881	-20	-20	16	2.34	.92	.20	8	.01	.09	21	1	16	-100	4	.04	-1
1308	-145.3330	65.4834	-20	-20	16	2.10	.95	.73	3	.01	.09	21	2	36	-100	9	.03	-1
1308	-145.1550	65.5508	-20	-20	41	1.05	.68	.25	3	.01	.05	25	1	20	-100	10	.03	-1
1309	-145.1580	65.5467	-20	-20	22	1.88	.54	.27	6	.01	.08	17	2	27	-100	7	.03	-1
1310	-145.1550	65.5423	-20	-20	23	1.73	.57	.23	5	.02	.06	17	2	23	-100	6	.03	-1
1311	-145.1580	65.5378	-20	-20	26	1.57	.54	.19	6	.01	.04	16	1	21	-100	6	.03	-1

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion, ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1313	-145.1580	65.5341	14	10	2	12	4.2	1.1	1	100	790	-0.2	21	14	71	-1	23	10	-1	-5	16	-5	2.88	220	-10	139	28	32
1314	-145.1590	65.5297	12	13	2	10	3	0.88	3	99	900	-0.2	13	11	48	-1	17	9	-1	-5	24	-5	2.29	242	-10	79	21	32
1315	-145.1590	65.5254	12	9	1	8.4	2.7	0.89	2	91	-500	-0.2	12	12	54	-1	19	8	-1	-5	27	-5	2.32	230	-10	85	24	35
1317	-145.3030	65.4685	21	9	1	11	2.8	1.1	3	69	-500	-0.2	40	14	71	-1	36	16	-1	-5	51	-5	3.63	472	-10	86	40	55
1318	-145.3130	65.4679	18	5	1	9.3	2.9	1	6	79	-500	0.3	56	12	71	-1	34	15	-1	-5	33	-5	3.41	546	-10	131	39	57
1319	-145.3230	65.4659	18	8	1	11	3.7	1	11	97	690	0.3	52	17	88	-1	38	18	-1	-5	72	-5	3.63	589	-10	97	40	55
1320	-145.3330	65.4640	20	5	1	12	4.5	1	9	86	-500	0.4	55	19	86	-1	41	18	-1	6	82	-5	3.74	660	-10	105	43	57
1322	-145.3070	65.4467	18	11	1	12	4.2	1.6	1	66	-500	-0.2	36	9	60	1	29	12	-1	-5	43	-5	2.58	348	-10	115	33	54
1323	-145.3020	65.4430	17	5	-1	11	2.8	1.1	8	100	-500	0.5	49	16	83	-1	39	19	-1	7	165	-5	3.70	952	-10	195	43	60
1324	-145.3030	65.4387	18	-2	-1	12	3.8	0.86	-20	110	-500	1.7	38	28	67	-1	41	18	4.9	5	898	-5	3.93	778	-10	150	50	51
1327	-145.1980	65.4842	34	8	2	8.6	2.9	1.7	2	52	-500	-0.2	75	7	58	-1	40	16	-1	-5	42	-5	3.49	342	-10	93	50	80
1328	-145.1900	65.4822	21	7	1	10	3	1.4	3	77	-500	0.3	37	17	74	-1	28	18	-1	-5	61	-5	2.63	828	-10	129	32	46
1329	-145.1810	65.4801	18	7	1	13	4.1	1.2	2	120	-500	-0.2	41	16	90	-1	31	19	-1	-5	77	-5	3.26	610	-10	144	36	49
1331	-145.2130	65.4872	15	9	2	13	4.4	1.2	4	110	710	-0.2	21	18	91	3	32	15	-1	-5	33	-5	2.89	826	-10	144	31	30
1332	-145.2090	65.4829	18	9	1	15	4.4	1.2	3	110	-500	-0.2	30	17	96	-1	39	18	-1	-5	28	-5	3.37	661	-10	171	41	40
1333	-145.2050	65.4591	15	5	2	11	3.3	1.2	4	100	-500	-0.2	21	21	64	-1	27	8	-1	-5	22	-5	2.87	272	-10	103	39	41
1334	-145.2020	65.4546	16	7	2	14	4.6	1.2	4	110	-500	-0.2	31	18	117	1	43	23	-1	-5	22	-5	3.58	1717	-10	174	36	39
1336	-145.2020	65.4509	16	6	2	13	3.6	1.2	5	110	-500	-0.2	26	14	81	-1	28	10	-1	-5	28	-5	2.82	239	-10	156	38	36
1337	-145.2050	65.4457	15	6	2	14	4.1	1.2	6	120	-500	-0.2	29	17	112	1	36	18	1.1	-5	32	-5	2.74	1120	-10	195	34	31
1340	-145.2390	65.4804	17	10	2	15	4.9	1.4	3	100	-500	-0.2	24	20	94	1	33	16	-1	-5	42	-5	3.05	565	-10	117	32	30
1341	-145.2400	65.4589	14	9	1	15	5.2	1	3	110	-500	-0.2	29	19	100	-1	38	23	1	-5	41	-5	3.37	2036	-10	164	35	33
1343	-145.2520	65.4555	18	7	1	13	5.6	1.1	12	120	-500	-0.2	33	21	122	3	35	14	1.3	-5	51	-5	3.02	362	-10	136	33	30
1344	-145.2620	65.4542	18	8	1	14	4.7	1.1	7	120	700	-0.2	38	19	105	-1	38	18	1.1	-5	60	-5	3.45	724	-10	137	38	42
1345	-145.2690	65.4514	17	10	1	16	4.9	1	6	120	-500	-0.2	45	24	91	4	36	19	-1	-5	47	-5	3.13	1190	-10	144	33	31
1347	-145.2480	65.4516	14	8	2	14	4.4	1.1	5	120	-500	-0.2	26	14	85	5	34	16	-1	-5	35	-5	2.90	640	-10	137	38	27
1348	-145.2450	65.4479	17	8	1	18	5.4	1.3	4	130	-500	-0.2	25	15	80	-1	34	16	-1	-5	37	-5	3.03	568	-10	120	44	33
1349	-145.2480	65.4440	16	8	2	16	4.8	1.2	3	110	-500	-0.2	26	18	87	-1	36	17	-1	-5	30	-5	3.43	607	-10	121	50	36
1350	-145.2510	65.4407	15	9	2	15	4.2	1.2	3	130	-500	-0.2	25	16	71	-1	33	17	-1	-5	33	-5	2.93	600	-10	137	40	34
1352	-145.0910	65.5693	13	7	2	17	4.7	1.4	-1	120	-500	-0.2	20	21	85	-1	23	12	-1	-5	28	-5	2.82	444	-10	146	24	31
1353	-145.0670	65.5547	14	11	2	23	6.5	1.3	3	130	-500	-0.2	20	26	93	1	23	14	-1	-5	15	-5	3.02	546	-10	115	25	31
1354	-145.0880	65.5505	14	20	3	45	8.6	1.4	2	120	1100	-0.2	15	23	78	-1	18	11	-1	-5	23	-5	2.55	436	-10	88	20	25
1355	-145.0850	65.5463	15	10	2	19	5.4	1.5	2	99	-500	-0.2	19	19	79	-1	20	11	-1	-5	13	-5	2.61	362	-10	152	25	34
1357	-145.0840	65.5417	14	13	2	33	8.6	1.4	2	140	-500	-0.2	19	28	80	-1	20	9	-1	-5	18	-5	2.39	215	-10	108	24	30
1358	-145.0850	65.5375	13	10	2	23	5.8	1.2	1	130	-500	-0.2	19	25	85	5	22	12	-1	-5	24	-5	2.81	452	-10	113	25	30
1359	-145.0670	65.5337	14	9	2	25	7	1.4	2	140	-500	-0.2	20	24	89	-1	22	12	-1	-5	31	-5	2.90	494	-10	118	28	33
1360	-145.0890	65.5297	15	11	2	29	7	1.4	1	140	-500	-0.2	20	30	89	6	22	11	-1	-5	35	-5	2.98	396	-10	126	27	36
1362	-145.0910	65.5259	15	11	2	27	7.7	1.4	3	140	830	-0.2	19	25	92	10	22	13	-1	-5	35	-5	2.96	463	-10	123	27	35
1363	-145.0940	65.5218	14	8	1	19	5.8	1.4	2	120	-500	-0.2	19	19	91	8	23	13	-1	-5	32	-5	2.83	482	-10	139	29	39
1365	-145.0850	65.5175	14	11	3	21	6.3	1.3	3	130	-500	-0.2	20	34	85	1	22	11	-1	-5	16	-5	2.98	431	-10	109	27	40
1366	-145.0890	65.5140	16	9	2	17	4.8	1.4	3	100	-500	-0.2	26	30	88	-1	26	12	-1	-5	18	-5	3.25	406	-10	149	31	49
1367	-145.0880	65.5100	14	8	2	19	5.4	1.2	4	110	-500	-0.2	20	30	75	-1	20	10	-1	-5	26	-5	2.92	393	-10	100	25	35

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2		W-2		La-2		Al		Mg		Ca		Ga		Na-2		K		Li		Nb		Sr		Ta-2		Y		Tl		Zr-2	
			ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm
1313	-145.1580	65.5341	-20	26	1.78	59	19	5	-0.1	06	17	1	21	-100	7	02	-1																	
1314	-145.1590	65.5287	-20	20	1.38	48	16	4	-0.1	07	13	2	13	-100	4	03	-1																	
1315	-145.1590	65.5254	-20	20	1.42	50	15	5	-0.1	07	14	2	15	-100	4	03	-1																	
1317	-145.3030	65.4685	-20	20	1.88	84	34	6	-0.1	07	20	2	20	-100	5	04	-1																	
1318	-145.3130	65.4679	-20	20	1.52	62	28	6	01	08	19	2	40	-100	8	03	-1																	
1319	-145.3230	65.4659	-20	20	1.66	85	32	5	01	09	21	2	30	-100	9	03	-1																	
1320	-145.3330	65.4640	-20	20	1.92	96	38	6	01	10	21	2	29	-100	9	03	-1																	
1322	-145.3070	65.4467	-20	20	1.50	62	28	4	02	06	12	2	25	-100	8	08	-1																	
1323	-145.3020	65.4430	-20	20	2.11	73	30	6	02	10	20	2	33	-100	9	04	-1																	
1324	-145.3030	65.4387	-20	20	1.98	87	41	5	02	13	18	2	37	-100	10	03	-1																	
1327	-145.1980	65.4842	-20	20	2.16	101	40	6	-0.1	08	24	2	22	-100	11	11	-1																	
1328	-145.1900	65.4822	-20	20	1.74	66	34	6	01	09	22	2	26	-100	9	04	-1																	
1329	-145.1810	65.4801	-20	20	2.01	80	45	3	02	10	27	2	34	-100	10	04	-1																	
1331	-145.2130	65.4672	-20	20	2.17	71	44	-2	01	07	22	1	43	-100	8	02	-1																	
1332	-145.2090	65.4629	-20	20	2.01	79	39	2	01	08	26	2	39	-100	10	02	-1																	
1333	-145.2050	65.4591	-20	20	1.81	69	23	6	01	08	18	2	23	-100	5	02	-1																	
1334	-145.2020	65.4546	-20	20	1.99	78	44	-2	01	08	26	1	40	-100	11	02	-1																	
1336	-145.2020	65.4509	-20	20	1.77	68	33	6	01	07	21	2	30	-100	5	02	-1																	
1337	-145.2050	65.4467	-20	20	2.41	76	63	55	-2	01	07	21	2	50	-100	11	02	-1																
1340	-145.2390	65.4804	-20	20	1.67	72	31	-2	01	07	21	1	29	-100	8	03	-1																	
1341	-145.2400	65.4509	-20	20	1.82	74	42	-2	01	07	23	1	39	-100	9	02	-1																	
1343	-145.2520	65.4555	-20	20	1.74	71	36	3	01	08	21	2	46	-100	9	02	-1																	
1344	-145.2820	65.4542	-20	20	1.86	81	58	-2	01	09	22	2	41	-100	9	02	-1																	
1345	-145.2890	65.4514	-20	20	1.83	73	43	-2	01	08	18	2	52	-100	9	02	-1																	
1347	-145.2480	65.4518	-20	20	1.80	70	35	-2	01	08	21	2	56	-100	10	02	-1																	
1348	-145.2450	65.4479	-20	20	1.78	79	31	-2	01	08	24	1	32	-100	8	02	-1																	
1349	-145.2480	65.4440	-20	20	1.98	90	29	3	-0.1	07	26	1	31	-100	9	02	-1																	
1350	-145.2510	65.4407	-20	20	1.75	72	28	-2	01	08	21	1	28	-100	8	02	-1																	
1352	-145.0910	65.5593	-20	20	1.61	58	28	2	02	07	21	2	23	-100	9	04	-1																	
1353	-145.0870	65.5547	-20	20	1.67	61	19	3	01	09	25	2	19	-100	9	03	-1																	
1354	-145.0890	65.5505	-20	20	1.36	51	18	3	01	07	22	1	17	-100	6	04	-1																	
1355	-145.0850	65.5463	-20	20	1.58	55	26	4	01	08	20	2	23	-100	8	04	-1																	
1357	-145.0840	65.5417	-20	20	1.58	55	18	5	01	08	25	2	19	-100	10	04	-1																	
1358	-145.0850	65.5375	-20	20	1.65	57	20	3	01	08	26	2	20	-100	8	03	-1																	
1359	-145.0870	65.5337	-20	20	1.68	58	19	3	01	09	25	2	19	-100	9	04	-1																	
1360	-145.0890	65.5297	-20	20	1.77	59	19	4	01	09	26	2	19	-100	8	04	-1																	
1362	-145.0910	65.5259	-20	20	1.68	58	21	4	01	10	26	2	21	-100	10	04	-1																	
1363	-145.0940	65.5218	-20	20	1.72	59	26	3	02	12	25	2	24	-100	10	05	-1																	
1365	-145.0950	65.5175	-20	20	1.83	61	23	6	02	09	19	1	20	-100	10	03	-1																	
1366	-145.0980	65.5140	-20	20	1.73	57	35	9	02	09	19	2	26	-100	11	04	-1																	
1367	-145.0980	65.5100	-20	20	1.57	51	20	8	02	10	21	1	20	-100	11	03	-1																	

ICP=Inductively Coupled Plasma spectrographic analysis, ppm=parts per million, % indicates element detection limit not exceeded, - indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
1368	-145.0840	65.5066	7	-100	-5	-200	-2	-20	17	-10	13	1.6	3.5	-10	-20	750	90	-200	-2	6	84	170	13	-2	1	6	0.5
1369	-145.0840	65.5026	-5	-100	-5	-200	-2	-20	19	-10	24	1.6	3.9	-10	-20	740	110	-200	-2	7	90	150	14	-2	2	6	0.6
1370	-145.1000	65.5173	8	-100	-5	-200	-2	57	11	-10	29	0.8	4.1	-10	-20	740	92	-200	3	5	62	110	8.2	-2	-1	5	0.5
1371	-145.1070	65.5147	7	-100	-5	-200	-2	52	13	-10	30	0.9	3.6	-10	-20	840	85	-200	5	4	130	250	17	-2	2	8	1.2
1372	-145.1120	65.5109	16	-100	-5	-200	-2	54	14	-10	28	0.8	3.7	-10	-20	730	100	-200	4	4	110	190	13	-2	2	7	1.1
1374	-145.1120	65.5083	6	-100	-5	-200	-2	-20	-10	-10	20	0.9	3.5	-10	-20	760	93	-200	3	5	110	210	15	-2	1	7	1.2
1375	-145.1090	65.5025	-5	-100	-5	-200	-2	-20	16	-10	29	1	4.1	-10	-20	710	96	-200	5	6	110	190	14	3	2	7	1.1
1376	-145.1080	65.4990	8	-100	-5	-200	-2	62	14	-10	21	0.8	3.5	-10	-20	720	100	-200	4	4	82	150	11	2	2	6	0.8
1377	-145.1080	65.4951	-5	-100	-5	-200	-2	-20	14	-10	22	0.9	3.5	-10	-20	770	94	-200	4	5	75	150	10	-2	1	-5	0.7
1379	-145.1180	65.5073	-5	-100	-5	-200	-2	-20	18	-10	45	0.8	3.7	-10	-20	750	87	-200	2	5	70	140	10	3	-1	-5	0.7
1380	-145.1280	65.5041	-5	-100	-5	-200	-2	23	12	-10	30	0.8	3.2	-10	-20	670	96	-200	-2	4	54	99	7.9	-2	1	-5	0.8
1381	-145.1320	65.5013	12	-100	-5	-200	-2	-20	14	-10	37	0.9	3	-10	-20	810	100	-200	2	4	50	84	7.3	-2	1	5	0.8
1382	-145.1390	65.4989	-5	-100	-5	-200	-2	-20	30	-10	67	0.8	4	-10	-20	770	98	-200	-2	4	50	85	7.2	3	1	-5	-0.5
1384	-144.9509	65.5383	-5	-100	6	-200	-2	42	18	-10	46	2.5	4	-10	-20	390	86	-200	-2	3	41	72	5.9	2	-1	-5	-0.5
1386	-144.9570	65.5305	-5	-100	-5	-200	-2	-20	17	-10	42	2.3	3.4	-10	-20	480	70	-200	-2	2	37	65	5.4	-2	-1	-5	-0.5
1387	-144.9630	65.5207	-5	-100	-5	-200	-2	59	18	-10	45	2.8	4.2	-10	-20	510	100	-200	-2	3	45	92	6.5	3	-1	-5	-0.5
1389	-144.9754	65.5232	-5	-100	-5	-200	-2	-20	23	-10	41	2.3	4.1	-10	-20	800	140	-200	5	3	66	110	9.1	-2	1	6	0.9
1391	-144.9820	65.4915	-5	-100	-5	-200	-2	23	15	-10	37	2.3	3.9	-10	-20	580	95	-200	3	3	40	85	5.6	-2	-1	-5	-0.5
1392	-144.9850	65.4907	5	-100	5	-200	-2	22	14	-10	40	2.5	4	-10	-20	630	110	-200	3	3	43	81	5.9	-2	1	-5	-0.5
1395	-145.0320	65.4981	77	-100	7	-200	-2	-20	14	-10	33	2.4	4.2	-10	-20	610	130	-200	5	3	78	130	11	2	1	7	0.8
1398	-145.0380	65.4918	28	-100	-5	-200	-2	34	19	-10	44	2.6	3.7	-10	-20	500	80	-200	-2	2	44	78	6.1	2	-1	-5	-0.5
1398	-145.0390	65.4881	11	-100	-5	-200	-2	24	18	-10	47	2.7	4.2	-10	-20	640	100	-200	-2	3	44	82	6.5	-2	-1	-5	-0.5
1402	-145.0420	65.4840	6	-100	-5	290	-2	50	20	-10	17	1.8	4.2	-10	-20	900	98	-200	-2	3	43	83	6.6	-2	2	-5	0.8
1403	-145.0450	65.4797	-5	-100	-5	-200	-2	52	22	-10	19	2.8	3.9	-10	-20	620	120	-200	-2	2	44	78	6.5	3	1	-5	-0.5
1404	-145.0470	65.4756	-5	-100	-5	-200	-2	64	19	-10	16	3	4.4	-10	-20	570	120	-200	-2	3	45	80	6.6	-2	-1	-5	-0.5
1405	-145.0510	65.4719	8	-100	-5	-200	-2	69	22	-10	16	2.9	4.3	-10	-20	660	93	-200	-2	3	51	97	7.1	-2	-1	-5	0.6
1407	-145.0720	65.4656	8	-100	-5	-200	-2	67	22	-10	20	2.7	4	-10	-20	780	130	-200	2	3	46	85	6.5	-2	-1	-5	-0.5
1408	-145.0820	65.4651	-5	-100	-5	-200	-2	-20	16	-10	15	2.3	3.7	-10	-20	850	140	-200	-2	2	53	90	7.5	3	-1	-5	0.7
1409	-145.0920	65.4651	-5	-100	-5	-200	-2	57	20	-10	17	2.3	4.2	-10	-20	740	86	-200	-2	2	47	86	6.8	-2	1	-5	0.6
1410	-145.1020	65.4644	-5	-100	-5	-200	-2	49	20	-10	14	2.1	3.8	-10	-20	810	110	-200	2	3	52	100	7.5	-2	-1	-5	0.6
1412	-145.1090	65.4634	-5	-100	-5	-200	-2	46	22	-10	16	2.1	4	-10	-20	770	130	-200	-2	3	44	87	6.4	2	-1	-5	0.5
1413	-145.1200	65.4639	-5	-100	6	-200	-2	49	22	-10	18	3.4	4.3	-10	-20	780	130	-200	-2	2	59	110	8.4	3	1	-5	0.7
1414	-145.1310	65.4634	21	-100	-5	-200	-2	79	28	-10	20	2.9	4.2	-10	-20	730	110	-200	-2	3	54	110	8.2	4	-1	-5	-0.5
1415	-145.1400	65.4613	-5	-100	-5	-200	-2	-20	21	-10	8	1.2	4.1	-10	-20	960	120	-200	-2	2	40	65	5.7	-2	-1	-5	-0.5
1416	-145.1480	65.4584	-5	-100	-5	-200	-2	-20	20	-10	8	1.2	3.8	-10	-20	830	98	-200	-2	3	35	68	5.2	-2	-1	-5	-0.5
1418	-145.1080	65.4820	-5	-100	-5	-200	-2	40	26	-10	13	3.4	4.4	-10	-20	750	100	-200	-2	3	47	96	7	-2	1	-5	-0.5
1419	-145.1090	65.4571	-5	-100	-5	-200	-2	-20	22	-10	9	2	3.7	-10	-20	710	120	-200	-2	3	44	85	6.4	-2	-1	-5	-0.5
1420	-145.1090	65.4531	-5	-100	-5	-200	-2	51	13	-10	5	1.8	3.5	-10	-20	850	73	-200	-2	2	47	74	6.3	4	-1	-5	0.7
1421	-145.1100	65.4493	-5	-100	-5	-200	-2	64	29	-10	11	1.7	4.6	-10	-20	850	110	-200	-2	3	64	92	9.5	4	-1	-5	0.5
1423	-145.1130	65.4457	10	-100	-5	-200	-2	-20	21	-10	12	2.4	4.1	-10	-20	800	140	-200	-2	3	39	74	6	-2	-1	-5	-0.5
1424	-145.1180	65.4422	-5	-100	-5	-200	-2	58	22	-10	12	1.7	4.8	-10	-20	850	98	-200	-2	5	42	83	6.5	-2	-1	-5	0.6

INAA=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates partial analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1368	-145.0840	65.5066	14	9	2	26	10	1.1	8	130	-500	-0.2	30	32	70	-1	22	12	-1	-5	18	-5	2.72	319	-10	107	23	32
1369	-145.0840	65.5026	14	8	2	28	17	1.1	10	130	-500	-0.2	30	51	83	-1	24	18	-1	-5	26	-5	3.21	1102	-10	138	31	43
1370	-145.1000	65.5173	14	9	3	23	5.9	1.5	3	130	-500	-0.2	16	20	75	-1	22	11	-1	-5	38	-5	2.90	468	-10	113	25	40
1371	-145.1070	65.5147	14	15	3	62.1	12	1.6	4	94	840	-0.2	13	14	61	-1	18	9	-1	-5	28	-5	2.67	388	-10	116	24	39
1372	-145.1120	65.5109	14	13	2	48	10	1.8	3	120	-500	-0.2	12	13	61	-1	18	8	-1	-5	27	-5	2.59	339	-10	102	23	38
1374	-145.1120	65.5063	14	16	3	54.3	11	1.8	2	110	-500	-0.2	12	10	56	-1	16	8	-1	-5	20	-5	2.49	359	-10	113	22	36
1375	-145.1090	65.5025	14	14	3	50	10	1.7	2	150	-500	-0.2	15	13	62	-1	19	10	-1	-5	30	-5	2.99	420	-10	123	25	40
1376	-145.1080	65.4990	14	12	3	34	7.7	1.7	1	110	860	-0.2	11	13	55	-1	18	9	-1	-5	32	-5	2.63	314	-10	106	23	37
1377	-145.1060	65.4951	14	10	2	32	9.1	1.6	3	100	-500	-0.2	15	15	62	-1	20	9	-1	-5	14	-5	2.75	323	-10	159	27	44
1379	-145.1180	65.5073	14	10	2	28	6.9	1.5	5	100	-500	-0.2	14	11	59	-1	19	11	-1	-5	44	-5	2.80	448	-10	111	26	41
1380	-145.1280	65.5041	13	9	2	20	5.7	1.6	3	65	-500	-0.2	12	12	59	-1	19	9	-1	-5	34	-5	2.32	302	-10	122	24	40
1381	-145.1320	65.5013	14	9	2	15	5.3	1.6	3	77	-500	-0.2	13	12	62	-1	20	9	-1	-5	37	-5	2.46	328	-10	137	28	43
1382	-145.1390	65.4989	16	8	2	13	4.9	1.4	6	110	-500	-0.2	21	16	73	-1	26	19	-1	-5	66	-5	2.53	807	-10	114	28	42
1384	-144.9509	65.5363	13	8	2	13	3.3	1.4	2	75	-500	-0.2	24	16	71	-1	30	13	-1	-5	47	-5	2.80	434	-10	59	31	32
1386	-144.9570	65.5305	12	7	2	11	3.2	1.5	1	70	-500	-0.2	24	15	71	-1	30	13	-1	-5	47	-5	2.64	414	-10	69	30	32
1387	-144.9630	65.5207	15	10	2	14	4.2	1.4	2	55	670	-0.2	24	15	72	-1	30	12	-1	-5	48	7	2.71	437	-10	78	32	34
1389	-144.9754	65.5232	18	26	2	20	6.5	1.4	2	81	1200	-0.2	23	15	72	-1	29	14	-1	-5	35	-5	2.59	457	-10	72	30	33
1391	-144.9820	65.4915	14	7	2	11	3.3	1.6	2	54	780	-0.2	22	15	77	-1	28	12	-1	-5	32	-5	2.56	399	-10	96	30	34
1392	-144.9850	65.4807	14	8	2	12	3.6	1.4	2	94	-500	-0.2	22	14	75	-1	30	13	-1	-5	41	-5	2.66	387	-10	78	31	33
1395	-145.0320	65.4961	17	23	2	24	6.8	1.5	2	82	1100	-0.2	18	15	63	-1	26	11	-1	-5	41	7	2.43	346	-10	83	31	36
1396	-145.0390	65.4918	14	9	1	13	3.9	1.5	2	79	-500	-0.2	23	13	68	-1	30	12	-1	-5	38	-5	2.62	370	-10	66	32	33
1398	-145.0390	65.4881	15	9	1	13	4	1.4	3	84	-500	-0.2	26	18	77	-1	31	13	-1	-5	49	-5	2.65	471	-10	96	35	39
1402	-145.0420	65.4840	16	9	2	10	2.9	1.6	2	55	-500	-0.2	69	8	145	7	28	13	-1	-5	26	-5	2.67	402	-10	171	33	48
1403	-145.0450	65.4797	14	11	2	12	3.5	1.2	3	89	580	-0.2	40	14	109	4	39	16	-1	-5	19	-5	3.33	579	-10	121	45	36
1404	-145.0470	65.4756	14	9	2	13	3.6	1.4	2	86	-500	-0.2	26	12	70	-1	41	15	-1	7	20	-5	3.11	582	-10	86	45	38
1405	-145.0510	65.4719	16	9	2	14	4.5	1.3	3	99	-500	-0.2	25	14	73	-1	35	15	-1	-5	13	-5	2.86	557	-10	120	41	36
1407	-145.0720	65.4656	15	8	1	12	4	1.5	3	90	-500	-0.2	23	18	81	-1	32	14	-1	-5	31	-5	2.86	620	-10	154	38	44
1408	-145.0820	65.4651	16	11	1	13	4.2	1.4	2	69	930	-0.2	18	16	71	-1	29	13	-1	-5	15	-5	2.52	640	-10	131	33	39
1409	-145.0920	65.4651	15	9	1	12	4.3	1.3	3	88	-500	-0.2	22	14	67	-1	32	15	-1	6	19	-5	2.82	570	-10	136	39	36
1410	-145.1020	65.4644	16	12	1	12	4.5	1.5	1	89	-500	-0.2	15	12	61	-1	26	12	-1	-5	12	-5	2.31	577	-10	110	32	36
1412	-145.1090	65.4634	15	7	-1	11	3.9	1.4	3	84	630	-0.2	20	15	75	-1	32	15	-1	6	11	-5	2.64	588	-10	113	37	39
1413	-145.1200	65.4639	17	13	2	14	4.5	1.5	4	77	-500	-0.2	17	12	64	-1	29	14	-1	-5	20	-5	2.54	921	-10	110	34	37
1414	-145.1310	65.4634	16	10	2	13	7.3	1.2	9	96	-500	-0.2	24	17	99	-1	40	19	-1	7	24	-5	2.94	1313	-10	150	37	37
1415	-145.1400	65.4613	16	5	2	11	2.5	1.3	1	110	-500	-0.2	21	15	74	-1	33	14	-1	-5	14	-5	2.86	510	-10	140	40	42
1416	-145.1480	65.4584	14	6	1	9.2	3	1.4	2	91	-500	-0.2	17	15	78	-1	27	12	-1	-5	9	-5	2.73	453	-10	177	37	50
1418	-145.1080	65.4620	14	7	1	12	4.2	1.2	8	94	-500	-0.2	21	18	108	-1	39	18	-1	6	11	5	2.87	931	-10	142	37	34
1419	-145.1090	65.4571	14	7	1	11	4.4	1.1	7	96	-500	-0.2	19	16	94	-1	38	16	-1	-5	8	-5	2.71	647	-10	129	36	32
1420	-145.1090	65.4531	14	9	2	11	3.3	1.3	3	99	580	-0.2	16	14	69	-1	29	11	-1	6	10	-5	2.39	259	-10	132	35	31
1421	-145.1100	65.4493	15	8	1	13	7.5	0.9	10	110	-500	-0.2	32	18	72	-1	40	20	-1	5	6	-5	3.15	1362	-10	102	43	36
1423	-145.1130	65.4457	15	9	1	11	3.2	1.1	2	100	-500	-0.2	25	15	78	-1	34	15	-1	5	-5	-5	3.01	823	-10	146	40	43
1424	-145.1180	65.4422	15	8	2	11	3.1	1.2	4	85	700	-0.2	16	13	79	-1	28	12	-1	-5	14	-5	2.96	575	-10	147	36	47

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sr-2		W-2		La-2		Al		Mg		Ca		Ga		Na-2		K		Li		Nb		Sr		Ta-2		Y		Ti		Zr-2			
			ICP	ppm	ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm
1368	-145.0840	65.5066	-20	20	51	140	41	27	7	02	09	16	1	23	-100	23	02	-1																		
1369	-145.0840	65.5026	-20	20	65	175	42	37	9	03	14	25	1	29	-100	36	03	-1																		
1370	-145.1000	65.5173	-20	20	25	158	51	23	8	02	11	25	2	18	-100	9	05	-1																		
1371	-145.1070	65.5147	-20	20	33	153	46	30	8	02	09	24	2	21	-100	10	05	-1																		
1372	-145.1120	65.5109	-20	20	31	145	45	28	7	02	09	24	2	18	-100	9	05	-1																		
1374	-145.1120	65.5063	-20	20	34	141	42	25	7	01	09	25	2	18	-100	11	06	-1																		
1375	-145.1060	65.5025	-20	20	31	154	49	24	8	01	10	28	2	18	-100	10	05	-1																		
1376	-145.1080	65.4980	-20	20	28	147	47	24	7	02	09	25	2	18	-100	9	06	-1																		
1377	-145.1060	65.4951	-20	20	27	167	47	27	8	02	10	28	2	22	-100	11	05	-1																		
1379	-145.1100	65.5073	-20	20	23	153	48	28	7	02	07	20	2	19	-100	10	04	-1																		
1380	-145.1200	65.5041	-20	20	22	153	48	28	7	02	07	20	1	21	-100	9	05	-1																		
1381	-145.1320	65.5013	-20	20	22	165	51	32	7	02	07	21	1	23	-100	9	05	-1																		
1382	-145.1300	65.4989	-20	20	23	151	54	30	8	02	08	20	-1	22	-100	9	04	-1																		
1384	-144.9509	65.5303	-20	20	20	128	65	19	7	-01	05	22	-1	14	-100	5	03	-1																		
1386	-144.8570	65.5305	-20	20	20	128	61	22	7	-01	05	20	-1	16	-100	6	03	-1																		
1387	-144.8530	65.5207	-20	20	21	134	64	27	7	01	05	20	-1	20	-100	6	04	-1																		
1389	-144.9754	65.5232	-20	20	23	125	59	28	7	01	06	19	-1	19	-100	7	04	-1																		
1391	-144.8820	65.4912	-20	20	19	133	60	31	7	01	06	19	-1	23	-100	7	03	-1																		
1392	-144.8650	65.4907	-20	20	19	131	64	24	7	-01	05	20	-1	19	-100	6	03	-1																		
1395	-145.0320	65.4961	-20	20	28	131	58	30	6	01	05	18	-1	21	-100	7	04	-1																		
1396	-145.0300	65.4918	-20	20	22	130	62	22	6	-01	05	20	-1	17	-100	6	04	-1																		
1398	-145.0360	65.4961	-20	20	22	151	66	29	7	01	06	22	-1	22	-100	7	03	-1																		
1402	-145.0420	65.4840	-20	20	23	169	67	58	2	04	09	17	3	41	-100	9	06	1																		
1403	-145.0450	65.4787	-20	20	27	179	77	44	-2	01	07	25	2	37	-100	8	03	-1																		
1404	-145.0470	65.4758	-20	20	25	155	78	29	7	-01	05	23	1	24	-100	6	03	-1																		
1405	-145.0510	65.4719	-20	20	22	157	70	44	6	01	05	21	-1	37	-100	7	02	-1																		
1407	-145.0720	65.4658	-20	20	23	167	68	46	6	02	07	20	1	36	-100	6	04	-1																		
1408	-145.0820	65.4651	-20	20	24	150	59	45	6	01	06	18	1	35	-100	7	04	-1																		
1409	-145.0820	65.4651	-20	20	22	159	65	39	7	01	05	21	1	30	-100	8	02	-1																		
1410	-145.1020	65.4644	-20	20	22	133	57	35	6	01	05	17	-1	27	-100	6	04	-1																		
1412	-145.1090	65.4634	-20	20	21	156	65	41	6	01	07	21	1	34	-100	7	04	-1																		
1413	-145.1200	65.4639	-20	20	25	144	62	64	7	01	06	19	1	55	-100	12	02	-1																		
1414	-145.1310	65.4634	-20	20	22	176	62	64	7	01	07	26	1	33	-100	7	03	-1																		
1415	-145.1400	65.4613	-20	20	20	175	76	39	6	02	07	23	1	33	-100	7	03	-1																		
1416	-145.1480	65.4584	-20	20	18	183	60	33	6	01	06	19	1	28	-100	6	03	-1																		
1418	-145.1090	65.4620	-20	20	21	164	60	44	7	01	06	23	1	37	-100	9	02	-1																		
1419	-145.1090	65.4571	-20	20	23	169	61	43	7	01	07	26	1	36	-100	9	02	-1																		
1420	-145.1090	65.4531	-20	20	23	153	60	33	7	01	05	21	1	29	-100	7	02	-1																		
1421	-145.1100	65.4493	-20	20	41	140	60	60	7	-01	07	18	1	51	-100	21	01	-1																		
1423	-145.1130	65.4457	-20	20	21	153	64	31	7	01	07	19	1	27	-100	6	03	-1																		
1424	-145.1190	65.4422	-20	20	21	172	65	29	5	01	06	21	2	27	-100	6	03	-1																		

MAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma Spectrographic Analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sr-1	W-1	Cs	La-1	Ca	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
1428	-145.0580	65.4721	5	-100	-5	-200	-2	54	22	-10	37	1.8	4.8	-10	-20	950	130	-200	3	4	41	91	6.5	-2	-1	-5	-0.5
1427	-145.0680	65.4742	9	-100	-5	-200	-2	42	24	-10	93	1.2	4.7	-10	-20	750	110	-200	4	6	46	85	6.9	-2	-1	-5	-0.5
1428	-145.0740	65.4758	13	-100	-5	-200	-2	26	22	-10	88	1.1	4.1	-10	-20	680	110	-200	3	9	47	82	7.7	-2	-1	-5	-0.5
1429	-145.0830	65.4775	13	-100	-5	-200	-2	59	13	-10	85	0.9	4	-10	-20	760	85	-200	3	8	46	90	6.7	-2	-1	-5	-0.5
1431	-145.0540	65.4695	11	-100	-5	-200	-2	-20	30	-10	75	5.3	6.7	-10	-20	770	120	-200	3	3	46	79	7	3	-1	-5	0.7
1432	-145.0510	65.4642	12	-100	-5	-200	-2	54	17	-10	57	3.7	4	-10	-20	750	100	-200	4	4	48	87	6.7	-2	-1	-5	0.6
1433	-145.0470	65.4603	5	-100	-5	-200	-2	49	16	-10	19	3.5	3.9	-10	-20	700	110	-200	3	2	49	81	6.7	-2	-1	-5	-0.5
1434	-145.0420	65.4564	8	-100	-5	-200	-2	-20	19	-10	17	3.2	4.4	-10	-20	780	110	-200	-2	3	48	100	6.9	-2	-1	-5	0.5
1436	-145.0380	65.4528	5	-100	-5	-200	3	-20	17	-10	42	7.4	3.5	-10	-20	680	77	-200	-2	3	38	85	5.5	3	-1	-5	-0.5
1437	-145.0350	65.4493	8	-100	-5	-200	-2	110	28	-10	38	3.7	4.3	-10	-20	680	160	-200	-2	4	48	86	7	-2	-2	-5	-0.5
1445	-145.0710	65.4437	5	-100	-5	-200	-2	-20	20	-10	11	2.4	4.2	-10	30	690	110	-200	-2	3	49	90	7	2	-1	-5	0.5
1448	-145.0720	65.4400	5	-100	-5	-200	-2	-20	25	-10	8	1.9	4.1	-10	-20	800	89	-200	-2	3	41	58	6.3	-2	-1	-5	-0.5
1447	-145.0720	65.4359	21	-100	-5	-200	-2	-20	20	-10	9	1.9	4.3	-10	-20	710	110	-200	-2	2	45	80	6.9	-2	-1	-5	0.8
1448	-145.0700	65.4314	5	-100	-5	-200	-2	62	39	-10	11	1.5	6.3	-10	-20	740	180	-200	-2	3	41	80	6.7	3	-1	-5	-0.5
1450	-145.0780	65.4308	12	-100	-5	-200	-2	-20	16	-10	9	1.7	3.4	-10	-20	690	99	-200	2	3	39	87	5.8	2	-1	-5	-0.5
1451	-145.0850	65.4413	5	-100	-5	-200	-2	-20	38	-10	14	1.7	5.5	-10	-20	640	54	-200	-2	2	39	74	6.2	-2	-1	-5	-0.5
1452	-145.0820	65.4378	9	-100	-5	-200	-2	-20	25	-10	12	1.5	4.5	-10	-20	640	81	-200	-2	1	32	59	5.8	-2	-1	-5	-0.5
1453	-145.0880	65.4340	9	-100	-5	-200	-2	40	18	-10	17	1.9	7.2	-10	-20	950	130	-200	-2	3	38	59	5.7	-2	-1	-5	-0.5
1456	-145.0140	65.4199	7	-100	-5	-200	-2	63	30	-10	15	1.8	6.3	-10	-20	450	130	-200	-2	2	33	67	6.3	-2	1	-5	0.7
1457	-145.0110	65.4158	5	-100	-5	-200	-2	70	35	-10	14	1.9	6.8	-10	-20	320	130	-200	-2	1	23	39	4.8	3	-1	-5	-0.5
1458	-145.0110	65.4113	16	-100	-5	-200	-2	65	29	-10	15	1.8	5.7	-10	-20	390	130	-200	-2	-1	32	58	6.3	3	-1	-5	-0.5
1461	-144.9980	65.4649	5	-100	-5	-200	-2	44	18	-10	40	2.4	3.6	-10	-20	480	73	-200	-2	3	42	83	6	-2	-1	-5	-0.5
1462	-144.9900	65.4482	5	-100	-5	-200	-2	37	30	-10	8	0.7	4.1	-10	-20	740	84	-200	3	6	60	100	6	-2	1	-5	0.7
1463	-144.9830	65.4439	5	-100	-5	-200	-2	-20	28	-10	9	0.8	4.2	-10	-20	710	63	-200	4	6	58	110	8.1	2	1	-5	0.6
1464	-144.9794	65.4698	5	-100	-5	-200	-2	-20	14	-10	14	1	4.1	-10	-20	650	94	-200	-2	4	38	63	5.3	2	-1	-5	-0.5
1468	-144.9770	65.4970	28	-100	-5	-200	-2	30	10	-10	9	0.9	3.3	-10	-20	700	86	-200	-2	5	55	89	7.1	-2	-1	-5	0.8
1467	-144.9650	65.4941	8	-100	-5	-200	-2	35	31	-10	6	0.9	3.9	-10	-20	900	100	-200	4	5	53	110	7.9	-2	1	-5	0.5
1469	-144.9590	65.4910	11	-100	-5	-200	-2	57	10	-10	10	0.8	4.7	-10	-20	750	73	-200	3	7	57	100	10	2	1	-5	0.8
1474	-144.9150	65.5289	7	-100	-5	-200	-2	29	22	-10	6	0.6	4.3	-10	-20	630	110	-200	-2	3	38	62	5.5	-2	-1	-5	-0.5
1475	-144.9200	65.5154	7	-100	-5	-200	-2	50	28	-10	7	0.9	4.6	-10	-20	760	110	-200	-2	3	37	57	5.5	-2	-1	-5	-0.5
1476	-144.9260	65.5082	5	-100	-5	-200	-2	-20	22	-10	5	0.6	4.7	-10	-20	630	110	-200	-2	2	33	62	5.1	2	-1	-5	0.5
1480	-145.0270	65.5594	27	-100	-5	-200	-2	-20	13	-10	11	0.9	3.8	-10	-20	820	98	-200	-2	4	49	94	6.7	-2	-1	-5	-0.5
1481	-145.0260	65.5546	42	-100	-5	-200	-2	31	12	-10	7	1.3	3	-10	-20	710	77	-200	4	4	48	99	7	-2	-1	-5	-0.5
1483	-145.0300	65.5502	5	-100	-5	-200	-2	-20	-10	-10	10	0.8	3.6	-10	-20	720	110	-200	-2	3	54	92	6.9	2	-1	-5	-0.5
1484	-145.0320	65.5454	5	-100	-5	-200	-2	46	17	-10	9	0.8	3.6	-10	-20	730	110	-200	2	4	52	97	6.8	-2	-1	-5	0.5
1485	-145.0330	65.5410	5	-100	-5	-200	-2	-20	16	-10	10	0.8	3.9	-10	-20	760	86	-200	-2	3	52	86	6.7	2	-1	-5	-0.5
1488	-145.0340	65.5388	7	-100	-5	-200	-2	-20	16	-10	10	1	4.8	-10	-20	790	77	-200	-2	4	55	98	7	-2	-1	-5	-0.5
1489	-145.0370	65.5330	8	-100	-5	-200	-2	-10	-10	-10	9	0.8	3.7	-10	-20	790	85	-200	3	4	56	110	7.1	-2	-1	-5	0.5
1489	-145.0430	65.5298	5	-100	-5	-200	-2	-20	12	-10	5	0.7	3	-10	-20	750	98	-200	-2	4	52	100	6.8	3	1	-5	-0.5
1493	-144.9877	65.4379	7	-100	-5	-200	-2	67	23	-10	28	1.2	4.7	-10	-20	810	140	-200	2	3	47	91	6.6	-2	1	-5	0.5
1495	-144.9942	65.4337	14	-100	-5	-200	-2	42	14	-10	13	1	3.7	-10	-20	730	130	-200	-2	3	40	82	5.8	3	-1	-5	-0.5

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma Spectrographic Analysis; ppb-parts per billion; ppm-parts per million; - Indicates element detection limit not exceeded; * Indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1426	-145.0560	65.4721	17	7	1	11	3.5	1.4	2	99	510	-0.2	25	16	75	-1	25	13	-1	6	31	-5	2.85	357	-10	184	33	51
1427	-145.0660	65.4742	17	8	-1	12	3.8	1.4	4	120	-500	-0.2	30	19	74	-1	27	15	-1	-5	86	-5	2.82	479	-10	137	32	49
1428	-145.0740	65.4758	18	7	-1	13	4.4	1.1	5	120	-500	0.2	29	16	80	-1	31	15	-1	6	86	-5	2.74	430	-10	150	32	44
1429	-145.0830	65.4775	18	6	1	12	3.8	1.1	5	120	-500	0.3	31	16	66	-1	26	14	-1	7	88	-5	2.80	348	-10	138	31	46
1431	-145.0540	65.4685	18	8	1	13	3.7	1.2	4	100	-500	-0.2	50	20	90	7	34	23	-1	-5	80	-5	5.32	684	-10	196	40	48
1432	-145.0510	65.4842	15	7	2	13	2.9	1.1	3	83	-500	-0.2	33	37	87	5	24	11	-1	-5	54	-5	3.27	352	-10	145	30	39
1433	-145.0470	65.4603	13	8	2	11	3.2	1.3	1	85	-500	-0.2	38	14	80	2	30	14	-1	-5	21	7	3.12	344	-10	108	38	31
1434	-145.0420	65.4564	18	7	1	12	3.3	1.8	1	88	-500	-0.2	49	11	74	3	31	14	-1	-5	9	7	3.18	417	-10	113	34	39
1436	-145.0380	65.4528	14	7	1	12	2.1	1.2	3	90	-500	-0.2	27	21	122	2	25	15	-1	-5	33	8	3.06	642	-10	190	37	43
1437	-145.0350	65.4483	16	6	1	12	3.2	1.1	9	81	-500	-0.2	60	19	137	5	39	17	-1	-5	48	-5	3.44	807	-10	153	47	46
1445	-145.0710	65.4437	18	10	2	13	3.3	1.3	3	99	-500	-0.2	47	13	81	1	31	17	-1	-5	5	-5	3.23	987	-10	135	37	38
1446	-145.0720	65.4400	15	7	1	9.2	2.4	1.1	5	51	-500	-0.2	54	11	90	8	38	16	1	-5	10	-5	3.04	1169	-10	181	36	39
1447	-145.0720	65.4359	15	13	2	11	3.6	1.3	4	93	1100	-0.2	45	12	78	5	33	14	-1	-5	-5	-5	3.23	701	-10	143	42	42
1448	-145.0700	65.4314	21	8	2	10	2.5	1	7	90	-500	-0.2	65	10	95	2	53	25	-1	-5	6	-5	4.76	1580	-10	168	74	69
1450	-145.0780	65.4438	13	10	1	10	3	1.2	4	79	-500	-0.2	31	10	73	2	23	13	-1	-5	16	-5	2.78	708	-10	135	28	33
1451	-145.0850	65.4413	12	8	1	11	3	1.2	5	73	-500	-0.2	32	10	85	5	25	30	-1	-5	28	-5	4.83	1818	-10	166	26	35
1452	-145.0820	65.4378	12	5	-1	10	2.7	0.85	9	86	-500	-0.2	45	12	100	6	39	21	-1	-5	11	-5	4.15	1839	-10	216	38	40
1453	-145.0980	65.4340	19	5	1	11	2.7	1	6	110	-500	-0.2	30	17	79	-1	38	13	-1	7	19	-5	4.96	374	-10	146	48	56
1456	-145.0140	65.4199	26	8	1	7.7	2.7	1.2	9	80	-500	-0.2	81	9	76	-1	50	20	-1	8	15	-5	3.71	370	-10	65	58	75
1457	-145.0110	65.4158	27	5	-1	5.8	1.8	1.3	5	54	-500	-0.2	67	7	70	-1	48	23	-1	8	12	-5	3.98	489	-10	40	60	78
1458	-145.0110	65.4113	28	7	-1	6.9	2.9	1	14	61	-500	-0.2	75	10	67	-1	42	19	-1	7	18	-5	3.23	549	-10	46	48	63
1461	-144.9980	65.4549	12	10	1	13	3.7	1.5	1	79	-500	-0.2	21	14	62	-1	28	11	-1	-5	32	-5	2.36	341	-10	56	27	29
1462	-144.9900	65.4482	13	10	2	23	4.9	1.1	4	100	-500	-0.2	19	44	90	-1	21	25	-1	7	6	-5	2.85	1017	-10	110	25	38
1463	-144.9830	65.4438	14	9	2	20	4.8	1.1	5	93	-500	-0.2	21	38	85	-1	23	20	-1	-5	11	-5	2.88	756	-10	117	24	37
1464	-144.9794	65.4998	12	8	1	13	2.9	1.2	3	95	-500	-0.2	17	23	74	-1	22	8	-1	-5	8	-5	2.78	268	-10	137	28	49
1466	-144.9720	65.4970	12	7	2	21	4.9	1.2	3	100	-500	-0.2	15	35	61	-1	18	7	-1	5	15	-5	2.22	181	-10	103	22	32
1467	-144.9650	65.4941	14	8	2	15	4.7	1.2	4	100	-500	-0.2	20	32	74	-1	23	19	-1	-5	-5	-5	2.41	558	-10	119	25	37
1468	-144.9680	65.4910	15	9	2	18	5.1	1.2	4	130	590	-0.2	24	56	91	1	28	42	-1	7	18	6	3.04	1200	-10	118	32	52
1474	-144.9150	65.5289	15	10	2	8.1	2.8	1.2	2	71	-500	-0.2	19	15	51	-1	23	13	-1	5	9	-5	2.84	319	-10	94	32	52
1475	-144.9200	65.5154	17	7	1	8.3	2.7	1.3	2	86	-500	-0.2	22	15	57	-1	26	18	-1	7	5	-5	2.88	462	-10	125	37	58
1476	-144.9280	65.5052	18	8	2	7.8	2.5	1.2	1	50	590	-0.2	21	16	54	-1	25	14	-1	6	8	-5	2.78	317	-10	98	38	60
1480	-145.0270	65.5594	13	10	1	13	4.3	1.2	3	110	680	-0.2	17	26	63	-1	17	9	-1	-5	8	-5	2.34	291	-10	130	23	34
1481	-145.0290	65.5545	11	12	1	12	3.3	1	3	86	-500	-0.2	13	25	85	-1	18	9	-1	-5	5	-5	2.07	250	-10	95	17	24
1483	-145.0300	65.5502	12	11	2	13	3.5	1.2	4	100	-500	-0.2	13	28	72	-1	16	7	-1	-5	6	-5	2.34	227	-10	73	18	27
1484	-145.0320	65.5454	13	9	2	13	3.4	1.2	4	110	-500	-0.2	14	32	78	-1	17	7	-1	8	10	-5	2.49	249	-10	79	20	30
1485	-145.0330	65.5410	13	10	2	13	3.6	1.2	3	110	-500	-0.2	18	35	77	-1	18	9	-1	-5	13	-5	2.68	308	-10	75	22	30
1486	-145.0340	65.5388	14	10	2	14	3.5	1.2	4	120	570	-0.2	18	39	92	1	19	9	-1	-5	19	-5	2.97	321	-10	103	22	32
1488	-145.0370	65.5330	13	8	2	13	3.1	1.2	3	110	-500	-0.2	17	55	77	1	17	7	-1	-5	14	6	2.76	297	-10	72	22	32
1489	-145.0430	65.5298	14	8	1	14	4.4	1.1	4	100	-500	-0.2	19	24	85	-1	17	8	-1	-5	8	-5	2.02	155	-10	101	21	22
1493	-144.9677	65.4378	18	7	2	12	3.5	1.2	3	100	-500	-0.2	30	19	77	-1	39	19	-1	5	37	-5	3.09	608	-10	124	49	50
1495	-144.9642	65.4337	15	6	1	9.2	2.8	1.1	4	90	-500	-0.2	20	16	52	-1	25	9	-1	6	22	-5	2.36	225	-10	97	37	35

INAA-Instrumental Neutron Activation Analysis, ICP-Inductively Coupled Plasma spectrographic analysis; ppm-parts per billion, ppmm-parts per million, - indicates element detection limit not exceeded, * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-Zr		W-Zr		La-Zr		Al		Mg		Ca		Ga		Na-Zr		K		U		Nb		Sr		Te-Zr		Y		Ti		Zr-Zr	
			ICP	ppm	ICP	ppm	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	%	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm	ICP	ppm
1428	-145.0560	65.4721	-20	-20	20	1.75	61	27	7	02	07	18	1	22	-100	7	04	-1																
1427	-145.0680	65.4742	-20	-20	20	1.79	64	36	7	02	11	29	1	25	-100	9	05	-1																
1428	-145.0740	65.4758	-20	-20	24	1.97	59	33	8	01	11	36	2	27	-100	13	03	-1																
1429	-145.0830	65.4775	-20	-20	22	1.81	57	25	9	01	10	23	2	24	-100	10	03	-1																
1431	-145.0540	65.4685	-20	-20	26	2.04	71	45	3	02	07	21	2	32	-100	11	03	-1																
1432	-145.0510	65.4842	-20	-20	31	2.00	61	24	5	01	10	20	1	25	-100	8	02	-1																
1433	-145.0470	65.4803	-20	-20	35	1.78	71	33	4	01	06	21	1	28	-100	7	03	-1																
1434	-145.0420	65.4584	-20	-20	27	1.66	70	32	2	02	06	18	2	26	-100	7	05	-1																
1436	-145.0380	65.4528	-20	-20	24	2.08	65	25	2	01	06	22	1	22	-100	5	02	-1																
1437	-145.0350	65.4483	-20	-20	25	2.05	67	33	2	02	07	27	3	60	-100	11	03	-1																
1446	-145.0710	65.4437	-20	-20	28	1.69	72	38	2	02	07	20	2	27	-100	8	03	-1																
1447	-145.0720	65.4359	-20	-20	22	1.68	72	78	2	01	06	18	2	57	-100	10	03	-1																
1448	-145.0700	65.4314	-20	-20	21	2.49	116	57	2	02	06	26	2	39	-100	9	03	-1																
1450	-145.0780	65.4338	-20	-20	20	1.44	53	43	2	01	06	16	1	34	-100	6	03	-1																
1451	-145.0850	65.4413	-20	-20	20	1.39	49	46	2	01	06	15	1	39	-100	8	02	-1																
1452	-145.0820	65.4378	-20	-20	22	1.78	62	64	2	02	06	18	2	55	-100	12	02	-1																
1453	-145.0880	65.4340	-20	-20	16	1.66	71	32	9	01	06	19	1	27	-100	8	02	-1																
1456	-145.0140	65.4199	-20	-20	9	2.18	112	53	11	01	06	26	-1	23	-100	8	04	-1																
1457	-145.0110	65.4158	-20	-20	4	2.16	124	39	10	-01	10	25	-1	16	-100	4	04	-1																
1458	-145.0110	65.4113	-20	-20	8	1.75	97	60	8	02	10	20	-1	21	-100	8	04	-1																
1461	-144.9980	65.4548	-20	-20	19	1.15	55	15	5	-01	05	19	1	11	-100	5	03	-1																
1462	-144.9900	65.4482	-20	-20	24	1.51	50	25	7	01	08	30	2	20	-100	9	04	-1																
1463	-144.9830	65.4438	-20	-20	22	1.50	49	34	7	01	08	26	2	24	-100	12	03	-1																
1464	-144.9794	65.4698	-20	-20	17	1.54	54	34	7	02	08	17	2	25	-100	7	03	-1																
1468	-144.9720	65.4970	-20	-20	21	1.33	42	19	7	02	07	19	2	18	-100	8	03	-1																
1469	-144.9650	65.4841	-20	-20	22	1.42	50	32	8	02	07	25	2	24	-100	12	03	-1																
1474	-144.9180	65.5289	-20	-20	25	1.73	63	40	9	02	08	36	2	25	-100	17	05	-1																
1475	-144.9200	65.5154	-20	-20	17	1.64	64	17	7	01	06	16	1	12	-100	4	03	-1																
1476	-144.9280	65.5052	-20	-20	15	1.85	72	20	8	-01	06	18	1	13	-100	4	02	-1																
1480	-145.0270	65.5594	-20	-20	13	1.78	77	16	8	-01	05	16	1	10	-100	4	03	-1																
1481	-145.0280	65.5545	-20	-20	22	1.46	43	16	8	01	06	14	1	16	-100	5	02	-1																
1483	-145.0300	65.5502	-20	-20	23	1.16	39	13	5	01	05	13	1	14	-100	5	02	-1																
1484	-145.0320	65.5454	-20	-20	29	1.26	44	10	5	01	05	15	1	11	-100	4	02	-1																
1485	-145.0330	65.5410	-20	-20	27	1.31	48	11	6	02	05	16	1	13	-100	4	02	-1																
1488	-145.0340	65.5388	-20	-20	31	1.44	48	11	7	02	05	17	1	12	-100	4	02	-1																
1489	-145.0370	65.5330	-20	-20	33	1.37	47	10	6	01	06	18	2	15	-100	5	02	-1																
1489	-145.0430	65.5288	-20	-20	24	1.33	41	11	5	01	04	15	1	13	-100	5	01	-1																
1493	-144.9877	65.4376	-20	-20	19	1.79	64	41	7	01	06	21	2	30	-100	7	03	-1																
1495	-144.9842	65.4337	-20	-20	16	1.82	64	53	6	01	04	17	1	34	-100	4	02	-1																

ICP=Instrumental Neutron Activation Analysis, ICP=Inductively Coupled Plasma Spectrographic analysis, ppb=parts per billion, ppm=parts per million, - indicates element detection limit not exceeded, * indicates peak analysis

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sr-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1497	-144.9600	65.4287	7	-100	-5	-200	-2	48	17	-10	19	1	4.3	-10	-20	960	150	-200	3	4	49	86	6.5	-2	-1	-5	0.6
1498	-144.9620	65.4262	-5	-100	-5	-200	-2	72	28	-10	24	1.1	5.5	-10	-20	850	130	-200	2	3	46	88	7.1	-2	-1	-5	0.6
1499	-144.9470	65.4227	-5	-100	7	-200	-2	88	30	-10	8	1.1	5.9	-10	-20	510	170	-200	-2	2	36	56	6.3	-2	-1	-5	-0.5
1501	-145.6980	65.4301	-5	-100	-5	-200	-2	20	34	-10	18	8.4	5.2	-10	-20	770	100	-200	3	3	39	80	6.7	-2	-1	-5	0.5
1502	-145.6947	65.4260	7	-100	-5	-200	-2	71	30	-10	13	7.3	5.3	-10	-20	590	120	-200	-2	2	39	76	6.4	2	1	-5	0.6
1503	-145.6900	65.4211	-5	-100	-5	-200	-2	57	29	-10	13	6.5	5.8	-10	-20	660	110	-200	-2	3	39	75	6.6	-2	-1	-5	0.5
1504	-145.6880	65.4172	-5	-100	-5	-200	-2	61	27	-10	8	3.6	5.5	-10	-20	440	120	-200	-2	3	35	69	6.4	-2	-1	-5	0.7
2802	-144.9630	65.4287	-5	-100	-5	-200	-2	67	31	-10	16	1.9	5.3	-10	-20	690	140	-200	-2	3	46	90	7	-2	-1	-5	0.6
2803	-144.9670	65.4244	8	-100	-5	-200	-2	85	37	-10	21	3.5	5.5	-10	-20	720	120	-200	3	3	40	59	6.4	-2	-1	-5	-0.5
2804	-144.9690	65.4203	8	-100	-5	-200	-2	50	29	-10	15	7.7	5.5	-10	-20	540	150	-200	-2	2	24	48	4.2	-2	-1	-5	-0.5
2808	-144.9300	65.4394	10	-100	-5	-200	-2	23	15	-10	53	1.9	3.5	-10	-20	770	130	-200	3	3	47	90	6.3	-2	-1	-5	0.6
2809	-144.9200	65.4381	27	-100	-5	-200	-2	20	12	-10	103	3.7	3.9	-10	-20	810	83	-200	6	3	49	92	6.7	-2	-1	-5	0.6
2812	-144.9080	65.4325	-5	-100	-5	-200	-2	48	21	-10	39	1.1	4.3	-10	-20	870	110	-200	3	4	49	95	6.9	3	-1	-5	-0.5
2815	-144.9080	65.4485	26	-100	-5	-200	-2	59	20	-10	82	3.4	4.1	-10	-20	810	130	-200	2	4	41	81	5.9	-2	-1	-5	-0.5
2816	-144.9700	65.4469	18	-100	-5	-200	-2	41	19	-10	40	4.4	3.6	-10	-20	710	130	-200	3	3	51	100	6.8	-2	-1	-5	0.6
2817	-144.9600	65.4460	16	-100	-5	-200	-2	20	21	-10	57	5.7	4.4	-10	-20	820	120	-200	3	3	53	100	7.3	3	1	-5	0.7
2818	-144.9690	65.4468	13	-100	6	-200	-2	20	22	-10	65	7.1	3.9	-10	-20	810	140	-200	-2	3	50	98	7	2	-1	-5	0.6
2820	-144.9350	65.4505	95	-100	-5	-200	-2	92	16	-10	416	11	3.3	-10	-20	720	56	-200	27	6	43	79	5.7	-2	-1	-5	-0.5
2821	-144.9250	65.4551	68	-100	-5	-200	-2	20	14	-10	323	7.6	3.3	-10	-20	810	58	-200	18	4	41	73	6.1	-2	-1	-5	-0.5
2822	-144.9180	65.4522	140	-100	-5	-200	-2	20	24	-10	590	13	3.5	-10	-20	870	140	-200	20	5	51	80	7.4	4	1	-5	-0.5
2826	-144.9650	65.4658	7	-100	-5	-200	-2	20	15	-10	31	1.7	3.6	-10	-20	790	110	-200	-2	3	38	65	5.6	-2	-1	-5	-0.5
2827	-144.9650	65.4682	44	-100	-5	-200	-2	20	23	-10	46	2.9	3.6	-10	-20	770	120	-200	3	3	51	98	7.7	-2	-1	-5	0.7
2829	-144.9760	65.4690	-5	-100	-5	-200	-2	20	13	-10	21	1.7	3.3	-10	-20	770	120	-200	3	2	36	67	5.3	-2	-1	-5	-0.5
2830	-144.9670	65.4651	17	-100	-5	-200	-2	20	22	-10	52	3.3	3.8	-10	-20	790	95	-200	2	4	49	92	7	-2	-1	-5	-0.5
2832	-144.9280	65.4696	10	-100	-5	-200	-2	65	15	-10	40	1	4.5	-10	-20	590	99	-200	14	6	94	170	12	-2	1	7	1
2833	-144.9370	65.4708	7	-100	-5	-200	-2	20	15	-10	38	0.8	4	-10	-20	670	69	-200	12	7	100	190	12	-2	1	6	0.8
2834	-144.9450	65.4734	17	-100	-5	-200	-2	20	29	-10	38	1	4.3	-10	-20	670	53	-200	8	6	79	150	11	-2	2	-5	0.9
2839	-144.9900	65.4933	11	-100	-5	-200	-2	38	19	-10	12	1.1	4.4	-10	-20	820	110	-200	-2	3	65	110	8.5	-2	1	5	0.7
2840	-144.9010	65.4935	-5	-100	-5	-200	-2	20	23	-10	10	1	4.3	-10	-20	820	100	-200	7	4	120	230	14	2	2	8	1.3
2841	-144.9110	65.4947	-5	-100	-5	-200	-2	20	33	-10	6	0.7	4.8	-10	-20	790	120	-200	-2	5	42	81	6.7	-2	-1	-5	0.6
2842	-144.9208	65.4960	-5	-100	-5	-200	-2	49	30	-10	8	0.7	5.2	-10	-20	730	85	-200	-2	7	38	79	6.4	-2	1	-5	0.6
2844	-144.8950	65.4941	10	-100	-5	-200	-2	50	13	-10	12	0.9	3.8	-10	-20	810	110	-200	7	7	43	75	6.4	-2	-1	-5	0.6
2845	-144.9020	65.4900	-5	-100	-5	-200	-2	20	20	-10	16	1.1	4	-10	-20	850	110	-200	9	7	39	83	6.1	2	-1	-5	0.5
2846	-144.8950	65.4887	-5	-100	-5	-200	-2	20	17	-10	16	1.3	4.3	-10	-20	870	100	-200	29	8	39	72	5.9	-2	1	-5	-0.5
2847	-144.8900	65.4833	-5	-100	-5	-200	-2	50	16	-10	13	0.8	4.1	-10	-20	810	120	-200	8	9	33	61	5.3	-2	-1	-5	-0.5
2848	-144.8920	65.4785	-5	-100	-5	-200	-2	59	19	-10	21	1.7	4.5	-10	-20	620	89	-200	33	12	33	60	5.3	2	-1	-5	-0.5
2850	-144.8930	65.4748	6	-100	-5	-200	-2	27	20	-10	45	1.3	4.7	-10	-20	730	100	-200	13	10	40	82	6.3	-2	-1	-5	-0.5
2852	-144.7900	65.4982	-5	-100	-5	-200	-2	20	24	-10	5	0.7	5.1	-10	-20	820	120	-200	5	6	48	94	7.4	-2	1	-5	0.6
2853	-144.7960	65.4895	7	-100	-5	-200	-2	35	11	-10	5	0.7	3.4	-10	-20	790	82	-200	4	5	48	88	6.4	-2	-1	-5	-0.5
2861	-144.7910	65.4828	-5	-100	-5	-200	-2	20	16	-10	7	1.1	3.6	-10	-20	910	120	-200	2	5	64	110	7.9	-2	-1	-5	-0.5
2865	-144.7690	65.4801	29	-100	-5	-200	-2	20	17	-10	21	1.6	3.9	-10	-20	770	110	-200	25	4	100	170	15	2	2	12	2.1

INAA-Instrumental Neutron Activation Analysis; IC-Polyiodide Coupled Plasma Spectrographic Analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1497	-144.9600	65.4287	18	8	-1	12	3.6	1.1	2	110	-500	-0.2	24	14	62	-1	37	12	-1	5	22	-5	2.81	347	-10	104	51	42
1498	-144.9520	65.4262	20	7	2	11	3.6	1.2	4	120	-500	-0.2	35	15	74	-1	42	20	-1	-5	24	-5	3.28	1025	-10	101	51	55
1499	-144.9470	65.4227	25	7	2	7.5	2	1.3	4	55	-500	-0.2	53	7	67	-1	46	19	-1	6	12	-5	3.54	565	-10	89	65	79
1501	-145.6980	65.4301	21	8	-1	10	2.7	1.1	6	85	-500	-0.2	40	12	91	-1	36	25	-1	-5	24	6	3.48	923	-10	119	38	55
1502	-145.6947	65.4260	22	8	1	10	2.9	1.2	4	70	530	-0.2	42	11	78	-1	34	20	-1	6	13	-5	3.40	808	-10	92	37	55
1503	-145.6900	65.4211	25	9	-1	10	3.1	1.1	5	85	-500	-0.2	46	9	78	-1	34	20	-1	-5	17	-5	3.48	550	-10	93	39	59
1504	-145.6890	65.4172	26	9	-1	9.4	2.6	1.3	3	59	640	-0.2	42	8	66	-1	33	18	-1	-5	6	-5	3.24	487	-10	78	38	55
2602	-144.9630	65.4287	22	11	2	10	3	1.5	3	76	-500	-0.2	35	10	77	-1	40	19	-1	7	18	-5	3.40	816	-10	115	52	63
2603	-144.9670	65.4244	22	5	1	10	2.5	1.2	6	68	-500	-0.2	57	14	102	-1	50	25	-1	7	28	-5	3.71	1391	-10	139	81	73
2604	-144.9690	65.4203	21	4	-1	5.2	1.8	1	10	57	-500	-0.2	50	10	71	-1	30	17	-1	7	15	6	2.87	824	-10	87	39	56
2608	-144.9300	65.4394	15	7	1	12	3.2	1.5	3	96	-500	-0.2	17	24	86	1	25	9	-1	5	57	-5	2.31	268	-10	110	35	37
2609	-144.9200	65.4381	15	7	2	13	3.8	1.5	3	110	520	-0.2	20	21	67	-1	25	11	-1	5	104	-5	2.53	416	-10	111	32	40
2612	-144.9080	65.4325	16	6	2	13	3.9	1.4	2	95	530	-0.2	23	16	77	-1	35	14	-1	5	28	-5	2.78	870	-10	99	45	43
2615	-144.9000	65.4486	15	6	1	11	3.4	1	3	94	-500	0.3	31	31	80	-1	29	15	-1	7	87	7	2.89	661	-10	155	33	45
2616	-144.9700	65.4489	15	8	-1	11	3.4	1.3	2	83	-500	-0.2	17	21	67	2	32	14	-1	6	48	7	2.53	875	-10	110	43	34
2617	-144.9800	65.4490	14	10	1	13	3.5	1.1	4	100	700	-0.2	16	20	66	-1	32	17	-1	6	51	8	2.63	753	-10	105	48	36
2618	-144.9890	65.4498	18	8	2	12	3.7	1.2	4	120	-500	0.6	20	26	76	-1	33	13	-1	-5	51	8	2.60	557	-10	130	47	37
2620	-144.9350	65.4506	11	6	1	12	4.2	1.1	8	110	-500	1.4	32	90	321	2	54	10	4.5	6	393	-5	2.35	746	-10	146	20	32
2621	-144.9250	65.4551	12	9	2	12	4.6	1.2	8	120	-500	0.6	20	68	109	-1	20	10	1.3	-5	315	6	2.28	438	-10	105	25	37
2622	-144.9180	65.4522	13	7	1	14	6.4	1.3	11	81	-500	1.4	25	111	167	1	23	16	3.9	7	608	6	2.41	1081	-10	146	27	39
2628	-144.9550	65.4658	15	7	1	9	3.1	1.5	2	84	-500	-0.2	21	18	70	-1	22	11	-1	-5	29	-5	2.16	316	-10	129	28	42
2627	-144.9650	65.4602	15	10	2	13	4.4	1.3	4	74	810	0.3	24	24	89	-1	23	17	-1	-5	51	-5	2.55	593	-10	129	29	43
2629	-144.9780	65.4680	14	8	-1	8.4	2.8	1.5	2	88	-500	-0.2	16	15	59	-1	18	7	-1	-5	20	-5	1.93	183	-10	118	25	38
2630	-144.9870	65.4651	14	7	2	12	3.6	1.1	3	100	-500	0.5	27	34	94	-1	25	17	-1	6	55	-5	2.65	705	-10	144	28	38
2632	-144.9280	65.4696	18	14	2	35	9.2	1.4	3	140	-500	-0.2	122	25	90	-1	23	8	-1	-5	24	-5	2.90	232	-10	71	34	56
2633	-144.9370	65.4708	15	16	3	42	9.3	1.3	4	140	740	0.4	41	28	90	1	21	9	-1	6	52	-5	2.79	305	-10	133	31	52
2634	-144.9450	65.4734	15	7	2	28	14	1	6	81	-500	0.9	68	42	110	1	28	24	-1	7	51	-5	2.94	991	-10	179	31	53
2639	-144.8900	65.4633	17	13	3	23	5.9	1.7	2	92	590	-0.2	25	19	89	-1	23	12	-1	-5	13	-5	2.55	401	-10	155	30	52
2640	-144.9010	65.4635	17	22	3	50	10	1.6	4	100	1100	-0.2	23	22	102	-1	21	14	-1	-5	11	-5	2.57	672	-10	150	28	51
2641	-144.9110	65.4647	18	9	2	11	5.4	1.3	9	85	-500	0.2	42	34	185	-1	29	22	-1	-5	8	-5	2.92	1100	-10	175	38	70
2642	-144.9208	65.4680	18	7	2	10	3.9	1.3	7	80	-500	0.3	53	23	112	-1	34	21	-1	6	8	-5	3.34	870	-10	193	47	89
2644	-144.8950	65.4641	16	9	1	13	3.9	1.4	4	93	810	0.2	30	34	102	-1	24	9	-1	-5	19	-5	2.40	227	-10	137	35	54
2645	-144.8920	65.4600	16	8	1	11	3.6	1.4	3	100	-500	-0.2	29	27	96	-1	26	13	-1	-5	10	-5	2.58	398	-10	146	35	57
2648	-144.8580	65.4867	18	9	1	10	3.2	1.3	2	110	-500	0.3	29	37	96	-1	24	12	-1	-5	23	-5	2.55	396	-10	128	38	60
2647	-144.8500	65.4833	18	6	1	8.8	2.4	1.3	3	100	-600	0.2	35	43	101	-1	28	11	-1	-5	16	-5	2.80	345	-10	131	39	61
2649	-144.8520	65.4788	18	6	-1	9.4	3.2	1.1	4	120	-500	0.4	55	59	121	-1	29	15	-1	6	22	-5	3.00	452	-10	160	47	78
2650	-144.8530	65.4748	17	8	2	12	4.3	1.4	2	130	-500	-0.2	37	33	131	1	28	12	-1	7	47	-5	3.00	324	-10	141	42	75
2652	-144.7900	65.4682	18	11	3	22	11	1.6	3	120	-500	-0.2	41	25	184	-1	29	18	-1	-5	8	-5	3.19	666	-10	182	47	86
2653	-144.7990	65.4696	13	12	2	21	6.7	1.7	4	110	-600	-0.2	10	15	103	-1	14	7	-1	-5	14	-5	2.19	284	-10	107	25	34
2661	-144.7910	65.4828	18	12	3	26	8.1	2	3	120	770	-0.2	12	18	105	-1	15	9	-1	-5	-5	-5	2.49	530	-10	151	28	45
2665	-144.7890	65.4801	17	35	11	71.7	23	2.1	2	150	1300	-0.2	15	15	100	-1	15	9	-1	-5	20	-5	2.24	401	-10	112	24	43

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
1497	-144.9600	65.4287	-20	-20	21	1.74	.76	.26	7	.01	.05	21	1	23	-100	5	.02	-1
1498	-144.9520	65.4262	-20	-20	16	1.87	.94	.64	8	.01	.07	25	2	46	-100	7	.02	-1
1499	-144.9470	65.4227	-20	-20	9	1.92	1.11	.70	9	.01	.08	17	2	35	-100	5	.06	-1
1501	-145.6980	65.4301	-20	-20	18	1.95	.82	.32	7	-.01	.09	22	1	19	-100	8	.04	-1
1502	-145.6947	65.4260	-20	-20	15	1.80	.85	.32	8	-.01	.09	22	1	19	-100	7	.04	-1
1503	-145.6900	65.4211	-20	-20	14	1.89	.90	.37	8	-.01	.10	22	1	20	-100	7	.05	-1
1504	-145.6890	65.4172	-20	-20	12	1.77	.88	.31	7	-.01	.12	18	1	16	-100	6	.05	-1
2802	-144.9630	65.4287	-20	-20	15	1.98	1.00	.49	8	.02	.06	23	1	30	-100	6	.03	-1
2803	-144.9670	65.4244	-20	-20	13	2.19	1.10	.77	9	.02	.08	23	2	45	-100	9	.03	-1
2804	-144.9690	65.4203	-20	-20	4	1.46	.81	.94	6	.02	.05	14	1	37	-100	4	.02	-1
2806	-144.9300	65.4394	-20	-20	19	1.49	.60	.35	5	.01	.08	19	2	25	-100	6	.04	-1
2809	-144.9200	65.4381	-20	-20	22	1.46	.59	.31	5	.01	.07	21	2	25	-100	7	.04	-1
2812	-144.9080	65.4325	-20	-20	22	1.69	.73	.39	7	.01	.05	25	1	32	-100	7	.03	-1
2815	-144.9800	65.4485	-20	-20	20	1.81	.60	.50	6	.01	.10	20	2	36	-100	8	.03	-1
2816	-144.9700	65.4469	-20	-20	22	1.45	.67	.22	6	-.01	.04	17	1	20	-100	5	.02	-1
2817	-144.9800	65.4490	-20	-20	21	1.53	.69	.23	5	-.01	.05	18	1	21	-100	5	.02	-1
2818	-144.9890	65.4498	-20	-20	20	1.80	.67	.33	5	-.01	.06	17	1	28	-100	5	.02	-1
2820	-144.9350	65.4566	-20	-20	18	1.00	.31	.43	5	.01	.07	10	1	27	-100	8	.01	-1
2821	-144.9250	65.4551	-20	-20	20	1.40	.41	.37	4	.01	.07	16	2	27	-100	7	.03	-1
2822	-144.9180	65.4522	-20	-20	22	1.53	.44	.42	6	.01	.06	20	2	31	-100	13	.02	-1
2826	-144.9550	65.4658	-20	-20	16	1.37	.52	.36	4	.02	.06	14	2	25	-100	5	.04	-1
2827	-144.9650	65.4662	-20	-20	22	1.51	.56	.33	6	.01	.07	18	2	24	-100	7	.03	-1
2829	-144.9780	65.4690	-20	-20	14	1.23	.46	.36	4	.02	.05	10	1	26	-100	4	.04	-1
2830	-144.9870	65.4651	-20	-20	23	1.58	.56	.36	5	.01	.06	17	2	30	-100	7	.02	-1
2832	-144.9280	65.4696	-20	-20	30	1.96	.59	.17	7	.01	.11	37	3	12	-100	15	.06	-1
2833	-144.9370	65.4708	-20	-20	31	1.88	.53	.26	8	.01	.12	28	4	20	-100	12	.06	-1
2834	-144.9450	65.4734	-20	-20	41	2.09	.49	.37	8	.01	.11	31	3	27	-100	28	.04	-1
2839	-144.8900	65.4933	-20	-20	21	1.59	.61	.50	6	.02	.09	23	3	26	-100	11	.07	-1
2840	-144.9010	65.4935	-20	-20	29	1.58	.55	.46	6	.02	.10	25	4	25	-100	13	.07	-1
2841	-144.9110	65.4947	-20	-20	13	1.89	.89	.66	8	.02	.12	33	2	31	-100	9	.06	-1
2842	-144.9208	65.4960	-20	-20	14	2.24	.83	.80	9	.03	.27	39	3	37	-100	11	.10	-1
2844	-144.8850	65.4941	-20	-20	18	1.78	.56	.32	6	.02	.12	28	2	23	-100	7	.07	-1
2845	-144.8820	65.4900	-20	-20	15	1.72	.61	.35	5	.02	.12	28	2	24	-100	7	.06	-1
2846	-144.8680	65.4867	-20	-20	14	1.77	.61	.30	6	.02	.13	33	2	20	-100	6	.09	-1
2847	-144.8900	65.4833	-20	-20	13	1.67	.62	.26	7	.02	.14	34	2	19	-100	6	.09	-1
2849	-144.8520	65.4786	-20	-20	15	2.21	.72	.35	8	.02	.19	41	3	22	-100	7	.10	-1
2850	-144.8530	65.4746	-20	-20	16	1.92	.72	.31	7	.02	.19	42	2	19	-100	9	.12	-1
2852	-144.7900	65.4982	-20	-20	26	2.40	.79	.37	9	.02	.13	49	4	24	-100	13	.11	-1
2853	-144.7890	65.4998	-20	-20	26	1.50	.43	.22	6	.02	.08	28	4	18	-100	9	.06	-1
2861	-144.7910	65.4626	-20	-20	33	1.67	.53	.45	7	.02	.12	36	5	30	-100	10	.10	-1
2865	-144.7890	65.4801	-20	-20	45	1.43	.44	.34	5	.02	.11	33	6	19	-100	22	.09	-1

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sn-1	W-1	Cs	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
2866	-144.7810	65.4794	9	-100	-5	-200	-2	-20	17	-10	37	1.3	3.8	-10	-20	680	100	-200	17	6	62	120	11	-2	1	8	1.5
2868	-144.7900	65.4769	14	-100	-5	-200	-2	43	10	-10	26	1.3	3.5	-10	-20	740	110	-200	7	7	47	83	7.4	-2	-1	6	0.8
2869	-144.7980	65.4740	9	-100	-5	-200	-2	22	13	-10	36	1.4	3.7	-10	-20	670	78	-200	12	7	50	90	9.5	-2	2	10	1.5
2870	-144.8080	65.4715	11	-100	-5	-200	-2	45	20	-10	52	1.9	3.3	-10	-20	780	81	-200	5	5	41	80	6.8	-2	-1	5	0.8
2871	-144.8140	65.4681	16	-100	-5	-200	-2	41	33	-10	76	3.3	4	-10	-20	790	93	-200	5	6	38	75	6.4	-2	-1	-5	-0.5
2873	-144.7440	65.4746	38	-100	-5	-200	-2	22	16	-10	46	1.3	4.1	-10	-20	710	130	-200	22	5	66	120	10	-2	1	7	1.1
2874	-144.7480	65.4700	583	-100	-5	-200	-2	-20	24	-10	107	1.1	4.3	-10	-20	770	85	-200	18	5	59	110	10	-2	1	8	1.2
2875	-144.7520	65.4655	16	-100	-5	-200	-2	-20	28	-10	123	1.7	4.4	-10	-20	730	85	-200	13	4	54	100	8.7	-2	2	7	1
2876	-144.7540	65.4611	75	-100	-5	-200	-2	-20	24	-10	129	1.5	4.3	-10	-20	740	93	-200	6	4	44	90	7.2	-2	-1	6	0.6
2877	-144.7550	65.4570	180	-100	-5	-200	-2	59	25	-10	127	2.2	4.3	-10	-20	750	100	-200	10	5	47	75	7.2	-2	-1	6	0.9
2879	-144.7550	65.4542	11	-100	-5	-200	-2	-20	31	-10	157	2.3	5.1	-10	-20	790	100	-200	5	5	41	75	6.1	-2	-1	-5	-0.5
2880	-144.7460	65.4509	10	-100	-5	-200	-2	-20	27	-10	137	1.1	4.5	-10	-20	690	90	-200	3	3	38	75	5.6	-2	-1	-5	0.6
2881	-144.7410	65.4479	15	-100	-5	-200	-2	-20	14	-10	80	1.4	4.5	-10	-20	780	87	-200	2	3	40	74	6	-2	1	-5	-0.5
2882	-144.7380	65.4435	11	-100	-5	-200	-2	-20	15	-10	68	1.2	3.4	-10	-20	810	64	-200	4	3	43	73	6.2	-2	1	-5	0.8
2883	-144.7400	65.4399	-5	-100	-5	-200	-2	47	23	-10	212	1.1	3.8	-10	-20	780	85	-200	3	3	36	76	5.2	3	-1	-5	-0.5
2885	-144.7800	65.4540	16	-100	-5	-200	-2	52	23	-10	60	2.1	4.4	-10	-20	980	110	-200	3	3	41	75	6.4	3	-1	-5	0.6
2886	-144.7880	65.4518	34	-100	-5	-200	-2	-20	26	-10	121	1.6	4.1	-10	-20	800	97	-200	-2	5	46	89	7.1	-2	-1	5	0.7
2887	-144.7780	65.4494	22	-100	-5	-200	-2	-20	20	-10	113	2.3	3.4	-10	-20	700	87	-200	2	3	43	79	6.4	3	-1	-5	0.6
2889	-144.6550	65.4659	30	-100	-5	-200	-2	32	16	-10	12	2.9	3	-10	-20	690	65	-200	4	5	60	120	9.2	-2	-1	-5	-0.5
2890	-144.6820	65.4626	-5	-100	-5	-200	-2	-20	-10	-10	12	1.3	3.8	-10	-20	740	57	-200	3	6	69	140	9.5	-2	-1	-5	-0.5
2891	-144.6880	65.4798	10	-100	-5	-200	-2	-20	-10	-10	12	0.8	3.5	-10	-20	810	59	-200	6	5	72	140	10	-2	1	7	0.9
2892	-144.6720	65.4758	6	-100	-5	-200	-2	-20	-10	-10	12	0.8	3.6	-10	-20	800	74	-200	5	5	64	120	8.8	-2	1	-5	0.8
2894	-144.6780	65.4722	11	-100	-5	-200	-2	-20	11	-10	10	0.9	3.5	-10	-20	800	100	-200	4	5	63	110	8.4	-2	1	-5	0.7
2895	-144.6800	65.4680	-5	-100	-5	-200	-2	49	11	-10	14	0.9	3.2	-10	-20	710	100	-200	5	4	54	110	7.6	-2	1	-5	0.6
2896	-144.6870	65.4648	6	-100	-5	-200	-2	26	15	-10	17	0.9	3.5	-10	-20	680	80	-200	2	4	52	79	6.9	-2	-1	-5	0.6
2897	-144.6900	65.4608	8	-100	-5	-200	-2	-20	16	-10	17	0.8	3.6	-10	-20	690	86	-200	-2	4	42	79	5.8	-2	-1	-5	0.5
2898	-144.6940	65.4565	-5	-100	-5	-200	-2	37	14	-10	14	2.3	2.5	-10	-20	950	93	-200	-2	3	28	55	4.1	-2	-1	-5	-0.5
2902	-144.6330	65.4437	22	-100	-5	-200	-2	46	15	-10	47	0.7	4	-10	-20	800	110	-200	3	5	41	78	5.7	-2	1	-5	-0.5
2903	-144.6280	65.4401	-5	-100	-5	-200	-2	26	-10	-10	24	0.8	3.3	-10	-20	700	110	-200	6	3	43	77	6.4	-2	1	6	0.6
2904	-144.6240	65.4362	14	-100	-5	-200	-2	52	11	-10	32	1.2	4.1	-10	-20	760	82	-200	-2	3	39	77	5.6	-2	1	-5	0.6
2905	-144.6220	65.4321	7	-100	-5	-200	-2	-20	10	-10	12	1	3.1	-10	-20	810	130	-200	3	3	36	68	5	-2	-1	-5	-0.5
2907	-144.6200	65.4279	-5	-100	-5	-200	-2	66	12	-10	9	0.9	3.3	-10	-20	900	76	-200	-2	3	39	73	5.6	-2	-1	-5	0.5
2908	-144.6210	65.4236	8	-100	-5	-200	-2	-20	-10	-10	8	0.9	3	-10	-20	790	82	-200	-2	3	36	70	5.6	-2	-1	-5	-0.5
2909	-144.6270	65.4203	5	-100	-5	-200	-2	-20	12	-10	5	0.9	2.9	-10	-20	760	67	-200	-2	3	36	78	6.1	-2	-1	-5	0.5
2910	-144.6280	65.4159	-5	-100	-5	-200	-2	66	11	-10	5	0.7	2.9	-10	-20	770	90	-200	-2	3	34	59	5.6	-2	1	-5	0.6
2911	-144.6220	65.4122	-5	-100	-5	-200	-2	35	-10	-10	5	0.7	3	-10	-20	900	100	-200	-2	5	40	76	5.9	-2	-1	-5	0.5
2914	-144.6480	65.4437	20	-100	-5	-200	-2	-20	13	-10	64	1.7	3.6	-10	-20	970	78	-200	6	4	50	98	7.9	-2	1	5	0.7
2918	-144.6710	65.4370	47	-100	-5	-200	-2	-20	11	-10	39	6.2	3.3	-10	-20	1100	51	-200	-2	4	38	79	6.4	-2	-1	-5	-0.5
2919	-144.6780	65.4348	76	-100	-5	-200	-2	-20	12	-10	20	2	2.6	-10	-20	760	64	-200	-2	3	33	61	5.2	3	-1	-5	-0.5
2921	-144.6980	65.4322	67	-100	-5	-200	-2	54	11	-10	51	2.7	3	-10	-20	810	-50	-200	-2	3	44	89	6.5	-2	1	-5	-0.5
2922	-144.7082	65.4308	18	-100	-5	-200	-2	-20	10	-10	28	2.3	2.6	-10	-20	690	130	-200	-2	4	46	94	6.7	-2	1	-5	-0.5

INAA-instrumental Neutron Activation Analysis, ICP-inductively Coupled Plasma spectrographic analysis, ppb-parts per billion, ppm-parts per million, - indicates element detection limit not exceeded.
* indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
2866	-144.7810	65.4794	14	15	4	44	14	1.7	5	160	-500	-0.2	24	23	92	-1	21	11	-1	-5	41	-5	2.51	518	-10	136	30	49
2868	-144.7900	65.4769	15	9	3	25	10	1.5	3	130	-500	0.2	30	40	108	-1	23	9	-1	6	26	-5	2.36	254	-10	156	36	56
2869	-144.7990	65.4740	14	12	4	44	15	1.7	4	180	-500	-0.2	23	29	92	-1	19	9	-1	-5	45	-5	2.36	283	-10	127	29	46
2870	-144.8080	65.4715	14	6	2	16	6.9	1.3	5	87	-500	-0.2	34	30	89	-1	24	16	-1	-5	64	-5	2.55	423	-10	151	31	53
2871	-144.8140	65.4681	15	7	1	12	4.7	1.3	6	100	-500	0.3	34	43	106	-1	24	21	-1	-5	72	-5	2.72	632	-10	148	34	58
2873	-144.7440	65.4746	16	19	3	32	11	1.7	2	110	750	-0.2	23	27	100	-1	21	9	-1	-5	47	-5	2.49	281	-10	122	32	51
2874	-144.7480	65.4700	15	14	3	29	15	1.5	4	120	-500	-0.2	29	30	118	-1	23	17	-1	5	104	-5	2.78	640	-10	151	33	57
2875	-144.7520	65.4655	15	11	2	25	12	1.7	4	140	-500	-0.2	30	33	127	-1	24	17	-1	-5	116	-5	2.81	677	-10	135	32	56
2876	-144.7540	65.4611	16	9	2	17	10	1.6	4	110	-500	0.3	33	36	113	-1	26	18	-1	-5	138	-5	3.03	718	-10	145	35	59
2877	-144.7550	65.4570	15	10	2	17	7.9	1.7	4	120	-500	0.2	35	35	110	1	26	19	-1	-5	119	-5	2.99	691	-10	142	35	60
2879	-144.7550	65.4542	16	6	-1	11	4	1.2	6	80	-500	0.3	33	30	99	-1	25	22	-1	5	139	-5	3.00	810	-10	154	35	59
2880	-144.7490	65.4509	14	7	-1	10	3.4	1.2	6	70	-500	-0.2	20	21	96	-1	22	18	-1	5	122	-5	2.84	645	-10	130	30	51
2881	-144.7410	65.4479	13	10	1	12	3.9	2	3	81	-500	-0.2	11	18	80	-1	16	8	-1	-5	88	-5	2.42	334	-10	138	23	44
2882	-144.7390	65.4435	14	11	1	12	4.1	1.9	3	80	680	-0.2	12	19	80	-1	17	8	-1	-5	77	-5	2.40	337	-10	162	24	45
2883	-144.7400	65.4399	11	7	1	11	3.5	1.7	6	72	-500	0.2	10	21	71	-1	16	16	-1	-5	229	-5	2.60	555	-10	153	22	81
2885	-144.7600	65.4540	16	8	2	12	4.1	1.6	2	98	-500	-0.2	29	23	98	-1	27	16	-1	-5	60	-5	2.86	528	-10	222	34	59
2886	-144.7690	65.4518	17	9	2	13	4.2	1.7	3	110	-500	-0.2	23	30	89	-1	27	16	-1	6	112	-5	2.69	505	-10	162	30	52
2887	-144.7700	65.4494	13	12	2	14	5	1.8	4	100	620	-0.2	12	39	88	-1	14	12	-1	-5	114	-5	2.32	558	-10	119	21	38
2889	-144.6550	65.4859	12	6	2	25	23	1.4	5	110	-500	-0.2	18	27	93	-1	16	8	-1	-5	14	-5	2.32	483	-10	158	25	41
2890	-144.6620	65.4828	13	8	3	30	16	1.4	6	120	-500	-0.2	16	22	95	1	17	7	-1	-5	16	-5	2.45	335	-10	157	26	47
2891	-144.6680	65.4798	11	19	6	33	13	1.3	3	130	630	-0.2	16	20	94	-1	16	7	-1	-5	14	-5	2.23	347	-10	124	26	44
2892	-144.6720	65.4758	13	13	3	32	10	1.5	5	100	-500	-0.2	15	21	82	-1	15	6	-1	-5	14	-5	2.25	311	-10	125	26	45
2894	-144.6780	65.4722	14	16	4	26	10	1.6	3	110	680	-0.2	16	20	89	1	17	7	-1	-5	9	-5	2.22	291	-10	136	27	45
2895	-144.6800	65.4680	14	13	2	21	6.8	1.4	5	110	-500	-0.2	16	18	99	-1	16	7	-1	-5	-5	-5	2.11	268	-10	120	29	43
2896	-144.6670	65.4648	15	12	2	19	5.8	1.3	6	95	-500	-0.2	20	23	102	-1	19	7	-1	-5	20	-5	2.27	253	-10	120	32	49
2897	-144.6900	65.4606	15	7	2	12	3.5	1.4	4	90	500	-0.2	24	21	97	-1	21	6	-1	-5	14	-5	2.33	271	-10	98	34	52
2898	-144.6940	65.4565	12	6	-1	6.7	2.2	1.1	5	78	-500	0.2	22	23	73	-1	17	6	-1	-5	19	-5	1.71	157	-10	82	26	35
2902	-144.6330	65.4437	16	9	2	10	4.1	1.6	3	110	-500	-0.2	22	19	131	-1	22	12	-1	5	50	-5	2.63	390	-10	139	34	59
2903	-144.6280	65.4401	15	15	2	11	5.2	1.8	3	85	840	-0.2	15	16	106	1	16	8	-1	-5	37	-5	2.31	303	-10	112	26	49
2904	-144.6240	65.4382	15	7	-1	11	4.9	1.6	3	86	-500	-0.2	21	22	126	-1	21	11	-1	6	36	-5	2.79	500	-10	147	33	56
2905	-144.6220	65.4321	13	10	1	10	3.6	1.6	3	94	-500	-0.2	9	15	97	-1	13	6	-1	-5	13	-5	2.07	332	-10	108	23	38
2907	-144.6200	65.4279	13	7	2	11	3.7	1.6	3	89	-500	-0.2	39	18	116	5	16	8	-1	-5	-5	-5	2.51	321	-10	161	27	41
2908	-144.6210	65.4236	13	10	-1	10	3.6	1.7	2	88	-500	-0.2	42	15	112	-1	14	8	-1	-5	-5	7	2.14	352	-10	127	22	34
2909	-144.6270	65.4203	14	13	2	10	3.9	1.8	-1	100	-500	-0.2	42	15	109	-1	13	7	-1	-5	-5	-5	1.96	291	-10	120	21	33
2910	-144.6280	65.4169	13	11	1	10	3.8	1.5	2	91	-500	-0.2	41	15	125	3	15	7	-1	-5	-5	5	2.36	330	-10	128	24	38
2911	-144.6220	65.4122	14	7	1	12	3.7	1.5	1	97	-500	-0.2	50	20	154	-1	16	8	-1	-5	-5	-5	2.30	286	-10	139	29	35
2914	-144.6480	65.4437	15	21	3	16	7	2.1	2	110	800	-0.2	54	17	100	5	15	9	-1	-5	70	-5	2.42	405	-10	125	23	35
2918	-144.6710	65.4370	12	12	3	13	4.7	2.1	5	100	680	1	49	24	147	2	17	9	-1	-5	24	9	2.47	401	-10	161	23	35
2919	-144.6790	65.4346	11	7	-1	10	3.8	1.7	4	89	-500	-0.2	38	23	103	-1	16	8	-1	-5	29	10	2.26	284	-10	168	23	33
2921	-144.6990	65.4322	12	10	1	14	4.8	1.9	5	81	-500	-0.2	46	22	154	-1	17	10	-1	-5	58	8	2.68	517	-10	150	23	38
2922	-144.7092	65.4308	12	7	2	13	4.8	1.8	3	87	-600	-0.2	46	21	112	-1	16	9	1.3	-5	38	-5	2.49	412	-10	171	28	38

INAA—Instrumental Neutron Activation Analysis; ICP—Inductively Coupled Plasma spectrographic analysis; ppb—parts per billion; ppm—parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sn-2*	W-2*	La-2*	Al*	Mg*	Ca*	Ga*	Na-2*	K*	Li*	Nb*	Sr*	Ta-2*	Y*	Ti*	Zr-2*
			ICP ppm	ICP ppm	ICP ppm	ICP %	ICP %	ICP %	ICP ppm	ICP %	ICP %	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
2866	-144.7810	65.4794	-20	-20	26	1.66	.50	.30	6	.02	.11	33	4	20	-100	21	.06	-1
2868	-144.7900	65.4769	-20	-20	23	2.03	.59	.30	8	.03	.12	37	4	21	-100	16	.07	-1
2869	-144.7990	65.4740	-20	-20	21	1.57	.48	.30	6	.03	.12	31	5	20	-100	21	.06	-1
2870	-144.8080	65.4715	-20	-20	19	1.86	.54	.35	5	.02	.10	27	3	25	-100	14	.06	-1
2871	-144.8140	65.4681	-20	-20	17	1.78	.58	.35	6	.02	.11	29	2	25	-100	9	.06	-1
2873	-144.7440	65.4746	-20	-20	25	1.86	.59	.34	6	.02	.11	32	3	21	-100	14	.08	-1
2874	-144.7480	65.4700	-20	-20	26	1.86	.59	.39	7	.02	.12	36	4	23	-100	22	.07	-1
2875	-144.7520	65.4655	-20	-20	23	1.78	.59	.37	6	.02	.12	36	3	22	-100	15	.07	-1
2876	-144.7540	65.4611	-20	-20	21	1.85	.65	.42	7	.02	.14	34	3	25	-100	13	.08	-1
2877	-144.7550	65.4570	-20	-20	21	1.83	.65	.37	7	.02	.12	35	3	23	-100	12	.07	-1
2879	-144.7550	65.4542	-20	-20	15	1.86	.59	.31	6	.02	.10	27	2	22	-100	8	.06	-1
2880	-144.7480	65.4609	-20	-20	18	1.85	.55	.29	5	.02	.11	22	2	23	-100	7	.05	-1
2881	-144.7410	65.4479	-20	-20	18	1.49	.46	.31	5	.02	.06	20	2	23	-100	7	.05	-1
2882	-144.7390	65.4435	-20	-20	21	1.56	.46	.33	5	.02	.06	19	2	24	-100	8	.05	-1
2883	-144.7400	65.4399	-20	-20	17	1.42	.43	.34	6	.02	.06	18	2	25	-100	7	.04	-1
2885	-144.7800	65.4540	-20	-20	19	1.80	.65	.40	6	.02	.10	23	2	29	-100	9	.07	-1
2886	-144.7890	65.4518	-20	-20	20	1.59	.61	.44	6	.03	.09	21	2	34	-100	9	.07	-1
2887	-144.7790	65.4494	-20	-20	21	1.39	.47	.35	6	.02	.07	20	2	21	-100	9	.05	-1
2889	-144.8550	65.4859	-20	-20	42	1.76	.40	.36	7	.02	.09	23	5	24	-100	19	.05	-1
2890	-144.8820	65.4828	-20	-20	43	1.85	.43	.30	7	.01	.09	24	5	21	-100	18	.05	-1
2891	-144.8880	65.4798	-20	-20	36	1.58	.43	.28	6	.01	.09	24	5	17	-100	14	.07	-1
2892	-144.8720	65.4758	-20	-20	34	1.59	.42	.24	6	.01	.09	23	5	17	-100	14	.06	-1
2894	-144.8780	65.4722	-20	-20	34	1.57	.45	.29	6	.02	.09	23	5	19	-100	13	.06	-1
2895	-144.8800	65.4680	-20	-20	25	1.52	.46	.26	6	.01	.09	24	3	18	-100	11	.07	-1
2896	-144.8870	65.4648	-20	-20	23	1.85	.50	.23	6	.01	.09	23	3	17	-100	10	.07	-1
2897	-144.8900	65.4608	-20	-20	15	1.73	.54	.19	6	.01	.10	25	3	15	-100	6	.08	-1
2898	-144.8940	65.4565	-20	-20	10	1.36	.41	.19	4	.01	.08	18	2	15	-100	3	.05	-1
2902	-144.8330	65.4437	-20	-20	18	1.93	.67	.36	7	.02	.13	32	3	28	-100	6	.09	-1
2903	-144.8280	65.4401	-20	-20	19	1.86	.54	.32	6	.03	.08	28	3	24	-100	7	.09	-1
2904	-144.8240	65.4362	-20	-20	18	1.91	.61	.33	6	.02	.10	29	3	26	-100	6	.08	-1
2905	-144.8220	65.4321	-20	-20	15	1.52	.46	.35	6	.02	.07	23	3	27	-100	5	.06	-1
2907	-144.8200	65.4279	-20	-20	22	1.90	.58	.42	6	.02	.08	28	3	34	-100	8	.06	-1
2908	-144.8210	65.4236	-20	-20	20	1.82	.52	.41	4	.02	.07	26	3	31	-100	8	.06	-1
2909	-144.8270	65.4203	-20	-20	19	1.55	.51	.45	5	.02	.07	24	3	31	-100	8	.06	-1
2910	-144.8280	65.4159	-20	-20	20	1.85	.55	.42	4	.02	.08	25	3	32	-100	8	.06	-1
2911	-144.8220	65.4122	-20	-20	21	1.85	.62	.33	6	.02	.09	31	3	27	-100	8	.09	-1
2914	-144.8480	65.4437	-20	-20	28	1.49	.55	.46	4	.02	.09	28	3	31	-100	11	.10	-1
2918	-144.8710	65.4370	-20	-20	23	1.85	.56	.48	4	.03	.07	29	3	33	-100	9	.06	-1
2919	-144.8790	65.4348	-20	-20	21	1.86	.52	.44	5	.03	.08	24	3	32	-100	7	.07	-1
2921	-144.8990	65.4322	-20	-20	30	1.88	.54	.54	2	.02	.07	31	3	43	-100	13	.07	-1
2922	-144.7092	65.4306	-20	-20	34	1.89	.55	.59	3	.02	.08	32	3	45	-100	13	.07	-1

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Au	Ir	Ag-1	Zn-1	Mo-1	Ni-1	Co-1	Cd-1	As-1	Sb-1	Fe-1	Se	Te-1	Ba-1	Cr-1	Sr-1	W-1	Ca	La-1	Ce	Sm	Eu	Tb	Yb	Lu
			INAA ppb	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm
2826	-144.5500	65.4554	-5	-100	-5	-200	-2	47	28	-10	12	0.8	4.1	-10	-20	580	140	-200	-2	3	31	65	5.2	-2	2	-5	-0.5
2927	-144.5520	65.4511	19	-100	-5	-200	-2	31	23	-10	9	0.7	4.8	-10	-20	720	160	-200	-2	3	40	82	6.8	-2	-1	-5	-0.5
2829	-144.5580	65.4478	-5	-100	-5	-200	-2	28	18	-10	10	0.7	4.9	-10	-20	770	120	-200	3	5	40	86	6.1	-2	-1	-5	-0.5
2930	-144.5597	65.4436	19	-100	-5	-200	-2	-20	19	-10	13	0.7	4.7	-10	-20	610	130	-200	-2	4	34	81	5.3	-2	-1	-5	-0.5
2931	-144.5610	65.4391	10	-100	-5	-200	-2	69	14	-10	8	1.1	2.7	-10	-20	580	97	-200	3	3	29	52	4.4	-2	-1	-5	-0.5
101A	-145.7270	65.4689	11	-100	-5	-200	-2	-20	20	-10	17	7.2	4.2	-10	-20	610	130	-200	-2	2	35	68	6.4	2	-1	-5	-0.5
1022A	-145.6640	65.5488	-5	-100	7	-200	-2	-20	16	-10	87	1	3.2	-10	-20	770	83	-200	-2	5	42	68	6.8	4	1	-5	-0.5
1129-1	-145.3770	65.5825	-5	-100	-5	-200	3	-20	15	-10	52	1.4	3.6	-10	-20	650	79	-200	-2	3	42	91	6.2	-2	-1	-5	0.7
1129-2	-145.3671	65.5811	9	-100	-5	-200	-2	44	18	-10	56	1.5	4.3	-10	-20	620	100	-200	-2	4	47	82	6.7	-2	-1	-5	0.6
1153-1	-145.5680	65.5347	57	-100	-5	-200	-2	130	15	-10	119	3.8	4.7	-10	-20	800	140	-200	7	3	57	96	10	5	-1	-5	0.5
1153-2	-145.5680	65.5347	45	-100	8	220	-2	88	15	-10	108	3	4	-10	-20	590	95	-200	-2	3	51	79	8.5	-2	1	-5	0.8
12968	-145.2653	65.5137	21	-100	-5	-200	-2	46	-10	-10	49	1.4	3	-10	-20	600	72	-200	-2	2	48	89	9	-2	-1	-5	-0.5
1337-1	-145.2044	65.4474	11	-100	8	230	-2	32	21	-10	19	2.2	4.7	-10	-20	640	120	-200	-2	3	48	79	7	-2	1	-5	-0.5
1337-2	-145.2044	65.4474	19	-100	-5	240	-2	-20	19	-10	22	2.7	4.8	-10	-20	990	140	-200	-2	4	46	76	6.3	-2	-1	-5	0.5
1338-1	-145.2054	65.4432	10	-100	-5	-200	-2	76	16	-10	19	3.2	4.3	-10	-20	910	150	-200	-2	4	64	120	9.5	-2	-1	-5	0.7
1338-2	-145.2054	65.4432	30	-100	-5	-200	-2	65	19	-10	37	2.5	3.6	-10	-20	540	96	-200	4	2	46	90	6.5	-2	-1	-5	0.8
1363A	-145.1421	65.4681	6	-100	-5	-200	-2	23	18	-10	59	0.9	3.8	-10	-20	680	98	-200	3	4	47	95	6.6	-2	-1	-5	0.5
1363B	-145.1432	65.4634	9	-100	-5	-200	-2	30	25	-10	73	1	4.1	-10	-20	820	110	-200	-2	5	51	110	7.5	-2	1	-5	-0.5
1363A	-145.0080	65.5039	8	-100	-5	-200	-2	39	15	-10	50	2.9	3.7	-10	-20	350	54	-200	7	2	59	110	8	2	1	7	0.9
1363B	-144.9910	65.4702	8	-100	-5	-200	-2	55	17	-10	53	2.8	4	-10	-20	510	84	-200	2	2	46	91	6.7	-2	-1	-5	0.7
1394A	-144.9980	65.4813	-5	-100	-5	-200	-2	66	17	-10	39	2.5	3.2	-10	-20	440	70	-200	-2	2	42	85	6.4	-2	-1	-5	0.5
1394B	-145.0170	65.5013	18	-100	-5	-200	-2	48	17	-10	28	2.5	3.6	-10	-20	650	130	-200	2	3	68	130	9.5	2	2	5	0.8
2058	-145.4586	65.4884	22	-100	-5	-200	-2	-20	17	-10	35	14	4.1	-10	-20	850	84	-200	-2	3	38	88	6.6	-2	-1	-5	0.5
243X	-145.7820	65.3305	-5	-100	-5	-200	-2	-20	17	-10	11	0.8	3.7	-10	-20	800	110	-200	-2	4	46	84	6.5	5	-1	-5	-0.5
243Z	-145.7932	65.3294	-5	-100	-5	-200	-2	-20	17	-10	10	0.7	3.7	-10	-20	880	140	-200	-2	4	49	92	6.4	2	1	-5	0.8
253A	-145.8502	65.3435	7	-100	-5	-200	-2	52	17	-10	6	0.8	3.5	-10	-20	640	100	-200	-2	4	48	96	7	-2	-1	-5	0.6
253B	-145.8505	65.3478	-5	-100	-5	-200	-2	40	21	-10	7	0.9	4.2	-10	-20	790	100	-200	-2	4	49	96	6.8	-2	-1	-5	-0.5
253C	-145.8484	65.3514	-5	-100	7	-200	-2	-20	-10	-10	7	0.7	3.5	-10	-20	700	73	-200	-2	4	39	78	5.3	-2	-1	-5	0.8
2836/37	-144.9813	65.4580	57	-100	-5	-200	-2	43	31	-10	211	3.6	3.9	-10	-20	770	96	-200	6	5	46	86	6.8	-2	-1	-5	0.5
298A	-145.5568	65.3013	18	-100	-5	-200	-2	43	-10	-10	42	1.1	2.7	-10	-20	940	84	-200	-2	3	48	72	7.9	-2	1	-5	-0.5
414A	-145.4532	65.3248	7	-100	-5	-200	-2	39	14	-10	10	0.9	3.8	-10	-20	910	100	-200	-2	3	52	100	7.5	-2	-1	-5	0.5
414B	-145.4623	65.3233	-5	-100	-5	-200	-2	35	15	-10	8	0.9	3.5	-10	-20	910	96	-200	3	3	54	110	7.5	-2	-1	-5	-0.5
516/1	-145.1177	65.3155	12	-100	-5	-200	-2	-20	17	-10	10	0.8	4.4	-10	-20	830	94	-200	-2	3	63	110	8.4	-2	1	-5	0.6
913/1	-145.3671	65.4905	62	-100	9	-200	-2	54	17	-10	134	3.9	4.8	-10	-20	790	160	-200	4	5	47	90	7.2	-2	1	6	0.5
987B	-145.7182	65.5346	-5	-100	-5	-200	-2	-20	32	-10	94	5	10	-10	-20	580	-50	-200	4	3	100	130	8.5	3	1	-5	-0.5
98-1	-145.7483	65.4807	300	-100	-5	-200	-2	85	23	-10	23	14	5.3	-10	-20	550	50	-200	2	2	36	66	6.2	2	-1	-5	0.8
98-2	-145.7483	65.4807	27	-100	-5	-200	-2	-20	16	-10	88	4.1	4.1	-10	-20	650	76	-200	25	6	37	63	5.7	3	-1	-5	-0.5

INAA-Instrumental Neutron Activation Analysis; ICP-Inductively Coupled Plasma spectrographic analysis; ppb-parts per billion; ppm-parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sc	Hf	Ta-1	Th	U	Na-1	Br	Rb	Zr-1	Ag-2	Cu	Pb	Zn-2	Mo-2	Ni-2	Co-2*	Cd-2	Bi	As-2*	Sb-2*	Fe-2*	Mn*	Te-2*	Ba-2*	Cr-2*	V*
			INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	INAA ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm	ICP ppm
2926	-144.5500	65.4554	15	7	-1	8.5	3.7	0.87	8	65	-500	-0.2	75	23	91	1	31	25	1.2	-5	17	-5	3.43	794	-10	188	44	67
2927	-144.5520	65.4511	17	20	2	13	5.5	1.1	3	87	860	-0.2	70	15	79	-1	25	15	-1	-5	16	-5	2.99	377	-10	132	40	62
2929	-144.5580	65.4478	18	11	-1	11	3.3	1.1	3	72	-500	-0.2	80	14	84	9	30	15	-1	-5	13	-5	3.44	348	-10	155	46	70
2930	-144.5597	65.4436	16	8	1	8.8	3	1	2	94	-500	-0.2	84	15	89	6	31	15	-1	-5	24	-5	3.48	357	-10	117	47	68
2931	-144.5610	65.4391	12	6	-1	6.9	2.5	1	5	54	-500	-0.2	46	17	62	-1	19	9	-1	-5	16	-5	2.24	200	-10	95	31	33
101A	-145.7270	65.4689	15	8	2	11	2.7	1.3	3	90	-500	-0.2	43	8	84	7	31	16	-1	-5	-5	-5	3.11	382	-10	104	33	46
1022A	-145.6640	65.5466	13	8	1	10	3.3	1.1	10	44	-500	-0.2	52	14	110	2	27	13	-1	-5	111	-5	2.70	458	-10	188	28	33
1129-1	-145.3770	65.5625	11	8	1	11	2.8	0.79	1	74	-500	-0.2	36	18	73	8	28	12	1.1	-5	58	8	3.01	439	-10	70	21	18
1129-2	-145.3671	65.5611	13	9	-1	11	3.1	0.84	1	83	-500	-0.2	36	15	74	-1	24	13	-1	-5	61	-5	3.10	448	-10	67	19	17
1153-1	-145.5660	65.5347	16	10	2	14	4.8	0.93	10	88	-500	0.3	60	32	125	4	34	14	1.7	-5	109	-5	2.72	435	-10	100	28	29
1153-2	-145.5660	65.5347	15	8	1	13	3.3	0.82	9	100	-500	-0.2	69	31	131	-1	39	15	2.5	-5	118	-5	3.12	474	-10	102	28	28
1296B	-145.2053	65.5137	12	9	2	12	12	1.2	7	72	-500	-0.2	28	24	82	2	18	7	-1	-5	48	-5	2.11	226	-10	155	24	27
1337-1	-145.2044	65.4474	16	8	1	12	3.8	1.1	6	130	-500	-0.2	46	18	138	7	43	16	-1	-5	25	-5	3.51	857	-10	187	36	36
1337-2	-145.2044	65.4474	17	9	2	12	2.9	1	6	98	-500	-0.2	42	18	132	-1	44	18	-1	-5	34	6	3.05	962	-10	187	41	41
1338-1	-145.2054	65.4432	16	10	1	17	6.7	1.3	6	110	-500	-0.2	25	16	105	-1	34	15	-1	-5	28	-5	3.32	704	-10	144	36	34
1338-2	-145.2054	65.4432	14	13	2	14	4	1.3	2	79	580	-0.2	53	16	92	5	31	14	1.1	-5	32	-5	2.94	498	-10	110	34	33
1363A	-145.1421	65.4981	15	10	2	12	3.6	1.4	5	100	-500	-0.2	17	13	71	1	23	13	-1	-5	56	-5	2.45	437	-10	96	25	37
1363B	-145.1432	65.4934	16	7	-1	13	4.3	1.4	8	100	800	-0.2	29	15	74	-1	26	19	-1	-5	64	-5	2.67	749	-10	118	29	42
1363A	-145.0080	65.5039	12	26	2	19	5.5	1.7	1	68	1500	-0.2	21	16	54	-1	26	11	-1	-5	68	7	2.49	317	-10	37	25	28
1363B	-144.9910	65.4702	14	14	2	14	4.4	1.5	2	64	-500	-0.2	26	13	85	-1	32	13	-1	-5	51	-5	2.67	403	-10	59	33	33
1394A	-144.8980	65.4813	12	13	2	13	4	1.4	1	75	610	-0.2	23	13	89	-1	30	13	-1	-5	44	-5	2.89	431	-10	73	32	34
1394B	-145.0170	65.5013	15	19	3	23	6.3	1.5	2	100	750	-0.2	19	17	66	1	28	12	-1	-5	24	-5	2.41	365	-10	82	31	35
205B	-145.4566	65.4964	17	8	-1	12	3.2	1.1	3	130	-500	-0.2	49	17	79	4	29	13	-1	-5	48	10	3.58	411	-10	105	32	44
243X	-145.7820	65.3305	15	7	2	12	4.4	1	3	98	-500	-0.2	37	21	65	4	25	9	-1	-5	-5	-5	2.75	220	-10	128	27	27
243Z	-145.7932	65.3294	14	6	-1	12	3.9	1.2	3	120	-500	-0.2	32	13	68	10	23	14	-1	-5	9	-5	3.11	889	-10	109	25	33
253A	-145.8502	65.3435	13	8	2	13	4	1	2	100	580	-0.2	32	10	78	5	27	14	-1	-5	-5	-5	2.92	498	-10	118	21	24
253B	-145.8505	65.3478	15	8	1	13	3.4	1.1	4	95	-500	-0.2	33	14	85	6	29	17	-1	-5	13	-5	3.28	479	-10	137	25	29
253C	-145.8484	65.3514	13	6	1	10	2.7	1	3	110	-500	-0.2	27	10	59	-1	17	5	-1	-5	8	-5	2.78	152	-10	86	19	23
2636/37	-144.8613	65.4580	14	9	2	13	5	1.3	5	88	-500	0.5	21	84	126	-1	21	21	-1	-5	222	-5	2.62	1058	-10	135	26	43
298A	-145.5598	65.3013	11	6	2	11	11	1.1	5	63	-500	-0.2	24	24	80	-1	17	6	-1	-5	52	-5	2.00	217	-10	148	24	27
414A	-145.4532	65.3248	15	12	2	16	3.9	1.5	1	100	580	-0.2	30	13	58	3	18	10	-1	-5	-5	-5	2.55	295	-10	82	19	21
414B	-145.4823	65.3233	15	10	2	16	4.1	1.4	-1	100	-800	-0.2	33	13	65	-1	19	11	-1	-5	-5	-5	2.72	299	-10	99	21	25
518/1	-145.1177	65.3195	14	11	3	17	5.7	1.5	4	120	-500	-0.2	30	17	88	11	26	16	-1	-5	7	-5	3.38	1023	-10	111	18	18
913/1	-145.3671	65.4505	18	7	2	14	3.3	0.72	7	130	-500	0.3	40	64	108	-1	44	14	1.3	-5	148	-5	3.84	438	-10	94	50	37
967B	-145.7192	65.5348	15	8	2	11	10	0.69	10	89	790	-0.2	40	18	92	12	37	22	1.2	-5	99	-5	7.14	1686	-10	143	25	32
98-1	-145.7483	65.4907	21	14	2	11	3	1.1	3	64	-500	-0.2	63	9	63	7	27	17	-1	-5	25	10	2.81	439	-10	87	32	43
98-2	-145.7483	65.4907	14	9	2	11	2.8	0.95	5	69	-500	-0.2	65	14	69	4	26	11	-1	-5	61	-5	2.97	267	-10	113	35	47

INAA=Instrumental Neutron Activation Analysis; ICP=Inductively Coupled Plasma spectrographic analysis; ppb=parts per billion; ppm=parts per million; - indicates element detection limit not exceeded; * indicates partial analysis.

Appendix 1. Concentration of trace elements in Circle Mining District stream sediments collected in 1983 by the University of Alaska Mineral Industry Research Laboratory. Sample location in decimal degrees.

SAMPLE	Longitude	Latitude	Sr-2		W-2		La-2		Al		Mg		Ca		Ga		Na-2		K		U		Nb		Sr		Te-2		Y		Tl		Zr-2				
			ICP	ppm	ICP	ppm	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	ICP	ppm	%	
2826	-144.5500	65.4554	-20	20	18	250	78	39	-2	02	18	38	3	32	-100	-1	9	08	-1																		
2827	-144.5520	65.4511	-20	20	19	212	72	30	3	02	16	34	3	23	-100	-1	7	10	-1																		
2828	-144.5580	65.4478	-20	20	18	252	78	24	6	02	17	37	3	22	-100	-1	6	10	-1																		
2830	-144.5587	65.4436	-20	20	16	247	88	24	6	02	18	38	3	25	-100	-1	6	11	-1																		
2831	-144.5610	65.4391	-20	20	15	179	54	22	4	02	08	19	2	22	-100	-1	5	05	-1																		
101A	-145.7270	65.4889	-20	20	21	190	84	34	4	01	10	23	1	25	-100	-1	7	04	-1																		
1022A	-145.6840	65.5468	-20	20	22	195	50	55	-2	02	11	27	2	37	-100	-1	15	03	-1																		
1129-1	-145.3770	65.5825	-20	20	28	142	64	15	-2	-01	07	21	-1	13	-100	-1	6	02	-1																		
1129-2	-145.3871	65.5811	-20	20	27	145	68	15	-2	-01	08	21	1	13	-100	-1	6	02	-1																		
1153-1	-145.5900	65.5347	-20	20	31	159	68	32	2	01	09	26	1	25	-100	-1	14	02	-1																		
1153-2	-145.5900	65.5347	-20	20	32	166	87	33	-2	01	09	26	1	25	-100	-1	16	02	-1																		
1280B	-145.2053	65.5137	-20	20	32	148	39	59	4	02	07	16	2	42	-100	-1	19	03	-1																		
1337-1	-145.2044	65.4474	-20	20	24	188	65	57	-2	01	07	26	2	51	-100	-1	11	02	-1																		
1337-2	-145.2044	65.4474	-20	20	27	211	64	43	-2	01	09	27	2	43	-100	-1	11	02	-1																		
1338-1	-145.2054	65.4432	-20	20	28	163	61	53	-2	01	07	20	2	50	-100	-1	9	02	-1																		
1338-2	-145.2054	65.4432	-20	20	28	158	63	33	-2	01	07	23	2	29	-100	-1	9	04	-1																		
1363A	-145.1421	65.4981	-20	20	19	136	54	28	7	02	09	19	-1	20	-100	-1	6	04	-1																		
1363B	-145.1432	65.4934	-20	20	28	158	54	28	8	02	08	19	-1	22	-100	-1	11	04	-1																		
1363A	-145.0080	65.5039	-20	20	19	95	51	17	5	-01	04	16	-1	11	-100	-1	5	03	-1																		
1363B	-144.9910	65.4702	-20	20	20	125	65	24	6	-01	05	20	-1	17	-100	-1	6	04	-1																		
1394A	-144.9900	65.4813	-20	20	21	130	64	27	7	-01	05	20	-1	19	-100	-1	8	04	-1																		
1394B	-145.0170	65.5013	-20	20	23	134	59	32	7	01	06	19	1	23	-100	-1	8	03	-1																		
2059	-145.4505	65.4854	-20	20	28	169	67	19	4	01	11	18	2	16	-100	-1	6	04	-1																		
243X	-145.7820	65.3305	-20	20	30	204	58	36	5	01	09	24	2	32	-100	-1	7	01	-1																		
243Z	-145.7932	65.3294	-20	20	31	178	51	22	-2	01	08	23	1	21	-100	-1	5	02	-1																		
253A	-145.8502	65.3435	-20	20	32	167	50	21	-2	01	05	29	1	25	-100	-1	9	03	-1																		
253B	-145.8505	65.3478	-20	20	30	207	58	18	3	01	06	38	1	25	-100	-1	8	02	-1																		
253C	-145.8464	65.3514	-20	20	25	160	60	13	5	-01	05	22	1	16	-100	-1	6	02	-1																		
2838/37	-144.8813	65.4580	-20	20	21	148	51	33	5	01	08	21	2	24	-100	-1	9	04	-1																		
286A	-145.5908	65.3013	-20	20	30	141	39	53	4	02	07	15	2	39	-100	-1	17	03	-1																		
414A	-145.4532	65.3248	-20	20	31	138	47	28	-2	01	09	15	1	23	-100	-1	6	04	-1																		
414B	-145.4823	65.3233	-20	20	35	157	55	34	-2	01	10	17	2	29	-100	-1	7	05	-1																		
516F1	-145.1177	65.3185	-20	20	35	151	53	44	-2	01	07	28	1	52	-100	-1	9	02	-1																		
813F1	-145.3871	65.4805	-20	20	27	168	71	33	-2	01	11	20	2	26	-100	-1	10	02	-1																		
867B	-145.7192	65.5348	-20	20	65	158	59	37	-2	01	13	34	2	48	-100	-1	32	04	-1																		
98-1	-145.7483	65.4807	-20	20	18	161	72	30	-2	01	10	16	2	18	-100	-1	6	05	-1																		
98-2	-145.7483	65.4807	-20	20	21	203	67	21	6	01	16	29	2	23	-100	-1	7	06	-1																		

ICP=Inductively Coupled Plasma Spectrographic Analysis; ICP=Inductively Coupled Plasma Spectrographic Analysis; ppm=parts per million; % = indicates element detection limit not measured; * indicates partial analysis.