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GENERAL GEOLOGY AND GEOCHEMISTRY OF HEALY D-1 AND SOUTHERN FAIRBANKS A-1 QUADRANGLES AND VICINITY, ALASKA

By W.G. Gilbert

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During the summers of 1975 and 1976 the Alaska Division of Geological and Geophysical Surveys carried out geologic field investigations in the central Alaska Range. This report summarizes the general geology of the Healy D-1 and southern Fairbanks A-1 quadrangles (pl. 1) and presents results of nine elemental analyses from 407 stream-sediment samples and 13 bedrock samples collected in the Healy D-1 and D-2 quadrangles and Fairbanks A-1 and A-2 quadrangles (pl. 2, tables 1 and 2). Results from some stream-sediment samples in this area were previously presented in AOF-97 (Gilbert and Kline, 1976).

Gold, silver, copper, lead, zinc, molybdenum, antimony, and potassium values were determined by Henry S. Potworowski of the DGGS Mineral Analysis and Research Laboratory using atomic absorption spectrophotometry. Uranium and thorium values were determined by using fluorometric and spectrophotometric methods, respectively. Values of gold, silver, copper, lead, zinc, molybdenum, and antimony in stream-sediment samples were examined by using the method described by Lepeltier (1969). Anomalous values of these elements in stream-sediment samples were chosen as follows:

Au $\geq$ 0.15 ppm	Pb $\geq$ 100.0 ppm
Ag $\geq$ 1.0 ppm	Zn $\geq$ 400.0 ppm
Cu $\geq$ 80.0 ppm	Mo $\geq$ 30 ppm
	Sb $\geq$ 30 ppm

The geology of the Healy D-2 quadrangle is summarized by Wahrhaftig (1970), and a geologic report on the geology of the Healy D-1 quadrangle is being prepared by W.G. Gilbert and R.D. Reger.

Special thanks are due Jeffrey T. Kline, who assisted the project during 1975 and 1976, and Richard D. Reger, Thomas K. Bundtzen, and Cheri L. Carver, who participated in the project during 1976. Don M. Triplehorn, Virginia M. Ferrell, and Cleland N. Conwell studied the Coal-Bearing Group in the northern Healy D-1 quadrangle during the summer of 1976 and the information they provided is greatly appreciated.

REFERENCES CITED

Gilbert, W.G. and Kline, J.T., 1976, Preliminary geochemical report of the western Healy D-1 quadrangle and vicinity: Alaska Div. Geol. & Geophys. Surveys Open-File Rept. 97.

Lepeltier, Claude, 1969, A simplified treatment of geochemical data by graphical representation: Econ. Geol., v. 68, p. 538-550.

Wahrhaftig, Clyde, 1970, Geologic map of the Healy D-2 quadrangle, Alaska: U.S. Geol. Survey Geol. Quad. Map GQ-804.

Table 1. Stream-sediment sample analyses (-80 mesh fraction) in ppm (except potassium as % K_2O)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1001	.00	0.5	58	22	200	12	3	2.7	6.90	1.62
1002	.01	0.7	49	23	182	11	4	2.5	20.5	1.56
1003	.00	0.0	23	17	77	0	0	7.5	57.0	2.54
1004	.00	0.1	21	19	74	21	0	1.4	11.0	2.80
1005	.00	0.0	40	20	98	0	0	3.4	10.0	2.17
1006	.01	0.2	50	27	119	1	0	0		2.35
1007	.00	0.1	18	11	61	22	0	0	9.40	1.74
1008	.00	0.6	72	24	216	2	0	1.0	6.80	2.31
1009	.04	0.6	54	28	248	4	0	1.2	8.30	1.64
1010	.00	0.0	28	42	128	0	0	2.0	10.5	3.15
1011	.00	0.1	25	16	111	19	0	1.0	6.60	2.09
1012	.00	0.0	23	21	71	0	0	2.3	35.5	3.03
1013	.00	0.0	26	20	94	0	0	2.1	16.5	4.33
1014	.00	0.0	22	16	70	21	0	1.0	11.9	2.55
1015	.00	0.0	12	15	38	1	1	8.1	38.5	3.40
1016	.00	0.1	10	16	60	0	0	8.9	22.5	3.04
1017	.00	0.2	34	13	103	44	2	1.4	12.3	2.00
1018	.01	0.1	16	17	87	0	0	4.8	13.00	2.89
1019	.00	0.0	22	18	91	0	0	3.4	19.0	2.97
1020	.00	0.2	47	31	108	0	0	2.5	21.5	4.55
1021	.00	0.1	18	18	79	0	0	7.7	16.5	2.47
1022	.00	0.2	18	17	80	0	0	6.9	19.5	2.88
1023	.00	0.2	22	17	72	20	0	1.0	2.50	2.17
1024	.00	0.2	32	29	83	1	0	1.8	5.00	4.00
1025	.00	0.0	50	30	102	0	0	1.5	14.0	4.02
1026	.04	0.1	11	20	47	2	0	8.6	35.0	3.06
1027	.08	0.1	11	19	41	2	0	8.5	44.0	3.08
1028	.04	0.0	32	22	98	0	0	10.0	10.0	2.97
1029	.02	0.2	40	16	95	1	0	3.0	12.1	2.07
1030	.01	0.0	30	40	88	0	0	2.1	2.0	2.62
1031	.00	0.0	35	31	115	0	0	2.0	5.50	2.55
1032	.01	0.0	31	25	106	1	0	1.0	7.50	2.66
1033	.01	0.0	27	16	87	0	0	0.8	7.50	2.48
1034	.02	0.0	42	23	130	0	4	1.5	12.5	2.00
1035	.01	0.0	38	35	122	0	0	1.4	3.00	2.66
1036	.01	0.0	36	30	112	2	0	2.1	7.00	2.05
1037	.00	0.0	33	29	97	2	0	1.6	11.0	1.85
1038	.00	0.0	27	16	85	24	0	1.0	14.5	1.72
1039	.00	0.2	36	64	188	2	0	2.5	14.5	2.36
1040	.01	0.0	28	12	75	27	0	2.6	9.50	2.18

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1041	.00	0.0	64	60	156	0	0	7.0	6.50	3.96
1042	.00	0.0	46	22	110	3	0	3.2	15.5	2.67
1043	.00	0.2	22	61	60	21	0	2.7	8.50	1.46
1044	.00	0.2	28	11	115	23	0	3.0	6.50	1.66
1045	.00	0.5	42	44	169	0	4	2.8	15.0	1.98
1046	.00	0.5	45	61	171	1	0	2.8	12.5	2.07
1047	.00	0.2	33	29	137	1	0	4.0	20.0	2.11
1048	.01	0.1	15	26	84	2	0	5.9	15.5	2.82
1049	.00	0.0	10	22	81	1	0	1.2	18.0	3.06
1050	.00	0.0	4	17	55	0	0	2.1	12.0	3.30
1051	.00	0.0	6	17	60	0	0	2.2	10.0	3.50
1052	.00	0.0	30	16	80	12	0	0	7.50	3.04
1053	.00	0.1	43	29	108	4	0	0.9	21.5	4.27
1054	.04	0.0	32	14	94	4	0	0	9.00	2.64
1055	.08	0.0	92	36	224	4	0	1.6	19.00	2.35
1056	.03	0.0	38	11	82	1	0	0.9	16.5	2.03
1057	.04	0.4	36	44	124	0	0	1.8	10.0	3.45
1058	.04	0.2	48	70	142	0	0	1.0	14.5	3.19
1059	.00	0.0	46	46	150	0	0	1.2	14.0	2.95
1060	.01	.12	68	33	620	8	16	3.1	23.3	3.18
1061	.10	0.0	32	26	194	4	0	0.9	14.5	3.37
1062	.00	0.4	40	38	210	4	0	0	12.5	3.17
1063	.04	0.6	52	38	184	2	0	0	16.0	4.87
1064	.00	0.1	12	18	75	24	0	0.3	13.5	3.24
1065	.00	0.1	45	70	246	4	8	0.3	21.3	2.72
1066	.02	0.0	6	36	166	0	0	1.5	16.8	3.59
1067	.00	0.0	40	28	108	0	0	1.5	16.3	3.80
1068	.01	0.2	36	30	96	0	0	0	31.8	4.17
1069	.00	0.0	34	24	100	0	0	0	17.5	3.79
1070	.00	0.4	28	16	88	0	0	0.9	17.8	3.61
1071	.00	0.2	16	17	50	19	0	0	10.0	2.72
1072	.00	0.0	12	16	80	4	0	0.7	16.8	2.55
1073	.04	0.0	21	15	60	0	0	1.0	39.5	2.22
1074	.01	0.1	13	13	63	0	0	1.2	34.3	2.26
1075	.00	0.1	9	16	76	0	0	0.8	31.8	2.39
1076	.01	0.0	23	19	73	1	0	1.4	13.5	2.87
1077	.00	0.0	18	10	56	17	0	1.0	7.50	3.01
1078	.00	0.3	26	153	377	7	0	0.7	25.3	3.66
1079	.00	0.2	44	27	196	4	2	0.7	22.8	2.71
1080	.00	0.0	44	26	106	0	0	1.0	18.0	3.49
1081	.00	0.0	40	13	80	54	0	0	18.0	2.32
1082	.00	0.0	64	37	151	4	0	INS	14.3	3.83
1083	.00	0.0	68	17	90	16	0	0	9.30	2.83
1084	.00	0.2	25	49	273	6	0	0	19.3	4.44
1085	.00	0.0	34	48	420	5	0	3.4	20.8	3.44

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1086	.00	0.2	28	22	218	57	0	1.6	19.5	2.68
1087	.00	0.0	36	64	332	7	0	4.0	19.5	3.50
1088	.00	0.2	46	38	154	5	0	1.0	26.2	4.08
1089	.07	0.0	37	137	410	5	0	4.1	43.0	5.03
1090	.00	0.0	32	20	168	0	0	0	16.3	2.83
1091	.00	0.0	56	30	220	0	0	1.3	20.8	3.69
1092	.01	0.1	43	47	210	4	0	1.1	19.0	3.00
1093	.00	0.0	37	40	107	0	0	1.3	27.8	4.54
1094	.00	0.0	44	80	144	0	0	1.1	30.8	4.85
1095	.00	0.0	40	70	132	0	0	2.5	24.8	4.44
1096	.00	0.0	24	40	240	2	0	2.8	28.3	4.19
1097	.00	0.1	37	61	500	4	0	2.8	34.3	3.24
1098	.00	0.0	22	12	70	20	0	1.3	23.3	2.27
1099	.00	0.0	32	56	160	0	0	2.7	23.5	3.28
1100	.00	0.0	36	70	140	0	0	1.8	19.5	4.18
1101	.00	0.0	24	60	144	0	0	1.3	16.5	3.93
1102	.00	0.0	30	28	96	0	0	1.5	24.8	4.10
1103	.00	0.4	34	74	326	7	0	3.6	25.3	3.17
1104	.00	0.0	32	84	104	2	0	1.4	21.8	3.86
1105	.00	0.0	28	30	100	2	0	1.4	20.5	3.79
1106	.01	0.1	26	31	96	2	0	1.5	16.5	3.22
1107	.00	0.2	60	66	1000	2	0	3.9	35.0	3.28
1108	.04	0.8	39	284	772	0	0	2.0	56.5	3.20
1109	.00	0.4	34	70	490	2	0	2.3	41.0	3.20
1110	.00	0.2	28	64	660	2	0	1.5	26.0	3.16
1111	.01	0.2	31	46	137	1	0	1.0	19.5	3.04
1112	.00	0.3	32	46	128	2	0	1.4	21.3	3.30
1113	.00	0.2	28	33	109	2	0	1.5	13.5	2.44
1114	.00	0.0	35	17	89	34	0	1.0	12.5	2.90
1115	.00	0.0	56	32	140	0	0	0.7	29.3	3.42
1116	.02	0.0	42	24	96	0	0	0.8	14.0	3.42
1117	.04	0.0	40	24	96	0	0	0	18.8	3.73
1118	.04	0.4	52	24	264	4	0	1.2	14.5	2.65
1119	.00	0.1	15	21	57	2	0	2.2	21.8	4.16
1120	.00	0.8	76	420	750	8	0	3.7	31.3	3.43
1121	.00	0.2	35	40	216	5	0	0.4	23.3	3.79
1122	.00	0.3	33	48	156	2	8	1.3	24.3	3.61
1123	.00	0.4	40	76	152	0	0	1.1	23.8	4.71
1124	.00	0.4	28	55	218	4	0	1.7	30.3	5.04
1125	.00	0.1	27	26	106	2	0	1.3	25.8	3.82

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1126	.00	0.3	43	76	205	3	0	1.9	23.8	4.19
1127	.00	0.0	30	18	87	24	0	0.9	18.0	2.71
1128	.00	0.0	50	39	119	1	2	1.2	37.0	3.73
1129	.00	0.0	54	28	136	2	0	0.5	19.5	4.31
1130	.00	0.0	46	26	112	0	0	1.3	19.5	3.92
1131	.00	0.1	48	22	169	0	0	1.5	27.3	3.03
1132	.00	0.4	30	32	134	1	0	1.3	18.0	4.07
1133	.00	0.0	54	25	162	2	0	1.7	28.5	3.42
1134	.00	0.0	12	9	48	21	0	1.8	6.25	2.61
1135	.10	0.2	31	36	142	2	4	1.6	13.8	2.77
1136	.00	0.2	61	10	89	4	0	2.5	13.0	1.97
1137	.00	0.0	14	12	57	0	0	2.9	34.0	2.11
1138	.03	0.0	23	13	82	1	0	1.9	24.0	3.17
1139	.00	0.0	17	12	68	1	0	1.9	22.5	2.76
1140	.04	0.1	14	11	65	2	0	2.2	35.3	2.13
1141	.00	0.1	28	15	74	2	0	2.4	33.5	2.36
1142	.01	0.1	26	24	79	3	0	1.7	24.0	2.28
1143	.05	0.2	44	144	229	3	0	1.9	25.3	3.62
1144	.08	0.4	42	34	126	5	0	1.4	22.3	3.33
1145	.04	0.1	32	63	100	19	0	0.5	13.3	2.69
1146	.04	0.0	30	24	88	19	0	1.1	16.8	2.44
1147	.05	0.1	25	11	79	4	0	2.4	12.5	2.46
1148	.03	0.0	16	8	53	15	0	2.0	0.0	2.89
1149	.03	0.0	37	34	96	8	0	1.3	18.8	2.83
1150	.02	0.2	62	76	130	0	0	1.3	20.0	2.57
1151	.06	0.0	28	12	78	19	0	0.7	14.3	3.53
1152	.01	0.1	32	36	94	2	0	1.6	26.3	4.09
1153	.00	0.1	26	18	82	19	0	1.8	15.0	3.00
1154	.03	0.3	11	41	44	2	0	3.8	31.0	2.31
1155	.03	0.0	18	15	60	23	0	0.7	13.8	2.30
1156	.00	0.0	27	31	79	32	0	0.7	11.0	2.34
1157	.01	0.0	22	17	83	30	0	0.4	14.5	2.30
1158	.00	0.0	25	19	156	20	0	2.4	14.5	2.82
1159	.00	0.1	23	13	91	30	0	1.4	18.8	2.67
1160	.02	0.1	36	16	146	39	0	2.2	13.8	2.82
1161	.00	0.1	23	18	120	43	0	2.0	17.0	2.98
1162	.00	0.7	73	26	204	7	0	3.3	18.5	3.00
1163	.00	0.2	64	47	730	6	0	3.5	40.3	3.20
1164	.00	0.2	28	38	111	6	0	4.3	72.5	5.20
1165	.00	0.2	20	49	210	24	0	2.2	29.3	4.50
1166	.00	0.3	29	45	174	6	0	2.2	29.3	3.45
1167	.00	0.2	26	60	174	5	4	2.2	18.8	3.18
1168	.00	0.4	65	18	191	55	0	4.5	16.8	1.55
1169	.00	0.1	24	38	176	4	0	2.1	21.5	3.17
1170	.00	0.1	16	27	126	2	0	2.2	59.0	2.84

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1171	.00	0.0	42	26	107	2	0	2.0	38.0	2.70
1172	.00	0.0	39	26	136	1	0	1.6	28.50	2.74
1173	.00	0.0	26	18	87	2	0	1.9	26.50	3.17
1174	.00	0.0	33	25	119	2	0	1.8	33.75	3.45
1175	.02	0.0	44	20	148	5	7	3.3	7.0	2.44
1176	.00	0.1	33	26	143	1	0	1.7	26.75	3.97
1177	.00	0.1	53	16	165	4	0	1.9	10.00	1.90
1178	.02	0.0	30	21	87	17	0	1.1	10.00	3.08
1179	.00	0.0	64	16	177	4	0	1.9	11.00	3.54
1180	.02	0.0	25	23	80	16	0	1.0	9.75	2.04
1181	.00	0.0	24	21	89	0	0	1.3	29.75	3.12
1182	.00	0.1	13	13	36	12	0	0.6	7.00	1.59
1183	.03	0.0	18	12	72	21	0	1.4	18.25	2.70
1184	.00	0.0	33	24	96	2	0	1.5	16.25	3.80
1185	.00	0.0	35	16	98	5	0	1.7	14.00	2.47
1186	.00	0.0	19	7	65	26	0	1.0	11.00	2.19
1187	.00	0.0	34	17	147	4	0	2.1	17.50	3.56
1188	.00	0.0	25	15	94	33	0	1.6	3.75	1.40
1189	.00	0.0	44	18	176	2	0	2.6	11.25	3.41
1190	.00	0.0	36	16	102	4	0	2.6	10.50	2.84
1191	.00	0.1	42	14	119	4	0	2.3	16.00	2.78
1192	.00	0.1	42	11	132	24	0	2.2	5.75	2.75
1193	.00	0.1	36	11	106	29	0	2.2	6.00	2.08
1194	.00	0.1	30	12	129	18	0	2.1	8.74	2.46
1195	.00	0.0	12	22	50	2	0	2.1	25.00	4.22
1196	.00	0.4	28	30	204	8	0	3.2	12.25	4.82
1197	.00	0.0	36	40	184	4	0	2.8	7.50	4.95
1198	.00	0.0	22	22	182	4	0	1.2	7.75	3.53
1199	.00	0.1	15	22	109	12	0	1.3	24.00	3.07
1200	.00	0.0	14	12	73	26	0	1.5	6.75	3.24
1201	.00	0.1	28	30	94	4	0	1.1	32.25	4.65
1202	.00	0.0	23	21	96	18	0		15.75	3.50
1203	.00	0.2	38	36	176	32	0	0.5	11.75	3.08
1204	.00	0.1	34	56	115	2	0	1.4	26.5	4.90
1205	.00	0.3	17	21	178	38	3	2.1	18.2	3.12
1206	.00	0.0	13	18	65	30	0	2.2	15.2	2.72
1207	.00	0.0	36	40	148	7	0	1.7	25.7	4.38
1208	.02	0.1	12	23	52	22	0	0.8	14.2	2.78
1209	.04	0.0	21	16	61	0	0	5.5	16.9	2.47
1210	.11	0.1	35	15	107	1	0	0.7	20.2	2.63

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1211	.06	0.0	26	14	72	1	0	2.2	29.5	2.58
1212	.05	0.1	27	17	98	1	0	1.6	15.3	2.28
1213	.00	0.0	36	25	80	0	0	2.4	11.0	2.68
1214	.01	0.0	22	15	69	0	0	2.5	23.8	2.30
1215	.02	0.0	58	13	42	0	0	1.7	7.6	2.78
1216	.00	0.0	28	18	47	0	0	1.6	16.5	2.31
1217	.02	0.0	44	24	197	4	0	2.0	15.5	2.84
1218	.02	0.0	18	21	119	3	0	1.9	13.3	1.89
1219	.04	0.0	37	20	210	4	0	1.8	19.8	2.56
1220	.07	0.0	22	13	56	1	0	1.8	23.8	2.17
1221	.00	0.0	30	24	252	2	0	1.4	20.0	1.75
1222	.04	0.0	35	14	78	19	5	1.8	13.0	2.50
1223	.10	0.2	32	33	94	0	0	1.4	25.5	3.29
1224	.16	0.4	40	24	92	0	0	1.4	19.8	2.77
1225	.02	0.2	28	16	129	1	0	0.9	17.3	2.45
1226	.03	0.1	27	21	139	4	0	1.6	14.5	2.30
1227	.00	0.0	28	22	250	4	0	1.8	16.0	2.39
1228	.04	0.2	30	23	332	4	0	1.2	17.3	1.96
1229	.03	0.5	33	25	250	1	0	1.6	18.8	2.05
1230	.01	0.4	44	27	380	4	9	0.6	11.3	2.12
1231	.02	0.0	36	52	500	0	0	1.9	14.8	2.07
1232	.04	0.0	34	32	322	0	0	1.6	14.3	2.01
1233	.24	0.0	46	26	240	0	0	1.3	16.5	2.28
1234	.05	0.2	36	19	325	2	0	1.9	16.5	2.25
1235	.00	0.0	19	13	61	0	0	2.4	21.3	2.51
1236	.00	0.2	21	16	119	1	0	0.8	10.8	1.75
1237	.04	0.0	11	12	72	4	0	0.9	9.8	1.45
1238	.04	0.0	26	17	145	2	0	0.8	17.8	1.97
1239	.05	0.0	18	19	56	1	0	1.7	22.0	2.27
1240	.04	0.0	40	13	77	1	0	4.2	15.0	2.09
1241	.02	0.0	38	14	83	0	0	1.6	19.3	2.86
1242	.00	0.0	31	13	76	0	0	1.4	21.0	2.46
1243	.02	0.0	44	15	39	0	0	1.6	22.0	2.25
1244	.00	0.1	32	24	71	0	0	1.6	18.3	2.26
1245	.00	0.0	22	15	74	1	0	3.8	15.5	2.24
1246	.02	0.1	29	15	75	1	0	1.1	15.8	2.24
1247	.04	0.1	32	36	86	0	6	2.1	14.2	2.40
1248	.03	0.0	30	19	110	2	0	1.8	11.3	2.36
1249	.02	0.0	32	30	74	1	0	3.5	28.5	3.12
1250	.06	0.0	13	14	42	0	0	4.5	33.5	3.40

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1251	.03	1.0	20	14	59	5	0	4.4	19.7	3.13
1252	.03	0.0	16	13	56	2	0	3.6	27.2	2.64
1253	.02	2.5	68	355	72	8	15	1.8	7.5	1.88
1254	.02	0.0	18	15	60	1	0	3.3	15.2	2.71
1255	.01	0.0	14	13	46	1	0	3.1	13.4	2.65
1256	.03	0.0	17	13	62	0	0	2.4	17.3	2.79
1257	.04	0.0	26	16	84	0	0	2.9	16.6	2.53
1258	.06	0.0	16	13	58	0	0	3.4	21.5	2.63
1259	.01	0.1	31	17	117	3	0	1.7	19.1	2.75
1260	.02	0.0	34	18	92	0	0	2.9	14.6	2.61
1261	.02	0.3	49	21	130	2	0	7.0	16.2	2.58
1262	.02	0.2	41	15	98	0	0	2.3	17.0	2.94
1263	.03	0.1	45	22	128	1	0	2.1	13.0	2.60
1264	.02	0.2	19	16	83	1	0	1.9	10.7	2.67
1265	.01	0.1	17	16	87	0	0	1.8	10.1	2.53
1266	.00	0.2	20	21	103	1	0	1.4	9.8	2.57
1267	.00		27	20	122	3	0	1.6	11.7	2.36
1268	.02	0.1	24	18	120	1	0	2.0	13.0	2.41
1269	.04	0.2	30	20	110	4	0	1.6	14.3	2.57
1270	.01	0.0	34	29	112	2	0	1.6	14.5	2.73
1271	.00	0.3	25	18	90	2	0	1.8	14.0	2.74
1272	.00	0.2	43	34	122	4	0	1.4	12.2	2.65
1273	.10	0.4	38	37	116	0	0	4.2	12.9	2.46
1274	.20	0.4	71	30	220	0	0	2.4	12.2	2.78
1275	.00	0.4	65	27	212	0	0	2.1	6.41	1.55
1276	.04	0.3	52	20	225	4	0	1.8	6.36	1.73
1277	.00	0.1	37	20	203	4	0	2.0	10.5	2.28
1278	.00	0.0	37	18	168	3	0	1.7	7.1	1.80
1279	.00	0.0	33	18	189	4	0	1.8	8.9	1.79
1280	.00	0.0	17	10	58	0	0	2.1	20.2	2.11
1281	.00	0.0	29	21	111	0	0	1.4	9.6	1.74
1282	.02	0.0	22	20	102	0	0	1.4	8.7	1.62
1283	.00	0.0	24	16	107	0	0	1.6	12.5	2.00
1284	.00	0.0	28	25	62	0	0	1.8	8.5	1.66
1285	.00	0.0	19	18	64	0	0	1.5	10.5	1.75
1286	.00	0.0	11	11	40	0	0	1.2	9.3	1.76
1287	.00	0.0	23	17	104	0	0	1.3	8.8	1.83
1288	.07	0.0	60	20	64	0	0	1.6	7.5	1.03
1289	.00	0.2	37	18	42	1	0	1.9	9.5	1.78
1290	.00	0.0	18	13	52	0	0	7.9	8.0	1.58

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1291	.00	0.0	17	16	56	0	0	1.4	12.1	1.92
1292	.00	0.0	14	11	60	0	0	1.8	8.9	1.90
1293	.00	0.0	45	24	78	0	0	1.8	8.8	1.28
1294	.12	0.0	10	11	41	0	0	1.3	20.8	1.47
1295	.08	0.0	17	14	60	0	0	1.3	8.0	1.52
1296	.00	0.0	13	11	46	0	1	1.6	13.2	1.79
1297	.02	0.0	12	8	47	0	0	1.4	18.7	1.64
1298	.40	0.0	12	10	45	0	0	1.2	9.2	1.93
1299	.00	0.0	12	10	43	0	0	1.6	8.9	3.11
1300	.01	0.0	13	12	42	0	0	1.3	14.6	1.80
1301	.25	0.0	14	9	47	0	0	1.3	12.5	1.54
1302	.00	0.0	12	9	63	0	0	1.3	10.9	1.57
1303	.00	0.0	19	14	82	0	0	1.0	9.8	1.75
1304	.00	0.0	16	12	66	0	0	1.3	9.2	1.76
1305	.03	0.0	13	8	55	0	0	1.3	11.1	1.82
1306	.00	0.0	12	11	44	0	0	1.0	9.1	1.53
1307	.00	0.0	14	23	38	0	0	1.1	9.3	1.79
1308	.10	0.0	24	17	68	1	0	0.9	10.6	1.71
1309	.00	0.0	13	12	56	0	0	0.8	13.5	1.79
1310	.00	0.0	13	11	46	0	0	1.1	11.3	1.60
1311	.16	0.0	36	10	72	0	0	0.7	9.1	1.58
1312	.06	0.0	29	18	92	2	0	1.6	10.0	1.63
1313	.12	0.0	36	20	88	0	0	1.4	11.3	1.88
1314	.10	0.1	27	19	86	1	0	1.7	14.0	1.68
1315	.03	0.0	18	17	74	0	0	0.7	17.5	2.31
1316	.04	0.0	13	22	64	0	0	0.8	22.5	2.75
1317	.03	0.0	23	33	162	2	0	1.4	32.6	1.69
1318	.06	0.0	13	6	39	0	0	0.8	12.6	1.65
1319	.00	0.0	24	16	92	0	0	1.3	10.0	1.55
1320	.06	0.0	22	12	76	1	0	1.0	12.8	2.03
1321	.06	0.0	37	13	82	2	0	0.7	11.0	2.20
1322	.05	0.0	13	10	58	0	0	0.9	11.3	1.79
1323	.07	0.1	38	18	92	0	0	1.3	11.3	1.69
1324	.00	0.0	36	12	80	0	0	1.0	11.3	2.39
1325	.16	0.0	23	20	102	0	0	1.1	12.8	1.88
1326	.02	0.0	12	9	44	0	0	1.3	8.8	1.80
1327	.00	0.0	15	8	43	0	0	0.5	12.5	1.71
1328	.03	0.0	25	14	61	1	0	1.2	11.8	1.84
1329	.00	0.0	42	19	108	0	0	1.6	12.5	2.09
1330	.00	0.0	42	16	80	1	0	0.4	11.0	1.91

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1331	.00	0.0	38	15	200	4	0	1.7	8.5	2.00
1332	.00	0.0	25	12	70	0	0	1.3	11.8	1.73
1333	.00	0.0	14	9	52	0	0	0.9	11.5	1.88
1334	.00	0.0	19	12	53	0	0	0.7	10.5	1.67
1335	.00	0.0	16	11	49	0	0	0.9	11.8	1.94
1336	.00	0.0	25	13	82	0	0	0.6	9.5	1.86
1337	.00	0.1	14	11	48	0	0	1.4	12.3	1.71
1338	.00	0.0	29	14	80	0	0	1.4	12.8	2.01
1339	.00	0.0	17	15	64	0	0	1.5	12.8	2.33
1340	.00	0.0	8	33	13	0	0	1.5	13.3	4.58
1341	.05	0.0	27	18	57	0	0	1.2	11.8	2.37
1342	.00	0.0	19	11	53	1	0	1.4	9.0	1.63
1343	.00	0.4	17	8	59	1	0	1.3	10.3	1.82
1344	.00	0.0	31	14	81	0	0	1.1	8.5	1.93
1345	.01	0.0	14	14	49	0	0	1.1	8.3	1.78
1346	.00	0.0	12	19	76	0	2	1.3	10.8	2.31
1347	.16	0.0	18	9	52	0	0	1.3	5.0	2.35
1348	.00	0.0	31	20	68	0	0	1.1	10.0	1.96
1349	.00	0.0	24	11	74	1	0	1.3	8.5	2.18
1350	.00	0.0	14	14	56	0	1	0.8	10.3	2.19
1351	.00	0.0	17	11	44	0	0	0.8	9.3	1.88
1352	.00	0.0	14	11	55	0	2	0.9	9.3	2.10
1353	.00	0.0	32	14	68	0	0	0.9	9.0	1.99
1354	.00	0.0	40	17	159	1	0	1.6	12.0	2.72
1355	.00	0.0	17	9	53	0	1	0.4	7.8	2.01
1356	.00	0.0	24	14	54	0	12	0.7	8.0	1.78
1357	.02	0.0	20	15	77	0	4	0.9	9.8	1.91
1358	.09	0.0	51	24	164	0	0	1.6	12.0	2.58
1359	.00	0.0	33	28	130	1	0	1.3	21.0	2.60
1360	.01	0.0	25	26	102	1	4	1.4	19.3	2.85
1361	.02	0.0	33	28	124	0	0	1.5	22.3	3.27
1362	110.00	200.0	36	16	112	0	0	0.8	9.5	3.22
1363	.01	0.0	27	27	130	1	4	2.0	24.0	3.33
1364	.00	0.0	36	32	118	0	0	1.4	20.0	3.02
1365	.00	0.0	20	34	248	2	10	2.9	21.5	2.58
1366	.00	0.0	16	36	238	5	6	3.8	25.8	2.64
1367	.00	0.0	30	38	150	2	0	2.0	28.3	4.19
1368	.00	0.1	16	28	235	2	5	1.8	31.3	4.43
1369	.00	0.0	23	29	131	1	0	1.8	26.3	3.62
1370	.01	0.0	35	26	127	0	0	1.0	21.8	3.55

Table 1. (Cont.)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1371	.03	0.0	24	32	103	2	3	2.0	37.0	5.16
1372	.00	0.0	35	36	114	0	0	1.4	30.0	3.57
1373	.00	0.8	39	110	1100	0	10	2.7	22.5	3.25
1374	.00	0.0	22	78	94	0	12	1.2	21.3	4.22
1375	.00	0.0	14	58	151	1	12	1.6	22.0	3.48
1376	.02	0.3	16	56	180	1	9	2.0	29.0	3.49
1377	.00	0.3	67	70	260	1	7	1.5	18.8	3.56
1378	.00	0.2	162	39	168	0	0	1.0	19.0	2.75
1379	.00	0.2	88	167	219	0	2	0.9	20.0	3.23
1380	.00	0.1	63	123	280	1	0	0.7	20.5	3.43
1381	.00	0.0	33	76	520	1	2	1.8	3.5	2.87
1382	.00	0.0	35	64	268	0	0	1.1	19.0	3.85
1383	.01	0.0	23	33	241	0	52	1.3	16.0	3.43
1384	.00	0.0	15	28	64	0	4	1.3	14.8	3.84
1385	.04	0.8	13	1070	61	1	22	2.8	27.0	3.14
1386	.67	0.0	18	14	71	0	0	1.0	10.0	2.05
1387	.00	0.0	23	10	64	0	0	1.1	9.8	2.15
1388	.00	0.0	15	8	53	0	0	0.7	5.5	2.48
1389	.00	0.0	44	31	140	0	0	1.6	25.0	3.86
1390	.00	0.0	90	5	35	0	0	0.7	3.5	1.34
1391	.00	0.1	16	10	52	1	0	0.8	9.5	1.93
1392	.00	0.0	22	43	23	0	0	1.1	16.0	3.41
1393	.07	0.0	13	16	65	1	0	2.1	16.5	2.17
1394	.01	0.0	17	27	71	0	0	1.5	16.3	3.73
1395	.00	0.0	17	48	136	0	0	2.3	12.8	4.30
1396	.00	0.0	11	27	46	0	0	1.2	13.3	3.34
1397	.00	0.0	24	22	67	1	0	2.1	16.3	2.56
1398	.00	0.1	27	30	87	0	0	5.1	25.5	2.69
1399	.15	0.2	38	13	98	0	0	0.8	9.0	1.58
1400	.00	0.0	10	9	34	0	0	0.7	6.0	1.95
1401	.00	0.0	13	11	57	0	0	1.3	9.0	2.17
1402	.00	0.0	22	23	49	0	0	3.4	21.5	4.25
1403	.00	0.0	28	12	48	0	0	0.4	5.0	1.96
1404	.00	0.0	9	5	32	0	0	0.6	7.3	2.05
1405	.00	0.0	10	7	34	0	0	0.9	8.3	2.18
1406	.06	0.0	30	20	82	0	2	2.0	16.5	2.95
1407	.00	0.1	31	23	110	0	0	3.8	21.8	3.61

Table 2. Rock sample analyses in ppm (except potassium % K_2O)

Sample No.	Au	Ag	Cu	Pb	Zn	Mo	Sb	U	Th	K_2O (%)
1408	.02	11.6	770	13,100	4,700	1	0	0.2	2.75	0.5
1409	.01	0.3	112	49	243	1	0	0.6	6.25	0.9
1410	.01	0.0	181	28	38	1	0	1.5	11.3	1.3
1411	.00	2.1	1,870	11,700	3,600	1	5	1.1	8.50	1.0
1412	.02	0.0	162	18	7	3	0	5.1	27.5	3.8
1413	.01	0.8	248	440	1,210	6	0	2.3	13.3	1.5
1414	.00	1.8	345	106	660	8	0	6.1	19.8	9.4
1415	.02	0.0	58	13	57	1	0	0.4	4.00	0.8
1416	.01	0.0	90	25	4	0	0	1.5	14.0	
1417	.02	3.0	365	57	13	1	0	0.0	2.75	0.13
1418	.07	3.3	480	23	100	16	0	0.0	0.75	0.02
1419	.00	0.2	144	16	5	2	< 1	4.7	25.5	3.1
1420	.01	0.3	93	15	17	0	0	0.4	7.50	1.3