UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Analytical data for rock samples from the Round Mountain and Manhattan quadrangles, Nye County, Nevada

by

D. R. Shawe[1] and L. B. Lepry, Jr.[2]

Open-File Report 85-0538
1985

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.

[1]Denver, Colorado

[2]Freeport Exploration Co.
Denver, Colorado

Contents

Introduction

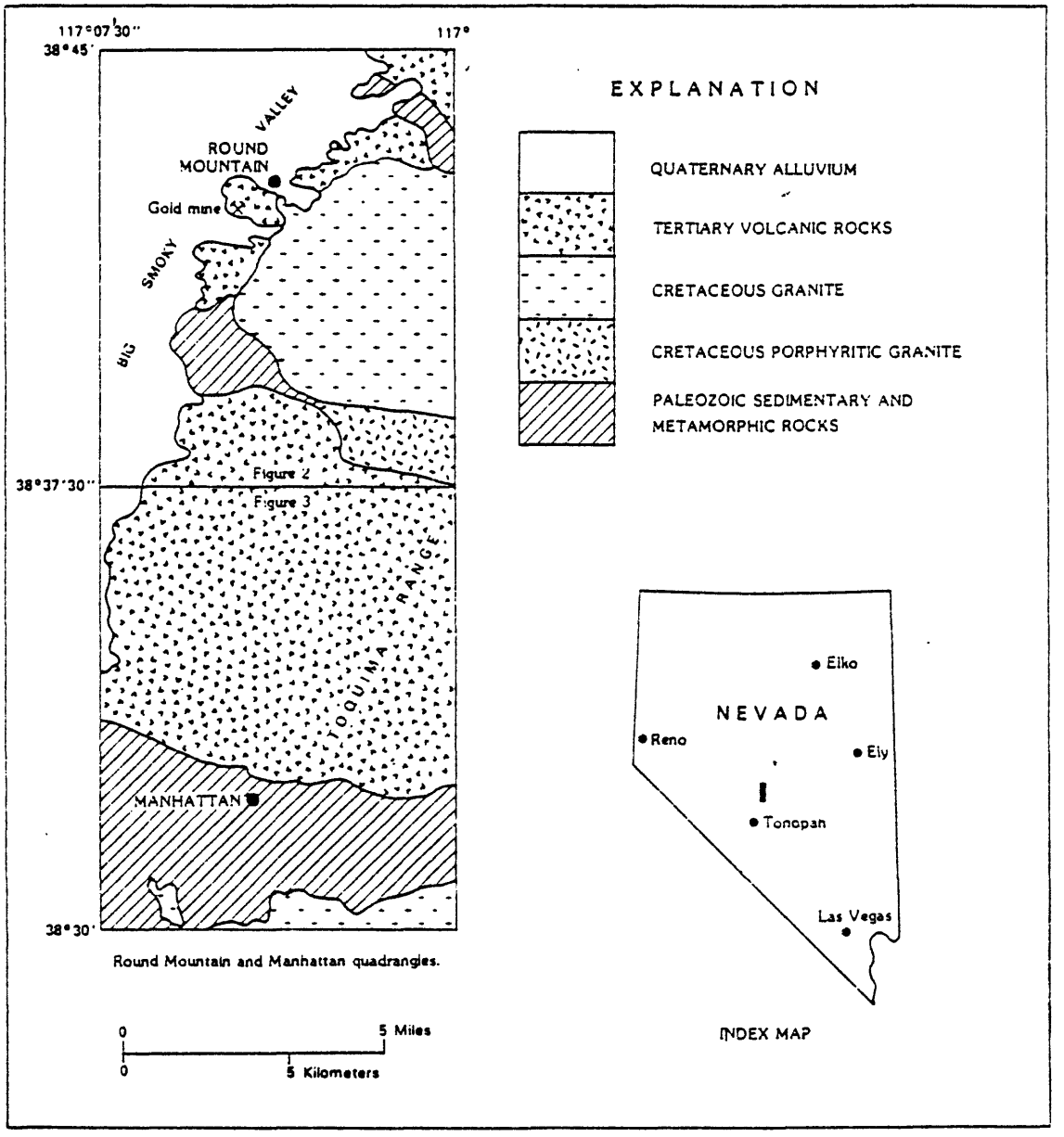
Rapid-rock and minor element analyses are presented of 147 rock samples (table 1). Lower limits of determination of elements by emission spectrographic analysis are given in tables 2 and 3. The samples were collected by the senior author during geologic mapping of the Round Mountain and Manhattan quadrangles, Nye County, Nevada (Shawe, 1981a; 1981b). The location and greatly simplified geology of the quadrangles are shown in figure 1.

Sample localities are given on plates 1 and 2. A listing of samples grouped by rock units, in order of increasing age of the geologic formations, is given in Appendix A, and brief descriptions of the samples are provided in Appendix B.

References

Shawe, D. R., 1981a, Geologic map of the Round Mountain quadrangle, Nye County, Nevada: U.S. Geological Survey Open-File Report 81-515, scale 1:24,000.

_____1981b, Geologic map of the Manhattan quadrangle, Nye County, Nevada: U.S. Geological Survey Open-File Report 81-516, scale 1:24,000.



Round Mountain and Manhattan quadrangles.

Figure 1.--Generalized geologic map of the Round Mountain and Manhattan quadrangles, and map showing location of the quadrangles.

Table 1.--Analyses of 147 rock samples from the Round Mountain and Manhattan quadrangles (sample localities shown on plates 1 and 2)

[Rapid-rock analyses in weight percent for SiO_2, Al_2O_3, Fe_2O_3, FeO, MgO, CaO, Na_2O, K_2O, H_2O+, H_2O-, TiO_2, P_2O_5, MnO, and CO_2 by Lowell Artis, Paul Elmore, Hezekiah Smith, N. Skinner, and Z. A. Hamlin; semiquantitative spectrographic analyses in parts per million (ppm) of samples 1-125 and 147, and computerized spectrographic analyses in ppm of samples 126-146, for B, Ba, Be, Co, Cr, Cu, Ga, La, Li, Mo, Nb, Ni, Pb, Sc, Sr, V, Y, Yb, and Zr by J. C. Hamilton, M. Solt, Harriet G. Neiman, and L. Mei (lower limits of determination for these elements, and others looked for but not found, are given in tables 2 and 3); elements analyzed for but not found by the spectrographic methods, but reported as determined by more sensitive methods: As, Ge, Sb, Sn, Th, and U; other elements looked for by the 6-step spectrographic method but not found: Au, Bi, Cd, Pd, Pt, Te, W, Ce, Hf, In, Re, Ta, Tl, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Lu, Ir, Os, Rh, and Ru; delayed neutron analyses in ppm for U and Th by H. T. Millard, Jr., C. McFee, and C. Bliss; X-ray fluorescence analyses in weight percent for Cl and S, and in ppm for As, Ge, Sb, Se, and Sn by J. S. Wahlberg; specific ion electrode analyses in weight percent for F by Harriet G. Neiman; N, not detected at limit of detection; (---), not determined.]

[Analytical data begin on next page]

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	1(1) DRS-67-31	2(1) DRS-67-41	3(1) DRS-67-43	4(1) DRS-67-51	5(1) DRS-67-53	6(1) DRS-67-70
SiO_2	70.3	69.7	71.5	59.1	75.9	77.2
Al_2O_3	16.0	15.0	15.2	17.8	11.5	12.4
Fe_2O_3	.66	1.2	.41	4.1	1.2	.30
FeO	.40	.44	.72	1.2	.08	.32
MgO	.13	.43	.22	2.2	.05	.22
CaO	1.3	1.6	1.2	5.4	.31	.52
Na_2O	4.5	3.3	4.6	4.1	2.5	2.9
K_2O	4.8	4.6	4.2	2.3	6.2	4.7
H_2O^+	.66	1.4	.58	1.2	.39	.90
H_2O^-	.34	1.0	.10	1.2	.17	1.3
TiO_2	.24	.23	.24	.73	.06	.07
P_2O_5	.07	.12	.14	.37	.07	.05
MnO	.04	.05	.05	.06	.05	.03
CO_2	.06	.05	.02	.03	.03	.02
SUM	100	99	99	100	99	101
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
F%	0.05	0.06	0.11	0.07	<0.04	0.08
S%	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
As (ppm)	14.0	8.1	.5	3.9	9.1	3.6
B	N	20	N	N	20	30
Ba	2000	1000	1500	1500	300	500
Be	2	2	3	1.5	2	2
Co	N	N	N	15	N	N
Cr	N	1	N	70	N	N
Cu	7	2	N	10	1	N
Ga	30	20	30	20	15	15
Ge	1.1	1.4	1.1	1.3	2.2	2.5
La	N	N	N	N	N	N
Li	N	N	N	N	N	N
Mo	N	50	20	N	N	N
Nb	N	10	10	N	10	10
Ni	N	N	N	15	N	N
Pb	70	20	30	15	30	20
Sb	4.2	2.5	<1.0	<1.0	1.7	21.0
Sc	N	5	N	15	N	N
Se	<.1	<.1	<.1	.2	<.1	.2
Sn	1.3	2.1	1.2	1.2	.4	2.0
Sr	1000	300	700	1500	50	70
Th	13.0	20.6	14.6	5.17	10.9	7.0
U	2.12	6.24	2.11	2.43	5.75	6.85
V	15	30	15	200	N	N
Y	N	15	10	15	15	15
Yb	N	2	1	1.5	1.5	1.5
Zr	150	150	150	150	100	70

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	7(1) DRS-67-71	8(1) DRS-67-74	9(1) DRS-67-75	10(2) DRS-67-77	11(2) DRS-67-78	12(2) DRS-67-81
SiO_2	62.7	29.1	95.4	96.5	64.9	69.8
Al_2O_3	15.7	6.9	1.6	1.4	15.2	12.8
Fe_2O_3	1.3	1.2	.04	.62	1.3	1.7
FeO	4.9	1.8	.12	.28	4.1	.36
MgO	6.2	3.0	.99	.05	4.6	.39
CaO	.42	31.3	.29	.19	.52	2.2
Na_2O	.21	.41	.10	.09	.52	2.4
K_2O	2.5	1.5	.05	.76	2.6	4.8
H_2O^+	4.5	.74	.96	.51	3.7	1.3
H_2O^-	.28	.21	.24	.18	.25	1.1
TiO_2	.66	.23	.00	.05	.62	.22
P_2O_5	.12	.12	.04	.14	.09	.09
MnO	.07	.05	.04	.06	.06	.08
CO_2	.04	23.4	.07	.02	.04	1.4
SUM	100	100	100	101	99	99
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
F%	<0.04	0.05	0.07	0.07	<0.04	<0.04
S%	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
As (ppm)	3.7	.5	.9	2.5	14.0	9.0
B	50	N	N	N	50	N
Ba	1000	1500	1000	700	1500	1000
Be	2	N	N	1.5	2	2
Co	10	5	N	N	15	N
Cr	70	70	15	1	100	1.5
Cu	30	15	20	5	20	2
Ga	20	15	N	N	20	15
Ge	1.9	.9	.7	1.9	.9	1.1
La	N	N	N	N	50	N
Li	N	N	N	N	N	N
Mo	3	N	3	N	N	N
Nb	10	N	N	N	10	10
Ni	30	15	30	N	30	N
Pb	N	10	N	N	10	15
Sb	<1.0	<1.0	<1.0	<1.0	1.5	1.7
Sc	10	7	N	N	15	N
Se	.1	<.1	.1	.2	<.1	<.1
Sn	1.8	.7	<.1	1.7	<.1	.8
Sr	70	1000	7	30	100	500
Th	13.8	8.54	<1.5	2.3	16.4	12.9
U	2.56	3.85	0.280	0.420	2.12	3.09
V	70	200	N	N	100	20
Y	15	15	N	15	15	10
Yb	1.5	1.5	N	1.5	2	1.5
Zr	70	30	15	150	100	70

Table 1.--(continued)

Sample locality and Plate No.--	13(1)	14(1)	15(1)	16(1)	17(2)	18(1)
Field No.------	DRS-67-97	DRS-67-98	DRS-67-99	DRS-67-100	DRS-67-121	DRS-67-123B
SiO_2	73.7	67.2	68.9	69.8	59.6	65.2
Al_2O_3	14.2	14.4	16.2	14.4	17.2	14.2
Fe_2O_3	.25	.49	.71	.69	1.1	.30
FeO	.36	.56	.72	.56	4.2	5.4
MgO	.12	.39	.33	.32	5.8	5.2
CaO	1.2	1.7	1.4	2.8	1.4	.52
Na_2O	3.6	2.9	1.8	3.2	1.2	1.8
K_2O	4.5	3.8	4.5	4.4	3.3	4.1
H_2O^+	.55	5.0	2.8	1.1	3.0	1.2
H_2O^-	.29	2.2	.88	.84	.31	.14
TiO_2	.18	.13	.13	.15	.65	.55
P_2O_5	.08	.12	.10	.09	.12	.11
MnO	.04	.05	.07	.04	.05	.07
CO_2	.02	.03	.45	1.0	.05	.06
SUM	99	99	99	99	100	99
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
F%	0.04	0.04	0.14	0.32	<0.04	0.17
S%	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
As (ppm)	27.0	6.0	15.0	13.0	3.6	3.4
B	N	30	20	N	70	N
Ba	1000	3000	1000	1000	7000	1000
Be	2	2	1.5	1.5	2	3
Co	N	N	N	N	15	15
Cr	N	N	N	N	100	70
Cu	2	2	N	N	50	3
Ga	20	20	20	20	20	20
Ge	1.1	1.1	1.7	1.9	2.7	1.7
La	N	N	N	N	N	N
Li	N	N	N	N	N	N
Mo	7	3	10	N	3	N
Nb	10	10	10	10	10	10
Ni	N	N	N	N	50	30
Pb	30	30	30	30	10	10
Sb	<1.0	<1.0	8.6	30.0	<1.0	<1.0
Sc	N	N	N	N	15	15
Se	<.1	<.1	<.1	<.1	<.1	<.1
Sn	.2	1.2	1.3	1.5	2.7	1.2
Sr	700	2000	200	700	200	150
Th	12.6	15.3	8.77	10.4	14.4	12.7
U	3.02	3.73	2.07	3.31	1.98	2.10
V	15	15	7	7	100	70
Y	N	10	N	10	15	15
Yb	N	1.5	1	1	1.5	1.5
Zr	70	100	100	70	150	70

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	19(1) DRS-68-124	20(1) DRS-68-141	21(1) DRS-68-143	22(1) DRS-68-145
SiO_2	70.5	69.9	72.4	71.4
Al_2O_3	15.6	16.4	12.9	13.6
Fe_2O_3	.60	.36	1.5	.62
FeO	.24	.24	.32	.20
MgO	.22	.13	.05	.00
CaO	.42	.31	.37	.41
Na_2O	2.6	2.5	1.6	.29
K_2O	5.8	6.1	7.4	10.9
H_2O^+	1.4	1.7	1.4	.54
H_2O^-	.79	.64	.30	.17
TiO_2	.34	.41	.41	.30
P_2O_5	.16	.08	.10	.10
MnO	.03	.03	.03	.03
CO_2	.04	.07	.03	.12
SUM	99	99	99	99
Cl%	<0.10	<0.10	<0.10	<0.10
F%	0.08	<0.04	<0.04	0.11
S%	<0.04	<0.04	<0.04	<0.04
As (ppm)	29.0	40.0	130.0	69.0
B	N	N	N	N
Ba	1000	1000	1000	1500
Be	1.5	1.5	1.5	1.5
Co	N	N	N	N
Cr	2	1.5	1	1.5
Cu	1.5	1	3	1
Ga	30	15	7	20
Ge	1.8	.9	<.1	<.1
La	50	N	N	50
Li	N	N	N	N
Mo	N	5	30	3
Nb	N	N	N	N
Ni	N	N	N	N
Pb	15	15	15	20
Sb	6.0	4.7	56.	17.
Sc	5	5	N	N
Se	<.1	<.1	<.1	<.1
Sn	1.5	.5	<.1	.3
Sr	500	300	150	150
Th	17.6	14.4	7.70	14.5
U	5.64	5.45	4.19	4.34
V	30	30	30	30
Y	15	15	N	10
Yb	1.5	1.5	1	1.5
Zr	150	100	100	150

Table 1.--(continued)

Sample locality and Plate No.--	23(1)	24(1)	25(1)	26(1)	27(1)	28(1)	29(1)	30(1)	31(1)	32(1)
Field No.--	DRS-73-22	DRS-73-29	DRS-73-35	DRS-73-55	DRS-73-62	DRS-73-65	DRS-73-69	DRS-73-72	DRS-73-73	DRS-73-76
SiO_2	70.7	74.1	69.4	72.4	76.1	78.3	72.7	72.8	74.2	75.0
Al_2O_3	16.4	14.3	16.9	13.6	12.4	11.3	12.1	12.0	15.2	12.4
Fe_2O_3	.76	.00	1.2	.82	1.2	.53	1.1	.69	.18	.92
FeO	.40	.42	.16	.44	.20	.24	.12	.28	.36	.16
MgO	.18	.08	.36	.63	.17	.10	.30	.20	.06	.43
CaO	1.3	.66	1.8	1.7	.73	1.0	.87	1.1	.35	1.3
Na_2O	4.1	3.6	4.4	1.1	2.6	2.8	1.7	2.3	3.9	3.3
K_2O	4.3	6.0	4.5	4.2	5.4	4.8	5.7	4.6	4.7	4.8
H_2O^+	.47	.42	.49	2.0	.77	.70	2.3	2.7	.55	.94
H_2O^-	.33	.04	.00	1.6	.15	.15	2.2	2.9	.02	.46
TiO_2	.31	.10	.32	.12	.08	.08	.13	.13	.09	.13
P_2O_5	.13	.03	.13	.05	.13	.03	.02	.01	.04	.08
MnO	.01	.00	.01	.04	.02	.01	.01	.01	.14	.03
CO_2	.03	.06	.01	.50	.01	.23	.02	.02	.01	.05
SUM	99	100	100	99	100	100	99	100	100	100
Cl%	<0.008	<0.008	<0.008	<0.008	0.017	<0.008	<0.008	0.027	<0.008	0.028
F%	0.06	<0.04	0.08	0.08	0.04	<0.04	0.05	0.04	0.11	<0.04
S%	<0.008	<0.008	<0.008	0.013	0.011	0.016	<0.008	0.030	<0.008	0.099
As (ppm)	1.1	0.6	0.9	1.6	11.0	13.0	5.2	9.2	1.2	6.2
B	N	N	N	N	30	30	N	N	N	30
Ba	3000	1000	3000	1500	700	200	300	150	300	200
Be	3	2	3	3	1.5	2	3	3	7	3
Co	N	N	N	N	N	N	N	N	N	N
Cr	2	N	1	1	3	1	2	N	1.5	N
Cu	15	3	3	N	3	1	300	1	1	2
Ga	30	30	30	20	20	15	30	30	50	30
Ge	1.4	1.4	1.1	1.5	2.7	2.3	1.3	1.3	2.0	1.3
La	70	N	50	N	N	N	N	N	N	70
Li	N	N	N	N	N	N	N	N	N	N
Mo	5	3	3	3	10	3	N	3	N	5
Nb	10	N	10	10	10	10	20	20	30	20
Ni	N	N	N	N	N	N	N	N	N	N
Pb	30	30	30	30	30	20	50	20	30	30
Sb	3.4	1.1	<1.0	1.6	2.1	5.1	24.	3.7	<1.0	1.4
Sc	N	N	N	N	5	N	5	N	5	5
Se	<.1	<.1	<.1	<.1	.2	<.1	<.1	<.1	<.1	<.1
Sn	1.4	.6	.9	2.1	.8	.4	2.7	3.7	2.5	3.0
Sr	1500	700	1500	200	150	50	200	70	150	70
Th	18.8	12.6	15.4	10.9	18.6	20.5	24.6	23.4	12.4	23.7
U	1.27	4.12	1.76	2.09	4.56	4.21	5.33	4.68	3.38	6.59
V	50	7	30	10	30	N	N	7	N	N
Y	N	10	N	15	20	30	30	20	20	30
Yb	N	1	N	1	2	3	3	3	2	3
Zr	200	50	200	100	300	150	150	150	50	200

Table 1.--(continued)

Sample locality and Plate No.-- / Field No.--	33(1) DRS-73-82	34(2) DRS-73-86	35(2) DRS-73-87	36(2) DRS-73-89	37(2) DRS-73-92	38(2) DRS-73-94	39(1) DRS-73-95	40(1) DRS-73-97	41(2) DRS-73-98	42(1) DRS-73-99
SiO_2	78.4	56.7	77.0	78.0	80.4	66.8	78.8	70.7	71.2	66.4
Al_2O_3	11.1	18.3	12.5	11.8	10.6	15.2	11.2	13.5	14.7	15.8
Fe_2O_3	1.0	4.7	.89	1.1	.74	2.1	.45	1.7	2.3	4.1
FeO	.16	2.0	.28	.12	.20	.84	.24	.44	.36	.32
MgO	.00	2.2	.15	.32	.08	.85	.04	.44	.36	.38
CaO	.50	6.5	.33	.36	.18	2.4	.20	2.4	1.8	2.0
Na_2O	2.4	3.4	2.3	1.8	3.0	3.1	2.1	3.7	3.5	3.9
K_2O	4.6	2.2	5.0	4.4	3.7	3.8	6.2	4.2	3.8	4.6
H_2O^+	1.1	1.3	.88	1.1	.77	1.8	.55	1.2	1.1	1.1
H_2O^-	.61	1.1	.42	.76	.11	.67	.06	.51	.36	.31
TiO_2	.10	1.1	.11	.12	.15	.54	.09	.25	.34	.60
P_2O_5	.01	.35	.04	.02	.02	.16	.04	.09	.11	.18
MnO	.01	.11	.03	.01	.03	.06	.01	.06	.03	.05
CO_2	.02	.08	.02	.06	.03	1.5	.02	.87	.11	.30
SUM	100	100	100	100	100	100	100	100	100	100
Cl%	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.011	0.012	<0.008
F%	<0.04	0.08	<0.04	<0.04	<0.04	0.05	<0.04	0.07	<0.04	<0.04
S%	<0.008	<0.008	0.009	<0.008	<0.008	<0.008	<0.008	0.008	0.012	<0.008
As (ppm)	7.7	7.5	2.8	4.9	2.6	5.2	5.3	2.5	7.1	8.2
B	N	N	N	N	N	N	20	N	N	N
Ba	300	1500	300	700	1000	2000	150	2000	1500	3000
Be	3	N	2	2	N	3	3	2	2	3
Co	N	20	N	N	N	N	N	N	N	N
Cr	1.5	10	N	N	1.5	3	N	7	5	1.5
Cu	N	30	N	1.5	1.5	20	N	3	3	3
Ga	20	30	20	20	10	30	15	20	15	20
Ge	1.6	1.1	1.1	2.4	1.4	1.4	2.0	1.5	1.7	1.9
La	N	N	50	50	N	50	N	50	50	70
Li	N	N	N	N	N	N	N	N	N	N
Mo	3	5	3	3	N	N	N	5	3	5
Nb	20	N	20	20	20	15	20	10	10	10
Ni	N	10	N	N	N	N	N	7	5	N
Pb	20	20	20	20	15	30	20	30	20	20
Sb	5.5	<1.0	1.0	3.9	1.8	1.7	7.6	4.0	3.9	9.2
Sc	N	20	N	N	N	10	N	7	7	15
Se	<.1	<.1	<.1	<.1	<.1	.3	<.1	.2	.1	.3
Sn	2.8	1.2	1.0	4.8	3.1	1.9	.6	1.3	1.2	1.0
Sr	70	1500	100	70	150	500	15	500	500	1000
Th	19.1	7.93	20.3	21.0	15.2	12.2	21.7	12.9	14.1	13.8
U	5.43	2.47	4.10	6.18	3.72	4.38	4.88	4.00	4.50	5.71
V	N	300	N	N	N	70	N	30	70	50
Y	20	30	30	30	15	30	30	20	15	50
Yb	3	3	3	3	1.5	3	3	2	1.5	5
Zr	150	200	150	200	200	500	100	200	150	300

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	43(1) DRS-73-102	44(1) DRS-73-103	45(1) DRS-73-106	46(1) DRS-73-108	47(2) DRS-73-109	48(2) DRS-73-110	49(1) DRS-73-111	50(1) DRS-73-112	51(1) DRS-73-113
SiO_2	76.5	73.0	65.9	66.4	74.6	74.1	74.5	76.3	71.3
Al_2O_3	12.3	12.4	14.1	13.4	12.6	12.4	12.6	12.0	14.2
Fe_2O_3	1.2	1.6	1.5	1.6	1.4	1.1	1.2	1.3	1.6
FeO	.16	.12	.36	.48	.20	.32	.24	.36	.52
MgO	.15	.20	.56	.49	.15	.26	.15	.02	.49
CaO	.55	.96	2.2	2.2	.46	1.2	.70	.43	1.6
Na_2O	3.5	2.5	2.0	2.5	2.6	3.2	2.3	3.0	2.9
K_2O	4.9	5.0	5.1	3.1	4.8	4.3	6.2	5.3	5.9
H_2O^+	.53	2.0	4.2	5.3	2.0	2.2	1.2	.75	.78
H_2O^-	.20	2.0	3.6	4.0	.90	.52	.25	.10	.16
TiO_2	.10	.11	.33	.25	.16	.12	.31	.24	.35
P_2O_5	.07	.02	.11	.10	.03	.02	.04	.04	.11
MnO	.04	.04	.02	.01	.04	.06	.02	.04	.06
CO_2	.05	.04	.01	.01	.03	.13	.05	.07	.01
SUM	100	100	100	100	100	100	100	100	100
Cl%	<0.008	0.108	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
F%	<0.04	<0.04	<0.04	<0.04	<0.04	--	--	--	--
S%	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.015	<0.008	<0.008
As (ppm)	6.7	7.6	2.8	2.5	5.0	4.3	8.2	9.3	5.7
B	20	20	N	N	N	N	N	20	N
Ba	200	300	2000	2000	500	700	2000	700	2000
Be	5	3	1.5	2	5	5	2	3	1.5
Co	N	N	N	N	N	N	N	N	N
Cr	1	1	5	3	2	1.5	1.5	5	3
Cu	1	10	3	1.5	1.5	N	1.5	3	2
Ga	20	20	20	20	20	20	20	20	30
Ge	2.6	1.6	.9	1.2	1.7	1.4	2.1	1.9	2.0
La	50	N	50	50	50	N	70	100	N
Li	N	N	N	N	N	N	N	N	N
Mo	N	N	N	20	10	N	N	N	3
Nb	20	20	10	10	20	20	10	20	N
Ni	N	N	N	N	N	N	N	N	7
Pb	30	20	15	20	50	50	20	50	30
Sb	5.0	2.6	119.	1.5	2.1	3.8	4.8	6.5	2.3
Sc	N	N	5	7	N	5	5	5	5
Se	<.1	<.1	<.1	<.1	.2	<.1	<.1	<.1	.1
Sn	1.8	3.2	1.2	1.8	2.9	3.1	.6	1.5	1.0
Sr	50	100	1000	700	100	100	300	70	1000
Th	24.1	24.5	14.0	13.9	21.9	24.9	18.6	22.0	11.1
U	5.89	6.22	1.90	4.67	8.04	8.01	4.56	7.22	2.71
V	N	N	50	30	7	N	20	N	70
Y	30	20	15	20	30	30	20	30	10
Yb	3	3	1.5	2	3	3	2	3	1
Zr	150	100	200	150	200	150	300	500	200

Table 1.--(continued)

Sample locality and Plate No.-- / Field No.--	52(1) DRS-73-118	53(1) DRS-73-123	54(1) DRS-73-124	55(1) DRS-73-126	56(1) DRS-73-132	57(1) DRS-73-144	58(1) DRS-73-145	59(1) DRS-73-146	60(1) DRS-73-148
SiO_2	75.5	76.4	69.1	70.4	72.8	68.4	70.9	79.2	65.0
Al_2O_3	14.4	12.5	16.0	16.0	15.1	15.3	13.0	10.8	14.5
Fe_2O_3	.13	1.6	1.6	.75	.46	2.2	1.2	.41	2.6
FeO	.28	.16	.92	.68	.36	.36	.28	.20	.32
MgO	.04	.13	.66	.33	.22	.61	.42	.13	.78
CaO	1.0	.60	2.5	1.6	1.0	2.0	2.0	.62	2.8
Na_2O	4.3	3.2	3.8	4.0	3.9	4.0	1.2	2.6	2.4
K_2O	3.6	4.4	3.9	4.4	4.9	4.7	7.5	4.4	3.9
H_2O^+	.47	.55	.61	.58	.58	.76	1.8	.48	3.5
H_2O^-	.02	.27	.49	.17	.18	.84	1.2	.16	3.6
TiO_2	.08	.10	.33	.30	.23	.54	.16	.22	.38
P_2O_5	.02	.01	.12	.10	.04	.15	.03	.02	.13
MnO	.01	.01	.04	.01	.00	.03	.01	.00	.01
CO_2	.04	.02	.02	.07	.02	.02	.30	.06	.05
SUM	100	100	100	99	100	100	100	99	100
Cl%	<0.008	<0.008	0.021	<0.008	<0.008	<0.008	<0.008	<0.008	0.020
F%	---	---	---	---	---	---	---	---	---
S%	<0.008	<0.008	0.009	<0.008	<0.008	<0.008	<0.008	<0.008	0.017
As (ppm)	0.7	3.7	7.7	2.2	1.3	6.9	8.2	7.5	4.1
B	N	N	30	N	N	20	N	20	N
Ba	100	1000	2000	3000	3000	10000	500	1000	2000
Be	3	2	2	5	3	1.5	3	2	2
Co	N	N	N	N	N	N	N	N	N
Cr	N	N	5	1	N	15	3	1	3
Cu	N	N	15	3	2	3	N	N	2
Ga	30	20	20	30	30	30	20	15	30
Ge	1.4	1.4	1.6	1.4	1.2	1.6	1.7	1.5	1.0
La	N	N	50	N	100	70	N	70	100
Li	N	N	N	N	N	N	N	N	N
Mo	N	20	7	N	3	N	N	N	N
Nb	15	15	10	10	10	10	20	10	N
Ni	5	N	N	N	N	7	N	N	N
Pb	50	30	20	30	50	20	20	20	20
Sb	1.1	1.1	1.5	32.	<1.0	3.4	2.6	3.3	<1.0
Sc	N	N	10	N	N	15	5	N	7
Se	.1	<.1	<.1	<.1	<.1	<.1	<.1	.1	.3
Sn	.6	1.9	1.4	1.5	.9	.7	2.6	7.4	1.4
Sr	150	150	700	1500	1000	700	150	100	1000
Th	20.3	17.6	17.3	14.9	25.2	9.37	23.8	18.8	13.3
U	3.67	4.59	4.36	2.34	2.71	3.78	10.4	5.11	2.01
V	N	N	70	20	15	50	10	7	30
Y	N	15	15	N	N	30	50	15	20
Yb	N	1.5	1.5	N	N	3	5	1.5	2
Zr	30	100	200	200	150	300	150	150	300

Table 1.--(continued)

Sample locality and Plate No.-- / Field No.--	61(1) DRS-73-153	62(1) DRS-73-154	63(1) DRS-73-157	64(1) DRS-73-159	65(1) DRS-73-160	66(1) DRS-73-167	67(1) DRS-73-169	68(1) DRS-73-172	69(1) DRS-73-173
SiO_2	76.5	77.4	76.0	69.6	65.9	70.7	72.8	65.5	40.6
Al_2O_3	10.5	11.0	10.3	11.5	16.7	15.8	13.0	1.0	7.4
Fe_2O_3	.52	.69	.41	.69	3.7	1.2	.86	.00	.00
FeO	.40	.28	.32	.28	.52	.32	.40	.48	.84
MgO	.37	.51	.25	.47	.36	.15	.23	.42	3.5
CaO	1.3	1.0	1.4	2.4	3.9	1.2	1.0	16.9	23.7
Na_2O	1.3	2.6	1.4	2.2	3.8	4.2	3.1	.15	.20
K_2O	3.8	4.6	4.3	4.4	2.9	4.3	4.6	.32	2.5
H_2O^+	2.6	1.0	2.8	4.0	.58	.55	2.3	.61	1.9
H_2O^-	2.2	.72	2.2	3.1	.25	.11	.73	.05	.32
TiO_2	.23	.10	.12	.14	.56	.30	.16	.09	.44
P_2O_5	.07	.01	.03	.04	.26	.12	.08	.04	.90
MnO	.01	.01	.01	.01	.04	.10	.07	.01	.04
CO_2	0.4	.08	.03	.27	.07	.03	.02	13.8	16.3
Volatiles other than CO_2 and H_2O									1.4
SUM	100	100	100	99	100	99	99	99	100
Cl%	<0.008	0.015	<0.008	0.094	<0.008	<0.008	0.056	<0.008	<0.008
F%	---	---	---	---	---	---	---	---	---
S%	<0.008	0.020	<0.008	0.314	<0.008	<0.008	0.022	<0.008	0.011
As (ppm)	4.0	12.0	11.0	8.2	5.5	3.3	11.0	17.0	31.0
B	N	20	30	N	N	N	70	N	70
Ba	1000	300	200	300	2000	2000	500	700	15000
Be	7	1.5	5	5	N	3	5	N	N
Co	N	N	N	N	7	N	N	N	N
Cr	2	2	1.5	1	15	1.5	3	30	150
Cu	1	1	N	1	3	5	1.5	30	200
Ga	20	15	20	20	20	30	20	N	15
Ge	1.0	3.1	2.2	1.3	1.1	.7	.8	1.3	2.6
La	N	N	N	50	N	70	N	N	N
Li	N	N	N	N	N	N	N	N	N
Mo	N	N	3	3	3	N	5	7	15
Nb	10	10	15	20	N	10	20	N	N
Ni	N	N	N	N	N	N	N	10	70
Pb	15	20	10	15	10	30	30	N	10
Sb	1.7	3.7	3.9	3.5	2.1	1.3	2.4	4.5	5.1
Sc	N	N	N	N	10	N	7	N	10
Se	<.1	<.1	<.1	<.1	.2	<.1	<.1	.3	.2
Sn	1.5	.5	2.5	2.2	.8	.6	1.6	.6	.9
Sr	300	50	150	100	1500	1000	200	300	1000
Th	13.2	18.3	17.4	23.5	7.38	24.3	33.0	<2.5	7.88
U	2.70	4.70	11.5	3.89	1.78	4.93	11.9	3.09	3.64
V	15	N	N	10	100	30	20	300	300
Y	15	15	30	20	15	N	30	N	20
Yb	1.5	1.5	2	1.5	1.5	N	5	N	2
Zr	150	150	70	100	150	150	100	N	50

Table 1.--(continued)

Sample locality and Plate No.-- / Field No.-------	70(1) DRS-73-174	71(1) DRS-73-178	72(1) DRS-73-196	73(1) DRS-73-197
SiO_2	57.1	84.3	74.3	40.0
Al_2O_3	9.7	7.5	14.6	1.2
Fe_2O_3	2.6	.78	.40	.00
FeO	.80	.16	.12	.21
MgO	.80	.40	.36	2.5
CaO	11.9	.24	.52	31.8
Na_2O	.08	.14	.52	.00
K_2O	3.0	3.6	4.2	.45
H_2O^+	1.8	1.1	3.1	.39
H_2O^-	.14	.67	1.4	.08
TiO_2	.50	.32	.22	.08
P_2O_5	.59	.03	.07	.13
MnO	.01	.00	.02	.00
CO_2	9.1	.07	.05	23.0
Volatiles other than CO_2 and H_2O				1.2
SUM	99	99	100	100
Cl%	<0.008	0.034	<0.008	<0.008
F%	---	---	---	---
S%	0.016	0.053	<0.008	<0.008
As (ppm)	75.0	23.0	26.0	3.3
B	100	70	20	N
Ba	7000	3000	1500	300
Be	2	N	2	N
Co	10	N	N	N
Cr	150	50	1.5	20
Cu	1000	7	1.5	7
Ga	15	7	20	N
Ge	.7	1.1	3.8	.3
La	N	N	N	N
Li	N	N	N	N
Mo	10	3	3	5
Nb	10	N	15	N
Ni	70	100	10	15
Pb	10	10	30	N
Sb	3.2	1.7	8.9	1.4
Sc	10	5	N	N
Se	1.3	.3	<.1	.2
Sn	.7	.4	1.5	.1
Sr	200	150	100	2000
Th	10.4	4.7	13.1	<2.2
U	6.03	4.11	4.08	1.51
V	500	30	20	150
Y	30	10	10	10
Yb	5	1	1	N
Zr	70	500	150	15

Table 1.--(continued)

Sample locality and Plate No.-- Field No.-------	74(1) DRS-74-41	75(1) DRS-74-94	76(1) DRS-74-102C	77(1) DRS-74-102D	78(1) DRS-74-104	79(1) DRS-74-115
SiO_2	71.1	71.9	51.0	53.9	68.0	64.6
Al_2O_3	16.2	14.8	31.0	29.2	18.2	16.3
Fe_2O_3	.84	.62	1.1	1.2	.77	1.9
FeO	.32	.88	.88	.96	.48	2.2
MgO	.11	.33	.58	.80	.34	1.9
CaO	1.4	2.0	.10	.04	.15	4.6
Na_2O	4.4	2.6	.20	.10	.40	4.0
K_2O	4.5	4.5	10.3	9.7	10.7	3.3
H_2O^+	.59	1.0	3.1	2.7	.83	.60
H_2O^-	.17	.13	.13	.07	.17	.12
TiO_2	.18	.11	.62	.44	.09	.65
P_2O_5	.10	.08	.13	.04	.04	.24
MnO	.03	.05	.01	.01	.02	.06
CO_2	.04	.30	.01	.02	.04	.02
SUM	100	99	99	99	100	100
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
F%	0.09	0.05	0.49	0.65	0.05	0.08
S%	<0.04	<0.04	0.04	<0.04	<0.04	<0.04
As (ppm)	---	---	---	---	---	---
B	N	N	200	150	1000	N
Ba	2000	2000	2000	2000	5000	1500
Be	1.5	1.5	5	7	N	1
Co	N	N	N	N	N	10
Cr	N	N	N	N	N	20
Cu	1	N	10	N	N	5
Ga	20	15	50	50	20	15
Ge	---	---	---	---	---	---
La	100	N	200	50	N	50
Li	50	70	N	70	N	N
Mo	N	N	20	2	N	N
Nb	5	5	10	5	5	5
Ni	N	N	N	N	N	7
Pb	15	30	1500	15	30	15
Sb	---	---	---	---	---	---
Sc	N	N	5	5	N	10
Se	---	---	---	---	---	---
Sn	---	---	---	---	---	---
Sr	700	700	100	50	1000	1000
Th	---	---	---	---	---	---
U	---	---	---	---	---	---
V	20	10	10	50	15	100
Y	N	10	N	N	N	15
Yb	N	1	N	N	N	1.5
Zr	100	70	200	150	70	150

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	80(1) DRS-74-116	81(1) DRS-74-117	82(1) DRS-74-118	83(1) DRS-74-133A	84(1) DRS-74-133B
SiO_2	62.3	58.6	55.9	69.2	69.2
Al_2O_3	16.6	16.2	15.2	13.9	14.2
Fe_2O_3	2.1	2.0	1.8	1.7	1.0
FeO	2.8	3.4	3.5	.48	.88
MgO	2.4	2.9	4.9	.55	.55
CaO	5.0	5.9	5.9	2.9	2.5
Na_2O	3.8	3.3	2.7	2.3	3.0
K_2O	3.1	2.8	2.1	5.2	4.2
H_2O^+	.58	2.3	3.2	1.2	3.5
H_2O^-	.08	.11	.53	.61	.59
TiO_2	.78	.76	.64	.24	.21
P_2O_5	.27	.31	.22	.10	.08
MnO	.09	.12	.10	.05	.05
CO_2	.06	2.5	3.1	1.1	.12
SUM	100	101	100	100	100
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10
F%	0.07	0.07	0.07	0.04	0.04
S%	<0.04	<0.04	<0.04	<0.04	<0.04
As (ppm)	---	---	---	---	---
B	10	N	N	20	30
Ba	1500	2000	1000	1500	1500
Be	1	1	1	1	1
Co	10	15	15	2	2
Cr	15	10	200	7	5
Cu	7	30	15	5	5
Ga	20	15	15	15	15
Ge	---	---	---	---	---
La	50	30	30	30	30
Li	N	N	N	N	N
Mo	2	N	N	2	2
Nb	5	N	N	5	5
Ni	5	20	50	3	2
Pb	20	20	20	20	20
Sb	---	---	---	---	---
Sc	10	10	10	3	5
Se	---	---	---	---	---
Sn	---	---	---	---	---
Sr	1000	1000	500	500	500
Th	---	---	---	---	---
U	---	---	---	---	---
V	100	100	100	30	30
Y	15	15	10	10	10
Yb	1.5	1.5	1	1	1
Zr	150	100	100	70	70

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	85(1) DRS-74-136	86(1) DRS-74-139	87(1) DRS-74-173A	88(1) DRS-74-173B	89(1) DRS-74-173C
SiO_2	70.1	68.4	62.3	58.6	64.6
Al_2O_3	15.9	15.7	16.8	15.9	16.5
Fe_2O_3	.86	2.3	1.8	1.3	2.0
FeO	.40	.32	2.9	4.3	1.5
MgO	.40	.60	2.5	5.7	1.6
CaO	1.8	2.5	4.7	5.9	4.5
Na_2O	3.5	3.6	3.9	3.3	4.6
K_2O	4.2	4.2	2.8	2.7	3.1
H_2O^+	1.4	1.1	.68	1.2	.86
H_2O^-	1.3	1.0	.16	.04	.14
TiO_2	.29	.30	.65	.67	.70
P_2O_5	.08	.14	.23	.23	.17
MnO	.00	.02	.07	.12	.02
CO_2	.03	.02	.06	.08	.08
SUM	100	100	100	100	100
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10
F%	0.07	0.05	0.07	0.08	0.06
S%	<0.04	<0.04	<0.04	<0.04	<0.04
As (ppm)	---	---	---	---	---
B	10	N	N	N	N
Ba	1500	1500	1500	1000	1500
Be	1	1	1	1	1
Co	N	2	10	15	7
Cr	2	2	15	300	10
Cu	N	1.5	3	10	N
Ga	15	20	20	15	20
Ge	---	---	---	---	---
La	50	50	50	50	70
Li	N	N	N	N	N
Mo	N	N	N	3	N
Nb	5	5	5	N	5
Ni	N	N	7	70	5
Pb	15	15	15	N	10
Sb	---	---	---	---	---
Sc	5	5	10	15	5
Se	---	---	---	---	---
Sn	---	---	---	---	---
Sr	300	500	1000	1000	1000
Th	---	---	---	---	---
U	---	---	---	---	---
V	50	50	100	100	70
Y	15	15	15	10	15
Yb	1.5	1.5	1.5	1	1
Zr	100	70	100	70	100

Table 1.--(continued)

Sample locality and Plate No.-- Field No.-------	90(1) DRS-74-174	91(1) DRS-74-176	92(1) DRS-74-178	93(1) DRS-74-204	94(1) DRS-74-207
SiO_2	61.6	59.1	75.3	70.1	73.5
Al_2O_3	16.4	15.4	15.0	15.1	14.7
Fe_2O_3	1.8	2.0	.55	1.9	.77
FeO	3.2	2.5	.36	.28	.48
MgO	3.0	3.4	.18	.50	.40
CaO	5.6	4.8	.58	.82	.38
Na_2O	3.6	2.9	2.0	2.3	1.8
K_2O	3.0	3.3	4.7	4.9	4.5
H_2O^+	.72	2.9	1.6	2.5	2.4
H_2O^-	.03	.14	.16	1.1	.95
TiO_2	.67	.58	.05	.22	.09
P_2O_5	.27	.22	.03	.10	.04
MnO	.08	.07	.02	.05	.04
CO_2	.08	3.0	.05	.04	.05
SUM	100	100	101	100	100
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10
F%	0.07	0.07	0.06	0.05	0.07
S%	<0.04	<0.04	<0.04	<0.04	<0.04
As (ppm)	---	---	---	---	---
B	N	N	100	N	20
Ba	1500	1000	1000	1000	1000
Be	1	1	1.5	1	1
Co	15	10	N	N	N
Cr	50	70	2	1	N
Cu	20	20	N	1.5	N
Ga	20	15	20	15	15
Ge	---	---	---	---	---
La	30	30	N	30	N
Li	N	N	50	50	50
Mo	N	N	N	N	N
Nb	5	5	7	5	7
Ni	15	50	N	N	N
Pb	15	20	20	15	15
Sb	---	---	---	---	---
Sc	15	7	N	5	N
Se	---	---	---	---	---
Sn	---	---	---	---	---
Sr	1000	700	300	200	100
Th	---	---	---	---	---
U	---	---	---	---	---
V	100	70	N	30	5
Y	15	10	N	15	N
Yb	1.5	1	N	1.5	N
Zr	70	70	50	100	70

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	95(1) DRS-74-215	96(1) DRS-74-226	97(1) DRS-74-241	98(1) DRS-74-254	99(1) DRS-74-259
SiO_2	55.9	70.9	59.1	71.3	69.2
Al_2O_3	15.6	15.0	15.7	15.6	13.5
Fe_2O_3	5.7	1.1	2.1	.42	1.8
FeO	2.6	.16	3.0	.52	.16
MgO	4.5	.44	3.9	.22	.30
CaO	7.8	.53	5.4	1.6	1.7
Na_2O	2.4	1.1	3.0	4.0	1.8
K_2O	1.5	6.7	2.8	4.6	4.6
H_2O^+	2.1	2.2	2.1	.73	5.3
H_2O^-	1.5	.95	1.0	.02	2.0
TiO_2	.70	.21	.65	.17	.16
P_2O_5	.19	.11	.23	.10	.04
MnO	.13	.01	.09	.03	.02
CO_2	.06	.07	.03	.03	.02
SUM	101	99	99	99	101
Cl%	<0.10	<0.10	<0.10	<0.10	<0.10
F%	0.05	0.09	0.07	<0.04	0.05
S%	<0.04	<0.04	<0.04	<0.04	<0.04
As (ppm)	---	---	---	---	---
B	N	N	N	N	N
Ba	1000	1500	1500	2000	2000
Be	N	1.5	1	2	2
Co	20	N	15	N	N
Cr	200	1	150	1	N
Cu	20	2	20	1	N
Ga	15	20	15	15	20
Ge	---	---	---	---	---
La	N	50	30	30	70
Li	N	150	N	N	N
Mo	N	N	N	N	N
Nb	N	5	N	5	5
Ni	20	N	70	N	N
Pb	10	15	10	15	20
Sb	---	---	---	---	---
Sc	20	5	10	5	N
Se	---	---	---	---	---
Sn	---	---	---	---	---
Sr	1000	150	1000	500	700
Th	---	---	---	---	---
U	---	---	---	---	---
V	200	30	100	10	10
Y	15	10	10	10	N
Yb	1.5	1	1	1	N
Zr	70	70	100	100	100

Table 1.--(continued)

Sample locality and Plate No.-- / Field No.--	100(2) DRS-75-4	101(2) DRS-75-10	102(2) DRS-75-15	103(2) DRS-75-16B	104(2) DRS-75-17	105(2) DRS-75-18	106(2) DRS-75-19	107(2) DRS-75-20	108(2) DRS-75-22	109(2) DRS-75-23
SiO_2	78.5	71.2	74.7	77.0	67.8	53.7	68.3	75.7	71.8	64.5
Al_2O_3	11.8	12.3	11.1	10.7	13.5	16.4	14.6	13.4	13.7	15.4
Fe_2O_3	0.85	1.7	0.88	0.18	1.6	4.0	2.3	1.5	1.8	3.1
FeO	0.16	0.05	0.08	0.04	0.24	2.8	0.19	0.14	0.20	0.52
MgO	0.11	0.37	0.05	0.02	0.57	4.4	0.59	0.31	0.35	1.6
CaO	0.59	2.2	1.2	1.2	2.0	7.6	1.4	0.28	1.2	3.1
Na_2O	2.0	2.4	1.8	2.7	2.1	2.8	4.5	0.27	3.7	4.3
K_2O	4.3	4.7	5.0	5.5	4.6	1.9	4.4	4.1	4.4	2.2
H_2O^+	0.90	2.9	2.8	0.47	2.7	1.7	0.99	3.0	1.0	1.8
H_2O^-	0.47	2.4	1.9	0.07	2.8	2.2	0.72	0.59	0.36	0.75
TiO_2	0.06	0.18	0.08	0.10	0.51	0.98	0.42	0.22	0.23	0.52
P_2O_5	0.03	0.05	0.03	0.05	0.13	0.31	0.12	0.08	0.07	0.22
MnO	0.02	0.12	0.01	0.00	0.00	0.07	0.03	0.02	0.03	0.03
CO_2	0.10	0.01	0.01	0.58	0.01	0.01	0.01	0.02	0.04	0.62
SUM	100	101	100	99	99	99	99	100	99	99
Cl%	.015	.014	.008	.006	.037	.014	.028	0.10	0.37	.015
F%	<0.04	<0.04	<0.04	<0.04	0.08	0.08	0.07	0.06	0.06	0.06
S%	.006	.023	.013	.012	.130	.020	.020	.009	.055	.007
As (ppm)	---	---	---	---	---	---	---	---	---	---
B	N	N	20	30	70	20	30	N	30	N
Ba	300	1500	300	200	1500	1500	10000	2000	2000	3000
Be	3	3	3	3	5	1.5	2	2	3	1.5
Co	N	N	N	N	N	N	N	N	N	7
Cr	N	2	N	N	15	100	15	5	2	15
Cu	N	3	1	N	7	30	3	3	2	7
Ga	30	30	20	30	30	30	30	20	30	30
Ge	---	---	---	---	---	---	---	---	---	---
La	N	50	N	N	50	N	70	N	50	N
Li	N	N	N	N	N	N	N	100	N	N
Mo	N	N	N	N	N	3	N	N	5	N
Nb	30	30	30	30	15	10	15	10	15	10
Ni	N	N	N	N	50	30	10	N	N	5
Pb	50	50	30	50	30	15	30	30	30	15
Sb	---	---	---	---	---	---	---	---	---	---
Sc	N	N	N	N	10	30	15	N	7	10
Se	---	---	---	---	---	---	---	---	---	---
Sn	---	---	---	---	---	---	---	---	---	---
Sr	70	300	200	20	1000	1000	500	50	300	1000
Th	---	---	---	---	---	---	---	---	---	---
U	---	---	---	---	---	---	---	---	---	---
V	N	20	N	N	100	200	30	30	30	150
Y	50	70	30	15	30	30	50	30	30	15
Yb	5	7	3	2	5	5	5	3	3	2
Zr	100	150	100	70	150	150	500	150	100	150

Table 1.--(continued)

Sample locality and Plate No.--	110(2)	111(2)	112(2)	113(2)	114(2)	115(2)	116(2)	117(2)	118(2)	119(2)
Field No.--	DRS-75-24	DRS-75-32	DRS-75-34	DRS-75-35	DRS-75-36	DRS-75-37	DRS-75-44	DRS-75-45	DRS-75-49	DRS-75-50
SiO_2	73.9	68.0	69.2	70.0	74.6	68.8	66.1	71.7	69.5	54.3
Al_2O_3	11.9	14.6	14.3	13.7	12.2	13.2	15.0	13.4	13.9	16.2
Fe_2O_3	1.4	2.5	2.0	2.0	1.1	1.3	2.4	1.3	1.8	4.2
FeO	0.11	0.00	0.32	0.00	0.08	0.24	0.56	0.47	0.08	2.7
MgO	0.25	0.61	0.62	0.44	0.12	0.22	0.58	0.40	0.40	4.0
CaO	1.4	1.3	1.2	1.0	0.64	1.5	2.3	1.2	1.1	8.4
Na_2O	3.8	4.5	3.3	4.2	3.4	3.3	2.8	1.7	3.2	2.9
K_2O	4.1	4.4	4.5	4.2	4.7	4.1	4.9	5.3	5.4	1.4
H_2O^+	0.89	1.3	1.9	1.5	1.1	4.4	2.1	2.0	1.7	1.9
H_2O^-	0.34	1.0	0.93	1.0	0.49	2.4	0.74	1.1	1.9	2.2
TiO_2	0.23	0.41	0.27	0.21	0.05	0.15	0.33	0.21	0.27	0.94
P_2O_5	0.06	0.09	0.10	0.08	0.05	0.05	0.11	0.09	0.07	0.31
MnO	0.08	0.05	0.06	0.07	0.04	0.07	0.05	0.04	0.08	0.13
CO_2	0.94	0.02	0.35	0.12	0.01	0.02	1.2	0.44	0.04	0.51
SUM	99	99	99	99	99	100	99	99	99	100
Cl%	.012	.035	.026	.080	.019	.021	.018	.013	.013	.029
F%	<0.04	0.05	<0.04	<0.04	<0.04	0.04	0.07	0.04	0.04	0.06
S%	.007	.060	.015	0.11	.028	.016	.025	.014	.006	.017
As	---	---	---	---	---	---	---	---	---	---
(ppm)										
B	N	30	20	30	N	N	N	N	20	10
Ba	2000	10000	5000	3000	200	3000	3000	3000	5000	1500
Be	3	2	3	3	5	3	2	3	3	1.5
Co	N	N	N	N	N	N	5	N	N	30
Cr	N	10	7	2	N	1.5	7	1.5	2	150
Cu	N	3	5	2	N	2	5	3	N	30
Ga	20	30	30	30	30	30	30	20	30	30
Ge	---	---	---	---	---	---	---	---	---	---
La	N	50	50	50	N	70	50	50	70	N
Li	N	N	N	N	N	N	150	N	N	N
Mo	N	N	N	N	N	7	N	3	N	7
Nb	15	15	10	15	30	15	10	15	20	10
Ni	N	5	N	N	N	5	N	5	N	30
Pb	50	20	30	20	50	30	20	20	50	15
Sb	---	---	---	---	---	---	---	---	---	---
Sc	N	15	7	5	N	7	7	5	10	30
Se	---	---	---	---	---	---	---	---	---	---
Sn	---	---	---	---	---	---	---	---	---	---
Sr	300	700	500	300	70	1000	700	500	700	1000
Th	---	---	---	---	---	---	---	---	---	---
U	---	---	---	---	---	---	---	---	---	---
V	7	30	50	20	N	10	70	20	10	200
Y	30	50	30	30	50	30	30	30	50	30
Yb	3	5	3	3	5	3	3	3	5	5
Zr	150	500	200	150	100	200	150	300	500	150

Table 1.--(continued)

Sample locality and Plate No.-- Field No.-------	120(2) DRS-75-51	121(2) DRS-75-52	122(2) DRS-75-53A	123(2) DRS-75-53B	124(2) DRS-75-55A	125(2) DRS-75-56
SiO_2	74.7	74.6	67.4	67.3	76.1	64.4
Al_2O_3	12.5	12.2	14.9	14.8	11.9	14.9
Fe_2O_3	1.4	1.0	1.9	1.4	0.94	2.3
FeO	0.09	0.12	0.97	0.68	0.11	0.72
MgO	0.16	0.11	0.67	0.39	0.19	0.88
CaO	1.2	0.72	1.7	3.2	0.69	3.1
Na_2O	3.3	3.4	3.5	4.2	2.5	2.4
K_2O	4.5	4.6	3.4	3.4	5.3	3.8
H_2O^+	0.91	2.2	2.7	2.3	0.86	3.8
H_2O^-	0.42	0.58	1.7	0.66	0.42	2.6
TiO_2	0.12	0.13	0.38	0.34	0.17	0.56
P_2O_5	0.06	0.05	0.11	0.11	0.05	0.14
MnO	0.06	0.07	0.07	0.12	0.04	0.07
CO_2	0.32	0.12	0.09	1.0	0.02	0.02
SUM	100	100	100	100	99	100
Cl%	.009	.012	.058	.013	.014	.028
F%	0.04	<0.04	0.04	<0.04	<0.04	0.05
S%	.018	.023	.028	.011	.011	.017
As (ppm)	---	---	---	---	---	---
B	N	N	N	N	N	N
Ba	700	700	3000	3000	1000	5000
Be	3	5	5	3	3	3
Co	N	N	N	N	N	N
Cr	N	N	3	5	N	5
Cu	1	N	3	3	N	3
Ga	30	30	30	20	30	30
Ge	---	---	---	---	---	---
La	50	50	50	N	50	50
Li	N	N	N	N	N	N
Mo	N	N	N	N	N	5
Nb	30	30	15	15	20	15
Ni	N	N	N	N	N	N
Pb	50	50	30	20	30	20
Sb	---	---	---	---	---	---
Sc	N	N	5	5	N	10
Se	---	---	---	---	---	---
Sn	---	---	---	---	---	---
Sr	70	100	1000	1500	150	2000
Th	---	---	---	---	---	---
U	---	---	---	---	---	---
V	N	N	30	30	7	70
Y	50	50	20	20	30	30
Yb	5	5	3	2	3	3
Zr	150	100	300	150	100	150

Table 1.--(continued)

Sample locality and Plate No.-- Field No.-------	126(2) DRS-76-14	127(2) DRS-76-17	128(2) DRS-76-18	129(2) DRS-76-19	130(2) DRS-76-21	131(2) DRS-76-23	132(2) DRS-76-26
SiO_2	53.2	74.0	70.7	69.8	69.6	69.6	56.8
Al_2O_3	17.4	11.8	13.5	14.6	13.5	14.3	17.9
Fe_2O_3	5.9	1.4	1.8	2.2	1.1	2.2	5.0
FeO	0.32	0.04	0.04	0.08	0.16	0.32	1.8
MgO	2.2	0.38	1.1	0.43	0.36	0.86	2.2
CaO	6.9	0.68	1.3	0.80	0.37	2.1	1.6
Na_2O	3.4	3.4	1.8	4.8	3.5	1.6	5.0
K_2O	2.3	3.4	4.1	4.2	4.9	4.1	3.4
H_2O^+	1.9	2.6	2.2	0.66	3.7	2.2	2.2
H_2O^-	2.5	1.2	2.7	0.51	1.1	1.3	1.0
TiO_2	1.0	0.25	0.29	0.39	0.18	0.46	1.1
P_2O_5	0.35	0.08	0.08	0.14	0.06	0.15	0.36
MnO	0.08	0.05	0.08	0.06	0.03	0.06	0.06
CO_2	1.1	0.0	0.01	0.0	0.0	1.2	0.26
SUM	99	99	100	99	99	100	99
Cl%	.012	.008	.027	.016	.013	.013	.021
F%	---	---	---	---	---	---	---
S%	.032	.022	.096	.045	.081	.041	.033
As (ppm)	<150	<150	<150	<150	<150	<150	<150
B	3.7	10	27	16	5.0	12	4.4
Ba	820	1500	1800	3000	1000	850	1200
Be	2.1	2.3	2.4	2.9	2.0	3.7	1.7
Co	12	2.3	2.0	2.9	1.7	3.4	14
Cr	8.1	3.0	1.6	6.0	1.6	4.0	8.0
Cu	29	4.0	4.8	5.9	3.5	4.5	27
Ga	23	13	15	23	14	18	28
Ge	---	---	---	---	---	---	---
La	27	33	25	46	42	32	35
Li	<68	120	<68	<68	88	420	180
Mo	N	N	N	N	N	N	N
Nb	7.9	7.6	6.9	10	12	13	18
Ni	12	5.8	N	8.8	5.8	6.5	12
Pb	20	19	16	24	11	21	22
Sb	<100	<100	<100	<100	<100	<100	<100
Sc	14	6.2	5.0	9.3	6.3	8.5	19
Se	---	---	---	---	---	---	---
Sn	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8
Sr	630	94	270	160	54	220	540
Th	<22	<22	<22	<22	<22	<22	<22
U	<320	<320	<320	<320	<320	<320	<320
V	120	6.5	8.8	19	6.5	38	210
Y	20	19	16	31	25	22	24
Yb	2.6	2.3	2.0	3.3	2.6	2.4	2.5
Zr	120	230	160	210	240	180	200

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	133(2) DRS-76-27	134(2) DRS-76-34	135(2) DRS-76-44	136(2) DRS-76-47	137(2) DRS-76-52	138(2) DRS-76-76	139(2) DRS-76-81
SiO_2	54.8	65.4	71.3	76.6	71.0	55.4	56.3
Al_2O_3	16.6	15.0	13.1	7.9	13.1	18.1	17.6
Fe_2O_3	4.6	2.5	1.3	0.73	1.8	4.7	5.5
FeO	1.4	0.56	0.48	0.16	0.20	1.2	0.68
MgO	2.2	0.86	0.42	0.14	0.46	2.1	3.1
CaO	6.0	2.8	2.0	4.1	1.9	6.2	4.0
Na_2O	2.6	3.5	2.8	1.7	3.1	3.3	4.8
K_2O	2.5	3.3	5.0	3.3	3.1	3.0	2.2
H_2O^+	3.6	2.4	1.3	0.75	3.5	2.5	1.1
H_2O^-	1.8	1.0	0.46	0.15	1.4	1.2	1.7
TiO_2	0.98	0.39	0.18	0.12	0.29	0.93	0.70
P_2O_5	0.32	0.15	0.08	0.05	0.11	0.33	0.30
MnO	0.07	0.05	0.08	0.11	0.02	0.05	0.04
CO_2	2.5	0.61	1.0	2.8	0.01	0.59	0.90
SUM	100	99	100	99	100	100	99
Cl%	.012	.015	.007	.007	.010	.011	.015
F%	---	---	---	---	---	---	---
S%	.026	.021	.015	.007	.021	.061	.021
As (ppm)	<150	<150	<150	<150	<150	<150	<150
B	4.0	10	19	N	10	3.5	5.8
Ba	1000	1400	1500	580	890	1400	850
Be	2.2	2.8	3.4	5.0	5.5	1.9	1.6
Co	12	4.0	2.3	2.1	3.7	13	9.4
Cr	7.9	3.5	4.2	2.4	2.9	8.8	43
Cu	26	4.6	4.6	3.0	5.7	30	18
Ga	24	19	17	12	17	32	25
Ge	---	---	---	---	---	---	---
La	36	34	36	44	30	26	18
Li	<68	<68	120	99	120	<68	<68
Mo	2.7	N	N	N	N	N	N
Nb	13	11	12	10	9.0	10	8.2
Ni	11	6.2	5.7	4.8	4.8	10	15
Pb	17	21	16	21	17	22	14
Sb	<100	<100	<100	<100	<100	<100	<100
Sc	16	5.7	4.3	3.3	5.1	13	13
Se	---	---	---	---	---	---	---
Sn	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8
Sr	590	410	170	170	340	610	760
Th	<22	<22	<22	<22	<22	<22	<22
U	<320	<320	<320	<320	<320	<320	<320
V	150	32	12	9.4	22	130	93
Y	21	17	18	22	16	15	13
Yb	2.5	1.9	2.5	2.4	2.0	2.3	1.9
Zr	180	310	180	88	210	100	100

Table 1.--(continued)

Sample locality and Plate No.-- Field No.------	140(2) DRS-76-84	141(2) DRS-76-87	142(2) DRS-76-89	143(2) DRS-76-95	144(2) DRS-76-96	145(2) DRS-76-103	146(2) DRS-76-112	147(2) DRS-77-199
SiO_2	68.1	55.2	67.5	56.3	67.8	72.3	71.1	56.2
Al_2O_3	14.4	16.9	14.3	16.6	13.6	14.4	13.1	17.8
Fe_2O_3	1.2	3.4	1.3	4.0	2.3	1.1	1.2	6.5
FeO	0.20	2.1	0.20	2.2	0.28	0.0	0.08	
MgO	0.28	3.5	0.73	2.5	0.82	0.29	0.23	2.2
CaO	1.4	8.7	3.8	7.5	2.3	1.4	1.5	5.8
Na_2O	2.6	2.8	2.7	3.2	2.0	3.9	3.2	3.9
K_2O	6.3	1.8	2.1	1.6	4.2	5.0	3.2	2.7
H_2O^+	1.8	1.5	3.5	1.4	4.6	0.86	3.3	---
H_2O^-	1.7	1.9	3.2	1.3	1.6	0.52	1.8	---
TiO_2	0.19	0.98	0.31	1.2	0.38	0.33	0.20	1.0
P_2O_5	0.06	0.42	0.11	0.78	0.16	0.09	0.06	0.35
MnO	0.06	0.13	0.02	0.10	0.04	0.02	0.03	0.09
CO_2	0.25	0.45	0.01	0.40	0.0	0.18	0.06	---
SUM	99	100	100	100	100	100	99	99
Cl%	.023	.035	.020	.043	.023	.019	.025	---
F%	---	---	---	---	---	---	---	---
S%	.016	.064	0.16	.032	.054	.028	0.13	---
As (ppm)	<150	<150	<150	<150	<150	<150	<150	---
B	11	9.3	N	N	6.8	19	6.2	N
Ba	810	1200	860	1400	1300	1600	490	1500
Be	2.0	2.0	2.3	2.8	2.6	3.8	3.1	1
Co	2.5	17	2.7	15	3.0	2.2	3.0	15
Cr	2.2	130	3.1	81	3.4	N	1.6	15
Cu	3.8	30	3.2	20	4.7	4.9	3.4	15
Ga	15	28	6.8	29	16	22	15	30
Ge	---	---	---	---	---	---	---	---
La	55	23	22	79	35	47	39	30
Li	N	N	N	N	92	N	120	N
Mo	N	2.2	N	N	N	N	N	N
Nb	14	12	5.1	22	13	14	11	N
Ni	N	21	N	23	5.6	6.2	N	7
Pb	29	20	N	20	22	29	32	20
Sb	<100	<100	<100	<100	<100	<100	<100	---
Sc	5.7	24	5.7	16	6.5	6.6	6.6	15
Se	---	---	---	---	---	---	---	---
Sn	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	---
Sr	88	700	360	1200	650	170	140	1500
Th	<22	<22	<22	<22	<22	<22	<22	---
U	<320	<320	<320	<320	<320	<320	<320	---
V	12	150	20	130	24	13	11	150
Y	27	16	13	23	20	27	19	20
Yb	3	2.4	1.6	2.5	2.3	3.3	2.8	2
Zr	200	110	89	350	170	380	180	100

Table 2.--Approximate visual lower limits of determination in parts per million (ppm) for the elements analyzed by the 6-step spectrographic method at the Denver Laboratory; samples 1-125 and 147

Mn	1	Ce200
Ag	0.5	Ga5
As	1000	Ge10
Au	20	Hf100
B	20	In10
Ba	2	Li100
Be	1.5	Re50
Bi	10	Ta500
Cd	50	Th200
Co	5	Tl50
Cr	1	Yb1
Cu	1	Pr100
La	50	Nd70
Mo	3	Sm100
Nb	10	Eu100
Ni	5	Gd50
Pb	10	Tb300
Pd	2	Dy50
Pt	50	Ho20
Sb	200	Er50
Sc	5	Tm20
Sn	10	Lu30
Sr	5	Ir50
Te	2000	Os50
U	500	Rh2
V	7	Ru10
W	100	
Y	10	
Zn	300	
Zr	10	

NOTE: Some combinations of elements affect the limits of determination. In favorable materials, values lower than above may be detected. In unfavorable materials these limits of determination may not be attained.

Table 3.--Approximate lower limits of determination in parts per million (ppm) for the elements analyzed by computerized spectrographic analyses of silicate rocks; samples 126-146

Ag	0.10	Os	10
As	150	Pb	10
Au	10	Pd	1.5
B	3.2	Pr	68
Ba	3.2	Pt	6.8
Be	0.68	Re	10
Bi	22	Rh	1.0
Cd	32	Ru	3.2
Ce	29	Sb	100
Co	1.0	Sc	1.0
Cr	1.0	Sm	46
Cu	2.2	Sn	6.8
Dy	32	Sr	1.0
Er	10	Ta	320
Eu	1.5	Tb	32
Ga	2.2	Th	22
Gd	6.8	Tl	10
Ge	4.6	Tm	4.6
Hf	100	U	320
Ho	6.8	V	3.2
In	6.8	W	10
Ir	15	Y	1.5
La	10	Yb	0.10
Li	68	Zn	22
Lu	22	Zr	4.6
Mn	4.6		
Mo	2.2		
Nb	3.2		
Nd	46		
Ni	4.6		

NOTE: The standard deviation of any single result should be taken as plus 50 percent and minus 33 percent; limits apply under ideal conditions; in some cases interferences will narrow the limits.

APPENDIX A

Samples listed by rock unit

Crone Gulch Andesite (Miocene or Oligocene)
- Andesite
  - Analyses: 34, 105, 119, 126, 132, 133, 138, 147.

Tuff of Peavine Creek (Oligocene)
- Quartz latite ash-flow tuff
  - Analyses: 38, 46, 104, 106, 111, 125, 140, 142, 144.
- Rhyolite welded ash-flow tuff
  - Analyses: 118, 127, 128, 129, 130, 131, 146.

Bald Mountain Formation (Oligocene)
- Tuffaceous sandstone
  - Analyses: 37, 124, 136.

Diamond King Formation (Oligocene)
- Upper unit
  - Rhyolite welded ash-flow tuff
    - Analyses: 32, 33, 39, 43, 44, 59, 102, 103, 120.
  - Tuffaceous sandstone
    - Analysis: 101
- Middle unit
  - Rhyolite welded ash-flow tuff
    - Analyses: 29, 30, 35, 47, 48, 58, 63, 100, 114, 121.
  - Tuffaceous sandstone and (siltstone)
    - Analyses: 12, (36), 61, 123, 137.
- Lower unit
  - Rhyolite welded ash-flow tuff
    - Analyses: 62, 64.

Round Rock Formation (Oligocene)
- Upper member
  - Rhyolite ash-flow tuff and (tuff-breccia)
    - Analyses: (49), 98, 110, 117, 135.
  - Rhyolite welded ash-flow tuff
    - Analyses: 28, 50, 67, 112, 113.
  - Quartz latite ash-flow tuff
    - Analyses: 45, 122.
  - Megabreccia tuff
    - Analysis: 51.
  - Latite ash-flow tuff
    - Analyses: 60, 134.
- Middle (megabreccia) member
  - Rhyolite
    - Analyses: 5, 41, 108, 116.
  - Latite
    - Analysis: 42.
  - Andesite
    - Analyses: 4, 65, 109, 139.
- Lower member
  - Rhyolite ash-flow tuff
    - Analyses: 40, 107.
  - Rhyolite welded ash-flow tuff
    - Analyses: 27, 115.
  - Quartz latite welded ash-flow tuff

Analysis: 57.
Unnamed ash-flow tuff (Oligocene?)
Latite welded ash-flow tuff
Analysis: 54.
Tuff of Round Mountain (Oligocene)
Rhyolite welded ash-flow tuff
Analyses: 2, 19, 20, 21, 22, 93, 96.
Tuff of Mount Jefferson (Oligocene)
Rhyolite welded ash-flow tuff
Analyses: 85, 86.
Rhyolite welded ash-flow tuff of the megabreccia of Jefferson Canyon
Analyses: 83, 84.
Andesite dikes and (plug); ((Felsic)) (Oligocene)
Analyses: 80, 81, 82, 88, ((89)), 91, (95), 97, (141), 143.
Granodiorite of the Little Dry Creek stock (Oligocene)
Analyses: 79, 87, 90.
Rhyolite dikes, (sills), and ((plug)) (Oligocene)
Analyses: 6, 14, (15), (16), 26, 53, (72), ((75)), 78, 92, 94, 144.
Belmont lobe of the Shoshone Mountain Granite (Cretaceous)
Granite
Analysis: 55.
Aplite dikes
Analyses: 31, 52, 56.
Round Mountain lobe of the Shoshone Mountain Granite (Cretaceous)
Granite; (greisen)
Analyses: 1, 3, 13, 23, 25, 66, 74, (76), (77), 99.
Aplite dike
Analysis: 24.
Toquima Formation (Ordovician)
Quartzite
Analysis: 9.
Zanzibar Formation (Ordovician?)
Limestone
Analyses: 68, 69, 73.
Argillite
Analyses: 8, 70.
Siltite
Analysis: 71.
Schist
Analyses: 7, 18.
Mayflower Schist (Cambrian?)
Analyses: 11, 17.
Gold Hill Formation (Cambrian)
Quartzite
Analysis: 10.

Appendix B

Descriptions of samples analyzed

Sample locality
and plate number

1 (1) DRS-67-31, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, medium- to coarse-grained, hypidiomorphic granular; southeast slope of peak 7896, 1 km east of Shoshone Canyon, Round Mountain quadrangle.

2 (1) DRS-67-41, rhyolite welded ash-flow tuff of the upper unit of the tuff of Round Mountain; light lavender-gray, porphyritic; northwest slope of peak 7161, 2 km south of Round Mountain gold mine, Round Mountain quadrangle.

3 (1) DRS-67-43, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, fine- to medium-grained, foliated-hypidiomorphic granular; east of spur 9055, 0.8 km northwest of Mariposa Canyon, Round Mountain quadrangle.

4 (1) DRS-67-51, andesite fragment in the megabreccia of the middle member of the Round Rock Formation; gray, porphyritic; 0.5 km northwest of peak 6756, 1.2 km north of the mouth of Mariposa Canyon, Round Mountain quadrangle.

5 (1) DRS-67-53, rhyolite, large fragment in the megabreccia of the middle member of the Round Rock Formation; pinkish-buff, porphyritic; 0.5 km northwest of peak 6756, 1.3 km north of the mouth of Mariposa Canyon, Round Mountain quadrangle.

6 (1) DRS-67-70, rhyolite dike; light-buff, aphanitic (sparse quartz, sanidine, biotite phenocrysts), flow-layered; 1 km northeast of hill 6852, 0.8 km north of unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

7 (1) DRS-67-71, schist of the Zanzibar Formation in the contact zone of the Round Mountain lobe of the Shoshone Mountain Granite; dark-brownish-gray, thin-platy; 1 km northeast of hill 6852, 0.8 km north of unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

8 (1) DRS-67-74, argillaceous limestone of the Zanzibar Formation; gray, slightly tremolitized and sericitized; 0.5 km northeast of spur 7193, 1 km north of unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

9 (1) DRS-67-75, quartzite of the Toquima Formation; very pale whitish-buff to light-gray, brown to buff weathering, very fine grained; north of spur 7193, 1 km northeast of the mouth of unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

10 (2) DRS-67-77, quartzite of the Gold Hill Formation; light-gray, buff weathering, coarse-grained, sparse feldspar grains; south slope of Gold Hill, 0.5 km south of the west end of Manhattan, Manhattan quadrangle.

11 (2) DRS-67-78, schist of the Mayflower Schist; gray, "knotted"; 0.5 km northeast of White Caps Mine, 1.5 km east of Manhattan, Manhattan quadrangle.

12 (2) DRS-67-81, sandstone at the base of middle unit of the Diamond King Formation, overlying the Round Rock Formation; light-gray to light-grayish-buff, fine- to coarse-grained; southeast slope of peak 8130, west side of Slaughterhouse Gulch 2.5 km northeast of Manhattan, Manhattan quadrangle.

13 (1) DRS-67-97, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, light-pinkish-buff weathering, medium- to coarse-grained, granular, thin sill that penetrates schist at the margin of the granite pluton; 0.8 km south of peak 7161, 4 km south of Round Mountain, Round Mountain quadrangle.

14 (1) DRS-67-98, rhyolite dike; light-greenish-gray, porphyritic; 1 km south of peak 7161, 4 km south of Round Mountain, Round Mountain quadrangle.

15 (1) DRS-67-99, rhyolite sill, selvage; light-gray, porphyritic (sanidine phenocrysts to 7 mm, abundant biotite); 0.8 km west of peak 7628, 4.5 km south of Round Mountain, Round Mountain quadrangle.

16 (1) DRS-67-100, rhyolite sill, core; light-gray, porphyritic (rounded quartz phenocrysts to 4 mm, moderate amount of biotite); 0.8 km west of peak 7628, 4.5 km south of Round Mountain, Round Mountain quadrangle.

17 (2) DRS-67-121, schist of the Mayflower Schist; gray, "knotted"; mouth of Mayflower Gulch, 1 km south of Manhattan, Manhattan quadrangle.

18 (1) DRS-67-123B, schist of the Zanzibar Formation in the contact zone of the Round Mountain lobe of the Shoshone Mountain Granite; dark-gray, brown weathering, "knotted"; 0.9 km south of peak 7161, 4 km south of Round Mountain, Round Mountain quadrangle.

19 (1) DRS-68-124, rhyolite welded ash-flow tuff of the upper unit of the tuff of Round Mountain; light-buff, porphyritic; northwest slope of Fairview Hill (not named on fig. 2), 0.5 km south of the town of Round Mountain, Round Mountain quadrangle.

20 (1) DRS-68-141, rhyolite welded ash-flow tuff of the upper unit of the tuff of Round Mountain; light-buff, porphyritic; southeast slope of Round Mountain hill, 0.6 km southwest of Round Mountain, Round Mountain quadrangle.

21 (1) DRS-68-143, rhyolite welded ash-flow tuff of the vapor-altered phase of the upper unit of the tuff of Round Mountain; light-buff, porphyritic; southeast end of the top of Round Mountain hill, 0.6 km southwest of Round Mountain, Round Mountain quadrangle.

22 (1) DRS-68-145, rhyolite welded ash-flow tuff of the vapor-altered phase of the upper unit of the tuff of Round Mountain; light-buff, porphyritic, affected by potassium metasomatism; top of Round Mountain hill, 0.6 km southwest of Round Mountain, Round Mountain quadrangle.

23 (1) DRS-73-22, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, coarse-grained, foliated-hypidiomorphic granular; west slope of peak 7825, 3.2 km southeast of Round Mountain, Round Mountain quadrangle.

24 (1) DRS-73-29, aplite dike in the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, fine-grained, porphyritic; 1 km south-southeast of peak 7825, 0.5 km west of Shoshone Canyon, Round Mountain quadrangle.

25 (1) DRS-73-35, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, medium-grained, foliated-hypidiomorphic granular; west slope of peak 7860, 0.8 km north of unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

26 (1) DRS-73-55, rhyolite dike; light-gray, porphyritic; 0.5 km southeast of peak 7628, 1.5 km north of unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

27 (1) DRS-73-62, rhyolite welded ash-flow tuff within the lower member of the Round Rock Formation; pinkish-buff, porphyritic, partly autobrecciated(?); 0.7 km northwest of peak 7083, 0.8 km north of Mariposa Canyon, Round Mountain quadrangle.

28 (1) DRS-73-65, rhyolite welded ash-flow tuff, thin layer within the upper member of the Round Rock Formation; light-pinkish-brown, porphyritic, dense; on peak 7083, 0.4 km north of Mariposa Canyon, Round Mountain quadrangle.

29 (1) DRS-73-69, rhyolite welded ash-flow tuff of the middle unit of the Diamond King Formation; light-pinkish-gray, porphyritic; 0.3 km east-southeast of peak 7083, 0.3 km north of Mariposa Canyon, Round Mountain quadrangle.

30 (1) DRS-73-72, rhyolite welded ash-flow tuff of the middle unit of the Diamond King Formation; light-pinkish-buff, porphyritic; west of spur 7228, 0.4 km north of Mariposa Canyon, Round Mountain quadrangle.

31 (1) DRS-73-73, granite dike in porphyritic granite of the Belmont lobe of the Shoshone Mountain Granite; light-buff-gray, medium-grained, hypidiomorphic-allotriomorphic granular, numerous accessory pinkish-brown garnet crystals (<1 mm); 0.5 km north of peak 7228, 0.9 km north of Mariposa Canyon, Round Mountain quadrangle.

32 (1) DRS-73-76, rhyolite welded ash-flow tuff of the upper(?) unit of the Diamond King Formation; light-pinkish-buff, porphyritic; 0.8 km south of peak 7083, 0.2 km south of Mariposa Canyon, Round Mountain quadrangle.

33 (1) DRS-73-82, rhyolite welded ash-flow tuff of the upper(?) unit of the Diamond King Formation; light-pinkish-buff, porphyritic; 0.2 km west of peak 7708, 0.5 km south of Mariposa Canyon, Round Mountain quadrangle.

34 (2) DRS-73-86, andesite of the Crone Gulch Andesite; olive-brown, brown-weathering, porphyritic, slightly flow-layered; in Slaughterhouse Gulch, 2.8 km north-northeast of Manhattan, Manhattan quadrangle.

35 (2) DRS-73-87, rhyolite welded ash-flow tuff of the middle unit of the Diamond King Formation; light-pinkish-gray, porphyritic; 0.3 km northwest of peak 8130, 0.6 km west of Slaughterhouse Gulch, Manhattan quadrangle.

36 (2) DRS-73-89, siltstone at the top of the middle unit of the Diamond King Formation; pale-buff-gray, laminated; 0.2 km southeast of peak 8310, 0.5 km west of Slaughterhouse Gulch, Manhattan quadrangle.

37 (2) DRS-73-92, sandstone of the Bald Mountain Formation; pale-gray, very fine grained; 0.5 km north of peak 8310, 0.8 km west of Slaughterhouse Gulch, Manhattan quadrangle.

38 (2) DRS-73-94, quartz latite ash-flow tuff of the tuff of Peavine Creek; light-greenish-gray, porphyritic; 0.5 km southwest of Buckeye Hill, 3.7 km north-northeast of Manhattan, Manhattan quadrangle.

39 (1) DRS-73-95, rhyolite welded ash-flow tuff of the upper unit of the Diamond King Formation; light-pinkish-brown, porphyritic; 0.2 km west of peak 6935, 0.8 km south of Mariposa Canyon, Round Mountain quadrangle.

40 (1) DRS-73-97, rhyolite ash-flow tuff of the lower unit of the Round Rock Formation; light-gray, abundant small lithic and pumice fragments; 0.8 km south of peak 7392, just outside south boundary of Round Mountain quadrangle.

41 (2) DRS-73-98, rhyolite fragment in the megabreccia of the middle unit of the Round Rock Formation; pinkish-brown, porphyritic, autobrecciated; 0.1 km southwest of peak 7497, just south of the north boundary of the Manhattan quadrangle.

42 (1) DRS-73-99, latite, large(?) fragment in the megabreccia of the middle unit of the Round Rock Formation; reddish-brown, autobrecciated; 0.9 km southeast of peak 7392, at the south boundary of the Round Mountain quadrangle.
43 (1) DRS-73-102, rhyolite ash-flow tuff of the upper unit of the Diamond King Formation; light-pinkish-buff, porphyritic; 0.3 km west of peak 7392, 0.8 km south of Mariposa Canyon, Round Mountain quadrangle.
44 (1) DRS-73-103, rhyolite ash-flow tuff of the upper unit of the Diamond King Formation; light-pinkish-buff, porphyritic; 0.5 km northeast of peak 7392, 0.3 km south of Mariposa Canyon, Round Mountain quadrangle.
45 (1) DRS-73-106, quartz latite ash-flow tuff of the upper unit of the Round Rock Formation; light-greenish- to grayish-buff, abundant small lithic and pumice fragments; 0.5 km northwest of peak 7083, 0.5 km north of Mariposa Canyon, Round Mountain quadrangle.
46 (1) DRS-73-108, quartz latite ash-flow tuff of the tuff of Peavine Creek; light-greenish-gray, porphyritic, abundant small (<1 mm) biotite phenocrysts; 1.3 km west of the southeast corner of the Round Mountain quadrangle, 0.2 km within the south boundary of the quadrangle.
47 (2) DRS-73-109, rhyolite ash-flow tuff of the middle unit of the Diamond King Formation; light-buff-gray, porphyritic; 1.7 km west of the northeast corner of the Manhattan quadrangle, just within the north boundary of the quadrangle.
48 (2) DRS-73-110, rhyolite ash-flow tuff of the middle unit of the Diamond King Formation; light-pinkish-buff, porphyritic; 1.9 km west of the northeast corner of the Manhattan quadrangle, 0.2 km south of the north boundary of the quadrangle.
49 (1) DRS-73-111, rhyolite tuff breccia of the upper(?) unit of the Round Rock Formation; light-grayish-brown, autobrecciated(?); 1.9 km west of the southeast corner of the Round Mountain quadrangle, 0.2 km north of the south boundary of the quadrangle.
50 (1) DRS-73-112, rhyolite welded ash-flow tuff of the upper(?) unit of the Round Rock Formation; brown, porphyritic; 1.9 km west of the southeast corner of the Round Mountain quadrangle, 0.2 km north of the south boundary of the quadrangle.
51 (1) DRS-73-116, silicic tuff megabreccia related to the upper unit of the Round Rock Formation; gray, lithic-rich (granite clasts as much as 50 percent of the rock); 1.3 km west-northwest of the southeast corner of the Round Mountain quadrangle.
52 (1) DRS-73-118, aplite dike in porphyritic granite of the Belmont lobe of the Shoshone Mountain Granite; pale pinkish- to buff-gray, fine-grained, allotriomorphic granular; 1.8 km west-northwest of the southeast corner of the Round Mountain quadrangle.
53 (1) DRS-73-123, rhyolite dike; light-pinkish-buff, aphanitic (sparse quartz, sanidine, biotite phenocrysts), flow-layered; 0.8 km west of peak 8695, 0.6 km south of Mariposa Canyon, Round Mountain quadrangle.
54 (1) DRS-73-124, latite welded ash-flow tuff; light-brown, porphyritic, biotite-rich; 0.7 km west of peak 8695, 0.6 km south of Mariposa Canyon, Round Mountain quadrangle.
55 (1) DRS-73-126, granite of the Belmont lobe of the Shoshone Mountain Granite; light-gray, porphyritic, foliated; 0.5 km west of peak 8695, 0.4 km south of Mariposa Canyon, Round Mountain quadrangle.

56 (1) DRS-73-132, granite dike in porphyritic granite of the Belmont lobe of the Shoshone Mountain Granite; light buff-gray, fine- to medium-grained, allotriomorphic granular; 0.4 km northeast of spur 7868, 0.2 km north of Mariposa Canyon, Round Mountain quadrangle.

57 (1) DRS-73-144, quartz latite welded ash-flow tuff within the lower unit of the Round Rock Formation; brown, well-layered; 0.3 km northeast of peak 6485 in the mouth of unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

58 (1) DRS-73-145, rhyolite welded ash-flow tuff of the middle unit of the Diamond King Formation; light-buff, porphyritic; 0.3 km southeast of peak 7708, 0.8 km southeast of Mariposa Canyon, Round Mountain quadrangle.

59 (1) DRS-73-146, rhyolite welded ash-flow tuff of the upper(?) unit of the Diamond King Formation; light-gray, porphyritic; 0.5 km southeast of hill 6776, just within south boundary of the Round Mountain quadrangle.

60 (1) DRS-73-148, latite ash-flow tuff at the top of the upper unit of the Round Rock Formation; pale-whitish-buff, porphyritic (abundant biotite phenocrysts (<1 mm)); 0.6 km east of hill 6670, 0.2 km north of the south boundary of the Round Mountain quadrangle.

61 (1) DRS-73-153, sandstone at the base of the middle unit of the Diamond King Formation, overlying the Round Rock Formation; light-gray, light-buff weathering, coarse-grained; west slope of peak 7030, 1 km north of Mariposa Canyon, Round Mountain quadrangle.

62 (1) DRS-73-154, rhyolite welded ash-flow tuff, fragment in basal part of the lower unit of the Diamond King Formation, probably derived from the upper unit of the Round Rock Formation (see sample 28); light-lavender-gray, porphyritic, dense; 0.3 km west of peak 7083, 0.4 km north of Mariposa Canyon, Round Mountain quadrangle.

63 (1) DRS-73-157, rhyolite ash-flow tuff, thin layer in pinkish-buff ash-flow tuff of the middle unit of the Diamond King Formation; light-greenish-buff, porphyritic, abundant altered pumice fragments; 0.6 km south-southwest of peak 6852, 0.2 km south of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

64 (1) DRS-73-159, rhyolite ash-flow tuff at the base of the lower unit of the Diamond King Formation; pale-buff, porphyritic; 0.3 km east-northeast of hill 6756, 0.6 km south of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

65 (1) DRS-73-160, andesite fragment in the megabreccia of the middle member of the Round Rock Formation; gray, porphyritic; 0.3 km north of peak 7083, 0.8 km north of Mariposa Canyon, Round Mountain quadrangle.

66 (1) DRS-73-167, granite of the Round Mountain lobe of the Shoshone Mountain Granite; grayish-brown, coarse-grained, allotriomorphic to hypidiomorphic granular; slightly iron mineralized; in bottom of Shoshone Canyon 3.3 km east-southeast of the town of Round Mountain, Round Mountain quadrangle.

67 (1) DRS-73-169, rhyolite welded ash-flow tuff, thin vitrophyric layer at the top of the middle unit of the tuff of Round Mountain; brown with black glassy flattened pumice lapilli, porphyritic; 0.9 km southwest of peak 7161, 3.7 km south-southwest of Round Mountain, Round Mountain quadrangle.

68 (1) DRS-73-172, limestone and silicified shale of the Zanzibar Formation; gray to dark gray, thinly interlayered; 0.3 km southeast of knob 6408, 0.3 km north of the mouth of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

69 (1) DRS-73-173, shaly limestone of the Zanzibar Formation; gray, thin-platy, silicified, tremolitized and sericitized; 0.7 km east of knob 6408, 0.5 km north of the mouth of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.
70 (1) DRS-73-174, limy slate of the Zanzibar Formation; gray, thin-platy, clots of limonite (after pyrite), calcite, quartz, sericite on bedding; 0.7 km east of knob 6408, 0.5 km north of the mouth of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.
71 (1) DRS-73-178, siltite of the Zanzibar Formation(?); gray, laminated; 0.5 km southwest of peak 7191, 1.2 km north of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.
72 (1) DRS-73-196, rhyolite sill; light-buff, porphyritic; 0.7 km southwest of spur 7198, 0.5 km north of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.
73 (1) DRS-73-197, shaly limestone of the Zanzibar Formation; dark-gray, thin-platy; silicified; 0.5 km southwest of spur 7198, 0.5 km north of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.
74 (1) DRS-74-41, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray to pale-buff, coarse-grained, allotriomorphic granular; 0.1 km south of peak 9612, 1.1 km north of the head of Mariposa Canyon, Round Mountain quadrangle.
75 (1) DRS-74-94, rhyolite plug or dike; gray, porphyritic; 0.7 km east of peak 7513, 1.0 km south of Jefferson Canyon, Round Mountain quadrangle.
76 (1) DRS-74-102C, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, coarse-grained, greisenized (muscovite-rich), accessory tourmaline and monazite; 0.8 km southeast of peak 7468, 2.0 km south of Jefferson Canyon, Round Mountain quadrangle.
77 (1) DRS-74-102D, granite of the Round Mountain lobe of the Shoshone Mountain Granite; pale-greenish-gray, fine-grained, sericitized; 0.8 km southeast of peak 7468, 2.0 km south of Jefferson Canyon, Round Mountain quadrangle.
78 (1) DRS-74-104, rhyolite dike; pale-buff, tourmalinized (abundant conspicuous black crystals); 0.5 km west of peak 7512, 0.7 km west of Dry Canyon, Round Mountain quadrangle.
79 (1) DRS-74-115, granodiorite of the Little Dry Canyon Stock; gray, fine-grained; 0.4 km southwest of peak 7468, 1.5 km south of Dry Canyon, Round Mountain quadrangle.
80 (1) DRS-74-116, andesite dike(?); gray, porphyritic; 0.3 km southwest of peak 7468, 1.4 km south of Dry Canyon, Round Mountain quadrangle.
81 (1) DRS-74-117, andesite dike; gray, porphyritic; 0.3 km southwest of peak 7468, 1.3 km south of Dry Canyon, Round Mountain quadrangle.
82 (1) DRS-74-118, andesite dike; gray, porphyritic; 0.3 km southwest of peak 7468, 1.3 km south of Dry Canyon, Round Mountain quadrangle.
83 (1) DRS-74-133A, rhyolite welded ash-flow tuff of volcanic megabreccia of Jefferson Canyon; gray, porphyritic, inner selvage (chill zone) against included brecciated quartzite block; 0.3 km northeast of spur 6903, bottom of Jefferson Canyon, Round Mountain quadrangle.
84 (1) DRS-74-133B, rhyolite welded ash-flow tuff (vitrophyre) of volcanic megabreccia of Jefferson Canyon; dark-gray, porphyritic, outer selvage (chill zone) against included brecciated quartzite block; 0.3 km northeast of spur 6903, bottom of Jefferson Canyon, Round Mountain quadrangle.
85 (1) DRS-74-136, rhyolite welded ash-flow tuff of the tuff of Mount Jefferson; light-brownish-gray, porphyritic; 1.9 km north of Jefferson

Canyon, just outside east boundary of Round Mountain quadrangle.

86 (1) DRS-74-139, rhyolite welded ash-flow tuff of the tuff of Mount Jefferson; light-grayish-brown, porphyritic; 0.9 km east-northeast of Ink House Spring, northeast corner of the Round Mountain quadrangle.

87 (1) DRS-74-173A, granodiorite of the Little Dry Canyon Stock; gray, fine-grained (wall rock of composite dike in samples 88 and 89); 0.4 km north of spur 7513 in Dry Canyon, Round Mountain quadrangle.

88 (1) DRS-74-173B, andesite of composite dike; dark-gray, porphyritic; 0.4 km north of spur 7513 in Dry Canyon, Round Mountain quadrangle.

89 (1) DRS-74-173C, felsic rock of composite dike; gray, porphyritic; 0.4 km north of spur 7513 in Dry Canyon, Round Mountain quadrangle.

90 (1) DRS-74-174, granodiorite of the Little Dry Canyon Stock; gray, fine-grained; 0.4 km west of spur 7513, 0.5 km south of Dry Canyon, Round Mountain quadrangle.

91 (1) DRS-74-176, andesite dike; gray, porphyritic; 0.7 km west of spur 7513, 0.5 km south of Dry Canyon, Round Mountain quadrangle.

92 (1) DRS-74-178, rhyolite dike; pale-buff, tourmalinized (abundant small black crystals); 0.6 km southeast of peak 7468, 1.3 km south of Dry Canyon, Round Mountain quadrangle.

93 (1) DRS-74-204, rhyolite welded ash-flow tuff of the upper unit of the tuff of Round Mountain; light-grayish-buff, porphyritic; 1.5 km south of Round Mountain at the mouth of Kelsey Canyon, Round Mountain quadrangle.

94 (1) DRS-74-207, rhyolite dike; light-gray, porphyritic; 0.3 km east of knob 6935, in Kelsey Canyon, Round Mountain quadrangle.

95 (1) DRS-74-215, andesite plug; brown, porphyritic; 0.2 km north of spur 7543, 0.3 km southwest of Kelsey Canyon, Round Mountain quadrangle.

96 (1) DRS-74-226, rhyolite welded ash-flow tuff of the upper unit of the tuff of Round Mountain; light-pinkish-brown, porphyritic; 0.2 km southwest of knob 6650, 2.0 km south of Round Mountain, Round Mountain quadrangle.

97 (1) DRS-74-241, andesite dike; gray, porphyritic; 0.3 km east-southeast of peak 7628, 2.3 km southwest of Kelsey Canyon, Round Mountain quadrangle.

98 (1) DRS-74-254, rhyolite ash-flow tuff of the upper member of the Round Rock Formation; pale buff, abundant small lithic and pumice fragments; 0.7 km southeast of peak 7708, 1.3 km southeast of Mariposa Canyon, Round Mountain quadrangle.

99 (1) DRS-74-259, granite of the Round Mountain lobe of the Shoshone Mountain Granite; light-gray, medium- to coarse-grained foliated-hypidiomorphic granular; 0.5 km southwest of peak 7628, 1.7 km north of the unnamed canyon north of Mariposa Canyon, Round Mountain quadrangle.

100 (2) DRS-75-4, rhyolite welded ash-flow tuff of the middle(?) unit of the Diamond King Formation; pale-gray, porphyritic; 1.5 km northwest of Bald Mountain in Bald Mountain Canyon, Manhattan quadrangle.

101 (2) DRS-75-10, sandstone at the base of the upper unit of the Diamond King Formation; pale-greenish-buff, tuffaceous; 0.2 km southeast of hill 8328, northeast corner of the Manhattan quadrangle.

102 (2) DRS-75-15, rhyolite welded ash-flow tuff of the upper unit of the Diamond King Formation; light-pinkish-buff, porphyritic; at the top of hill 8305, 1.0 km west of the South Fork of Silver Creek, northeast corner of the Manhattan quadrangle.

103 (2) DRS-75-16B, rhyolite welded ash-flow tuff of the upper unit of the Diamond King Formation; light-brownish-gray, porphyritic; 1.6 km east

of hill 6741, 0.4 km south of the north boundary of the Manhattan quadrangle.

104 (2) DRS-75-17, quartz latite ash-flow tuff of the tuff of Peavine Creek; light-greenish-gray, porphyritic; 0.7 km northeast of hill 7586, 1.2 km south of the north boundary of the Manhattan quadrangle.

105 (2) DRS-75-18, andesite of the Crone Gulch Andesite; olive-brown, brown weathering, porphyritic; 0.8 km northeast of hill 7586, 1.2 south of the north boundary of the Manhattan quadrangle.

106 (2) DRS-75-19, quartz latite welded ash-flow tuff unit within the tuff of Peavine Creek; light-brown, porphyritic; 1.0 km east-northeast of hill 7586, 1.4 km south of the north boundary of the Manhattan quadrangle.

107 (2) DRS-75-20, rhyolite ash-flow tuff within the lower member of the Round Rock Formation; light-greenish-brown, porphyritic, abundant small lithic and pumice fragments; 1.2 km east of hill 7586, 1.4 km south of the north boundary of the Manhattan quadrangle.

108 (2) DRS-75-22, rhyolite breccia fragment in the megabreccia of the middle member of the Round Rock Formation; light-pinkish-brown, porphyritic; on spur 7642, 0.9 km south of the north boundary of the Manhattan quadrangle.

109 (2) DRS-75-23, andesite breccia fragment in the megabreccia of the middle member of the Round Rock Formation; gray, porphyritic; 0.3 km south of spur 7642, 1.2 km south of the north boundary of the Manhattan quadrangle.

110 (2) DRS-75-24, rhyolite ash-flow tuff at the base of the upper member of the Round Rock Formation; pale-buff-gray, porphyritic, abundant small pumice and lithic fragments; 0.5 km south of spur 7642, 1.4 km south of the north boundary of the Manhattan quadrangle.

111 (2) DRS-75-32, quartz latite welded ash-flow tuff unit within the tuff of Peavine Creek; light-brown, porphyritic; 0.5 km east of hill 7586, 1.8 km south of the north boundary of the Manhattan quadrangle.

112 (2) DRS-75-34, rhyolite welded ash-flow tuff near the base of the upper member of the Round Rock Formation; buff, abundant small lithic and pumice fragments; 0.2 km west of hill 7854, 1.1 km north of Bald Mountain Canyon, Manhattan quadrangle.

113 (2) DRS-75-35, rhyolite welded ash-flow tuff near the middle of the upper member of the Round Rock Formation; light-brownish-gray, abundant small pumice and lithic fragments; on hill 7854, 1.3 km north of Bald Mountain Canyon, Manhattan quadrangle.

114 (2) DRS-75-36, rhyolite welded ash-flow tuff near the base of the middle unit of the Diamond King Formation; light-pinkish-buff, porphyritic; 0.2 km south of hill 8263, 1.4 km northeast of Bald Mountain Canyon, Manhattan quadrangle.

115 (2) DRS-75-37, rhyolite welded ash-flow tuff, 10-m-thick vitrophyric layer within the lower member of the Round Rock Formation; dark-brown, porphyritic; 0.5 km north of spur 7642, 0.5 km south of the north boundary of the Manhattan quadrangle.

116 (2) DRS-75-44, rhyolite fragment in the megabreccia of the middle member of the Round Rock Formation; reddish-brown, porphyritic; 0.7 km east of spur 7642, 0.9 km south of the north boundary of the Manhattan quadrangle.

117 (2) DRS-75-45, rhyolite ash tuff near the top of the upper member of the Round Rock Formation; pale-grayish-buff, fine-grained, abundant minute pumice fragments altered to greenish-gray clay; 0.6 km south of hill 7908, 1.6 km south of the north boundary of the Manhattan quadrangle.

118 (2) DRS-75-49, rhyolite welded ash-flow tuff unit in the tuff of Peavine Creek; pinkish-brown, abundant small lithic and pumice fragments; 0.5 km northwest of hill 8705, 1.5 km south of the north boundary of the Manhattan quadrangle.

119 (2) DRS-75-50, andesite plug of the Crone Gulch Andesite; brown, porphyritic; 0.8 km northwest of hill 8705, 1.2 km south of the north boundary of the Manhattan quadrangle.

120 (2) DRS-75-51, rhyolite welded ash-flow tuff of the upper unit of the Diamond King Formation; light-gray, porphyritic; top of hill 7908, 1.0 km south of the north boundary of the Manhattan quadrangle.

121 (2) DRS-75-52, rhyolite welded ash-flow tuff near the base of the middle unit of the Diamond King Formation; light-pinkish-buff, porphyritic; 0.1 km south of spur 7683, 0.2 km south of the north boundary of the Manhattan quadrangle.

122 (2) DRS-75-53A, quartz latite ash-flow tuff at the top of the upper member of the Round Rock Formation; pale-greenish-gray, abundant small pumice and lithic fragments; 0.2 km south of spur 7683, 0.3 km south of the north boundary of the Manhattan quadrangle.

123 (2) DRS-75-53B, sandstone at the base of the middle unit of the Diamond King Formation, overlying the Round Rock Formation (3 m above sample 122); pale-greenish-gray, coarse-grained; 0.2 km south of spur 7683, 0.3 km south of the north boundary of the Manhattan quadrangle.

124 (2) DRS-75-55A, sandstone of the Bald Mountain Formation; pale-greenish-buff, fine- to coarse-grained; 0.9 km north-northwest of hill 8705, 1.1 km south of the north boundary of the Manhattan quadrangle.

125 (2) DRS-75-56, quartz latite ash-flow tuff of the tuff of Peavine Creek; pale-greenish-buff, porphyritic, abundant small biotite phenocrysts; 0.7 km north of hill 8705, 1.1 km south of the north boundary of the Manhattan quadrangle.

126 (2) DRS-76-14, andesite of the Crone Gulch Andesite; light-olive-brown, porphyritic; 1.1 km north of peak 9199, 0.1 km south of Bald Mountain Wash, Manhattan quadrangle.

127 (2) DRS-76-17, rhyolite welded ash-flow tuff within the tuff of Peavine Creek; light-brown, porphyritic, abundant small lithic and pumice fragments; 0.3 km north of peak 9199, 0.9 km south of Bald Mountain Wash, Manhattan quadrangle.

128 (2) DRS-76-18, rhyolite welded ash-flow tuff within the tuff of Peavine Creek; light-brown, porphyritic, abundant small pumice and lithic fragments; 0.2 km north of peak 9199, 1.0 km south of Bald Mountain Wash, Manhattan quadrangle.

129 (2) DRS-76-19, rhyolite welded ash-flow tuff within the tuff of Peavine Creek; light-brown, porphyritic, abundant small lithic and pumice fragments; 0.1 km north of peak 9199, 1.1 km south of Bald Mountain Wash, Manhattan quadrangle.

130 (2) DRS-76-21, rhyolite welded ash-flow tuff within the tuff of Peavine Creek; light-greenish-buff, fine-grained; 0.3 km west of peak 9199, 1.3 km east of the peak of Bald Mountain, Manhattan quadrangle.

131 (2) DRS-76-23, rhyolite ash-flow tuff near the base of the tuff of Peavine Creek; pale-greenish-gray, abundant light-greenish-brown altered pumice lapilli; 0.5 km east-northeast of the peak of Bald Mountain, Manhattan quadrangle.

132 (2) DRS-76-26, andesite of the Crone Gulch Andesite; greenish-gray, porphyritic, vesicular; 0.8 km north of the peak of Bald Mountain, Manhattan quadrangle.

133 (2) DRS-76-27, andesite of the Crone Gulch Andesite; greenish-gray (olive), porphyritic; 1.0 km east of hill 8882, bottom of Bald Mountain Wash, Manhattan quadrangle.
134 (2) DRS-76-34, latite ash-flow tuff near the top of the upper member of the Round Rock Formation; light-pinkish-buff, porphyritic, abundant small light-greenish-gray altered pumice lapilli; 0.3 km north of Bald Mountain Wash, 1.2 km west of the east boundary of the Manhattan quadrangle.
135 (2) DRS-76-44, rhyolite ash-flow tuff of the upper member of the Round Rock Formation; light-gray, fine-grained; 0.2 km north of Bald Mountain Wash, 0.9 km west of the east boundary of the Manhattan quadrangle.
136 (2) DRS-76-47, sandstone near the base of the Bald Mountain Formation; light-greenish-gray, coarse-grained, quartz-rich; 0.2 km west-northwest of hill 8230, 1.4 km west of the east boundary of the Manhattan quadrangle.
137 (2) DRS-76-52, sandstone at the base of the middle unit of the Diamond King Formation, overlying the Round Rock Formation; pale-greenish-buff, fine-grained, tuffaceous; 0.3 km south of hill 8260, 0.3 km west of the east boundary of the Manhattan quadrangle.
138 (2) DRS-76-76, andesite of the Crone Gulch Andesite; olive-gray, porphyritic; 0.9 km east-southeast of peak 9199, 1.3 km southwest of Bald Mountain Wash, Manhattan quadrangle.
139 (2) DRS-76-81, andesite fragment in the megabreccia of the middle member of the Round Rock Formation; gray, porphyritic; 0.7 km north-northwest of hill 8263, 1.8 km south of the north boundary of the Manhattan quadrangle.
140 (2) DRS-76-84, quartz latite ash-flow tuff of the tuff of Peavine Creek; light-greenish-buff, porphyritic, abundant small lithic and pumice fragments; 1.4 km northwest of spur 7642, 0.2 km south of the north boundary of the Manhattan quadrangle.
141 (2) DRS-76-87, andesite plug(?); dark-brownish-gray, porphyritic; 1.2 km north-northeast of hill 7586, 0.5 km south of the north boundary of the Manhattan quadrangle.
142 (2) DRS-76-89, quartz latite ash-flow tuff of the tuff of Peavine Creek; light-greenish-buff, porphyritic, abundant small biotite phenocrysts, abundant small lithic fragments; 1.0 km north of hill 7586, 0.7 km south of the north boundary of the Manhattan quadrangle.
143 (2) DRS-76-95, andesite dike; dark-gray, finely porphyritic (almost aphanitic); 0.8 km southeast of hill 6957, 0.6 km northeast of Bald Mountain Canyon, Manhattan quadrangle.
144 (2) DRS-76-96, quartz latite ash-flow tuff of the tuff of Peavine Creek; pale-greenish-buff, porphyritic, abundant small biotite phenocrysts, abundant small pumice and lithic fragments; 0.9 km southeast of hill 6957, 0.6 km northeast of Bald Mountain Canyon, Manhattan quadrangle.
145 (2) DRS-76-103, rhyolite dike(?); pale-buff, porphyritic, abundant small biotite phenocrysts; 0.8 km north of hill 6523, 0.7 km east of the west boundary of the Manhattan quadrangle.
146 (2) DRS-76-112, rhyolite ash-flow tuff of the tuff of Peavine Creek; light-greenish-buff, porphyritic, abundant small biotite phenocrysts, abundant small pumice and lithic fragments; 0.5 km northeast of peak 9882, 0.7 km northwest of Bald Mountain Wash, Manhattan quadrangle.
147 (2) DRS-77-199, andesite of the Crone Gulch Andesite; greenish-gray, porphyritic; 0.8 km south of hill 8272, bottom of Crone Gulch (type locality), Manhattan quadrangle.