UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Analytical results and sample locality map for 340 rock, 322 stream-sediment and soil, and 263 panned-concentrate samples from the Sapphire Wilderness Study Area, Granite and Ravalli Counties, Montana

By

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Open-File Report 83-196

1983

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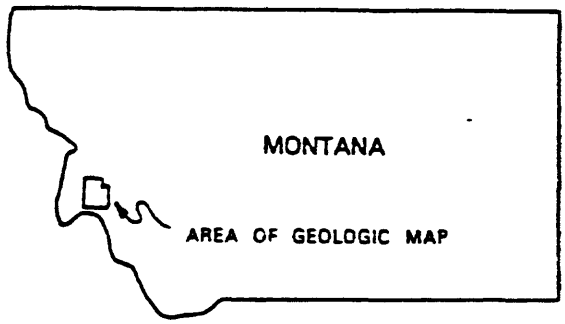
STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the Sapphire Wilderness study area in the Bitterroot and Deerlodge National Forests, Granite and Ravalli Counties, Montana. The Sapphire Wilderness study area was classified as a proposed wilderness during the Second Roadless Area Review and Evaluation (RARE II) by the U.S. Forest Service, January 1979.



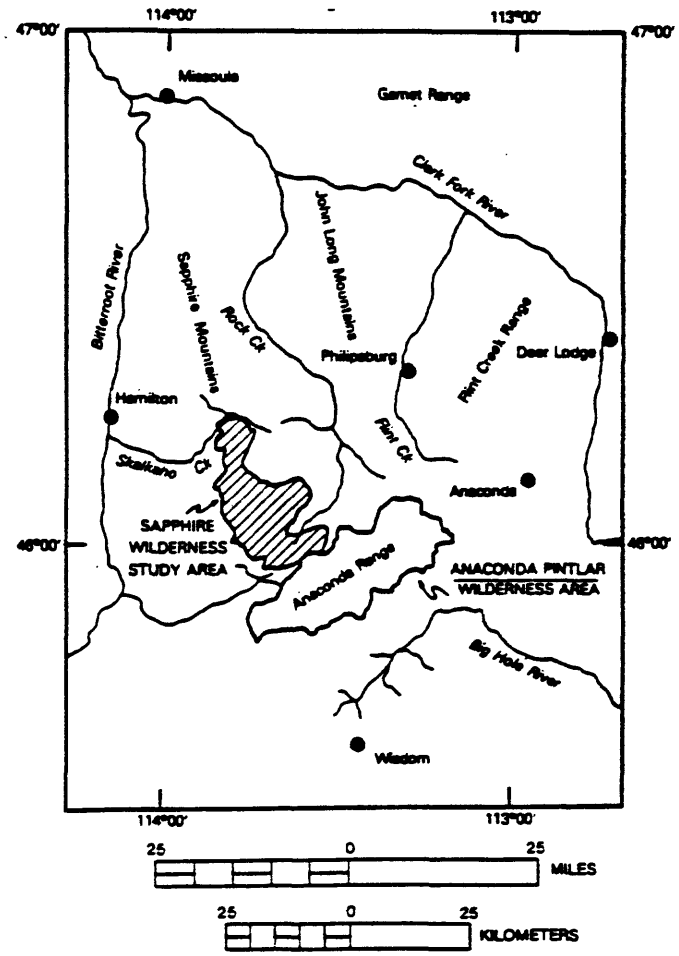


Figure 1.--Index map of the Sapphire Wilderness study area, Granite and Ravalli Counties, Montana.

INTRODUCTION

The geochemical investigation of the Sapphire Wilderness, an area of 147 sq mi (382 sq km) (Fig. 1) consisted of collecting and analyzing 322 rock, 322 stream-sediment and soil, and 263 panned-concentrate samples (Plate 1). Traverses to collect these samples were made along the ridges and stream drainages in the area.

SAMPLE COLLECTION TECHNIQUES

The mineralized, unmineralized and altered rock samples were collected mostly from outcrop, but mineralized float rock rock samples were collected when found, to help delineate any potential mineral deposits. Stream sediment samples were air dried and sieved to minus-177-micrometer (-80 mesh) as this fraction is favorable for metal adsorption on fine, clay-size particles. Soil samples were also dry sieved to minus-177-micrometer. The concentrate samples were usually panned on-site enhancing the concentrations of heavy minerals present and their associated trace metals by a factor of 500. When no water was available, the sample was bagged and panned later. Sample localities are shown on Plate 1. Some of the samples in this study were collected as part of the Butte 1° x 2° quadrangle CUSMAP project. Samples were collected by J. C. Antweiler, Zairah Antweiler, Brian Stepanek, James Ellerby, Gregory Lee, David Sawyer, Wesley L. Campbell, Phyllis Campbell, Gregory Campbell, C. A. Wallace, and D. J. Lidke.

ANALYTICAL TECHNIQUES

All rock samples were analyzed for 30 elements by a six-step semiquantitative emission-spectrographic method (Grimes and Marranzino, 1968) and for gold (Thompson and others, 1968), Ag, Bi, Cd, Cu, Pb, Sb, and Zn (Viets and others, 1979) by atomic absorption procedure. Panned-concentrate samples were analyzed for 28 elements by emission spectrographic methods and for gold by atomic absorption. Stream sediment and soil samples were analzyed for 26 elements by emission spectrographic methods and for Ag, Bi, Cd, Cu, Pb, Sb, and Zn by atomic absorption method. Sample analyses and localitions are presented in this report.

EXPLANATION OF TABLES

The analytical data are shown in the accompanying tables. Rock sample data are in Table 1, stream-sediment and soil sample data in Table 2, and panned concentrate data in Table 3.

Values shown are in parts per million, except Fe, Mg, Ca, and Ti, which are in percent. Symbols used are >, greater than the upper limit of determination; N, not detected at the limit of detection; <, less than the lower limit of determination. Analyses for elements prefixed by S were made by the 6-step semiquantitative spectrographic method. These elements are reported in orders of magnitude of the series 1, 0.7, 0.5, 0.3, 0.2, 0.15, and 0.1. Numbers in parentheses below the element symbols are the limits of detection by the analytical method used.

REFERENCES CITED

Grimes, D. J., and Marranzino, A. P., 1968, Direct-current arc and alternating-current spark emission spectrographic field methods for the semiquantiative analysis of geologic materials: U.S. Geological Survey Circular 591, 6 p.

Thompson, C. E., Nakagawa, H. M., and Van Sickle, G. H., 1968, Rapid analysis for gold in geologic materials, in Geological Survey Research: U.S. Geological Survey Professional Paper 600-B, p. B130-B132.

Viets, J. G., Clark, J. R., and Campbell, W. L., 1979, A rapid, sensitive, partial leach and organic separation for the determination of Ag, Bi, Cd, Co, Pb, Sb, and Zn by atomic absorption spectrometry [abs.]: Association of Exploration Geochemists, Basin and Range Symposium, Tuscon, Arizona, April 9-10, 1979, Program and Abstracts, p. 32.

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	As-ppm s(200)	Au-ppm s(10)	B-ppm s(10)	Ba-ppm s(20)
80078	46 12 0	113 51 38	5.00	3.00	3.00	.500	1,500	N	N	N	N	1,500
80082	46 12 38	113 51 5	5.00	5.00	3.00	.500	700	N	N	N	N	150
80083	46 12 44	113 51 2	7.00	7.00	7.00	.700	1,000	N	N	N	N	500
80088	46 13 17	113 50 32	2.00	7.00	10.00	.150	700	N	N	N	10	N
80156	46 9 43	113 50 11	1.00	.30	.50	.150	50	N	N	N	N	1,000
80197	46 11 7	113 47 10	2.00	1.00	2.00	.200	700	N	N	N	N	700
80201	46 10 25	113 47 27	3.00	1.50	2.00	.200	700	N	N	N	<10	1,500
80212	46 9 43	113 49 45	1.50	.50	1.50	.150	700	N	N	N	N	1,500
80216B	46 6 42	113 45 35	.30	.30	<.05	.030	10	N	N	N	15	70
80217A	46 6 51	113 45 35	3.00	1.50	.15	.500	50	N	N	N	300	2,000
80251	46 8 1	113 46 56	.70	.20	1.00	.070	150	N	N	N	N	1,500
80302A	45 57 15	113 38 32	.70	.70	<.05	.100	70	N	N	N	<10	500
80332B	46 13 54	113 50 44	1.00	.30	2.00	.150	500	.5	N	N	10	200
80342	46 1 53	113 46 32	1.50	1.00	.70	.100	1,000	N	N	N	15	700
80349A	46 1 49	113 45 23	3.00	7.00	10.00	.300	1,000	N	N	N	10	1,500
80349B	46 1 49	113 45 23	2.00	10.00	10.00	.150	2,000	N	N	N	N	500
80374	46 2 20	113 41 55	1.50	1.00	1.50	.200	700	N	N	N	N	1,000
80395	46 1 36	113 43 20	2.00	1.00	1.50	.200	500	N	N	N	<10	700
80404A	45 59 58	113 42 29	1.50	.50	1.00	.100	500	N	N	N	N	1,500
80414B	46 0 15	113 40 50	3.00	.03	<.05	.015	20	30.0	N	N	10	70
80414C	46 2 14	113 40 17	.70	.20	.70	.070	300	N	N	N	<10	1,000
80449	46 1 8	113 45 43	2.00	3.00	3.00	.300	200	N	N	N	10	500
80467	45 59 20	113 44 50	3.00	5.00	3.00	.200	200	N	N	N	100	1,000
80475B	46 59 42	113 45 35	2.00	5.00	7.00	.200	1,500	<.5	N	N	70	3,000
80491	45 58 17	113 44 30	5.00	2.00	3.00	.500	1,000	N	N	N	10	1,000
80512	45 59 8	113 42 46	1.50	.30	.05	.150	70	N	N	N	30	1,000
80516	46 1 48	113 48 48	2.00	.70	1.50	.150	700	N	N	N	N	700
80541	45 4 45	113 49 35	15.00	3.00	5.00	1.000	2,000	N	N	N	N	150
80542	46 4 45	113 49 38	1.00	.70	.10	.100	150	N	N	N	N	500
80556	46 5 0	113 46 41	10.00	5.00	7.00	.700	2,000	7.0	N	N	N	1,500
80579	45 58 9	113 36 51	2.00	2.00	.15	.200	200	N	N	N	200	700
80597	45 6 23	113 42 8	1.50	.70	2.00	.100	700	N	N	N	N	700
80634	46 1 34	113 35 23	.30	.10	<.05	.030	10	N	N	N	10	300
80635	46 1 24	113 35 27	1.50	.70	<.05	.200	70	N	N	N	100	500
80645	46 7 50	113 47 14	1.50	1.00	2.00	.150	500	1.5	N	N	N	700
80653	46 7 21	113 48 20	2.00	2.00	10.00	.200	300	N	N	N	30	70
80658	46 7 32	113 49 30	.10	.02	.15	.150	70	N	N	N	N	N
80671	46 6 9	113 46 11	.50	.50	.07	.030	30	N	N	N	20	300
80DL21	45 59 45	113 47 49	7.00	7.00	7.00	.700	1,500	N	N	N	10	150
80DL24A	45 58 29	113 41 0	3.00	7.00	7.00	.200	1,000	N	N	N	70	700
80DL24C	45 58 29	113 41 0	2.00	7.00	7.00	.200	1,000	N	N	N	70	700
80DL29	46 3 48	113 47 32	1.50	1.50	.20	.300	150	N	N	N	70	500
80DL33	46 5 15	113 46 12	1.50	1.00	1.50	.200	300	N	N	N	N	1,500
80DL36	46 6 48	113 45 5	1.50	.70	.10	.300	500	N	N	N	200	150
80DL41A	46 3 56	113 42 57	1.50	1.50	.07	.150	100	N	N	N	150	700

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Be-ppm s(1)	Bi-ppm s(10)	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sb-ppm s(100)	Sc-ppm s(5)
80078	1.5	N	N	10	20	<5	50	N	N	10	15	N	10
80082	N	N	N	10	20	50	<20	N	N	7	<10	N	15
80083	N	N	N	70	700	30	<20	N	N	150	<10	N	50
80088	1.0	N	N	10	30	N	30	N	N	10	N	N	10
80156	2.0	N	N	5	N	<5	50	N	<20	5	20	N	5
80197	1.5	N	N	7	20	<5	50	N	N	10	20	N	7
80201	1.0	N	N	10	30	<5	20	N	N	10	30	N	7
80212	1.5	N	N	5	10	<5	30	N	N	<5	30	N	<5
80216B	1.0	N	N	5	15	<5	20	N	N	7	<10	N	N
80217A	2.0	N	N	5	70	<5	50	N	<20	15	<10	N	10
80251	1.5	N	N	<5	<10	5	30	N	N	<5	20	N	N
80302A	1.5	N	N	5	N	<5	<20	N	N	7	15	N	<5
80332B	1.5	N	N	<5	N	100	30	N	N	<5	<10	<100	<5
80342	1.5	N	N	<5	20	<5	20	N	<20	5	<10	N	5
80349A	2.0	N	N	7	70	10	50	N	<20	20	10	N	15
80349B	1.5	N	N	7	30	N	20	N	N	5	15	N	5
80374	2.0	N	N	7	30	5	30	N	N	5	30	N	7
80395	1.5	N	N	5	30	<5	50	N	N	7	20	N	7
80404A	1.5	N	N	5	10	<5	20	N	N	5	30	N	5
80414B	1.5	100	N	N	10	300	<20	7	N	5	700	N	<5
80414C	2.0	N	N	N	10	<5	20	N	N	<5	150	N	N
80449	2.0	N	N	5	70	30	30	N	<20	10	20	N	10
80467	1.5	N	N	7	70	20	50	N	N	15	30	N	15
80475B	2.0	N	N	10	70	200	50	N	N	10	20	N	15
80491	1.0	N	N	15	50	20	50	N	N	10	15	N	15
80512	2.0	N	N	5	20	<5	20	N	N	5	<10	N	<5
80516	2.0	N	N	5	10	<5	<20	N	<20	5	50	N	5
80541	<1.0	N	N	70	100	200	20	N	N	70	10	N	30
80542	1.5	N	N	5	30	<5	20	N	N	7	15	N	<5
80556	<1.0	100	N	50	150	15,000	20	70	N	50	10	N	50
80579	2.0	N	N	7	50	70	30	N	N	20	<10	N	<5
80597	2.0	N	N	<5	20	20	20	N	N	5	30	N	<5
80634	<1.0	N	N	N	15	5	20	N	N	5	<10	N	N
80635	1.5	N	N	7	20	<5	20	N	N	10	10	N	<5
80645	2.0	N	N	7	20	<5	30	N	N	5	30	N	7
80653	1.5	N	N	7	50	5	30	N	<20	10	N	N	7
80658	<1.0	N	N	<5	10	<5	<20	N	N	<5	N	N	N
80671	1.0	N	N	<5	10	<5	20	N	N	5	10	N	N
80DL21	N	N	N	30	500	150	<20	N	N	200	20	N	30
80DL24A	1.5	N	N	7	30	<5	30	N	N	15	15	N	7
80DL24C	1.5	N	N	20	30	<5	30	N	N	30	50	N	7
80DL29	1.5	N	N	5	50	<5	20	N	N	7	<10	N	<5
80DL33	1.5	N	N	N	N	10	30	N	N	<5	10	N	<5
80DL36	3.0	N	N	<5	30	<5	20	N	N	10	N	N	7
80DL41A	2.0	N	N	5	10	<5	20	N	N	15	10	N	<5

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Sn-ppm s(10)	Sr-ppm s(100)	V-ppm s(10)	W-ppm s(50)	Y-ppm s(10)	Zn-ppm s(200)	Zr-ppm s(10)	Au-ppm aa(.05)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)
80078	N	500	100	N	20	N	200	<.05	--	--	--	<.05	.35
80082	N	300	150	N	20	N	30	<.05	--	--	--	<.05	.20
80083	N	500	500	N	30	N	30	<.05	--	--	--	<.05	.34
80088	N	N	30	N	30	N	150	<.05	--	--	--	<.05	.27
80156	N	150	10	N	20	N	150	<.05	--	--	--	<.05	.25
80197	N	300	70	N	20	N	100	<.05	--	--	--	<.05	.25
80201	N	300	70	N	20	N	150	<.05	--	--	--	<.05	.30
80212	N	300	20	N	15	N	30	<.05	--	--	--	<.05	.30
80216B	N	N	10	N	<10	N	200	<.05	9	<1	N	<.05	<.05
80217A	N	N	70	N	30	N	300	<.05	--	--	--	<.05	.42
80251	N	300	15	N	10	<200	150	<.05	--	--	--	<.05	.30
80302A	N	N	15	N	N	N	150	<.05	--	--	--	<.05	.20
80332B	N	<100	70	N	20	N	50	<.05	--	--	--	.20	.25
80342	N	N	20	N	15	N	50	<.05	--	--	--	<.05	.20
80349A	N	100	70	N	50	N	150	<.05	--	--	--	<.05	.20
80349B	N	100	20	N	30	N	70	<.05	--	--	--	<.05	.20
80374	N	500	50	N	15	N	150	<.05	--	--	--	<.05	--
80395	N	500	70	N	20	N	30	<.05	--	--	--	<.05	--
80404A	N	300	15	N	15	N	30	<.05	--	--	--	<.05	--
80414B	N	N	20	N	N	200	<10	4.50	--	--	--	<.05	--
80414C	N	300	15	N	10	200	50	<.05	--	--	--	<.05	--
80449	N	N	70	N	30	N	200	<.05	--	--	--	<.05	--
80467	N	N	50	N	30	N	200	<.05	--	--	--	<.05	--
80475B	10	N	70	N	30	N	150	<.05	--	--	--	<.05	--
80491	N	500	150	N	20	N	100	<.05	--	--	--	<.05	--
80512	N	N	30	N	20	N	150	<.05	--	--	--	<.05	--
80516	N	200	30	N	15	N	100	<.05	--	--	--	<.05	--
80541	N	200	700	N	70	N	200	<.05	--	--	--	<.05	--
80542	N	<100	30	N	15	N	150	<.05	3	4	2	<.05	<.05
80556	N	200	700	N	70	N	70	1.40	--	--	--	<.05	--
80579	N	N	70	N	20	N	200	<.05	--	--	--	<.05	--
80597	N	300	30	N	15	N	70	<.05	--	--	--	<.05	--
80634	N	N	10	N	10	N	50	<.05	--	--	--	<.05	--
80635	N	N	30	N	<10	N	150	<.05	--	--	--	<.05	--
80645	N	500	50	N	20	N	100	<.05	--	--	--	<.05	--
80653	N	N	50	N	30	N	150	<.05	--	--	--	<.05	--
80658	N	N	15	N	<10	N	150	<.05	--	--	--	<.05	--
80671	N	N	10	N	<10	N	50	<.05	--	--	--	<.05	--
80DL21	N	100	200	N	20	N	100	<.05	--	--	--	<.05	--
80DL24A	N	N	30	N	30	N	150	<.05	--	--	--	<.05	--
80DL24C	N	N	30	N	30	N	200	<.05	--	--	--	<.05	--
80DL29	N	N	50	N	10	N	300	<.05	--	--	--	<.05	--
80DL33	N	300	20	N	<10	N	70	<.05	2	<1	N	<.05	<.05
80DL36	N	N	50	N	15	N	150	<.05	--	--	--	<.05	--
80DL41A	N	N	20	N	10	N	100	<.05	--	--	--	<.05	--

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Bi-ppm aa(1)	Sb-ppm aa(1)
80078	2	3
80082	<1	2
80083	2	2
80088	27	2
80156	1	3
80197	2	1
80201	2	1
80212	1	1
80216B	<1	<1
80217A	1	2
80251	2	1
80302A	2	2
80332B	2	2
80342	1	2
80349A	2	3
80349B	1	2
80374	--	--
80395	--	--
80404A	--	--
80414B	--	--
80414C	--	--
80449	--	--
80467	--	--
80475B	--	--
80491	--	--
80512	--	--
80516	--	--
80541	--	--
80542	<1	<1
80556	--	--
80579	--	--
80597	--	--
80634	--	--
80635	--	--
80645	--	--
80653	--	--
80658	--	--
80671	--	--
80DL21	--	--
80DL24A	--	--
80DL24C	--	--
80DL29	--	--
80DL33	<1	<1
80DL36	--	--
80DL41A	--	--

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	As-ppm s(200)	Au-ppm s(10)	B-ppm s(10)	Ba-ppm s(20)
80DL41B	46 3 56	113 42 57	2.00	1.50	.10	.300	150	N	N	N	200	700
80DL42	46 3 51	113 42 48	2.00	1.50	.15	.300	100	N	N	N	200	700
80DL43	46 3 42	113 42 29	3.00	1.50	2.00	.300	1,000	N	N	N	N	1,000
80DL48	46 10 14	113 46 35	2.00	1.50	2.00	.200	1,000	N	N	N	10	700
80DL49	46 10 20	113 46 51	3.00	1.50	2.00	.300	700	N	N	N	10	1,000
80DL55	46 9 40	113 46 20	2.00	1.00	1.50	.200	700	N	N	N	N	1,000
80DL56	46 9 25	113 48 0	2.00	1.50	2.00	.300	1,000	N	N	N	N	700
80DL57	46 9 28	113 48 49	2.00	1.50	2.00	.200	700	N	N	N	<10	700
80DL58	46 9 20	113 49 35	.15	.30	.50	.100	100	N	N	N	10	100
80DL62	46 7 39	113 43 40	1.50	.70	1.50	.150	700	N	N	N	N	700
80DL64	46 5 5	113 41 20	1.50	.70	2.00	.150	700	N	N	N	N	700
80DL66	46 5 13	113 40 13	1.50	1.00	1.50	.150	700	N	N	N	10	1,000
80DL70	45 58 38	113 43 10	7.00	5.00	7.00	.300	1,500	N	N	N	15	200
80DL71	45 58 58	113 43 43	2.00	3.00	7.00	.150	1,000	N	N	N	10	500
80DL74	45 6 7	113 50 11	2.00	5.00	5.00	.200	300	N	N	N	10	N
80DL77	46 5 25	113 52 20	.30	.20	.30	.070	100	<.5	N	N	N	500
80DL78	46 5 3	113 50 51	3.00	1.50	3.00	.300	1,500	N	N	N	N	1,000
E0045A	46 0 50	113 40 53	3.00	1.00	5.00	.070	5,000	.7	N	N	N	70
E0045B	46 0 50	113 40 53	1.50	1.00	2.00	.150	700	N	N	N	N	1,000
E0046A	46 0 52	113 40 41	2.00	.70	.20	.150	1,500	N	N	N	50	1,000
E0047A	46 1 48	113 40 48	5.00	<.02	<.05	<.002	20	150.0	700	70	>2,000	<20
E0048A	46 0 28	113 40 35	3.00	.50	1.50	.100	1,000	30.0	N	N	70	300
E0048B	46 0 28	113 40 35	2.00	1.00	7.00	.200	>5,000	20.0	N	N	200	1,000
E0048C	46 0 28	113 40 35	2.00	1.50	2.00	.300	700	N	N	N	N	1,000
E0049A	46 0 17	113 39 36	1.50	.15	N	.070	15	1,500.0	N	N	70	150
E0050A	46 0 18	113 39 47	1.50	.07	<.05	.050	30	300.0	N	N	70	70
E0051A	46 0 32	113 40 15	5.00	1.50	N	.300	150	100.0	N	N	200	1,000
E0055A	46 2 54	113 39 41	.70	.50	1.50	.070	300	N	N	N	N	700
E0056A	46 3 38	113 39 40	1.50	1.50	2.00	.150	1,000	N	N	N	N	700
E0057A	46 3 46	113 40 8	5.00	.10	<.05	.030	50	30.0	200	N	15	200
E0057B	46 3 46	113 40 8	3.00	.70	<.05	.300	30	1.0	N	N	300	1,000
E0058A	46 3 24	113 40 27	.30	.10	<.05	.030	50	7.0	N	N	30	100
E0058B	46 3 24	113 40 27	.50	.02	.20	.020	30	.7	N	N	<10	30
E0059A	46 3 17	113 40 46	1.50	1.50	2.00	.200	700	N	N	N	N	1,000
E0060A	46 1 46	113 41 9	1.50	1.50	1.50	.150	1,000	N	N	N	N	1,000
E0060B	46 1 46	113 41 9	3.00	.02	<.05	.002	20	100.0	1,500	N	N	20
E0062A	46 0 53	113 42 0	1.50	.70	2.00	.150	500	N	N	N	N	1,000
E0127A	46 0 20	113 34 30	1.50	<.02	<.05	.002	10	3.0	N	N	N	20
E0128A	46 0 30	113 34 25	3.00	.07	<.05	.050	15	5.0	N	N	10	70
E0128B	46 0 30	113 34 25	5.00	.10	<.05	.070	15	10.0	<200	<10	10	100
E0128C	46 0 30	113 34 25	7.00	.20	<.05	.100	20	1.5	N	N	50	150
E0128D	46 0 30	113 34 25	5.00	.05	<.05	.030	10	10.0	N	30	10	70
E0128E	46 0 30	113 34 25	2.00	.30	<.05	.100	20	1.0	N	N	70	500
E0129A	45 59 9	113 34 8	1.00	.30	<.05	.070	70	N	200	N	70	500
E0130A	45 59 21	113 33 45	.70	.15	<.05	.070	70	N	200	N	10	300

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Be-ppm s(1)	Bi-ppm s(10)	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sb-ppm s(100)	Sc-ppm s(5)
80DL41B	2.0	N	N	5	30	<5	30	N	N	15	<10	N	5
80DL42	1.5	N	N	5	50	<5	30	N	N	10	<10	N	<5
80DL43	1.5	N	N	7	20	<5	20	N	N	10	30	N	7
80DL48	1.5	N	N	7	10	<5	20	N	N	7	30	N	7
80DL49	1.5	N	N	7	20	<5	30	N	N	10	30	N	7
80DL55	1.5	N	N	7	20	<5	20	N	N	7	30	N	5
80DL56	1.5	N	N	7	15	5	30	N	N	7	20	N	7
80DL57	1.5	N	N	7	20	5	30	N	N	7	30	N	7
80DL58	2.0	N	N	<5	10	N	20	N	N	<5	10	N	<5
80DL62	1.5	N	N	5	15	5	20	N	N	<5	30	N	<5
80DL64	2.0	N	N	5	10	<5	20	N	N	7	30	N	5
80DL66	2.0	N	N	5	10	<5	<20	N	N	7	30	N	5
80DL70	<1.0	N	N	20	30	50	20	N	N	30	15	N	20
80DL71	1.5	N	N	5	20	<5	<20	N	N	10	30	N	5
80DL74	<1.0	N	N	10	50	<5	20	N	N	20	N	N	7
80DL77	2.0	N	N	<5	10	N	20	N	N	<5	<10	N	<5
80DL78	1.5	N	N	5	10	5	30	N	N	N	15	N	5
E0045A	1.5	N	N	<5	N	20	<20	70	N	10	100	N	<5
E0045B	1.5	N	N	5	15	<5	20	N	<20	7	30	N	5
E0046A	1.5	N	N	5	15	5	20	N	N	5	30	N	5
E0047A	<1.0	15	>500	20	N	2,000	<20	N	N	20	>20,000	150	N
E0048A	3.0	<10	>500	10	N	700	<20	N	N	5	10,000	N	5
E0048B	2.0	<10	N	N	20	<5	30	N	N	5	15,000	N	10
E0048C	1.5	N	N	7	15	<5	20	N	<20	7	20	N	10
E0049A	1.5	N	N	<5	10	200	20	N	N	5	700	700	<5
E0050A	1.5	N	N	<5	<10	100	20	N	N	5	1,000	500	<5
E0051A	2.0	300	N	N	70	70	100	N	N	5	5,000	N	15
E0055A	1.5	N	N	<5	10	5	20	N	N	<5	30	N	<5
E0056A	1.5	N	N	5	10	<5	20	N	N	5	30	N	5
E0057A	1.0	N	N	10	10	15	<20	N	N	20	10,000	N	<5
E0057B	2.0	N	N	N	30	<5	30	N	N	5	100	N	7
E0058A	1.5	N	N	<5	15	<5	300	N	N	<5	300	N	N
E0058B	1.5	N	N	N	<10	<5	<20	N	N	5	50	N	N
E0059A	2.0	N	N	5	15	<5	20	N	<20	5	30	N	7
E0060A	1.5	N	N	5	15	<5	<20	N	N	<5	30	N	5
E0060B	N	N	100	<5	10	500	<20	N	N	<5	5,000	700	N
E0062A	1.5	N	N	5	20	<5	20	N	N	<5	30	N	5
E0127A	<1.0	N	N	N	10	150	20	150	N	<5	10	100	N
E0128A	1.5	70	N	N	15	200	20	500	N	5	500	700	<5
E0128B	1.5	100	N	N	10	700	20	1,000	N	<5	2,000	1,000	<5
E0128C	2.0	100	N	N	15	300	20	1,000	N	<5	1,000	100	5
E0128D	1.5	100	N	N	15	500	20	1,000	N	<5	2,000	300	N
E0128E	2.0	N	N	N	20	100	20	30	N	5	5,000	<100	5
E0129A	1.5	N	N	N	10	<5	<20	N	N	7	15	N	<5
E0130A	1.0	N	N	N	10	<5	<20	N	N	5	15	N	N

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Sn-ppm s(10)	Sr-ppm s(100)	V-ppm s(10)	W-ppm s(50)	Y-ppm s(10)	Zn-ppm s(200)	Zr-ppm s(10)	Au-ppm aa(.05)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)
80DL41B	N	N	70	N	10	N	500	<.05	--	--	--	<.05	--
80DL42	N	N	30	N	20	N	700	<.05	--	--	--	<.05	--
80DL43	N	300	70	N	20	N	100	<.05	--	--	--	<.05	--
80DL48	N	500	70	N	20	N	70	<.05	--	--	--	<.05	--
80DL49	N	500	70	N	20	N	150	<.05	--	--	--	<.05	--
80DL55	N	300	50	N	30	N	100	<.05	--	--	--	<.05	--
80DL56	N	300	70	N	20	N	150	<.05	2	<1	N	<.05	<.05
80DL57	N	500	70	N	20	N	200	<.05	--	--	--	<.05	--
80DL58	N	<100	10	N	15	N	150	<.05	--	--	--	<.05	--
80DL62	N	300	30	N	20	<200	100	<.05	--	--	--	<.05	--
80DL64	N	300	30	N	20	N	70	<.05	--	--	--	<.05	--
80DL66	N	300	30	N	20	N	150	<.05	--	--	--	<.05	--
80DL70	N	500	300	N	20	N	50	<.05	--	--	--	<.05	--
80DL71	N	<100	20	N	15	N	70	<.05	--	--	--	<.05	--
80DL74	N	N	30	N	30	N	100	<.05	20	4	2	<.05	<.05
80DL77	N	150	<10	N	20	N	100	<.05	7	4	2	<.05	.07
80DL78	N	1,000	30	N	30	N	200	<.05	--	2	1	.18	.05
E0045A	N	300	50	N	10	N	<10	<.05	--	--	--	<.05	--
E0045B	N	500	50	N	10	N	100	<.05	--	--	--	<.05	--
E0046A	N	150	50	N	10	N	100	<.05	--	--	--	<.05	--
E0047A	N	N	N	N	N	>10,000	N	.05	--	--	--	<.05	--
E0048A	N	N	30	N	<10	>10,000	30	.05	--	--	--	<.05	--
E0048B	N	300	70	N	100	N	100	.25	--	--	--	<.05	--
E0048C	N	300	70	N	30	N	70	<.05	--	--	--	<.05	--
E0049A	N	N	15	N	15	<200	150	1.75	--	--	--	<.05	--
E0050A	N	N	70	N	<10	200	100	1.10	--	--	--	<.05	--
E0051A	N	N	100	N	20	<200	100	46.60	--	--	--	<.05	--
E0055A	N	300	15	N	<10	N	50	<.05	--	--	--	<.05	--
E0056A	N	300	30	N	15	N	50	<.05	--	--	--	<.05	--
E0057A	N	N	50	N	N	N	15	2.50	--	--	--	<.05	--
E0057B	N	N	100	N	15	N	100	.12	--	--	--	<.05	--
E0058A	N	N	15	N	15	N	10	.15	--	--	--	<.05	--
E0058B	N	N	10	N	10	N	30	<.05	--	--	--	<.05	--
E0059A	N	300	50	N	20	N	50	<.05	--	--	--	<.05	--
E0060A	N	300	30	N	15	N	15	<.05	--	--	--	<.05	--
E0060B	N	N	N	N	N	1,000	N	21.00	--	--	--	<.05	--
E0062A	N	300	50	N	10	N	50	<.05	--	--	--	<.05	--
E0127A	N	N	<10	N	N	N	N	<.05	--	--	--	<.05	--
E0128A	N	N	15	N	N	N	50	3.00	--	--	--	<.05	--
E0128B	N	N	15	N	30	N	100	12.30	--	--	--	<.05	--
E0128C	N	N	20	N	15	N	150	3.10	--	--	--	<.05	--
E0128D	N	N	20	N	N	N	100	13.00	--	--	--	<.05	--
E0128E	N	N	20	N	15	N	150	.15	--	--	--	<.05	--
E0129A	N	N	15	N	<10	N	70	<.05	--	--	--	<.05	--
E0130A	N	N	10	N	<10	N	150	<.05	--	--	--	<.05	--

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm aa(1)	Sb-ppm aa(1)
80DL41B	--	--
80DL42	--	--
80DL43	--	--
80DL48	--	--
80DL49	--	--
80DL55	--	--
80DL56	<1	<1
80DL57	--	--
80DL58	--	--
80DL62	--	--
80DL64	--	--
80DL66	--	--
80DL70	--	--
80DL71	--	--
80DL74	<1	<1
80DL77	<1	<1
80DL78	<1	<1
E0045A	--	--
E0045B	--	--
E0046A	--	--
E0047A	--	--
E0048A	--	--
E0048B	--	--
E0048C	--	--
E0049A	--	--
E0050A	--	--
E0051A	--	--
E0055A	--	--
E0056A	--	--
E0057A	--	--
E0057B	--	--
E0058A	--	--
E0058B	--	--
E0059A	--	--
E0060A	--	--
E0060B	--	--
E0062A	--	--
E0127A	--	--
E0128A	--	--
E0128B	--	--
E0128C	--	--
E0128D	--	--
E0128E	--	--
E0129A	--	--
E0130A	--	--

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	As-ppm s(200)	Au-ppm s(10)	B-ppm s(10)	Ba-ppm s(20)
E0131A	45 59 26	113 33 38	2.00	.30	<.05	.100	30	N	200	N	100	700
E0132A	45 59 32	113 33 2	7.00	<.02	<.05	.070	500	30.0	N	N	10	>5,000
E0132B	45 59 32	113 33 2	10.00	.02	<.05	.070	500	30.0	200	N	N	>5,000
JN0367R	45 59 41	113 45 24	3.00	5.00	10.00	.200	3,000	N	N	N	15	1,000
JN0368R	45 58 45	113 45 29	2.00	1.00	.10	.300	700	N	N	N	20	1,000
JN0735R	45 58 44	113 46 24	2.00	1.50	5.00	.500	500	N	N	N	20	700
JN1202R	45 59 57	113 47 10	1.50	.20	<.05	.150	500	N	N	N	200	1,000
KEL0364R	45 59 11	113 34 25	1.50	.50	<.05	.200	70	30.0	N	N	150	500
KEL1279R	45 59 32	113 33 3	15.00	.03	<.05	.100	200	70.0	500	N	30	>5,000
KEL1280R	45 59 32	113 33 2	10.00	.03	N	.100	1,000	7.0	N	N	30	>5,000
KEL1281R	45 59 32	113 33 1	1.50	.02	N	.150	30	70.0	700	N	10	>5,000
KEL1282R	45 59 31	113 33 2	3.00	2.00	5.00	.300	5,000	N	N	N	200	>5,000
KEL1283R	45 59 32	113 33 36	3.00	1.50	3.00	.300	1,000	<.5	N	N	10	1,000
KEL1630R	45 59 44	113 33 6	1.00	.20	.05	.150	150	N	N	N	100	1,000
KEN0066R	46 1 56	113 46 55	3.00	.70	.20	.500	300	N	N	N	150	700
KEN0080R	46 6 8	113 45 54	10.00	.70	.05	1.000	70	N	N	N	200	1,000
KEN0081R	46 3 49	113 47 32	3.00	1.50	.15	.300	150	N	N	N	200	300
KEN0082R	46 4 8	113 47 59	1.50	1.00	.20	.200	70	N	N	N	150	500
KEN0083R	46 4 20	113 47 56	1.00	.70	.07	.200	70	N	N	N	100	700
KEN0085R	46 4 26	113 47 13	1.00	.70	.07	.150	300	N	N	N	100	5,000
KEN0086R	46 4 51	113 46 44	10.00	5.00	7.00	1.000	1,500	N	N	N	20	500
KEN0087R	46 4 51	113 46 44	3.00	1.00	3.00	.300	1,000	5.0	N	N	15	70
KEN0089R	46 4 51	113 46 44	2.00	1.50	.15	.300	150	N	N	N	200	700
KEN0090R	46 4 51	113 46 44	2.00	1.50	.30	.300	200	N	N	N	200	700
KEN0092R	46 4 58	113 46 40	10.00	5.00	7.00	1.000	1,500	N	N	N	N	200
KEN0350R	46 3 20	113 47 36	3.00	1.50	.30	.500	300	N	N	N	150	1,000
KEN0351R	46 2 57	113 48 11	2.00	1.00	.30	.300	500	N	N	N	300	500
KEN0352R	46 2 17	113 48 11	1.50	1.00	.20	.300	300	N	N	N	200	700
KEN0353R	46 2 8	113 47 47	.07	.07	.30	.020	70	N	N	N	10	500
KEN0369R	46 1 44	113 48 36	3.00	.50	1.00	.300	1,000	N	N	N	10	1,000
KEN0371R	46 0 12	113 48 2	2.00	.20	.50	.070	150	N	N	N	<10	2,000
KEN0372R	46 2 37	113 49 32	1.00	.50	.30	.150	200	N	N	N	<10	300
KEN0373R	46 3 48	113 49 41	.50	.30	.20	.050	200	N	N	N	<10	300
KEN0374R	46 4 33	113 49 58	3.00	1.00	.30	.500	500	N	N	N	200	700
KEN0375R	46 5 51	113 49 53	1.50	.70	.30	.200	150	N	N	N	70	500
KEN0385R	46 3 31	113 46 33	1.00	.70	.30	.150	150	N	N	N	150	700
KEN0720R	46 2 6	113 47 16	3.00	1.50	.20	.300	300	N	N	N	200	3,000
KEN0721R	46 1 56	113 46 48	.70	.20	.10	.200	150	N	N	N	20	300
KEN0722R	46 1 56	113 46 48	3.00	1.50	3.00	.500	1,500	N	N	N	100	1,500
KEN0723R	46 1 41	113 46 6	3.00	1.50	.70	.500	150	N	N	N	200	700
KEN0724R	46 1 6	113 45 45	3.00	7.00	20.00	.300	1,500	N	N	N	<10	300
KEN0725R	46 0 48	113 45 16	3.00	7.00	10.00	.300	1,000	N	N	N	70	1,500
KEN0736R	46 5 10	113 46 13	1.50	1.50	.10	.150	150	N	N	N	200	700
KEN0737R	46 6 14	113 45 29	.70	.70	.05	.070	100	N	N	N	30	700
KEN0738R	46 6 24	113 45 32	.70	.05	<.05	.015	50	N	N	N	10	200

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Be-ppm s(1)	Bi-ppm s(10)	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sb-ppm s(100)	Sc-ppm s(5)
E0131A	1.5	N	N	<5	30	<5	20	N	N	7	15	N	5
E0132A	<1.0	15	N	70	<10	>20,000	<20	N	N	15	50	300	<5
E0132B	1.0	N	N	70	10	>20,000	<20	N	N	30	50	<100	5
JN0367R	5.0	N	N	50	50	70	20	N	<20	30	100	N	7
JN0368R	2.0	N	N	10	100	<5	30	N	<20	30	15	N	7
JN0735R	1.0	N	N	10	50	<5	50	N	<20	10	<10	N	20
JN1202R	1.5	N	N	<5	15	N	20	N	<20	7	15	N	5
KEL0364R	2.0	N	N	<5	50	5	20	N	<20	10	20	N	5
KEL1279R	<1.0	N	N	200	20	>20,000	<20	20	<20	150	70	1,000	<5
KEL1280R	<1.0	N	N	5	15	3,000	<20	N	<20	<5	50	N	5
KEL1281R	<1.0	N	N	7	20	7,000	20	N	<20	5	70	1,500	N
KEL1282R	1.5	N	N	10	20	15	30	N	<20	7	15	N	7
KEL1283R	3.0	N	N	15	100	2,000	30	N	<20	15	30	N	20
KEL1630R	2.0	N	N	N	20	7	20	N	<20	5	20	N	5
KEN0066R	2.0	N	N	5	100	7	70	N	<20	15	15	N	7
KEN0080R	1.0	N	N	<5	300	7	20	N	20	5	30	N	5
KEN0081R	2.0	N	N	20	50	<5	30	N	<20	50	15	N	7
KEN0082R	2.0	N	N	5	15	N	30	N	<20	10	10	N	5
KEN0083R	1.5	N	N	5	20	N	20	N	<20	7	10	N	<5
KEN0085R	1.5	N	N	5	10	<5	20	N	<20	5	15	N	<5
KEN0086R	N	200	N	100	300	15,000	N	N	N	70	15	N	50
KEN0087R	<1.0	150	N	10	70	2,000	20	N	<20	15	10	N	10
KEN0089R	3.0	N	N	7	30	30	20	N	<20	15	10	N	7
KEN0090R	2.0	N	N	7	20	7	30	N	<20	20	10	N	7
KEN0092R	N	N	N	70	300	500	<20	N	N	70	10	N	50
KEN0350R	2.0	N	N	7	150	<5	30	N	<20	20	20	N	7
KEN0351R	3.0	N	N	5	50	<5	30	N	<20	15	20	N	7
KEN0352R	2.0	N	N	7	50	<5	30	N	<20	20	30	N	5
KEN0353R	10.0	N	N	<5	10	N	20	N	N	<5	50	N	N
KEN0369R	3.0	N	N	7	10	<5	30	N	<20	5	70	N	7
KEN0371R	<1.0	N	N	5	10	5	20	N	N	<5	50	N	5
KEN0372R	1.5	N	N	<5	20	<5	20	N	N	7	15	N	5
KEN0373R	1.0	N	N	N	20	<5	20	N	N	5	20	N	<5
KEN0374R	3.0	N	N	10	100	<5	50	N	<20	30	15	N	7
KEN0375R	2.0	N	N	5	70	<5	30	N	<20	15	10	N	7
KEN0385R	1.5	N	N	<5	15	<5	30	N	<20	7	10	N	<5
KEN0720R	1.5	N	N	10	100	<5	70	N	<20	30	15	N	10
KEN0721R	1.5	N	N	5	20	<5	30	N	<20	5	<10	N	<5
KEN0722R	2.0	N	N	<5	70	<5	50	<5	<20	20	15	N	15
KEN0723R	2.0	N	N	10	100	5	70	N	<20	30	<10	N	15
KEN0724R	1.0	N	N	15	100	30	70	N	<20	20	70	N	15
KEN0725R	2.0	N	N	7	100	5	50	N	<20	20	100	N	15
KEN0736R	1.5	N	N	7	70	<5	20	N	N	15	<10	N	5
KEN0737R	1.5	N	N	5	10	<5	20	N	N	10	10	N	<5
KEN0738R	<1.0	N	N	<5	20	N	<20	N	N	<5	<10	N	N

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Sn-ppm s(10)	Sr-ppm s(100)	V-ppm s(10)	W-ppm s(50)	Y-ppm s(10)	Zn-ppm s(200)	Zr-ppm s(10)	Au-ppm aa(.05)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)
E0131A	N	N	20	N	10	N	150	<.05	--	--	--	<.05	--
E0132A	N	<100	15	N	15	N	30	.10	--	--	--	<.05	--
E0132B	N	200	10	N	20	N	70	.15	--	--	--	<.05	--
JN0367R	N	<100	20	N	50	N	200	--	26	9	5	<.05	.09
JN0368R	N	N	30	N	50	N	300	--	N	1	1	<.05	N
JN0735R	N	500	150	N	20	N	200	--	1	1	5	<.05	.06
JN1202R	N	N	30	N	10	N	100	--	N	1	3	<.05	.21
KEL0364R	N	<100	30	N	10	N	300	--	1	2	1	<.05	N
KEL1279R	N	100	20	N	20	N	100	--	26,000	36	25	39.00	.56
KEL1280R	N	<100	15	N	20	N	300	--	500	11	15	2.34	.07
KEL1281R	N	<100	30	N	20	N	300	--	8,200	27	45	44.00	1.10
KEL1282R	N	500	30	N	30	N	300	--	66	3	5	.42	.07
KEL1283R	N	300	100	N	50	N	200	--	22,000	8	8	.18	.20
KEL1630R	N	N	20	N	20	N	150	--	1	2	1	.06	<.05
KEN0066R	N	<100	50	N	20	N	300	--	4	1	1	<.05	.14
KEN0080R	N	N	100	N	20	N	700	--	1	4	2	<.05	.20
KEN0081R	N	N	50	N	50	N	500	--	1	3	5	.09	.23
KEN0082R	N	N	30	N	10	N	200	--	N	1	1	<.05	.18
KEN0083R	N	<100	30	N	<10	N	200	--	N	1	1	<.05	.22
KEN0085R	N	<100	20	N	<10	N	200	--	N	1	1	<.05	.25
KEN0086R	N	100	500	N	30	N	50	--	>2,000	6	5	.38	.51
KEN0087R	N	<100	200	N	30	N	30	--	>2,000	20	20	.94	.33
KEN0089R	N	N	50	N	10	N	200	--	3	1	1	<.05	.27
KEN0090R	N	N	50	N	20	N	200	--	33	1	1	<.05	.25
KEN0092R	N	150	500	N	50	N	100	--	500	1	3	.09	.31
KEN0350R	N	<100	70	N	20	N	300	--	N	1	N	<.05	N
KEN0351R	N	N	30	N	15	N	150	--	N	1	N	<.05	N
KEN0352R	N	N	50	N	10	N	200	--	N	1	N	<.05	N
KEN0353R	N	N	<10	N	10	N	20	--	N	1	N	<.05	N
KEN0369R	N	1,000	30	N	20	N	200	--	1	2	12	<.05	N
KEN0371R	N	300	15	N	20	N	500	--	1	2	3	<.05	N
KEN0372R	N	N	20	N	<10	N	300	--	N	1	N	<.05	N
KEN0373R	N	N	15	N	<10	N	70	--	N	1	3	<.05	.05
KEN0374R	N	N	70	N	20	N	200	--	N	1	N	<.05	.06
KEN0375R	N	N	50	N	15	N	300	--	N	1	1	<.05	.07
KEN0385R	N	N	30	N	10	N	300	--	N	2	2	<.05	.07
KEN0720R	N	100	100	N	20	N	500	--	<1	<1	1	<.05	<.05
KEN0721R	N	N	20	N	15	N	300	--	<1	<1	<1	<.05	<.05
KEN0722R	N	100	70	N	30	N	300	--	<1	1	4	<.05	<.05
KEN0723R	N	<100	100	N	70	N	300	--	<1	1	<1	<.05	<.05
KEN0724R	N	100	70	N	50	N	150	--	28	33	1	.11	.05
KEN0725R	N	<100	100	N	30	N	300	--	1	40	1	<.05	.08
KEN0736R	N	<100	70	N	15	N	200	--	<1	1	1	<.05	<.05
KEN0737R	N	N	20	N	N	N	70	--	<1	<1	1	<.05	<.05
KEN0738R	N	N	10	N	100	N	10	--	<1	<1	2	<.05	<.05

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm aa(1)	Sb-ppm aa(1)
E0131A	--	--
E0132A	--	--
E0132B	--	--
JN0367R	N	N
JN0368R	N	N
JN0735R	<1	<1
JN1202R	N	N
KEL0364R	N	N
KEL1279R	8	1,400
KEL1280R	1	28
KEL1281R	3	2,800
KEL1282R	1	11
KEL1283R	<1	3
KEL1630R	<1	<1
KEN0066R	N	1
KEN0080R	N	N
KEN0081R	N	N
KEN0082R	N	1
KEN0083R	N	N
KEN0085R	N	N
KEN0086R	150	N
KEN0087R	105	1
KEN0089R	1	1
KEN0090R	N	N
KEN0092R	N	N
KEN0350R	N	N
KEN0351R	N	N
KEN0352R	N	N
KEN0353R	N	N
KEN0369R	N	N
KEN0371R	N	N
KEN0372R	N	N
KEN0373R	N	N
KEN0374R	N	N
KEN0375R	N	N
KEN0385R	N	N
KEN0720R	<1	<1
KEN0721R	<1	<1
KEN0722R	<1	<1
KEN0723R	<1	<1
KEN0724R	1	<1
KEN0725R	<1	<1
KEN0736R	<1	<1
KEN0737R	<1	<1
KEN0738R	<1	<1

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	As-ppm s(200)	Au-ppm s(10)	B-ppm s(10)	Ba-ppm s(20)
KEN0739R	46 7 1	113 45 25	3.00	2.00	.30	.300	150	.5	N	N	700	500
KEN0740R	46 7 1	113 45 25	5.00	1.50	.50	.500	300	N	N	N	500	500
KEN0760R	46 2 25	113 48 10	.30	.10	.50	.030	150	N	N	N	10	100
KEN0851R	46 1 16	113 46 24	.70	.30	.15	.050	200	N	N	N	50	300
KEN0852R	46 1 16	113 46 24	5.00	1.50	.20	.700	200	N	N	N	300	1,000
KEN0853R	46 1 8	113 46 24	.30	.10	.15	.010	500	N	N	N	1,500	70
KEN0854R	46 1 8	113 46 24	1.00	.20	.30	.100	100	1.0	N	N	10	300
KEN0880R	46 1 27	113 46 58	1.00	1.00	.20	.100	200	N	N	N	150	700
KEN0881R	46 1 27	113 46 58	.15	.05	.07	.010	70	N	N	N	<10	70
KEN0928R	46 6 23	113 46 17	1.50	1.00	.05	.500	70	N	N	N	100	1,500
KEN0929R	46 6 53	113 45 39	3.00	2.00	.50	.500	100	N	N	N	500	2,000
KEN0936R	46 7 5	113 47 50	1.50	2.00	7.00	.300	150	N	N	N	70	150
KEN0949R	46 7 2	113 50 1	3.00	7.00	15.00	.200	300	N	N	N	10	30
LC0001R	45 57 57	113 38 42	2.00	.20	<.05	.300	100	N	N	N	20	500
LC0002R	45 57 57	113 38 42	.10	<.02	<.05	.007	10	N	N	N	20	30
LC0003R	45 57 58	113 38 10	.30	.07	<.05	.030	100	N	N	N	N	700
LC0005R	45 57 17	113 38 33	.20	.05	<.05	.030	100	N	N	N	N	1,000
LC0098R	45 58 9	113 39 1	1.50	.50	<.05	.300	70	N	N	N	70	700
LC0105R	45 59 42	113 42 0	2.00	.70	1.00	.200	700	N	N	N	10	1,500
LC0362R	45 59 29	113 38 16	1.50	.20	<.05	.200	70	N	N	N	50	700
LC0363R	45 58 39	113 38 6	1.50	.30	<.05	.200	70	N	N	N	100	500
LC0365R	45 58 22	113 40 28	1.00	.70	<.05	.150	150	N	N	N	100	500
LC0366R	45 59 17	113 44 50	3.00	3.00	5.00	.500	700	N	N	N	50	1,000
LC0719R	45 59 46	113 42 36	3.00	.70	2.00	.300	1,000	N	N	N	10	1,500
LC0869R	45 58 33	113 39 21	2.00	.30	N	.150	70	N	N	N	150	500
LC0870R	45 58 56	113 39 48	1.00	.30	<.05	.150	100	N	N	N	20	300
LC0871R	45 59 12	113 39 48	1.50	.50	<.05	.200	70	N	N	N	200	700
LC0872R	45 59 30	113 40 5	1.50	.70	<.05	.300	70	N	N	N	200	700
LC0873R	45 59 38	113 40 9	2.00	1.00	N	.300	70	N	N	N	200	500
LC0874R	45 59 55	113 40 39	3.00	7.00	15.00	.300	700	N	N	N	10	700
LC0875R	45 59 9	113 40 59	2.00	.30	1.50	.200	500	N	N	N	10	500
LC1675R	45 59 11	113 42 42	.70	.07	<.05	.100	20	N	N	N	150	3,000
MAU1268R	46 7 31	113 36 55	3.00	1.50	3.00	.300	1,000	<.5	N	N	15	1,500
MAU1269R	46 7 31	113 36 55	.70	.15	.15	.150	200	<.5	N	N	70	300
MAU1270R	46 7 31	113 36 55	.30	.05	<.05	.007	50	<.5	N	N	10	100
MAU1271R	46 7 31	113 36 51	1.00	.30	.30	.150	300	<.5	N	N	70	1,000
MAU1272R	46 7 31	113 36 51	1.50	1.00	3.00	.300	500	N	N	N	10	1,500
MAU1273R	46 7 32	113 36 55	.50	.05	<.05	.005	10	1.5	N	N	50	150
MAU1274R	46 7 32	113 36 55	.50	.15	<.05	.200	50	3.0	N	N	50	500
MAU1275R	46 7 32	113 36 55	.70	.15	<.05	.070	70	.7	N	N	100	1,000
MAU1276R	46 7 32	113 36 53	2.00	.03	<.05	.030	20	7.0	N	N	20	100
MAU1277R	46 7 32	113 36 47	2.00	1.50	3.00	.300	700	N	N	N	20	1,000
MAU1278R	46 7 32	113 36 47	3.00	7.00	5.00	.300	300	N	N	N	15	500
MOL0326R	46 4 8	113 37 21	1.00	.30	.05	.150	70	N	N	N	70	1,000
MOL0327R	46 4 32	113 36 25	1.00	.70	.30	.150	200	N	N	N	200	1,000

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Be-ppm s(1)	Bi-ppm s(10)	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sb-ppm s(100)	Sc-ppm s(5)
KEN0739R	10.0	N	N	5	150	<5	30	N	<20	20	<10	N	15
KEN0740R	7.0	N	N	7	150	<5	70	N	<20	30	<10	N	15
KEN0760R	7.0	N	N	N	<10	N	<20	N	<20	5	50	N	<5
KEN0851R	100.0	N	N	<5	10	N	20	N	<20	5	30	N	<5
KEN0852R	1.0	N	N	<5	70	N	20	N	<20	10	10	N	5
KEN0853R	200.0	N	N	<5	<10	N	<20	N	<20	5	20	N	<5
KEN0854R	7.0	N	N	<5	10	<5	<20	N	<20	10	20	N	5
KEN0880R	3.0	N	N	7	10	<5	50	N	N	7	20	N	5
KEN0881R	3.0	N	N	5	<10	N	<20	N	<20	5	50	N	<5
KEN0928R	2.0	N	N	5	20	<5	20	N	<20	10	20	N	<5
KEN0929R	3.0	N	N	7	150	10	30	N	<20	50	15	N	10
KEN0936R	2.0	N	N	5	70	15	70	N	<20	15	10	N	7
KEN0949R	<1.0	N	N	20	150	5	50	N	<20	50	10	N	7
LC0001R	1.5	N	N	5	50	10	20	<5	<20	10	20	N	5
LC0002R	N	N	N	N	N	10	N	N	N	5	<10	N	N
LC0003R	<1.0	N	N	N	10	<5	20	N	N	7	20	N	N
LC0005R	<1.0	N	N	N	<10	<5	<20	N	N	5	20	N	N
LC0098R	1.5	N	N	5	10	7	20	N	N	7	20	N	5
LC0105R	1.5	N	N	7	15	5	100	N	<20	5	50	N	7
LC0362R	1.5	N	N	5	30	<5	20	N	<20	10	30	N	5
LC0363R	2.0	N	N	<5	20	<5	20	N	<20	10	30	N	5
LC0365R	2.0	N	N	N	30	<5	20	N	N	7	20	N	<5
LC0366R	2.0	N	N	7	100	20	30	N	<20	30	50	N	10
LC0719R	3.0	N	N	7	10	<5	30	<5	<20	5	30	N	7
LC0869R	2.0	N	N	5	20	<5	20	N	<20	15	20	N	5
LC0870R	1.5	N	N	<5	10	<5	20	N	N	7	20	N	<5
LC0871R	3.0	N	N	5	20	<5	20	N	<20	10	20	N	5
LC0872R	2.0	N	N	<5	15	<5	20	N	<20	7	20	N	5
LC0873R	3.0	N	N	<5	50	<5	20	N	<20	10	20	N	5
LC0874R	1.0	N	N	7	50	20	20	N	<20	30	15	N	7
LC0875R	5.0	N	N	7	<10	7	20	N	<20	7	30	N	5
LC1675R	1.5	N	N	<5	20	<5	20	N	N	5	10	N	<5
MAU1268R	2.0	N	N	10	100	100	30	N	<20	10	30	N	20
MAU1269R	1.0	N	N	5	<10	20	30	2,000	N	5	15	N	<5
MAU1270R	<1.0	<10	N	5	<10	5	<20	2,000	N	<5	15	N	<5
MAU1271R	2.0	N	N	5	20	15	20	N	<20	7	15	N	5
MAU1272R	1.0	N	N	5	70	5	30	N	<20	7	20	N	10
MAU1273R	1.0	10	N	5	<10	<5	20	2,000	N	<5	30	N	N
MAU1274R	1.5	100	N	<5	<10	10	20	1,000	<20	<5	50	N	<5
MAU1275R	1.0	N	N	5	15	300	20	N	N	<5	30	N	<5
MAU1276R	N	200	N	5	<10	150	<20	300	<20	5	70	100	<5
MAU1277R	2.0	N	N	10	70	30	20	5	<20	10	30	N	15
MAU1278R	2.0	N	N	7	100	100	50	N	<20	15	10	N	15
MOL0326R	2.0	N	N	N	30	<5	30	N	<20	5	15	N	<5
MOL0327R	2.0	N	N	<5	30	<5	20	N	<20	10	15	N	<5

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Sn-ppm s(10)	Sr-ppm s(100)	V-ppm s(10)	W-ppm s(50)	Y-ppm s(10)	Zn-ppm s(200)	Zr-ppm s(10)	Au-ppm aa(.05)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)
KEN0739R	N	N	100	N	30	N	200	--	<1	<1	2	<.05	<.05
KEN0740R	N	N	100	N	50	N	300	--	<1	1	1	<.05	<.05
KEN0760R	N	<100	<10	N	30	N	70	--	<1	1	1	<.05	<.05
KEN0851R	N	N	15	N	N	N	100	--	N	N	1	<.05	.33
KEN0852R	N	N	20	N	15	N	300	--	N	N	1	<.05	.36
KEN0853R	N	N	<10	N	N	N	20	--	N	N	N	.05	.38
KEN0854R	N	N	15	N	100	N	100	--	N	N	1	<.05	.38
KEN0880R	N	N	30	N	N	N	100	--	N	N	N	<.05	.63
KEN0881R	N	N	<10	N	10	N	10	--	N	N	N	<.05	<.05
KEN0928R	N	N	10	N	15	N	150	--	1	2	1	.14	.10
KEN0929R	N	N	100	N	50	N	500	--	N	<1	1	.07	.08
KEN0936R	N	N	70	N	20	N	300	--	8	<1	N	<.05	<.05
KEN0949R	N	N	50	N	50	N	200	--	2	<1	2	<.05	.05
LC0001R	N	<100	50	N	<10	N	300	--	10	8	10	<.05	<.05
LC0002R	N	N	<10	N	N	N	N	--	<1	3	3	<.05	<.05
LC0003R	N	<100	<10	N	N	N	50	--	<1	4	3	<.05	<.05
LC0005R	N	<100	<10	N	N	N	70	--	<1	2	3	<.05	<.05
LC0098R	N	N	30	N	<10	N	200	--	1	1	1	<.05	.29
LC0105R	N	300	30	N	20	N	150	--	10	9	7	.27	.34
LC0362R	N	<100	30	N	10	N	300	--	1	2	N	<.05	N
LC0363R	N	N	30	N	10	N	70	--	1	2	N	<.05	N
LC0365R	N	N	30	N	<10	N	70	--	N	1	N	<.05	N
LC0366R	N	<100	70	N	30	N	300	--	9	5	3	<.05	N
LC0719R	N	500	70	N	30	N	150	--	<1	1	6	<.05	.09
LC0869R	N	N	30	N	10	N	100	--	N	N	N	<.05	.52
LC0870R	N	N	20	N	N	N	70	--	N	N	N	<.05	.53
LC0871R	N	N	30	N	150	N	200	--	N	N	1	<.05	.55
LC0872R	N	<100	20	N	15	N	150	--	N	N	N	.07	.58
LC0873R	N	<100	30	N	15	N	200	--	N	N	N	<.05	.58
LC0874R	N	N	50	N	30	N	200	--	3	N	N	<.05	.61
LC0875R	N	300	30	N	20	N	70	--	1	N	N	<.05	.64
LC1675R	N	N	15	N	30	N	70	--	N	N	N	<.05	<.05
MAU1268R	N	500	150	N	30	N	150	--	50	2	4	.11	.08
MAU1269R	N	100	30	N	N	N	100	--	22	3	4	.09	.06
MAU1270R	N	N	10	70	N	N	N	--	5	4	2	.31	<.05
MAU1271R	N	150	50	N	<10	N	70	--	11	1	2	.05	.16
MAU1272R	N	300	70	N	30	N	100	--	1	2	8	<.05	.07
MAU1273R	N	N	10	N	N	N	N	--	3	73	<1	.96	<.05
MAU1274R	N	<100	30	N	<10	N	30	--	11	29	1	2.60	<.05
MAU1275R	N	<100	15	N	15	N	150	--	370	2	<1	.33	<.05
MAU1276R	N	N	20	300	N	N	N	--	84	50	2	12.10	.09
MAU1277R	N	500	100	N	30	N	200	--	10	4	4	.09	.15
MAU1278R	N	N	100	N	30	N	300	--	19	1	1	.06	<.05
MOL0326R	N	N	20	N	10	N	300	--	N	1	N	<.05	.29
MOL0327R	N	N	20	N	10	N	200	--	N	N	N	<.05	.31

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm aa(1)	Sb-ppm aa(1)
KEN0739R	<1	<1
KEN0740R	<1	<1
KEN0760R	<1	<1
KEN0851R	N	N
KEN0852R	N	N
KEN0853R	N	N
KEN0854R	N	N
KEN0880R	N	N
KEN0881R	N	N
KEN0928R	1	1
KEN0929R	N	N
KEN0936R	N	N
KEN0949R	N	N
LC0001R	<1	--
LC0002R	<1	--
LC0003R	<1	--
LC0005R	<1	--
LC0098R	N	N
LC0105R	15	N
LC0362R	N	N
LC0363R	N	N
LC0365R	N	N
LC0366R	N	N
LC0719R	<1	<1
LC0869R	N	N
LC0870R	N	N
LC0871R	N	N
LC0872R	N	N
LC0873R	N	N
LC0874R	N	N
LC0875R	N	N
LC1675R	N	N
MAU1268R	<1	1
MAU1269R	1	2
MAU1270R	6	2
MAU1271R	1	<1
MAU1272R	<1	<1
MAU1273R	11	1
MAU1274R	91	1
MAU1275R	1	6
MAU1276R	1,200	71
MAU1277R	5	1
MAU1279R	1	<1
MOL0326R	N	N
MOL0327R	N	N

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	As-ppm s(200)	Au-ppm s(10)	B-ppm s(10)	Ba-ppm s(20)
MOL1284R	46 0 4	113 33 22	7.00	7.00	7.00	.500	1,500	N	N	N	50	500
MOL1285R	46 0 33	113 32 34	.70	.30	<.05	.070	50	N	N	N	50	500
MOL1286R	46 0 39	113 33 12	.70	.15	<.05	.030	70	N	N	N	50	700
MOL1287R	46 1 7	113 32 46	.70	.07	<.05	.050	30	N	N	N	70	300
MOL1288R	46 1 45	113 32 12	1.00	.15	<.05	.100	200	N	N	N	70	700
MOL1289R	46 2 3	113 32 49	3.00	.70	<.05	.300	200	N	N	N	200	1,500
MOL1292R	46 2 58	113 32 13	7.00	.02	<.05	<.002	70	100.0	1,000	50	10	1,000
MOL1293R	46 3 4	113 32 8	7.00	.02	<.05	<.002	20	70.0	500	<10	10	30
MOL1294R	46 3 4	113 32 8	5.00	.50	.50	.150	1,000	20.0	700	10	200	300
MOL1299R	46 2 45	113 33 12	1.00	.30	.05	.150	200	N	N	N	30	1,000
MOL1647R	46 0 45	113 34 26	1.00	.10	<.05	.030	30	1.0	N	N	<10	300
MOL1648R	46 0 22	113 34 27	15.00	.20	.07	.100	100	50.0	500	50	100	300
MOL1649R	46 0 22	113 34 27	1.50	.20	<.05	.200	70	<.5	N	N	15	1,000
MOL1650R	46 0 14	113 34 47	1.50	.30	.07	.150	100	N	N	N	50	700
MOL1651R	46 0 46	113 35 21	.70	.15	<.05	.100	200	<.5	N	N	15	1,000
MOL1652R	46 1 33	113 35 21	.30	.10	<.05	.030	70	N	N	N	10	500
MOL1653R	46 2 9	113 34 52	1.00	.30	<.05	.100	200	N	N	N	50	500
SK0328R	46 8 41	113 46 47	2.00	1.00	3.00	.300	700	N	N	N	10	1,500
SK0329R	46 9 1	113 47 35	3.00	1.00	3.00	.300	500	N	N	N	10	1,000
SK0330R	46 9 1	113 47 35	1.50	.02	.10	.030	1,500	N	N	N	15	20
SK0331R	46 9 41	113 47 24	3.00	1.00	3.00	.300	700	N	N	N	15	1,500
SK0332R	46 10 19	113 47 22	3.00	1.00	3.00	.300	1,000	N	N	N	15	1,500
SK0333R	46 10 58	113 46 53	1.00	1.00	3.00	.300	300	N	N	N	10	700
SK0334R	46 11 23	113 48 2	3.00	1.00	3.00	.500	700	N	N	N	10	1,500
SK0335R	46 11 30	113 49 2	5.00	.20	5.00	.700	700	N	N	N	10	500
SK0336R	46 11 30	113 49 2	.20	.15	.70	.070	100	N	N	N	<10	300
SK0337R	46 11 30	113 49 2	3.00	5.00	15.00	.300	700	N	N	N	N	150
SK0338R	46 11 53	113 49 11	1.50	5.00	2.00	.500	150	N	N	N	30	<20
SK0339R	46 11 53	113 49 11	1.50	2.00	15.00	.500	300	N	N	N	20	<20
SK0340R	46 12 49	113 49 13	.50	.10	.30	.050	300	N	N	N	15	20
SK0341R	46 13 10	113 47 57	.70	1.50	1.50	.300	150	N	N	N	15	<20
SK0343R	46 13 32	113 47 2	3.00	2.00	.30	.500	500	N	N	N	150	1,500
SK0376R	46 11 1	113 48 50	.30	.10	1.00	.030	150	N	N	N	N	100
SK0377R	46 11 58	113 50 46	5.00	1.00	3.00	.500	700	N	N	N	N	1,500
SK0378R	46 13 42	113 45 23	5.00	1.00	.50	.300	500	N	N	N	200	700
SK0379R	46 12 23	113 45 29	2.00	.70	2.00	.300	1,000	N	N	N	15	700
SK0380R	46 12 47	113 46 36	1.00	.30	1.00	.150	500	N	N	N	N	1,000
SK0384R	46 10 0	113 49 10	2.00	.70	1.00	.200	500	N	N	N	10	1,500
SK0741R	46 7 46	113 47 0	.15	1.00	.30	.030	200	N	N	N	10	300
SK0742R	46 7 46	113 47 0	3.00	1.50	.15	.500	500	N	N	N	10	700
SK0743R	46 7 58	113 46 11	3.00	5.00	20.00	.300	500	N	N	N	20	200
SK0744R	46 7 58	113 46 11	1.50	1.00	3.00	.200	700	N	N	N	10	300
SK0745R	46 8 0	113 46 15	2.00	5.00	10.00	.500	500	N	N	N	<10	70
SK0746R	46 8 3	113 46 29	3.00	7.00	15.00	.200	1,000	N	N	N	<10	100
SK0747R	46 8 4	113 46 42	2.00	.70	1.50	.300	700	N	N	N	<10	700

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Be-ppm s(1)	Bi-ppm s(10)	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sb-ppm s(100)	Sc-ppm s(5)
MOL1284R	<1.0	N	N	70	1,000	150	<20	N	<20	200	30	N	50
MOL1285R	1.0	N	N	N	20	5	20	N	<20	<5	20	N	<5
MOL1286R	1.0	N	N	N	20	7	20	N	N	<5	30	N	<5
MOL1287R	<1.0	N	N	N	20	7	20	N	N	5	15	N	<5
MOL1288R	1.0	N	N	<5	20	10	20	5	N	5	30	N	<5
MOL1289R	2.0	N	N	5	50	<5	20	N	<20	5	30	N	7
MOL1292R	1.0	30	N	<5	<10	1,000	<20	7	<20	5	700	1,000	N
MOL1293R	<1.0	30	N	N	<10	500	N	N	N	5	300	200	N
MOL1294R	3.0	20	N	N	20	1,500	30	N	<20	5	300	700	7
MOL1299R	1.5	N	N	5	15	<5	20	N	N	7	15	N	5
MOL1647R	<1.0	N	N	5	50	20	20	N	<20	5	30	N	N
MOL1648R	3.0	150	N	N	30	2,000	20	2,000	<20	5	15,000	2,000	5
MOL1649R	1.5	N	N	<5	50	20	20	10	<20	10	70	N	5
MOL1650R	1.5	N	N	<5	30	7	30	5	N	10	20	N	5
MOL1651R	1.0	N	N	<5	20	<5	20	N	N	7	20	N	<5
MOL1652R	<1.0	N	N	N	15	<5	20	N	N	5	20	N	<5
MOL1653R	1.5	N	N	<5	<10	<5	20	N	N	10	20	N	<5
SK0328R	2.0	N	N	7	30	10	30	N	<20	10	30	N	7
SK0329R	10.0	N	N	10	30	<5	100	N	<20	10	30	N	7
SK0330R	7.0	N	N	N	10	<5	20	N	30	5	30	N	20
SK0331R	2.0	N	N	10	70	10	<20	N	<20	10	50	N	10
SK0332R	2.0	N	N	10	50	7	30	N	<20	10	30	N	10
SK0333R	3.0	N	N	5	50	<5	30	N	<20	10	20	N	7
SK0334R	2.0	N	N	7	70	15	50	N	<20	10	30	N	10
SK0335R	2.0	N	N	20	70	7	50	N	<20	20	10	N	30
SK0336R	3.0	N	N	<5	10	<5	<20	N	<20	<5	20	N	5
SK0337R	2.0	N	N	7	100	<5	20	N	<20	15	<10	N	10
SK0338R	2.0	N	N	7	200	<5	200	N	<20	15	<10	N	20
SK0339R	1.5	N	N	7	100	5	20	N	<20	20	<10	N	7
SK0340R	7.0	N	N	<5	<10	<5	20	N	<20	5	30	N	7
SK0341R	1.0	N	N	<5	30	<5	20	N	<20	7	<10	N	7
SK0343R	2.0	N	N	10	150	10	50	N	<20	30	20	N	10
SK0376R	3.0	N	N	<5	10	<5	100	N	<20	<5	30	N	7
SK0377R	1.0	N	N	15	50	5	20	N	<20	10	20	N	10
SK0378R	2.0	N	N	10	100	15	70	N	<20	30	30	N	10
SK0379R	2.0	N	N	7	20	15	20	N	<20	10	50	N	7
SK0380R	2.0	N	N	7	10	<5	20	N	<20	5	70	N	5
SK0384R	1.5	N	N	7	20	<5	30	N	<20	5	30	N	7
SK0741R	1.0	N	N	N	N	<5	N	N	N	5	30	N	5
SK0742R	1.5	N	N	7	100	<5	50	N	<20	30	20	N	10
SK0743R	1.0	N	N	7	70	5	20	N	<20	15	N	N	10
SK0744R	1.5	N	N	5	20	<5	20	N	<20	7	15	N	10
SK0745R	1.0	N	N	7	100	<5	30	<5	<20	10	<10	N	7
SK0746R	1.5	N	N	10	50	<5	20	N	<20	15	<10	N	15
SK0747R	2.0	N	N	<5	10	5	150	N	<20	5	20	N	20

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Sn-ppm s(10)	Sr-ppm s(100)	V-ppm s(10)	W-ppm s(50)	Y-ppm s(10)	Zn-ppm s(200)	Zr-ppm s(10)	Au-ppm aa(.05)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)
MOL1284R	N	150	300	N	30	N	150	--	68	9	8	.13	.14
MOL1285R	N	<100	20	N	<10	N	300	--	15	1	1	<.05	<.05
MOL1286R	N	<100	10	N	<10	N	50	--	15	<1	1	.05	<.05
MOL1287R	N	<100	20	N	<10	N	200	--	13	<1	<1	<.05	<.05
MOL1288R	N	N	15	N	N	N	300	--	12	11	1	.08	<.05
MOL1289R	N	<100	30	N	20	N	500	--	5	1	1	<.05	<.05
MOL1292R	N	N	<10	N	N	N	N	--	32	500	33	40.20	.77
MOL1293R	N	N	<10	N	N	<200	N	--	20	210	3	26.90	.19
MOL1294R	N	<100	30	N	10	200	200	--	410	430	47	18.80	2.50
MOL1299R	N	<100	30	N	20	N	150	--	4	3	1	.15	<.05
MOL1647R	N	N	30	N	<10	N	70	--	1	2	2	<.05	<.05
MOL1648R	N	N	50	100	20	N	100	--	700	8,700	10	20.00	.36
MOL1649R	N	<100	50	N	10	N	100	--	4	32	2	.09	<.05
MOL1650R	N	<100	50	N	15	N	70	--	2	11	2	<.05	<.05
MOL1651R	N	N	15	N	15	N	100	--	2	6	2	<.05	<.05
MOL1652R	N	<100	15	N	N	N	70	--	1	7	1	<.05	<.05
MOL1653R	N	N	15	N	<10	N	70	--	1	5	1	<.05	<.05
SK0328R	N	700	70	N	20	N	200	--	3	2	12	<.05	.33
SK0329R	N	500	70	N	50	N	200	--	N	12	11	<.05	.37
SK0330R	10	N	N	N	100	N	50	--	1	14	12	<.05	.33
SK0331R	N	1,000	100	N	30	N	70	--	1	2	10	<.05	.39
SK0332R	N	1,000	70	N	30	N	150	--	2	3	12	<.05	.39
SK0333R	N	500	70	N	30	N	100	--	1	2	5	<.05	.38
SK0334R	N	1,000	100	N	50	N	200	--	2	3	14	<.05	.42
SK0335R	N	700	200	N	50	N	300	--	2	1	4	<.05	.41
SK0336R	N	<100	10	N	50	N	70	--	N	1	N	<.05	.38
SK0337R	N	<100	70	N	50	N	200	--	1	1	7	<.05	.59
SK0338R	N	N	150	N	20	N	200	--	N	1	N	<.05	.44
SK0339R	N	N	70	N	50	N	150	--	2	1	2	<.05	.52
SK0340R	N	N	<10	N	30	N	30	--	N	1	N	<.05	.45
SK0341R	N	N	50	N	70	N	200	--	1	2	1	<.05	N
SK0343R	N	<100	70	N	50	N	300	--	1	2	2	<.05	N
SK0376R	N	<100	<10	N	15	N	20	--	1	4	2	<.05	.11
SK0377R	N	1,000	70	N	20	N	50	--	1	2	6	<.05	.07
SK0378R	N	150	50	N	50	N	200	--	1	1	1	<.05	.09
SK0379R	N	500	70	N	50	N	150	--	2	2	14	<.05	.12
SK0380R	N	200	15	N	15	N	50	--	1	2	4	<.05	.07
SK0384R	N	200	30	N	30	N	70	--	N	3	5	<.05	.09
SK0741R	N	N	<10	N	20	N	30	--	<1	1	1	<.05	<.05
SK0742R	N	N	70	N	150	N	300	--	<1	1	2	<.05	<.05
SK0743R	N	N	70	N	30	N	200	--	3	1	3	<.05	.07
SK0744R	N	300	50	N	50	N	150	--	<1	2	3	<.05	.05
SK0745R	N	<100	70	N	30	N	300	--	<1	<1	4	<.05	<.05
SK0746R	N	<100	70	N	30	N	150	--	<1	1	10	<.05	.11
SK0747R	N	200	50	N	100	N	1,000	--	1	4	5	<.05	<.05

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm aa(1)	Sb-ppm aa(1)
MOL1284R	<1	2
MOL1285R	<1	2
MOL1286R	<1	1
MOL1287R	<1	1
MOL1288R	<1	3
MOL1289R	<1	1
MOL1292R	17	1,800
MOL1293R	13	45
MOL1294R	15	92
MOL1299R	<1	1
MOL1647R	<1	1
MOL1648R	32	430
MOL1649R	<1	2
MOL1650R	<1	1
MOL1651R	1	1
MOL1652R	<1	1
MOL1653R	<1	1
SK0328R	N	N
SK0329R	N	N
SK0330R	N	N
SK0331R	N	N
SK0332R	N	N
SK0333R	N	N
SK0334R	N	N
SK0335R	N	N
SK0336R	N	N
SK0337R	N	N
SK0338R	N	N
SK0339R	N	N
SK0340R	N	N
SK0341R	N	N
SK0343R	N	N
SK0376R	N	N
SK0377R	N	N
SK0378R	N	N
SK0379R	N	N
SK0380R	N	N
SK0384R	N	N
SK0741R	<1	<1
SK0742R	<1	<1
SK0743R	<1	<1
SK0744R	<1	<1
SK0745R	<1	<1
SK0746R	<1	<1
SK0747R	<1	<1

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	As-ppm s(200)	Au-ppm s(10)	B-ppm s(10)	Ba-ppm s(20)
SK0748R	46 9 6	113 48 13	5.00	1.50	3.00	.700	1,000	N	N	N	10	1,500
SK0749MA	46 9 6	113 48 13	2.00	1.00	2.00	.300	700	N	N	N	10	1,000
SK0749MB	46 9 6	113 48 13	3.00	1.50	1.50	.500	700	N	N	N	10	1,500
SK0749MC	46 9 6	113 48 13	2.00	1.00	2.00	.300	700	N	N	N	10	1,500
SK0749MD	46 9 6	113 48 13	2.00	1.00	2.00	.200	700	N	N	N	<10	1,000
SK0750R	46 8 26	113 49 8	3.00	7.00	15.00	.500	700	N	N	N	15	50
SK0763R	46 10 52	113 48 23	5.00	2.00	3.00	.700	700	N	N	N	<10	700
SK0770R	46 10 13	113 48 43	5.00	1.50	3.00	.700	1,000	N	N	N	<10	1,500
SK0779R	46 11 0	113 49 29	1.50	1.00	1.50	.500	300	N	N	N	15	1,500
SK0785R	46 8 25	113 49 4	2.00	1.00	1.00	.200	150	N	N	N	<10	1,000
SK0786R	46 7 56	113 48 14	2.00	5.00	10.00	.200	300	N	N	N	<10	20
SK0787R	46 7 56	113 48 14	.70	.15	.30	.070	500	N	N	N	20	1,000
SK0788R	46 7 56	113 48 14	.70	.20	1.00	.070	300	N	N	N	<10	700
SK0969R	46 11 40	113 47 14	3.00	1.00	2.00	.300	500	N	N	N	10	1,500
SK0978R	46 11 54	113 46 19	3.00	1.00	2.00	.300	700	N	N	N	10	1,500
SK0985R	46 11 48	113 45 36	1.00	.50	1.50	.100	300	N	N	N	<10	1,500
SK0987R	46 13 58	113 48 4	7.00	5.00	15.00	.200	500	N	N	N	10	70
SK0988R	46 14 24	113 48 30	1.50	1.00	1.50	.500	150	N	N	N	100	300
SK0989R	46 14 20	113 48 48	1.50	.50	.15	.150	70	N	N	N	20	150
SK0990R	46 14 11	113 49 4	2.00	2.00	10.00	.200	300	N	N	N	30	200
SK0991R	46 13 53	113 49 42	2.00	5.00	10.00	.300	300	N	N	N	10	50
SK0992R	46 13 45	113 50 4	2.00	3.00	7.00	.300	300	N	N	N	15	20
SK0997R	46 8 1	113 48 1	3.00	1.00	2.00	.300	1,000	N	N	N	10	1,500
SK0998R	46 7 57	113 48 16	5.00	10.00	15.00	.200	500	3.0	N	N	15	<20
SK0999R	46 7 57	113 48 16	.50	.30	.30	.200	200	N	N	N	10	300
WHE0078R	46 6 3	113 42 17	3.00	.70	1.50	.300	500	N	N	N	<10	1,500
WHE0103R	46 0 5	113 40 31	3.00	7.00	10.00	.300	700	N	N	N	30	1,000
WHE0321R	46 2 58	113 37 50	2.00	.70	.07	.300	200	N	N	N	300	700
WHE0322R	46 3 0	113 38 35	2.00	.50	.10	.500	100	N	N	N	700	1,000
WHE0323R	46 3 2	113 38 28	2.00	.30	.15	.070	700	<.5	N	N	700	2,000
WHE0324R	46 3 43	113 38 59	3.00	1.00	.15	.500	500	N	N	N	1,500	2,000
WHE0325R	46 4 17	113 38 23	2.00	1.50	.30	.300	500	N	N	N	100	1,000
WHE0358R	46 5 48	113 38 2	3.00	1.00	2.00	.300	1,000	N	N	N	<10	1,500
WHE0361R	46 4 38	113 41 50	3.00	1.00	2.00	.500	1,000	N	N	N	<10	700
WHE0693R	46 6 57	113 42 42	2.00	.70	3.00	.500	700	N	N	N	10	1,000
WHE0698R	46 6 49	113 40 35	.50	.30	1.50	.070	500	N	N	N	10	500
WHE0705R	46 0 49	113 44 59	3.00	7.00	5.00	.300	700	N	N	N	10	2,000
WHE0716R	46 1 26	113 44 5	1.50	.70	1.50	.300	700	N	N	N	10	700
WHE0718R	46 0 50	113 42 49	1.50	1.00	3.00	.700	1,000	N	N	N	<10	1,000
WHE0751R	46 0 24	113 44 31	2.00	7.00	10.00	.300	1,000	N	N	N	15	1,500
WHE0755R	46 0 1	113 43 55	3.00	3.00	15.00	.300	700	N	N	N	70	300
WHE0838R	46 1 2	113 42 3	3.00	1.00	3.00	.300	300	N	N	N	<10	1,500
WHE0862R	46 2 30	113 44 4	2.00	1.00	<.05	.300	70	N	N	N	700	1,000
WHE0863R	46 2 50	113 44 26	2.00	.70	.07	.300	70	N	N	N	300	700
WHE0864R	46 2 54	113 44 47	2.00	.70	.10	.300	100	N	N	N	200	700

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Be-ppm s(1)	Bi-ppm s(10)	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sb-ppm s(100)	Sc-ppm s(5)
SK0748R	1.5	N	N	15	70	15	30	<5	<20	20	30	N	20
SK0749MA	2.0	N	N	10	15	7	30	N	<20	10	30	N	7
SK0749MB	1.5	N	N	15	20	7	30	N	<20	20	30	N	10
SK0749MC	1.5	N	N	10	20	10	30	N	<20	15	30	N	7
SK0749MD	1.5	N	N	10	20	7	30	N	<20	15	30	N	7
SK0750R	3.0	N	N	10	100	<5	30	N	<20	30	<10	N	15
SK0763R	1.5	N	N	20	20	7	30	N	<20	20	30	N	30
SK0770R	1.5	N	N	15	70	10	<20	N	<20	20	30	N	10
SK0779R	2.0	N	N	<5	<10	<5	30	<5	<20	7	30	N	5
SK0785R	2.0	N	N	5	<10	<5	70	<5	<20	5	30	N	10
SK0786R	1.5	N	N	7	50	5	20	N	<20	20	N	N	10
SK0787R	2.0	N	N	<5	<10	<5	30	N	<20	5	30	N	5
SK0788R	2.0	N	N	<5	<10	<5	20	N	N	<5	30	N	<5
SK0969R	2.0	N	N	10	50	<5	20	N	<20	15	30	N	10
SK0978R	3.0	N	N	10	50	<5	20	N	<20	10	30	N	7
SK0985R	3.0	N	N	<5	15	<5	70	N	N	7	30	N	5
SK0987R	2.0	N	N	70	200	7	N	N	N	150	<10	N	15
SK0988R	2.0	N	N	7	100	7	50	N	<20	15	10	N	7
SK0989R	2.0	N	N	5	50	<5	20	N	<20	10	10	N	5
SK0990R	<1.0	N	N	10	100	20	20	N	<20	30	<10	N	7
SK0991R	3.0	N	N	5	100	10	20	N	<20	20	<10	N	10
SK0992R	1.5	N	N	<5	70	10	<20	N	<20	30	20	N	10
SK0997R	2.0	N	N	7	20	<5	50	N	<20	10	30	N	7
SK0998R	3.0	N	N	10	150	<5	<20	N	<20	20	N	N	10
SK0999R	3.0	N	N	N	10	7	20	N	<20	5	15	N	10
WHE0078R	2.0	N	N	7	20	7	200	N	<20	10	50	N	7
WHE0103R	2.0	N	N	7	50	5	50	N	<20	15	30	N	7
WHE0321R	2.0	N	N	N	50	5	20	N	<20	10	15	N	5
WHE0322R	2.0	N	N	<5	100	<5	30	N	<20	10	<10	N	5
WHE0323R	1.0	N	N	5	50	5	20	N	N	10	10	N	<5
WHE0324R	2.0	N	N	10	100	70	70	N	<20	30	10	N	7
WHE0325R	2.0	N	N	10	150	<5	30	N	<20	30	15	N	7
WHE0358R	1.5	N	N	7	15	7	20	N	<20	10	30	N	7
WHE0361R	2.0	N	N	10	50	10	20	N	<20	15	50	N	10
WHE0693R	3.0	N	N	7	15	<5	20	<5	<20	10	30	N	7
WHE0698R	2.0	N	N	<5	<10	<5	<20	N	<20	5	30	N	<5
WHE0705R	2.0	N	N	7	150	10	30	N	<20	15	50	N	10
WHE0716R	3.0	N	N	7	<10	N	50	N	<20	5	30	N	7
WHE0718R	2.0	N	N	7	20	5	70	N	20	7	30	N	7
WHE0751R	2.0	N	N	7	30	10	100	5	<20	15	20	N	7
WHE0755R	1.5	N	N	7	70	30	50	N	<20	20	50	N	10
WHE0838R	1.0	N	N	<5	15	<5	20	N	N	5	30	N	5
WHE0862R	1.0	N	N	7	20	<5	<20	N	<20	10	N	N	N
WHE0863R	3.0	N	N	7	50	<5	50	N	<20	20	<10	N	7
WHE0864R	2.0	N	N	7	50	<5	50	N	<20	15	15	N	7

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Sn-ppm s(10)	Sr-ppm s(100)	V-ppm s(10)	W-ppm s(50)	Y-ppm s(10)	Zn-ppm s(200)	Zr-ppm s(10)	Au-ppm aa(.05)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)
SK0748R	N	700	100	N	30	N	300	--	1	<1	3	<.05	<.05
SK0749MA	N	300	70	N	20	N	70	<.05	N	1	3	<.05	N
SK0749MB	N	300	100	N	15	N	100	<.05	N	12	N	<.05	N
SK0749MC	N	500	50	N	15	N	100	<.05	2	4	4	.05	.07
SK0749MD	N	300	70	N	20	N	100	<.05	1	3	3	<.05	<.05
SK0750R	N	N	70	N	70	N	300	--	<1	1	3	<.05	<.05
SK0763R	N	500	150	N	70	N	70	--	<1	3	3	<.05	<.05
SK0770R	N	500	150	N	20	N	70	--	1	1	2	<.05	<.05
SK0779R	N	300	50	N	30	N	200	--	<1	1	2	<.05	<.05
SK0785R	N	200	30	N	30	N	70	--	<1	3	1	<.05	<.05
SK0786R	N	<100	30	N	50	N	100	--	1	1	1	<.05	<.05
SK0787R	N	150	<10	N	20	N	30	--	1	4	5	<.05	.06
SK0788R	N	200	10	N	15	N	70	--	<1	4	2	<.05	<.05
SK0969R	N	500	70	N	20	N	200	--	N	N	4	<.05	.09
SK0978R	N	500	100	N	20	N	100	--	N	1	6	<.05	.06
SK0985R	N	300	30	N	30	N	50	--	N	1	2	<.05	.07
SK0987R	N	200	100	N	20	N	200	--	1	3	N	<.05	.07
SK0988R	N	N	50	N	20	N	200	--	3	2	N	<.05	.08
SK0989R	N	N	30	N	10	N	200	--	N	3	1	<.05	.06
SK0990R	N	N	30	N	20	N	200	--	11	1	N	<.05	.11
SK0991R	N	N	70	N	50	N	200	--	5	1	N	<.05	.10
SK0992R	N	N	50	N	20	N	200	--	1	1	1	<.05	.13
SK0997R	N	500	70	N	50	N	200	--	N	1	10	<.05	.14
SK0998R	N	N	70	N	70	N	200	--	N	N	N	<.05	.10
SK0999R	N	N	10	N	70	N	50	--	N	1	N	<.05	.09
WHE0078R	N	300	50	N	30	N	70	--	4	3	8	<.05	.21
WHE0103R	N	N	50	N	50	N	200	--	6	3	1	<.05	.33
WHE0321R	N	N	30	N	15	N	300	--	2	3	5	<.05	.17
WHE0322R	N	N	50	N	20	N	300	--	N	1	N	<.05	.19
WHE0323R	N	N	50	N	10	N	100	--	2	5	30	.09	.61
WHE0324R	N	N	70	N	30	N	300	--	14	2	1	<.05	.25
WHE0325R	N	<100	50	N	20	N	500	--	N	2	N	<.05	.28
WHE0359R	N	300	70	N	20	N	100	--	N	2	8	<.05	.10
WHE0361R	N	500	50	N	70	N	300	--	1	3	13	<.05	.05
WHE0693R	N	500	70	N	50	N	50	--	1	1	3	<.05	<.05
WHE0698R	N	300	15	N	N	N	20	--	1	3	4	<.05	<.05
WHE0705R	N	<100	70	N	30	N	300	--	3	18	4	.07	<.05
WHE0716R	N	300	50	N	30	N	200	--	<1	2	7	<.05	.07
WHE0718R	N	500	70	N	150	N	100	--	1	1	2	<.05	<.05
WHE0751R	N	100	50	N	50	N	200	--	3	3	2	<.05	<.05
WHE0755R	N	100	70	N	30	N	200	--	9	12	10	<.05	.05
WHE0838R	N	200	20	N	10	N	100	--	N	N	3	<.05	.28
WHE0862R	N	N	15	N	100	N	200	--	N	N	N	<.05	.39
WHE0863R	N	N	50	N	50	N	300	--	N	N	N	<.05	.41
WHE0864R	N	N	30	N	50	N	300	--	N	N	N	.16	.44

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm aa(1)	Sb-ppm aa(1)
SK0748R	<1	<1
SK0749MA	2	3
SK0749MB	2	3
SK0749MC	N	N
SK0749MD	N	N
SK0750R	<1	<1
SK0763R	<1	<1
SK0770R	<1	<1
SK0779R	<1	<1
SK0785R	<1	<1
SK0786R	<1	<1
SK0787R	<1	<1
SK0788R	<1	<1
SK0969R	N	N
SK0978R	N	N
SK0985R	N	N
SK0987R	N	N
SK0988R	N	N
SK0989R	N	N
SK0990R	N	N
SK0991R	N	N
SK0992R	N	N
SK0997R	N	N
SK0998R	N	N
SK0999R	N	N
WHE0078R	N	N
WHE0103R	N	N
WHE0321R	N	1
WHE0322R	N	N
WHE0323R	N	4
WHE0324R	N	N
WHE0325R	N	N
WHE0358R	N	N
WHE0361R	N	N
WHE0693R	<1	<1
WHE0698R	<1	<1
WHE0705R	<1	<1
WHE0716R	<1	<1
WHE0718R	<1	<1
WHE0751R	<1	<1
WHE0755R	1	<1
WHE0838R	N	N
WHE0862R	N	N
WHE0863R	N	N
WHE0864R	N	N

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	As-ppm s(200)	Au-ppm s(10)	B-ppm s(10)	Ba-ppm s(20)
WHE0865R	46 3 3	113 43 50	3.00	.70	<.05	.500	20	N	N	N	500	700
WHE0866R	46 3 27	113 43 25	2.00	1.50	.10	.300	200	<.5	N	N	200	1,500
WHE0867R	46 3 51	113 43 10	2.00	1.50	.15	.300	300	N	N	N	200	1,000
WHE0868R	46 4 4	113 43 27	1.50	1.50	.15	.200	300	N	N	N	200	700
WHE0958R	46 2 10	113 41 28	1.50	.70	2.00	.300	700	N	N	N	<10	1,000
WHE0959R	46 2 21	113 42 35	3.00	1.00	3.00	.500	1,000	N	N	N	<10	1,500
WHE0960R	46 2 18	113 43 42	5.00	7.00	5.00	.300	700	N	N	N	<10	3,000
WHE0961R	46 2 18	113 43 42	3.00	.50	1.50	.300	700	N	N	N	10	1,000
WHE1631R	46 0 32	113 40 16	3.00	.70	.07	.300	5,000	7.0	N	N	200	1,000
WHE1632R	46 0 31	113 38 32	1.00	1.00	.10	.150	300	N	N	N	70	1,000
WHE1633R	46 0 51	113 40 54	2.00	.70	1.00	.150	700	.7	N	N	>2,000	300
WHE1634R	46 0 51	113 40 54	3.00	1.00	2.00	.300	3,000	N	N	N	50	1,000
WHE1635R	46 0 51	113 40 54	3.00	1.50	3.00	.300	1,000	N	N	N	<10	1,500
WHE1636R	46 2 27	113 38 58	3.00	7.00	7.00	.300	2,000	N	N	N	10	700
WHE5254R	46 7 29	113 39 49	.20	.02	<.05	.010	50	700.0	N	N	<10	200
WHE5255R	46 7 29	113 39 49	1.50	.15	.30	.100	100	20.0	N	N	70	300
WHE5256R	46 7 29	113 39 49	.70	.02	<.05	.010	700	1,000.0	N	N	<10	300
WHE5257R	46 7 29	113 39 49	1.00	.15	.70	.150	150	10.0	N	N	10	500
WHE5317R	46 4 40	113 40 2	7.00	.05	<.05	.020	300	7.0	N	70	10	1,000
WHE6349R	46 4 31	113 42 51	2.00	.20	<.05	.070	1,500	<.5	N	N	50	700
WHE6350R	46 4 31	113 42 51	1.50	.20	<.05	.050	300	<.5	N	N	50	300
WHE6351R	46 4 31	113 42 51	15.00	.02	N	<.002	50	30.0	N	70	10	1,000
WHE6352R	46 4 31	113 42 53	1.00	.30	.07	.070	500	N	N	N	50	500
WHE6353R	46 4 33	113 42 53	10.00	.05	N	.007	100	1.0	N	N	N	1,000
WHE6354R	46 4 38	113 42 53	>20.00	.07	N	.020	100	N	N	N	N	1,500

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Be-ppm s(1)	Bi-ppm s(10)	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sb-ppm s(100)	Sc-ppm s(5)
WHE0865R	1.5	N	N	5	15	<5	20	N	<20	10	N	N	5
WHE0866R	3.0	N	N	7	150	<5	20	N	<20	15	20	N	7
WHE0867R	2.0	N	N	7	70	<5	20	N	<20	20	15	N	5
WHE0868R	2.0	N	N	7	20	<5	20	N	<20	20	10	N	5
WHE0958R	3.0	N	N	7	15	7	30	N	N	7	30	N	7
WHE0959R	3.0	N	N	10	30	7	150	N	<20	15	30	N	7
WHE0960R	1.5	N	N	10	100	30	20	N	<20	20	30	N	10
WHE0961R	3.0	N	N	5	30	<5	200	N	<20	5	30	N	7
WHE1631R	3.0	N	N	15	30	200	50	5	<20	15	1,000	N	10
WHE1632R	1.5	N	N	7	50	5	30	N	N	7	30	N	5
WHE1633R	2.0	N	N	5	15	15	20	30	<20	7	70	N	7
WHE1634R	3.0	N	N	7	30	20	20	N	<20	15	500	N	7
WHE1635R	1.5	N	N	10	30	10	20	N	<20	10	30	N	10
WHE1636R	1.0	N	N	10	100	15	30	N	<20	15	10	N	10
WHE5254R	1.0	N	N	N	<10	15	N	N	N	5	700	N	N
WHE5255R	3.0	N	N	5	10	20	20	N	<20	5	300	N	7
WHE5256R	1.5	N	70	<5	<10	70	N	10	N	5	5,000	150	N
WHE5257R	5.0	N	N	<5	<10	7	50	N	<20	5	70	N	5
WHE5317R	2.0	10	N	20	10	50	N	5	N	15	30	N	<5
WHE6349R	2.0	N	N	20	30	5	20	N	N	15	<10	N	<5
WHE6350R	1.5	N	N	5	15	<5	<20	N	N	10	<10	N	N
WHE6351R	2.0	50	N	15	15	30	<20	N	N	30	50	N	N
WHE6352R	1.5	N	N	N	15	<5	<20	N	N	5	10	N	5
WHE6353R	1.5	20	N	15	20	50	N	N	N	20	20	N	N
WHE6354R	1.0	N	N	50	20	<5	N	N	N	50	15	N	5

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Sn-ppm s(10)	Sr-ppm s(100)	V-ppm s(10)	W-ppm s(50)	Y-ppm s(10)	Zn-ppm s(200)	Zr-ppm s(10)	Au-ppm aa(.05)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)
WHE0865R	N	N	30	N	30	N	300	--	N	N	N	.11	.44
WHE0866R	N	N	30	N	50	N	100	--	N	N	N	.05	.43
WHE0867R	N	N	30	N	<10	N	200	--	N	N	N	<.05	.49
WHE0868R	N	N	30	N	<10	N	150	--	N	N	N	<.05	.56
WHE0958R	N	300	50	N	20	N	70	--	4	<1	5	<.05	.06
WHE0959R	N	700	70	N	30	N	70	--	2	2	16	<.05	.08
WHE0960R	N	N	50	N	70	N	100	--	18	1	4	.07	.11
WHE0961R	N	300	50	N	50	N	100	--	N	N	4	<.05	.08
WHE1631R	N	N	100	<50	30	1,000	300	--	140	360	410	3.06	11.30
WHE1632R	N	N	30	N	30	N	300	--	1	11	5	.05	.11
WHE1633R	N	<100	70	N	20	N	30	--	7	40	13	.24	.20
WHE1634R	N	100	100	N	50	300	200	--	19	174	134	.37	.12
WHE1635R	N	500	100	N	30	N	300	--	3	2	7	<.05	.05
WHE1636R	N	N	70	N	30	N	300	--	5	3	3	<.05	.08
WHE5254R	N	N	10	N	N	N	10	1.40	12	840	12	>100.00	.61
WHE5255R	N	100	50	N	15	1,500	50	--	7	100	30	6.97	.12
WHE5256R	N	N	15	N	10	3,000	10	3.20	26	>1,000	61	>100.00	14.40
WHE5257R	N	300	20	N	<10	N	70	--	1	26	11	2.74	.08
WHE5317R	N	N	50	<50	10	N	50	6.20	90	30	30	2.60	3.60
WHE6349R	N	N	30	N	<10	N	300	--	1	1	<1	.15	.05
WHE6350R	N	N	20	N	N	N	150	--	2	<1	<1	.07	.05
WHE6351R	N	N	70	N	N	N	N	--	4	4	<1	2.50	.05
WHE6352R	N	N	15	N	10	N	200	--	1	<1	<1	.06	.05
WHE6353R	N	N	50	N	N	N	20	--	13	4	2	1.21	.10
WHE6354R	70	N	50	100	10	N	N	--	1	3	2	.23	.10

TABLE 1 - ROCK SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Ni-ppm aa(1)	Sb-ppm aa(1)
WHE0865R	N	N
WHE0866R	N	N
WHE0867R	N	N
WHE0868R	N	N
WHE0958R	N	N
WHE0959R	N	N
WHE0960R	1	N
WHE0961R	N	N
WHE1631R	3	1
WHE1632R	<1	<1
WHE1633R	1	1
WHE1634R	<1	2
WHE1635R	<1	<1
WHE1636R	<1	<1
WHE5254R	N	6
WHE5255R	N	N
WHE5256R	2	12
WHE5257R	N	N
WHE5317R	9	1
WHE6349R	1	N
WHE6350R	<1	N
WHE6351R	6	N
WHE6352R	<1	N
WHE6353R	7	3
WHE6354R	2	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
803860	46 2 9	113 44 40	3.0	3.00	1.50	.50	1,500	N	150	500	3.0	N
803870	46 2 6	113 44 38	3.0	3.00	1.50	.30	1,000	N	150	300	2.0	N
803889	46 2 8	113 44 35	2.0	2.00	1.00	.30	500	N	200	300	3.0	N
805670	46 6 7	113 48 15	2.0	1.00	.30	.20	300	N	200	500	2.0	N
805689	46 6 10	113 48 5	2.0	.70	.30	.30	150	N	150	300	2.0	N
805710	46 6 38	113 48 30	2.0	1.00	.50	.30	300	N	150	500	2.0	N
80DL300	46 4 28	113 45 45	1.0	.50	.50	.20	150	N	200	300	2.0	N
80DL340	46 6 5	113 44 35	1.5	.70	.10	.30	150	N	300	300	2.0	N
80DL380	46 6 57	113 43 55	2.0	.30	.50	.20	500	N	50	500	2.0	N
80DL390	46 6 39	113 43 56	2.0	.50	1.50	.20	500	N	20	500	2.0	N
80DL440	46 3 30	113 41 5	3.0	.70	2.00	.30	1,000	N	70	500	2.0	N
80DL820	45 6 18	113 51 42	1.5	.70	.50	.20	300	N	150	300	1.5	N
80DL830	45 6 20	113 51 51	2.0	1.00	1.00	.30	200	N	50	200	2.0	N
FP0002S	46 0 21	113 40 29	1.5	.50	.50	.15	500	N	70	700	3.0	N
FP0006S	46 1 46	113 40 51	3.0	.50	.20	.30	500	10.0	70	500	2.0	N
FP0009S	46 0 10	113 36 25	2.0	.70	.20	.50	300	N	70	1,000	2.0	N
FP0011S	46 0 10	113 36 25	1.5	1.00	.50	.20	500	N	100	1,000	2.0	N
FP0012S	46 0 10	113 36 25	1.5	1.00	.50	.20	500	N	100	1,000	2.0	N
FP0013S	46 0 10	113 36 25	2.0	.70	.20	.30	300	N	70	1,000	1.5	N
FP0015S	46 0 37	113 36 52	.7	.30	.07	.15	200	N	70	500	1.5	N
FP0017S	46 1 52	113 36 42	1.5	.50	1.00	.20	700	N	50	700	2.0	N
JN0395S	45 59 49	113 48 0	1.5	.30	.50	.15	300	N	50	1,000	1.5	N
JN0397S	45 59 47	113 47 58	1.5	.50	.70	.15	500	N	50	1,000	2.0	N
JN0399S	45 59 7	113 47 55	2.0	.70	.70	.15	500	N	30	1,000	1.5	N
JN0730S	45 59 54	113 46 12	2.0	.50	.70	.20	500	N	70	1,000	3.0	N
JN0732S	45 59 18	113 46 21	3.0	7.00	7.00	.20	1,500	N	50	1,500	1.5	N
JN0734S	45 59 1	113 46 16	2.0	.50	.50	.20	200	N	30	1,000	2.0	N
JN0858S	45 59 24	113 46 19	2.0	3.00	5.00	.30	700	N	30	500	2.0	N
JN0860S	45 59 26	113 46 22	1.0	.30	.30	.15	200	N	30	500	1.0	N
JN0861S	45 59 24	113 46 25	1.5	.70	.70	.20	300	N	30	700	1.5	N
JN1201S	45 58 43	113 47 47	3.0	.30	.50	.30	300	N	<10	1,000	1.0	N
JN1680S	45 58 6	113 45 16	3.0	.70	1.00	.30	700	N	30	700	2.0	N
KEL0494S	45 58 17	113 34 56	5.0	1.00	1.00	.30	1,500	.5	300	700	3.0	N
KEL0496S	45 58 22	113 34 53	5.0	2.00	1.00	.30	2,000	1.0	300	1,000	3.0	N
KEL0497S	45 59 5	113 35 32	3.0	.70	.70	.30	700	N	100	1,000	2.0	N
KEL0498S	45 58 52	113 35 21	3.0	.70	.50	.30	300	N	150	1,500	2.0	N
KEL0500S	45 58 47	113 35 27	3.0	2.00	1.00	.30	700	.5	200	1,000	3.0	N
KEL0502S	45 59 13	113 35 46	3.0	.70	.20	.30	300	N	200	1,000	3.0	N
KEL0503S	45 59 36	113 36 19	3.0	1.50	.70	.30	700	N	200	1,000	5.0	N
KEL0504S	45 59 44	113 36 35	5.0	1.50	.70	.30	1,500	N	200	1,500	7.0	N
KEL0506S	45 59 41	113 36 9	2.0	1.50	.70	.30	500	N	200	1,000	2.0	N
KEL0512S	45 59 49	113 36 39	.7	.15	.15	.15	300	N	50	500	2.0	N
KEL0792S	45 57 29	113 37 28	2.0	1.00	.50	.30	500	N	200	700	2.0	N
KEL5310S	45 59 35	113 31 48	1.5	.70	.50	.20	700	1.5	150	2,000	1.5	N
KEN0068S	46 2 24	113 46 35	2.0	.70	.70	.20	500	N	100	1,000	1.5	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
803860	N	10	70	50*	50	N	<20	20	30	10	<100	70	100
803878	N	7	30	20	50	N	<20	15	30	7	N	70	30
803888	N	10	30	30	50	N	<20	30	20	7	N	70	50
805678	N	5	50	5	30	N	N	10	10	5	<100	30	30
805688	N	<5	20	5	20	N	N	10	<10	5	N	50	20
805718	N	5	50	15	30	N	N	10	10	5	100	50	30
80DL308	N	5	10	<5	20	N	N	7	<10	5	<100	30	20
80DL348	N	5	20	<5	70	N	N	10	10	5	N	30	20
80DL388	N	5	15	<5	20	N	N	5	20	5	100	30	15
80DL398	N	7	15	<5	50	N	N	7	20	7	200	30	20
80DL448	N	7	30	<5	20	N	<20	10	30	7	300	70	30
80DL828	N	<5	20	<5	20	N	N	5	<10	<5	<100	20	50
80DL838	N	5	15	<5	20	N	N	7	<10	5	<100	30	20
FP0002S	N	5	30	7	30	N	N	7	20	5	150	30	15
FP0006S	70	10	30	200	100	<5	<20	15	1,000	10	N	70	70
FP0009S	N	7	30	15	50	N	<20	30	30	10	100	70	50
FP0011S	N	7	30	10	50	N	<20	20	50	7	<100	50	20
FP0012S	N	7	30	15	50	N	<20	15	50	7	<100	30	30
FP0013S	N	7	50	15	50	N	<20	20	30	10	150	50	30
FP0015S	N	<5	20	<5	20	N	N	7	15	5	N	30	10
FP0017S	N	7	20	10	30	N	<20	10	30	10	150	50	50
JN0395S	N	N	20	10	50	N	<20	5	20	5	100	30	30
JN0397S	N	5	50	10	50	N	<20	7	20	7	100	50	20
JN0399S	N	5	50	7	20	N	<20	7	20	7	100	50	15
JN0730S	N	5	20	15	30	N	<20	7	30	7	<100	50	20
JN0732S	N	10	30	50	50	N	<20	10	30	10	<100	50	50
JN0734S	N	5	30	5	30	N	<20	10	20	5	<100	50	15
JN0858S	N	7	50	30	70	N	<20	15	30	10	<100	50	50
JN0860S	N	<5	30	<5	20	N	N	15	20	5	<100	30	15
JN0861S	N	7	50	5	30	N	N	20	20	7	100	30	20
JN1201S	N	5	50	<5	20	N	<20	5	15	7	<100	70	10
JN1680S	N	7	70	10	70	N	<20	15	30	10	100	70	30
KEL0494S	N	10	70	20	30	N	<20	30	30	10	100	100	20
KEL0496S	N	7	50	20	50	N	<20	30	100	10	N	100	30
KEL0497S	N	7	70	15	20	N	<20	20	20	7	<100	70	20
KEL0498S	N	7	70	10	30	N	<20	20	30	10	<100	70	30
KEL0500S	N	7	50	20	50	N	<20	20	70	10	<100	70	30
KEL0502S	N	7	70	10	50	N	<20	15	20	10	<100	100	50
KEL0503S	N	7	70	15	20	N	<20	30	50	10	100	100	30
KEL0504S	N	7	50	20	30	N	<20	30	70	10	<100	100	50
KEL0506S	N	7	50	15	30	N	<20	15	50	7	<100	70	20
KEL0512S	N	<5	15	<5	30	N	N	10	20	<5	<100	20	10
KEL0792S	N	7	50	<5	30	N	N	10	30	7	<100	50	20
KEL5310S	N	7	15	70	30	N	<20	10	50	5	N	30	20
KEN0068S	N	5	30	10	50	5	<20	10	15	7	<100	30	30

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
80386B	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80387B	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80388B	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80567B	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80568B	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80571B	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80DL30B	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80DL34B	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80DL38B	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80DL39B	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80DL44B	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80DL82B	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
80DL83B	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
FP0002S	N	300	--	<1.0	10.0	25.0	<.50	<.50	--	--
FP0006S	5,000	300	--	265.0	980.0	3,300.0	<.50	<.50	--	--
FP0009S	N	300	--	5.0	15.0	30.0	<.50	<.50	--	--
FP0011S	N	300	--	15.0	25.0	50.0	<.50	<.50	--	--
FP0012S	N	500	--	10.0	20.0	40.0	<.50	<.50	--	--
FP0013S	N	300	--	10.0	15.0	30.0	<.50	<.50	--	--
FP0015S	N	300	--	<1.0	5.0	10.0	<.50	<.50	--	--
FP0017S	N	300	--	10.0	25.0	190.0	<.50	<.50	--	--
JN0395S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
JN0397S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
JN0399S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
JN0730S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
JN0732S	N	200	N	4.4	1.1	<1.0	<.50	<.50	<1	<1
JN0734S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
JN0858S	N	200	N	1.6	<1.0	<1.0	<.50	<.50	<1	<1
JN0860S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
JN0861S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
JN1201S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
JN1680S	N	150	N	2.0	3.0	10.0	<.50	<.50	<1	<1
KEL0494S	N	200	N	1.3	1.5	3.5	<.50	<.50	<1	<1
KEL0496S	N	200	N	1.5	6.0	7.0	<.50	<.50	<1	<1
KEL0497S	N	300	N	<1.0	<1.0	1.1	<.50	<.50	<1	<1
KEL0498S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEL0500S	N	300	N	1.1	2.0	2.0	<.50	<.50	<1	<1
KEL0502S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEL0503S	N	700	N	<1.0	1.0	<1.0	<.50	<.50	<1	<1
KEL0504S	N	500	N	<1.0	2.0	1.3	<.50	<.50	<1	<1
KEL0506S	N	150	N	<1.0	1.0	1.5	<.50	<.50	<1	<1
KEL0512S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEL0792S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEL5310S	N	300	--	76.0	30.0	38.0	1.00	<.50	1	3
KEN0069S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
KEN0070S	46 3 13	113 45 56	1.5	.30	.50	.20	500	N	100	500	1.5	N
KEN0072S	46 3 14	113 45 49	2.0	.70	1.00	.20	500	<.5	70	500	2.0	N
KEN0084S	46 4 17	113 47 40	1.5	.70	.50	.15	300	N	200	300	2.0	N
KEN0091S	46 4 46	113 46 44	3.0	1.00	.20	.30	500	N	200	500	2.0	N
KEN0093S	46 5 22	113 47 24	.7	.20	.70	.10	500	N	30	300	10.0	N
KEN0094S	46 5 18	113 47 50	2.0	.70	.50	.20	300	N	150	700	3.0	N
KEN0096S	46 5 17	113 48 36	1.5	.30	.30	.15	200	N	200	500	2.0	N
KEN0097S	46 5 46	113 48 45	1.5	.70	.30	.15	500	N	200	700	3.0	N
KEN0387S	46 5 32	113 45 5	1.5	.50	.30	.15	300	N	150	700	2.0	N
KEN0389S	46 5 38	113 45 2	1.5	.30	.20	.15	300	N	70	700	2.0	N
KEN0391S	46 4 29	113 45 57	1.0	.30	.50	.20	300	N	200	700	2.0	N
KEN0393S	46 4 27	113 45 55	1.0	.30	.50	.20	200	N	200	500	2.0	N
KEN0728S	46 0 15	113 45 56	3.0	3.00	7.00	.20	1,500	1.5	30	700	2.0	N
KEN0856S	46 0 16	113 45 58	2.0	2.00	7.00	.20	700	N	30	500	2.0	N
KEN0882S	46 1 14	113 47 17	.7	.30	.30	.15	200	N	100	500	2.0	N
KEN0884S	46 1 19	113 47 20	1.0	.70	.30	.30	200	N	100	700	2.0	N
KEN0886S	46 1 17	113 47 28	2.0	.70	.70	.30	200	N	70	500	2.0	N
KEN0888S	46 0 58	113 48 12	3.0	1.00	2.00	.30	500	N	10	700	2.0	N
KEN0890S	46 0 39	113 48 40	1.0	.50	.50	.15	200	N	70	500	2.0	N
KEN0892S	46 0 38	113 48 44	3.0	.50	1.50	.30	700	N	50	500	3.0	N
KEN0894S	46 0 33	113 48 35	1.0	.50	.50	.15	300	N	10	500	2.0	N
KEN0931S	46 6 57	113 46 9	.3	.10	.10	.07	70	N	20	500	2.0	N
KEN0932S	46 8 0	113 46 11	1.0	.30	.70	.15	200	N	150	500	7.0	N
KEN0935S	46 7 3	113 46 22	1.5	.30	.50	.20	150	N	100	1,000	1.5	N
KEN0938S	46 8 0	113 48 11	2.0	1.50	1.50	.30	300	N	30	500	1.0	N
KEN0940S	46 6 58	113 49 0	1.5	.50	.70	.30	150	N	70	500	2.0	N
KEN0941S	46 6 48	113 48 15	1.5	.30	.50	.30	100	N	100	500	2.0	N
KEN0943S	46 6 38	113 48 30	1.0	.30	.30	.20	100	N	100	500	1.5	N
KEN0945S	46 6 42	113 49 20	1.5	.30	.30	.15	200	N	100	500	1.5	N
KEN0946S	46 6 42	113 49 20	1.5	.30	.50	.15	200	N	300	500	2.0	N
KEN0948S	46 6 45	113 49 14	1.0	.30	.50	.15	150	N	100	700	2.0	N
KEN0950S	46 7 7	113 50 11	.5	.70	>20.00	.07	200	N	10	150	<1.0	N
KEN2201S	46 4 36	113 51 30	5.0	1.00	1.50	.70	500	N	50	1,000	2.0	N
KEN2203S	46 4 36	113 51 32	3.0	1.00	1.50	.50	500	N	50	700	2.0	N
KEN2205S	46 4 38	113 51 36	1.5	.50	1.50	.30	500	N	15	700	3.0	N
KEN2256S	46 7 0	113 52 28	2.0	1.00	2.00	.30	300	N	70	500	1.5	N
KEN2266S	46 7 28	113 51 13	1.5	.70	1.00	.50	200	.5	100	500	2.0	N
KEN2268S	46 7 25	113 51 2	3.0	1.00	2.00	.50	500	.5	100	300	2.0	N
KEN2617S	46 1 40	113 50 25	2.0	1.50	3.00	.30	1,000	N	<10	500	3.0	N
KEN2619S	46 1 24	113 49 38	3.0	1.00	3.00	.30	700	N	20	700	2.0	N
KEN2621S	46 1 45	113 49 46	2.0	.30	1.50	.20	1,000	N	10	500	5.0	N
KEN2623S	46 2 5	113 49 36	3.0	.50	1.50	.20	2,000	N	70	700	5.0	N
KEN2625S	46 2 9	113 49 39	3.0	.50	1.50	.30	1,500	N	15	700	3.0	N
KEN2627S	46 2 25	113 50 50	3.0	.30	1.50	.30	700	N	10	700	3.0	N
KEN2629S	46 2 26	113 50 52	1.5	.30	1.00	.20	300	N	100	300	2.0	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
KEN0070S	N	5	20	10	30	N	N	5	15	5	<100	30	30
KEN0072S	N	7	20	30	30	7	<20	10	20	7	<100	50	20
KEN0084S	N	7	20	7	30	N	N	10	15	5	N	50	10
KEN0091S	N	7	70	70	30	N	N	20	15	10	<100	70	20
KEN0093S	N	N	15	50	70	N	N	5	20	5	<100	30	50
KEN0094S	N	5	50	20	30	N	<20	15	20	7	<100	70	30
KEN0096S	N	<5	20	<5	30	N	<20	<5	15	5	<100	30	10
KEN0097S	N	5	50	10	30	N	N	7	15	5	<100	50	15
KEN0387S	N	5	50	10	30	N	<20	<5	30	5	<100	30	20
KEN0389S	N	5	30	10	70	N	<20	<5	30	5	<100	30	20
KEN0391S	N	<5	50	10	30	N	<20	5	15	5	100	50	20
KEN0393S	N	N	20	10	30	N	<20	5	20	5	100	50	15
KEN0728S	N	10	50	100	30	N	<20	15	50	10	<100	70	50
KEN0856S	N	7	50	70	30	N	<20	15	30	7	<100	50	50
KEN0882S	N	<5	15	<5	20	N	N	5	15	<5	<100	30	20
KEN0884S	N	7	50	7	20	N	N	15	10	10	<100	50	20
KEN0886S	N	7	50	15	30	7	<20	15	20	10	100	50	30
KEN0888S	N	7	30	20	50	5	<20	15	50	10	150	50	50
KEN0890S	N	N	20	<5	30	N	N	7	20	5	<100	30	10
KEN0892S	N	7	20	15	200	N	<20	10	50	10	300	50	50
KEN0894S	N	<5	30	5	30	N	<20	5	20	5	<100	30	20
KEN0931S	N	N	10	<5	20	N	N	<5	10	<5	N	10	15
KEN0932S	N	<5	15	10	30	N	<20	15	15	7	<100	30	30
KEN0935S	N	<5	15	<5	20	N	<20	7	15	5	100	30	20
KEN0938S	N	5	50	5	50	N	<20	15	15	10	100	30	30
KEN0940S	N	5	50	5	30	N	<20	7	15	7	<100	30	70
KEN0941S	N	5	70	<5	30	N	<20	10	15	7	<100	50	20
KEN0943S	N	<5	20	5	30	<5	<20	7	15	7	100	30	20
KEN0945S	N	5	30	7	30	N	<20	7	20	5	<100	30	30
KEN0946S	N	5	20	<5	30	N	<20	7	15	5	<100	30	20
KEN0948S	N	<5	15	<5	30	N	<20	5	15	5	<100	30	15
KEN0950S	N	N	15	10	30	N	N	<5	<10	<5	<100	20	30
KEN2201S	N	7	70	5	300	N	<20	7	15	7	100	100	50
KEN2203S	N	7	50	5	30	N	<20	10	15	7	150	70	70
KEN2205S	N	7	15	10	50	N	<20	7	20	7	200	30	30
KEN2256S	N	5	15	<5	30	N	<20	5	20	5	<100	50	30
KEN2266S	N	5	50	15	20	N	<20	7	15	7	<100	70	20
KEN2268S	N	10	100	10	70	N	<20	10	15	10	100	100	70
KEN2617S	N	7	15	20	50	N	<20	7	30	5	150	70	30
KEN2619S	N	10	50	15	50	N	<20	10	30	7	300	50	30
KEN2621S	N	5	15	7	50	N	<20	<5	50	5	300	30	15
KEN2623S	N	10	15	7	20	N	<20	<5	50	5	200	50	15
KEN2625S	N	10	15	5	200	N	<20	5	30	5	200	50	30
KEN2627S	N	5	20	10	300	10	<20	<5	30	5	300	50	50
KEN2629S	N	5	10	5	30	N	<20	5	30	5	200	50	15

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
KEN0070S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0072S	N	300	N	2.0	<1.0	1.9	<.50	<.50	<1	<1
KEN0084S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0091S	N	500	N	1.8	<1.0	1.1	<.50	<.50	<1	<1
KEN0093S	N	70	N	10.0	1.5	1.1	<.50	<.50	<1	<1
KEN0094S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0096S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0097S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0387S	N	300	N	<1.0	1.0	<1.0	<.50	<.50	--	<1
KEN0389S	N	200	N	<1.0	1.0	<1.0	<.50	<.50	--	<1
KEN0391S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
KEN0393S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
KEN0728S	N	200	N	9.8	2.5	1.7	<.50	<.50	<1	<1
KEN0856S	N	200	N	3.8	1.0	1.3	<.50	<.50	<1	<1
KEN0882S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0884S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0886S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0888S	N	200	N	<1.0	<1.0	1.2	<.50	<.50	<1	<1
KEN0890S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0892S	N	500	N	<1.0	<1.0	2.5	<.50	<.50	<1	<1
KEN0894S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0931S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0932S	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0935S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0938S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0940S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0941S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0943S	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0945S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0946S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0948S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN0950S	N	150	N	1.0	<1.0	<1.0	<.50	<.50	<1	<1
KEN2201S	N	700	N	2.0	2.0	4.0	<.50	<.50	N	N
KEN2203S	N	300	N	2.0	2.0	3.0	<.50	<.50	N	N
KEN2205S	N	200	N	4.0	3.0	6.0	<.50	<.50	N	N
KEN2256S	N	300	N	1.0	1.0	4.0	<.50	<.50	N	N
KEN2266S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
KEN2268S	N	300	N	2.0	1.0	2.0	<.50	<.50	N	1
KEN2617S	N	300	N	4.0	5.0	15.0	<.50	<.50	N	N
KEN2619S	N	200	N	5.0	3.0	12.0	<.50	<.50	N	1
KEN2621S	N	200	N	3.0	7.0	47.0	<.50	<.50	N	1
KEN2623S	N	200	N	2.0	6.0	22.0	<.50	.54	N	2
KEN2625S	N	500	N	2.0	3.0	16.0	<.50	<.50	1	1
KEN2627S	N	700	N	4.0	3.0	9.0	<.50	<.50	N	1
KEN2629S	N	300	N	2.0	5.0	13.0	<.50	<.50	N	1

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
KEN2631S	46 3 31	113 50 13	1.5	.30	1.00	.20	300	N	100	300	1.0	N
KEN2633S	46 4 55	113 50 43	2.0	.50	.20	.30	150	N	70	200	1.5	N
KEN2635S	46 4 21	113 50 51	2.0	.50	.20	.30	200	N	300	500	1.5	N
LC0004S	45 57 55	113 38 36	1.5	.20	.30	.50	200	N	10	300	3.0	N
LC0099S	45 59 38	113 39 50	3.0	.70	.20	.50	300	<.5	200	1,000	3.0	N
LC0100S	45 59 50	113 39 51	1.5	.50	.07	.20	150	N	300	500	2.0	N
LC0107S	45 59 5	113 40 58	2.0	.50	.30	.20	200	N	100	500	1.5	N
LC0109S	45 59 3	113 40 55	2.0	.50	.10	.20	150	N	200	500	1.0	N
LC0110S	45 58 52	113 41 0	1.5	.70	.70	.15	300	N	70	700	1.5	N
LC0112S	45 58 32	113 41 25	1.5	.70	.70	.20	300	N	100	700	2.0	70
LC0347S	45 58 53	113 43 38	2.0	1.50	2.00	.15	700	<.5	100	700	2.0	N
LC0757S	45 58 50	113 43 43	3.0	2.00	5.00	.20	700	N	100	1,000	1.5	N
LC0759S	45 58 16	113 43 36	3.0	2.00	5.00	.20	700	N	70	700	2.0	N
LC0790S	45 57 30	113 37 32	2.0	.70	.50	.30	300	N	300	700	2.0	N
LC0793S	45 57 8	113 37 44	2.0	.70	.70	.30	500	<.5	300	700	2.0	N
LC0794S	45 56 44	113 38 6	2.0	.50	.50	.20	300	.7	300	700	1.5	N
LC0796S	45 56 12	113 38 22	3.0	.50	.30	.30	200	N	300	700	1.5	N
LC0798S	45 56 13	113 38 18	1.5	.50	.50	.30	300	N	150	700	1.0	N
LC0877S	45 59 3	113 40 55	1.5	.50	.20	.20	200	N	200	500	1.5	N
LC0879S	45 58 59	113 41 5	3.0	.70	2.00	.30	500	.7	30	500	2.0	N
LC1661S	45 57 13	113 39 46	3.0	.50	1.00	.30	500	N	20	700	2.0	N
LC1663S	45 57 15	113 39 43	.7	.20	.15	.10	200	N	70	300	2.0	N
LC1665S	45 57 27	113 40 50	1.5	.30	.20	.15	100	1.0	100	500	1.5	N
LC1667S	45 57 24	113 40 51	3.0	1.00	1.50	3.00	500	N	20	500	1.0	N
LC1668S	45 57 38	113 41 28	3.0	1.50	1.50	2.00	300	N	150	700	2.0	N
LC1670S	45 57 34	113 41 26	3.0	1.00	1.50	3.00	500	N	15	700	1.5	N
LC1671S	45 57 38	113 42 29	3.0	1.50	2.00	3.00	500	N	30	1,000	2.0	N
LC1673S	45 58 14	113 42 35	3.0	1.00	1.50	2.00	500	N	50	700	2.0	N
LC1674S	45 59 35	113 42 30	3.0	.70	1.50	3.00	500	<.5	10	500	2.0	N
LC1676S	45 58 47	113 42 41	1.5	.50	1.50	.20	300	<.5	100	1,000	1.5	N
LC1678S	45 58 30	113 42 41	3.0	1.50	2.00	.30	500	N	30	1,000	2.0	N
LC1908S	45 59 56	113 38 31	1.5	.50	.10	.20	300	N	150	700	1.5	N
LC1910S	45 59 58	113 38 31	2.0	.50	.20	.20	300	<.5	300	700	1.5	N
MAU1265S	46 7 41	113 36 36	1.0	.30	1.00	.20	200	N	100	500	1.5	N
MAU1267S	46 7 56	113 36 30	1.5	.30	.70	.20	300	N	70	500	1.5	N
MAU2384S	46 7 33	113 35 47	1.0	.50	.30	.20	300	N	200	1,500	2.0	N
MEM0896S	46 8 17	113 44 0	1.5	.30	2.00	.15	700	N	10	500	2.0	N
MEM0898S	46 8 21	113 44 3	1.5	.50	2.00	.15	500	N	<10	500	2.0	N
MEM1261S	46 12 5	113 43 59	1.5	.50	.70	.20	300	N	70	700	2.0	N
MEM1263S	46 11 58	113 43 58	3.0	.70	2.00	.30	500	N	<10	500	1.5	N
MEM1800S	46 8 16	113 44 12	7.0	.70	3.00	.30	700	N	10	500	2.0	N
MEM1802S	46 8 25	113 44 26	1.5	.30	1.50	.20	700	N	<10	500	2.0	N
MEM1804S	46 8 19	113 44 39	1.5	.30	2.00	.20	1,500	N	<10	500	2.0	N
MEM1806S	46 8 16	113 44 44	3.0	1.00	2.00	.30	700	N	70	700	2.0	N
MEM2329S	46 12 6	113 43 47	1.5	.50	2.00	.50	700	N	20	500	3.0	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
KEN2631S	N	5	20	<5	20	N	<20	<5	20	5	N	30	15
KEN2633S	N	5	20	<5	50	N	<20	5	20	5	N	30	20
KEN2635S	N	7	30	<5	30	N	<20	10	20	5	N	30	20
LC0004S	N	<5	20	15	30	5	N	10	20	7	150	30	20
LC0099S	N	5	50	15	50	N	<20	15	70	7	<100	70	30
LC0100S	N	5	30	<5	20	N	<20	10	15	7	N	50	20
LC0107S	N	5	30	<5	30	N	<20	7	20	7	<100	50	15
LC0109S	N	5	15	<5	30	N	<20	5	15	7	<100	30	30
LC0110S	N	<5	30	10	30	<5	<20	7	20	7	100	30	30
LC0112S	N	<5	15	5	30	N	<20	7	30	7	150	30	30
LC0347S	N	7	50	20	50	N	<20	10	30	10	<100	30	70
LC0757S	N	7	50	15	50	N	<20	15	30	10	100	70	50
LC0759S	N	7	50	15	50	N	<20	15	20	10	<100	70	50
LC0790S	N	7	50	10	30	N	<20	10	30	5	<100	70	50
LC0793S	N	5	50	15	30	N	<20	7	30	7	100	70	20
LC0794S	N	5	50	5	50	N	N	5	20	5	<100	50	20
LC0796S	N	5	50	<5	30	N	<20	15	30	7	<100	50	50
LC0798S	N	<5	30	<5	30	N	<20	N	20	5	<100	30	20
LC0877S	N	5	20	<5	30	N	N	10	15	7	N	30	20
LC0879S	N	7	30	15	70	<5	<20	10	30	10	300	50	70
LC1661S	N	7	30	15	30	N	<20	7	20	5	100	50	20
LC1663S	N	<5	15	<5	30	N	<20	7	20	10	100	70	30
LC1665S	N	<5	30	<5	30	N	<20	5	15	7	150	30	50
LC1667S	N	10	30	15	30	N	<20	15	20	10	150	70	50
LC1668S	N	7	50	15	50	N	<20	10	30	15	<100	100	70
LC1670S	N	10	50	20	70	N	<20	20	50	15	100	100	100
LC1671S	N	7	50	30	50	<5	<20	15	15	7	150	70	30
LC1673S	N	5	50	15	200	<5	<20	15	30	15	300	70	70
LC1674S	N	7	30	15	30	N	20	15	20	10	<100	50	100
LC1676S	N	<5	50	15	30	N	<20	15	15	10	<100	50	30
LC1678S	N	7	50	10	50	N	<20	15	20	10	<100	70	50
LC1908S	N	7	30	<5	30	N	<20	5	20	5	<100	30	30
LC1910S	N	7	20	5	50	N	<20	10	20	7	<100	50	30
MAU1265S	N	5	15	5	70	N	<20	5	20	7	150	30	30
MAU1267S	N	5	10	5	30	N	<20	5	20	7	150	30	50
MAU2384S	N	5	30	5	30	N	<20	5	20	<5	<100	30	20
MEM0896S	N	7	15	7	200	N	<20	5	50	7	300	30	50
MEM0899S	N	5	15	<5	20	N	<20	7	50	7	300	30	300
MEM1261S	N	5	20	<5	30	N	<20	10	20	7	100	30	200
MEM1263S	N	7	50	<5	150	N	<20	10	30	15	300	50	70
MEM1800S	N	7	100	10	150	N	20	10	50	20	300	150	150
MEM1802S	N	5	20	<5	100	N	20	7	50	10	300	50	100
MEM1804S	N	5	20	<5	300	N	<20	10	50	10	300	50	100
MEM1806S	N	10	70	10	20	N	<20	15	20	15	300	100	30
MEM2329S	N	7	20	7	50	N	<20	7	30	7	300	50	70

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
KEN2631S	N	500	N	1.0	1.0	1.0	<.50	<.50	N	1
KEN2633S	N	500	N	1.0	2.0	2.0	<.50	<.50	N	1
KEN2635S	N	300	N	1.0	1.0	1.0	<.50	<.50	1	N
LC0004S	N	200	--	15.0	30.0	15.0	<.50	<.50	--	--
LC0099S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0100S	N	1,000	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0107S	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0109S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0110S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0112S	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0347S	N	150	N	<1.0	1.0	1.0	<.50	<.50	--	<1
LC0757S	N	200	N	1.0	1.0	1.6	<.50	<.50	<1	<1
LC0759S	N	150	N	1.3	1.2	2.0	<.50	<.50	<1	<1
LC0790S	N	700	N	<1.0	<1.0	1.4	<.50	<.50	<1	<1
LC0793S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0794S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0796S	N	>1,000	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0798S	N	>1,000	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0877S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC0879S	N	300	N	<1.0	<1.0	1.4	<.50	<.50	<1	<1
LC1661S	N	200	N	4.0	4.0	9.0	<.50	<.50	<1	<1
LC1663S	N	300	N	1.0	2.0	7.0	<.50	<.50	<1	<1
LC1665S	N	100	N	2.0	3.0	5.0	<.50	<.50	<1	<1
LC1667S	N	300	N	2.0	2.0	7.0	<.50	<.50	<1	<1
LC1668S	N	200	N	7.0	4.0	10.0	<.50	<.50	<1	<1
LC1670S	N	300	N	3.0	5.0	10.0	<.50	<.50	<1	<1
LC1671S	N	300	N	23.0	5.0	8.0	<.50	<.50	<1	<1
LC1673S	N	300	N	5.0	4.0	17.0	<.50	<.50	<1	<1
LC1674S	N	200	N	6.0	7.0	17.0	<.50	<.50	<1	<1
LC1676S	N	150	N	8.0	3.0	8.0	<.50	<.50	<1	<1
LC1678S	N	500	N	3.0	4.0	10.0	<.50	<.50	<1	<1
LC1908S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
LC1910S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MAU1265S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MAU1267S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MAU2334S	N	500	N	8.0	6.0	20.0	<.50	<.50	N	5
MEM0896S	N	100	N	<1.0	<1.0	1.0	<.50	<.50	<1	<1
MEM0898S	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MEM1261S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MEM1263S	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MEM1800S	N	300	N	<1.0	<1.0	1.2	<.50	<.50	<1	<1
MEM1802S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MEM1804S	N	150	<100	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MEM1806S	N	300	N	<1.0	<1.0	1.2	<.50	<.50	<1	<1
MEM2329S	N	300	N	1.0	2.0	1.0	<.50	<.50	N	1

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
MEM5216S	46 13 55	113 44 39	.7	.15	.20	.15	1,500	N	20	300	5.0	N
MEM5217S	46 13 26	113 44 43	1.5	.70	.50	.20	1,000	N	70	700	3.0	N
MEM5284S	46 12 48	113 41 48	5.0	2.00	2.00	.30	500	N	N	700	<1.0	N
MEM5286S	46 12 46	113 41 50	2.0	.70	2.00	.20	500	N	20	500	2.0	N
MOL0508S	46 0 1	113 36 17	1.0	.30	.20	.20	200	N	150	700	2.0	N
MOL0951S	46 5 16	113 36 53	1.0	.70	1.50	.10	300	N	50	700	1.5	N
MOL0952S	46 5 14	113 36 53	3.0	1.00	1.00	.20	1,000	<.5	100	1,000	5.0	N
MOL0953S	46 5 32	113 36 26	1.5	.30	1.50	.15	500	<.5	50	700	7.0	N
MOL0954S	46 5 44	113 36 2	.3	.15	1.00	.07	150	N	50	500	7.0	N
MOL0956S	46 5 43	113 36 5	2.0	.50	.70	.20	200	N	150	1,000	2.0	N
MOL0957S	46 5 49	113 35 43	3.0	.70	.50	.20	700	N	100	1,000	2.0	N
MOL1291S	46 2 39	113 32 13	1.5	.30	.30	.20	300	N	100	1,000	1.5	N
MOL1296S	46 0 28	113 34 10	.7	.20	.15	.15	300	N	10	700	2.0	N
MOL1298S	46 0 25	113 34 7	1.5	.50	.15	.20	300	N	70	1,000	1.5	N
MOL1300S	46 1 18	113 36 40	3.0	.70	.30	.30	700	N	70	1,000	3.0	N
MOL1302S	46 1 31	113 37 17	1.5	.30	.50	.20	1,000	<.5	100	1,000	2.0	N
MOL1304S	46 1 33	113 37 19	2.0	.70	1.50	.20	1,000	<.5	30	700	1.5	N
MOL1306S	46 1 50	113 36 36	1.5	1.00	.50	.20	500	N	150	700	1.5	N
MOL1308S	46 3 55	113 32 46	1.5	.50	.20	.15	150	N	100	700	1.0	N
MOL1655S	46 1 54	113 33 54	3.0	.30	.30	.20	1,000	N	50	1,000	2.0	N
MOL1657S	46 2 2	113 33 43	1.5	.30	.15	.15	300	N	50	1,000	1.0	N
MOL1659S	46 2 6	113 36 49	1.0	.50	.70	.15	500	.7	100	700	3.0	N
MOL2338S	46 0 9	113 31 32	2.0	1.50	1.50	.30	500	<.5	N	2,000	2.0	N
MOL2340S	46 0 17	113 31 36	1.5	.70	1.00	.30	1,000	N	200	1,500	5.0	N
MOL2341S	46 0 48	113 31 30	.1	.15	2.00	.03	1,000	N	20	1,500	2.0	N
MOL2343S	46 1 15	113 31 31	1.5	.50	.70	.30	700	N	100	2,000	7.0	N
MOL2350S	46 1 56	113 31 27	1.5	1.00	1.00	.30	150	<.5	200	1,000	3.0	N
MOL2352S	46 3 6	113 32 16	1.5	.50	.20	.30	200	N	150	1,000	1.5	N
MOL2358S	46 4 0	113 32 15	1.5	.70	.70	.15	300	N	200	1,500	3.0	N
MOL2360S	46 3 1	113 34 48	2.0	1.00	1.50	.20	700	N	200	1,500	3.0	N
MOL2361S	46 3 6	113 36 10	2.0	.50	1.50	.30	1,000	1.0	150	1,500	10.0	N
MOL2363S	46 3 7	113 36 10	2.0	1.00	2.00	.30	700	<.5	200	1,000	3.0	N
MOL2365S	46 2 59	113 36 6	.7	.30	1.00	.15	500	<.5	70	1,500	3.0	N
MOL2366S	46 3 18	113 35 36	3.0	.70	.70	.30	1,500	N	200	1,500	3.0	N
MOL2368S	46 4 5	113 35 22	2.0	.70	1.00	.30	1,500	N	150	1,000	3.0	N
MOL2374S	46 6 28	113 34 39	2.0	.50	.30	.30	1,000	N	200	700	3.0	N
MOL2376S	46 6 32	113 34 42	1.5	.50	.30	.20	700	N	150	700	5.0	N
MOL2379S	46 6 42	113 35 45	3.0	.30	1.00	.30	3,000	N	70	1,000	7.0	N
MOL2381S	46 6 32	113 35 35	1.5	.50	.70	.20	200	<.5	150	1,500	2.0	N
MOL2382S	46 6 55	113 35 44	2.0	.50	1.00	.30	300	N	150	1,000	3.0	N
SK0381S	46 9 9	113 49 18	3.0	.70	.70	.20	500	N	20	700	2.0	N
SK0383S	46 9 8	113 49 16	7.0	1.50	3.00	.70	1,000	N	10	700	1.0	N
SK0764S	46 10 44	113 48 34	5.0	2.00	7.00	.50	1,000	N	<10	700	2.0	N
SK0765S	46 10 44	113 48 31	7.0	1.50	2.00	.50	1,000	N	20	1,000	1.5	N
SK0767S	46 10 34	113 48 31	5.0	2.00	7.00	.50	1,000	N	20	700	1.5	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
MEM5216S	N	7	10	10	30	N	N	5	50	5	<100	50	20
MEM5217S	N	7	10	5	30	N	<20	7	50	5	150	30	20
MEM5284S	N	15	150	15	100	N	<20	70	30	10	300	70	30
MEM5286S	N	7	20	5	70	N	<20	10	30	7	300	50	50
MOL0508S	N	<5	20	7	200	N	N	10	20	5	100	30	30
MOL0951S	N	N	20	10	50	N	N	<5	20	7	100	30	20
MOL0952S	N	7	30	20	50	N	<20	15	20	10	100	50	50
MOL0953S	N	N	30	20	50	N	N	5	30	7	100	30	70
MOL0954S	N	N	15	15	30	N	N	<5	20	<5	<100	30	70
MOL0956S	N	5	20	5	200	N	<20	<5	20	5	<100	30	30
MOL0957S	N	7	70	20	30	N	<20	20	30	10	<100	50	50
MOL1291S	N	5	15	10	30	N	<20	10	20	7	<100	30	30
MOL1296S	N	7	15	20	30	N	<20	7	30	5	<100	30	20
MOL1299S	N	7	50	10	30	N	<20	10	20	7	<100	30	20
MOL1300S	N	10	50	20	50	N	<20	20	30	15	150	50	50
MOL1302S	N	10	20	20	70	N	<20	15	30	7	100	30	30
MOL1304S	N	7	50	20	30	5	<20	15	30	10	150	50	30
MOL1306S	N	7	30	15	50	N	<20	15	20	7	<100	30	30
MOL1308S	N	<5	20	<5	30	N	<20	7	15	5	N	30	20
MOL1655S	N	10	20	15	30	N	<20	10	30	7	100	30	20
MOL1657S	N	7	50	15	20	N	<20	15	20	7	N	30	20
MOL1659S	N	5	30	15	30	N	<20	10	15	7	<100	30	30
MOL2338S	N	7	100	30	20	N	<20	15	100	7	N	50	30
MOL2340S	N	5	30	15	30	N	<20	15	30	5	N	50	30
MOL2341S	N	N	10	15	30	N	<20	<5	20	<5	N	15	30
MOL2343S	N	5	15	15	30	N	<20	15	30	7	N	30	30
MOL2350S	N	5	70	20	30	N	<20	15	50	5	<100	50	20
MOL2352S	N	5	15	15	30	N	<20	7	30	5	N	30	20
MOL2358S	N	<5	50	15	70	5	<20	7	50	5	200	30	20
MOL2360S	N	7	20	15	30	5	<20	10	30	7	N	50	30
MOL2361S	N	<5	20	30	50	5	<20	15	50	10	<100	50	100
MOL2363S	N	5	30	20	50	5	<20	10	30	7	N	50	50
MOL2365S	N	<5	15	15	30	5	N	7	30	7	N	30	50
MOL2366S	N	7	30	15	30	5	<20	15	30	7	<100	50	30
MOL2368S	N	7	50	15	30	5	<20	15	50	7	<100	50	30
MOL2374S	N	7	30	10	50	5	<20	15	30	7	<100	50	50
MOL2376S	N	7	20	10	30	5	<20	20	30	5	N	30	50
MOL2379S	N	10	20	20	70	5	<20	15	30	10	N	70	70
MOL2381S	N	5	50	7	30	N	<20	7	20	5	N	30	20
MOL2382S	N	7	50	20	150	N	<20	10	30	7	<100	50	70
SK0381S	N	7	20	15	30	N	<20	7	30	10	200	70	50
SK0383S	N	20	100	15	50	N	20	20	30	30	300	100	100
SK0764S	N	15	70	15	70	N	<20	20	20	20	300	150	70
SK0765S	N	15	70	15	150	N	<20	20	20	20	300	200	50
SK0767S	N	7	70	5	50	N	20	10	20	15	300	150	100

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
MEM5216S	N	150	--	8.0	22.0	27.0	<.50	<.50	1	2
MEM5217S	N	200	--	2.0	4.0	9.0	<.50	<.50	1	1
MEM5284S	N	300	--	2.0	3.0	6.0	<.50	<.50	1	1
MEM5286S	N	200	--	1.0	3.0	5.0	<.50	<.50	1	1
MOL0508S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MOL0951S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MOL0952S	N	150	N	1.1	1.0	<1.0	<.50	<.50	<1	<1
MOL0953S	N	50	N	1.8	1.5	<1.0	<.50	<.50	<1	<1
MOL0954S	N	50	N	1.8	1.0	1.2	<.50	<.50	<1	<1
MOL0956S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MOL0957S	N	200	N	1.1	1.0	<1.0	<.50	<.50	<1	<1
MOL1291S	N	150	N	1.2	1.0	<1.0	<.50	<.50	<1	<1
MOL1296S	N	150	N	1.2	1.0	<1.0	<.50	<.50	<1	<1
MOL1298S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MOL1300S	N	100	N	1.5	1.5	1.0	<.50	<.50	<1	<1
MOL1302S	N	200	N	1.1	2.5	1.3	<.50	<.50	<1	<1
MOL1304S	N	300	N	<1.0	2.0	19.0	<.50	2.20	<1	<1
MOL1306S	N	200	N	<1.0	1.5	1.3	<.50	<.50	<1	<1
MOL1308S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MOL1655S	N	150	N	1.0	1.5	1.4	<.50	<.50	<1	<1
MOL1657S	N	>1,000	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
MOL1659S	N	150	N	1.0	1.1	1.1	<.50	<.50	<1	<1
MOL2338S	N	300	N	25.0	48.0	35.0	<.50	<.50	9	N
MOL2340S	N	200	N	8.0	11.0	19.0	<.50	<.50	2	N
MOL2341S	N	30	N	33.0	23.0	31.0	<.50	.75	2	2
MOL2343S	N	300	N	9.0	11.0	13.0	<.50	.76	1	N
MOL2350S	N	300	N	11.0	17.0	21.0	<.50	<.50	N	N
MOL2352S	N	500	N	3.0	5.0	4.0	<.50	<.50	N	N
MOL2358S	N	200	N	7.0	21.0	13.0	<.50	<.50	N	N
MOL2360S	N	300	N	6.0	9.0	8.0	<.50	<.50	N	N
MOL2361S	N	150	N	23.0	23.0	13.0	.61	.93	N	1
MOL2363S	N	300	N	11.0	14.0	13.0	<.50	.54	N	N
MOL2365S	N	70	N	10.0	13.0	35.0	<.50	1.00	10	1
MOL2366S	N	300	N	8.0	14.0	8.0	<.50	<.50	3	N
MOL2368S	N	300	N	8.0	15.0	15.0	<.50	<.50	1	N
MOL2374S	N	300	N	5.0	7.0	8.0	<.50	<.50	2	N
MOL2376S	N	300	N	7.0	7.0	7.0	<.50	<.50	3	5
MOL2379S	N	200	N	35.0	6.0	59.0	<.50	.95	9	21
MOL2381S	N	300	N	4.0	5.0	5.0	<.50	<.50	3	5
MOL2382S	N	500	N	8.0	7.0	7.0	<.50	<.50	1	1
SK0381S	N	150	N	<1.0	1.2	1.5	<.50	<.50	--	<1
SK0383S	N	>1,000	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
SK0764S	N	150	N	<1.0	<1.0	2.0	<.50	<.50	<1	<1
SK0765S	N	200	N	<1.0	1.0	3.0	<.50	<.50	<1	<1
SK0767S	N	300	N	<1.0	<1.0	1.8	<.50	<.50	<1	<1

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
SK0769S	46 10 35	113 48 33	5.0	1.50	5.00	.70	1,000	N	10	700	1.5	N
SK0772S	46 10 4	113 48 53	7.0	1.50	3.00	.50	1,000	N	15	700	1.5	N
SK0774S	46 10 7	113 48 55	7.0	1.50	1.50	.50	1,000	N	10	700	1.5	N
SK0776S	46 10 1	113 49 5	7.0	2.00	7.00	.70	700	N	15	700	1.5	N
SK0777S	46 9 55	113 49 7	10.0	2.00	7.00	1.00	1,000	N	20	1,000	1.5	N
SK0778S	46 9 54	113 49 22	7.0	.70	5.00	.70	1,000	N	30	700	2.0	N
SK0780S	46 9 59	113 49 40	3.0	1.00	3.00	.50	700	N	30	500	2.0	N
SK0781S	46 9 55	113 49 56	5.0	.70	3.00	.70	700	N	30	700	2.0	N
SK0783S	46 9 41	113 50 19	7.0	2.00	7.00	.70	1,000	N	30	700	2.0	N
SK0784S	46 9 36	113 50 16	5.0	2.00	5.00	.50	700	N	50	200	3.0	N
SK0963S	46 12 13	113 48 15	3.0	.70	1.50	.30	1,500	N	20	700	2.0	N
SK0965S	46 12 13	113 48 19	5.0	.70	2.00	.50	2,000	N	30	700	2.0	N
SK0967S	46 13 0	113 47 57	7.0	1.50	5.00	.30	1,000	N	20	500	1.5	N
SK0968S	46 11 49	113 47 46	7.0	1.00	2.00	.30	3,000	N	20	700	2.0	N
SK0970S	46 11 36	113 47 10	7.0	1.00	2.00	.20	700	N	20	300	1.0	N
SK0974S	46 12 3	113 46 41	3.0	1.00	3.00	.30	500	N	10	500	1.5	N
SK0976S	46 12 4	113 46 38	3.0	1.00	5.00	.30	1,000	N	<10	500	2.0	N
SK0977S	46 11 48	113 46 36	7.0	.70	1.50	.20	1,000	N	10	500	1.5	N
SK0979S	46 11 49	113 46 5	3.0	.50	1.00	.20	1,000	N	10	500	1.5	N
SK0980S	46 11 59	113 45 46	3.0	.50	1.00	.20	1,500	N	10	500	1.5	N
SK0982S	46 12 1	113 45 51	3.0	.70	2.00	.50	700	N	20	700	1.5	N
SK0984S	46 11 58	113 45 52	3.0	1.00	3.00	.50	700	N	10	500	1.5	N
SK0986S	46 11 45	113 45 28	2.0	.70	1.50	.20	1,000	N	15	700	1.5	N
SK0994S	46 8 1	113 48 4	7.0	1.00	3.00	.50	700	N	10	700	1.5	N
SK0996S	46 7 59	113 48 2	10.0	1.00	3.00	.70	1,000	N	<10	500	1.0	N
SK1241S	46 9 41	113 46 38	5.0	1.00	3.00	.30	1,000	N	<10	700	2.0	N
SK1243S	46 9 45	113 46 36	5.0	1.00	5.00	.30	700	N	<10	1,000	1.5	N
SK1245S	46 9 39	113 46 11	3.0	1.00	3.00	.30	500	N	N	700	1.5	N
SK1247S	46 9 48	113 46 7	2.0	.50	2.00	.20	700	N	N	700	1.5	N
SK1249S	46 10 29	113 45 57	5.0	.70	3.00	.30	1,500	N	10	1,000	1.5	N
SK1251S	46 10 32	113 47 0	3.0	.70	3.00	.50	500	N	<10	700	1.5	N
SK1253S	46 10 54	113 45 28	3.0	1.00	2.00	.50	700	N	15	700	1.5	N
SK1254S	46 11 2	113 45 29	3.0	.70	1.50	.30	700	N	10	700	1.5	N
SK1256S	46 11 39	113 45 19	3.0	1.50	2.00	.50	1,000	N	10	700	1.5	N
SK1258S	46 11 43	113 45 4	1.5	.50	1.50	.20	300	N	10	700	1.5	N
SK1259S	46 11 32	113 45 9	3.0	.50	1.00	.30	300	N	<10	1,000	1.5	N
SK1808S	46 8 31	113 45 5	3.0	.70	2.00	.30	1,000	N	20	1,000	2.0	N
SK1810S	46 8 40	113 45 20	5.0	.70	2.00	.30	700	N	15	700	2.0	N
SK1812S	46 9 1	113 45 35	5.0	1.00	3.00	.50	1,000	N	30	700	2.0	N
SK1814S	46 8 58	113 45 39	5.0	1.00	5.00	.50	1,000	N	10	1,000	2.0	N
SK1816S	46 9 4	113 45 50	5.0	1.00	2.00	.30	700	N	10	700	1.5	N
SK1901S	46 8 24	113 49 15	3.0	.70	1.50	.50	700	N	15	700	1.5	N
SK1903S	46 8 21	113 49 13	7.0	1.00	2.00	.50	1,000	N	10	700	1.5	N
SK1905S	46 8 9	113 49 44	5.0	1.00	2.00	.30	700	N	10	700	1.5	N
SK1907S	46 8 7	113 49 46	5.0	1.00	2.00	.50	700	N	<10	500	1.5	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
SK0769S	N	10	70	5	150	N	<20	30	20	30	300	150	100
SK0772S	N	10	100	10	30	N	20	20	30	20	300	150	100
SK0774S	N	10	70	5	50	N	<20	15	30	20	300	150	50
SK0776S	N	20	150	15	50	N	<20	50	30	20	300	150	100
SK0777S	N	20	200	20	100	N	20	30	30	30	500	200	100
SK0778S	N	10	50	20	100	N	<20	15	50	10	500	150	100
SK0780S	N	7	50	10	150	N	<20	15	30	10	300	100	70
SK0781S	N	7	50	20	100	N	20	15	30	10	300	100	70
SK0783S	N	15	100	15	50	N	<20	20	30	30	500	150	100
SK0784S	N	7	70	15	70	N	<20	20	20	15	150	100	100
SK0963S	N	7	30	15	100	N	<20	15	30	15	300	150	30
SK0965S	N	10	50	10	50	N	20	10	30	15	300	150	70
SK0967S	N	10	70	15	70	N	<20	20	30	30	300	150	70
SK0968S	N	30	50	15	30	N	<20	15	20	15	300	150	50
SK0970S	N	10	70	7	100	N	N	15	20	15	300	150	50
SK0974S	N	7	50	10	30	N	20	15	20	20	300	70	70
SK0976S	N	7	30	<5	150	N	<20	7	30	20	300	70	70
SK0977S	N	10	70	7	70	N	<20	15	20	15	300	150	70
SK0979S	N	5	15	15	20	N	N	5	20	7	200	50	20
SK0980S	N	10	15	15	30	N	<20	10	30	10	200	50	30
SK0982S	N	7	50	5	50	N	20	15	20	20	300	100	100
SK0984S	N	7	30	5	200	N	20	15	20	30	300	100	100
SK0986S	N	7	20	5	30	<5	<20	7	30	10	300	70	30
SK0994S	N	10	70	15	50	N	20	15	30	30	300	150	100
SK0996S	N	10	100	15	150	N	30	15	20	30	300	200	100
SK1241S	N	10	30	10	30	N	<20	10	30	20	300	150	70
SK1243S	N	10	50	10	100	N	<20	15	30	20	500	150	70
SK1245S	N	7	30	5	30	N	<20	15	30	20	500	100	50
SK1247S	N	<5	15	<5	200	<5	<20	10	50	15	300	70	500
SK1249S	N	10	20	15	20	N	<20	15	30	15	300	150	30
SK1251S	N	7	20	7	30	N	20	10	30	15	500	100	70
SK1253S	N	7	50	15	30	N	70	15	30	15	500	100	50
SK1254S	N	7	30	15	70	<5	<20	15	30	15	300	150	50
SK1256S	N	10	30	7	70	N	<20	15	20	20	500	100	70
SK1258S	N	5	20	7	200	N	<20	5	30	10	300	70	50
SK1259S	N	7	30	10	200	N	<20	10	30	10	500	100	70
SK1803S	N	7	50	10	20	N	<20	10	50	15	500	100	50
SK1810S	N	7	70	10	70	N	<20	10	20	10	300	100	70
SK1812S	N	7	100	10	70	N	20	15	30	20	500	150	150
SK1814S	N	10	70	10	150	N	<20	15	30	20	500	100	100
SK1816S	N	10	70	15	50	N	<20	15	30	30	500	100	70
SK1901S	N	7	20	10	50	N	20	10	30	15	300	70	150
SK1903S	N	10	70	10	70	N	20	15	30	30	300	150	100
SK1905S	N	10	70	15	100	N	<20	15	30	30	300	150	150
SK1907S	N	10	70	10	30	N	<20	15	20	30	300	150	70

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
SK0769S	N	500	N	<1.0	<1.0	1.8	<.50	<.50	<1	<1
SK0772S	N	200	N	<1.0	<1.0	2.9	<.50	<.50	<1	<1
SK0774S	N	150	N	<1.0	<1.0	3.2	<.50	<.50	<1	<1
SK0776S	N	700	N	<1.0	<1.0	2.0	<.50	<.50	<1	<1
SK0777S	N	700	N	<1.0	<1.0	2.5	<.50	<.50	<1	<1
SK0778S	N	700	N	<1.0	<1.0	2.7	<.50	<.50	<1	<1
SK0780S	N	>1,000	N	<1.0	1.0	2.0	<.50	<.50	<1	<1
SK0781S	N	700	N	<1.0	1.0	<1.0	<.50	<.50	<1	<1
SK0783S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK0784S	N	1,000	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK0963S	N	500	N	<1.0	<1.0	1.6	<.50	<.50	<1	<1
SK0965S	N	300	N	<1.0	<1.0	1.7	<.50	<.50	<1	<1
SK0967S	N	1,000	N	<1.0	<1.0	1.0	<.50	<.50	<1	<1
SK0968S	N	700	N	<1.0	1.0	5.0	<.50	<.50	<1	<1
SK0970S	N	150	N	<1.0	<1.0	1.2	<.50	<.50	<1	<1
SK0974S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK0976S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK0977S	N	200	N	<1.0	<1.0	1.6	<.50	<.50	<1	<1
SK0979S	N	150	N	<1.0	1.5	2.0	<.50	<.50	<1	<1
SK0980S	N	100	N	<1.0	1.0	1.5	<.50	<.50	<1	<1
SK0982S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK0984S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK0986S	N	150	N	<1.0	<1.0	1.4	<.50	<.50	<1	<1
SK0994S	N	700	N	<1.0	<1.0	1.1	<.50	<.50	<1	<1
SK0996S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1241S	N	500	N	<1.0	<1.0	1.3	<.50	<.50	<1	<1
SK1243S	N	1,000	N	<1.0	<1.0	1.4	<.50	<.50	<1	<1
SK1245S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1247S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1249S	N	200	N	<1.0	<1.0	3.5	<.50	<.50	<1	<1
SK1251S	N	500	N	<1.0	<1.0	1.3	<.50	<.50	<1	<1
SK1253S	N	300	N	<1.0	<1.0	1.6	<.50	<.50	<1	<1
SK1254S	N	150	N	<1.0	<1.0	1.0	<.50	<.50	<1	<1
SK1256S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1258S	N	200	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
SK1259S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1808S	N	300	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
SK1810S	N	700	N	<1.0	<1.0	1.8	<.50	<.50	<1	<1
SK1812S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1814S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1816S	N	1,000	N	<1.0	<1.0	1.0	<.50	<.50	<1	<1
SK1901S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1903S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1905S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
SK1907S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
SK2270S	46 7 46	113 51 10	2.0	1.00	2.00	.30	500	.5	300	500	3.0	N
SK2272S	46 8 32	113 52 7	2.0	1.50	2.00	.30	700	.5	70	500	2.0	N
SK2303S	46 9 42	113 51 28	1.5	.70	2.00	.30	300	N	30	200	3.0	N
SK2312S	46 12 34	113 51 9	5.0	3.00	5.00	.50	1,000	N	10	500	1.5	N
SK2314S	46 13 17	113 50 2	2.0	1.00	1.50	.50	300	N	50	150	1.5	N
SK2316S	46 13 1	113 50 21	.7	.30	2.00	.30	500	N	150	100	3.0	N
SK2318S	46 11 57	113 51 57	2.0	1.50	2.00	.50	500	N	30	150	1.5	N
SK2321S	46 14 8	113 50 25	3.0	3.00	.70	.30	500	N	50	150	1.5	N
SK2323S	46 14 33	113 49 56	2.0	2.00	3.00	.30	500	<.5	50	100	3.0	N
SK2325S	46 14 38	113 49 59	2.0	1.50	3.00	.30	500	N	50	70	2.0	N
SK2671S	46 11 48	113 51 59	5.0	1.50	3.00	.50	700	N	30	300	1.5	N
SK2674S	46 10 48	113 50 20	3.0	1.50	1.50	.50	700	N	70	300	1.5	N
SK2676S	46 11 10	113 50 35	3.0	1.50	3.00	.30	700	N	70	300	3.0	N
SK2678S	46 11 11	113 50 37	2.0	1.50	3.00	.30	500	N	50	300	3.0	N
SK2702S	46 14 46	113 47 1	1.5	1.00	1.00	.30	500	N	50	150	2.0	N
SK2704S	46 14 51	113 47 25	3.0	1.00	1.50	.70	1,000	N	70	100	1.5	N
WHE0074S	46 4 20	113 44 34	2.0	.70	1.00	.20	500	N	150	500	2.0	N
WHE0075S	46 4 26	113 44 35	2.0	.50	.50	.20	700	N	200	500	3.0	N
WHE0077S	46 5 18	113 43 55	1.5	.70	.30	.20	200	N	200	500	2.0	N
WHE0080S	46 6 13	113 41 57	1.5	.70	.50	.20	200	N	150	500	2.0	N
WHE0102S	46 0 4	113 40 17	2.0	.70	.20	.20	200	N	100	700	2.0	N
WHE0299S	46 6 28	113 44 2	1.0	.20	.30	.20	150	N	30	700	2.0	N
WHE0301S	46 6 40	113 44 7	3.0	.50	1.50	.30	700	N	30	700	2.0	N
WHE0303S	46 6 32	113 43 13	1.5	.30	.50	.30	200	N	200	700	2.0	N
WHE0305S	46 7 18	113 38 9	1.5	.70	1.00	.15	300	N	100	700	2.0	N
WHE0307S	46 6 45	113 40 29	3.0	.50	1.50	.15	1,000	N	50	700	2.0	N
WHE0309S	46 6 39	113 39 34	2.0	.70	3.00	.20	200	N	50	1,000	2.0	N
WHE0311S	46 6 1	113 39 32	3.0	1.00	3.00	.30	700	<.5	10	1,000	2.0	N
WHE0313S	46 5 20	113 39 46	3.0	.70	1.50	.30	500	.7	30	1,000	2.0	N
WHE0315S	46 5 27	113 39 58	3.0	.70	1.50	.30	500	<.5	50	1,000	2.0	N
WHE0317S	46 5 6	113 39 54	3.0	.70	1.50	.15	700	N	70	1,000	2.0	N
WHE0319S	46 5 1	113 40 2	2.0	.50	1.50	.30	300	N	150	700	2.0	N
WHE0320S	46 4 35	113 40 0	3.0	.70	2.00	.30	500	N	30	1,000	2.0	N
WHE0345S	46 0 22	113 44 17	2.0	2.00	1.50	.20	1,000	<.5	100	1,000	2.0	N
WHE0355S	46 3 22	113 37 38	2.0	1.50	1.50	.15	700	.7	300	700	2.0	N
WHE0357S	46 3 27	113 37 34	2.0	1.50	1.50	.20	700	.7	200	1,000	3.0	N
WHE0360S	46 5 42	113 40 30	5.0	.70	1.00	.30	1,000	N	30	1,000	2.0	N
WHE0474S	46 2 54	113 42 11	3.0	1.00	5.00	.30	700	N	30	500	3.0	N
WHE0476S	46 2 55	113 42 14	3.0	1.00	2.00	.30	700	N	100	500	3.0	N
WHE0478S	46 4 0	113 42 10	3.0	.70	2.00	.30	700	N	100	500	3.0	N
WHE0480S	46 3 13	113 41 7	5.0	.70	5.00	.30	1,000	N	10	500	3.0	N
WHE0482S	46 3 17	113 41 11	3.0	.70	2.00	.30	700	N	100	500	3.0	N
WHE0484S	46 3 30	113 40 56	5.0	.70	5.00	.30	700	N	10	500	5.0	N
WHE0486S	46 3 15	113 40 40	7.0	.70	5.00	.30	700	N	10	500	5.0	N
WHE0488S	46 3 17	113 40 39	5.0	.70	5.00	.50	500	N	10	700	3.0	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
SK2270S	N	7	30	10	70	N	<20	7	20	10	150	100	70
SK2272S	N	7	50	10	20	N	<20	7	30	10	300	70	50
SK2303S	N	5	30	7	100	N	<20	10	20	7	<100	30	30
SK2312S	N	30	150	50	30	N	<20	70	20	15	--	150	30
SK2314S	N	7	70	15	70	N	<20	20	20	5	N	50	30
SK2316S	N	N	15	10	300	N	<20	10	30	5	N	50	100
SK2318S	N	10	70	15	50	N	<20	30	20	5	N	50	30
SK2321S	N	10	100	15	100	N	<20	50	30	7	N	50	30
SK2323S	N	7	100	30	150	N	<20	20	100	7	N	50	50
SK2325S	N	7	70	15	30	N	<20	20	20	7	N	50	30
SK2671S	N	10	100	10	30	N	<20	30	20	15	200	100	70
SK2674S	N	10	100	15	30	N	<20	30	30	10	<100	70	70
SK2676S	N	7	100	10	50	N	<20	20	20	7	100	70	70
SK2678S	N	7	100	15	50	N	<20	20	20	10	150	70	70
SK2702S	N	10	30	7	150	N	<20	15	20	7	N	50	30
SK2704S	N	10	100	20	30	N	<20	30	20	7	N	70	30
WHE0074S	N	7	30	20	30	N	N	10	20	7	<100	50	20
WHE0075S	N	7	20	15	30	N	<20	10	20	7	<100	50	20
WHE0077S	N	5	20	5	30	N	N	5	15	7	<100	50	20
WHE0080S	N	5	15	10	30	N	N	5	15	5	<100	30	20
WHE0102S	N	7	30	15	30	N	<20	15	20	10	<100	50	20
WHE0299S	N	<5	15	<5	30	N	<20	<5	30	<5	100	30	N
WHE0301S	N	7	50	7	50	<5	<20	7	30	15	200	50	30
WHE0303S	N	7	30	7	150	N	<20	10	30	10	100	30	30
WHE0305S	N	5	50	5	30	N	<20	<5	20	7	150	30	30
WHE0307S	N	7	50	5	30	N	<20	5	30	7	200	50	30
WHE0309S	N	7	30	<5	150	N	<20	5	30	15	300	30	50
WHE0311S	N	7	50	10	30	N	<20	15	50	15	300	70	50
WHE0313S	N	7	70	20	150	N	20	15	30	15	200	70	100
WHE0315S	N	7	50	15	30	N	<20	15	30	15	200	70	50
WHE0317S	N	7	50	10	100	N	<20	10	30	15	300	50	30
WHE0319S	N	5	20	<5	100	N	20	7	30	15	300	50	100
WHE0320S	N	7	50	10	50	N	<20	10	50	20	300	70	70
WHE0345S	N	7	30	15	70	N	<20	10	30	10	<100	50	30
WHE0355S	N	7	50	20	70	N	<20	10	30	10	100	30	50
WHE0357S	N	7	70	20	50	N	<20	15	30	7	100	50	50
WHE0360S	N	10	70	15	50	N	<20	15	20	15	150	100	70
WHE0474S	N	5	30	7	100	N	<20	10	50	15	300	70	50
WHE0476S	N	7	30	15	100	N	N	15	20	10	200	70	30
WHE0478S	N	7	50	10	100	N	N	10	20	10	200	70	30
WHE0480S	N	7	50	10	100	N	N	15	50	15	500	100	30
WHE0482S	N	7	50	15	50	N	<20	15	30	10	200	70	20
WHE0484S	N	7	70	7	200	N	<20	10	50	10	300	100	70
WHE0486S	N	7	100	10	100	N	<20	10	50	15	300	100	70
WHE0488S	N	7	70	15	70	N	20	10	50	15	500	100	100

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
SK2270S	N	300	N	2.0	2.0	4.0	<.50	<.50	N	N
SK2272S	N	150	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
SK2303S	N	200	N	4.0	5.0	12.0	<.50	<.50	1	1
SK2312S	N	200	N	21.0	4.0	9.0	<.50	<.50	N	2
SK2314S	N	300	N	7.0	6.0	8.0	<.50	<.50	1	2
SK2316S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	--	--
SK2318S	N	200	N	6.0	3.0	6.0	<.50	<.50	1	1
SK2321S	N	200	N	5.0	12.0	4.0	<.50	<.50	N	1
SK2323S	N	200	N	20.0	33.0	13.0	<.50	<.50	N	1
SK2325S	N	300	N	6.0	4.0	6.0	<.50	<.50	N	N
SK2671S	N	300	N	6.0	5.0	17.0	<.50	<.50	1	N
SK2674S	N	300	N	5.0	8.0	6.0	<.50	<.50	1	N
SK2676S	N	300	N	8.0	6.0	6.0	<.50	<.50	1	N
SK2678S	N	200	N	5.0	5.0	9.0	<.50	<.50	1	N
SK2702S	N	300	N	5.0	7.0	5.0	<.50	<.50	N	1
SK2704S	N	200	N	11.0	7.0	10.0	<.50	<.50	N	1
WHE0074S	N	500	N	1.5	<1.0	1.0	<.50	<.50	<1	<1
WHE0075S	N	500	N	<1.0	<1.0	1.7	<.50	<.50	<1	<1
WHE0077S	N	1,000	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0080S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0102S	N	150	N	<1.0	1.0	<1.0	<.50	<.50	<1	<1
WHE0299S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0301S	N	700	500	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0303S	N	1,000	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0305S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0307S	N	300	N	<1.0	<1.0	1.5	<.50	<.50	--	<1
WHE0309S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0311S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0313S	N	500	N	1.5	<1.0	<1.0	<.50	<.50	--	<1
WHE0315S	N	200	N	<1.0	<1.0	1.0	<.50	<.50	--	<1
WHE0317S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0319S	N	200	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0320S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	--	<1
WHE0345S	N	300	N	<1.0	1.2	1.2	<.50	<.50	--	<1
WHE0355S	N	150	N	1.5	1.2	<1.0	<.50	<.50	--	<1
WHE0357S	N	150	N	1.0	1.4	1.5	<.50	<.50	--	<1
WHE0360S	N	150	N	<1.0	<1.0	1.7	<.50	<.50	--	<1
WHE0474S	N	300	N	<1.0	<1.0	1.3	<.50	<.50	<1	<1
WHE0476S	N	200	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
WHE0478S	N	200	N	<1.0	<1.0	1.2	<.50	<.50	<1	<1
WHE0480S	N	200	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
WHE0482S	N	150	N	<1.0	<1.0	2.0	<.50	<.50	<1	<1
WHE0484S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0486S	N	300	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
WHE0488S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
WHE0490S	46 3 41	113 40 37	5.0	1.00	5.00	.30	700	N	20	700	3.0	N
WHE0492S	46 3 55	113 40 40	3.0	.70	1.00	.20	300	N	150	700	3.0	N
WHE0687S	46 7 28	113 43 54	5.0	.50	1.50	.30	1,500	N	30	700	3.0	N
WHE0689S	46 7 29	113 43 49	5.0	.70	7.00	.70	700	N	10	700	3.0	N
WHE0690S	46 7 18	113 43 33	5.0	.50	2.00	.50	500	N	15	700	2.0	N
WHE0692S	46 6 59	113 42 41	5.0	.50	2.00	.30	700	N	10	700	3.0	N
WHE0695S	46 7 17	113 42 24	5.0	.70	3.00	.30	1,000	N	15	700	3.0	N
WHE0697S	46 7 15	113 41 9	2.0	.30	1.00	.20	300	N	100	700	2.0	N
WHE0700S	46 6 41	113 40 3	5.0	.70	1.00	.50	700	N	50	700	2.0	N
WHE0702S	46 6 59	113 38 35	3.0	.70	2.00	.30	700	<.5	20	700	2.0	N
WHE0704S	46 0 47	113 44 56	3.0	3.00	3.00	.30	700	<.5	100	700	2.0	N
WHE0707S	46 0 56	113 44 59	3.0	3.00	3.00	.30	1,000	N	70	1,000	1.5	N
WHE0709S	46 1 24	113 44 47	3.0	2.00	3.00	.30	700	N	150	1,000	1.5	N
WHE0711S	46 1 22	113 44 47	3.0	3.00	3.00	.30	1,000	N	100	1,000	1.5	N
WHE0713S	46 1 24	113 44 4	3.0	2.00	3.00	.20	500	N	150	1,000	1.5	N
WHE0715S	46 1 26	113 44 3	3.0	2.00	1.50	.30	700	N	150	1,000	2.0	N
WHE0717S	46 1 12	113 43 45	3.0	1.50	3.00	.30	700	.7	50	700	2.0	N
WHE0753S	46 0 20	113 44 29	2.0	1.50	2.00	.20	700	N	70	1,000	1.5	N
WHE0754S	46 0 17	113 44 28	1.5	1.00	1.50	.20	500	N	100	700	2.0	N
WHE0762S	46 7 18	113 38 7	5.0	.70	1.50	.30	700	N	20	700	2.0	N
WHE0829S	46 7 17	113 42 24	3.0	.70	2.00	.30	500	N	50	700	3.0	N
WHE0831S	46 7 15	113 42 23	3.0	.50	.70	.30	700	N	200	500	2.0	N
WHE0833S	46 1 25	113 42 27	5.0	1.00	3.00	.30	1,000	N	<10	700	3.0	N
WHE0835S	46 1 26	113 42 23	3.0	1.00	1.50	.30	500	1.5	10	500	3.0	N
WHE0837S	46 1 10	113 42 5	3.0	.70	3.00	.30	700	N	<10	500	2.0	N
WHE0840S	46 0 40	113 41 46	5.0	1.00	3.00	.30	700	N	<10	700	2.0	N
WHE0842S	46 0 33	113 41 44	3.0	.70	1.50	.15	500	N	200	500	3.0	N
WHE0844S	46 0 26	113 41 50	3.0	1.00	2.00	.30	700	N	30	700	3.0	N
WHE0846S	46 0 20	113 42 12	3.0	.70	1.50	.30	700	N	100	500	2.0	N
WHE0848S	46 0 22	113 42 16	2.0	1.50	2.00	.30	500	N	50	700	2.0	N
WHE0850S	46 0 4	113 42 34	2.0	.50	1.50	.30	300	N	30	500	2.0	N
WHE1264S	46 7 27	113 37 34	5.0	.70	1.00	.30	1,000	<.5	50	700	2.0	N
WHE1639S	46 1 28	113 39 46	2.0	.50	2.00	.30	500	<.5	<10	700	1.5	N
WHE1641S	46 1 38	113 39 52	3.0	.70	3.00	.20	700	N	20	700	2.0	N
WHE1642S	46 1 36	113 39 54	1.5	.70	2.00	.15	300	N	50	700	2.0	N
WHE1644S	46 1 22	113 38 31	2.0	.70	1.50	.15	500	<.5	10	700	2.0	N
WHE1646S	46 1 17	113 38 31	1.5	.50	.30	.15	300	1.5	100	700	3.0	N
WHE2123S	46 3 42	113 40 12	3.0	1.00	2.00	.30	700	N	10	1,000	2.0	N
WHE2125S	46 3 22	113 40 13	3.0	1.00	3.00	.30	700	N	N	1,000	2.0	N
WHE2127S	46 3 18	113 40 15	5.0	.70	2.00	.30	500	N	N	700	3.0	N
WHE2129S	46 3 3	113 40 32	3.0	.70	3.00	.50	700	N	10	500	2.0	N
WHE2131S	46 3 6	113 40 45	2.0	.70	2.00	.15	700	N	N	300	2.0	N
WHE2133S	46 3 13	113 41 9	3.0	1.00	3.00	.30	1,000	N	N	500	2.0	N
WHE2135S	46 3 17	113 41 12	1.5	.70	1.50	.20	700	N	30	500	2.0	N
WHE2137S	46 1 45	113 41 54	2.0	1.00	3.00	.20	700	N	N	500	1.5	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
WHE0490S	N	7	70	15	150	N	<20	10	50	15	500	100	100
WHE0492S	N	5	50	5	20	N	N	7	15	7	150	70	15
WHE0687S	N	10	50	20	30	N	<20	7	50	7	200	100	30
WHE0689S	N	7	50	7	500	N	20	7	70	20	500	100	200
WHE0690S	N	5	50	5	30	N	<20	5	50	10	500	100	30
WHE0692S	N	5	50	5	200	N	20	5	70	10	500	100	70
WHE0695S	N	7	50	5	30	N	<20	7	70	10	500	100	70
WHE0697S	N	<5	20	<5	50	<5	<20	5	50	5	300	70	30
WHE0700S	N	7	70	30	30	N	<20	15	30	10	150	100	30
WHE0702S	N	7	20	15	30	N	<20	15	30	15	300	70	30
WHE0704S	N	7	50	20	50	N	<20	15	30	10	150	70	50
WHE0707S	N	7	50	20	50	N	<20	15	50	10	100	70	30
WHE0709S	N	7	50	20	50	N	<20	15	30	10	100	70	50
WHE0711S	N	7	50	20	50	N	<20	15	50	10	<100	70	50
WHE0713S	N	7	50	15	30	N	<20	10	30	10	100	70	50
WHE0715S	N	7	30	20	50	N	<20	15	20	10	100	70	30
WHE0717S	N	7	30	20	70	N	<20	10	30	10	150	70	70
WHE0753S	N	5	20	30	30	N	<20	10	30	7	100	50	20
WHE0754S	N	5	20	15	50	N	<20	10	30	7	100	50	30
WHE0762S	N	7	30	15	30	N	<20	10	30	10	200	100	50
WHE0829S	N	7	30	15	70	N	<20	10	30	10	300	100	70
WHE0831S	N	10	30	10	30	N	N	5	20	7	100	100	70
WHE0833S	N	10	50	10	100	N	<20	10	50	20	300	100	70
WHE0835S	N	10	50	15	30	N	<20	15	30	10	200	150	30
WHE0837S	N	7	50	10	30	N	<20	10	30	20	300	150	50
WHE0840S	N	10	70	15	150	N	<20	15	50	20	300	150	70
WHE0842S	N	7	50	10	30	N	N	10	30	10	200	100	20
WHE0844S	N	7	70	10	30	N	<20	10	20	15	200	100	30
WHE0846S	N	7	50	10	30	N	20	7	30	15	200	100	50
WHE0848S	N	7	50	15	50	N	<20	15	20	10	<100	50	50
WHE0850S	N	5	30	10	150	N	<20	10	20	7	100	50	30
WHE1264S	N	7	50	20	50	N	<20	15	30	15	150	70	50
WHE1639S	N	7	15	5	100	N	20	7	30	15	300	50	100
WHE1641S	N	7	20	10	70	N	<20	10	30	15	300	50	30
WHE1642S	N	7	15	10	30	N	<20	7	30	10	300	30	20
WHE1644S	N	7	15	10	30	N	<20	10	30	10	300	50	20
WHE1646S	N	7	20	10	30	N	<20	10	30	7	<100	30	20
WHE2123S	N	7	50	5	50	N	N	7	30	10	300	70	70
WHE2125S	N	7	70	5	200	N	N	7	30	15	500	100	100
WHE2127S	N	7	70	7	100	N	20	7	30	10	300	100	50
WHE2129S	N	7	20	<5	70	N	<20	<5	30	10	500	70	100
WHE2131S	N	5	20	<5	20	N	N	<5	30	7	300	50	20
WHE2133S	N	7	50	5	100	N	<20	5	30	10	500	100	70
WHE2135S	N	7	30	5	20	N	N	7	20	5	200	50	20
WHE2137S	N	7	30	<5	70	N	N	7	30	10	500	70	70

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
WHE0490S	N	300	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0492S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0687S	N	200	N	1.4	1.5	2.4	<.50	<.50	<1	<1
WHE0689S	N	700	N	<1.0	<1.0	1.0	<.50	<.50	<1	<1
WHE0690S	N	100	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0692S	N	200	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
WHE0695S	N	150	N	<1.0	<1.0	2.0	<.50	<.50	<1	<1
WHE0697S	N	700	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0700S	N	500	N	1.4	1.4	2.7	<.50	<.50	<1	<1
WHE0702S	N	150	N	<1.0	<1.0	2.0	<.50	<.50	<1	<1
WHE0704S	N	150	N	1.8	2.2	4.0	<.50	<.50	<1	<1
WHE0707S	N	200	N	1.2	2.2	2.3	<.50	<.50	<1	<1
WHE0709S	N	300	N	1.3	1.8	4.5	<.50	<.50	<1	<1
WHE0711S	N	200	N	1.5	2.7	3.2	<.50	<.50	<1	<1
WHE0713S	N	300	N	1.3	1.2	3.2	<.50	<.50	<1	<1
WHE0715S	N	300	N	1.1	1.2	2.7	<.50	<.50	<1	<1
WHE0717S	N	200	N	1.8	1.2	3.5	<.50	<.50	<1	<1
WHE0753S	N	150	N	<1.0	1.5	1.6	<.50	<.50	<1	<1
WHE0754S	N	150	N	1.0	1.5	2.3	<.50	<.50	<1	<1
WHE0762S	N	150	N	<1.0	1.0	2.0	<.50	<.50	<1	<1
WHE0829S	N	500	N	<1.0	<1.0	<1.0	<.50	<.50	<1	<1
WHE0831S	N	500	N	<1.0	<1.0	1.3	<.50	<.50	<1	<1
WHE0833S	N	700	N	<1.0	<1.0	3.0	<.50	<.50	<1	<1
WHE0835S	N	300	N	<1.0	1.0	2.0	<.50	<.50	<1	<1
WHE0837S	N	1,000	N	<1.0	<1.0	2.0	<.50	<.50	<1	<1
WHE0840S	N	700	N	<1.0	<1.0	3.0	<.50	<.50	<1	<1
WHE0842S	N	700	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
WHE0844S	N	500	N	<1.0	<1.0	1.3	<.50	<.50	<1	<1
WHE0846S	N	500	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
WHE0848S	N	200	N	<1.0	<1.0	1.5	<.50	<.50	<1	<1
WHE0850S	N	300	N	<1.0	<1.0	3.0	<.50	<.50	<1	<1
WHE1264S	N	150	N	1.8	1.5	1.4	<.50	<.50	<1	<1
WHE1639S	N	150	N	<1.0	<1.0	1.0	<.50	<.50	<1	<1
WHE1641S	N	150	N	<1.0	<1.0	2.1	<.50	<.50	<1	<1
WHE1642S	<200	100	N	<1.0	<1.0	17.0	<.50	2.20	<1	<1
WHE1644S	<200	100	N	<1.0	<1.0	18.0	<.50	2.20	<1	<1
WHE1646S	N	200	N	<1.0	2.4	1.2	1.00	<.50	<1	<1
WHE2123S	N	150	N	<1.0	5.0	7.0	<.50	<.50	N	N
WHE2125S	N	200	N	1.0	4.0	9.0	<.50	<.50	N	N
WHE2127S	N	1,000	N	3.0	8.0	15.0	<.50	<.50	N	1
WHE2129S	N	1,000	N	<1.0	3.0	9.0	<.50	<.50	N	N
WHE2131S	N	150	N	<1.0	4.0	12.0	<.50	<.50	N	N
WHE2133S	N	300	N	1.0	7.0	20.0	<.50	<.50	N	1
WHE2135S	N	150	N	2.0	5.0	15.0	<.50	<.50	N	N
WHE2137S	N	150	N	1.0	5.0	15.0	<.50	<.50	N	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.05)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(.5)	B-ppm s(10)	Ba-ppm s(20)	Be-ppm s(1)	Bi-ppm s(10)
WHE2139S	46 1 34	113 42 24	3.0	1.00	3.00	.50	700	N	N	500	2.0	N
WHE2141S	46 1 24	113 42 28	3.0	1.50	3.00	.30	700	N	20	500	2.0	N
WHE2143S	46 1 3	113 41 32	5.0	1.50	3.00	.50	1,000	N	N	500	1.5	N
WHE2145S	46 0 56	113 42 2	7.0	1.00	2.00	.20	1,000	N	N	500	2.0	N
WHE5319S	46 4 29	113 40 7	3.0	.70	2.00	.20	500	N	10	700	2.0	N
WHE5321S	46 2 23	113 41 0	3.0	.70	2.00	.20	500	N	20	500	2.0	N
WHE5322S	46 2 23	113 40 3	3.0	.50	2.00	.30	300	N	30	500	2.0	N

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Cd-ppm s(20)	Co-ppm s(5)	Cr-ppm s(10)	Cu-ppm s(5)	La-ppm s(20)	Mo-ppm s(5)	Nb-ppm s(20)	Ni-ppm s(5)	Pb-ppm s(10)	Sc-ppm s(5)	Sr-ppm s(100)	V-ppm s(10)	Y-ppm s(10)
WHE2139S	N	5	50	<5	200	N	<20	5	30	15	300	100	100
WHE2141S	N	7	20	5	70	N	N	7	30	10	300	70	30
WHE2143S	N	7	50	5	70	N	N	10	30	10	300	70	50
WHE2145S	N	7	50	7	200	N	N	5	30	10	300	150	50
WHE5319S	N	7	20	5	50	N	<20	10	30	7	300	50	50
WHE5321S	N	7	20	10	70	N	<20	10	30	7	300	70	30
WHE5322S	N	7	15	7	70	N	<20	7	30	7	300	50	50

TABLE 2 - STREAM SEDIMENT SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Zn-ppm s(200)	Zr-ppm s(10)	Th-ppm s(100)	Cu-ppm aa(1)	Pb-ppm aa(1)	Zn-ppm aa(1)	Ag-ppm aa(.05)	Cd-ppm aa(.05)	Bi-ppm aa(1)	Sb-ppm aa(1)
WHE2139S	N	200	N	<1.0	3.0	7.0	<.50	<.50	N	N
WHE2141S	N	150	N	<1.0	4.0	12.0	<.50	<.50	N	N
WHE2143S	N	100	N	<1.0	7.0	25.0	<.50	<.50	N	1
WHE2145S	N	300	N	2.0	10.0	23.0	<.50	.55	1	1
WHE5319S	N	200	--	2.0	4.0	5.0	<.50	<.50	1	1
WHE5321S	N	200	--	3.0	6.0	9.0	<.50	<.50	1	2
WHE5322S	N	300	--	2.0	6.0	5.0	<.50	<.50	1	1

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.1)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(1)	Au-ppm s(20)	B-ppm s(20)	Ba-ppm s(50)	Be-ppm s(2)
803P6A	46 2 9	113 44 40	3.0	3.00	.70	.30	500	<1.0	N	150	300	3
80387A	46 2 6	113 44 38	3.0	5.00	2.00	.20	500	<1.0	N	70	500	3
803R8A	46 2 8	113 44 35	5.0	3.00	.30	.20	500	<1.0	N	100	300	2
80404A	45 59 58	113 42 29	50.0	.70	2.00	.70	1,000	<1.0	N	N	100	<2
80567A	46 6 7	113 48 15	3.0	.70	.30	.30	150	<1.0	N	200	300	<2
80568A	46 6 10	113 48 5	10.0	.70	.15	1.50	150	<1.0	N	500	200	<2
80571A	46 6 38	113 48 30	5.0	.70	.15	.70	150	<1.0	N	300	150	2
80DL30A	46 4 28	113 45 45	.7	.30	.70	.20	200	<1.0	N	150	150	<2
80DL34A	46 6 5	113 44 35	3.0	.50	<.10	.30	50	<1.0	N	500	200	<2
80DL38A	46 6 37	113 43 55	1.0	.50	1.00	.30	300	<1.0	N	20	300	<2
80DL39A	46 6 39	113 43 56	5.0	.15	.30	2.00	100	<1.0	N	150	300	<2
80DL44A	46 3 30	113 41 5	5.0	.20	1.00	.70	500	<1.0	N	N	500	3
80DL82A	45 6 18	113 51 42	20.0	.30	5.00	1.50	3,000	<1.0	N	20	70	<2
80DL83A	45 6 20	113 51 51	10.0	.70	1.00	.30	500	<1.0	N	200	200	<2
FP0001P	46 0 21	113 40 29	20.0	.30	1.00	.70	1,000	<1.0	N	150	700	<2
FP0005P	46 1 46	113 40 51	30.0	.07	.20	.20	300	500.0	150	100	700	<2
FP0008P	46 0 10	113 36 25	7.0	.20	.10	1.00	700	7.0	N	150	700	<2
FP0010P	46 0 10	113 36 25	5.0	.70	.50	1.00	1,500	2.0	N	100	700	<2
FP0016P	46 1 52	113 36 42	3.0	.50	1.00	.70	1,500	2.0	N	100	1,000	<2
JN0394P	45 59 49	113 48 0	3.0	.20	.30	.70	300	<1.0	N	N	300	<2
JN0396P	45 59 47	113 47 58	2.0	.70	.50	.50	300	1.5	N	<20	500	<2
JN0398P	45 59 7	113 47 55	15.0	.50	1.50	1.50	700	<1.0	N	100	1,000	<2
JN0729P	45 59 54	113 46 12	3.0	.70	1.50	.50	5,000	<1.0	N	200	300	<2
JN0731P	45 59 18	113 46 21	7.0	5.00	7.00	.50	3,000	<1.0	N	50	1,000	2
JN0733P	45 59 1	113 46 16	15.0	.50	.70	2.00	500	<1.0	N	150	500	<2
JN0857P	45 59 24	113 46 19	5.0	7.00	15.00	.50	2,000	<1.0	N	150	700	3
JN0859P	45 59 26	113 46 22	5.0	.70	.70	1.00	700	<1.0	N	500	500	<2
JN1200P	45 58 43	113 47 47	30.0	.15	.15	2.00	500	<1.0	N	70	200	<2
JN1679P	45 58 6	113 45 16	15.0	.30	1.00	1.50	700	<1.0	N	70	500	<2
KEL0493P	45 58 18	113 34 57	5.0	1.00	.50	.50	2,000	<1.0	N	200	1,000	2
KEL0495P	45 58 22	113 34 52	7.0	.70	.20	.20	700	<1.0	N	70	2,000	<2
KEL0499P	45 58 47	113 35 27	7.0	1.00	1.00	.30	1,000	<1.0	N	200	1,000	<2
KEL0501P	45 59 13	113 35 46	3.0	.20	<.10	.70	100	<1.0	N	100	300	<2
KEL0505P	45 59 41	113 36 9	7.0	.70	1.00	.20	1,000	<1.0	N	100	1,000	<2
KEL0511P	45 59 49	113 36 39	.7	.15	<.10	.15	100	<1.0	N	20	200	<2
KEL0791P	45 57 29	113 37 28	5.0	1.00	1.00	.30	700	<1.0	N	150	1,000	<2
KEL5309P	45 59 35	113 31 48	10.0	.30	.10	.30	1,000	<1.0	N	200	>10,000	2
KEN0067P	46 2 24	113 46 35	3.0	.70	1.50	.70	500	<1.0	N	300	700	<2
KEN0069P	46 3 13	113 45 56	10.0	.20	.50	.70	1,000	<1.0	N	300	200	<2
KEN0071P	46 3 14	113 45 49	3.0	2.00	3.00	.30	700	<1.0	N	30	700	<2
KEN0095P	46 5 17	113 48 36	3.0	.15	.20	.50	100	<1.0	N	300	200	<2
KEN0386P	46 5 32	113 45 5	2.0	.70	.10	.30	200	<1.0	N	150	700	2
KEN0388P	46 5 39	113 45 2	1.5	.70	.10	.15	100	<1.0	N	70	500	<2
KEN0390P	46 4 29	113 45 57	1.5	.20	.30	.07	100	<1.0	N	50	200	<2
KEN0392P	46 4 27	113 45 55	1.0	.20	.20	.07	70	<1.0	N	50	150	<2

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	Bi-ppm s(20)	Cd-ppm s(50)	Co-ppm s(10)	Cr-ppm s(20)	Cu-ppm s(10)	La-ppm s(50)	Mo-ppm s(10)	Nb-ppm s(50)	Ni-ppm s(10)	Pb-ppm s(20)	Sc-ppm s(10)	Sn-ppm s(20)	Sr-ppm s(200)
80386A	N	N	<10	50	10	50	N	<50	30	<20	<10	N	N
80387A	N	N	10	30	<10	50	N	<50	20	<20	10	N	N
80388A	N	N	10	50	10	50	N	<50	20	N	<10	N	N
80404A	N	N	15	500	50	1,500	N	50	10	N	10	N	N
80567A	N	N	<10	50	<10	70	N	<50	10	<20	<10	N	N
80568A	N	N	N	150	<10	100	N	50	<10	20	<10	N	N
80571A	N	N	N	70	<10	100	N	<50	<10	<20	<10	N	N
80DL30A	N	N	N	30	<10	50	N	<50	<10	<20	<10	N	N
80DL34A	N	N	N	70	<10	50	N	<50	<10	N	<10	N	N
80DL38A	N	N	N	30	<10	50	N	<50	10	<20	<10	N	<200
80DL39A	N	N	<10	50	<10	200	N	<50	<10	<20	<10	N	N
80DL44A	N	N	<10	50	<10	700	N	<50	10	<20	<10	N	200
80DL82A	N	N	20	150	50	2,000	N	50	10	<20	10	N	N
80DL83A	N	N	15	100	<10	200	N	<50	<10	N	10	N	N
FP0001P	N	N	10	300	20	1,000	N	<50	20	100	15	N	<200
FP0005P	N	1,000	150	30	2,000	150	70	<50	150	50,000	15	N	<200
FP0008P	N	N	15	<20	70	70	<10	<50	20	700	10	N	N
FP0010P	N	N	<10	<20	15	300	N	<50	10	300	10	N	N
FP0016P	50	N	<10	<20	20	500	N	<50	15	200	10	N	N
JN0394P	N	N	<10	50	<10	100	N	<50	<10	20	<10	N	N
JN0396P	N	N	<10	70	<10	500	N	<50	15	<20	<10	N	N
JN0398P	N	N	<10	150	10	200	N	300	10	50	20	N	<200
JN0729P	N	N	N	<20	<10	70	N	<50	<10	30	<10	N	N
JN0731P	N	N	15	50	30	200	N	100	20	20	10	N	<200
JN0733P	N	N	<10	150	10	100	N	70	10	<20	15	N	<200
JN0857P	N	N	10	50	20	100	N	<50	10	50	15	N	N
JN0859P	N	N	N	100	<10	200	N	<50	10	30	10	N	N
JN1200P	N	N	10	500	15	200	N	70	10	<20	20	20	N
JN1679P	N	N	10	300	<10	200	N	50	10	<20	15	N	<200
KEL0493P	N	N	30	100	20	70	N	<50	20	30	15	N	N
KEL0495P	N	N	30	30	50	50	N	<50	50	150	10	N	N
KEL0499P	N	N	30	50	20	70	N	<50	10	70	10	N	N
KEL0501P	N	N	N	70	<10	100	N	<50	10	20	10	N	N
KEL0505P	N	N	30	70	30	50	N	<50	10	50	10	N	N
KEL0511P	N	N	<10	<20	<10	50	N	<50	10	20	N	N	N
KEL0791P	N	N	<10	50	<10	70	N	<50	10	20	<10	N	<200
KEL5309P	N	N	50	30	150	50	N	<50	70	150	<10	N	<200
KEN0067P	N	N	<10	70	<10	50	N	<50	10	<20	10	N	<200
KEN0069P	N	N	N	150	<10	100	N	<50	10	20	10	N	N
KEN0071P	N	N	30	50	20	100	N	<50	10	20	<10	N	N
KEN0095P	N	N	N	100	<10	50	N	<50	10	<20	<10	N	<200
KEN0386P	N	N	N	50	<10	50	N	<50	10	20	<10	N	N
KEN0388P	N	N	N	30	<10	50	N	<50	<10	<20	N	N	N
KEN0390P	N	N	N	20	<10	50	N	<50	<10	<20	<10	N	N
KEN0392P	N	N	N	20	<10	50	N	<50	<10	<20	<10	N	N

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA

Sample	V-ppm s(20)	W-ppm s(100)	Y-ppm s(20)	Zr-ppm s(10)	Th-ppm s(200)	Au-ppm aa(.05)
80386A	70	N	50	300	N	<.05
80387A	50	N	70	200	N	<.05
80388A	50	N	70	700	N	<.05
80404A	1,500	N	300	>2,000	N	<.05
80567A	50	N	50	1,000	N	<.05
80568A	100	N	150	>2,000	N	<.05
80571A	70	N	100	>2,000	N	<.05
80DL30A	30	N	30	>2,000	N	<.05
80DL34A	30	N	50	>2,000	N	<.05
80DL38A	30	N	50	500	N	<.05
80DL39A	100	N	100	>2,000	N	<.05
80DL44A	100	N	70	300	N	<.05
80DL82A	300	N	300	>2,000	<200	<.05
80DL83A	150	N	70	>2,000	N	<.05
FP0001P	300	N	300	1,000	N	2.00
FP0005P	70	N	200	>2,000	N	32.70
FP0008P	150	N	70	700	N	.18
FP0010P	70	N	100	2,000	N	2.76
FP0016P	100	N	150	700	N	<.05
JN0394P	70	N	50	500	N	<.05
JN0396P	50	N	70	300	N	<.05
JN0398P	200	<100	150	700	N	<.05
JN0729P	50	N	100	1,500	N	<.05
JN0731P	100	N	100	150	N	.08
JN0733P	200	N	100	1,000	N	<.05
JN0857P	100	200	70	700	N	<.05
JN0859P	150	N	70	>2,000	N	<.05
JN1200P	300	N	200	2,000	N	<.05
JN1679P	500	N	100	2,000	N	<.05
KEL0493P	70	N	100	700	N	<.05
KEL0495P	20	N	30	500	N	<.05
KEL0499P	50	N	100	1,000	N	.64
KEL0501P	50	N	50	1,500	N	.46
KEL0505P	50	N	50	700	N	<.05
KEL0511P	<20	N	<20	500	N	.05
KEL0791P	50	N	20	300	N	<.05
KEL5309P	50	N	30	500	--	5.03
KEN0067P	70	150	70	>2,000	N	<.05
KEN0069P	70	N	300	>2,000	N	<.05
KEN0071P	70	N	50	700	N	<.05
KEN0095P	50	N	50	>2,000	N	<.05
KEN0386P	30	N	70	300	N	<.05
KEN0388P	30	N	20	700	N	<.05
KEN0390P	30	N	<20	150	N	<.05
KEN0392P	20	N	70	2,000	N	<.05

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.1)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(1)	Au-ppm s(20)	B-ppm s(20)	Ba-ppm s(50)	Be-ppm s(2)
KEN0727P	46 0 15	113 45 56	7.0	7.00	15.00	.30	2,000	<1.0	N	70	300	<2
KEN0855P	46 0 16	113 45 58	7.0	7.00	15.00	.50	5,000	<1.0	N	150	300	5
KEN0883P	46 1 19	113 47 20	2.0	.50	.30	.50	700	<1.0	N	100	700	2
KEN0885P	46 1 17	113 47 28	7.0	.50	.50	1.50	2,000	<1.0	N	500	500	<2
KEN0887P	46 0 58	113 48 12	7.0	1.00	2.00	1.00	2,000	<1.0	N	<20	1,000	5
KEN0889P	46 0 39	113 48 40	7.0	.50	1.00	.70	3,000	<1.0	N	50	500	2
KEN0891P	46 0 38	113 48 44	3.0	.30	1.50	.50	1,500	<1.0	N	<20	1,000	7
KEN0893P	46 0 33	113 48 35	15.0	.70	1.00	2.00	7,000	<1.0	N	150	300	<2
KEN0930P	46 6 57	113 46 9	7.0	.15	<.10	.70	1,000	<1.0	N	200	200	<2
KEN0933P	46 7 3	113 46 22	15.0	.30	.30	2.00	200	<1.0	N	300	200	<2
KEN0934P	46 7 3	113 46 22	15.0	.30	.30	1.50	300	<1.0	N	200	200	<2
KEN0937P	46 8 0	113 48 11	15.0	5.00	15.00	1.50	1,000	<1.0	N	100	200	<2
KEN0939P	46 6 58	113 49 0	15.0	.20	.15	2.00	150	<1.0	N	150	300	<2
KEN0942P	46 6 38	113 48 30	7.0	.50	.20	1.00	100	<1.0	N	150	300	<2
KEN0944P	46 6 42	113 49 20	7.0	.20	.20	.70	100	<1.0	N	150	200	<2
KEN0947P	46 6 45	113 49 14	5.0	.70	1.50	1.00	200	<1.0	N	150	300	<2
KEN2200P	46 4 36	113 51 30	30.0	.50	.70	>2.00	3,000	<1.0	N	100	100	<2
KEN2202P	46 4 36	113 51 32	30.0	.50	.70	>2.00	3,000	<1.0	N	150	100	<2
KEN2204P	46 4 38	113 51 36	2.0	.70	1.00	2.00	700	<1.0	N	20	200	<2
KEN2255P	46 7 0	113 52 28	5.0	1.00	2.00	1.00	700	<1.0	N	100	200	<2
KEN2259P	46 6 19	113 51 40	3.0	1.00	1.00	.70	500	<1.0	N	100	300	<2
KEN2261P	46 6 35	113 51 29	3.0	10.00	10.00	.70	700	<1.0	N	20	<50	<2
KEN2265P	46 7 28	113 51 13	5.0	2.00	3.00	1.00	500	<1.0	N	100	300	2
KEN2267P	46 7 25	113 51 2	7.0	1.00	1.50	.70	100	<1.0	N	200	200	<2
KEN2616P	46 1 40	113 50 25	15.0	.70	3.00	1.50	3,000	<1.0	N	20	700	2
KEN2618P	46 1 24	113 49 38	20.0	.70	1.50	>2.00	1,500	<1.0	N	30	200	<2
KEN2620P	46 1 45	113 49 46	10.0	.15	1.00	.30	1,500	<1.0	N	20	700	3
KEN2622P	46 2 5	113 49 36	10.0	.15	.70	1.00	700	<1.0	N	20	500	<2
KEN2624P	46 2 9	113 49 39	20.0	.10	.70	2.00	1,000	<1.0	N	200	300	<2
KEN2626P	46 2 25	113 50 50	15.0	.10	1.00	1.00	1,500	<1.0	N	<20	700	2
KEN2628P	46 2 26	113 50 52	10.0	.10	1.00	1.00	700	<1.0	N	150	500	<2
KEN2630P	46 3 31	113 50 13	3.0	.10	.10	.50	100	<1.0	N	150	200	<2
KEN2632P	46 4 55	113 50 43	1.0	.15	<.10	.15	100	<1.0	N	30	150	<2
KEN2634P	46 4 21	113 50 51	15.0	.20	<.10	1.50	200	<1.0	N	500	300	<2
LC0106P	45 59 5	113 40 58	3.0	.50	.50	.70	300	<1.0	N	150	500	2
LC0108P	45 59 3	113 40 55	5.0	.50	.30	1.00	200	<1.0	N	200	500	<2
LC0111P	45 58 32	113 41 25	7.0	.50	1.00	1.50	2,000	<1.0	N	150	500	<2
LC0346P	45 58 53	113 43 38	5.0	5.00	10.00	.20	700	<1.0	N	50	700	<2
LC0348P	45 58 16	113 43 41	10.0	1.50	2.00	1.50	700	<1.0	N	100	300	<2
LC0756P	45 58 50	113 43 43	5.0	3.00	7.00	.50	1,000	<1.0	N	150	1,000	2
LC0758P	45 58 16	113 43 36	7.0	7.00	10.00	1.00	2,000	<1.0	N	100	1,000	2
LC0789P	45 57 30	113 37 32	1.5	.50	.10	.20	100	<1.0	N	100	500	<2
LC0795P	45 56 12	113 38 22	5.0	.30	<.10	.50	100	<1.0	N	70	300	<2
LC0797P	45 56 13	113 38 18	3.0	.70	.70	.30	300	<1.0	N	150	700	<2
LC0876P	45 59 3	113 40 55	7.0	.70	.20	1.00	200	<1.0	N	500	500	<2

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm s(20)	Cd-ppm s(50)	Co-ppm s(10)	Cr-ppm s(20)	Cu-ppm s(10)	La-ppm s(50)	Mo-ppm s(10)	Nb-ppm s(50)	Ni-ppm s(10)	Pb-ppm s(20)	Sc-ppm s(10)	Sn-ppm s(20)	Sr-ppm s(200)
KEN0727P	N	N	20	30	50	100	N	<50	15	50	15	N	N
KEN0855P	N	N	10	50	70	150	N	<50	15	50	15	N	N
KEN0883P	N	N	N	30	<10	70	N	<50	10	30	<10	N	<200
KEN0885P	N	N	N	70	<10	150	N	<50	10	50	20	N	<200
KEN0887P	N	N	N	20	<10	1,000	N	100	<10	50	15	N	200
KEN0889P	N	N	N	20	<10	150	N	<50	<10	50	10	N	N
KEN0891P	N	N	N	20	<10	700	N	<50	10	70	10	N	200
KEN0893P	N	N	10	70	<10	300	N	150	<10	30	15	N	N
KEN0930P	N	N	N	50	<10	100	N	<50	10	<20	10	N	N
KEN0933P	N	N	N	200	<10	500	N	<50	10	<20	15	N	N
KEN0934P	N	N	N	100	<10	200	N	50	10	20	15	N	N
KEN0937P	N	N	10	150	10	700	N	70	10	20	15	N	N
KEN0939P	N	N	N	100	<10	300	N	100	10	20	15	N	N
KEN0942P	N	N	N	100	<10	70	N	<50	10	<20	15	N	N
KEN0944P	N	N	20	100	<10	300	N	<50	10	<20	15	N	N
KEN0947P	N	N	N	70	<10	300	N	<50	<10	<20	10	N	N
KEN2200P	N	N	15	500	20	1,000	N	<50	10	<20	10	N	N
KEN2202P	N	N	15	300	20	1,500	N	<50	10	<20	10	N	N
KEN2204P	N	N	<10	20	<10	100	N	<50	<10	<20	15	N	N
KEN2255P	N	N	10	30	<10	1,500	N	<50	<10	<20	10	N	<200
KEN2259P	N	N	<10	50	<10	200	N	<50	10	20	10	N	N
KEN2261P	N	N	10	70	<10	150	N	<50	30	<20	20	N	N
KEN2265P	N	N	10	50	10	200	N	<50	20	<20	10	N	<200
KEN2267P	N	N	15	70	<10	700	N	<50	30	20	10	N	N
KEN2616P	N	N	<10	100	10	1,500	N	<50	<10	50	10	N	<200
KEN2618P	N	N	<10	150	15	1,000	N	150	20	20	15	<20	N
KEN2620P	N	N	<10	100	<10	1,500	N	200	<10	50	10	N	200
KEN2622P	N	N	<10	150	<10	500	<10	100	<10	30	10	N	<200
KEN2624P	N	N	<10	150	10	1,500	N	200	<10	30	10	N	<200
KEN2626P	N	N	10	50	50	700	<10	50	20	30	<10	N	<200
KEN2628P	N	N	<10	100	<10	700	N	<50	10	30	10	N	<200
KEN2630P	N	N	N	50	<10	50	N	<50	<10	20	N	N	N
KEN2632P	N	N	N	30	<10	50	N	<50	10	<20	N	N	N
KEN2634P	N	N	N	200	<10	150	N	<50	10	<20	10	N	N
LC0106P	N	N	<10	100	<10	1,000	N	<50	10	50	10	N	<200
LC0108P	700	N	<10	100	<10	300	N	<50	10	70	10	N	<200
LC0111P	300	N	<10	150	<10	>2,000	N	50	<10	50	<10	N	<200
LC0346P	30	N	<10	50	15	50	N	<50	15	30	15	N	N
LC0348P	N	N	<10	150	10	100	N	50	10	20	15	N	<200
LC0756P	N	N	30	50	20	150	N	<50	15	50	15	N	<200
LC0758P	N	N	20	70	15	100	N	<50	15	50	20	N	<200
LC0789P	N	N	<10	30	<10	50	N	<50	10	20	N	N	N
LC0795P	N	N	<10	30	<10	50	N	<50	<10	20	N	N	N
LC0797P	N	N	N	50	<10	50	N	<50	10	20	<10	N	<200
LC0876P	N	N	N	70	<10	300	N	<50	10	30	10	N	N

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	V-ppm s(20)	W-ppm s(100)	Y-ppm s(20)	Zr-ppm s(10)	Th-ppm s(200)	Au-ppm aa(.05)
KEN0727P	100	<100	70	200	N	<.05
KEN0855P	100	N	150	500	N	.12
KEN0883P	70	N	50	>2,000	N	<.05
KEN0885P	150	<100	200	>2,000	N	<.05
KEN0887P	70	N	150	700	200	<.05
KEN0889P	70	N	150	2,000	N	<.05
KEN0891P	70	N	70	300	N	<.05
KEN0893P	150	<100	300	1,500	<200	<.05
KEN0930P	70	N	70	1,500	N	<.05
KEN0933P	200	N	150	>2,000	N	<.05
KEN0934P	100	N	150	>2,000	N	<.05
KEN0937P	150	N	300	>2,000	700	<.05
KEN0939P	70	N	200	>2,000	200	<.05
KEN0942P	70	N	150	>2,000	N	.23
KEN0944P	70	N	70	2,000	N	<.05
KEN0947P	70	N	70	700	N	<.05
KEN2200P	700	N	200	>2,000	N	<.05
KEN2202P	700	N	200	>2,000	N	<.05
KEN2204P	70	N	50	1,500	N	<.05
KEN2255P	70	100	100	1,500	<200	<.05
KEN2259P	70	N	70	700	N	<.05
KEN2261P	100	N	50	150	N	<.05
KEN2265P	100	N	150	1,000	N	.50
KEN2267P	70	N	200	1,500	500	<.05
KEN2616P	200	N	150	1,500	<200	<.05
KEN2618P	500	N	700	1,000	N	<.05
KEN2620P	300	N	100	1,500	<200	<.05
KEN2622P	200	N	100	1,500	N	<.05
KEN2624P	300	N	300	1,500	300	<.05
KEN2626P	200	N	150	1,500	N	<.05
KEN2628P	200	N	100	>2,000	N	<.05
KEN2630P	50	N	50	1,500	N	<.05
KEN2632P	30	N	<20	700	N	<.05
KEN2634P	150	N	70	1,500	N	<.05
LC0106P	70	N	100	2,000	N	.05
LC0108P	70	100	150	>2,000	N	<.05
LC0111P	150	N	700	2,000	300	<.05
LC0346P	70	N	50	150	N	<.05
LC0348P	200	N	70	2,000	N	<.05
LC0756P	100	N	70	300	N	<.05
LC0758P	200	N	70	200	N	<.05
LC0789P	30	N	20	1,000	N	<.05
LC0795P	50	N	20	700	N	<.05
LC0797P	50	N	30	500	N	<.05
LC0876P	100	N	100	>2,000	N	<.05

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.1)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(1)	Au-ppm s(20)	B-ppm s(20)	Ba-ppm s(50)	Be-ppm s(2)
LC0878P	45 58 59	113 41 5	10.0	.70	3.00	2.00	1,000	<1.0	N	<20	700	3
LC1660P	45 57 13	113 39 46	7.0	1.00	1.00	1.50	1,000	<1.0	N	300	500	<2
LC1662P	45 57 15	113 39 43	3.0	.20	<.10	.30	100	<1.0	N	200	300	<2
LC1664P	45 57 27	113 40 50	1.0	.20	<.10	.15	50	<1.0	N	100	200	<2
LC1666P	45 57 24	113 40 51	7.0	2.00	1.00	1.50	1,000	<1.0	N	200	700	2
LC1669P	45 57 34	113 41 26	1.5	.30	.30	.20	500	<1.0	N	70	300	<2
LC1672P	45 58 14	113 42 35	1.5	.50	1.00	.30	200	<1.0	N	50	500	3
LC1677P	45 58 30	113 42 41	7.0	1.00	5.00	1.50	1,500	<1.0	N	50	1,500	2
LC1907P	45 59 56	113 38 31	1.5	.50	<.10	.20	100	<1.0	N	200	300	<2
LC1909P	45 59 58	113 38 31	1.5	.70	.10	.20	150	<1.0	N	150	500	<2
MAU1266P	46 7 56	113 36 30	3.0	.20	2.00	1.50	500	<1.0	N	200	500	<2
MAU2383P	46 7 33	113 35 47	2.0	.15	1.00	.50	300	<1.0	N	150	300	<2
MEM0895P	46 8 17	113 44 0	5.0	.10	2.00	.70	7,000	<1.0	N	<20	700	7
MEM0897P	46 8 21	113 44 3	.7	.10	2.00	.15	700	<1.0	N	<20	700	7
MEM0899P	46 8 16	113 44 12	15.0	.70	7.00	>2.00	1,500	<1.0	N	<20	300	<2
MEM1260P	46 12 5	113 43 59	3.0	.30	2.00	2.00	700	<1.0	N	150	500	2
MEM1262P	46 11 58	113 43 58	20.0	.30	3.00	>2.00	7,000	<1.0	N	20	300	<2
MEM1801P	46 8 25	113 44 26	10.0	.50	3.00	2.00	>10,000	<1.0	N	<20	300	<2
MEM1803P	46 8 19	113 44 39	7.0	.20	2.00	1.50	>10,000	<1.0	N	N	500	2
MEM1805P	46 8 16	113 44 44	20.0	1.00	7.00	>2.00	1,500	<1.0	N	100	200	<2
MEM2328P	46 12 6	113 43 47	2.0	.20	5.00	2.00	2,000	<1.0	N	20	300	2
MEM5215P	46 13 55	113 44 39	3.0	.50	.15	.30	700	<1.0	N	150	1,000	3
MEM5218P	46 13 26	113 43 33	.2	.15	<.10	.10	100	<1.0	N	100	300	<2
MEM5283P	46 12 48	113 41 48	10.0	.30	.70	.70	200	<1.0	N	150	700	<2
MEM5285P	46 12 46	113 41 50	30.0	.30	3.00	>2.00	>10,000	<1.0	N	50	200	<2
MOL0507P	46 0 1	113 36 17	.7	.15	<.10	.30	50	<1.0	N	50	300	<2
MOL0509P	46 0 17	113 36 11	1.5	.70	.20	.30	150	<1.0	N	50	1,000	2
MOL0955P	46 5 43	113 36 5	3.0	.50	1.00	.70	300	<1.0	N	100	500	<2
MOL1290P	46 2 39	113 32 13	2.0	.30	<.10	.70	100	<1.0	N	100	700	<2
MOL1295P	46 0 28	113 34 10	2.0	.15	<.10	.30	150	<1.0	N	70	300	<2
MOL1297P	46 0 25	113 34 7	2.0	.50	2.00	.70	150	<1.0	N	200	500	<2
MOL1301P	46 1 31	113 37 17	1.5	.30	<.10	.30	150	<1.0	N	150	300	<2
MOL1303P	46 1 33	113 37 19	2.0	.70	1.50	.50	500	<1.0	N	70	1,000	2
MOL1305P	46 1 50	113 36 36	3.0	.50	.20	.70	500	<1.0	N	150	500	<2
MOL1307P	46 3 55	113 32 46	3.0	.30	.15	.70	200	<1.0	N	150	500	<2
MOL1654P	46 1 54	113 33 54	.7	.30	<.10	.30	150	<1.0	N	70	500	<2
MOL1656P	46 2 2	113 33 43	1.0	.50	<.10	.30	150	<1.0	N	70	500	<2
MOL1658P	46 2 6	113 36 49	1.0	.70	.70	.20	300	<1.0	N	200	700	<2
MOL2337P	46 0 9	113 31 32	1.5	.70	.70	.30	200	<1.0	N	200	1,000	3
MOL2339P	46 0 17	113 31 36	2.0	.10	.15	.50	150	<1.0	N	100	10,000	<2
MOL2349P	46 1 56	113 31 27	1.5	.50	1.00	.30	150	<1.0	N	150	1,500	2
MOL2351P	46 3 6	113 32 16	1.0	.20	.10	.50	50	<1.0	N	70	500	<2
MOL2357P	46 4 0	113 32 15	10.0	.30	1.00	2.00	700	<1.0	N	200	700	<2
MOL2359P	46 3 1	113 34 48	3.0	.70	1.00	.50	150	<1.0	N	200	700	<2
MOL2362P	46 3 7	113 36 10	1.5	2.00	3.00	.20	500	<1.0	N	150	700	<2

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm s(20)	Cd-ppm s(50)	Co-ppm s(10)	Cr-ppm s(20)	Cu-ppm s(10)	La-ppm s(50)	Mo-ppm s(10)	Nb-ppm s(50)	Ni-ppm s(10)	Pb-ppm s(20)	Sc-ppm s(10)	Sn-ppm s(20)	Sr-ppm s(200)
LC0878P	50	N	10	50	15	1,500	N	100	10	70	15	N	200
LC1660P	N	N	20	20	<10	50	N	<50	10	20	20	N	N
LC1662P	N	N	<10	50	<10	50	N	<50	<10	20	N	N	N
LC1664P	N	N	10	20	<10	50	N	<50	10	<20	N	N	N
LC1666P	N	N	15	100	20	50	N	<50	10	<20	15	N	<200
LC1669P	N	N	<10	<20	<10	<50	N	<50	10	<20	N	N	N
LC1672P	N	N	<10	20	<10	200	N	<50	10	30	<10	N	<200
LC1677P	N	N	N	50	<10	2,000	N	100	10	30	20	N	200
LC1907P	N	N	N	20	<10	70	N	<50	10	20	<10	N	N
LC1909P	N	N	N	30	<10	70	N	<50	10	20	<10	N	N
MAU1266P	N	N	<10	30	<10	1,000	N	70	10	50	15	N	<200
MAU2383P	N	N	N	20	<10	300	N	<50	10	20	<10	N	<200
MEM0895P	N	N	N	20	<10	1,000	N	50	10	70	<10	N	300
MEM0897P	N	N	N	<20	<10	200	N	<50	10	50	N	N	300
MEM0899P	N	N	<10	100	15	>2,000	N	200	10	50	30	50	200
MEM1260P	N	N	<10	30	10	1,500	N	200	10	50	10	N	N
MEM1262P	N	N	10	200	15	>2,000	N	500	10	30	70	20	200
MEM1801P	N	N	N	20	10	2,000	N	2,000	15	50	150	20	<200
MEM1803P	N	N	N	<20	<10	1,500	N	1,500	10	50	50	<20	<200
MEM1805P	N	N	<10	150	20	2,000	N	300	10	50	70	50	<200
MEM2328P	N	N	<10	20	10	1,500	N	200	<10	30	<10	50	200
MEM5215P	N	N	<10	100	<10	50	N	<50	10	50	10	N	N
MEM5218P	N	N	<10	<20	<10	<50	N	<50	<10	20	<10	N	N
MEM5283P	N	N	10	300	<10	300	N	50	10	50	10	N	<200
MEM5285P	N	N	N	500	10	>2,000	N	500	10	50	10	50	N
MOL0507P	N	N	<10	30	<10	150	N	<50	<10	20	<10	N	N
MOL0509P	N	N	<10	50	<10	70	N	<50	<10	20	10	N	<200
MOL0955P	N	N	N	30	<10	70	N	<50	<10	<20	10	N	N
MOL1290P	N	N	N	30	<10	70	N	<50	<10	20	<10	N	N
MOL1295P	N	N	10	50	20	50	N	<50	<10	30	<10	N	N
MOL1297P	N	N	10	70	<10	50	N	<50	<10	30	10	N	N
MOL1301P	N	N	10	30	<10	70	N	<50	<10	<20	<10	N	N
MOL1303P	N	N	10	50	10	150	N	50	<10	20	<10	N	<200
MOL1305P	N	N	N	50	<10	70	N	<50	<10	30	<10	N	N
MOL1307P	N	N	N	70	<10	50	N	<50	<10	30	<10	N	<200
MOL1654P	N	N	N	<20	10	50	N	<50	<10	30	<10	N	<200
MOL1656P	N	N	N	20	<10	70	N	<50	10	20	<10	N	N
MOL1658P	N	N	<10	20	<10	50	N	<50	15	20	N	N	N
MOL2337P	N	N	<10	50	15	50	N	<50	15	30	10	N	N
MOL2339P	N	N	10	50	20	50	N	<50	10	20	N	N	N
MOL2349P	N	N	<10	30	<10	150	N	<50	10	30	<10	N	N
MOL2351P	N	N	<10	50	<10	50	N	<50	<10	<20	10	N	N
MOL2357P	N	N	<10	70	10	1,000	N	100	10	50	10	N	N
MOL2359P	N	N	<10	50	<10	<50	N	<50	10	20	<10	N	N
MOL2362P	N	N	<10	50	<10	<50	N	<50	10	<20	<10	N	N

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	V-ppm s(20)	W-ppm s(100)	Y-ppm s(20)	Zr-ppm s(10)	Th-ppm s(200)	Au-ppm aa(.05)
LC0878P	150	100	300	1,000	200	<.05
LC1660P	150	N	50	500	N	<.05
LC1662P	30	N	30	2,000	N	<.05
LC1664P	30	N	<20	500	N	<.05
LC1666P	150	N	50	1,000	N	<.05
LC1669P	50	N	<20	150	N	<.05
LC1672P	50	N	30	500	N	<.05
LC1677P	150	N	700	500	<200	<.05
LC1907P	30	N	<20	200	N	<.05
LC1909P	30	N	20	500	N	<.05
MAU1266P	100	N	300	>2,000	200	1.26
MAU2383P	70	N	100	150	N	<.05
MEM0895P	100	N	700	150	200	<.05
MEM0897P	20	N	500	150	N	<.05
MEM0899P	300	N	1,000	2,000	1,000	<.05
MEM1260P	150	N	500	700	200	<.05
MEM1262P	500	N	1,000	300	700	.74
MEM1801P	100	100	5,000	1,500	700	<.05
MEM1803P	100	<100	1,500	700	1,500	<.05
MEM1805P	500	N	1,000	>2,000	500	<.05
MEM2328P	150	N	1,000	>2,000	200	<.05
MEM5215P	70	N	30	700	--	.25
MEM5218P	<20	N	<20	200	N	<.05
MEM5283P	300	N	500	1,000	--	.05
MEM5285P	500	N	5,000	2,000	--	<.05
MOL0507P	<20	N	70	300	N	<.05
MOL0509P	50	N	20	200	N	<.05
MOL0955P	50	N	50	1,500	N	<.05
MOL1290P	70	N	50	1,000	N	<.05
MOL1295P	30	N	<20	>2,000	N	<.05
MOL1297P	70	N	100	1,500	N	2.91
MOL1301P	50	N	30	700	N	<.05
MOL1303P	50	N	100	200	N	.05
MOL1305P	70	N	100	2,000	N	<.05
MOL1307P	70	N	50	2,000	N	<.05
MOL1654P	50	N	<20	2,000	N	<.05
MOL1656P	70	N	<20	700	N	.57
MOL1658P	50	N	20	300	N	<.05
MOL2337P	50	N	20	700	N	<.05
MOL2339P	70	N	20	500	N	<.05
MOL2349P	50	N	20	700	N	<.05
MOL2351P	50	N	100	2,000	N	1.80
MOL2357P	200	100	150	>2,000	N	1.10
MOL2359P	70	N	100	700	N	<.05
MOL2362P	50	N	<20	150	N	<.05

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.1)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(1)	Au-ppm s(20)	B-ppm s(20)	Ba-ppm s(50)	Be-ppm s(2)
MOL2364P	46 2 59	113 36 6	1.0	1.00	.70	.20	100	<1.0	N	150	500	<2
MOL2367P	46 4 5	113 35 22	.7	.30	.20	.20	100	<1.0	N	150	500	<2
MOL2369P	46 4 8	113 35 8	.5	.30	.15	.15	150	<1.0	N	150	500	<2
MOL2375P	46 6 32	113 34 42	.5	.20	.10	.20	30	<1.0	N	150	300	<2
MOL2380P	46 6 32	113 35 35	3.0	.30	.70	1.00	200	<1.0	N	200	500	<2
SK0382P	46 9 8	113 49 16	15.0	1.50	7.00	1.50	1,500	<1.0	N	N	500	<2
SK0766P	46 10 34	113 48 31	15.0	1.50	5.00	>2.00	2,000	<1.0	N	20	300	<2
SK0768P	46 10 35	113 48 33	10.0	2.00	5.00	2.00	1,000	<1.0	N	<20	500	<2
SK0771P	46 10 4	113 48 53	20.0	2.00	5.00	2.00	2,000	<1.0	N	<20	200	<2
SK0773P	46 10 7	113 48 55	30.0	1.50	5.00	2.00	1,500	<1.0	N	50	300	<2
SK0775P	46 10 1	113 49 5	20.0	3.00	7.00	>2.00	3,000	<1.0	N	<20	200	<2
SK0782P	46 9 41	113 50 19	15.0	2.00	7.00	2.00	2,000	<1.0	N	<20	300	<2
SK0962P	46 12 13	113 48 15	15.0	1.00	7.00	2.00	1,500	<1.0	N	<20	300	<2
SK0964P	46 12 13	113 48 19	20.0	1.00	3.00	>2.00	10,000	<1.0	N	20	150	<2
SK0966P	46 13 0	113 47 57	20.0	1.50	7.00	2.00	1,500	<1.0	N	20	300	<2
SK0971P	46 11 41	113 46 57	15.0	1.00	10.00	>2.00	2,000	<1.0	N	<20	150	<2
SK0973P	46 12 3	113 46 41	7.0	1.50	7.00	2.00	1,500	<1.0	N	<20	500	<2
SK0975P	46 12 4	113 46 38	15.0	1.00	3.00	>2.00	7,000	<1.0	N	N	300	<2
SK0981P	46 12 1	113 45 51	20.0	.70	5.00	>2.00	10,000	<1.0	N	30	200	<2
SK0983P	46 11 58	113 45 52	7.0	1.50	7.00	>2.00	3,000	<1.0	N	<20	200	<2
SK0993P	46 8 1	113 48 4	20.0	1.50	7.00	2.00	2,000	<1.0	N	<20	200	<2
SK0995P	46 7 59	113 48 2	15.0	1.00	3.00	2.00	2,000	<1.0	N	<20	200	<2
SK1240P	46 9 41	113 46 38	15.0	.70	3.00	>2.00	3,000	<1.0	N	20	500	2
SK1242P	46 9 45	113 46 36	15.0	.50	3.00	>2.00	5,000	<1.0	N	30	300	<2
SK1244P	46 9 39	113 46 11	15.0	2.00	3.00	>2.00	5,000	<1.0	N	20	300	<2
SK1246P	46 9 48	113 46 7	15.0	.20	3.00	2.00	10,000	<1.0	N	20	500	<2
SK1248P	46 10 29	113 45 57	10.0	.50	7.00	>2.00	3,000	<1.0	N	20	500	<2
SK1250P	46 10 32	113 47 0	10.0	.30	5.00	>2.00	1,500	<1.0	N	20	300	<2
SK1252P	46 10 54	113 45 28	3.0	.70	5.00	2.00	2,000	<1.0	N	70	500	2
SK1255P	46 11 39	113 45 19	15.0	.70	5.00	>2.00	7,000	<1.0	N	50	300	<2
SK1257P	46 11 43	113 45 4	15.0	.20	2.00	>2.00	>10,000	<1.0	N	30	500	<2
SK1807P	46 8 31	113 45 5	10.0	.70	5.00	2.00	3,000	<1.0	N	N	700	<2
SK1809P	46 8 40	113 45 20	15.0	1.50	5.00	2.00	1,500	<1.0	N	50	500	<2
SK1811P	46 9 1	113 45 35	7.0	1.00	3.00	1.50	2,000	<1.0	N	50	700	3
SK1813P	46 8 58	113 45 39	15.0	1.50	7.00	>2.00	2,000	<1.0	N	N	300	<2
SK1815P	46 9 4	113 45 50	20.0	1.50	10.00	2.00	3,000	<1.0	N	N	300	<2
SK1902P	46 8 21	113 49 13	15.0	1.50	7.00	2.00	3,000	<1.0	N	<20	150	<2
SK1904P	46 8 9	113 49 44	20.0	1.50	7.00	2.00	3,000	<1.0	N	20	200	<2
SK1906P	46 8 7	113 49 46	7.0	.70	3.00	2.00	1,000	<1.0	N	<20	500	<2
SK2269P	46 7 46	113 51 10	10.0	1.50	5.00	2.00	2,000	<1.0	N	20	300	<2
SK2271P	46 8 32	113 52 7	7.0	1.00	3.00	1.00	1,500	<1.0	N	20	500	<2
SK2302P	46 9 42	113 51 28	2.0	1.00	2.00	1.50	500	<1.0	N	20	200	2
SK2311P	46 12 34	113 51 9	15.0	7.00	7.00	>2.00	2,000	<1.0	N	30	200	<2
SK2313P	46 13 17	113 50 2	5.0	1.00	1.50	1.00	300	<1.0	N	20	150	3
SK2315P	46 13 1	113 50 21	7.0	2.00	2.00	1.00	500	<1.0	N	20	50	2

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm s(20)	Cd-ppm s(50)	Co-ppm s(10)	Cr-ppm s(20)	Cu-ppm s(10)	La-ppm s(50)	Mo-ppm s(10)	Nb-ppm s(50)	Ni-ppm s(10)	Pb-ppm s(20)	Sc-ppm s(10)	Sn-ppm s(20)	Sr-ppm s(200)
MOL2364P	N	N	<10	20	<10	<50	N	<50	10	<20	<10	N	N
MOL2367P	N	N	<10	30	<10	<50	N	<50	10	<20	N	N	N
MOL2369P	N	N	<10	<20	<10	<50	N	<50	10	20	N	N	N
MOL2375P	N	N	N	<20	<10	<50	N	<50	10	20	<10	N	N
MOL2380P	N	N	N	30	<10	70	N	<50	10	<20	15	N	N
SK0382P	N	N	20	100	15	2,000	N	100	10	50	50	N	200
SK0766P	N	N	<10	100	15	>2,000	N	200	10	50	30	20	<200
SK0768P	N	N	70	150	10	1,500	N	150	20	50	50	<20	200
SK0771P	N	N	15	200	15	>2,000	N	200	15	50	50	50	200
SK0773P	N	N	20	500	15	>2,000	N	200	20	50	50	<20	200
SK0775P	N	N	20	150	30	>2,000	N	50	20	30	50	<20	<200
SK0782P	N	N	50	150	20	>2,000	N	100	15	50	50	20	200
SK0962P	N	N	<10	100	<10	2,000	N	200	10	30	50	30	300
SK0964P	N	N	<10	100	<10	2,000	N	200	<10	70	70	50	<200
SK0966P	N	N	20	300	10	1,000	N	150	10	70	70	<20	300
SK0971P	N	N	N	150	10	>2,000	N	300	10	70	50	70	200
SK0973P	N	N	10	50	10	700	N	200	10	70	20	30	300
SK0975P	N	N	<10	70	20	2,000	N	200	10	50	70	30	<200
SK0981P	N	N	<10	150	20	>2,000	N	300	10	50	70	50	<200
SK0983P	N	N	<10	100	10	2,000	N	300	<10	70	50	50	<200
SK0993P	N	N	10	150	10	>2,000	N	200	10	50	70	30	<200
SK0995P	N	N	<10	100	10	>2,000	N	200	10	50	50	20	<200
SK1240P	N	N	<10	200	10	2,000	N	200	10	50	20	30	300
SK1242P	N	N	15	200	10	>2,000	N	200	10	70	30	30	200
SK1244P	N	N	15	200	20	>2,000	N	300	10	70	50	50	<200
SK1246P	N	N	10	200	10	>2,000	N	300	10	50	50	N	<200
SK1248P	N	N	15	100	15	>2,000	N	200	10	50	20	30	300
SK1250P	N	N	15	100	10	>2,000	N	150	10	50	20	20	200
SK1252P	N	N	10	50	<10	1,500	N	150	10	70	20	N	300
SK1255P	N	N	15	100	20	>2,000	N	500	10	50	50	50	<200
SK1257P	N	N	N	150	10	>2,000	N	300	10	50	50	20	<200
SK1807P	N	N	<10	70	70	1,500	N	150	10	50	20	20	500
SK1809P	N	N	10	100	10	2,000	N	150	10	30	30	<20	300
SK1811P	N	N	<10	70	<10	700	N	150	10	50	20	N	300
SK1813P	N	N	10	150	20	>2,000	N	100	10	50	50	30	300
SK1815P	N	N	15	150	20	>2,000	N	150	10	50	50	50	300
SK1902P	N	N	10	150	10	1,000	N	150	10	50	70	20	<200
SK1904P	N	N	15	100	10	2,000	N	150	10	50	70	20	<200
SK1906P	N	N	30	30	10	1,500	N	100	20	50	20	<20	300
SK2269P	N	N	20	100	20	1,500	N	70	50	30	20	N	200
SK2271P	N	N	10	70	<10	200	N	<50	10	30	15	N	300
SK2302P	N	N	10	50	<10	1,000	N	50	15	20	10	N	<200
SK2311P	N	N	70	300	30	200	<10	50	100	<20	50	N	200
SK2313P	N	N	70	150	20	1,000	N	<50	150	<20	<10	N	N
SK2315P	N	N	150	30	20	1,000	20	<50	200	20	10	N	N

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	V-ppm s(20)	W-ppm s(100)	Y-ppm s(20)	Zr-ppm s(10)	Th-ppm s(200)	Au-ppm aa(.05)
MOL2364P	30	N	50	150	N	<.05
MOL2367P	30	N	20	700	N	<.05
MOL2369P	30	N	<20	500	N	<.05
MOL2375P	20	N	20	1,000	N	<.05
MOL2380P	70	N	50	>2,000	N	<.05
SK0382P	200	N	500	1,000	<200	<.05
SK0766P	200	N	700	700	200	<.05
SK0768P	300	N	500	700	<200	<.05
SK0771P	500	N	700	1,000	300	<.05
SK0773P	700	N	700	>2,000	500	<.05
SK0775P	300	N	500	>2,000	<200	<.05
SK0782P	300	N	700	700	300	<.05
SK0962P	200	N	700	700	1,000	<.05
SK0964P	150	N	1,500	1,500	1,500	<.05
SK0966P	300	N	700	>2,000	300	<.05
SK0971P	300	N	1,500	>2,000	700	.22
SK0973P	150	N	700	2,000	200	<.05
SK0975P	150	N	700	1,000	300	<.05
SK0981P	200	N	1,500	>2,000	500	.10
SK0983P	200	N	1,000	1,500	200	<.05
SK0993P	300	N	1,000	1,500	200	<.05
SK0995P	300	N	700	1,500	500	<.05
SK1240P	300	N	700	2,000	500	<.05
SK1242P	500	N	1,000	--	700	<.05
SK1244P	30	N	1,500	700	200	<.05
SK1246P	300	N	2,000	1,000	700	<.05
SK1248P	300	N	700	700	700	<.05
SK1250P	300	N	700	1,000	500	<.05
SK1252P	200	N	500	200	<200	<.05
SK1255P	300	N	1,000	2,000	700	.06
SK1257P	300	N	1,500	1,000	700	<.05
SK1807P	300	N	700	700	200	<.05
SK1809P	300	N	500	700	200	<.05
SK1811P	150	N	500	700	<200	<.05
SK1813P	500	N	700	>2,000	700	<.05
SK1815P	500	N	1,000	>2,000	500	<.05
SK1902P	300	N	700	700	200	<.05
SK1904P	300	N	700	1,500	<200	<.05
SK1906P	150	N	300	300	<200	<.05
SK2269P	200	N	500	2,000	N	<.05
SK2271P	150	N	200	500	N	<.05
SK2302P	70	N	150	700	N	<.05
SK2311P	500	N	200	>2,000	N	<.05
SK2313P	100	N	150	1,500	N	<.05
SK2315P	70	N	70	1,500	N	<.05

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.1)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(1)	Au-ppm s(20)	B-ppm s(20)	Ba-ppm s(50)	Be-ppm s(2)
SK2317P	46 11 57	113 51 57	7.0	3.00	3.00	1.00	700	<1.0	N	50	200	<2
SK2322P	46 14 33	113 49 56	7.0	2.00	7.00	.70	500	2.0	N	100	200	3
SK2324P	46 14 38	113 49 59	7.0	3.00	7.00	1.50	1,500	10.0	N	200	70	<2
SK2670P	46 11 48	113 51 59	7.0	3.00	7.00	2.00	1,500	<1.0	N	20	300	<2
SK2673P	46 10 48	113 50 20	3.0	3.00	5.00	.70	500	<1.0	N	70	50	2
SK2675P	46 11 10	113 50 35	2.0	2.00	5.00	1.00	500	<1.0	N	20	200	3
SK2677P	46 11 11	113 50 37	10.0	3.00	7.00	>2.00	2,000	<1.0	N	<20	200	<2
SK2701P	46 14 46	113 47 1	7.0	2.00	3.00	.50	500	<1.0	N	<20	50	<2
SK2703P	46 14 51	113 47 25	10.0	5.00	5.00	1.50	1,500	<1.0	N	20	100	<2
SK2705P	46 14 29	113 45 8	1.0	.30	<.10	.30	150	<1.0	N	100	700	2
WHE0073P	46 4 20	113 44 34	7.0	.70	2.00	1.00	700	<1.0	N	300	300	<2
WHE0076P	46 5 18	113 43 55	3.0	.50	.20	.70	150	<1.0	N	200	700	<2
WHE0079P	46 6 13	113 41 57	7.0	.50	.70	.70	300	<1.0	N	150	500	<2
WHE0298P	46 6 28	113 44 2	5.0	.20	.70	1.00	300	<1.0	N	20	500	<2
WHE0300P	46 6 40	113 44 7	10.0	.30	1.50	1.50	1,000	<1.0	N	20	200	<2
WHE0302P	46 6 32	113 43 13	10.0	.10	1.50	1.50	700	<1.0	N	70	200	<2
WHE0304P	46 7 18	113 38 9	3.0	.15	1.50	.70	300	<1.0	N	100	300	<2
WHE0306P	46 6 45	113 40 29	15.0	.20	1.50	.70	300	<1.0	N	20	300	<2
WHE0308P	46 6 39	113 39 34	1.5	.20	2.00	1.50	300	<1.0	N	<20	700	<2
WHE0310P	46 6 1	113 39 32	7.0	.20	3.00	2.00	700	<1.0	N	20	500	<2
WHE0312P	46 5 20	113 39 46	3.0	.20	2.00	1.00	500	<1.0	N	N	500	<2
WHE0314P	46 5 27	113 39 58	2.0	.15	2.00	.50	300	<1.0	N	<20	700	<2
WHE0316P	46 5 6	113 39 54	7.0	.50	3.00	1.50	500	<1.0	N	<20	700	<2
WHE0318P	46 5 1	113 40 2	10.0	.20	3.00	2.00	700	<1.0	N	70	500	<2
WHE0344P	46 0 22	113 44 17	3.0	2.00	3.00	.20	700	<1.0	N	<20	1,000	<2
WHE0354P	46 3 22	113 37 38	5.0	1.50	3.00	.20	700	<1.0	N	70	500	<2
WHE0356P	46 3 27	113 37 34	2.0	2.00	3.00	.20	700	<1.0	N	50	500	<2
WHE0359P	46 5 42	113 40 30	2.0	.50	2.00	.70	300	<1.0	N	20	700	<2
WHE0465P	46 2 32	113 41 25	10.0	.30	3.00	1.50	1,000	<1.0	N	100	200	<2
WHE0473P	46 2 54	113 42 11	7.0	.50	5.00	2.00	700	<1.0	N	50	700	<2
WHE0475P	46 2 55	113 42 14	7.0	.70	5.00	1.00	700	<1.0	N	20	500	<2
WHE0477P	46 4 0	113 42 10	7.0	.70	2.00	1.00	300	<1.0	N	100	700	<2
WHE0479P	46 3 13	113 41 7	15.0	.50	3.00	1.50	700	<1.0	N	N	500	<2
WHE0481P	46 3 17	113 41 11	5.0	1.00	3.00	.70	700	<1.0	N	70	1,000	2
WHE0483P	46 3 30	113 40 56	5.0	.50	3.00	1.00	700	<1.0	N	30	700	2
WHE0485P	46 3 15	113 40 40	15.0	.50	5.00	1.50	700	<1.0	N	<20	700	<2
WHE0487P	46 3 17	113 40 39	10.0	.70	5.00	1.50	1,000	<1.0	N	N	500	<2
WHE0489P	46 3 41	113 40 37	10.0	.50	5.00	>2.00	1,000	<1.0	N	20	500	<2
WHE0491P	46 3 55	113 40 40	7.0	.50	1.50	.70	500	<1.0	N	150	1,000	<2
WHE0686P	46 7 28	113 43 54	30.0	.70	2.00	2.00	1,000	<1.0	N	100	200	<2
WHE0688P	46 7 29	113 43 49	7.0	1.00	5.00	2.00	1,000	<1.0	N	N	500	2
WHE0691P	46 6 59	113 42 41	20.0	.70	3.00	1.50	1,500	<1.0	N	30	500	<2
WHE0694P	46 7 17	113 42 24	5.0	.20	3.00	1.50	700	<1.0	N	<20	500	2
WHE0696P	46 7 15	113 41 9	7.0	.20	2.00	2.00	700	<1.0	N	100	500	<2
WHE0699P	46 6 41	113 40 3	7.0	.50	2.00	1.50	700	<1.0	N	150	500	<2

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm s(20)	Cd-ppm s(50)	Co-ppm s(10)	Cr-ppm s(20)	Cu-ppm s(10)	La-ppm s(50)	Mo-ppm s(10)	Nb-ppm s(50)	Ni-ppm s(10)	Pb-ppm s(20)	Sc-ppm s(10)	Sn-ppm s(20)	Sr-ppm s(200)
SK2317P	N	N	50	200	50	700	N	<50	150	20	20	N	<200
SK2322P	N	N	20	70	50	700	N	<50	50	200	10	N	N
SK2324P	N	N	100	300	50	500	N	<50	200	20	20	N	N
SK2670P	N	N	30	150	10	1,000	N	<50	30	<20	30	N	200
SK2673P	N	N	50	50	10	300	N	<50	100	<20	10	N	N
SK2675P	N	N	30	20	<10	100	N	<50	30	<20	10	N	<200
SK2677P	N	N	30	300	15	150	N	<50	20	<20	20	N	200
SK2701P	N	N	200	50	20	500	N	<50	300	<20	10	N	<200
SK2703P	N	N	100	500	50	300	N	<50	200	<20	30	N	<200
SK2705P	N	N	N	20	<10	<50	N	<50	<10	N	<10	N	N
WHE0073P	N	N	N	100	<10	100	N	<50	10	20	<10	N	<200
WHE0076P	N	N	N	100	<10	50	N	<50	<10	20	<10	N	<200
WHE0079P	N	N	N	100	<10	50	N	<50	10	20	10	N	<200
WHE0298P	N	N	N	20	<10	500	N	<50	10	20	10	N	<200
WHE0300P	N	N	N	100	<10	700	N	50	10	20	15	N	<200
WHE0302P	N	N	N	150	<10	700	N	70	10	20	10	N	<200
WHE0304P	N	N	N	70	<10	700	N	70	10	20	10	N	<200
WHE0306P	N	N	<10	100	<10	500	N	50	10	20	<10	N	<200
WHE0309P	N	N	<10	20	<10	700	N	100	10	30	<10	<20	200
WHE0310P	50	N	<10	50	10	2,000	N	100	10	50	15	30	200
WHE0312P	N	N	N	20	<10	1,000	N	100	10	50	10	<20	200
WHE0314P	N	N	N	30	<10	700	N	50	10	50	15	N	300
WHE0316P	N	N	<10	70	10	2,000	N	100	<10	30	10	<20	<200
WHE0318P	N	N	<10	70	20	2,000	N	150	10	50	15	30	200
WHE0344P	N	N	<10	30	20	50	N	<50	15	50	10	N	N
WHE0354P	N	N	30	30	30	<50	N	<50	15	50	10	N	N
WHE0356P	N	N	10	30	15	<50	N	<50	10	20	10	N	N
WHE0359P	N	N	<10	20	<10	500	N	50	<10	50	10	N	200
WHE0465P	N	N	N	70	10	150	N	150	10	50	20	20	<200
WHE0473P	N	N	N	50	10	1,500	N	150	<10	70	20	20	300
WHE0475P	N	N	10	100	10	2,000	N	200	<10	50	20	<20	<200
WHE0477P	N	N	N	50	<10	1,000	N	70	10	30	15	N	<200
WHE0479P	N	N	10	150	10	>2,000	N	100	10	50	15	20	300
WHE0481P	N	N	10	50	<10	1,500	N	70	10	50	15	N	300
WHE0483P	N	N	<10	50	<10	1,000	N	70	10	70	15	<20	300
WHE0485P	N	N	10	150	10	2,000	N	150	10	50	20	20	300
WHE0487P	N	N	<10	100	10	>2,000	N	150	<10	50	15	30	<200
WHE0489P	N	N	<10	100	20	2,000	N	300	<10	70	15	70	<200
WHE0491P	N	N	N	70	<10	1,000	N	50	10	50	15	N	<200
WHE0686P	N	N	<10	200	15	2,000	N	100	<10	50	20	<20	<200
WHE0688P	N	N	<10	50	<10	500	N	70	<10	50	20	<20	300
WHE0691P	N	N	10	150	15	1,000	N	100	<10	70	20	<20	300
WHE0694P	N	N	N	30	<10	1,500	N	70	10	70	10	N	300
WHE0696P	N	N	<10	50	<10	1,000	N	200	<10	50	10	N	200
WHE0699P	N	N	<10	70	<10	1,000	N	70	<10	50	10	N	300

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	V-ppm s(20)	W-ppm s(100)	Y-ppm s(20)	Zr-ppm s(10)	Th-ppm s(200)	Au-ppm aa(.05)
SK2317P	150	N	300	500	N	.10
SK2322P	70	700	70	150	N	2.02
SK2324P	200	N	300	200	N	<.05
SK2670P	200	N	200	700	N	<.05
SK2673P	50	N	70	200	N	<.05
SK2675P	70	N	300	150	N	<.05
SK2677P	500	N	150	>2,000	N	<.05
SK2701P	70	N	100	500	N	<.05
SK2703P	300	N	50	200	N	<.05
SK2705P	30	N	30	500	N	<.05
WHE0073P	70	100	150	>2,000	N	<.05
WHE0076P	70	N	70	1,500	N	<.05
WHE0079P	70	N	100	>2,000	N	6.70
WHE0298P	100	N	150	500	N	<.05
WHE0300P	100	N	200	2,000	<200	<.05
WHE0302P	100	N	300	1,500	N	.11
WHE0304P	100	N	300	1,500	N	.14
WHE0306P	150	N	200	700	N	<.05
WHE0308P	100	N	300	300	N	<.05
WHE0310P	150	N	700	>2,000	700	<.05
WHE0312P	100	N	300	300	<200	<.05
WHE0314P	70	N	150	1,000	N	<.05
WHE0316P	150	N	500	700	200	<.05
WHE0318P	150	N	1,000	700	300	.07
WHE0344P	50	N	30	150	N	<.05
WHE0354P	70	N	30	200	N	.75
WHE0356P	50	N	20	150	N	<.05
WHE0359P	70	N	150	700	N	<.05
WHE0465P	150	N	700	1,500	200	<.05
WHE0473P	150	N	700	2,000	200	<.05
WHE0475P	150	N	700	1,500	300	<.05
WHE0477P	100	N	300	2,000	<200	<.05
WHE0479P	200	N	700	700	300	<.05
WHE0481P	150	N	300	700	<200	<.05
WHE0483P	100	N	300	2,000	<200	<.05
WHE0485P	200	N	700	1,500	200	<.05
WHE0487P	150	N	1,000	700	300	<.05
WHE0489P	300	N	1,500	>2,000	200	.45
WHE0491P	100	N	3,000	1,000	N	<.05
WHE0686P	500	N	700	2,000	<200	<.05
WHE0688P	150	N	300	2,000	<200	<.05
WHE0691P	300	N	500	2,000	500	<.05
WHE0694P	100	N	300	300	200	<.05
WHE0696P	150	N	700	2,000	300	<.05
WHE0699P	150	N	300	>2,000	1,000	<.05

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Latitude	Longitude	Fe-pct. s(.05)	Mg-pct. s(.02)	Ca-pct. s(.1)	Ti-pct. s(.002)	Mn-ppm s(10)	Ag-ppm s(1)	Au-ppm s(20)	B-ppm s(20)	Ba-ppm s(50)	Be-ppm s(2)
WHE0701P	46 6 59	113 38 35	3.0	.50	3.00	1.00	500	<1.0	N	<20	500	2
WHE0703P	46 0 47	113 44 56	5.0	7.00	7.00	.50	2,000	<1.0	N	150	700	<2
WHE0706P	46 0 56	113 44 59	5.0	5.00	5.00	.30	2,000	<1.0	N	100	1,500	<2
WHE0708P	46 1 24	113 44 47	5.0	5.00	5.00	.50	1,000	<1.0	N	100	1,000	<2
WHE0710P	46 1 22	113 44 47	5.0	5.00	5.00	.50	1,000	<1.0	N	100	1,000	<2
WHE0712P	46 1 24	113 44 4	3.0	3.00	5.00	.50	700	<1.0	N	100	1,000	<2
WHE0714P	46 1 26	113 44 3	3.0	3.00	3.00	.50	700	<1.0	N	100	700	<2
WHE0752P	46 0 20	113 44 29	3.0	2.00	3.00	.30	1,000	<1.0	N	50	700	<2
WHE0761P	46 7 18	113 38 7	7.0	.30	5.00	>2.00	1,000	<1.0	N	20	500	<2
WHE0828P	46 7 17	113 42 24	3.0	.50	2.00	.50	500	<1.0	N	<20	1,000	3
WHE0830P	46 7 15	113 42 23	3.0	.20	1.50	1.00	300	<1.0	N	<20	500	<2
WHE0832P	46 1 25	113 42 27	7.0	.70	5.00	>2.00	1,500	<1.0	N	<20	500	<2
WHE0834P	46 1 26	113 42 23	5.0	.70	3.00	1.50	1,000	<1.0	N	<20	500	2
WHE0836P	46 1 10	113 42 5	15.0	.70	5.00	2.00	1,000	<1.0	N	<20	300	<2
WHE0839P	46 0 40	113 41 46	15.0	.70	5.00	1.50	1,000	20.0	N	<20	300	<2
WHE0841P	46 0 33	113 41 44	10.0	1.00	5.00	2.00	1,500	<1.0	N	200	300	<2
WHE0843P	46 0 26	113 41 50	7.0	1.00	5.00	2.00	1,500	<1.0	N	N	300	2
WHE0845P	46 0 20	113 42 12	7.0	.70	5.00	2.00	1,000	<1.0	N	30	300	<2
WHE0847P	46 0 22	113 42 16	5.0	2.00	5.00	1.00	700	<1.0	N	20	700	3
WHE0849P	46 0 4	113 42 34	10.0	.70	3.00	2.00	2,000	<1.0	N	<20	500	<2
WHE1638P	46 1 28	113 39 46	1.5	.20	3.00	1.50	500	<1.0	N	20	1,000	2
WHE1640P	46 1 38	113 39 52	7.0	.30	7.00	>2.00	1,500	<1.0	N	20	300	<2
WHE1643P	46 1 22	113 38 31	1.5	.70	3.00	.70	700	<1.0	N	30	1,000	3
WHE1645P	46 1 17	113 38 31	1.0	.70	.15	.20	200	<1.0	N	100	700	2
WHE1911P	46 0 10	113 38 12	1.5	.50	<.10	.20	150	<1.0	N	150	500	<2
WHE1913P	46 0 9	113 38 6	5.0	.50	<.10	.50	150	<1.0	N	50	300	<2
WHE2122P	46 3 42	113 40 12	30.0	.30	2.00	1.50	1,000	<1.0	N	N	200	<2
WHE2124P	46 3 22	113 40 13	20.0	.20	2.00	1.00	700	<1.0	N	N	200	<2
WHE2126P	46 3 18	113 40 15	50.0	.10	1.00	.30	1,000	<1.0	N	N	100	<2
WHE2128P	46 3 3	113 40 32	20.0	.30	3.00	1.00	1,000	<1.0	N	<20	200	<2
WHE2130P	46 3 6	113 40 45	50.0	.20	1.50	.70	1,000	<1.0	N	N	150	<2
WHE2132P	46 3 13	113 41 9	30.0	.15	2.00	.70	1,000	<1.0	N	N	200	<2
WHE2134P	46 3 17	113 41 12	3.0	.30	1.50	.30	500	<1.0	N	30	300	2
WHE2136P	46 1 45	113 41 54	10.0	.30	2.00	.70	700	<1.0	N	N	300	2
WHE2138P	46 1 34	113 42 24	50.0	.15	1.50	1.00	2,000	<1.0	N	N	150	<2
WHE2140P	46 1 24	113 42 28	5.0	.30	2.00	1.00	1,000	<1.0	N	N	300	2
WHE2144P	46 0 56	113 42 2	30.0	.20	2.00	1.00	1,500	<1.0	N	N	300	<2
WHE5319P	46 4 29	113 40 7	50.0	.10	1.00	.50	1,000	<1.0	N	N	500	<2

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	Bi-ppm s(20)	Cd-ppm s(50)	Co-ppm s(10)	Cr-ppm s(20)	Cu-ppm s(10)	La-ppm s(50)	Mo-ppm s(10)	Nb-ppm s(50)	Ni-ppm s(10)	Pb-ppm s(20)	Sc-ppm s(10)	Sn-ppm s(20)	Sr-ppm s(200)
WHE0701P	N	N	N	20	<10	1,500	N	100	<10	70	10	N	500
WHE0703P	N	N	10	50	10	100	N	<50	15	70	15	N	N
WHE0706P	N	N	10	50	10	70	N	<50	10	70	10	N	N
WHE0708P	N	N	10	30	<10	70	N	<50	15	30	10	N	N
WHE0710P	N	N	10	30	10	100	N	<50	10	50	10	N	<200
WHE0712P	N	N	<10	50	<10	100	N	<50	10	50	10	N	<200
WHE0714P	N	N	<10	50	10	150	N	<50	10	30	10	N	<200
WHE0752P	N	N	<10	50	<10	70	N	<50	10	30	10	N	N
WHE0761P	N	N	<10	50	15	>2,000	N	300	10	70	15	70	200
WHE0829P	N	N	N	30	<10	700	N	<50	10	50	10	N	300
WHE0830P	N	N	N	30	<10	1,000	N	70	10	30	10	N	<200
WHE0832P	N	N	<10	70	15	>2,000	N	200	10	50	50	30	300
WHE0834P	N	N	<10	30	<10	1,000	N	100	10	50	20	N	300
WHE0836P	N	N	<10	100	15	>2,000	N	300	10	70	50	20	200
WHE0839P	N	N	<10	100	10	>2,000	15	200	10	50	70	20	200
WHE0841P	N	N	<10	100	15	>2,000	N	200	10	50	50	<20	<200
WHE0843P	N	N	<10	100	10	1,500	N	200	<10	50	50	30	200
WHE0845P	N	N	<10	70	10	>2,000	N	150	10	50	50	<20	200
WHE0847P	N	N	<10	50	<10	700	N	50	10	50	20	N	<200
WHE0849P	300	N	10	30	10	>2,000	N	50	10	70	50	N	<200
WHE1638P	N	N	<10	30	<10	2,000	N	150	15	50	10	N	300
WHE1640P	N	N	N	70	10	>2,000	N	200	10	70	20	70	<200
WHE1643P	N	N	<10	<20	<10	1,000	N	70	10	50	<10	N	200
WHE1645P	N	N	<10	20	<10	50	N	<50	15	20	N	N	N
WHE1911P	N	N	N	30	<10	70	N	<50	<10	20	<10	N	N
WHE1913P	N	N	N	50	<10	50	N	<50	<10	20	<10	N	N
WHE2122P	N	N	15	300	30	1,500	N	150	10	50	<10	20	N
WHE2124P	N	N	15	300	30	700	N	150	15	30	10	N	N
WHE2126P	N	N	20	500	50	1,500	N	50	20	20	<10	N	N
WHE2128P	N	N	15	200	15	1,000	N	70	<10	30	<10	N	<200
WHE2130P	N	N	15	300	30	500	N	50	10	20	10	N	N
WHE2132P	N	N	15	300	15	1,500	N	50	10	30	<10	N	<200
WHE2134P	N	N	N	70	<10	1,000	N	<50	<10	<20	<10	N	200
WHE2136P	N	N	<10	70	<10	1,500	N	70	<10	30	10	N	200
WHE2138P	N	N	30	500	70	2,000	N	70	20	20	10	N	N
WHE2140P	N	N	N	50	<10	1,500	N	70	10	20	10	N	200
WHE2144P	N	N	15	200	20	2,000	N	70	15	20	10	N	<200
WHE5318P	N	N	50	1,000	30	>2,000	N	50	50	20	<10	N	N

TABLE 3 - PANNED CONCENTRATE SAMPLE LOCALITY AND ANALYSES FROM THE SAPPHIRE WILDERNESS STUDY AREA, GRANITE AND RAVALLI COUNTIES, MONTANA--continued

Sample	V-ppm s(20)	W-ppm s(100)	Y-ppm s(20)	Zr-ppm s(10)	Th-ppm s(200)	Au-ppm aa(.05)
WHE0701P	70	N	200	1,500	<200	<.05
WHE0703P	70	N	50	200	N	<.05
WHE0706P	70	N	50	150	N	<.05
WHE0709P	70	N	100	300	N	<.05
WHE0710P	100	N	50	300	N	<.05
WHE0712P	70	N	50	300	N	<.05
WHE0714P	100	N	50	500	N	<.05
WHE0752P	70	N	50	200	N	<.05
WHE0761P	200	N	1,000	200	500	.11
WHE0828P	100	N	70	300	N	<.05
WHE0830P	70	N	150	1,000	N	<.05
WHE0832P	150	N	700	1,500	200	<.05
WHE0834P	100	N	300	1,500	N	<.05
WHE0836P	200	N	700	2,000	500	<.05
WHE0839P	200	300	700	>2,000	500	3.50
WHE0841P	200	100	700	>2,000	500	.90
WHE0843P	150	N	700	1,000	200	.32
WHE0845P	150	N	700	1,000	200	.30
WHE0847P	100	<100	150	500	N	.30
WHE0849P	150	<100	300	700	500	<.05
WHE1638P	150	N	500	500	<200	8.56
WHE1640P	300	N	1,500	1,000	700	6.60
WHE1643P	100	N	200	1,000	<200	.05
WHE1645P	50	N	<20	500	N	<.05
WHE1911P	50	N	20	500	N	<.05
WHE1913P	50	N	50	1,500	N	2.18
WHE2122P	700	N	700	1,500	N	<.05
WHE2124P	500	N	500	700	N	.40
WHE2126P	1,500	N	200	1,000	<200	.10
WHE2128P	1,000	N	500	1,000	N	<.05
WHE2130P	1,000	N	300	>2,000	N	<.05
WHE2132P	700	N	300	700	200	.25
WHE2134P	700	N	70	300	N	<.05
WHE2136P	200	N	200	2,000	N	<.05
WHE2138P	1,500	N	300	>2,000	N	<.05
WHE2140P	150	N	300	700	N	<.05
WHE2144P	700	N	500	700	N	<.05
WHE5318P	1,000	N	500	>2,000	--	<.05