

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Coordinates for and analytical values of 43 rock, and 19 panned-concentrate samples included in the Butte 1° x 2° quadrangle between the latitudes of 46°30'00" and 47°00'00" N., and the longitudes of 112°00'00" and 112°30'00" W.

by

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Chapter E

This report is preliminary and had not been reviewed for conformity with U.S. Geological Survey Editorial standards

BUTTE 1° x 2°  
CUSMAP QUADRANGLE

COSMAP QUADRANGLE					47°00
<p><b>B</b></p> <p>221 r 494 s 261 p</p>	<p><b>C</b></p> <p>109 r 377 s 237 p</p>	<p><b>D</b></p> <p>21 r 158 s 91 p</p>	<p><b><u>E</u></b></p> <p>43 r 19 p</p>		46°30
<p><b>F</b></p> <p>486 r 711 s 784 p</p>	<p><b>G</b></p> <p>322 r 327 s 369 p</p>	<p><b>H</b></p> <p>78 r 275 s 220 p</p>	<p><b>I</b></p> <p>30 r 7 p</p>		46°00
114°00'	113°30'	113°00'	112°30'	112°00'	

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# CHAPTER E

LATITUDE 46°30'-47°00' LONGITUDE 112°00'-112°30'  
TABLE1. ROCK SAMPLE LOCALITY AND ANALYSES IN THE BUTTE 1°x2°CUSMAP QUADRANGLE,MONTANA(continued)

SAMPLE	LATITUDE	LONGITUDE	S-FEX	S-MGX	S-CAZ	S-TIX	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI
CAN1017R	46 45 15	112 20 53	2.0	3.00	3.00	.300	500	<.5	N	N	70	1,500	3.0	N
E0156A	46 45 14	112 20 55	3.0	3.00	3.00	.200	2,000	15.0	N	N	N	3,000	7.0	N
E0156B	46 45 14	112 20 55	2.0	3.00	1.50	.200	1,000	10.0	N	N	<10	3,000	7.0	N
E0156C	46 45 14	112 20 55	1.5	.15	1.00	.030	700	150.0	N	N	<10	1,000	2.0	N
E0156D	46 45 14	112 20 55	2.0	1.50	10.00	.070	3,000	20.0	N	N	N	1,000	5.0	N
E0156E	46 45 14	112 20 55	2.0	.03	.10	N	2,000	7.0	N	N	N	70	7.0	N
E0157A	46 45 19	112 21 11	1.0	.05	.07	.007	150	30.0	N	N	N	70	7.0	N
E0158A	46 45 25	112 21 47	1.5	1.50	5.00	.150	1,000	10.0	N	N	N	700	7.0	N
E0159A	46 44 51	112 17 42	1.5	1.00	1.50	.300	1,000	5.0	N	N	N	1,000	15.0	N
E0159B	46 44 51	112 17 42	.5	.07	.20	.020	300	5.0	N	N	N	150	20.0	N
E0159C	46 44 51	112 17 42	.5	.07	.05	.002	300	30.0	N	20	N	30	70.0	N
E0161A	46 43 18	112 20 56	1.5	1.50	.70	.100	1,500	70.0	N	N	N	500	7.0	100
E0161B	46 43 18	112 20 56	2.0	1.00	1.00	.070	2,000	100.0	N	N	N	500	7.0	100
E0161C	46 43 18	112 20 56	1.0	.20	.20	.050	200	150.0	N	30	N	150	2.0	150
E0162A	46 44 20	112 21 44	3.0	1.00	.15	.100	1,500	150.0	N	N	10	500	7.0	N
E0163A	46 44 21	112 22 3	2.0	.50	.70	.070	2,000	100.0	<200	N	N	700	5.0	10
E0164A	46 44 16	112 22 14	3.0	.05	.20	<.002	3,000	10.0	200	N	N	70	10.0	N
E0164B	46 44 16	112 22 14	1.5	.20	.50	.070	200	30.0	700	N	N	2,000	3.0	15
E0165A	46 37 27	112 18 20	20.0	1.00	.05	.020	5,000	N	N	N	N	50	1.0	20
E0165B	46 37 27	112 18 20	10.0	.07	.10	.010	>5,000	N	N	N	N	30	2.0	N
E0165C	46 37 27	112 18 20	15.0	.07	15.00	.005	3,000	100.0	N	N	N	30	N	N
E0165D	46 37 27	112 18 20	20.0	.10	15.00	.002	3,000	N	N	N	N	30	N	N
E0165E	46 37 27	112 18 20	1.5	.05	.10	.030	100	50.0	N	N	30	70	<1.0	N
ELS0153R	46 44 38	112 19 0	1.5	5.00	10.00	.300	500	N	N	N	<10	2,000	1.5	N
ELS0154R	46 44 38	112 19 0	3.0	1.00	3.00	.300	700	N	N	N	<10	1,500	1.5	N
ELS0155R	46 44 38	112 19 0	5.0	.30	.50	.300	700	3.0	N	N	10	2,000	2.0	10
ELS0157R	46 44 38	112 19 0	1.0	.05	<.05	.100	100	7.0	N	N	<10	200	1.0	N
HEL0149R	46 32 52	112 7 3	.1	.03	.10	.030	10	N	N	N	500	100	N	N
HEL0150R	46 32 52	112 7 3	2.0	.30	15.00	.300	5,000	N	N	N	100	2,000	<1.0	N
HEL0152R	46 32 47	112 6 53	15.0	.50	.50	.150	700	<.5	N	N	N	2,000	<1.0	N
HEL10020	46 39 28	112 3 54	3.0	7.00	3.00	.500	1,500	150.0	N	N	50	3,000	1.5	N
HEL1003R	46 39 28	112 3 54	5.0	1.00	3.00	.500	1,000	N	N	N	<10	1,500	1.5	N
HEL1004R	46 39 28	112 3 54	1.0	1.50	10.00	.300	150	N	N	N	100	1,000	1.5	N
HEL10560	46 40 59	112 4 14	>20.0	.30	.20	.030	300	100.0	N	N	N	70	N	N
HEL1057R	46 40 49	112 4 15	7.0	.30	.15	.015	200	10.0	N	N	20	5,000	N	N
HEL1058R	46 40 49	112 4 15	7.0	.70	2.00	1.000	1,500	10.0	N	N	20	700	N	N
STE0158R	46 52 38	112 26 54	1.0	.10	<.05	.100	30	20.0	N	N	100	150	1.0	N
STE0159R	46 52 38	112 26 54	7.0	1.50	3.00	.700	1,000	N	N	N	<10	3,000	2.0	N
STE1028R	46 53 29	112 28 43	3.0	1.50	.10	.300	300	N	N	N	70	300	3.0	N
STE1029R	46 53 29	112 28 43	2.0	1.00	.30	.300	300	N	N	N	N	1,500	2.0	N
STE1030R	46 53 27	112 28 52	3.0	1.50	.30	.300	300	N	N	N	N	2,000	1.5	N
STE1031R	46 53 27	112 28 52	2.0	1.50	.07	.200	150	5.0	N	N	50	700	2.0	N

# CHAPTER E

LATITUDE 46°30'-47°00' LONGITUDE 112°00'-112°30'

TABLE 1. ROCK SAMPLE LOCALITY AND ANALYSES IN THE BUTTE 1° X 2° CUSMAP QUADRANGLE, MONTANA (continued)

SAMPLE	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SM	S-SR	S-V	S-W	S-Y
CAN1017R	N	10	100	70	30	N	<20	30	30	N	10	N	100	50	N	30
E0156A	150	7	15	10,000	30	N	N	10	5,000	N	5	N	100	70	N	30
E0156B	N	5	20	3,000	30	<5	N	15	3,000	N	5	N	N	70	N	20
E0156C	200	N	15	20,000	20	10	N	5	15,000	N	N	N	N	10	N	N
E0156D	N	N	20	1,500	20	10	N	5	7,000	N	<5	N	200	20	N	20
E0156E	N	N	10	1,500	20	<5	N	5	7,000	N	N	N	N	10	N	20
E0157A	N	N	10	5,000	<20	20	N	5	7,000	N	N	N	N	<10	N	N
E0158A	<20	7	50	1,000	20	15	N	15	3,000	N	5	N	300	50	N	<10
E0159A	N	7	15	30	20	7	N	5	70	N	5	N	300	70	N	20
E0159B	N	N	15	30	<20	N	N	<5	200	N	N	N	<100	15	N	N
E0159C	N	N	15	150	<20	N	N	<5	300	N	N	N	N	30	N	N
E0161A	300	7	30	3,000	20	<5	N	7	7,000	N	5	15	N	30	100	20
E0161B	300	7	15	7,000	20	<5	N	7	7,000	N	5	15	N	30	100	15
E0161C	>500	7	20	100	20	7	N	5	10,000	N	N	<10	N	15	<50	N
E0162A	N	7	20	10,000	20	N	N	7	20,000	100	5	15	N	30	<50	20
E0163A	N	7	20	10,000	<20	N	N	5	>20,000	200	<5	30	N	15	N	<10
E0164A	150	15	10	10,000	<20	N	N	5	>20,000	150	<5	N	N	<10	N	20
E0164B	100	<5	15	10,000	20	N	N	5	>20,000	200	5	<10	N	15	N	15
E0165A	N	50	15	1,000	<20	N	N	7	100	N	N	30	N	100	N	N
E0165B	N	20	15	30	<20	10	N	20	500	N	5	<10	100	150	70	30
E0165C	N	10	15	15,000	N	N	N	10	50	N	N	70	N	30	N	N
E0165D	N	N	20	200	N	10	N	<5	70	N	N	100	N	20	N	N
E0165E	N	N	N	3,000	20	N	N	5	20	N	N	20	N	<10	N	N
ELS0153R	N	10	20	15	30	N	<20	15	30	N	7	N	<100	30	N	30
ELS0154R	N	10	N	20	20	N	N	7	20	N	7	N	1,000	70	N	10
ELS0155R	N	7	N	70	N	N	N	5	500	N	7	N	500	100	70	30
ELS0157R	N	<5	N	70	20	150	N	5	70	N	5	N	150	20	N	N
HEL0149R	N	<5	10	<5	<20	N	N	5	10	N	<5	N	N	<10	N	N
HEL0150R	N	5	300	70	20	N	<20	20	150	N	7	N	N	150	N	20
HEL0152R	N	70	10	3,000	N	10	N	30	15	N	7	N	150	150	N	15
HEL10020	N	7	10	>20,000	200	N	<20	5	70	N	10	N	700	100	N	50
HEL1003R	N	10	10	30	50	N	<20	5	30	N	7	N	2,000	200	N	30
HEL1004R	N	5	15	15	30	N	<20	10	20	N	7	N	100	30	N	20
HEL10560	N	200	<10	>20,000	N	N	N	500	20	N	<5	N	N	200	N	10
HEL1057R	N	70	15	700	N	15	N	70	500	N	20	N	500	300	N	N
HEL1058R	N	10	<10	1,000	<20	N	N	20	500	N	15	N	200	500	N	15
STE0158R	N	<5	N	150	20	150	N	<5	100	100	5	N	N	30	N	N
STE0159R	N	10	15	30	30	N	N	5	20	N	10	N	700	150	N	20
STE1028R	N	7	20	10	50	N	<20	20	30	N	7	N	N	50	N	30
STE1029R	N	7	30	15	50	N	<20	30	30	N	5	N	300	50	N	10
STE1030R	N	10	50	15	50	N	<20	50	30	N	5	N	300	50	N	10
STE1031R	N	7	20	1,000	50	N	<20	15	50	N	5	N	N	30	N	50

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LATITUDE 46°30'-47°00' LONGITUDE 112°00'-112°30'

TABLE 1. ROCK SAMPLE LOCALITY AND ANALYSES IN THE BUTTE 1° X 2° CUSMAP QUADRANGLE, MONTANA (continued)

SAMPLE	S-ZN	S-ZR	S-TH	AA-AU	AA-CU	AA-PB	AA-ZN	AA-AG	AA-CD	AA-BI	AA-SB
CANT017R	N	200	N	--	45	20	28	.19	.15	1	N
E0156A	10,000	150	N	<.05	--	--	--	--	--	--	--
E0156B	7,000	150	N	.05	--	--	--	--	--	--	--
E0156C	>10,000	30	N	1.00	--	--	--	--	--	--	--
E0156D	5,000	70	N	.18	--	--	--	--	--	--	--
E0156E	7,000	N	N	<.05	--	--	--	--	--	--	--
E0157A	1,000	N	N	<.05	--	--	--	--	--	--	--
E0158A	>10,000	50	N	.35	--	--	--	--	--	--	--
E0159A	200	50	N	1.50	--	--	--	--	--	--	--
E0159B	700	N	N	8.00	--	--	--	--	--	--	--
E0159C	<200	N	N	30.00	--	--	--	--	--	--	--
E0161A	>10,000	70	N	.08	--	--	--	--	--	--	--
E0161B	>10,000	70	N	.45	--	--	--	--	--	--	--
E0161C	>10,000	50	N	.25	--	--	--	--	--	--	--
E0162A	>10,000	150	N	.35	--	--	--	--	--	--	--
E0163A	>10,000	100	N	.15	--	--	--	--	--	--	--
E0164A	>10,000	N	N	<.05	--	--	--	--	--	--	--
E0164B	10,000	150	N	<.05	--	--	--	--	--	--	--
E0165A	5,000	<10	N	.06	--	--	--	--	--	--	--
E0165B	5,000	<10	N	<.05	--	--	--	--	--	--	--
E0165C	N	N	N	2.25	--	--	--	--	--	--	--
E0165D	N	<10	N	<.05	--	--	--	--	--	--	--
E0165E	N	<10	N	.20	--	--	--	--	--	--	--
ELS0153R	N	200	N	--	7	9	4	.10	.11	N	N
ELS0154R	N	70	N	--	18	6	10	.18	.25	N	N
ELS0155R	1,500	70	N	--	140	490	500	1.97	3.70	9	6
ELS0157R	N	50	N	--	60	25	24	4.37	.46	2	14
HEL0149R	N	30	N	--	1	4	N	.36	<.05	N	1
HEL0150R	N	70	N	--	58	90	47	.81	2.73	1	10
HEL0152R	N	50	N	--	1,280	6	35	.80	.49	3	2
HEL10020	N	70	N	1.20	85	170	45	1.83	.26	N	18
HEL1003R	N	50	N	--	60	6	N	.11	.31	1	N
HEL1004R	N	200	N	--	12	3	8	N	.10	N	N
HEL10560	N	N	N	23.00	>1,000	N	4	71.10	2.57	4	4
HEL1057R	<200	10	N	--	200	160	68	1.18	1.05	1	1
HEL1058R	200	100	N	--	490	160	54	4.60	1.87	1	1
STE0158R	N	50	N	--	160	77	25	16.70	1.52	1	33
STE0159R	N	300	N	--	8	2	7	.07	.08	1	1
STE1028R	N	300	N	--	39	16	26	.27	.32	N	1
STE1029R	N	150	N	--	3	12	5	<.05	.09	N	N
STE1030R	N	200	N	--	5	10	14	.08	.09	N	N
STE1031R	N	300	N	.08	1,000	24	7	2.73	.09	1	2

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LATITUDE 46°30'–47°00' LONGITUDE 112°00'–112°30'

TABLE 2. PAN-CONCENTRATE SAMPLE LOCALITY AND ANALYSES IN THE BUTTE 1° X 2° CUSMAP QUADRANGLE, MONTANA (continued)

SAMPLE	LATITUDE	LONGITUDE	S-FEX	S-MGX	S-CAZ	S-TIX	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI
CAN1014	46 45 15	112 20 53	10	1.0	3.0	.07	5,000	300	1,000	N	<20	700	10	N
CAN1015	46 45 15	112 20 53	7	.5	3.0	.07	7,000	300	700	N	N	500	5	N
GRA1012	46 51 6	112 29 44	20	.7	3.0	1.00	1,000	N	1,500	N	70	700	5	N
GRA1012P	46 51 6	112 29 44	30	.5	3.0	1.00	1,000	N	5,000	N	100	1,000	5	N
HEL1005	46 41 1	112 5 25	15	1.0	5.0	1.00	>10,000	30	N	50	N	3,000	<2	<20
HEL1005P	46 41 1	112 5 25	30	1.5	5.0	1.00	>10,000	150	N	N	<20	7,000	<2	20
HEL1053	46 40 50	112 4 2	15	1.5	5.0	>2.00	3,000	N	N	N	50	300	N	N
HEL1053M	46 40 50	112 4 2	15	2.0	7.0	>2.00	5,000	1	N	N	150	700	<2	N
HEL1054	46 40 46	112 4 5	20	.5	3.0	.50	2,000	70	N	N	20	500	N	N
HEL1054	46 40 46	112 4 5	30	.3	1.5	.30	1,000	30	N	N	N	300	N	N
HEL1054M	46 40 46	112 4 5	50	.7	2.0	.50	2,000	50	N	N	20	700	<2	N
HEL1054P	46 40 46	112 4 5	30	.7	2.0	.50	2,000	50	N	N	20	1,000	<2	N
HEL1055	46 40 59	112 4 14	20	.7	3.0	>2.00	5,000	3	N	N	N	500	N	N
HEL1055P	46 40 59	112 4 14	30	1.0	5.0	>2.00	5,000	1	N	N	20	700	N	N
STE1026	46 53 40	112 23 33	30	.7	.5	>2.00	3,000	N	N	N	<20	500	<2	N
STE1026M	46 53 40	112 23 33	30	1.0	1.5	>2.00	3,000	N	N	N	20	700	N	N
STE1026M	46 53 40	112 23 33	20	.3	.5	>2.00	2,000	N	N	N	N	300	N	N
STE1027	46 53 29	112 28 43	5	1.0	.7	.30	1,000	15	N	N	20	700	2	N
STE1027P	46 53 29	112 28 43	7	1.0	1.0	.70	1,500	50	N	100	50	1,500	3	N

# CHAPTER E

LATITUDE 46°30'-47°00' LONGITUDE 112°00'-112°30'

TABLE 2.PAN-CONCENTRATE SAMPLE LOCALITY AND ANALYSES IN THE BUTTE 1°x2° CUSMAP QUADRANGLE, MONTANA(continued)

SAMPLE	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y
CAN1014	N	15	30	7,000	50	5,000	N	15	>20,000	<200	N	N	<200	1,500	200	30
CAN1015	N	15	30	7,000	<50	5,000	N	10	>50,000	200	<10	N	<200	2,000	200	30
GRA1012	N	100	100	150	100	N	<50	20	150	200	<10	N	<200	200	<100	100
GRA1012P	N	100	100	150	100	N	N	100	150	<200	15	N	N	700	N	100
HEL1005	N	50	20	2,000	150	20	<50	15	3,000	N	10	N	700	2,000	<100	150
HEL1005P	N	100	20	2,000	200	<10	<50	30	5,000	N	10	N	1,000	1,500	<100	200
HEL1053	N	20	70	70	70	N	70	10	150	N	<10	N	<200	300	N	50
HEL1053M	N	20	70	100	200	N	150	20	1,000	N	10	N	300	300	N	50
HEL1054	N	200	<20	3,000	N	200	N	30	7,000	N	10	N	1,500	700	N	50
HEL1054	N	200	100	2,000	<50	N	N	20	200	N	10	N	1,000	700	N	<20
HEL1054M	N	300	20	3,000	N	100	N	50	3,000	N	<10	N	2,000	1,000	N	50
HEL1054P	N	300	20	5,000	50	100	N	50	3,000	N	10	N	2,000	1,000	N	50
HEL1055	N	300	<20	2,000	<50	N	N	100	2,000	N	15	N	200	1,500	<100	50
HEL1055P	N	500	20	2,000	50	N	<50	150	2,000	N	50	N	300	1,500	<100	100
STE1026	N	100	150	150	70	N	50	70	150	N	20	N	N	700	N	100
STE1026M	N	70	300	200	50	N	<50	70	150	N	10	N	N	2,000	N	70
STE1026M	N	50	200	100	<50	N	N	50	70	N	<10	N	N	1,500	N	150
STE1027	N	15	<20	150	50	N	N	20	200	N	10	N	N	50	N	20
STE1027P	N	20	50	150	70	N	<50	30	500	N	10	N	N	70	N	70

## CHAPTER E

LATITUDE 46°30'–47°00' LONGITUDE 112°00'–112°30'

TABLE 2. PAN-CONCENTRATE SAMPLE LOCALITY AND ANALYSES IN THE BUTTE 1°x2° CUSMAP QUADRANGLE, MONTANA (continued)

SAMPLE	S-ZN	S-ZR	S-TH
CAN1014	7,000	50	N
CAN1015	5,000	30	N
GRA1012	N	1,500	N
GRA1012P	N	2,000	N
HEL1005	500	1,000	N
HEL1005P	2,000	200	N
HEL1053	N	1,500	N
HEL1053M	N	700	N
HEL1054	2,000	1,500	N
HEL1054	1,500	700	N
HEL1054M	2,000	700	N
HEL1054P	3,000	700	N
HEL1055	1,500	150	N
HEL1055P	2,000	150	N
STE1026	N	>2,000	N
STE1026M	N	>2,000	N
STE1026M	N	>2,000	N
STE1027	N	200	N
STE1027P	N	700	N