

DR2003012 Table DR1, Detailed Geochemistry

	BM1	BM2	BM3
	scoria	non-v	scoria
SiO2	58.16	58.19	58.68
Al2O3	17.29	17.36	17.70
TiO2	0.875	0.879	0.889
FeO*	5.85	5.84	5.94
MnO	0.11	0.11	0.11
CaO	6.94	6.95	6.97
MgO	4.67	4.61	3.61
K2O	1.88	1.89	1.63
Na2O	3.89	3.82	4.13
P2O5	0.341	0.345	0.349
Ni	68	65	53
Cr	117	114	111
Sc	21	16	23
V	142	145	142
Ba	743	723	750
Rb	38	39	30
Sr	554	555	558
Zr	170	170	173
Y	22	20	21
Nb	12.0	12.1	12.7
Ga	19	18	18
Cu	38	32	42
Zn	69	69	65
Pb	8	9	4
La	30	22	34
Ce	55	46	42
Th	4	4	4
La			25.38
Ce			48.47
Pr			5.53
Nd			22.50
Sm			4.83
Eu			1.36
Gd			4.38
Tb			0.66
Dy			3.93
Ho			0.79
Er			2.08
Tm			0.30
Yb			1.93
Lu			0.31
Ba			734.55
Th			3.52
Nb			11.86
Y			22.38
Hf			4.13
Ta			0.72
U			1.04
Pb			8.39
Rb			32.05
Cs			0.83
Sr			576.98
Sc			21.25
Zr			
87/86			
143/144			

BM4	BM5	BM6	BM7
scoria	non-v	scoria	non-v
58.20	58.87	56.93	58.46
18.54	17.35	19.44	17.33
0.903	0.866	0.956	0.879
5.69	5.77	6.44	5.82
0.11	0.11	0.12	0.11
6.81	6.92	6.80	6.98
3.71	4.68	3.69	4.68
1.77	1.66	1.58	1.57
3.94	3.42	3.73	3.81
0.327	0.341	0.303	0.347
56	70	62	72
106	115	118	115
16	21	21	26
133	136	139	145
762	742	752	743
33	37	32	40
542	555	553	555
180	170	186	171
24	21	28	24
12.3	12.4	13.0	11.7
20	18	19	15
44	7	49	20
66	64	71	64
11	11	10	8
30	33	27	31
37	53	53	38
5	5	5	1
	25.63		
	48.73		
	5.74		
	23.23		
	5.10		
	1.43		
	4.50		
	0.69		
	4.09		
	0.82		
	2.16		
	0.32		
	2.03		
	0.33		
	739.28		
	3.98		
	11.58		
	23.51		
	4.27		
	0.72		
	1.20		
	9.23		
	34.80		
	0.96		
	572.23		
	19.99		
		0.704425, +/- 0.000013	
		0.512708, +/- 0.000008	

BM19	BM20	BM21	BM22
scoria	scoria	scoria	scoria
58.94	58.17	57.88	58.23
17.51	18.54	17.20	17.36
0.889	1.034	0.877	0.883
5.56	6.55	6.23	5.55
0.11	0.11	0.11	0.11
6.63	6.68	7.03	7.04
4.48	4.12	4.83	4.84
1.91	0.91	1.65	1.90
3.64	3.61	3.85	3.75
0.326	0.273	0.345	0.346
63	71	69	67
112	105	121	114
21	24	25	19
128	154	149	142
752	639	717	741
39	19	37	39
547	506	561	552
171	162	170	168
21	24	21	21
10.8	11.8	12.3	11.3
19	18	17	17
41	60	25	11
70	80	67	68
10	11	7	11
37	17	33	30
51	38	59	33
4	4	4	5
	23.42		25.25
	46.26		48.49
	5.38		5.57
	22.17		22.25
	5.08		4.79
	1.49		1.37
	4.67		4.20
	0.72		0.65
	4.44		3.87
	0.88		0.79
	2.35		2.09
	0.35		0.31
	2.22		1.93
	0.36		0.32
	639.43		718.78
	3.81		3.87
	12.62		11.64
	25.23		22.61
	4.13		4.24
	0.81		0.74
	1.18		1.19
	11.79		9.07
	18.51		37.76
	0.79		1.04
	528.03		574.99
	22.22		18.30
	0.704213 +/- 0.000013		0.704425 +/- 0.000014
	0.512741 +/- 0.000007		0.512718 +/- 0.000009

			F
BM69I	BM14	BM15	BM16
1 interval	flow	flow	flow
58.45	51.78	51.75	50.24
17.28	18.12	18.01	17.80
0.880	1.857	1.839	2.265
6.29	9.23	8.78	8.80
0.11	0.15	0.15	0.16
6.89	8.69	8.81	8.96
4.16	4.79	4.92	5.88
1.87	1.29	1.35	1.33
3.73	3.69	3.99	4.07
0.342	0.396	0.399	0.488
67	74	71	44
115	121	114	96
25	20	22	23
142	171	175	203
733	443	383	316
38	23	23	20
556	575	558	556
173	186	178	198
22	27	26	31
11.1	23.6	22.2	29.1
14	18	16	17
23	27	37	37
68	67	65	65
6	3	1	2
23	23	19	17
46	50	54	43
4	2	0	3
			21.70
			43.07
			5.40
			23.86
			6.04
			2.04
			5.98
			0.98
			5.83
			1.17
			3.05
			0.43
			2.75
			0.43
			331.80
			2.05
			29.80
			33.49
			4.57
			1.89
			0.64
			2.28
			20.90
			0.36
			586.66
			26.61
			0.703572 +/- 0.000011
			0.512849 +/- 0.000009

West Scoria			
PC-W1	PC-W2	PC-W4	PC-W3
scoria	scoria	bomb	dike
54.42	54.35	54.14	53.00
17.83	17.96	17.94	17.51
1.192	1.195	1.202	1.461
7.39	7.33	7.20	8.18
0.14	0.14	0.14	0.16
7.91	7.69	7.96	8.15
5.29	5.32	5.45	5.56
1.37	1.36	1.38	1.27
3.98	4.18	4.12	4.20
0.478	0.479	0.478	0.510
74	73	78	73
118	112	114	124
14	21	21	21
166	172	177	190
536	544	533	464
23	23	22	18
561	561	559	494
165	163	162	185
24	25	24	30
13.3	13.0	13.3	12.8
18	18	18	18
58	54	53	58
73	77	73	76
4	5	4	7
25	26	32	16
41	38	47	57
1	2	0	1
22.61	22.23		20.99
45.70	45.23		43.76
5.54	5.51		5.54
23.38	23.56		24.17
5.41	5.60		6.09
1.66	1.65		1.91
5.15	5.04		6.04
0.79	0.80		0.97
4.88	4.78		5.87
0.97	0.97		1.18
2.60	2.55		3.27
0.39	0.37		0.46
2.34	2.30		2.92
0.38	0.36		0.46
563.38	556.64		489.63
2.26	2.61		2.30
12.77	12.51		13.24
25.44	25.30		31.55
3.97	3.89		4.44
0.74	0.74		0.85
0.68	0.70		0.68
5.85	6.35		7.46
23.31	22.34		20.07
0.59	0.60		0.58
591.20	578.22		507.71
26.95	19.71		24.16
	160		184
0.704031, +/- 0.000011			
0.512845, +/- 0.000019			

Table DR1, Detailed Geochemistry			
Popcorn Cave Mafic Shield			
PC-W14	PC-W15	PC-W16	PC-W17
flow	flow	flow	flow
53.29			53.26
17.30			17.36
1.441			1.458
8.70			8.65
0.16			0.16
8.10			8.10
5.37			5.34
1.35			1.31
3.80			3.85
0.501			0.506
72			68
125			118
27			24
206			207
483			486
19			21
492			492
191			195
32			33
12.5			14.5
16			17
51			53
79			77
9			10
21			14
52			57
6			4
20.59	20.16	20.02	20.30
42.91	42.25	41.45	42.32
5.51	5.29	5.17	5.26
24.15	23.60	22.84	23.39
5.95	5.98	5.76	5.89
1.89	1.88	1.87	1.85
5.82	5.78	5.61	5.77
0.95	0.95	0.91	0.95
5.74	5.75	5.57	5.81
1.17	1.17	1.11	1.16
3.14	3.15	3.04	3.14
0.45	0.45	0.43	0.45
2.80	2.89	2.73	2.90
0.46	0.45	0.44	0.44
472.82	467.64	455.87	464.24
1.92	2.00	1.91	2.03
12.33	12.90	13.00	12.98
30.30	31.17	30.11	31.44
4.35	4.41	4.24	4.35
0.80	0.81	0.81	0.79
0.66	0.68	0.67	0.69
5.89	6.15	6.02	5.82
19.46	20.17	18.94	19.96
0.47	0.52	0.48	0.55
503.33	523.57	526.10	497.56
23.70	27.69	26.80	27.39
177	185	180	185

East Scoria			
	PC-E1	PC-E4	PC-E2
	scoria	scoria	clast
	54.29	54.67	60.94
	17.76	18.01	16.83
	1.196	1.185	0.693
	7.79	7.23	5.47
	0.14	0.14	0.11
	7.89	8.00	6.39
	5.28	5.11	3.79
	1.31	1.35	2.26
	3.88	3.85	3.26
	0.457	0.451	0.259
	78	72	54
	113	113	102
	24	27	18
	200	187	148
	539	544	825
	22	24	48
	556	558	444
	168	164	162
	26	25	24
	13.5	13.1	8.0
	16	16	15
	40	44	28
	73	71	64
	5	7	14
	22	23	24
	40	45	53
	6	7	8
	21.97	21.63	24.41
	44.72	44.08	45.96
	5.56	5.41	5.35
	23.42	22.99	21.44
	5.41	5.43	4.86
	1.72	1.65	1.27
	4.93	4.98	4.36
	0.79	0.78	0.68
	4.58	4.59	4.03
	0.94	0.93	0.83
	2.48	2.49	2.27
	0.36	0.36	0.33
	2.32	2.28	2.12
	0.36	0.37	0.35
	548.08	539.60	801.92
	2.17	2.24	4.99
	11.72	12.19	7.04
	24.18	24.82	23.31
	3.88	3.86	4.16
	0.75	0.74	0.49
	0.70	0.69	1.58
	5.68	6.29	11.54
	21.34	22.82	47.90
	0.58	0.69	1.54
	567.10	585.19	472.49
	20.38	22.26	18.08
	153	156	156

			Stron
Flow		Shield lavas	
PC-E3		PCLKOT1	PCLKOT2
flow		lkot shield	lkot shield
59.52		48.44	
16.90		17.71	
0.768		0.806	
6.05		9.78	
0.11		0.17	
6.79		11.20	
4.07		9.08	
2.19		0.14	
3.33		2.59	
0.270		0.081	
60		197	
98		195	
21		38	
156		238	
768		122	
47		1	
458		235	
164		50	
23		23	
10.1		3.2	
15		15	
41		87	
64		59	
17		4	
2		10	
56		29	
9		5	
	22.70	2.53	2.53
	42.72	6.40	6.60
	4.98	0.99	1.04
	20.35	5.43	5.53
	4.55	1.95	2.07
	1.24	0.83	0.90
	4.08	2.67	2.73
	0.64	0.52	0.54
	3.78	3.56	3.63
	0.78	0.79	0.80
	2.11	2.28	2.35
	0.31	0.33	0.35
	1.93	2.19	2.22
	0.32	0.34	0.36
	726.55	101.34	84.00
	4.77	0.02	0.02
	8.45	0.99	0.81
	21.17	20.86	20.44
	3.91	1.20	1.21
	0.56	0.06	0.06
	1.53	0.04	0.04
	11.18	0.68	0.87
	45.59	0.68	0.61
	1.49	0.03	-0.03
	470.31	240.52	237.99
	20.73	43.89	38.63
	152	42	41

		Round Barn #1 (BLM pit)	
Flow		Scoria	
RB2-4		RB1	RB1®
flow		spatter	
51.18		53.11	
18.76		18.16	
1.462		1.223	
8.82		8.68	
0.15		0.15	
9.22		8.68	
5.55		5.51	
0.80		0.90	
3.74		3.20	
0.315		0.380	
78		124	
124		153	
23		16	
227		207	
412		536	
13		16	
552		543	
132		127	
27		26	
10.6		8.5	
19		18	
44		20	
66		78	
3		8	
8		18	
44		37	
1		3	
	17.15	17.10	17.41
	29.25	35.16	35.92
	4.38	4.52	4.67
	19.80	20.01	20.37
	5.15	5.07	5.05
	1.71	1.57	1.63
	5.31	4.87	4.86
	0.85	0.78	0.78
	5.29	4.69	4.70
	1.08	0.97	0.96
	2.84	2.60	2.61
	0.40	0.37	0.37
	2.45	2.31	2.37
	0.39	0.37	0.38
	394.11	527.42	540.31
	1.38	1.69	1.73
	12.44	8.09	8.26
	28.64	25.54	25.70
	3.16	3.10	3.18
	0.77	0.50	0.50
	0.43	0.61	0.64
	3.69	5.79	6.07
	10.71	14.47	15.02
	0.34	0.66	0.51
	577.49	547.77	571.45
	28.95	26.10	25.42
	125	119	120

Strong, p. 7			
DA3	DA4	DA5	DA6
vesic 1m	nonv 19m	nonv 21m	nonv crater
53.16	53.50	53.26	53.26
18.45	18.01	18.50	17.78
1.294	1.284	1.308	1.278
8.90	8.29	8.57	8.55
0.15	0.15	0.16	0.15
8.52	8.14	8.31	8.13
3.61	5.12	3.50	5.45
0.98	1.26	1.32	1.26
4.44	3.74	4.57	3.65
0.506	0.497	0.500	0.492
61	58	69	75
104	96	103	97
16	22	23	24
171	147	165	181
615	654	685	642
13	16	20	19
754	719	735	719
158	159	163	160
26	26	26	25
8.4	9.2	8.5	9.2
18	20	21	22
67	11	42	27
79	91	92	93
8	8	7	6
13	34	11	33
53	47	68	62
3	3	0	2
24.67	24.88		
49.46	49.59		
6.20	6.20		
27.01	26.96		
6.35	6.27		
1.94	1.90		
5.70	5.68		
0.89	0.86		
5.20	5.00		
1.02	1.01		
2.72	2.59		
0.39	0.37		
2.43	2.25		
0.38	0.35		
626.66	662.69		
3.13	3.43		
8.01	7.57		
27.10	26.56		
3.89	3.92		
0.44	0.43		
0.83	0.86		
7.04	6.73		
10.14	17.32		
0.28	0.35		
770.87	720.32		
27.21	25.25		
0.703863, +/- 0.000013			
0.512869, +/- 0.000009			

DAV4	DAV5	DAV6	DA9
vesic	vesic	vesic	spatter
53.36	53.07	52.80	54.44
19.01	18.43	18.23	18.22
1.307	1.287	1.253	1.194
9.06	9.01	9.02	8.12
0.15	0.15	0.15	0.14
8.20	8.15	8.37	8.03
3.01	3.61	4.26	3.89
1.18	1.40	1.07	1.37
4.23	4.40	4.34	4.13
0.493	0.500	0.497	0.478
48	57	74	55
95	100	106	99
18	25	21	17
171	174	169	184
682	657	612	740
15	19	12	23
735	739	751	757
166	164	159	173
27	25	26	25
9.9	8.5	8.0	8.2
21	18	18	18
59	64	69	66
82	89	91	84
11	8	10	6
23	25	15	19
66	46	50	50
4	3	2	5
			28.86
			59.18
			7.26
			31.10
			7.05
			2.05
			6.06
			0.87
			5.08
			0.98
			2.48
			0.36
			2.14
			0.34
			741.57
			3.93
			7.69
			26.26
			4.32
			0.42
			1.09
			9.34
			22.89
			0.61
			765.64
			24.90
			0.703895, +/- 0.000011
			0.512849, +/- 0.000008

Flow			
DA7	DA8	DA20	
Dike	Dike	lava	
54.15	53.57	53.27	
17.85	17.76	17.75	
1.178	1.159	1.236	
7.72	7.89	8.63	
0.15	0.14	0.15	
8.06	7.91	8.16	
4.82	5.15	5.01	
1.39	1.39	1.24	
4.18	4.55	4.07	
0.498	0.484	0.482	
74	64	78	
99	95	101	
19	20	20	
186	167	203	
736	724	634	
22	19	18	
748	744	729	
168	168	160	
26	25	27	
8.2	8.0	9.3	
18	20	19	
63	43	41	
88	82	90	
6	8	10	
23	24	15	
45	56	46	
2	5	5	
28.71			
56.92			
7.21			
31.16			
7.07			
2.07			
6.14			
0.91			
5.09			
1.00			
2.56			
0.37			
2.26			
0.36			
750.09			
3.99			
7.72			
26.86			
4.41			
0.44			
1.12			
7.41			
21.58			
0.46			
766.28			
24.52			
0.703897, +/- 0.00001			
0.512845, +/- 0.000007			

Horr's Corner				Stron
HC-a	HC-b	HC-c	HC-d	
lo spatter			hi spatter	
	48.40		48.91	
	17.61		17.49	
	0.837		0.850	
	9.55		9.42	
	0.17		0.17	
	11.24		11.10	
	9.44		9.37	
	0.13		0.14	
	2.54		2.47	
	0.076		0.070	
	181		178	
	208		204	
	39		39	
	185		221	
	73		81	
	1		2	
	203		204	
	50		52	
	23		23	
	2.1		2.3	
	15		16	
	110		106	
	56		62	
	0		0	
	10		4	
	13		19	
	3		1	
2.60	2.51	2.72	2.84	
6.70	6.54	6.79	7.26	
1.00	1.02	1.07	1.12	
5.41	5.63	5.96	6.03	
2.03	2.07	2.14	2.24	
0.89	0.90	0.93	0.92	
2.75	2.85	2.89	3.00	
0.54	0.56	0.56	0.58	
3.70	3.82	3.87	4.05	
0.83	0.87	0.88	0.90	
2.36	2.51	2.50	2.62	
0.36	0.37	0.38	0.39	
2.28	2.42	2.43	2.52	
0.38	0.40	0.40	0.40	
87.44	70.88	74.39	79.89	
0.44	0.14	0.18	0.39	
1.07	0.79	0.92	1.07	
21.53	22.98	23.14	23.46	
1.43	1.25	1.36	1.38	
0.07	0.06	0.07	0.08	
0.20	0.08	0.10	0.11	
2.51	0.83	1.29	1.27	
3.86	1.18	1.98	2.47	
1.07	0.00	0.04	0.17	
192.24	216.60	212.27	210.61	
46.02	43.97	44.53	42.93	
50	45	47	48	

