

Sample	RM145A	PP331	May-1b	MM913-3	H90-67	SP-28
Age, Ma	28.6	36.3	34.1		33.3	
Long W	103 33	103 45	105 25	105 27.3	103 52.4	105 10
Lat N	29 15	30 20	31 52	31 52.2	29 24.7	31 34
SiO2	60.68	59.36	57.80	59.23	61.05	59.70
TiO2	1.14	0.38	0.58	0.1	1.04	0.08
Al2O3	16.88	18.07	17.50	17.06	17.90	17.80
Fe2O3		5.55	3.36	5.52		3.95
FeO		0.52	2.06			1.71
FeO*	4.67				5.07	
MnO	0.11	0.23	0.17	0.45	0.17	0.26
MgO	0.98	0.37	0.57	0.54	1.00	0.22
CaO	2.49	1.18	2.05	0.95	2.97	1.24
Na2O	6.25	6.20	5.16	8.27	6.29	7.32
K2O	6.02	4.96	6.28	4.79	3.92	5.48
P2O5	0.25	0.48	0.21	0.13	0.60	0.06
H2O+		1.58	1.37			1.55
H2O-		0.24	0.49			0.21
CO2		0.02	1.02			0.12
Total	99.47	99.14	97.61	97.04	98.24	99.58
SiO2'	61.00	61.01	61.02	61.04	61.05	61.11
(Na2O+K2O)'	12.34	11.47	12.08	13.46	10.21	12.80
Sc			4.1	0.96	7	10.2
V			37		11	74
Cr				1		
Ni				4.03	3	
Cu			12		9	35
Zn		92	107	223	102	266
Ga					18	
Rb	113	93	105	218	62	283
Sr	547	203	189	52.8	756	73
Y		47	48	66.8	42	109
Zr		694	678	1173	645	1766
Nb		108	117	179	53.7	306
Cs			5.3	3.86	0.21	4.8
Ba	1979		404	217	3535	
La				195	69	
Ce				274	134	
Pr					15.4	
Nd				77.74	62.1	
Sm				12.11	12.1	
Eu				0.6	4.23	
Gd					11.2	
Tb				2.4	1.4	
Dy					7.57	
Ho					1.47	
Er					3.98	
Tm					0.55	
Yb				6.37	3.53	
Lu				0.91	0.58	

Hf			16	37.51	12.5	36
Ta			7.4	33.21	2.4	16
Pb					10.9	
Th			13	35.58	5	29
U			3.4	11.79	1.4	8.6
Li			33			86
F						
Rb/Sr	0.21	0.46	0.56	4.13	0.08	3.88
Cen/Ybn				11.63	10.2	
Eu*				0.14	1.09	
Zr/Hf			42.4	31.3	51.6	49.1
Ba/Rb	17.5		3.85	1	57	
Rb/Th			8.08	6.13	12.4	9.76
$^{87}\text{Sr}/^{86}\text{Sr}_i$			0.7064			0.7118*
$^{143}\text{Nd}/^{144}\text{Nd}$						
$^{206}\text{Pb}/^{204}\text{Pb}$						
$^{207}\text{Pb}/^{204}\text{Pb}$						
$^{208}\text{Pb}/^{204}\text{Pb}$						

Sample	SP-39	H81-177	MM913-2	Tspfg3	H91-123	16M-2
Age, Ma					27.23	
Long W	105 10	104 17.5	105 27.3	105 32	103 59.7	105 34
Lat N	31 34	30 2.5	31 52.5	32 02	29 22.6	31 55
SiO2	60.70	61.16	59.20	59.00	61.23	59.10
TiO2	0.08	1.25	0.17	0.24	0.54	0.15
Al2O3	17.68	16.95	16.99	18.00	17.95	17.95
Fe2O3	5.73	2.94	5.45	4.73		3.46
FeO	0.13	3.23				1.47
FeO*					5.12	
MnO	0.26	0.15	0.43	0.24	0.17	0.30
MgO	0.11	1.48	0.20	0.46	0.30	0.27
CaO	0.85	3.34	0.98	1.45	1.60	1.31
Na2O	8.75	5.14	8.03	7.00	7.31	7.16
K2O	4.97	3.81	5.13	5.13	5.67	5.45
P2O5	0.05	0.55	0.11	0.12	0.11	0.08
H2O+	1.02					1.72
H2O-	0.12					0.60
CO2	0.07					0.20
Total	100.52	100	96.76	96.37	99.82	99.02
SiO2'	61.12	61.16	61.18	61.22	61.23	61.24
(Na2O+K2O)'	13.82	8.95	13.60	12.59	12.98	13.07
Sc	10		1.42		8	
V	78		18.3		1	
Cr			1	31	1	
Ni			11.4		5	
Cu	23					
Zn	262		209	132	134	215
Ga				24	33	
Rb	248		218	133	115	178
Sr	11		65.2	130	52	129
Y	110		63.4	44	64	77
Zr	1641		1280	1326	724	1746
Nb	291		183	178	151	293
Cs	4.9		3.75	18	0.79	2.4
Ba	6		249	370	782	224
La	175.2		192	107	92	
Ce	307.9		256		168	
Pr					17.7	
Nd	120.5		73.51		66.7	
Sm	19.2		11.26		13.7	
Eu	1.04		0.58		2.62	
Gd	16.01				11.6	
Tb			2.11		1.9	
Dy	16.47				11.21	
Ho	9.8				2.15	
Er					6.24	
Tm	9.61				0.86	
Yb	1.65		5.7		5.42	
Lu	0.35		0.83		0.84	37

Hf	16		37.54		16.6	20
Ta			49.45		6.9	
Pb	28			28	10.2	34
Th	8.4		33.93	30	13.1	12
U	71		9.55		2.6	53
Li						
F						
Rb/Sr	22.6		3.34	1.02	2.21	1.38
Cen/Ybn	50.46*		12.14		8.38	
Eu*	0.18		0.15		0.62	
Zr/Hf	102.6*		34.1		43.6	87.3*
Ba/Rb	0.02		1.14	2.78	6.80	1.26
Rb/Th	29.5*		6.42	4.43	8.78	14.8
87Sr/86Sr,l						
143Nd/144Nd						
206Pb/204Pb						
207Pb/204Pb						
208Pb/204Pb						

Sample	Tr-62	EM21	Al-10	RM173c	CD914-1A	EM23
Age, Ma	27.2		36.8	28.6		
Long W	104 06.3	105 24.4	105 38	103 33	105 24.7	105 24.4
Lat N	29 24.6	31 50.8	32 02	29 15	31 53.5	31 50.2
SiO2	61.25	57.80	58.10	61.31	60.17	59.06
TiO2	1.47	0.15	0.14	0.68	0.27	0.13
Al2O3	16.76	17.12	18.55	17.20	17.56	19.24
Fe2O3		5.49	3.64	4.67	5.10	5.72
FeO			1.10			
FeO*	6.29					
MnO	0.19		0.24	0.10	0.39	
MgO	0.93	0.28	0.18	0.49	0.54	0.29
CaO	3.02	1.27	1.09	1.77	1.18	1.37
Na2O	4.11	6.73	8.32	7.13	7.35	4.87
K2O	5.62	5.37	4.84	6.56	5.45	5.40
P2O5	0.36	0.13	0.06	0.10	0.11	0.14
H2O+			2.51			
H2O-			0.21			
CO2			0.21			
Total	100	94.34	98.98	100	98.12	96.22
SiO2'	61.25	61.27	61.30	61.31	61.32	61.38
(Na2O+K2O)'	9.73	12.83	13.70	13.69	13.05	10.67
Sc	11.3	1.82			3.17	1.82
V	147				26.7	
Cr		1			1	2
Ni	13.3	19			7.25	20
Cu			20			
Zn	137	235	187		190	227
Ga						
Rb	169	178	166	179.8	164	178
Sr	307	196	196	161.4	69	262
Y	66	45	52	73.5	52.9	43
Zr	1150	1449	1585	1352.5	1153	1421
Nb	170		227	216.7	135	
Cs	2.13	3.9			2.83	3.41
Ba	1267	267		404	230	334
La	106	157			154	143
Ce	207	276		215.4	218	278
Pr						
Nd	81	88.32		81.32	69.68	93.2
Sm	14.4	13.99		14.68	11	14.13
Eu	2.81	1.36		1.177	0.83	1.31
Gd				11.36		
Tb	2.96	2.61			2.09	2.58
Dy				11.95		
Ho						
Er				6.931		
Tm						
Yb	7.3	7.74		7.306	5.21	8.01
Lu	1.02	1			0.76	1.01

Hf	29.4	38.94			30.9	38.66
Ta	15.8	11.36			20.03	9.44
Pb						
Th	23.6	36.02			23.59	36.13
U	6.88	10.22			10.86	10.77
Li						
F						
Rb/Sr	0.55	0.91	0.85	1.11	2.38	0.68
Cen/Ybn	7.67	9.64		7.97	11.31	9.38
Eu*	0.54	0.28		0.27	0.21	0.27
Zr/Hf	39.1	37.2			37.3	36.8
Ba/Rb	7.5	1.5		2.25	1.4	1.88
Rb/Th	7.16	4.94			6.95	4.93
87Sr/86Sr,l						
143Nd/144Nd						
206Pb/204Pb						
207Pb/204Pb						
208Pb/204Pb						

Sample	CO-1	Need-1	SP-20b	H91-131	CD-7'	CD-7
Age, Ma	33.8			27.23		
Long W	105 31	103 49	105 10	103 54.4	105 24.4	105 24
Lat N	32 05	29 43	31 34	29 22.7	31 53.7	31 54
SiO2	59.01	60.15	59.70	61.50	60.61	60.83
TiO2	0.50	0.42	0.07	0.99	0.20	0.22
Al2O3	16.60	17.60	16.80	17.11	17.86	17.62
Fe2O3	1.42	5.89	5.06		4.94	2.99
FeO	1.13	0.12	0.30			2.97
FeO*				5.12		
MnO	0.12	0.17	0.18	0.15	0.36	0.25
MgO	0.81	0.12	0.11	0.65	0.38	0.37
CaO	4.97	0.60	1.28	1.74	1.37	1.65
Na2O	5.99	5.07	9.30	6.59	6.81	6.71
K2O	5.30	7.35	4.59	5.89	5.90	5.21
P2O5	0.16	0.45	0.09	0.25	0.13	0.07
H2O+	1.04	1.10	1.29			1.20
H2O-	0.17	0.64	0.17			0.20
CO2	3.15		0.32			0.42
Total	100.46	99.68	98.94	99.46	98.56	100.71
SiO2'	61.40	61.42	61.45	61.50	61.50	61.51
(Na2O+K2O)'	11.75	12.68	14.30	12.48	12.90	12.05
Sc				12	3.16	3.5
V				10		50
Cr				1	1	
Ni				4	5.41	
Cu			23			28
Zn			259	115	158	181
Ga				27		
Rb			152	150	181	159
Sr			119	119	171	61
Y			95	64	60.1	61
Zr			1713	996	1236	1441
Nb			296	156	146	190
Cs				1.54	8.66	2.6
Ba				1246	218	15
La				94	126	120.5
Ce				179	209	275.1
Pr				19.2		
Nd				73.1	68.12	79.4
Sm				14.7	12.03	10.3
Eu				3.33	0.77	0.79
Gd				11.9		9.81
Tb				1.97	2.07	
Dy				11.76		9.27
Ho				2.35		
Er				6.82		5.29
Tm				0.96		
Yb				6.38	5.71	4.96
Lu				1	0.79	0.93

Hf			35	22.2	31.92	29
Ta			17	9	7.53	11
Pb				14.7		26
Th			29	17.2	14.74	23
U			7.9	1.8	7.28	6.4
Li						49
F						
Rb/Sr			1.28	1.26	1.06	2.61
Cen/Ybn				7.58	9.89	14.99
Eu*				0.74	0.19	0.24
Zr/Hf			48.9	44.9	38.7	49.7
Ba/Rb				8.31	1.2	0.09
Rb/Th			5.24	8.72	12.3	6.91
87Sr/86Sr,l						0.7088*
143Nd/144Nd						0.512772
206Pb/204Pb						18.02
207Pb/204Pb						15.503
208Pb/204Pb						37.812



Sample	EB8349	SP-3	H91-44	EB8303-1	DM150	Tspfg4
Age, Ma	36.5		27.09	36.5		
Long W	102 56.7	105 10	103 52.7	102 56.7	104 0.9	105 32
Lat N	29 42	31 34	29 29.3	29 42	30 38.3	32 02
SiO2	60.30	59.50	61.58	59.70	59.90	59.50
TiO2	0.10	0.08	0.71	0.09	0.41	0.24
Al2O3	18.10	17.30	16.29	17.80	17.97	18.30
Fe2O3	5.00	3.37		5.12	0.73	4.65
FeO	0.30	2.82		0.20	3.01	
FeO*			4.88			
MnO	0.21	0.28	0.16	0.22	0.33	0.23
MgO	0.07	0.15	0.36	0.18	0.31	0.35
CaO	1.04	1.40	3.72	1.31	1.47	1.19
Na2O	7.48	7.11	6.14	7.11	7.58	6.72
K2O	5.55	4.92	6.00	5.45	5.47	5.27
P2O5	0.06	0.06	0.16	0.06	0.04	0.11
H2O+		2.14				
H2O-		0.27				
CO2	0.20	0.29		0.30		
Total	98.21	99.40	96.96	97.24	97.22	96.56
SiO2'	61.52	61.53	61.58	61.58	61.61	61.62
(Na2O+K2O)'	13.29	12.44	12.14	12.96	13.42	12.42
Sc		9.7	6		7.1	
V		75	21			
Cr						36
Ni			5			
Cu		12	2			
Zn		262	131		150	107
Ga			28			24
Rb	210	232	151	220	117	122
Sr	30	88	81	30		135
Y		109	61			36
Zr	1060	1587	799	1610	962	949
Nb		275	150.7			126
Cs		4	0.55		2.13	17
Ba		48	486		149	437
La			94		147	84
Ce			173			
Pr			18.2			
Nd			67.5		74.5	
Sm			14		10.86	
Eu			2.24		1.54	
Gd			10.7			
Tb			1.87		2.3	
Dy			11.14			
Ho			2.24			
Er			6.29			
Tm			0.9			
Yb			6		7.45	
Lu			0.93		1.07	

Hf		35	18.9		23.86	
Ta		16	6.7		18.56	
Pb			16.8			18
Th		28	17.1		26.89	16
U		7.3	3.4		5.62	
Li		72				
F						
Rb/Sr	7	2.64	1.86	7.33		0.9
Cen/Ybn			7.85			
Eu*			0.53		0.39	
Zr/Hf		45.3	42.3		40.3	
Ba/Rb		0.21	3.22		1.27	3.58
Rb/Th		8.29	8.83		4.35	7.63
$^{87}\text{Sr}/^{86}\text{Sr}_i$		0.7101*				
$^{143}\text{Nd}/^{144}\text{Nd}$						
$^{206}\text{Pb}/^{204}\text{Pb}$						
$^{207}\text{Pb}/^{204}\text{Pb}$						
$^{208}\text{Pb}/^{204}\text{Pb}$						

Sample	Dav-5	GM-5	SP-1	Tr-13	CD-11	EB8350
Age, Ma				27.2		36.5
Long W	104 14	105 35	105 10	104 01.1	105 24	102 56.7
Lat N	30 41	31 35	31 34	29 21.4	31 53.8	29 42
SiO2	61.40	59.40	60.20	61.68	60.35	60.60
TiO2	0.90	0.13	0.04	0.60	0.13	0.09
Al2O3	16.75	18.73	17.30	18.11	18.94	18.10
Fe2O3	4.58	5.35	3.40		5.10	5.02
FeO	1.30	0.22	2.58			0.30
FeO*				4.88		
MnO	0.19	0.03	0.27	0.17	0.09	0.22
MgO	0.75	0.10	0.08	0.44	0.15	0.06
CaO	1.82	1.63	1.26	2.09	1.06	0.98
Na2O	6.10	4.66	7.48	6.26	6.37	7.30
K2O	5.58	5.78	5.03	5.62	5.47	5.50
P2O5	0.28	0.37	0.05	0.14	0.13	0.06
H2O+	0.29	2.38	1.78			
H2O-	0.11	0.20	0.17			
CO2	0.80	0.76	0.09			0.10
Total	100.85	99.71	99.68	99.99	97.79	98.23
SiO2'	61.62	61.64	61.66	61.69	61.71	61.75
(Na2O+K2O)'	11.72	10.83	12.81	11.88	12.11	13.04
Sc				4.71	2.39	
V				65		
Cr				1.44	2	
Ni				15.2	16	
Cu						
Zn			249		184	
Ga						
Rb		87	224	101	185	220
Sr		119	69	172	153	10
Y		12*	97	50	46	
Zr		856	1541	486	1262	1070
Nb		61*	266	123		
Cs				1.21	5.63	
Ba				1436	272	
La				123	192	
Ce					234	
Pr						
Nd				66	122	
Sm				11.2	10.52	
Eu				2.79	0.92	
Gd						
Tb				1.97	2.12	
Dy						
Ho						
Er						
Tm						
Yb				4.83	5.94	
Lu				0.56	0.76	

Hf				15	32.42	
Ta				4.35	11.62	
Pb						
Th				9.21	22.48	
U					8.9	
Li						
F						
Rb/Sr		0.73	3.25	0.59	1.21	22
Cen/Ybn					10.65	
Eu*				0.72	0.24	
Zr/Hf				32.4	38.9	
Ba/Rb				14.2	1.47	
Rb/Th				11	8.23	
$^{87}\text{Sr}/^{86}\text{Sr}_i$			0.7097*			
$^{143}\text{Nd}/^{144}\text{Nd}$						
$^{206}\text{Pb}/^{204}\text{Pb}$						
$^{207}\text{Pb}/^{204}\text{Pb}$						
$^{208}\text{Pb}/^{204}\text{Pb}$						

Sample	EB8303-3	RP-2	J81-247	QM-74	EBH902	Corn31
Age, Ma	36.5		36.8	35	36.5	
Long W	102 56.7	103 43	104 21	105 30	102 56.7	105 32
Lat N	29 42	30 17	30 02	31 08	29 42	32 02
SiO2	60.10	61.30	61.91	61.93	59.25	60.10
TiO2	0.10	0.31	1.29	1.04	0.1	0.18
Al2O3	17.80	17.95	16.56	17.50	17.58	17.70
Fe2O3	4.89	2.52	3.46	2.99	4.77	5.09
FeO	0.40	2.64	2.01	2.34	0.53	
FeO*						
MnO	0.21	0.32	0.15	0.06	0.20	0.21
MgO	0.16	0.26	1.86	0.99	0.08	0.24
CaO	1.32	1.16	3.69	2.33	1.36	1.16
Na2O	7.00	7.61	4.66	6.08	6.59	6.83
K2O	5.34	4.93	3.86	4.44	5.37	5.44
P2O5	0.07	0.15	0.56	0.31	0.06	0.09
H2O+		0.70			1.59	
H2O-		0.10			0.32	
CO2	0.20	0.10			0.22	
Total	97.37	99.95	100	100	97.81	97.04
SiO2'	61.85	61.89	61.91	61.93	61.93	61.93
(Na2O+K2O)'	10.64	12.66	8.52	10.52	12.50	12.64
Sc				4	1.2	
V			80	46	69	
Cr				6.3		30
Ni			4	1		
Cu		11	4	11	16	
Zn		142	100	44	195	105
Ga						27
Rb	210	89		106	194	115
Sr	50	43		303	24	60
Y		55		40	73	24
Zr	1550	778		563	1581	744
Nb		124		36*	204	96
Cs		2		1.55	1.9	13
Ba		515		1268	30	182
La				38.8	129	61
Ce				86.4	296	
Pr						
Nd				42.7	86	
Sm				8.6	13	
Eu				2.84	1.5	
Gd						
Tb				1	1.5	
Dy						
Ho						
Er				0.42		
Tm						
Yb				3.1	6.1	
Lu				0.58	0.94	

Hf		16		16.9	24	
Ta		8.7		2.6	12	
Pb				2	8	15
Th		9.8	6	8.1	20	8
U		3		2.2	0.4	
Li			10	10	32	
F				490	980	
Rb/Sr	4.2	2.07		0.35	8.08	1.92
Cen/Ybn				7.53	13.12	
Eu*				1.05	0.37	
Zr/Hf		48.6		33.3	65.9*	
Ba/Rb		5.79		12	0.15	1.58
Rb/Th		9.08		13.1	9.7	14.4
$^{87}\text{Sr}/^{86}\text{Sr}_i$						
$^{143}\text{Nd}/^{144}\text{Nd}$					0.512741	
$^{206}\text{Pb}/^{204}\text{Pb}$						
$^{207}\text{Pb}/^{204}\text{Pb}$						
$^{208}\text{Pb}/^{204}\text{Pb}$						

Sample	DML11	PP-159	EM903
Age, Ma			
Long W	104 15	103 46	103 31.7
Lat N	30 31	30 19	30 0.2
SiO2	61.92	61.30	60.03
TiO2	1.35	0.35	0.37
Al2O3	16.17	17.95	17.29
Fe2O3	0.99	2.65	3.63
FeO	5.00	2.63	1.66
FeO*			
MnO	0.16	0.27	0.24
MgO	1.01	0.45	0.38
CaO	2.42	1.34	1.19
Na2O	5.02	7.06	6.30
K2O	5.48	4.78	5.66
P2O5	0.47	0.26	0.10
H2O+		0.70	1.27
H2O-		0.10	0.31
CO2		0.10	0.02
Total	99.99	99.84	98.46
SiO2'	61.93	61.96	61.98
(Na2O+K2O)'	10.50	11.97	12.35
Sc		16	14.6
V		53	41
Cr			
Ni			
Cu		14	7
Zn		141	95
Ga			
Rb		86	71
Sr		62	34
Y		46	47
Zr		630	708
Nb		86	106
Cs		1.8	2.2
Ba		675	50
La			84.7
Ce			149.8
Pr			
Nd			63.7
Sm			8.6
Eu			1.2
Gd			8.45
Tb			
Dy			7.94
Ho			
Er			4.56
Tm			
Yb			4.51
Lu			0.88

Hf		13	16
Ta		5.1	5.3
Pb			
Th		7	9.6
U		1.7	2.4
Li		5	35
F			
Rb/Sr		1.39	2.09
Cen/Ybn			8.98
Eu*			0.42
Zr/Hf		48.5	44.3
Ba/Rb		7.85	0.7
Rb/Th		12.3	7.4
$^{87}\text{Sr}/^{86}\text{Sr}_i$			
$^{143}\text{Nd}/^{144}\text{Nd}$			0.512709
$^{206}\text{Pb}/^{204}\text{Pb}$			
$^{207}\text{Pb}/^{204}\text{Pb}$			
$^{208}\text{Pb}/^{204}\text{Pb}$			