

**Supplementary Table S2. For the major element assemblage of sandstone and trace element assemblage of argillaceous rock of Dagushi Formation in North China Craton.**

**Rare Earth Element (M61-MS81)** Unit:  $\mu\text{g/g}$

Sample	XGB-07	XGB-10	XGB-14	XGB-16	XGB-20	XGB-22	XGB-23
La	49.1	51.7	65.6	53.9	51.4	77.4	50.7
Ce	102.0	104.0	133.5	111.0	104.5	151.0	98.1
Pr	11.80	11.45	14.70	11.95	11.80	16.85	10.85
Nd	42.9	41.1	51.1	42.2	41.8	58.1	39.6
Sm	8.50	7.56	9.30	7.56	8.03	9.88	7.08
Eu	1.68	1.50	1.66	1.52	1.89	1.76	1.54
Gd	7.48	6.05	7.75	6.86	7.46	7.55	5.93
Tb	1.17	0.93	1.15	1.02	1.20	1.08	0.88
Dy	6.68	5.45	6.19	5.78	6.71	5.98	5.21
Ho	1.39	1.11	1.29	1.19	1.42	1.27	1.10
Er	3.77	3.02	3.64	3.24	3.94	3.51	2.96
Tm	0.54	0.46	0.53	0.49	0.59	0.54	0.44
Yb	3.51	2.84	3.34	3.10	3.72	3.38	2.92
Lu	0.56	0.44	0.51	0.50	0.58	0.54	0.47
$\Sigma\text{REE}$	241.08	237.61	300.26	250.31	245.04	338.84	227.78
$\Sigma\text{LREE}$	216.00	217.30	275.90	228.10	219.40	315.00	207.90
$\Sigma\text{HREE}$	25.10	20.30	24.40	22.18	25.62	23.85	19.91
$\Sigma\text{L}/\Sigma\text{H}$	8.61	10.70	11.31	10.28	8.56	13.21	10.44
$(\text{La}/\text{Yb})_{\text{N}}$	9.43102656	12.27317129	13.24164574	11.72226847	9.315469997	15.43863333	11.70603182
$\text{Gd}/\text{Yb}$	2.131054131	2.13028169	2.320359281	2.212903226	2.005376344	2.233727811	2.030821918
$(\text{Gd}/\text{Yb})_{\text{N}}$	1.71965372	1.719030399	1.872413474	1.785701831	1.618238054	1.802506226	1.638771355
$\delta\text{Eu}$	0.639859302	0.673578385	0.593815091	0.640997153	0.741600623	0.618865379	0.721792248
$\delta\text{Ce}$	1.019924029	1.028808932	1.034713416	1.05267436	1.021276006	1.006365908	1.006698821
$(\text{La}/\text{Yb})_{\text{A}}$	1.355146011	1.763534331	1.902694611	1.684375	1.338541667	2.218380178	1.682041952

Sample	XGB-25	XGB-27	XGB-29	XGB-30	XGB-31	XGB-32	XGB-35
La	53.2	54.3	53.8	55.4	61.5	60.8	59.3
Ce	105.5	125.5	105.0	108.0	122.0	120.0	114.0
Pr	11.60	11.75	11.55	11.90	13.20	13.25	12.50
Nd	42.0	41.2	40.9	42.6	45.7	45.6	42.7
Sm	7.20	7.26	7.51	7.32	7.81	7.94	7.55
Eu	1.34	1.26	1.41	1.46	1.43	1.54	1.57
Gd	6.03	5.48	5.95	5.90	6.11	6.10	5.81
Tb	0.91	0.87	0.91	0.90	0.88	0.91	0.89
Dy	4.87	4.92	5.08	5.01	4.68	5.27	5.15
Ho	1.01	1.08	1.06	1.07	1.01	1.08	1.03
Er	2.67	2.97	2.89	2.84	2.78	2.97	2.75
Tm	0.42	0.42	0.42	0.42	0.42	0.43	0.42
Yb	2.73	2.84	2.61	2.81	2.70	2.79	2.63

Lu	0.43	0.45	0.41	0.45	0.43	0.45	0.44
ΣREE	239.91	260.30	239.50	246.08	270.65	269.13	256.74
ΣLREE	220.80	241.30	220.20	226.70	251.60	249.10	237.60
ΣHREE	19.07	19.03	19.33	19.40	19.01	20.00	19.12
ΣL/ΣH	11.58	12.68	11.40	11.69	13.24	12.46	12.43
(La/ Yb) <sub>N</sub>	13.13813069	12.89039073	13.89716969	13.29192974	15.35663082	14.69210313	15.20139826
Gd/Yb	2.208791209	1.929577465	2.279693487	2.099644128	2.262962963	2.186379928	2.209125475
(Gd/ Yb) <sub>N</sub>	1.78238364	1.557072163	1.839598219	1.694307424	1.826097526	1.764298861	1.782653376
δEu	0.617611483	0.606662881	0.640584062	0.67469389	0.628673832	0.672018177	0.719902329
δCe	1.02215569	1.195843313	1.01381	1.012382884	1.030587116	1.017585521	1.007794304
(La/ Yb) <sub>A</sub>	1.887820513	1.852222711	1.996886973	1.909919929	2.206597222	2.111111111	2.184291825

Sample	XGB-40	XGB-42	XGB-43	XGB-44	XGB-46	HBJ-02	DGS-03-1
La	38.8	62.3	58.9	52.6	81.9	75.5	50.2
Ce	84.3	123.5	119.5	109.0	160.0	148.0	107.0
Pr	8.76	13.25	13.65	12.45	18.10	17.30	12.45
Nd	30.5	46.3	49.5	44.5	65.1	61.4	47.3
Sm	5.75	8.08	8.42	8.20	10.75	10.45	7.97
Eu	1.16	1.57	1.68	1.55	1.76	1.89	1.46
Gd	4.68	6.73	6.63	6.73	8.16	8.88	6.08
Tb	0.69	1.03	1.00	0.98	1.33	1.45	0.88
Dy	4.12	5.41	6.14	6.02	8.25	8.21	5.31
Ho	0.89	1.15	1.20	1.21	1.67	1.65	1.02
Er	2.49	3.07	3.09	3.28	4.82	4.39	2.77
Tm	0.36	0.46	0.47	0.50	0.72	0.61	0.43
Yb	2.24	2.94	2.90	3.00	4.33	3.79	2.81
Lu	0.34	0.46	0.44	0.48	0.70	0.57	0.48
ΣREE	185.08	276.25	273.52	250.50	367.59	344.09	246.16
ΣLREE	169.30	255.00	251.70	228.30	337.60	314.50	226.40
ΣHREE	15.81	21.25	21.87	22.20	29.98	29.55	19.78
ΣL/ΣH	10.71	12.00	11.51	10.28	11.26	10.64	11.45
(La/ Yb) <sub>N</sub>	11.67799539	14.28648233	13.69310345	11.82086022	12.75206735	13.43050472	12.04431179
Gd/Yb	2.089285714	2.289115646	2.286206897	2.243333333	1.884526559	2.343007916	2.163701068
(Gd/ Yb) <sub>N</sub>	1.685948704	1.847201429	1.844854214	1.8102574	1.520718343	1.890689785	1.745998159
δEu	0.6791045	0.646579466	0.682860418	0.633654769	0.57068811	0.595844101	0.636952979
δCe	1.100548181	1.034580758	1.014362846	1.025175814	1.000202984	0.985631533	1.030140934
(La/ Yb) <sub>A</sub>	1.678013393	2.052827381	1.967564655	1.698541667	1.832346998	1.929831794	1.730649466

Sample	DGS-03-2	DGS-17	DGS-18	DGS-20	DGS-22	DGS-24	DGS-25
La	53.3	51.5	45.2	51.5	50.9	46.5	50.6
Ce	116.5	112.5	93.6	104.5	102.5	92.3	99.6
Pr	13.90	11.90	10.20	11.55	11.40	10.40	11.25
Nd	51.2	44.1	37.5	41.6	41.8	38.4	40.7

Sm	8.68	7.89	6.46	6.86	7.03	6.45	7.56
Eu	1.36	1.61	1.28	1.25	1.32	1.22	1.44
Gd	6.27	6.35	5.27	5.48	5.54	5.54	6.57
Tb	0.93	1.02	0.83	0.89	0.92	0.85	1.04
Dy	5.63	6.10	4.75	5.02	5.17	5.03	6.11
Ho	1.19	1.15	0.96	0.96	0.99	1.02	1.19
Er	3.38	3.22	2.53	2.60	2.79	2.72	3.20
Tm	0.52	0.49	0.37	0.40	0.41	0.40	0.47
Yb	3.26	3.08	2.35	2.52	2.54	2.57	2.91
Lu	0.53	0.46	0.36	0.39	0.40	0.42	0.44
ΣREE	266.65	251.37	211.66	235.52	233.71	213.82	233.08
ΣLREE	244.90	229.50	194.20	217.30	215.00	195.30	211.20
ΣHREE	21.71	21.87	17.42	18.26	18.76	18.55	21.93
ΣL/ΣH	11.28	10.49	11.15	11.90	11.46	10.53	9.63
(La/ Yb) <sub>N</sub>	11.02285771	11.27304147	12.9674674	13.7781618	13.51041402	12.19844358	11.72309057
Gd/Yb	1.923312883	2.061688312	2.242553191	2.174603175	2.181102362	2.155642023	2.257731959
(Gd/ Yb) <sub>N</sub>	1.55201696	1.663678985	1.809627865	1.754795612	1.76004013	1.739494915	1.821876368
δEu	0.55986168	0.690773995	0.666229519	0.619146103	0.642357582	0.619812826	0.620517991
δCe	1.030159145	1.093767032	1.049194359	1.031266916	1.024146181	1.010201378	1.004748162
(La/ Yb) <sub>A</sub>	1.583876534	1.619825487	1.863297872	1.979786706	1.941313976	1.752796693	1.684493127

**Microelement (M61-MS81) Unit:µg/g**

Sample	XGB-07	XGB-10	XGB-14	XGB-16	XGB-20	XGB-22	XGB-23
Ba	1600	1385	1735	1435	1160	1030	594
Rb	321	272	337	301	281	270	155.5
Th	12.8	14	20.8	16.95	19.65	22.7	15.2
Nb	13	13.7	14.3	14.6	14.9	17.1	15.8
Y	36.9	31.6	36.5	33.2	39.3	34.3	30
Tm	0.54	0.46	0.53	0.49	0.59	0.54	0.44
Ga	27.1	26.4	30.8	29.5	28.7	29.9	24.9
Cu	5.4	3.5	34.6	2.5	2.8	79.6	126
Sc	26.7	20.6	24.4	23.7	27.1	20.2	15.1
V	82	101	163	118	94	123	106
Cr	91	81	101	91	80	100	88
Co	32.4	31.8	27.8	32.9	35.3	27	29.3
Ni	57.8	51.5	56.8	55.3	50.9	50.6	45.9
U	2.14	2.29	4.69	2.49	3.11	3.75	2.87
Zr	262	261	202	196	262	169	274
Hf	6.5	6.3	5.2	5	6.5	4.4	6.5
Sr	82.5	119	63.9	69.8	84.6	63.2	143.5
La/Yb	13.98860399	18.20422535	19.64071856	17.38709677	13.8172043	22.89940828	17.3630137
Ceanom	-0.017958627	-0.020126699	-0.012652308	-0.008101565	-0.018282537	-0.02664395	-0.034889791
La/Sc	1.838951311	2.509708738	2.68852459	2.274261603	1.896678967	3.831683168	3.357615894

Co/Th	2.53125	2.271428571	1.336538462	1.94100295	1.796437659	1.189427313	1.927631579
La/Th	3.8359375	3.692857143	3.153846154	3.179941003	2.615776081	3.40969163	3.335526316
Th/Sc	0.479400749	0.67961165	0.852459016	0.715189873	0.725092251	1.123762376	1.006622517
Zr/Sc	9.812734082	12.66990291	8.278688525	8.270042194	9.667896679	8.366336634	18.14569536

Sample	XGB-25	XGB-27	XGB-29	XGB-30	XGB-31	XGB-32	XGB-35
Ba	1005	1015	850	739	853	844	1040
Rb	240	247	242	188.5	232	216	231
Th	19.6	20.3	19.35	17.4	19.65	19.2	18.7
Nb	13.9	13.6	15.2	12.4	12.6	13	12.2
Y	28.6	26.5	29.9	29.3	28.8	30.2	28.4
Tm	0.42	0.42	0.42	0.42	0.42	0.43	0.42
Ga	28.4	28.4	29.6	25.6	28.3	26.5	26.6
Cu	3.5	4.9	4.2	4.5	27.2	4.2	4.7
Sc	19.3	20.2	18.6	18.7	19.9	17.6	18.9
V	110	108	122	111	122	103	92
Cr	102	100	107	89	101	90	100
Co	28.7	29.8	32.5	26.2	27.6	25.1	25
Ni	55.3	51	56.2	47.3	52.1	48.2	49.6
U	3.27	4.25	3.88	3.88	4.28	4.21	3.44
Zr	282	172	162	272	151	218	202
Hf	6.6	4.4	4.1	6.8	3.6	5.5	5
Sr	115.5	105	121	135	119	109.5	65.7
La/Yb	19.48717949	19.11971831	20.61302682	19.71530249	22.77777778	21.7921147	22.54752852
Ceanom	-0.02549235	0.045715013	-0.02794891	-0.02978304	-0.01822707	-0.02150253	-0.04085636
La/Sc	2.756476684	2.688118812	2.892473118	2.962566845	3.090452261	3.454545455	3.137566138
Co/Th	1.464285714	1.467980296	1.679586563	1.505747126	1.404580153	1.307291667	1.336898396
La/Th	2.714285714	2.674876847	2.780361757	3.183908046	3.129770992	3.166666667	3.171122995
Th/Sc	1.015544041	1.004950495	1.040322581	0.930481283	0.987437186	1.090909091	0.989417989
Zr/Sc	14.61139896	8.514851485	8.709677419	14.54545455	7.587939698	12.38636364	10.68783069

Sample	XGB-40	XGB-42	XGB-43	XGB-44	XGB-46	HBJ-02	DGS-03-1
Ba	872	1245	1075	664	1020	1325	1505
Rb	327	286	221	153	186.5	283	275
Th	14.3	18.5	18.6	15.65	23	21	19.95
Nb	20.7	14.1	14.1	15.2	19.2	17.2	16.4
Y	25.4	32.5	32.9	31.8	47.4	44.3	26
Tm	0.36	0.46	0.47	0.5	0.72	0.61	0.43
Ga	33.1	29.7	28.2	25.2	27.1	27	28.5
Cu	10.2	3.6	4.6	22.7	225	3.2	16.6
Sc	20	24	20.3	15.7	17.8	20.3	18.6
V	146	126	118	102	102	145	105
Cr	113	82	98	64	52	79	91

Co	38.5	31.3	28	23.7	26.3	24.6	27.4
Ni	69.4	46.9	47.5	37.6	28.1	41.6	47.6
U	2.74	3.56	4.15	3.79	5.53	3.43	3.71
Zr	125	156	194	328	266	413	217
Hf	3	3.9	4.9	8.4	7	10.6	5.8
Sr	99.2	84.6	117.5	125.5	59.5	69	54.6
La/Yb	17.32142857	21.19047619	20.31034483	17.53333333	18.91454965	19.92084433	17.86476868
Ceanom	0.014679386	-0.01854661	-0.02326825	-0.01491712	-0.03281834	-0.03412328	-0.01681321
La/Sc	1.94	2.595833333	2.901477833	3.350318471	4.601123596	3.719211823	2.698924731
Co/Th	2.692307692	1.691891892	1.505376344	1.514376997	1.143478261	1.171428571	1.373433584
La/Th	2.713286713	3.367567568	3.166666667	3.361022364	3.560869565	3.595238095	2.516290727
Th/Sc	0.715	0.770833333	0.916256158	0.996815287	1.292134831	1.034482759	1.072580645
Zr/Sc	6.25	6.5	9.556650246	20.89171975	14.94382022	20.34482759	11.66666667

Sample	DGS-03-2	DGS-17	DGS-18	DGS-20	DGS-22	DGS-24	DGS-25
Ba	1315	1090	910	1055	910	796	817
Rb	233	236	236	255	218	200	216
Th	19.85	15.65	14.05	17.1	16.05	14.4	21.2
Nb	22.1	15.5	14.5	14.7	14.9	14.8	17.1
Y	28.1	31.5	25.4	26.3	26.7	26.6	31.5
Tm	0.52	0.49	0.37	0.4	0.41	0.4	0.47
Ga	29.5	28.3	28.2	29.7	28.1	27.3	27.1
Cu	33.1	6.3	3.8	4.6	5.4	4.2	3.5
Sc	17.5	20.7	17.4	19.7	19.2	18.2	19.3
V	197	85	87	101	112	101	114
Cr	81	89	94	103	101	100	90
Co	33.5	28.5	30.4	30.1	30.8	30.5	27.5
Ni	53.5	47.4	58.3	59.1	55.5	50.9	46.7
U	5.62	2.87	2.82	3.05	3.22	3.56	3.92
Zr	252	293	157	118	149	212	144
Hf	6.8	7.3	4.3	3.1	4.1	5.5	3.7
Sr	65.3	151.5	102.5	93.1	110.5	115.5	97.3
La/Yb	16.34969325	16.72077922	19.23404255	20.43650794	20.03937008	18.09338521	17.38831615
Ceanom	-0.00854152	0.006451701	-0.06614134	-0.0183009	-0.02363438	-0.03058219	-0.03098348
La/Sc	3.045714286	2.487922705	2.597701149	2.614213198	2.651041667	2.554945055	2.621761658
Co/Th	1.687657431	1.821086262	2.163701068	1.760233918	1.919003115	2.118055556	1.297169811
La/Th	2.685138539	3.290734824	3.217081851	3.011695906	3.171339564	3.229166667	2.386792453
Th/Sc	1.134285714	0.756038647	0.807471264	0.868020305	0.8359375	0.791208791	1.098445596
Zr/Sc	14.4	14.15458937	9.022988506	5.989847716	7.760416667	11.64835165	7.461139896

**Macroelement (P61-XRF26s and OA-GRA05x) Unit: %**

Sample	XGB-01	XGB-09	XGB-15	XGB-28	XGB-33	XGB-38	XGB-41	XGB-47
Al <sub>2</sub> O <sub>3</sub>	11.94	11.79	13.27	17.00	20.42	13.48	15.25	13.18

As <sub>2</sub> O <sub>3</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BaO	0.07	0.09	0.08	0.04	0.08	0.05	0.07	0.08
Bi	<2	<2	<2	<2	2	<2	2	<2
CaO	1.33	1.39	2.47	2.37	0.78	0.99	1.76	2.40
Cl	<0.01	0.01	<0.01	0.01	0.01	0.01	0.01	<0.01
CoO	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
Cr <sub>2</sub> O <sub>3</sub>	0.02	0.03	0.02	0.02	0.02	0.01	0.03	0.02
CuO	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
TFe <sub>2</sub> O <sub>3</sub>	4.02	4.51	4.08	6.14	8.40	2.44	5.91	7.10
Fe <sub>2</sub> O <sub>3</sub>	3.74	4.19	3.79	5.71	7.81	2.27	5.49	6.6
K <sub>2</sub> O	2.08	3.06	3.12	1.87	4.00	1.93	2.00	2.93
MgO	1.23	1.41	1.56	3.64	3.95	1.51	2.47	4.09
MnO	0.09	0.09	0.09	0.18	0.10	0.08	0.12	0.15
Mo	<1	<1	<1	<1	<1	<1	<1	<1
Na <sub>2</sub> O	1.78	1.74	2.34	3.30	1.44	3.39	3.36	0.17
NiO	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
P <sub>2</sub> O <sub>5</sub>	0.13	0.18	0.16	0.24	0.13	0.05	0.24	0.13
PbO	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.01
Sb	<5	<5	<5	<5	<5	<5	<5	<5
SiO <sub>2</sub>	74.24	72.97	68.83	59.97	54.97	73.47	64.72	45.46
SnO <sub>2</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SO <sub>3</sub>	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01
SrO	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.02
TiO <sub>2</sub>	0.57	0.48	0.42	0.66	0.76	0.19	0.65	0.55
V <sub>2</sub> O <sub>5</sub>	<0.01	0.01	0.01	0.03	0.01	<0.01	0.01	0.01
W	<10	<10	<10	<10	<10	<10	<10	<10
ZnO	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.02
ZrO <sub>2</sub>	0.03	0.03	0.03	0.04	0.03	0.02	0.05	0.02
LOI 1000	2.00	1.81	3.10	4.34	4.70	1.97	2.85	13.16
TFe <sub>2</sub> O <sub>3</sub> +Mgo	5.25	5.92	5.64	9.78	12.35	3.95	8.38	11.19
CIA	69.7	65.57	62.59	69.27	76.65	68.12	68.17	70.56
ICV	0.91	1.05	1.04	1.04	0.92	0.77	1.04	1.28
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	6.22	6.19	5.19	3.53	2.69	5.45	4.24	3.45
Fe <sub>2</sub> O <sub>3</sub> /K <sub>2</sub> O	1.8	1.37	1.21	3.05	1.95	1.18	2.75	2.25
Al <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub>	0.16	0.16	0.19	0.28	0.37	0.18	0.24	0.29

Sample	XGB-49	DGS-19	DGS-09	DGS-15	DGS-23	DGS-02	HBJ-03	DGS-26
Al <sub>2</sub> O <sub>3</sub>	10.46	15.29	12.97	15.09	13.70	14.99	14.75	14.61
As <sub>2</sub> O <sub>3</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BaO	0.14	0.05	0.15	0.13	0.04	0.08	0.14	0.06
Bi	<2	<2	<2	<2	2	<2	<2	<2
CaO	0.41	2.09	1.94	2.17	2.71	2.09	2.06	2.72
Cl	0.01	0.01	0.01	0.01	<0.01	0.01	<0.01	0.01

CoO	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cr <sub>2</sub> O <sub>3</sub>	0.01	0.01	<0.01	0.07	0.02	0.03	0.01	0.01
CuO	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
TFe <sub>2</sub> O <sub>3</sub>	2.25	4.49	5.49	3.02	4.70	4.42	2.61	3.45
Fe <sub>2</sub> O <sub>3</sub>	2.09	4.17	5.1	2.81	4.37	4.11	2.43	3.21
K <sub>2</sub> O	5.05	2.40	4.51	3.95	1.66	2.52	4.50	2.31
MgO	0.40	2.75	1.33	1.24	2.61	1.79	1.75	1.67
MnO	0.05	0.12	0.08	0.07	0.13	0.09	0.08	0.10
Mo	<1	<1	<1	<1	1	<1	<1	<1
Na <sub>2</sub> O	1.00	3.35	1.91	2.71	3.13	2.88	1.72	2.76
NiO	<0.01	<0.01	<0.01	0.07	0.01	0.01	<0.01	<0.01
P <sub>2</sub> O <sub>5</sub>	0.08	0.27	0.24	0.27	0.48	0.31	0.14	0.20
PbO	0.01	0.01	0.01	0.01	0.01	<0.01	<0.01	<0.01
Sb	<5	<5	<5	<5	<5	<5	<5	<5
SiO <sub>2</sub>	77.85	65.03	67.89	68.65	66.57	67.53	68.29	69.06
SnO <sub>2</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SO <sub>3</sub>	0.04	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
SrO	0.02	0.02	0.03	0.05	0.02	0.04	0.02	0.04
TiO <sub>2</sub>	0.25	0.47	0.45	0.52	0.61	0.46	0.25	0.41
V <sub>2</sub> O <sub>5</sub>	<0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01
W	<10	<10	<10	<10	<10	<10	<10	<10
ZnO	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
ZrO <sub>2</sub>	0.05	0.04	0.04	0.09	0.11	0.03	0.04	0.05
LOI 1000	1.16	3.27	2.59	1.84	3.18	2.47	3.34	2.31
TFe <sub>2</sub> O <sub>3</sub> +Mgo	2.65	7.24	6.82	4.26	7.31	6.21	4.36	5.12
CIA	61.82	66.1	60.81	63.09	64.62	66.68	64.05	65.22
ICV	0.88	1	1.18	0.89	1.11	0.93	0.87	0.9
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	7.44	4.25	5.23	4.55	4.86	4.51	4.63	4.73
Fe <sub>2</sub> O <sub>3</sub> /K <sub>2</sub> O	0.41	1.74	1.13	0.71	2.63	1.63	0.54	1.39
Al <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub>	0.13	0.24	0.19	0.22	0.21	0.22	0.22	0.21