

Chemical composition of red shales and boundary dolomite from SOS zone (pulp rock analyses)

Table 10

Sample	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	FeO %	TOC %	MnO %	MgO %	CaO %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	S %
DGI-R	41.88	13.48	0.02	1.49	4.90	0.295	5.11	9.57	0.38	3.95	0.721	0.25	0.44
DGII-R	5.13	0.69	0.86	0.71	0.13	0.797	12.07	37.20	0.08	0.19	0.039	0.05	0.24
PR14/7001/107	53.33	20.38	0.84	4.25	1.36	0.035	2.36	1.27	0.57	6.28	0.986	0.14	0.13
PZ/G-31/2	15.70	5.73	2.95	1.34	0.21	0.376	12.87	23.33	0.25	1.89	0.256	0.10	0.19
PZ-ISZ/1	17.01	5.83	6.31	1.32	0.18	0.407	11.32	22.78	0.17	1.83	0.266	0.09	0.16
PZ-17/2C	29.62	10.74	4.92	1.39	0.57	0.338	8.03	15.38	0.30	3.34	0.517	0.15	0.17
PZ-18/2C	15.53	5.22	3.30	1.31	0.25	0.336	13.49	23.26	0.28	1.64	0.259	0.10	0.18
PZ-21/1	31.64	10.91	3.31	1.84	0.78	0.348	7.55	15.62	0.36	3.39	0.544	0.20	0.28
PZ-24/1	16.16	5.60	4.87	0.97	0.15	0.326	13.00	22.22	0.24	1.79	0.256	0.11	0.15
PZ-24/4	27.79	10.94	0.75	0.61	1.92	0.285	7.51	19.50	0.26	3.29	0.473	0.12	0.22
PZ-31/3C	28.67	10.56	5.42	1.08	0.38	0.280	8.80	15.93	0.21	3.27	0.553	0.17	0.16
PZ-34/3	20.32	7.38	4.01	0.89	0.25	0.320	11.45	20.84	0.24	2.32	0.350	0.13	0.19
PZ-34/3	51.40	20.63	5.28	1.07	0.27	0.050	2.65	1.87	1.06	6.30	0.939	0.11	0.14
PZ-102	49.65	18.91	11.54	1.15	0.12	0.036	2.33	1.14	0.58	5.89	0.911	0.12	0.06
Average	28.85	10.50	3.88	1.39	0.82	0.30	8.47	16.42	0.36	3.24	0.51	0.13	0.19
Standard deviation	15.21	6.09	2.98	0.88	1.29	0.19	4.09	10.20	0.25	1.86	0.29	0.05	0.09
Coefficient of variability [%]	52.72	58.03	76.76	63.73	157.17	63.17	48.29	62.12	68.89	57.28	58.10	37.85	143.26
Variance	231.28	37.13	8.89	0.78	1.66	0.04	16.72	104.08	0.06	3.45	0.09	0.00	0.01
Median	28.23	10.65	3.66	1.23	0.26	0.32	8.42	17.72	0.27	3.28	0.50	0.12	0.18

SOS – secondary oxidized system

Sample	Au ppb	As ppm	Br ppm	Co ppm	Cr ppm	Cs ppm	Hf ppm	Ir ppm	Mo ppm	Rb ppm
DGI-R	4460	5	2	6	260	42.3	4.0	-5	14	158
DGII-R	17100	3	2	3	19	0.9	-0.5	-5	11	-20
PR14/7001/107	270	18	6	10	460	74.5	5.7	-5	17	386
PZ/G-31/2	43	6	2	4	99	14.6	1.5	-5	13	92
PZ-ISZ/1	36300	11	2	5	95	15.5	1.6	-5	9	101
PZ-17/2C	571	13	2	6	180	28.3	3.0	-5	16	167
PZ-18/2C	3990	5	16	5	100	13.7	1.6	-5	10	101
PZ-21/1	89300	7	-1	6	200	26.1	3.0	-5	7	163
PZ-24/1	14800	8	3	5	100	16.1	1.5	-5	15	101
PZ-24/4	1090	3	1	6	150	38.4	2.9	-5	11	186
PZ-31/3C	16900	7	2	6	180	32.0	2.9	-5	26	168
PZ-34/3	30900	6	2	5	140	20.4	1.7	-5	10	119
PZ-34/3	96	23	13	11	360	76.0	4.7	-5	40	326
PZ-102	54	38	3	14	370	76.0	4.2	-5	80	343
Average	15419.57	10.93	3.93	6.57	193.79	33.91	2.70	-5.00	19.93	170.79
Standard deviation	24420.64	9.68	4.75	3.01	125.90	24.94	1.61	0.00	19.26	111.09
Coefficient of variability [%]	158.37	88.53	120.83	45.74	64.97	73.54	59.67	0.00	96.65	65.05
Variance	596367550.73	93.61	22.53	9.03	15849.72	622.08	2.60	0.00	370.99	12341.72
Median	4225.00	7.00	2.00	6.00	165.00	27.20	2.90	-5.00	13.50	160.50
Maximum	89300.00	38.00	16.00	14.00	460.00	76.00	5.70	-5.00	80.00	386.00
Minimum	43.00	3.00	-1.00	3.00	19.00	0.90	-0.50	-5.00	7.00	-20.00

Sample	Lu ppm	Ba ppm	Sr ppm	Y ppm	Zr ppm	Ag ppm	Cd ppm	Cu ppm	Ni ppm	Pb ppm	Zn ppm	Bi ppm
DGI-R	0.65	248	118	41	170	24.0	0.4	2825	35	16	41	-2
DGII-R	0.41	335	147	57	13	43.0	1.1	326	11	21	7	13
PR14/7001/107	0.51	324	119	33	210	-0.3	-0.3	91	65	48	85	6
PZ/G-31/2	0.32	94	190	34	71	0.8	-0.3	1407	17	-3	20	16
PZ-ISZ/1	0.30	106	203	42	60	2.9	1.0	763	18	23	19	7
PZ-17/2C	0.35	175	151	40	128	0.5	0.6	940	29	33	38	2
PZ-18/2C	0.29	98	209	27	61	0.8	-0.3	889	24	5	17	14
PZ-21/1	0.52	185	158	57	131	8.3	-0.3	2355	28	30	33	10
PZ-24/1	0.23	102	164	27	65	0.5	0.5	537	22	19	26	17
PZ-24/4	0.34	161	195	53	99	2.2	-0.3	1654	42	40	37	-2
PZ-31/3C	0.37	183	162	41	129	2.6	-0.3	1172	30	20	32	4
PZ-34/3	0.33	126	183	37	79	7.0	0.9	1908	22	9	27	9
PZ-34/3	0.39	337	97	25	183	-0.3	-0.3	70	82	29	81	-2
PZ-102	0.35	350	100	22	175	-0.3	-0.3	49	77	51	82	3
Average	0.38	201.71	156.86	38.29	112.43	6.51	0.15	1070.38	35.94	24.33	38.82	6.71
Standard deviation	0.11	98.19	37.27	11.41	57.60	12.21	0.58	871.83	22.62	15.69	25.49	6.54
Coefficient of variability [%]	28.69	48.68	23.76	29.81	51.24	187.50	375.53	81.45	62.94	64.47	65.65	97.45
Variance	0.01	9642.22	1388.75	130.22	3318.11	149.15	0.33	760091.55	511.71	246.08	649.50	42.81
Median	0.35	179.00	160.00	38.50	113.50	1.52	-0.30	914.59	28.52	22.34	32.17	6.39
Maximum	0.65	350.00	209.00	57.00	210.00	42.80	1.10	2824.80	81.70	51.10	84.70	16.60
Minimum	0.23	94.00	97.00	22.00	13.00	-0.30	-0.30	48.50	11.30	-3.00	6.70	-2.00

Sample	Sb ppm	Sc ppm	Se ppm	Ta ppm	Th ppm	U ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm
DGI-R	1.00	13	11	-1	9.3	13.6	42.8	85	42	12	2	1.2	4.30
DGII-R	0.40	3	5	-1	1.0	10.4	15.3	53	50	19	5	1.7	2.60
PR14/7001/107	6.50	19	10	1	15.3	15.1	43.3	79	40	8	2	0.9	3.30
PZ/G-31/2	1.20	6	-3	-1	3.7	12.4	24.8	52	40	9	2	0.9	2.10
PZ-ISZ/1	2.30	6	-3	-1	3.7	6.6	26.7	57	42	12	3	1.2	2.00
PZ-17/2C	2.20	10	4	-1	7.7	11.1	32.3	70	43	10	3	1.0	2.30
PZ-18/2C	1.50	5	-3	1	4.2	6.3	22.2	48	33	8	2	0.8	1.90
PZ-21/1	1.70	10	4	-1	8.8	8.1	35.9	69	53	15	4	1.7	3.40
PZ-24/1	2.00	6	-3	-1	4.3	9.0	23.1	51	27	8	2	0.7	1.50
PZ-24/4	0.70	10	16	-1	8.0	22.3	33.8	70	55	15	3	1.5	2.20
PZ-31/3C	2.50	10	-3	-1	7.8	12.0	33.6	70	50	13	3	1.1	2.30
PZ-34/3	1.80	8	3	-1	5.0	9.9	26.5	57	38	11	3	1.1	2.20
PZ-34/3	4.00	18	6	-1	13.5	8.1	32.3	61	25	5	1	0.6	2.60
PZ-102	4.70	15	-3	2	12.6	8.7	32.0	57	24	5	1	-0.5	2.30
Average	2.32	9.89	2.93	-0.50	7.49	10.97	30.33	62.79	40.14	10.58	2.51	0.99	2.50
Standard deviation	1.68	4.65	6.28	1.02	4.18	4.14	7.80	11.18	10.05	3.87	1.04	0.55	0.72
Coefficient of variability [%]	72.42	47.01	214.49	-203.81	55.73	37.78	25.72	17.80	25.04	36.59	41.43	55.09	28.89
Variance	2.83	21.63	39.46	1.04	17.44	17.18	60.83	124.95	101.05	14.98	1.08	0.30	0.52
Median	1.90	9.85	3.50	-1.00	7.75	10.15	32.15	59.00	41.00	10.50	2.40	1.05	2.30
Maximum	6.50	18.60	16.00	2.00	15.30	22.30	43.30	85.00	55.00	18.50	5.00	1.70	4.30
Minimum	0.40	3.40	-3.00	-1.00	1.00	6.30	15.30	48.00	24.00	4.80	1.00	-0.50	1.50