

## APPENDIX 2

**Major element concentrations [wt.%] for the sandstone and shale samples from the Shemshak Group (SF for sandstones and MF for shales)**

Sample	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	ICV	CIA	LOI	SUM
SF8	75.15	0.35	7.19	2.67	0.12	0.62	5.14	1.45	0.77	0.08	1.53	56.20	6.4	99.94
SF11	82.53	0.32	7.21	3.32	0.09	0.65	0.64	1.45	0.79	0.06	0.99	62.08	2.9	99.96
SF27	79.84	0.33	7.59	3.22	0.10	0.62	1.94	1.37	0.83	0.07	1.09	58.41	4.0	99.91
SF31	54.00	0.26	5.60	2.43	0.42	0.65	18.47	1.31	0.67	0.07	5.58	55.52	19.1	99.90
SF35	67.91	0.36	8.26	4.22	0.20	1.05	7.25	1.56	1.04	0.07	1.87	56.90	8.0	99.92
SF41	74.64	0.27	6.01	2.31	0.11	0.72	6.25	0.83	0.71	0.07	4.23	52.66	16.2	99.96
SF45	71.75	0.42	8.91	4.85	0.13	0.96	4.18	1.61	1.04	0.11	1.47	58.12	5.9	99.86
SF48	48.48	0.26	4.86	3.20	0.28	1.47	21.35	0.98	0.62	0.07	3.05	57.73	11.4	99.88
SF49	61.24	0.29	6.28	3.54	0.15	0.99	12.88	1.08	0.93	0.10	3.14	57.94	12.4	99.88
SF50	64.39	0.30	5.87	2.82	0.24	2.10	10.50	1.07	0.72	0.09	1.93	63.21	7.5	99.93
SF53	80.67	0.37	8.30	4.23	0.03	0.95	0.44	1.26	1.11	0.13	1.01	67.08	2.4	99.89
SF55	81.28	0.35	7.29	4.76	0.07	0.83	0.54	1.38	0.91	0.10	1.20	63.25	2.4	99.91
SF58	53.91	0.42	7.64	4.60	0.33	5.83	9.30	1.56	1.15	0.07	2.99	54.51	15.0	99.81
SF60	45.35	0.26	5.15	2.30	0.32	1.23	23.16	0.91	0.75	0.07	5.56	57.51	20.4	99.90
SF68	51.38	0.34	6.65	3.29	0.19	2.33	16.96	1.13	0.88	0.10	3.75	58.75	16.6	99.85
SF73	62.57	0.53	10.92	4.16	0.13	1.46	7.71	1.59	1.65	0.11	1.57	60.88	9.0	99.83
SF80	54.45	0.62	8.64	7.24	0.50	4.79	7.80	0.78	1.32	0.07	2.61	68.39	13.6	99.81
SF83	81.44	0.44	7.72	4.60	0.08	0.32	0.39	1.41	0.91	0.06	1.03	65.80	2.7	99.96
SF87	82.28	0.67	7.86	4.49	0.03	1.09	0.11	0.85	1.39	0.07	1.01	71.70	1.7	99.87
<b>Mean (n=19)</b>	67.01	0.38	7.26	3.76	0.19	1.51	8.16	1.24	0.96	0.08	2.40	60.35	9.35	99.89
MF14	71.54	0.64	13.70	7.30	0.01	1.08	0.08	1.22	3.31	0.04	1.19	66.97	10.9	99.84
MF13	63.33	0.74	16.47	8.67	0.04	2.46	1.48	1.23	3.63	0.09	0.93	81.36	6.6	99.75
MF24	62.26	0.83	18.95	6.86	0.04	2.69	0.86	0.94	4.27	0.09	1.55	59.18	10.0	99.85
MF65	58.13	0.94	19.17	3.10	0.02	2.15	0.58	0.44	5.18	0.08	1.56	58.71	9.4	99.83
MF82	61.05	0.77	18.29	4.98	0.17	2.45	0.53	0.93	4.34	0.09	0.79	73.86	3.7	99.84
MF86	58.22	0.80	18.63	5.30	0.05	3.34	0.62	0.80	4.63	0.09	0.94	62.45	5.3	99.85
<b>Mean (n=6)</b>	62.42	0.78	17.53	6.04	0.55	2.36	0.69	0.92	4.22	0.08	1.16	67.09	7.65	99.83