APPENDIX

Results of XRF analyses

Table 1

Locality, present study	Kishinjov-1	Pidhaytsi-1	Pidhaytsi-1	Vilhovets-6	Horodok-9	Ustya-7	Tryb-chyn-65	Trybchyn-65
Depth m	517.0	1090.0	1090.0	138.0	390.0	131.0	exp.	exp.
Series	Rukshyn	Rukshyn	Rukshyn	Rukshyn	Rukshyn	Rukshyn	Rukshyn	Rukshyn
ID field	C8	C8	C8	?	C10	C10	C9/2	C9
ID new	C10?	C10?	C10?	C9	C9	C9	C9	C9
LOI_920^{o}C	5.03	5.08	5.03	4.89	4.37	6.14	16.23	5.76
SiO_2 (%)	56.5	54.8	55.1	56.2	63.7	54.1	40.2	56.0
TiO_2 (%)	0.220	0.247	0.233	0.256	0.172	0.239	0.103	0.171
Al_2O_3 (%)	21.2	22.2	22.6	20.8	19.8	21.2	13.2	22.4
Fe_2O_3 (%)	1.13	2.33	1.75	1.46	1.44	1.97	0.74	1.06
MnO (%)	0.003	0.005	0.005	0.006	0.003	0.009	0.012	0.003
MgO (%)	5.23	5.00	5.01	5.97	4.47	5.71	4.08	5.83
CaO (%)	0.77	0.18	0.17	0.51	0.18	1.23	19.46	0.35
K_2O (%)	8.55	8.10	8.38	8.18	6.61	7.79	6.10	7.78
P_2O_5 (%)	0.07	0.06	0.06	0.11	0.07	0.06	0.06	0.04
S (%)	0.56	0.43	0.05	0.51	0.08	0.18	0.01	0.01
As (PPM)	7	12	3	6	5	6	3	2
Ba (PPM)	68	184	198	153	70	105	82	140
Br (PPM)	2	3	<3	<3	5	2	<3	3
Ce (PPM)	<15	18	17	14	49	24	48	38
Ga (PPM)	26	28	27	29	23	27	14	26
La (PPM)	14	28	<15	33	22	46	36	22
Nb (PPM)	29	34	31	28	17	19	13	22
Ni (PPM)	23	25	11	8	6	8	3	4
Pb (PPM)	<10	12	<10	12	<10	<10	<10	<10
Rb (PPM)	180	222	225	230	216	226	131	239
Sr (PPM)	50	152	141	47	172	109	104	21
Th (PPM)	16	24	18	26	15	17	15	22
U (PPM)	5	7	3	11	7	6	5	6
Y (PPM)	10	17	16	17	40	21	81	18
Zn (PPM)	15	17	14	15	15	17	10	9
Zr (PPM)	162	171	157	162	125	150	94	145

Table 2

Locality, present study	Tryb-chyn-64	Zava-divka-6	Kudryn-tsi-166	Pid-haytsi-1	Okopy-Bilivtsi_46	Pid-haytsi-1	Zava-divka-1	Pryhorodok-117
Depth, m	exp.	1249.5	exp.	1143.6	exp.	1144.6	1364.0	exp.
Series	Rukshyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Rukshyn
ID field	C9	C8	C8?	C6?	C8	C5?	C6	C6
ID new	C9	C9	C8?	C8?	C7?	C7?	C7?	C6
LOI_920°C	5.85	4.73	5.50	5.56	5.39	5.36	4.52	5.08
SiO_2 (%)	57.9	54.9	54.9	54.0	55.8	54.6	53.8	58.3
TiO_2 (%)	0.142	0.304	0.409	0.320	0.301	0.215	0.469	0.350
Al_2O_3 (%)	18.4	23.4	22.7	21.9	22.1	21.2	23.6	21.9
Fe_2O_3 (%)	1.33	2.29	2.29	1.53	1.50	1.44	2.86	0.87
MnO (%)	0.003	0.005	0.006	0.008	0.002	0.004	0.013	0.002
MgO (%)	6.37	3.84	5.10	5.48	4.90	5.84	4.96	5.15
CaO (%)	1.64	0.37	0.55	1.79	0.58	0.70	0.55	0.45
K_2O (%)	7.80	7.33	8.18	8.00	8.73	8.09	7.48	8.95
P_2O_5 (%)	0.03	0.07	0.10	0.09	0.08	0.03	0.14	0.08
S (%)	0.00	0.82	0.00	0.23	0.01	0.31	0.02	<0.01
As (PPM)	3	3	8	5	8	7	2	4
Ba (PPM)	124	320	149	178	71	109	441	69
Br (PPM)	2	11	<3	<3	<3	<3	12	2
Ce (PPM)	30	51	66	17	<15	28	38	38
Ga (PPM)	22	27	19	22	18	23	22	21
La (PPM)	15	43	18	44	17	33	44	31
Nb (PPM)	17	20	23	23	20	28	23	20
Ni (PPM)	9	26	18	14	9	10	17	4
Pb (PPM)	<10	10	<10	17	7	19	<10	12
Rb (PPM)	251	241	206	224	204	222	238	202
Sr (PPM)	26	170	341	144	14	156	234	28
Th (PPM)	22	18	15	23	26	27	21	32
U (PPM)	5	9	2	4	5	5	8	4
Y (PPM)	16	45	21	20	8	13	47	16
Zn (PPM)	9	19	20	19	18	12	27	12
Zr (PPM)	115	144	251	250	275	239	277	222

Table 3

Locality, present study	Pryhorodok-107	Pid-haytsi-1	Zava-divka-6	Vilho-vets-6	Kishin-jov-1	Zava-divka-6	Kishin-jov-1	Pid-haytsi-1
Depth, m	exp.	1148.3	1281.5	183.0	553.5	1289.3	560.5	1188.0
Series	Rukshyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Ruk-shyn	Rukshyn
ID field	C6	C4?	C6?	C4	C6	C5?	C4	?
ID new	C6	?	C5	C4	C3?	?	?	C1?
LOI_920°C	4.76	4.45	4.83	4.71	4.71	4.76	4.26	6.89
SiO_2 (%)	58.0	54.4	59.3	56.8	57.1	60.9	57.3	51.1

TiO_2 (%)	0.356	0.559	0.296	0.272	0.194	0.274	0.344	0.301
Al_2O_3 (%)	21.8	22.7	21.6	19.2	20.3	20.3	21.8	21.7
Fe_2O_3 (%)	0.86	2.76	2.05	1.73	0.90	1.94	1.92	1.96
MnO (%)	0.002	0.024	0.007	0.009	0.003	0.009	0.014	0.010
MgO (%)	4.95	5.17	4.08	6.46	6.20	3.84	5.39	5.05
CaO (%)	0.48	0.23	0.54	0.33	0.24	0.96	0.32	3.13
K_2O (%)	9.25	8.07	6.85	8.29	8.85	6.40	8.94	7.51
P_2O_5 (%)	0.09	0.13	0.06	0.14	0.03	0.06	0.08	0.06
S (%)	0.01	0.20	0.20	0.05	0.12	0.19	0.25	0.44
As (PPM)	5	5	5	2	5	4	5	8
Ba (PPM)	113	441	315	234	54	268	256	190
Br (PPM)	<3	<3	13	<3	<3	15	<3	<3
Ce (PPM)	24	40	31	31	<15	20	27	15
Ga (PPM)	23	22	27	18	21	25	17	20
La (PPM)	41	<15	42	23	19	30	26	13
Nb (PPM)	21	23	29	16	25	29	19	25
Ni (PPM)	13	20	22	7	13	21	15	20
Pb (PPM)	11	13	8	<10	<10	<10	<10	24
Rb (PPM)	194	217	226	222	191	205	192	212
Sr (PPM)	31	112	164	817	232	161	101	166
Th (PPM)	31	25	17	9	20	16	22	23
U (PPM)	4	5	9	8	2	7	5	9
Y (PPM)	20	48	36	22	13	29	27	14
Zn (PPM)	13	34	24	18	12	32	21	15
Zr (PPM)	225	343	146	144	187	147	238	148

Table 4

Locality, present study	Bernove-Okopy_5	Ustya-7	Vilho-vets-6	Okopy-5	Kishin-jov-1	Pid-haytsi-1	Sokil-10	Pudliv-tsi-92
Depth, m	48.6	281.0	248.0	42.0	607.0	1252.0	exp.	exp.
Series	Maly-nivtsi	Maly-nivtsi	Maly-nivtsi	Maly-nivtsi	Maly-nivtsi	Maly-nivtsi	Maly-nivtsi	Maly-nivtsi
ID field	M9?	M5	M5	M5	M5	M5	M1	M1
ID new	M9?	M5	M5	M5	M5	M5	M1	M1
LOI_920°C	4.87	4.09	4.56	5.03	5.32	4.49	5.04	4.35
SiO_2 (%)	56.6	60.0	57.1	56.5	57.3	62.0	56.0	55.9
TiO_2 (%)	0.339	0.202	0.259	0.229	0.219	0.262	0.413	0.434
Al_2O_3 (%)	19.9	16.5	19.7	20.2	17.6	17.6	21.3	21.9
Fe_2O_3 (%)	1.87	1.76	1.68	1.75	1.56	1.80	1.42	2.66
MnO (%)	0.006	0.005	0.005	0.005	0.005	0.006	0.002	0.004
MgO (%)	5.63	6.47	6.26	6.04	6.94	4.84	5.82	4.33
CaO (%)	0.47	0.67	0.33	0.46	0.75	0.71	0.33	0.36
K_2O (%)	8.62	9.17	8.71	8.56	8.66	7.36	8.29	9.24
P_2O_5 (%)	0.22	0.35	0.14	0.25	0.22	0.24	0.09	0.09
S (%)	0.05	0.08	0.16	0.06	0.15	0.01	0.03	<0.01
As (PPM)	2	9	4	2	7	4	5	3
Ba (PPM)	212	185	156	157	129	247	60	161
Br (PPM)	<3	<3	2	<3	4	<3	<3	<3

Ce (PPM)	34	22	29	49	29	30	57	<15
Ga (PPM)	21	19	23	24	19	17	21	15
La (PPM)	25	40	21	<15	54	24	39	15
Nb (PPM)	33	25	31	28	26	27	25	24
Ni (PPM)	13	8	7	3	7	8	3	18
Pb (PPM)	<10	<10	8	<10	<10	8	9	<10
Rb (PPM)	225	238	215	234	218	222	213	179
Sr (PPM)	98	47	32	90	74	106	22	21
Th (PPM)	16	14	16	11	14	19	44	42
U (PPM)	6	8	6	5	11	6	9	7
Y (PPM)	43	43	32	29	39	55	19	24
Zn (PPM)	15	16	12	11	19	26	13	12
Zr (PPM)	256	155	200	149	152	185	288	296