

# 19. Sediment

Powders

19.5.1 Sediments																
	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	FeO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	MnO	S	C	H <sub>2</sub> O	L.O.I. 1000°C	
195 CG 07302	69.91	15.72	1.90	0.56	0.21	0.25	3.03	5.20	0.23	0.045	0.031	0.0089	0.39	2.58	...	
195 CG 07303	71.29	12.04	6.54	0.72	0.68	0.22	0.32	2.46	1.06	0.142	0.052	0.0192	0.58	4.1	...	
195 CG 07304	52.59	15.69	5.91	0.91	1.02	7.54	0.30	2.23	0.89	0.106	0.107	0.0354	1.05	6.6	...	
195 CG 07305	56.44	15.37	5.84	0.94	0.98	5.34	0.39	2.11	0.90	0.142	0.150	0.0410	1.30	6.7	...	
195 CG 07306	61.24	14.16	5.88	1.58	3.00	3.90	2.30	2.43	0.77	0.230	0.125	0.0784	0.36	3.49	...	
195 CG 07307	64.70	13.41	6.51	1.50	3.08	1.67	1.21	3.54	0.75	0.185	0.089	0.019	0.63	3.6	...	
195 CG 07308	82.89	7.70	2.20	0.53	0.25	0.24	0.47	2.84	0.61	0.032	0.043	0.008	0.33	2.22	...	continued
195 CG 07309	64.89	10.58	4.86	1.53	2.39	5.35	1.44	1.99	0.92	0.151	0.080	0.015	0.46	2.93	7.21	
195 CG 07310	88.89	2.84	3.86	0.26	0.12	0.70	0.039	0.125	0.21	0.061	0.130	0.009	0.40	2.1	2.88	
195 CG 07311	76.25	10.37	4.39	0.35	0.62	0.47	0.46	3.28	0.35	0.057	0.321	0.017	0.24	2.67	3.02	
195 CG 07312	77.29	9.30	4.88	1.19	0.47	1.16	0.44	2.91	0.25	0.053	0.181	0.094	0.40	2.15	2.62	
195 CG 07313	53.88	13.75	6.58	0.29	3.38	1.71	4.81	2.95	0.67	0.45	0.43	...	0.25	5.39	9.93	
195 CG 07315	51.10	11.41	5.93	0.30	3.02	5.74	4.43	2.32	0.61	0.48	0.59	0.25	0.30	5.80	13.0	
195 CG 07316	31.60	7.70	3.81	0.23	2.04	22.6	3.76	1.61	0.39	0.33	0.40	0.20	0.26	4.00	25.8	
195 CG 08301	...	...	...	...	...	...	...	...	...	...	0.126	...	...	...	...	continued
195 S JLK-1	57.16	16.73	4.251	2.191	1.736	0.686	1.051	2.805	0.668	0.208	0.266	0.1052	1.503	6.372	...	
195 S JSd-1	66.55	14.65	3.526	1.363	1.813	3.034	2.727	2.183	0.643	0.122	0.0924	0.0068	0.111	2.301	...	
195 S JSd-2	60.78	12.31	4.552	5.955	2.731	3.658	2.438	1.145	0.614	0.105	0.120	1.310	0.316	2.554	...	continued
195 S JMS-1	53.74	15.82	4.54	2.12	2.87	2.13	4.07	2.24	0.70	0.18	0.102	1.32	1.69	6.79	...	
195 S JMS-2	41.78	14.18	10.96	<0.04	3.24	4.68	5.79	2.70	1.40	1.26	2.26	0.29	0.39	7.13	...	
CRM 195 B 1646a	85.71	4.339	2.870	...	0.647	0.727	0.999	1.041	0.773	0.063	0.030	0.3520	...	...	...	
CRM 195 B 1944	(66)	10.07	5.04	...	...	...	...	...	...	...	0.065	...	...	...	...	continued
CRM 195 B 8704	...	11.52	5.67	...	2.000	3.697	0.745	2.411	0.723	...	0.070	...	...	...	...	
<b>Continuation</b>																
<b>All Elements ppm</b>																
from above	Ag	As	Ba	Cd	Ce	Co	Cr	Cs	Cu	Ga	Hg	Ni	Pb	Rb	Sb	
195 CG 07302	0.066	6.2	185	0.065	192	2.6	12	16.6	4.9	27.4	0.04	5.5	32	470	0.46	
195 CG 07303	0.59	18	615	0.10	64	11.7	87	7.8	177	15.9	0.05	26	40	79	5.4	
195 CG 07304	0.084	19.7	470	0.19	78	18	81	10	37	20.5	0.044	40	30	130	1.84	
195 CG 07305	0.36	75	440	0.82	89	18.9	70	9.4	137	20.3	0.100	34	112	118	3.9	
195 CG 07306	0.36	13.6	330	0.43	68	24.4	190	9.1	383	16.7	0.045	78	27	107	1.25	
195 CG 07307	1.05	84	720	1.05	78	21	122	5.9	38	17.7	0.053	53	350	147	2.6	
195 CG 07308	0.062	2.4	480	0.081	54	3.6	7.6	3.6	4.1	10.8	0.042	2.7	21	132	0.24	continued
195 CG 07309	0.089	8.4	430	0.26	78	14.4	85	5.1	32	14.0	0.083	32	23	80	0.81	
195 CG 07310	0.27	25	42	1.12	38	15.3	136	2.3	22.6	6.4	0.230	30	27	9.2	6.3	
195 CG 07311	3.2	188	260	2.3	58	8.5	40	17.4	79	18.5	0.072	14.3	636	408	14.9	
195 CG 07312	1.15	115	206	4.0	61	8.8	35	7.9	1230	14.1	0.056	12.8	285	270	24	
195 CG 07313	...	5.8	0.44	...	92	76.7	58.4	9.4	424	23.7	...	150	29.3	97.3	1.85	
195 CG 07315	...	7.1	0.31	0.25	82	81	59	6.8	357	18	0.95	167	37	73	2.0	
195 CG 07316	...	4.6	0.25	0.30	55	53	38	4.5	231	12	0.13	108	22	50	1.3	
195 CG 08301	...	56	375	2.45	...	16.5	90	...	53	...	0.22	32	79	...	...	continued
195 S JLK-1	0.198	26.8	574	0.572	87.9	18.0	69.0	10.9	62.9	21.4	0.142	35.0	43.7	147	1.68	
195 S JSd-1	0.036	2.42	520	0.146	34.4	11.2	21.5	1.89	22.0	17.2	0.0155	7.04	12.9	67.4	...	
195 S JSd-2	1.04	38.6	1199	3.06	23.4	48.4	108	1.07	1117	15.3	0.106	92.8	146	26.9	12.5	continued
195 S JMS-1	...	18	307	...	...	18.1	133	5.9	88	...	...	53	49	88	1.4	
195 S JMS-2	...	35	1856	...	...	226	78	3.0	447	...	...	311	88	65	4.5	
195 B 1646a	<0.3	6.23	(210)	0.148	(34)	(5)	40.9	...	10.01	(5)	(0.04)	(23)	11.7	(38)	(0.3)	
195 B 1944	(6.4)	18.9	...	8.8	...	...	266	...	(380)	...	...	76.1	330	...	...	continued
195 B 8704	...	(17)	413	2.94	66.5	13.57	121.9	5.83	...	...	...	42.9	150	...	3.07	
<b>Continuation</b>																
<b>All Elements ppm</b>																
from above	Sc	Se	Sn	Sr	Th	Tl	U	V	Y	Zn	Zr	Others	Type	Size		
195 CG 07302	4.4	0.2	29	28	70	1.9	17	16.5	67	44	460	many	Stream	70g		
195 CG 07303	14.3	1.0	3.4	90	9.2	0.58	1.9	120	22	52	220	many	Stream	70g		
195 CG 07304	15.4	0.29	4.0	142	14.6	1.2	2.6	118	26	101	188	many	Stream	70g		
195 CG 07305	14.5	0.40	4.6	204	15.2	1.16	2.6	109	26	243	220	many	Stream	70g		
195 CG 07306	17	0.30	2.8	266	9.0	1.08	2.4	142	20	144	170	many	Stream	70g		
195 CG 07307	14.6	0.30	5.4	220	12.6	0.93	3.5	96	24	238	162	many	Stream	70g		
195 CG 07308	5.7	0.11	9.4	52	13.4	0.78	3.0	26	18	43	490	many	Stream	70g		
195 CG 07309	11.1	0.16	2.6	166	12.4	0.49	2.6	97	27	78	370	many	Stream	70g		
195 CG 07310	4.1	0.28	1.4	25	5.0	0.21	2.1	107	14	46	70	many	Stream	70g		
195 CG 07311	7.4	0.20	370	29	23.3	2.9	9.1	47	4.3	373	153	many	Stream	70g		
195 CG 07312	5.1	0.25	54	24	21.4	1.76	7.8	47	29	498	234	many	Stream	70g		
195 CG 07313	25.6	...	...	267	13.9	...	1.98	112	104	160	177	many	Marine	50g		
195 CG 07315	23	...	...	298	11	...	1.9	101	98	137	140	many	Marine	50g		
195 CG 07316	15	...	...	667	7.0	...	1.1	69	69	142	94	many	Marine	50g		
195 CG 08301	...	0.39	...	...	...	...	...	96	...	251	...	...	River	50g		
195 S JLK-1	15.9	0.641	5.7	67.5	1.23	1.17	3.83	117	40.0	152	137	many	Lake	100g		
195 S JSd-1	10.9	0.25	2.77	340	4.44	0.407	1.00	76.0	14.8	96.5	132	many	Stream	20g		
195 S JSd-2	17.5	18.8	32.5	202	2.33	...	1.10	125	17.4	2056	111	many	Stream	20g		
195 S JMS-1	...	...	...	154	...	...	...	127	24.3	264	132	...	Marine	100g		
195 S JMS-2	...	...	...	454	...	...	...	183	254	166	220	...	Marine	100g		
195 B 1646a	(5)	0.193	(1)	(68)	(5.8)	<0.5	(2.0)	44.84	...	48.9	...	...	Estuarine	70g		
195 B 1944	...	(1.4)	(42)	...	...	(0.59)	...	...	...	...	...	plus PAHs, PCBs	New York	50g		
195 B 8704	11.26	...	...	...	9.07	...	3.09	94.6	...	408	...	...	Buffalo River	50g		

# 19. Sediment / Sludge

Powders

19.5.1 Sediments (continued)		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	FeO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	MnO	S	C	H <sub>2</sub> O	L.O.I. 1000°C		
CRM	195 A SA 46	35.9	6.71	28.16	(18.0)	3.16	1.32	0.28	0.35	0.6	0.11	1.14	(0.17)	...	...	...		
CRM	195 A SA 51	33.81	11.87	18.36	(3.0)	0.92	0.86	0.07	0.33	0.82	0.21	0.21	(0.24)	...	...	...	continued	
CRM	195 A SA 52	57.81	9.38	19.71	(4.0)	0.6	0.37	(0.1)	0.25	1.3	0.09	0.27	(0.02)	...	...	...		
	195 A LKSD-1	40.1	7.8	4.1	...	1.7	10.8	2.0	1.1	0.5	0.2	0.1	1.57	12.3	2.92	29.9		
	195 A LKSD-2	58.9	12.3	6.2	...	1.7	2.2	1.9	2.6	0.6	0.3	0.3	0.14	4.5	2.23	13.6		
	195 A LKSD-3	58.5	12.5	5.7	...	2.0	2.3	2.3	2.2	0.5	0.2	0.2	0.14	4.5	2.07	13.4		
	195 A LKSD-4	41.6	5.9	4.1	...	0.9	1.8	0.7	0.8	0.4	0.3	0.1	0.99	17.7	6.55	43.6	continued	
	195 A STSD-1	42.5	9.0	6.5	...	2.2	3.6	1.8	1.2	0.8	0.4	0.5	0.18	12.3	4.46	31.6		
	195 A STSD-2	53.7	16.1	7.5	...	3.1	4.0	1.7	2.1	0.8	0.3	0.1	0.06	1.6	2.43	10.3		
	195 A STSD-3	48.6	10.9	6.2	...	2.2	3.3	1.5	1.8	0.7	0.4	0.3	0.14	8.4	3.47	23.6		
	195 A STSD-4	58.9	12.1	5.7	...	2.1	4.0	2.7	1.6	0.8	0.2	0.2	0.09	4.1	1.73	11.6		
Continuation from above		All Elements ppm																
		Ag	As	Ba	Ce	Co	Cr	Cs	Cu	Ga	Ni	Pb	Rb	Sb				
	195 SA 46	...	...	(180)	(110)	56	559	...	566	...	(125)	(1.3)	(20)	...				
	195 SA 51	...	...	(335)	(120)	60	509	...	268	(20)	178	5200	37	...		continued		
	195 SA 52	...	...	(410)	(210)	81	1300	...	219	(15)	182	1200	20	...				
	195 A LKSD-1	0.6	40	430	27	11	31	1.5	44	...	16	82	24	1.2				
	195 A LKSD-2	0.8	11	780	108	17	57	3.0	37	...	26	44	85	1.1				
	195 A LKSD-3	2.7	27	680	90	30	87	2.3	35	...	47	29	78	1.3				
	195 A LKSD-4	<0.5	16	330	48	11	33	17	31	...	31	91	28	1.7		continued		
	195 A STSD-1	<0.5	23	630	51	17	67	1.8	36	...	24	35	30	3.3				
	195 A STSD-2	0.5	42	540	93	19	116	12	47	...	53	66	104	4.8				
	195 A STSD-3	<0.5	28	1490	63	16	80	5.2	39	...	30	40	68	4.0				
	195 A STSD-4	<0.5	15	2000	44	13	93	1.9	65	...	30	16	39	7.3				
Continuation from above		All Elements ppm														Type	Size	
		Sc	Se	Sn	Sr	Th	U	V	Y	Zn	Zr	Others						
	195 SA 46	...	...	...	25	...	...	225	(20)	5900	101			Stream	100g			
	195 SA 51	...	...	...	44	(10)	...	1.81	21	2200	121			Stream	100g			
	195 SA 52	...	...	...	25	(11)	...	346	20	264	250			Stream	100g			
	195 A LKSD-1	9	...	16	250	2.2	9.7	50	19	331	134	many		Lake	100g			
	195 A LKSD-2	13	...	5	220	13.4	7.6	77	44	209	254	many		Lake	100g			
	195 A LKSD-3	13	...	3	240	11.4	4.6	82	30	152	178	many		Lake	100g			
	195 A LKSD-4	7	...	5	110	5.1	31.0	49	23	194	105	many		Lake	100g			
	195 A STSD-1	14	...	4	170	3.7	8.0	98	42	198	218	many		Stream	100g			
	195 A STSD-2	16	...	5	400	17.2	18.6	101	37	246	185	many		Stream	100g			
	195 A STSD-3	13	...	4	230	5.5	10.5	134	36	204	196	many		Stream	100g			
	195 A STSD-4	14	...	2	350	4.3	3.0	106	24	107	190	many		Stream	100g			
19.5.2 Sludges		% Ca	% Fe	% P	% Si	ppm As	ppm Cd	ppm Cu	ppm Pb	ppm Hg	ppm Mo	ppm Ni	ppm Se	ppm Zn	ppm Cr	ppm Ag	Type	Size
CRM	195 B 2781	(3.9)	(2.8)	(2.42)	(5.1)	7.82	12.78	627.4	202.1	3.64	46.7	80.2	16.0	1273	(202)	(98)	Domestic	40g
CRM	195 B 2782	0.67	26.9	0.50	(20.3)	166	4.17	2594	574	1.10	10.07	154.1	0.44	1254	109	30.6	Industrial	70g