Table 32-1. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Cape May region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NCA10-1625/BBC/SJ10	1	10/23/2013	1124	< 10	--	199	28	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	21	1	<75	--
BBE/SJ13	2	8/13/2013	1130	<10	--	354	37	39	10	35	11	<25	--	<10	--	<10	--	51	20	12	4	23	1	<75	--
BBG/SJ11	3	8/13/2013	1400	<10	--	404	36	<15	--	21	10	<25	--	10	5	<10	--	42	19	12	4	24	1	<75	--
BBH/SJ12	4	8/13/2013	1530	20	6	188	25	55	12	36	11	<25	--	<10	--	<10	--	55	21	25	5	41	2	<75	--
BBM/SJ9	5	8/13/2013	0900	12	5	332	35	<15	--	25	10	<25	--	<10	--	<10	--	35	19	11	4	25	1	<75	--

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[1]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NCA10-1625/BBC/SJ10	1	10/23/2013	1124	<20	--	156	3	<5	--	30	13	<45	--	21	6	96	3	653,000	1,520
BBE/SJ13	2	8/13/2013	1130	<20	--	270	5	13	6	65	19	<45	--	43	7	547	7	654,000	1,510
BBG/SJ11	3	8/13/2013	1400	<20	--	255	5	12	5	47	18	79	33	28	6	270	5	663,000	1,600
BBH/SJ12	4	8/13/2013	1530	<20	--	217	5	6	3	94	24	57	36	87	9	341	6	665,000	1,610
BBM/SJ9	5	8/13/2013	0900	<20	--	223	5	13	6	69	20	<45	--	34	7	365	6	611,000	1,610

[1]The balance value represents a concentration for elements not measured by the instrument.

Table 32-2. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Atlantic City region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NCA10-1616/BBA/SJ7	6	8/12/2013	1930	<10	--	315	34	<15	--	20	10	<25	--	<10	--	<10	--	42	19	17	4	26	1	<75	--
NCA10-1616/BBA/SJ7[1]	6	10/24/2013	0958	<10	--	233	29	<15	--	21	10	<25	--	<10	--	15	3	<40	--	13	4	20	1	<75	--
NCA10-1623/BBB/SJ6	7	10/24/2013	1158	26	7	140	31	108	16	42	12	<25	--	<10	--	<10	--	<40	--	55	6	57	2	75	41
BBL/SJ8	8	8/12/2013	1830	<10	--	215	24	<15	--	27	10	<25	--	<10	--	<10	--	<40	--	17	4	27	1	<75	--
NCA10-1615	15	10/22/2013	1100	51	7	187	33	100	19	38	12	<25	--	<10	--	<10	--	<40	--	48	6	58	2	82	39

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NCA10-1616/BBA/SJ7	6	8/12/2013	1930	<20	--	214	5	<5	--	69	21	<45	--	44	7	411	6	661,000	1,630
NCA10-1616/BBA/SJ7[1]	6	10/24/2013	0958	<20	--	151	3	15	5	33	15	46	30	25	6	790	8	649,000	1,540
NCA10-1623/BBB/SJ6	7	10/24/2013	1158	<20	--	149	3	11	3	105	30	<45	--	160	11	125	3	619,000	1,720
BBL/SJ8	8	8/12/2013	1830	<20	--	251	5	13	6	69	19	68	35	42	7	391	6	617,000	1,900
NCA10-1615	15	10/22/2013	1100	<20	--	148	3	6	3	137	34	<45	--	143	11	107	3	644,000	1,620

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-3. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Great Bay region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
BBD/SJ2	9	8/2/2013	1400	<10	--	151	22	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	14	1	<75	--
BBF/SJ1	10	8/2/2013	1545	<10	--	87	32	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	10	2	<75	--
BBI/SJ4	11	8/2/2013	1200	11	5	367	35	<15	--	22	10	<25	--	<10	--	<10	--	65	20	16	4	26	1	<75	--
BBJ/SJ3	12	8/12/2013	1300	<10	--	226	27	58	13	33	12	<25	--	<10	--	<10	--	73	22	180	10	37	2	<75	--
BBK/SJ5	13	8/12/2013	1400	12	5	407	36	<15	--	26	10	<25	--	<10	--	<10	--	40	19	<10	--	19	1	<75	--
NOAA9	14	9/13/2013	1015	11	5	128	34	30	11	24	10	<25	--	<10	--	<10	--	<40	--	15	4	16	1	<75	--

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[1]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
BBD/SJ2	9	8/2/2013	1400	<20	--	121	3	<5	--	30	13	<45	--	13	5	313	5	657,000	1,680
BBF/SJ1	10	8/2/2013	1545	<20	--	33	2	<5	--	30	13	<45	--	15	6	404	6	615,000	1,770
BBI/SJ4	11	8/2/2013	1200	<20	--	265	5	<5	--	65	19	<45	--	39	7	284	6	657,000	1,770
BBJ/SJ3	12	8/12/2013	1300	543	13	249	5	20	6	105	25	<45	--	75	9	521	8	649,000	1,750
BBK/SJ5	13	8/12/2013	1400	<20	--	262	5	<5	--	30	16	<45	--	23	6	488	7	652,000	1,700
NOAA9	14	9/13/2013	1015	<20	--	80	3	11	5	104	23	55	33	44	7	542	7	576,000	1,960

[1]The balance value represents a concentration for elements not measured by the instrument.

Table 32-4. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Barnegat Bay region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
BB01	16	7/26/2013	1230	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	12	3	<40	--	<10	--	<5	--	<75	--
BB02	17	7/31/2013	1530	<10	--	129	23	<15	--	27	10	<25	--	<10	--	10	3	49	19	20	4	21	1	<75	--
BB03	18	7/31/2013	1630	14	6	152	24	<15	--	34	11	<25	--	<10	--	<10	--	47	20	33	5	31	2	<75	--
BB05A	19	7/31/2013	1030	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	7	1	<75	--
BB06	20	7/31/2013	0930	<10	--	79	21	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	15	2	<75	--
BB07A	21	7/31/2013	1200	16	6	191	25	29	11	27	11	<25	--	<10	--	<10	--	<40	--	20	4	29	1	<75	--
BB09	22	7/30/2013	1530	<10	--	169	24	<15	--	25	10	<25	--	<10	--	<10	--	44	19	10	4	19	1	<75	--
BB10	23	7/24/2013	1100	11	5	212	34	19	10	33	10	<25	--	<10	--	<10	--	<40	--	11	4	19	1	<75	--
BB11	24	7/29/2013	1615	12	6	305	35	38	12	27	11	<25	--	<10	--	<10	--	66	20	23	4	29	1	<75	--
BB13	25	7/29/2013	1330	14	6	352	36	28	12	37	11	<25	--	<10	--	11	3	<40	--	21	5	30	2	<75	--
MANA 1	26	8/8/2013	1130	<10	--	152	25	69	13	56	12	<25	--	<10	--	<10	--	70	21	44	6	39	2	<75	--
MANA 2	27	8/8/2013	1300	13	6	140	25	127	15	92	14	<25	--	<10	--	<10	--	75	22	80	7	44	2	<75	--
NOAA10	30	9/13/2013	1230	<10	--	201	25	62	13	35	11	<25	--	<10	--	<10	--	50	20	24	5	41	2	<75	--
NOAA3	28	8/26/2013	1120	21	6	<70	--	62	15	107	14	<25	--	<10	--	15	3	<40	--	93	8	32	2	<75	--
NOAA3[1]	28	8/26/2013	1120	22	6	97	25	86	15	124	14	<25	--	<10	--	<10	--	<40	--	87	7	51	2	<75	--
NOAA4	29	8/26/2013	1400	20	6	<70	--	31	16	100	13	<25	--	<10	--	<10	--	<40	--	104	8	44	3	<75	--

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
BB01	16	7/26/2013	1230	<20	--	7	1	<5	--	29	18	<45	--	16	6	659	7	654,000	1,650
BB02	17	7/31/2013	1530	<20	--	135	4	6	2	68	18	<45	--	45	7	579	7	665,000	1,660
BB03	18	7/31/2013	1630	<20	--	164	4	9	5	76	20	<45	--	111	9	305	6	719,000	1,450
BB05A	19	7/31/2013	1030	<20	--	21	2	<5	--	20	11	<45	--	10	5	173	4	668,000	1,620
BB06	20	7/31/2013	0930	<20	--	42	2	<5	--	17	11	<45	--	<10	--	213	4	663,000	1,650
BB07A	21	7/31/2013	1200	<20	--	190	4	7	3	83	22	<45	--	58	8	652	8	654,000	1,750
BB09	22	7/30/2013	1530	<20	--	147	4	12	6	45	18	65	35	33	7	553	7	658,000	1,740
BB10	23	7/24/2013	1100	<20	--	162	4	9	5	61	22	<45	--	29	6	388	6	682,000	1,630
BB11	24	7/29/2013	1615	<20	--	196	4	5	2	94	23	<45	--	65	8	322	6	663,000	1,720
BB13	25	7/29/2013	1330	<20	--	256	5	8	3	92	25	<45	--	63	8	872	9	650,000	1,820
MANA 1	26	8/8/2013	1130	<20	--	159	4	11	3	123	25	43	25	144	11	415	7	638,000	1,830
MANA 2	27	8/8/2013	1300	<20	--	137	4	10	3	130	28	<45	--	254	14	283	6	644,000	1,830
NOAA10	30	9/13/2013	1230	<20	--	227	5	9	3	97	24	<45	--	85	9	408	6	551,000	1,990
NOAA3	28	8/26/2013	1120	<20	--	106	4	7	3	151	33	<45	--	322	15	693	8	637,000	1,590
NOAA3[1]	28	8/26/2013	1120	<20	--	159	4	9	3	113	28	51	25	293	15	284	6	561,000	2,330
NOAA4	29	8/26/2013	1400	<20	--	106	3	<5	--	103	33	40	23	190	12	356	6	598,000	2,100

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-5. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Northeast New Jersey shore region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NAV1	31	8/6/2013	1400	11	5	166	34	<15	--	<20	--	<25	--	<10	--	<10	--	44	19	14	4	15	1	<75	--
NAV2	32	8/6/2013	1100	62	13	145	30	<15	--	118	18	<25	--	12	7	<10	--	73	35	137	10	45	2	<75	--
NOAA 1	33	8/6/2013	1200	46	12	144	28	107	18	123	16	<25	--	<10	--	<10	--	78	25	129	9	62	2	<75	--
NOAA2	34	8/15/2013	1300	13	5	178	36	<15	--	23	10	29	9	<10	--	<10	--	51	20	10	4	19	1	<75	--
NOAA2[1]	34	8/15/2013	1300	17	5	263	37	<15	--	<20	--	37	9	<10	--	<10	--	58	20	10	4	25	1	<75	--
SHARK 1	35	8/15/2013	1315	12	6	165	26	117	15	78	13	<25	--	<10	--	<10	--	69	22	92	8	53	2	<75	--
SHARK 1[1]	35	8/15/2013	1415	30	9	114	26	137	16	79	13	<25	--	<10	--	10	3	48	22	86	8	55	2	<75	--
SHREW 1	36	8/7/2013	1030	10	4	107	25	65	13	46	11	<25	--	<10	--	<10	--	<40	--	46	6	29	1	<75	--
SHREW 2	37	8/7/2013	1200	<10	--	86	33	25	11	32	10	<25	--	<10	--	<10	--	<40	--	44	5	33	2	<75	--

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NAV1	31	8/6/2013	1400	<20	--	100	3	<5	--	41	16	<45	--	46	7	76	3	628,000	1,760
NAV2	32	8/6/2013	1100	<20	--	88	3	<5	--	<20	--	<45	--	389	20	172	5	651,000	1,920
NOAA 1	33	8/6/2013	1200	21	8	133	4	7	4	152	31	<45	--	379	18	157	5	595,000	2,140
NOAA2	34	8/15/2013	1300	<20	--	21	2	<5	--	51	14	54	34	47	7	32	2	598,000	2,100
NOAA2[1]	34	8/15/2013	1300	<20	--	41	2	<5	--	48	16	<45	--	49	8	80	3	551,000	2,110
SHARK 1	35	8/15/2013	1315	<20	--	123	4	11	3	123	28	<45	--	227	13	277	5	650,000	1,770
SHARK 1[1]	35	8/15/2013	1415	<20	--	126	4	12	3	126	28	<45	--	223	13	319	6	659,000	1,650
SHREW 1	36	8/7/2013	1030	<20	--	97	3	<5	--	99	22	48	24	166	11	198	5	653,000	1,760
SHREW 2	37	8/7/2013	1200	<20	--	52	2	<5	--	49	17	62	34	112	9	88	3	668,000	1,630

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-6. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Lower Harbor/Raritan Bay region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
RB401	38	7/30/2013	1013	<10	--	159	37	<15	--	33	11	<25	--	<10	--	<10	--	48	20	15	4	11	1	<75	--
RB402	39	7/18/2013	0918	11	6	97	29	25	12	25	10	<25	--	<10	--	<10	--	40	19	32	5	19	1	<75	--
RB404	41	7/25/2013	1120	28	9	173	31	138	18	103	13	<25	--	<10	--	<10	--	47	21	112	7	57	2	<75	--
RB403	42	8/9/2013	1155	20	6	118	26	96	16	96	13	<25	--	<10	--	<10	--	52	21	96	8	54	2	<75	--
RB405	42	8/7/2013	1315	12	5	<70	--	<15	--	24	10	<25	--	<10	--	<10	--	37	19	13	4	21	2	<75	--
RB406	43	7/29/2013	1110	<10	--	100	23	<15	--	31	10	<25	--	<10	--	<10	--	41	18	12	4	15	1	<75	--
RB407	44	7/30/2013	1405	10	5	121	27	<15	--	23	10	<25	--	<10	--	<10	--	41	19	15	4	17	1	<75	--
RB408	45	7/26/2013	1130	<10	--	194	48	81	14	86	14	<25	--	<10	--	<10	--	86	23	69	6	32	2	<75	--
RB409	46	7/18/2013	1230	<10	--	228	35	65	11	19	10	<25	--	<10	--	<10	--	47	19	34	5	27	2	<75	--
RB410	47	7/31/2013	1257	13	5	131	25	111	15	80	13	<25	--	<10	--	<10	--	75	21	83	7	48	2	<75	--
RB411	48	8/7/2013	1135	13	6	96	24	<15	--	31	11	<25	--	<10	--	<10	--	54	21	23	5	23	2	<75	--
RB413	49	7/22/2013	1025	<10	--	109	23	<15	--	<20	--	<25	--	<10	--	<10	--	40	18	18	4	14	1	<75	--
RB414	50	7/17/2013	1205	11	5	254	34	22	9	29	10	27	8	<10	--	<10	--	45	18	19	4	13	1	<75	--
RB416	51	8/1/2013	1000	16	6	201	26	140	16	113	14	<25	--	<10	--	<10	--	69	22	111	8	60	2	<75	--
RB450	52	7/31/2013	1020	<10	--	158	32	<15	--	14	9	<25	--	<10	--	<10	--	<40	--	<10	--	19	2	<75	--
RB451	53	7/19/2013	0938	<10	--	206	34	<15	--	25	10	<25	--	<10	--	<10	--	<40	--	13	4	26	2	<75	--
RB453	54	8/9/2013	1045	16	7	136	26	136	17	119	15	<25	--	<10	--	<10	--	56	22	121	9	61	2	<75	--
RB454	55	8/1/2013	1230	14	6	168	26	122	16	106	14	<25	--	<10	--	<10	--	75	22	106	8	54	2	86	45
RB455	56	7/31/2013	1122	<10	--	192	33	<15	--	22	10	<25	--	<10	--	<10	--	41	18	20	4	13	1	<75	--
RB456	57	8/6/2013	1100	<10	--	128	25	40	13	37	11	<25	--	<10	--	<10	--	44	21	46	6	19	1	<75	--
RB457	58	7/17/2013	1005	<10	--	249	34	<15	--	<20	--	<25	--	<10	--	<10	--	51	19	10	3	15	1	<75	--
RB458	59	7/31/2013	0928	<10	--	183	32	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	21	2	<75	--
RB460	60	8/1/2013	1105	<10	--	95	31	<15	--	16	9	<25	--	<10	--	<10	--	<40	--	19	4	12	2	<75	--
RB461	61	7/30/2013	1203	<10	--	181	33	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	17	2	<75	--
RB462	62	9/25/2013	1220	11	4	175	39	<15	--	24	10	27	10	<10	--	<10	--	<40	--	10	4	12	1	<75	--
RB462[1]	62	9/25/2013	1235	10	4	159	38	32	12	<20	--	<25	--	<10	--	<10	--	57	19	11	3	13	1	<75	--
RB463	63	7/19/2013	1113	<10	--	124	24	76	14	53	12	<25	--	<10	--	<10	--	58	20	71	7	35	2	<75	--
RB464	64	7/29/2013	1330	<10	--	237	38	<15	--	32	11	<25	--	<10	--	<10	--	71	20	23	4	17	1	<75	--
RB465	65	8/6/2013	1259	<10	--	59	22	<15	--	27	10	<25	--	<10	--	<10	--	29	18	13	3	13	2	<75	--

Table 32-6. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Lower Harbor/Raritan Bay region. —Continued

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
RB401	38	7/30/2013	1013	<20	--	397	6	<5	--	49	16	71	35	38	7	127	4	651,000	1,770
RB402	39	7/18/2013	0918	<20	--	124	3	5	2	63	21	60	33	139	10	95	3	637,000	1,850
RB404	41	7/25/2013	1120	<20	--	109	3	12	3	122	33	<45	--	248	13	184	4	640,000	1,740
RB403	42	8/9/2013	1155	<20	--	103	3	9	3	139	29	<45	--	275	14	200	5	603,000	1,980
RB405	42	8/7/2013	1315	<20	--	69	3	5	2	49	21	59	35	65	8	411	6	643,000	1,510
RB406	43	7/29/2013	1110	<20	--	173	4	<5	--	38	14	60	33	24	6	152	4	641,000	1,500
RB407	44	7/30/2013	1405	<20	--	113	3	5	2	29	17	<45	--	41	7	120	3	673,000	1,670
RB408	45	7/26/2013	1130	<20	--	664	8	15	6	73	25	<45	--	189	13	164	4	625,000	1,860
RB409	46	7/18/2013	1230	<20	--	42	2	<5	--	66	15	54	35	95	9	117	4	612,000	1,770
RB410	47	7/31/2013	1257	<20	--	149	4	9	3	99	28	<45	--	213	13	222	5	624,000	1,780
RB411	48	8/7/2013	1135	<20	--	145	4	<5	--	80	29	<45	--	93	9	1,018	10	691,000	1,550
RB413	49	7/22/2013	1025	<20	--	82	3	7	2	52	18	<45	--	28	6	372	6	625,000	1,990
RB414	50	7/17/2013	1205	<20	--	45	2	<5	--	44	14	<45	--	52	7	64	3	676,000	1,630
RB416	51	8/1/2013	1000	<20	--	135	4	11	3	125	30	95	40	247	14	226	5	663,000	1,470
RB450	52	7/31/2013	1020	<20	--	39	2	<5	--	<20	15	<45	--	14	5	42	2	647,000	1,690
RB451	53	7/19/2013	0938	<20	--	62	2	<5	--	<20	18	53	32	59	7	72	3	648,000	1,550
RB453	54	8/9/2013	1045	<20	--	115	4	13	3	137	31	55	26	305	15	215	5	642,000	1,800
RB454	55	8/1/2013	1230	<20	--	184	4	14	3	140	30	71	40	232	13	241	5	616,000	1,690
RB455	56	7/31/2013	1122	<20	--	96	3	<5	--	35	14	73	34	73	8	137	4	660,000	1,680
RB456	57	8/6/2013	1100	<20	--	136	4	<5	--	107	23	104	39	152	11	218	5	657,000	1,630
RB457	58	7/17/2013	1005	<20	--	125	3	<5	--	40	14	<45	--	20	6	64	3	651,000	1,530
RB458	59	7/31/2013	0928	<20	--	38	2	<5	--	31	11	61	31	12	5	42	2	581,000	1,890
RB460	60	8/1/2013	1105	<20	--	19	2	<5	--	43	10	<45	--	61	7	30	2	662,000	1,640
RB461	61	7/30/2013	1203	<20	--	63	3	<5	--	<20	18	<45	31	15	5	65	3	651,000	1,740
RB462	62	9/25/2013	1220	<20	--	111	3	<5	--	52	17	47	31	47	7	125	3	648,000	1,770
RB462[1]	62	9/25/2013	1235	<20	--	88	2	<5	--	52	20	46	29	41	7	76	2	630,000	1,830
RB463	63	7/19/2013	1113	<20	--	139	4	8	3	114	26	<45	--	156	11	302	6	667,000	1,640
RB464	64	7/29/2013	1330	<20	--	288	5	<5	--	44	18	74	35	37	7	147	4	649,000	1,680
RB465	65	8/6/2013	1259	<20	--	31	2	<5	--	33	12	67	33	50	7	76	3	636,000	1,860

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-7. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Newark Bay region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NB401	66	8/16/2013	1050	26	9	187	32	99	16	94	13	<25	--	<10	--	<10	--	62	21	104	7	53	2	<75	--
NB405	67	7/16/2013	1040	<10	--	156	24	84	13	116	14	<25	--	<10	--	12	3	69	21	200	10	26	1	<75	--
NB406	68	7/6/2013	1015	<10	--	138	32	<15	--	28	10	<25	--	<10	--	<10	--	<40	--	18	4	15	1	<75	--
NB409	69	8/15/2013	1324	19	7	210	32	158	18	184	16	<25	--	<10	--	<10	--	47	21	173	9	60	2	<75	--
NB410	70	8/14/2013	1048	27	7	170	26	159	16	209	17	<25	--	<10	--	<10	--	37	21	170	10	57	2	<75	--
NB412	71	8/16/2013	0950	22	9	192	31	126	17	101	14	<25	--	<10	--	<10	--	69	22	117	8	56	2	<75	--
NB413	72	7/15/2013	1230	20	7	183	26	177	17	143	15	<25	--	<10	--	<10	--	64	21	152	9	54	2	<75	--
NB414	73	8/14/2013	1215	16	7	264	31	124	18	182	15	<25	--	<10	--	<10	--	59	21	164	8	42	2	<75	--
NB416	74	7/11/2013	1125	14	6	169	32	156	18	130	14	<25	--	<10	--	<10	--	<40	--	137	8	57	2	<75	--
NB418	75	8/12/2013	0950	16	7	199	41	53	13	64	12	<25	--	<10	--	<10	--	63	20	47	5	27	1	<75	--
NB419	76	8/15/2013	1119	20	7	156	26	139	16	198	16	<25	--	<10	--	<10	--	71	22	177	10	57	2	<75	--
NB423	77	7/10/2013	1033	11	5	261	31	84	14	93	13	<25	--	<10	--	<10	--	59	20	69	6	34	1	<75	--
NB424	78	8/14/2013	1400	25	7	306	27	131	16	214	17	<25	--	<10	--	<10	--	58	22	165	10	56	2	<75	--
NB425	79	7/2/2013	1120	11	5	110	24	175	14	104	13	<25	--	<10	--	<10	--	55	20	88	7	31	1	<75	--
NB426	80	6/28/2013	1125	14	6	155	26	166	16	124	14	<25	--	<10	--	<10	--	70	22	117	8	56	2	<75	--
NB427	81	7/2/2013	0945	12	5	163	25	158	15	80	13	<25	--	<10	--	<10	--	46	20	93	7	41	2	<75	--
NB429	82	9/3/2013	1446	23	9	221	50	59	14	121	16	<25	--	<10	--	<10	--	90	24	83	7	25	2	428	130
NB430	83	9/4/2013	1430	22	7	174	31	129	17	165	15	<25	--	11	6	<10	--	61	21	138	8	49	2	<75	--
NB431	84	7/10/2013	0920	<10	--	193	31	150	17	101	14	<25	--	<10	--	<10	--	77	22	112	7	53	2	<75	--
NB450	85	9/13/2013	1035	<10	--	142	29	130	16	124	14	<25	--	<10	--	<10	--	43	20	201	9	32	1	<75	--
NB450[1]	85	9/13/2013	1035	<10	--	164	29	112	16	133	14	<25	--	<10	--	<10	--	45	20	206	9	31	1	<75	--
NB452	86	6/28/2013	1303	<10	--	143	25	167	13	83	13	<25	--	<10	--	<10	--	56	21	204	10	29	2	<75	--
NB453	87	9/4/2013	1247	14	6	84	28	36	13	40	11	<25	--	<10	--	<10	--	<40	--	30	5	25	1	<75	--
NB454	88	6/28/2013	1304	<10	--	180	24	150	14	85	13	<25	--	<10	--	<10	--	69	21	87	7	38	2	<75	--
NB455	89	8/12/2013	1145	19	6	162	24	85	13	142	14	<25	--	<10	--	<10	--	60	20	101	8	29	1	<75	--
NB457	90	9/3/2013	1235	25	8	201	31	87	17	88	13	<25	--	<10	--	<10	--	<40	--	80	7	53	2	<75	--
NB459	91	8/12/2013	1328	23	8	215	26	166	17	255	18	<25	--	<10	--	<10	--	52	21	196	10	53	2	<75	--
NB461	92	8/15/2013	1226	20	6	175	32	126	17	160	15	<25	--	<10	--	<10	--	56	21	122	8	45	2	<75	--

Table 32-7. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Newark Bay region.—Continued

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NB401	66	8/16/2013	1050	<20	--	94	3	12	3	132	31	<45	--	202	12	173	4	617,000	1,680
NB405	67	7/16/2013	1040	48	8	99	3	9	3	121	25	<45	--	419	17	733	8	678,000	1,640
NB406	68	7/6/2013	1015	<20	--	68	3	<5	--	44	14	<45	--	38	7	88	3	676,000	1,630
NB409	69	8/15/2013	1324	28	9	96	3	15	4	158	34	61	37	299	15	146	3	599,000	1,780
NB410	70	8/14/2013	1048	27	8	112	4	11	3	144	30	97	42	286	15	200	5	644,000	1,790
NB412	71	8/16/2013	0950	<20	--	99	3	11	3	104	32	<45	--	213	13	192	4	597,000	1,790
NB413	72	7/15/2013	1230	30	8	123	4	13	3	162	31	91	40	261	14	241	5	625,000	1,880
NB414	73	8/14/2013	1215	38	9	75	2	8	3	142	34	<45	--	254	13	180	4	620,000	1,700
NB416	74	7/11/2013	1125	28	9	91	2	10	3	137	33	<45	--	278	14	154	3	603,000	1,680
NB418	75	8/12/2013	0950	<20	--	116	3	<5	--	73	24	<45	--	105	9	201	4	656,000	1,540
NB419	76	8/15/2013	1119	28	8	122	4	17	5	167	31	<45	--	311	15	212	5	652,000	1,740
NB423	77	7/10/2013	1033	<20	--	106	3	10	3	104	27	<45	--	138	10	459	6	621,000	1,650
NB424	78	8/14/2013	1400	28	8	123	4	15	6	162	31	88	42	320	15	232	5	642,000	1,850
NB425	79	7/2/2013	1120	<20	--	95	3	5	3	103	24	107	38	186	12	245	5	669,000	1,650
NB426	80	6/28/2013	1125	<20	--	113	4	10	3	141	30	133	41	277	14	223	5	639,000	1,810
NB427	81	7/2/2013	0945	23	7	114	3	7	3	115	27	<45	--	217	13	440	7	643,000	1,760
NB429	82	9/3/2013	1446	<20	--	1,165	12	16	7	86	26	<45	--	236	14	113	6	542,000	2,050
NB430	83	9/4/2013	1430	33	9	71	2	8	3	128	31	<45	--	268	14	145	3	624,000	1,640
NB431	84	7/10/2013	0920	31	9	84	2	12	3	122	31	<45	--	206	12	209	4	601,000	1,790
NB450	85	9/13/2013	1035	67	9	89	2	7	3	143	30	<45	--	457	17	224	4	635,000	1,590
NB450[1]	85	9/13/2013	1035	58	9	77	2	14	5	129	29	<45	--	389	16	350	6	621,000	1,660
NB452	86	6/28/2013	1303	<20	--	268	5	9	3	105	23	62	38	142	11	417	7	620,000	1,910
NB453	87	9/4/2013	1247	<20	--	43	2	5	2	75	25	<45	--	90	9	164	3	651,000	1,550
NB454	88	6/28/2013	1304	27	7	115	3	9	3	127	26	60	36	173	11	383	6	639,000	1,790
NB455	89	8/12/2013	1145	<20	--	82	3	<5	--	103	24	61	37	176	11	174	4	677,000	1,640
NB457	90	9/3/2013	1235	<20	--	88	3	10	3	126	33	57	37	187	12	151	3	606,000	1,770
NB459	91	8/12/2013	1328	34	8	125	4	10	3	132	31	65	41	306	15	257	5	662,000	1,720
NB461	92	8/15/2013	1226	26	9	86	2	9	3	131	32	<45	--	233	13	135	3	626,000	1,660

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-8. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Upper Harbor region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NB407	93	7/15/2013	1044	<10	--	161	34	79	12	34	10	<25	--	<10	--	<10	--	83	20	34	5	21	1	<75	--
UH401	94	6/27/2013	0904	19	7	159	26	154	16	109	14	<25	--	<10	--	<10	--	56	21	128	9	64	2	<75	--
UH402	95	7/8/2013	0933	31	7	149	25	181	14	122	14	<25	--	<10	--	<10	--	57	20	135	9	39	2	<75	--
UH404	96	9/12/2013	1318	<10	--	<70	--	37	15	42	10	<25	--	<10	--	<10	--	<40	--	22	4	37	1	<75	--
UH408	97	8/29/2013	1000	23	7	127	29	73	14	66	12	<25	--	<10	--	<10	--	42	20	65	6	34	1	<75	--
UH409	98	7/18/2013	1053	10	5	199	37	111	13	52	12	<25	--	<10	--	<10	--	66	21	53	6	32	2	93	42
UH411	99	9/5/2013	1247	25	8	209	31	104	17	62	12	<25	--	<10	--	<10	--	61	21	77	6	63	2	<75	--
UH412	100	9/11/2013	1225	15	5	150	29	78	15	92	13	<25	--	<10	--	<10	--	49	20	66	6	40	2	<75	--
UH413	101	8/29/2013	1300	18	8	168	30	90	15	79	13	<25	--	<10	--	<10	--	<40	--	71	6	46	2	<75	--
UH415	102	7/3/2013	1315	13	6	137	23	89	10	26	10	<25	--	<10	--	<10	--	44	19	26	5	17	1	<75	--
UH416	103	8/29/2013	1110	19	7	183	31	84	15	53	12	<25	--	<10	--	<10	--	<40	--	61	6	44	2	<75	--
UH451	104	9/6/2013	0952	18	7	<70	--	67	15	83	12	<25	--	<10	--	<10	--	<40	--	69	6	18	1	<75	--
UH452	105	7/8/2013	1250	18	6	108	24	69	12	25	10	<25	--	<10	--	<10	--	46	19	20	4	29	1	<75	--
UH455	106	7/9/2013	1132	12	5	157	31	89	16	78	13	<25	--	<10	--	<10	--	53	21	71	6	52	2	<75	--
UH456	107	7/1/2013	0930	<10	--	126	25	147	16	86	13	<25	--	<10	--	<10	--	67	21	87	7	54	2	<75	--
UH457	108	9/5/2013	1024	<10	--	216	32	193	18	192	16	<25	--	<10	--	<10	--	<40	--	256	10	52	2	<75	--
UH459	109	9/6/2013	1042	13	5	97	26	73	16	45	10	<25	--	<10	--	<10	--	<40	--	32	4	22	1	<75	--
UH461	110	9/9/2013	1243	18	7	224	33	109	17	66	12	<25	--	<10	--	<10	--	69	21	71	6	57	2	<75	--
UH463	111	7/9/2013	1320	37	10	221	32	117	18	114	14	<25	--	<10	--	<10	--	48	21	130	8	59	2	<75	--
UH465	113	9/10/2013	1106	<10	--	153	26	107	15	79	13	<25	--	<10	--	<10	--	64	22	80	7	55	2	<75	--
UH465[1]	113	9/10/2013	1106	22	8	195	31	107	17	79	13	<25	--	<10	--	<10	--	53	21	71	6	56	2	<75	--
UH466	113	7/3/2013	1030	16	7	99	24	96	14	52	12	<25	--	<10	--	<10	--	77	21	52	6	31	2	110	53
UH468	114	7/3/2013	0900	22	8	143	24	93	14	65	12	<25	--	<10	--	<10	--	58	20	69	6	37	2	<75	--
UH469	115	9/12/2013	1110	12	5	<70	--	74	16	27	9	<25	--	<10	--	<10	--	<40	--	21	4	23	1	<75	--

Table 32-8. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Upper Harbor region.—Continued

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
NB407	93	7/15/2013	1044	<20	--	95	3	<5	--	73	21	58	33	71	8	142	4	690,000	1,530
UH401	94	6/27/2013	0904	20	7	132	4	15	3	145	30	71	40	240	13	178	5	635,000	1,840
UH402	95	7/8/2013	0933	25	7	140	4	14	3	118	24	<45	--	238	13	291	5	634,000	1,860
UH404	96	9/12/2013	1318	<20	--	86	2	12	3	165	31	<45	--	56	7	167	3	658,000	1,660
UH408	97	8/29/2013	1000	<20	--	96	3	9	3	104	28	<45	--	145	10	212	4	682,000	1,580
UH409	98	7/18/2013	1053	<20	--	185	4	8	3	107	24	<45	--	116	10	337	6	510,000	1,860
UH411	99	9/5/2013	1247	<20	--	87	2	10	3	149	33	77	35	197	12	152	3	646,000	1,730
UH412	100	9/11/2013	1225	<20	--	103	3	8	3	100	26	<45	--	143	10	117	3	646,000	1,820
UH413	101	8/29/2013	1300	<20	--	86	2	10	3	126	31	45	24	144	11	366	6	670,000	1,690
UH415	102	7/3/2013	1315	<20	--	88	3	14	5	62	16	<45	--	48	7	505	7	639,000	1,900
UH416	103	8/29/2013	1110	<20	--	141	3	9	3	109	29	51	33	142	10	201	4	648,000	1,750
UH451	104	9/6/2013	0952	<20	--	155	3	<5	--	102	27	<45	--	131	10	124	3	661,000	1,730
UH452	105	7/8/2013	1250	<20	--	113	3	5	2	68	21	<45	--	40	7	236	5	668,000	1,700
UH455	106	7/9/2013	1132	<20	--	79	2	13	3	115	32	56	34	164	11	433	7	624,000	1,860
UH456	107	7/1/2013	0930	<20	--	123	4	9	3	128	29	<45	--	184	12	286	5	627,000	1,860
UH457	108	9/5/2013	1024	93	10	87	2	11	4	143	32	72	37	344	15	211	4	645,000	1,760
UH459	109	9/6/2013	1042	<20	--	63	2	4	2	104	27	<45	--	102	9	110	3	688,000	1,370
UH461	110	9/9/2013	1243	<20	--	82	2	12	3	140	34	<45	--	181	11	182	4	643,000	1,580
UH463	111	7/9/2013	1320	30	9	89	2	12	3	167	35	<45	--	218	13	289	5	635,000	1,830
UH465	113	9/10/2013	1106	<20	--	107	3	10	3	157	31	<45	--	172	12	284	6	600,000	1,770
UH465[1]	113	9/10/2013	1106	<20	--	78	2	13	3	153	32	<45	--	177	12	290	5	593,000	1,740
UH466	113	7/3/2013	1030	<20	--	185	4	8	3	89	24	<45	--	118	10	237	5	647,000	1,560
UH468	114	7/3/2013	0900	<20	--	166	4	9	3	96	25	<45	--	119	10	187	5	630,000	1,630
UH469	115	9/12/2013	1110	<20	--	82	2	8	2	165	31	<45	--	39	6	100	3	658,000	1,720

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-9. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Jamaica Bay region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
JB401	116	8/19/2013	1042	<10	--	142	37	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	5	3	18	2	<75	--
JB403	117	8/23/2013	1210	15	6	<70	55	78	14	80	13	<25	--	<10	--	11	3	<40	--	86	7	59	2	<75	--
JB404	118	8/27/2013	1102	27	9	128	26	92	14	74	13	<25	--	<10	--	<10	--	66	22	82	7	59	2	88	43
JB405	119	8/21/2013	1115	<10	--	145	30	<15	--	28	10	<25	--	<10	--	<10	--	<40	--	26	4	22	1	<75	--
JB406	120	8/22/2013	1100	19	7	149	29	29	12	41	11	<25	--	<10	--	<10	--	<40	--	60	6	35	1	<75	--
JB407	121	8/23/2013	0955	13	6	118	25	69	14	102	14	<25	--	<10	--	11	3	41	21	107	8	46	2	<75	--
JB409	122	8/22/2013	1210	<10	--	154	29	28	12	49	11	<25	--	<10	--	<10	--	<40	--	62	6	37	1	<75	--
JB410	123	9/26/2013	0930	<10	--	251	39	<15	--	25	10	<25	--	<10	--	<10	--	<40	--	17	4	23	1	<75	--
JB415	124	8/28/2013	1152	<10	--	186	34	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	12	4	15	1	<75	--
JB416	125	8/27/2013	1300	<10	--	244	38	<15	--	30	10	<25	--	<10	--	<10	--	<40	--	32	5	27	1	<75	--
JB417	126	8/26/2013	0937	<10	--	117	23	<15	--	33	10	<25	--	<10	--	<10	--	34	19	16	4	14	1	<75	--
JB419	127	8/19/2013	1224	<10	--	79	26	45	10	<20	--	<25	--	<10	--	<10	--	<40	--	11	3	12	1	<75	--
JB422	128	8/20/2013	1108	<10	--	258	38	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	12	3	16	1	<75	--
JB423	129	8/20/2013	1305	21	8	143	30	67	14	65	12	<25	--	<10	--	<10	--	<40	--	65	6	49	2	97	42
JB454	130	8/20/2013	0950	12	5	149	27	78	12	24	10	<25	--	<10	--	<10	--	<40	--	21	4	21	1	<75	--
JB458	131	8/21/2013	0944	<10	--	115	28	<15	--	19	10	<25	--	<10	--	<10	--	<40	--	12	4	17	1	<75	--
JB459	132	8/28/2013	0916	10	5	171	33	<15	--	21	10	<25	--	<10	--	<10	--	42	18	10	3	24	2	<75	--
JB459[1]	132	8/28/2013	0916	<10	--	105	22	<15	--	<20	--	<25	--	<10	--	<10	--	47	18	16	4	12	1	<75	--
JB464	133	7/24/2013	1130	<10	--	117	23	23	11	36	11	<25	--	<10	--	<10	--	<40	--	35	5	26	1	<75	--
JB466	134	8/22/2013	0940	<10	--	105	26	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	10	3	17	2	<75	--
JB467	135	8/20/2013	1414	16	6	121	29	45	12	65	12	<25	--	<10	--	<10	--	<40	--	46	5	31	1	<75	--
JB468	136	8/19/2013	1335	<10	--	112	36	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	12	3	20	2	<75	--
JB471	137	8/26/2013	1045	<10	--	134	25	74	13	59	12	<25	--	<10	--	<10	--	<40	--	66	6	38	2	109	36
JB472	138	8/27/2013	0940	28	9	<70	--	130	16	304	18	<25	--	<10	--	26	3	40	20	298	11	48	2	<75	--
JB474	139	8/23/2013	1115	13	6	<70	--	101	15	94	13	<25	--	<10	--	<10	--	<40	--	118	7	61	2	84	40
JB480	140	8/21/2013	1350	<10	--	101	33	<15	--	16	9	<25	--	<10	--	<10	--	<40	--	<10	--	16	2	<75	--
JB481	141	9/26/2013	1107	<10	--	131	28	<15	--	19	10	<25	--	<10	--	<10	--	<40	--	15	4	15	1	<75	--
JB486	142	8/19/2013	1126	<10	--	133	34	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	15	2	<75	--
JB487	143	8/23/2013	1335	<10	--	131	31	89	15	83	13	<25	--	<10	--	14	3	<40	--	92	7	60	2	<75	--
NOAA5	144	9/4/2013	1200	15	6	249	37	37	10	35	11	<25	--	<10	--	<10	--	50	21	15	4	16	1	<75	--
NOAA6	145	9/4/2013	1240	<10	--	103	23	<15	--	<20	--	<25	--	<10	--	<10	--	41	19	16	4	14	1	<75	--

Table 32-9. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Jamaica Bay region.—Continued

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
JB401	116	8/19/2013	1042	<20	--	55	2	<5	--	23	10	<45	--	12	5	41	2	616,000	1,610
JB403	117	8/23/2013	1210	<20	--	134	4	18	3	115	25	<45	--	209	13	171	5	627,000	1,840
JB404	118	8/27/2013	1102	<20	--	165	4	12	3	144	28	41	25	182	12	254	5	627,000	1,870
JB405	119	8/21/2013	1115	<20	--	129	3	12	3	74	22	52	32	52	7	607	7	612,000	1,660
JB406	120	8/22/2013	1100	<20	--	109	3	11	3	98	25	<45	--	123	10	385	6	622,000	1,650
JB407	121	8/23/2013	0955	<20	--	131	4	12	3	87	26	<45	--	252	14	356	6	647,000	1,800
JB409	122	8/22/2013	1210	<20	--	103	3	9	3	81	24	<45	--	110	9	339	6	619,000	1,590
JB410	123	9/26/2013	0930	<20	--	93	2	5	2	55	20	<45	--	45	7	131	3	661,000	1,490
JB415	124	8/28/2013	1152	<20	--	134	4	9	2	41	16	75	34	23	6	362	6	644,000	1,690
JB416	125	8/27/2013	1300	<20	--	104	3	6	2	75	21	<45	--	71	8	184	4	634,000	1,560
JB417	126	8/26/2013	0937	<20	--	110	3	8	2	50	19	68	33	29	6	327	6	634,000	1,730
JB419	127	8/19/2013	1224	<20	--	73	2	<5	--	43	16	<45	--	20	6	92	3	637,000	1,520
JB422	128	8/20/2013	1108	<20	--	59	2	<5	--	41	13	<45	--	15	5	47	2	638,000	1,560
JB423	129	8/20/2013	1305	<20	--	118	3	16	3	110	28	<45	--	148	11	430	7	609,000	1,720
JB454	130	8/20/2013	0950	<20	--	97	2	18	5	82	23	<45	--	73	8	532	7	626,000	1,590
JB458	131	8/21/2013	0944	<20	--	77	2	8	2	48	18	<45	--	30	6	343	5	621,000	1,590
JB459	132	8/28/2013	0916	<20	--	94	3	5	2	<20	--	<45	--	24	6	136	4	661,000	1,680
JB459[1]	132	8/28/2013	0916	<20	--	96	3	6	2	44	18	<45	--	24	6	238	5	650,000	1,690
JB464	133	7/24/2013	1130	<20	--	113	3	7	2	78	20	<45	--	92	9	355	6	657,000	1,720
JB466	134	8/22/2013	0940	<20	--	46	2	<5	--	33	16	<45	--	19	6	344	5	619,000	1,570
JB467	135	8/20/2013	1414	<20	--	125	3	16	3	106	26	56	32	113	9	566	7	601,000	1,690
JB468	136	8/19/2013	1335	<20	--	46	2	9	4	29	14	<45	--	20	6	271	5	618,000	1,600
JB471	137	8/26/2013	1045	<20	--	227	5	12	3	93	24	<45	--	137	11	322	6	638,000	1,800
JB472	138	8/27/2013	0940	<20	--	99	3	13	4	127	29	<45	--	699	21	148	3	613,000	1,690
JB474	139	8/23/2013	1115	<20	--	109	3	13	3	99	28	<45	--	211	12	151	3	611,000	1,690
JB480	140	8/21/2013	1350	<20	--	73	3	<5	--	36	15	<45	--	21	6	200	4	679,000	1,570
JB481	141	9/26/2013	1107	<20	--	77	2	14	3	56	23	50	30	27	6	684	8	630,000	1,580
JB486	142	8/19/2013	1126	<20	--	46	2	<5	--	<20	--	47	28	12	5	76	2	612,000	1,590
JB487	143	8/23/2013	1335	<20	--	102	3	15	3	101	27	<45	--	238	13	141	3	619,000	1,690
NOAA5	144	9/4/2013	1200	<20	--	275	5	12	3	70	23	80	38	58	8	614	8	616,000	2,020
NOAA6	145	9/4/2013	1240	<20	--	106	3	5	2	39	15	62	33	32	6	288	5	591,000	2,560

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-10. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Western Bays region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
BHB01	146	9/5/2013	0930	<10	--	99	23	17	10	27	10	<25	--	<10	--	<10	--	42	19	25	5	24	1	<75	--
BMB01	147	9/12/2013	1200	23	6	163	30	76	14	52	11	<25	--	<10	--	10	3	<40	--	42	5	43	2	<75	--
HHB01	148	9/9/2013	1400	<10	--	86	24	57	12	44	11	<25	--	<10	--	<10	--	<40	--	35	5	32	2	<75	--
HHB01[1]	148	9/9/2013	1400	<10	--	136	24	51	12	56	12	<25	--	<10	--	<10	--	41	20	41	5	40	2	<75	--
RC01	149	9/5/2013	1235	13	6	119	25	30	11	37	11	<25	--	<10	--	<10	--	<40	--	27	5	27	1	<75	--
RC02	150	9/12/2013	1300	<10	--	115	28	<15	--	25	10	<25	--	<10	--	<10	--	<40	--	14	4	15	1	<75	--
RC03	151	9/12/2013	0900	15	6	136	30	51	13	40	11	<25	--	<10	--	<10	--	33	19	48	5	46	2	<75	--

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
BHB01	146	9/5/2013	0930	<20	--	111	3	13	3	89	24	69	34	52	8	700	8	629,000	1,820
BMB01	147	9/12/2013	1200	<20	--	98	3	13	3	91	28	<45	--	119	10	638	8	610,000	1,670
HHB01	148	9/9/2013	1400	<20	--	162	4	16	3	101	24	55	36	96	9	651	8	620,000	1,860
HHB01[1]	148	9/9/2013	1400	<20	--	128	4	13	3	84	24	<45	--	109	10	549	7	633,000	1,800
RC01	149	9/5/2013	1235	<20	--	180	4	12	3	100	23	<45	--	78	9	717	8	642,000	1,690
RC02	150	9/12/2013	1300	<20	--	65	2	8	2	73	22	52	30	37	7	763	8	673,000	1,600
RC03	151	9/12/2013	0900	<20	--	114	3	13	3	106	28	<45	--	105	9	662	8	642,000	1,860

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-11. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Great South Bay region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
GSB01	152	8/26/2013	0900	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	14	2	<75	--
GSB02	153	8/26/2013	1025	19	7	<70	--	31	11	40	11	<25	--	<10	--	<10	--	<40	--	45	5	40	2	<75	--
GSB03	154	8/27/2013	0845	18	7	112	23	32	11	40	11	<25	--	<10	--	<10	--	<40	--	47	6	34	2	<75	--
GSB04	155	8/9/2013	0835	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	14	2	<75	--
GSB05	156	8/16/2013	1100	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	17	2	<75	--
GSB05[1]	156	8/16/2013	1100	<10	--	124	31	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	14	4	25	2	<75	--
GSB06	157	8/16/2013	0845	17	5	<70	--	<15	--	35	10	<25	--	<10	--	<10	--	<40	--	11	3	22	2	<75	--
GSB07	158	8/7/2013	1125	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	11	2	<75	--
MB01	159	8/6/2013	1030	<10	--	297	34	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	11	2	<75	--
MB02	160	8/6/2013	0900	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	17	2	<75	--
NOAA7	161	9/11/2013	1040	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	11	3	13	2	<75	--
NOAA8	162	9/11/2013	1230	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	11	1	<75	--
SOB01	163	8/7/2013	1000	<10	--	124	23	15	9	25	10	<25	--	<10	--	<10	--	<40	--	18	4	18	1	<75	--

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
GSB01	152	8/26/2013	0900	<20	--	38	2	<5	--	17	9	<45	--	<10	--	61	3	632,000	1,730
GSB02	153	8/26/2013	1025	<20	--	126	4	10	3	102	21	<45	--	87	9	256	5	632,000	1,760
GSB03	154	8/27/2013	0845	<20	--	129	4	11	3	97	22	<45	--	123	10	389	6	621,000	1,810
GSB04	155	8/9/2013	0835	<20	--	35	2	<5	--	38	10	<45	--	<10	--	49	3	637,000	1,720
GSB05	156	8/16/2013	1100	<20	--	61	2	<5	--	20	10	<45	--	15	5	120	3	646,000	1,670
GSB05[1]	156	8/16/2013	1100	<20	--	63	3	<5	--	27	14	51	33	13	6	115	4	633,000	1,760
GSB06	157	8/16/2013	0845	<20	--	49	2	<5	--	77	20	<45	--	52	7	183	4	686,000	1,550
GSB07	158	8/7/2013	1125	<20	--	36	2	<5	--	36	10	<45	--	12	5	135	4	633,000	1,720
MB01	159	8/6/2013	1030	<20	--	134	4	<5	--	<20	--	<45	--	9	5	52	3	646,000	1,650
MB02	160	8/6/2013	0900	<20	--	37	2	<5	--	29	13	58	31	17	5	105	3	656,000	1,640
NOAA7	161	9/11/2013	1040	<20	--	43	2	<5	--	31	12	<45	--	17	5	46	2	558,000	2,340
NOAA8	162	9/11/2013	1230	<20	--	25	1	<5	--	<20	--	<45	--	<10	--	64	2	547,000	2,370
SOB01	163	8/7/2013	1000	<20	--	110	3	17	3	79	21	66	35	40	7	1,013	10	624,000	1,600

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.

Table 32-12. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for environmental and replicate bed-sediment samples collected from harbors and bays in New Jersey and New York during the Hurricane Sandy reconnaissance study, June–October 2013: Peconic Bay region.

[Map location number refers to figures 2 and 3. Samples analyzed at the U.S. Geological Survey, Central Energy Resources Science Center, Denver, Colorado, and are archived in a project database; measured value and instrument performance error, in parts per million; <, less than; --, not applicable]

Site code	Map location number	Sample date	Sample time	Arsenic		Barium		Chromium		Copper		Cesium		Mercury		Molybdenum		Nickel		Lead		Rubidium		Scandium	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
FB01	164	8/2/2013	1100	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	8	1	<75	--
FB02	165	8/5/2013	0835	14	6	72	24	29	12	39	11	<25	--	<10	--	<10	--	<40	--	25	4	32	2	<75	--
FB02[1]	165	8/5/2013	0835	16	6	<70	--	33	12	30	11	<25	--	<10	--	<10	--	49	20	21	4	28	1	<75	--
FB03	166	8/5/2013	1100	<10	--	<70	--	<15	--	<20	--	<25	--	<10	--	<10	--	<40	--	<10	--	11	2	<75	--
PB01	167	8/2/2013	0955	<10	--	92	23	<15	--	25	10	<25	--	<10	--	<10	--	<40	--	15	4	18	1	<75	--

Site code	Map location number	Sample date	Sample time	Tin		Strontium		Thorium		Vanadium		Tungsten		Zinc		Zirconium		Balance[2]	
				Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
FB01	164	8/2/2013	1100	<20	--	10	1	<5	--	32	9	31	20	<10	--	112	3	655,000	1,650
FB02	165	8/5/2013	0835	<20	--	94	3	10	3	90	21	38	23	75	8	194	5	678,000	1,610
FB02[1]	165	8/5/2013	0835	<20	--	65	3	7	2	88	23	58	35	106	9	161	4	659,000	1,710
FB03	166	8/5/2013	1100	<20	--	28	2	<5	--	29	11	<45	--	19	6	66	3	669,000	1,610
PB01	167	8/2/2013	0955	<20	--	73	3	<5	--	54	18	<45	--	43	7	123	4	602,000	2,050

[1]Field replicate.

[2]The balance value represents a concentration for elements not measured by the instrument.