

Table 34. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for National Institute of Standards and Technology (NIST) Standard Reference Material 2710, Hurricane Sandy reconnaissance study, June–October 2013.

[Measured value and instrument performance error, in parts per million; --, not applicable; <, less than]

Measurement	Trace element (number in parentheses is NIST Standard Reference Material 2710 certified value, in parts per million)																			
	Arsenic (626)		Barium (707)		Chromium (39)		Copper (2,950)		Mercury (33)		Molybdenum (19)		Nickel (14)		Lead (5,532)		Rubidium (120)		Scandium (9)	
	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
1	741	47	684	48	47	18	2,763	53	31	11	23	3	67	27	5,687	62	61	2	<75	--
2	716	46	744	48	65	18	2,811	53	27	11	23	3	63	26	5,646	60	60	2	<75	--
3	684	47	672	49	47	18	2,806	54	37	11	25	3	78	27	5,735	62	59	2	<75	--
4	676	46	734	50	60	18	2,835	53	29	11	22	3	58	26	5,756	61	62	2	<75	--
5	710	46	732	49	62	18	2,814	53	51	11	24	3	97	27	5,729	61	59	2	<75	--
6	747	57	671	52	65	20	2,828	68	29	14	23	4	90	33	5,565	75	61	3	<75	--
7	715	48	669	43	59	16	2,907	58	26	12	25	3	67	27	5,620	63	61	3	<75	--
8	654	47	703	44	57	16	2,871	58	48	12	21	3	111	28	5,586	63	60	3	<75	--
9	735	46	346	35	53	17	2,901	53	38	11	23	3	64	27	5,760	61	62	2	<75	--
10	713	47	717	50	57	18	2,898	54	43	12	21	3	59	27	5,783	63	62	2	<75	--
11	678	48	690	42	52	16	2,862	59	30	12	26	3	60	28	5,623	64	60	3	<75	--
12	729	47	251	31	61	15	3,013	58	45	12	23	3	<40	--	5,720	62	59	3	<75	--
13	734	48	258	29	84	16	3,009	59	47	12	24	3	<40	--	5,885	64	64	3	<75	--
14	810	49	285	30	102	16	3,033	59	45	12	22	3	65	27	5,833	64	65	3	<75	--
15	745	47	270	29	77	16	3,015	58	39	11	24	3	52	26	5,778	62	61	3	<75	--
16	790	47	251	29	67	16	3,006	58	25	11	22	3	<40	--	5,768	62	61	3	<75	--
Average value	724	--	542	--	63	--	2,898	--	37	--	23	--	72	--	5,717	--	61	--	--	--
Standard deviation	30	--	199	--	10	--	75	--	8	--	1	--	14	--	72	--	1	--	--	--
Percent difference	16	--	-23	--	63	--	-2	--	13	--	22	--	412	--	3	--	-49	--	--	--

Table 34. Results of portable x-ray fluorescence analyses for trace elements and instrument two-sigma error for National Institute of Standards and Technology (NIST) Standard Reference Material 2710, Hurricane Sandy reconnaissance study, June–October 2013.—Continued

[Measured value and instrument performance error, in parts per million; --, not applicable; <, less than]

Measurement	Trace element (number in parentheses is NIST Standard Reference Material 2710 certified value)														Balance ²	
	Tin (38)		Strontium (330)		Thorium (13)		Vanadium (77)		Tungsten (93)		Zinc (6,952)		Zirconium ¹			
	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error	Value	Error
1	<20	--	234	5	79	14	110	34	271	102	7,211	78	92	4	532,512	2,163
2	<20	--	232	5	53	13	104	34	163	47	6,971	75	98	4	547,420	2,078
3	<20	--	234	5	53	14	117	34	151	48	7,260	78	93	4	533,195	2,144
4	28	10	233	5	54	14	132	33	168	47	7,216	76	97	4	525,663	2,158
5	<20	--	234	5	59	14	113	34	241	99	7,167	76	90	4	517,822	2,166
6	<20	--	326	8	45	16	129	37	151	57	7,058	94	95	5	591,345	2,559
7	<20	--	326	7	45	14	129	31	221	50	7,111	79	94	4	557,728	2,341
8	<20	--	330	7	60	14	108	30	384	112	6,922	78	91	4	547,141	2,374
9	<20	--	233	5	43	13	107	32	164	48	7,358	77	94	4	575,722	1,957
10	<20	--	235	5	45	14	95	33	153	48	7,230	78	101	4	550,745	2,105
11	<20	--	327	7	44	14	105	30	172	50	7,048	80	92	4	561,043	2,330
12	<20	--	330	7	48	14	83	28	139	47	7,254	78	91	4	598,227	2,099
13	<20	--	329	7	50	14	97	29	347	114	7,454	80	90	4	598,161	2,099
14	<20	--	333	7	57	14	113	29	146	49	7,404	80	91	4	595,060	2,144
15	<20	--	326	7	37	13	127	29	107	47	7,392	78	92	4	601,553	2,048
16	<20	--	335	7	36	13	120	30	209	49	7,332	78	89	4	615,904	2,017
Average value	--	--	287	--	50	--	112	--	199	--	7,212	--	93	--	565,578	--
Standard deviation	--	--	47	--	8	--	11	--	60	--	124	--	3	---	27,116	--
Percent difference	--	--	-13	--	288	--	46	--	114	--	4	--	--	---	--	--

¹No certified value was provided by NIST.²The balance value represents a concentration for elements not measured by the instrument.