

Table 2: Surface Water Sampling Results Near Field Transect



Location			CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-S	CSXT-NF-CTR-S	CSXT-NF-CTR-S	CSXT-NF-CTR-S
Sample Name			CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-B	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-M	CSXT-NF-CTR-S	CSXT-NF-CTR-S	CSXT-NF-CTR-S	CSXT-NF-CTR-S
Sample Date			050314	050414	050514	050614	050714	050314	050414	050514	050614	050714	DUP01-050514	050314	050414	050514	050614
Matrix			5/3/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/3/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/5/2014	5/3/2014	5/4/2014	5/5/2014	5/6/2014
Validation Level			WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS
Sample Type			Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II
SDG			N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
			240368641	240368701	240368861	240369301	240370191	240368641	240368701	240368861	240369301	240370191	240368861	240368641	240368701	240368861	240369301
Analyte	Units	VRP_27B TIER II SW-FRESH															
FIELD																	
Conductivity	ms/cm	--	0.157	0.171	0.152	0.149	0.14	0.161	0.169	0.153	0.15	0.14	NA	0.186	0.168	0.152	0.15
Dissolved Oxygen	mg/l	--	10.21	10.08	10.56	10.48	9.6	10.23	9.77	10.56	10.54	9.35	NA	10.25	10.18	10.31	10.53
pH	SU	--	7.48	7.31	7.52	7.82	8.24	6.73	7.4	7.35	7.31	8.3	NA	6.18	7.12	7.11	7.48
Temperature	C	--	16.18	16.56	16.23	16.64	17.72	16.18	16.55	16.18	16.63	17.72	NA	16.16	16.53	16.17	16.62
Gen Chem																	
Biological Oxygen Demand	mg/l	--	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chemical Oxygen Demand	mg/l	--	9.3 J	8.0 J	10 J	20 UB	20 U	20 U	11 J	12 J	20 UB	20 U	20 U	8.3 J	9.3 J	8.8 J	20 U
Total Suspended Solids	mg/l	--	9.0	10	7.0	NA	NA	4.0	8.0	4.0	NA	NA	3.0 J	9.0	7.0	7.0	NA
Inorganics																	
Aluminum	ug/l	87	430	400	300	NA	NA	480	500	220	NA	NA	320	470	340	300	NA
Cadmium	ug/l	1.1	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	NA
Calcium	ug/l	--	18000	20000	21000	23000	25000	18000	20000	21000	23000	24000	21000	18000	20000	21000	23000
Copper	ug/l	9	25 U	25 U	25 U	NA	NA	25 U	25 U	25 U	NA	NA	25 U	25 U	25 U	25 U	NA
Iron	ug/l	1000	550	490	390	NA	NA	570	620	300	NA	NA	420	560	440	400	NA
Lead	ug/l	14	10 U	10 U	10 U	NA	NA	10 U	10 U	10 U	NA	NA	2.5 J	10 U	10 U	10 U	NA
Magnesium	ug/l	--	3700 J	4000 J	4100 J	4500 J	4900 J	3700 J	4100 J	4200 J	4500 J	4800 J	4200 J	3700 J	4000 J	4200 J	4600 J
Nickel	ug/l	20	40 U	40 U	40 U	NA	NA	40 U	40 U	40 U	NA	NA	40 U	40 U	40 U	40 U	NA
Sulfur	ug/l	--	NA	NA	NA	4800	NA	NA	NA	NA	4800	NA	NA	NA	NA	NA	4900
Vanadium	ug/l	--	20 U	20 U	20 U	NA	NA	20 U	20 U	20 U	NA	NA	20 U	20 U	20 U	20 U	NA
SVOCs																	
Acenaphthene	ug/l	990	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Acenaphthylene	ug/l	--	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Anthracene	ug/l	40000	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Benzo(a)anthracene	ug/l	0.18	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Benzo(a)pyrene	ug/l	0.18	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Benzo(b)fluoranthene	ug/l	0.18	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Benzo(g,h,i)perylene	ug/l	--	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Benzo(k)fluoranthene	ug/l	0.18	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Chrysene	ug/l	0.018	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Fluoranthene	ug/l	140	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Fluorene	ug/l	5300	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Naphthalene	ug/l	--	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Phenanthrene	ug/l	--	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
Pyrene	ug/l	4000	0.19 U	0.21 U	0.20 U	0.20 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.19 U
TPH-DRO																	
Diesel (C10-C20)	mg/l	--	0.5 U	0.51 U	0.48 U	0.48 U	0.062 J	0.51 U	0.49 U	0.48 U	0.053 J	0.058 J	0.5 U	0.53 U	0.5 U	0.48 U	0.49 U
Oil Range Organics C20-C34	mg/l	--	0.5 U	0.51 U	0.48 U	0.48 U	0.5 UB	0.51 U	0.49 U	0.48 U	0.49 U	0.5 UB	0.5 U	0.53 U	0.5 U	0.48 U	0.49 U
TPH-GRO																	
Volatile C6-C10	mg/l	--	0.1 U	0.1 U	0.1 UB	NA	NA	0.1 U	0.1 U	0.1 UB	NA	NA	0.1 UB	0.1 U	0.1 UJ	0.1 UB	NA
VOCs																	
Benzene	ug/l	510	1.0 U	1.0 U	1.0 UB	1.0 U	1.0 U	1.0 U	1.0 UB	1.0 UB	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/l	2100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/l	6000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	ug/l	--	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/L = micrograms per Liter

mg/L = milligrams per Liter

NA - Not analyzed

VRP_27B TIER II SW-FRESH: Virginia Department of Environmental Quality/VRP Tier II Screening for Unrestricted Sites Table 2.7b: Other Surface Water-Fresh

Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review

Table 2: Surface Water Sampling Results Near Field Transect



Location			CSXT-NF-CTR-S	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-S	CSXT-NF-LDB-S	CSXT-NF-LDB-S	CSXT-NF-LDB-S
Sample Name			CSXT-NF-CTR-S	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-B	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-M	CSXT-NF-LDB-S	CSXT-NF-LDB-S	CSXT-NF-LDB-S	CSXT-NF-LDB-S
Sample Date			050714	050314	050414	050514	050614	050714	050314	050414	050514	050614	050714	050314	050414	050514	050614
Matrix			5/7/2014	5/3/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/3/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/3/2014	5/4/2014	5/5/2014	5/6/2014
Validation Level			WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS
Sample Type			Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II
SDG			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			240370191	240368641	240368701	240368861	240369301	240370191	240368641	240368701	240368861	240369301	240370191	240368641	240368701	240368861	240369301
Analyte	Units	VRP_27B TIER II SW-FRESH															
FIELD																	
Conductivity	ms/cm	--	0.14	0.154	0.165	0.152	0.147	0.137	0.15	0.165	0.149	0.147	0.137	0.109	0.172	0.157	0.151
Dissolved Oxygen	mg/l	--	9.4	10.18	10.2	10.31	10.51	10.09	10.23	10.2	10.55	10.51	10.03	10.34	10.17	10.44	10.47
pH	SU	--	8.34	7.37	7.35	7.51	7.84	8.13	7.25	7.35	7.38	7.71	8.12	6.92	7.12	7.08	7.31
Temperature	C	--	17.73	16.14	16.34	16.1	16.42	17.58	16.11	16.34	16.09	16.39	17.57	16.09	16.26	16.09	16.38
Gen Chem																	
Biological Oxygen Demand	mg/l	--	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chemical Oxygen Demand	mg/l	--	6.4 J	20 U	11 J	20 U	20 UB	6.3 J	20 U	11 J	20 U	20 UB	6.9 J	12 J	12 J	11 J	20 U
Total Suspended Solids	mg/l	--	NA	11	5.0	5.0	NA	NA	12	7.0	7.0	NA	NA	10	9.0	4.0	NA
Inorganics																	
Aluminum	ug/l	87	NA	550	400	310	NA	NA	490	510	320	NA	NA	490	390	370	NA
Cadmium	ug/l	1.1	NA	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	NA
Calcium	ug/l	--	25000	18000	19000	20000	22000	24000	18000	20000	20000	22000	24000	17000	18000	20000	22000
Copper	ug/l	9	NA	25 U	25 U	25 U	NA	NA	25 U	25 U	25 U	NA	NA	25 U	25 U	25 U	NA
Iron	ug/l	1000	NA	640	500	410	NA	NA	620	620	430	NA	NA	600	470	440	NA
Lead	ug/l	14	NA	10 U	10 U	10 U	NA	NA	10 U	10 U	10 U	NA	NA	10 U	10 U	10 U	NA
Magnesium	ug/l	--	4800 J	3800 J	3800 J	4100 J	4400 J	4700 J	3700 J	4100 J	4000 J	4500 J	4700 J	3600 J	3700 J	4100 J	4400 J
Nickel	ug/l	20	NA	40 U	40 U	40 U	NA	NA	40 U	40 U	40 U	NA	NA	40 U	40 U	40 U	NA
Sulfur	ug/l	--	NA	NA	NA	NA	4700	NA	NA	NA	NA	4700	NA	NA	NA	NA	4700
Vanadium	ug/l	--	NA	20 U	20 U	20 U	NA	NA	20 U	20 U	20 U	NA	NA	20 U	20 U	20 U	NA
SVOCs																	
Acenaphthene	ug/l	990	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Acenaphthylene	ug/l	--	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Anthracene	ug/l	40000	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Benzo(a)anthracene	ug/l	0.18	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Benzo(a)pyrene	ug/l	0.18	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Benzo(b)fluoranthene	ug/l	0.18	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Benzo(g,h,i)perylene	ug/l	--	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Benzo(k)fluoranthene	ug/l	0.18	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Chrysene	ug/l	0.018	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Fluoranthene	ug/l	140	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Fluorene	ug/l	5300	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Naphthalene	ug/l	--	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Phenanthrene	ug/l	--	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
Pyrene	ug/l	4000	0.20 U	0.22 U	0.20 U	0.21 U	0.19 U	0.19 U	0.20 U	0.22 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U
TPH-DRO																	
Diesel (C10-C20)	mg/l	--	0.5 U	0.5 U	0.54 U	0.51 U	0.5 U	0.06 J	0.5 U	0.51 U	0.52 U	0.052 J	0.052 J	0.51 U	0.51 U	0.49 U	0.49 U
Oil Range Organics C20-C34	mg/l	--	0.5 U	0.5 U	0.54 U	0.51 U	0.5 U	0.5 UB	0.5 U	0.51 U	0.52 U	0.49 U	0.5 UB	0.51 U	0.51 U	0.49 U	0.49 U
TPH-GRO																	
Gasoline C6-C10	mg/l	--	NA	0.1 U	0.029 J	0.1 UB	NA	NA	0.1 U	0.027 J	0.1 UB	NA	NA	0.1 U	0.039 J	0.1 UB	NA
VOCs																	
Benzene	ug/l	510	1.0 U	1.0 U	1.0 U	1.0 UB	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UB	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/l	2100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/l	6000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	ug/l	--	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UU - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/L = micrograms per Liter

mg/L = milligrams per Liter

NA - Not analyzed

VRP_27B TIER II SW-FRESH: Virginia Department of Environmental Quality/VRP Tier II Screening for Unrestricted Sites Table 2.7b: Other Surface Water-Fresh

Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review

Table 2: Surface Water Sampling Results Near Field Transect



Location			CSXT-NF-LDB-S	CSXT-NF-LDB-S	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-S	CSXT-NF-RDB-S	CSXT-NF-RDB-S	CSXT-NF-RDB-S
Sample Name			CSXT-NF-LDB-S	DUP01-050414	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-B	CSXT-NF-RDB-S	CSXT-NF-RDB-S	CSXT-NF-RDB-S	CSXT-NF-RDB-S
Sample Date			050714	5/4/2014	050314	050414	050514	050614	050714	M-050314	M-050414	M-050514	M-050614	M-050714	050314	050414	050514
Matrix			WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS
Validation Level			Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II	Tier II
Sample Type			N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N
SDG			240370191	240368701	240368641	240368701	240368861	240369301	240370191	240368641	240368701	240368861	240369301	240370191	240368641	240368701	240368861
Analyte	Units	VRP_27B TIER II SW-FRESH															
FIELD																	
Conductivity	ms/cm	--	0.138	NA	0.188	0.171	0.153	0.144	0.14	0.166	0.164	0.154	0.149	0.14	0.126	0.168	0.178
Dissolved Oxygen	mg/l	--	11.04	NA	10.14	10.07	10.54	10.4	9.37	10.18	10.08	10.5	10.45	9.14	11.17	10.04	10.51
pH	SU	--	8.16	NA	7.41	7.35	7.58	7.83	7.76	7.07	7.24	7.47	7.68	8.32	6.82	7.16	7.25
Temperature	C	--	17.56	NA	16.22	16.66	16.27	16.77	17.98	16.22	16.66	16.27	16.75	17.95	11.28	16.64	16.28
Gen Chem																	
Biological Oxygen Demand	mg/l	--	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chemical Oxygen Demand	mg/l	--	20 U	20 U	20 U	13 J	9.4 J	20 UB	7.5 J	20 U	8.0 J	20 U	20 UB	7.7 J	20 U	12 J	20 U
Total Suspended Solids	mg/l	--	NA	6.0	10	6.0	7.0	NA	NA	11	6.0	2.0 J	NA	NA	10	8.0	7.0
Inorganics																	
Aluminum	ug/l	87	NA	380	500	460	280	NA	NA	560	380	340	NA	NA	520	350	270
Cadmium	ug/l	1.1	NA	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U
Calcium	ug/l	--	25000	19000	19000	20000	21000	23000	24000	19000	20000	21000	22000	24000	19000	19000	21000
Copper	ug/l	9	NA	25 U	25 U	25 U	25 U	NA	NA	25 U	25 U	25 U	NA	NA	25 U	25 U	25 U
Iron	ug/l	1000	NA	460	640	550	360	NA	NA	670	500	430	NA	NA	620	460	360
Lead	ug/l	14	NA	10 U	10 U	10 U	10 U	NA	NA	10 U	10 U	10 U	NA	NA	10 U	10 U	10 U
Magnesium	ug/l	--	4800 J	3800 J	4000 J	4000 J	4100 J	4500 J	4700 J	3900 J	4000 J	4100 J	4500 J	4800 J	3900 J	3700 J	4200 J
Nickel	ug/l	20	NA	40 U	40 U	40 U	40 U	NA	NA	40 U	40 U	40 U	NA	NA	40 U	40 U	40 U
Sulfur	ug/l	--	NA	NA	NA	NA	NA	4700	NA	NA	NA	NA	4700	NA	NA	NA	NA
Vanadium	ug/l	--	NA	20 U	20 U	2.4 J	20 U	NA	NA	3.0 J	20 U	20 U	NA	NA	2.4 J	20 U	20 U
SVOCs																	
Acenaphthene	ug/l	990	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Acenaphthylene	ug/l	--	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Anthracene	ug/l	40000	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Benzo(a)anthracene	ug/l	0.18	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Benzo(a)pyrene	ug/l	0.18	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Benzo(b)fluoranthene	ug/l	0.18	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Benzo(g,h,i)perylene	ug/l	--	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Benzo(k)fluoranthene	ug/l	0.18	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Chrysene	ug/l	0.018	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Fluoranthene	ug/l	140	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Fluorene	ug/l	5300	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Naphthalene	ug/l	--	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Phenanthrene	ug/l	--	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.083 J	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
Pyrene	ug/l	4000	0.20 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.22 U	0.20 U	0.21 U	0.20 U	0.19 U	0.21 U	0.20 U	0.19 U
TPH-DRO																	
Diesel (C10-C20)	mg/l	--	0.5 U	0.51 U	0.52 U	0.5 U	0.54 U	0.49 U	0.49 U	0.53 U	0.53 U	0.52 U	0.49 U	0.48 U	0.51 U	0.5 U	0.49 U
Oil Range Organics C20-C34	mg/l	--	0.5 U	0.51 U	0.52 U	0.5 U	0.54 U	0.49 U	0.49 UB	0.53 U	0.53 U	0.52 U	0.49 U	0.48 U	0.51 U	0.5 U	0.49 U
TPH-GRO																	
Vaseline C6-C10	mg/l	--	NA	0.1 U	0.1 U	0.1 U	0.1 UB	NA	NA	0.1 U	0.1 U	0.1 UB	NA	NA	0.1 U	0.027 J	0.1 UB
VOCs																	
Benzene	ug/l	510	1.0 U	1.0 U	1.0 UB	1.0 U	1.0 UB	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UB	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/l	2100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/l	6000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	ug/l	--	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UU - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/L = micrograms per Liter

mg/L = milligrams per Liter

NA - Not analyzed

VRP_27B TIER II SW-FRESH: Virginia Department of Environmental Quality/VRP Tier II Screening for Unrestricted Sites Table 2.7b: Other Surface Water-Fresh

Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review

Table 2: Surface Water Sampling Results Near Field Transect



Location Sample Name Sample Date Matrix Validation Level Sample Type SDG			CSXT-NF-RDB-S CSXT-NF-RDB-S 050614 5/6/2014 WS Tier II N 240369301	CSXT-NF-RDB-S CSXT-NF-RDB-S 050714 5/7/2014 WS Tier II N 240370191
Analyte	Units	VRP_27B TIER II SW-FRESH		
FIELD				
Conductivity	ms/cm	--	0.143	0.139
Dissolved Oxygen	mg/l	--	10.4	9.19
pH	SU	--	7.43	8.36
Temperature	C	--	16.74	17.97
Gen Chem				
Biological Oxygen Demand	mg/l	--	2.0 U	2.0 U
Chemical Oxygen Demand	mg/l	--	20 UB	7.8 J
Total Suspended Solids	mg/l	--	NA	NA
Inorganics				
Aluminum	ug/l	87	NA	NA
Cadmium	ug/l	1.1	NA	NA
Calcium	ug/l	--	23000	24000
Copper	ug/l	9	NA	NA
Iron	ug/l	1000	NA	NA
Lead	ug/l	14	NA	NA
Magnesium	ug/l	--	4500 J	4700 J
Nickel	ug/l	20	NA	NA
Sulfur	ug/l	--	4700	NA
Vanadium	ug/l	--	NA	NA
SVOCs				
Acenaphthene	ug/l	990	0.20 U	0.20 U
Acenaphthylene	ug/l	--	0.20 U	0.20 U
Anthracene	ug/l	40000	0.20 U	0.20 U
Benzo(a)anthracene	ug/l	0.18	0.20 U	0.20 U
Benzo(a)pyrene	ug/l	0.18	0.20 U	0.20 U
Benzo(b)fluoranthene	ug/l	0.18	0.20 U	0.20 U
Benzo(g,h,i)perylene	ug/l	--	0.20 U	0.20 U
Benzo(k)fluoranthene	ug/l	0.18	0.20 U	0.20 U
Chrysene	ug/l	0.018	0.20 U	0.20 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.20 U	0.20 U
Fluoranthene	ug/l	140	0.20 U	0.20 U
Fluorene	ug/l	5300	0.20 U	0.20 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.20 U	0.20 U
Naphthalene	ug/l	--	0.20 U	0.20 U
Phenanthrene	ug/l	--	0.20 U	0.20 U
Pyrene	ug/l	4000	0.20 U	0.20 U
TPH-DRO				
Diesel (C10-C20)	mg/l	--	0.48 U	0.49 U
Oil Range Organics C20-C34	mg/l	--	0.48 U	0.49 UB
TPH-GRO				
Gasoline C6-C10	mg/l	--	NA	NA
VOCs				
Benzene	ug/l	510	1.0 U	1.0 U
Ethylbenzene	ug/l	2100	1.0 U	1.0 U
Toluene	ug/l	6000	1.0 U	1.0 U
Total Xylenes	ug/l	--	3.0 U	3.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UU - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/L = micrograms per Liter

mg/L = milligrams per Liter

NA - Not analyzed

VRP_27B TIER II SW-FRESH: Virginia Department of Environmental Quality VRP Tier II Screening for Unrestricted Sites Table 2.7b: Other Surface Water-Fresh

Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review