

Table 3: Downstream Surface Water Sampling Results HWY60 Transect



Location			CSXT-HWY60-CTR-B	CSXT-HWY60-CTR-B	CSXT-HWY60-CTR-B	CSXT-HWY60-CTR-B	CSXT-HWY60-CTR-M	CSXT-HWY60-CTR-M	CSXT-HWY60-CTR-M	CSXT-HWY60-CTR-M	CSXT-HWY60-CTR-S	CSXT-HWY60-CTR-S	CSXT-HWY60-CTR-S	CSXT-HWY60-CTR-S	CSXT-HWY60-CTR-S
Sample Name			CSXT-HWY60-CTR-B-050414	CSXT-HWY60-CTR-B-050514	CSXT-HWY60-CTR-B-050614	CSXT-HWY60-CTR-B-050714	CSXT-HWY60-CTR-M-050414	CSXT-HWY60-CTR-M-050514	CSXT-HWY60-CTR-M-050614	CSXT-HWY60-CTR-M-050714	CSXT-HWY60-C-S-050414	CSXT-HWY60-CTR-S-050514	CSXT-HWY60-CTR-S-050614	CSXT-HWY60-CTR-S-050714	CSXT-HWY60-DUP2-050714
Sample Date			5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/7/2014
Matrix			WS	WS	WS	WS	WS	WS	WS	WS	WG	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
Sample Type			N	N	N	N	N	N	N	N	N	N	N	N	FD
SDG			240368711	240368871	240369311	240370211	240368711	240368871	240369311	240370211	240368721	240368881	240369321	240370221	240370221
Analyte	Units	VRP_27B TIER II SW-FRESH													
FIELD															
Conductivity	ms/cm	--	0.153	0.164	0.174	0.179	0.153	0.164	0.175	0.17	0.167	0.215	0.18	0.131	NA
Dissolved Oxygen	mg/l	--	10.53	8.7	7.64	9.08	10.088	8.94	7.15	9.15	11.13	9.35	9.36	9.34	NA
pH	SU	--	6.77	7.14	6.88	7.82	6.59	7.22	7.11	7.75	7.73	7.88	7.8	8.06	NA
Temperature	C	--	16.89	16.5	16.96	18.18	16.89	16.51	16.95	18.18	15.76	16.22	16.25	17.39	NA
Gen Chem															
Biological Oxygen Demand	mg/l	--	3.8 UB	2.0 U	2.0 U	2.0 U	2.0 U	2.8 UB	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	--	8.2 J	6.7 J	20 UB	20 U	20 U	11 J	20 U	20 U	6.2 J	20 U	13 J	20 U	20 U
Total Suspended Solids	mg/l	--	12	11	NA	NA	15	12	NA	NA	16	11	NA	NA	NA
Inorganics															
Aluminum	ug/l	87	460 J	310	NA	NA	480 J	270	NA	NA	420	310	NA	NA	NA
Cadmium	ug/l	1.1	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	NA	NA	NA
Calcium	ug/l	--	19000	20000	21000	22000	19000	21000	20000	21000	18000	20000	20000	22000	21000
Copper	ug/l	9	25 U	25 U	NA	NA	25 U	25 U	NA	NA	25 U	25 U	NA	NA	NA
Iron	ug/l	1000	630	440	NA	NA	690	430	NA	NA	560	510	NA	NA	NA
Lead	ug/l	14	10 U	10 U	NA	NA	10 U	10 U	NA	NA	10 U	10 U	NA	NA	NA
Magnesium	ug/l	--	3700 J	4100 J	4100 J	4300 J	3800 J	4100 J	4000 J	4300 J	3500 J	4100 J	4000 J	4400 J	4200 J
Nickel	ug/l	20	40 U	40 U	NA	NA	40 U	40 U	NA	NA	40 U	40 U	NA	NA	NA
Sulfur	ug/l	--	NA	4300	NA	NA	NA	4400	NA	NA	NA	4300	NA	NA	NA
Vanadium	ug/l	--	20 U	20 U	NA	NA	20 U	20 U	NA	NA	20 U	20 U	NA	NA	NA
SVOCs															
Acenaphthene	ug/l	990	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Acenaphthylene	ug/l	--	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Anthracene	ug/l	40000	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(a)anthracene	ug/l	0.18	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(a)pyrene	ug/l	0.18	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(b)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(g,h,i)perylene	ug/l	--	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(k)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Chrysene	ug/l	0.018	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Fluoranthene	ug/l	140	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Fluorene	ug/l	5300	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Naphthalene	ug/l	--	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Phenanthrene	ug/l	--	0.19 UB	0.19 U	0.21 U	0.19 U	0.19 UB	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Pyrene	ug/l	4000	0.19 U	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TPH-DRO															
Diesel (C10-C20)	mg/l	--	0.48 U	0.48 U	0.49 U	0.49 U	0.48 U	0.49 U	0.48 U	0.48 U	0.47 U	0.47 U	0.48 U	0.48 U	0.48 U
Oil Range Organics C20-C34	mg/l	--	0.48 UB	0.48 U	0.49 U	0.49 U	0.48 UB	0.49 U	0.48 U	0.48 U	0.081 J	0.47 U	0.48 U	0.48 U	0.48 U
TPH-GRO															
Gasoline C6-C10	mg/l	--	0.1 U	0.1 U	NA	NA	0.1 U	0.1 U	NA	NA	0.1 U	0.1 U	NA	NA	NA
VOCs															
Benzene	ug/l	510	1.0 U	1.0 UB	1.0 UB	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
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
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
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

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 3: Downstream Surface Water Sampling Results HWY60 Transect



Location			CSXT-HWY60-CTR-S	CSXT-HWY60-LDB	CSXT-HWY60-LDB-B	CSXT-HWY60-LDB-B	CSXT-HWY60-LDB-B	CSXT-HWY60-LDB-B	CSXT-HWY60-LDB-B	CSXT-HWY60-LDB-M	CSXT-HWY60-LDB-M	CSXT-HWY60-LDB-M	CSXT-HWY60-LDB-M	CSXT-HWY60-LDB-M	CSXT-HWY60-LDB-S
Sample Name			CSXT-HWY60-DUP-S-050414	CSXT-HWY60-LDB-S-050414	CSXT-HWY60-LDB-B-050314	CSXT-HWY60-LDB-B-050414	CSXT-HWY60-LDB-B-050514	CSXT-HWY60-LDB-B-050614	CSXT-HWY60-LDB-B-050714	CSXT-HWY60-LDB-M-050314	CSXT-HWY60-LDB-M-050414	CSXT-HWY60-LDB-M-050514	CSXT-HWY60-LDB-M-050614	CSXT-HWY60-LDB-M-050714	CSXT-HWY60-DUP-S-050514
Sample Date			5/4/2014	5/4/2014	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	5/5/2014
Matrix			WG	WG	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
Sample Type			FD	N	N	N	N	N	N	N	N	N	N	N	FD
SDG			240368721	240368721	240368671	240368711	240368871	240369311	240370211	240368671	240368711	240368871	240369311	240370211	240368881
Analyte	Units	VRP_27B TIER II SW-FRESH													
FIELD															
Conductivity	ms/cm	--	NA	0.152	0.126	0.125	164	0.175	0.179	0.128	0.153	0.165	0.174	0.181	NA
Dissolved Oxygen	mg/l	--	NA	10.33	8.24	10.97	8.84	6.93	9.16	7.22	10.29	9.23	6.85	9.43	NA
pH	SU	--	NA	6.51	6.17	7.14	7.02	6.34	7.69	6.21	6.97	7.05	6.84	7.41	NA
Temperature	C	--	NA	16.74	16.14	16.75	16.4	16.86	18.02	16.1	16.74	16.41	16.87	18.02	NA
Gen Chem															
Biological Oxygen Demand	mg/l	--	2.0 U	20 UB	4.3 UB	2.3 UB	2.0 U	2.0 U	2.0 U	2.5 UB	2.0 U	3.0 UB	2.0 U	2.0 U	6.3 UB
Chemical Oxygen Demand	mg/l	--	9.9 J	8.9 J	32	7.0 J	16 J	20 UB	11 J	20 UB	7.2 J	12 J	20 U	9.9 J	20 U
Total Suspended Solids	mg/l	--	16	19	14 J	15	11	NA	NA	15 J	17	12	NA	NA	13
Inorganics															
Aluminum	ug/l	87	410	590	280 UB	520 J	290	NA	NA	280 UB	510 J	340	NA	NA	260
Cadmium	ug/l	1.1	5.0 U	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
Calcium	ug/l	--	18000	18000	18000	20000	20000	21000	22000	18000	19000	20000	20000	22000	21000
Copper	ug/l	9	25 U	25 U	25 U	25 U	25 U	NA	NA	25 U	25 U	25 U	NA	NA	25 U
Iron	ug/l	1000	520	770	320	710	410	NA	NA	330	760	520	NA	NA	410
Lead	ug/l	14	10 U	10 U	10 U	10 U	10 U	NA	NA	10 U	10 U	10 U	NA	NA	10 U
Magnesium	ug/l	--	3700 J	3600 J	3600 J	3800 J	4000 J	4200 J	4400 J	3600 J	3800 J	4000 J	4100 J	4300 J	4200 J
Nickel	ug/l	20	40 U	40 U	40 U	40 U	40 U	NA	NA	1.3 J	40 U	40 U	NA	NA	40 U
Sulfur	ug/l	--	NA	NA	NA	NA	4300	NA	NA	NA	NA	4200	NA	NA	4300
Vanadium	ug/l	--	20 U	20 U	20 U	20 U	20 U	NA	NA	20 U	20 U	20 U	NA	NA	20 U
SVOCs															
Acenaphthene	ug/l	990	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Acenaphthylene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Anthracene	ug/l	40000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Benzo(a)anthracene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Benzo(a)pyrene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Benzo(b)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Benzo(g,h,i)perylene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Benzo(k)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Chrysene	ug/l	0.018	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Fluoranthene	ug/l	140	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Fluorene	ug/l	5300	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Naphthalene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
Phenanthrene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 UB	0.19 U	0.20 U	0.20 U	0.19 U	0.19 UB	0.19 U	0.19 U	0.21 U	0.19 U
Pyrene	ug/l	4000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U
TPH-DRO															
Diesel (C10-C20)	mg/l	--	0.47 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.47 U
Oil Range Organics C20-C34	mg/l	--	0.47 U	0.47 U	0.49 U	0.48 UB	0.48 U	0.48 U	0.48 U	0.48 U	0.48 UB	0.48 U	0.48 U	0.48 U	0.47 U
TPH-GRO															
Gasoline C6-C10	mg/l	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	0.1 U	0.1 U	0.1 U	NA	NA	0.1 U
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 U	1.0 UB	1.0 U	1.0 U	1.0 UB	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
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
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

Footnotes:

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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.

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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

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Location			CSXT-HWY60-LDB-S	CSXT-HWY60-LDB-S	CSXT-HWY60-LDB-S	CSXT-HWY60-LDB-S	CSXT-HWY60-RDB	CSXT-HWY60-RDB-B	CSXT-HWY60-RDB-B	CSXT-HWY60-RDB-B	CSXT-HWY60-RDB-B	CSXT-HWY60-RDB-M	CSXT-HWY60-RDB-M	CSXT-HWY60-RDB-M	CSXT-HWY60-RDB-M
Sample Name			CSXT-HWY60-LDB-S-050314	CSXT-HWY60-LDB-S-050514	CSXT-HWY60-LDB-S-050614	CSXT-HWY60-LDB-S-050714	CSXT-HWY60-RDB-S-050414	CSXT-HWY60-RDB-B-050414	CSXT-HWY60-RDB-B-050514	CSXT-HWY60-RDB-B-050614	CSXT-HWY60-RDB-B-050714	CSXT-HWY60-RDB-M-050414	CSXT-HWY60-RDB-M-050514	CSXT-HWY60-RDB-M-050614	CSXT-HWY60-RDB-M-050714
Sample Date			5/3/2014	5/5/2014	5/6/2014	5/7/2014	5/4/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014	5/4/2014	5/5/2014	5/6/2014	5/7/2014
Matrix			WS	WS	WS	WS	WG	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
Sample Type			N	N	N	N	N	N	N	N	N	N	N	N	N
SDG			240368671	240368881	240369321	240370221	240368721	240368711	240368871	240369311	240370211	240368711	240368871	240369311	240370211
Analyte	Units	VRP_27B TIER II SW-FRESH													
FIELD															
Conductivity	ms/cm	--	0.127	0.195	0.176	0.132	0.156	0.152	0.163	0.174	0.178	0.152	0.163	0.174	0.179
Dissolved Oxygen	mg/l	--	7.98	9.37	9.3	9.11	9.64	9.75	9.14	7.65	8.94	9.26	8.51	7.43	9.16
pH	SU	--	7.58	7.93	7.84	8.09	7.3	6.59	7.03	6.49	7.76	6.59	7.3	6.72	7.73
Temperature	C	--	16.24	15.25	16.25	17.39	15.18	16.85	16.54	19.92	18.12	16.85	16.55	19.65	18.13
Gen Chem															
Biological Oxygen Demand	mg/l	--	3.3 UB	6.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.5 UB	3.2 UB	2.0 U	16 UB	2.0 U	2.0 U	2.0 U
Chemical Oxygen Demand	mg/l	--	25 UB	20 U	20 U	20 U	20 U	8.6 J	29	35 UB	20 U	11 J	17 J	20 UB	9.6 J
Total Suspended Solids	mg/l	--	18	14	NA	NA	13	12	11	NA	NA	14	11	NA	NA
Inorganics															
Aluminum	ug/l	87	280 UB	310	NA	NA	440	460 J	320	NA	NA	470 J	280	NA	NA
Cadmium	ug/l	1.1	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	NA	NA
Calcium	ug/l	--	18000	20000	21000	21000	15000 J	19000	20000	21000	21000	19000	20000	20000	21000
Copper	ug/l	9	25 U	25 U	NA	NA	25 U	25 U	25 U	NA	NA	25 U	25 U	NA	NA
Iron	ug/l	1000	310	450	NA	NA	930	620	510	NA	NA	640	470	NA	NA
Lead	ug/l	14	10 U	10 U	NA	NA	10 U	10 U	10 U	NA	NA	10 U	10 U	NA	NA
Magnesium	ug/l	--	3600 J	4000 J	4100 J	4200 J	3300 J	3800 J	4100 J	4100 J	4400 J	3800 J	4100 J	4100 J	4300 J
Nickel	ug/l	20	40 U	40 U	NA	NA	40 U	40 U	40 U	NA	NA	40 U	40 U	NA	NA
Sulfur	ug/l	--	NA	4200	NA	NA	NA	NA	4300	NA	NA	NA	4300	NA	NA
Vanadium	ug/l	--	20 U	20 U	NA	NA	20 U	20 U	20 U	NA	NA	20 U	20 U	NA	NA
SVOCs															
Acenaphthene	ug/l	990	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Acenaphthylene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Anthracene	ug/l	40000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.041 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Benzo(a)anthracene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.077 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Benzo(a)pyrene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.059 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Benzo(b)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.081 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Benzo(g,h,i)perylene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.074 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Benzo(k)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.062 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Chrysene	ug/l	0.018	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.070 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Fluoranthene	ug/l	140	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.086 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Fluorene	ug/l	5300	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.057 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.068 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Naphthalene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Phenanthrene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.061 J	0.19 UB	0.19 U	0.20 U	0.20 U	0.19 UB	0.20 U	0.20 U	0.19 U
Pyrene	ug/l	4000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.094 J	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
TPH-DRO															
Diesel (C10-C20)	mg/l	--	0.47 U	0.48 U	0.48 U	0.48 U	0.47 U	0.49 U	0.48 U	0.48 U	0.49 U	0.48 U	0.49 U	0.52 U	0.49 U
Oil Range Organics C20-C34	mg/l	--	0.47 U	0.48 U	0.48 U	0.48 U	0.076 J	0.49 UB	0.48 U	0.48 U	0.49 U	0.48 UB	0.49 U	0.52 U	0.49 U
TPH-GRO															
Gasoline C6-C10	mg/l	--	0.1 U	0.1 U	NA	NA	0.1 U	0.1 U	0.1 U	NA	NA	0.1 U	0.1 U	NA	NA
VOCs															
Benzene	ug/l	510	1.0 U	1.0 U	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 UB	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
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
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

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 3: Downstream Surface Water Sampling Results HWY60 Transect



Location			CSXT-HWY60-RDB-S CSXT-HWY60-DUP2-S-050614 5/6/2014 WS Tier II FD 240369321	CSXT-HWY60-RDB-S CSXT-HWY60-RDB-S-050214 5/2/2014 WS Tier II N 240368311	CSXT-HWY60-RDB-S CSXT-HWY60-RDB-S-050514 5/5/2014 WS Tier II N 240368881	CSXT-HWY60-RDB-S CSXT-HWY60-RDB-S-050614 5/6/2014 WS Tier II N 240369321	CSXT-HWY60-RDB-S CSXT-HWY60-RDB-S-050714 5/7/2014 WS Tier II N 240370221
Analyte	Units	VRP_27B TIER II SW-FRESH					
FIELD							
Conductivity	ms/cm	--	NA	0.116	0.393	0.163	0.112
Dissolved Oxygen	mg/l	--	NA	9.31	9.39	9.5	9.61
pH	SU	--	NA	7.42	7.5	7.14	8.03
Temperature	C	--	NA	16.48	16.01	15.7	17.19
Gen Chem							
Biological Oxygen Demand	mg/l	--	2.0 U	2.5	2.2 UB	2.0 U	2.0 U
Chemical Oxygen Demand	mg/l	--	12 J	13 J	20 U	20 U	8.9 J
Total Suspended Solids	mg/l	--	NA	25	11	NA	NA
Inorganics							
Aluminum	ug/l	87	NA	1200	330	NA	NA
Cadmium	ug/l	1.1	NA	5.0 U	5.0 U	NA	NA
Calcium	ug/l	--	18000	15000	17000	18000	18000
Copper	ug/l	9	NA	25 U	25 U	NA	NA
Iron	ug/l	1000	NA	1400	590	NA	NA
Lead	ug/l	14	NA	10 UB	10 U	NA	NA
Magnesium	ug/l	--	3800 J	3100 J	3800 J	3800 J	4000 J
Nickel	ug/l	20	NA	40 U	40 U	NA	NA
Sulfur	ug/l	--	NA	NA	3500	NA	NA
Vanadium	ug/l	--	NA	20 U	20 U	NA	NA
SVOCs							
Acenaphthene	ug/l	990	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Acenaphthylene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Anthracene	ug/l	40000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(a)anthracene	ug/l	0.18	0.19 U	0.12 J	0.19 U	0.19 U	0.19 U
Benzo(a)pyrene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(b)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(g,h,i)perylene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(k)fluoranthene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Chrysene	ug/l	0.018	0.19 U	0.14 J	0.19 U	0.19 U	0.19 U
Dibenzo(a,h)anthracene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Fluoranthene	ug/l	140	0.19 U	0.11 J	0.19 U	0.19 U	0.19 U
Fluorene	ug/l	5300	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Indeno(1,2,3-cd)pyrene	ug/l	0.18	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Naphthalene	ug/l	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Phenanthrene	ug/l	--	0.19 U	0.11 J	0.19 U	0.19 U	0.19 U
Pyrene	ug/l	4000	0.19 U	0.11 J	0.19 U	0.19 U	0.19 U
TPH-DRO							
Diesel (C10-C20)	mg/l	--	0.48 U	0.52 U	0.48 U	0.48 U	0.48 U
Oil Range Organics C20-C34	mg/l	--	0.48 U	0.52 U	0.48 U	0.48 U	0.48 U
TPH-GRO							
Gasoline C6-C10	mg/l	--	NA	0.1 UJ	0.1 U	NA	NA
VOCs							
Benzene	ug/l	510	1.0 U	1.0 UB	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
Toluene	ug/l	6000	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

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  
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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