



November 20, 2017

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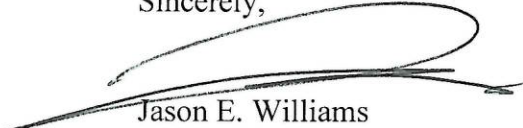
Dear Library Manager:

Please find attached, one document related to Dominion Energy's Chesapeake Energy Center (CEC) industrial landfill. The Major Hillard Library is the public data repository for information submitted by Dominion Energy to the Virginia Department of Environmental Quality relating to the CEC landfill Corrective Action Program (CAP). Throughout the life of the program, Dominion Energy will place on file with the Library copies of associated materials, which should be made available for public viewing until Dominion Energy provides notice. Please include the following document with related CEC materials currently being held for public viewing at the library:

*Summary of Corrective Action Monitoring Data
2017 2nd Semi-Annual Monitoring (August 15-16, 2017)
Chesapeake Energy Center Landfill - Permit No. 440
Chesapeake, Virginia*

Thank you for your assistance and please do not hesitate to call Mr. Donald Hintz of Dominion Energy's Environmental Department at (804) 273-3552 should there be any questions and/or comments.

Sincerely,



Jason E. Williams
Director, Environmental

Attachment

*Data Repository
Chesapeake Energy Center
Chesapeake, Virginia
November 20, 2017*

cc (cover letter only):

Geoff Christe
Geoff.Christe@deq.virginia.gov

Rachel Patton
Rachel.Patton@deq.virginia.gov

Table 1
Summary of Corrective Action Monitoring Data
2017 2nd Semi-Annual Monitoring (August 15-17, 2017)
Chesapeake Energy Center Industrial Landfill - Permit #440
Chesapeake, Virginia

Groundwater Monitoring Wells

Sample ID: Sample Date:	MW-5 8/15/2017				MW-5D 8/16/2017				CECW-1 8/16/2017				CECW-1D 8/16/2017				CECW-2 8/16/2017				CECW-2D 8/16/2017				CECW-3 8/16/2017				CECW-3D 8/16/2017			
	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ
Primary Performance Parameters (µg/L)																																
Arsenic, total	7.0		3.0	5.0	<3.0		3.0	5.0	838		75.0	125	32.8		3.0	5.0	NS	--	--		84.1		15.0	25.0	NS	--	--		111		15.0	25.0
Arsenic, dissolved	5.6		3.0	5.0	3.2 J		3.0	5.0	726		75.0	125	35.1		3.0	5.0	NS	--	--		85.4		15.0	25.0	NS	--	--		126		15.0	25.0
Arsenic III (dissolved)	5.42		0.400	2.00	0.934 J		0.400	2.00	892		0.400	2.00	27.4		0.400	2.00	NS	--	--		60.0		0.400	2.00	NS	--	--		50.7		0.400	2.00
Arsenic V (dissolved)	2.03		0.400	2.00	1.27 J		0.400	2.00	158		0.400	2.00	6.02		0.400	2.00	NS	--	--		10.9		0.400	2.00	NS	--	--		4.79		0.400	2.00
Beryllium, total	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	NS	--	--		<2.0		2.0	4.0	NS	--	--		<2.0		2.0	4.0
Beryllium, dissolved	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	NS	--	--		<2.0		2.0	4.0	NS	--	--		<2.0		2.0	4.0
Cobalt, total	<2.0		2.0	4.0	25.0		2.0	4.0	<2.0		2.0	4.0	3.1 J		2.0	4.0	NS	--	--		<2.0		2.0	4.0	NS	--	--		<2.0		2.0	4.0
Cobalt, dissolved	<2.0		2.0	4.0	25.7		2.0	4.0	<2.0		2.0	4.0	2.5 J		2.0	4.0	NS	--	--		<2.0		2.0	4.0	NS	--	--		<2.0		2.0	4.0
Selenium, total	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	NS	--	--		<2.0		2.0	3.0	NS	--	--		<2.0		2.0	3.0
Selenium, dissolved	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	NS	--	--		<2.0		2.0	3.0	NS	--	--		<2.0		2.0	3.0
Sulfide	<500		500	1,000	<500		500	1,000	680 J		500	1,000	<500		500	1,000	NS	--	--		<500		500	1,000	NS	--	--		1,940		500	1,000
Sulfide, dissolved	<140		140	1,000	<140		140	1,000	310 J		140	1,000	<140		140	1,000	NS	--	--		770 J		140	1,000	NS	--	--		2,040		140	1,000
Performance Parameters (mg/L)																																
Iron, total	3.80		0.0050	0.0100	32.2		0.0500	0.100	2.84		0.0050	0.0100	8.42		0.0050	0.0100	NS	--	--		10.3		0.0050	0.0100	NS	--	--		2.38		0.0050	0.0100
Iron, dissolved	3.50		0.0050	0.0100	32.0		0.0500	0.100	0.944		0.0050	0.0100	8.29		0.0050	0.0100	NS	--	--		8.69		0.0050	0.0100	NS	--	--		1.28		0.0050	0.0100
Manganese	0.0324		0.0020	0.0100	0.812		0.0020	0.0100	0.128		0.0020	0.0100	0.471		0.0020	0.0100	NS	--	--		0.364		0.0020	0.0100	NS	--	--		0.0102		0.0020	0.0100
Field Measurements																																
Dissolved Oxygen (mg/L)	0.13		--	--	0.35		--	--	0.72		--	--	0.42		--	--	NS	--	--		0.28		--	--	NS	--	--		0.46		--	--
Oxidation Reduction Potential (mV)	17		--	--	30		--	--	--		--	--	-15		--	--	NS	--	--		-252		--	--	NS	--	--		-288		--	--
pH (S.U.)	5.96		--	--	6.00		--	--	6.53		--	--	6.41		--	--	NS	--	--		6.49		--	--	NS	--	--		7.70		--	--
Specific Conductance (uS/cm)	347		--	--	3,590		--	--	4,490		--	--	18,000		--	--	NS	--	--		26,600		--	--	NS	--	--		4,830		--	--
Temperature (Degrees Celsius)	22.10		--	--	20.86		--	--	19.80		--	--	19.60		--	--	NS	--	--		19.56		--	--	NS	--	--		22.84		--	--
Turbidity (NTU)	5.97		--	--	1.90		--	--	7.19		--	--	0.52		--	--	NS	--	--		1.29		--	--	NS	--	--		34.4		--	--

Groundwater Monitoring Wells

Sample ID: Sample Date:	CECW-6I 8/16/2017				CECW-6D 8/16/2017				CECW-8 8/17/2017				CECW-8D 8/17/2017				CECW-10R 8/16/2017				CECW-15 8/16/2017				PO-8 8/15/2017				PO-8D 8/17/2017			
	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ
Primary Performance Parameters (µg/L)																																
Arsenic, total	205		15.0	25.0	88.8		15.0	25.0	<3.0		3.0	5.0	24.1 J		15.0	25.0	89.8		15.0	25.0	<3.0		3.0	5.0	16.1		3.0	5.0	<3.0		3.0	5.0
Arsenic, dissolved	200		15.0	25.0	87.9		15.0	25.0	<3.0		3.0	5.0	<15.0		15.0	25.0	74.6		15.0	25.0	<3.0		3.0	5.0	16.0		3.0	5.0	<3.0		3.0	5.0
Arsenic III (dissolved)	184		0.400	2.00	80.9		0.400	2.00	0.916 J		0.400	2.00	6.64		0.400	2.00	28.1		0.400	2.00	0.585 J		0.400	2.00	3.09		0.400	2.00	<0.400		0.400	2.00
Arsenic V (dissolved)	45.0		0.400	2.00	8.72		0.400	2.00	<0.400		0.400	2.00	4.33		0.400	2.00	7.32		0.400	2.00	<0.400		0.400	2.00	4.63		0.400	2.00	0.587 J		0.400	2.00
Beryllium, total	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Beryllium, dissolved	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Cobalt, total	3.2 J		2.0	4.0	6.6		2.0	4.0	2.0 J		2.0	4.0	2.7 J		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Cobalt, dissolved	3.2 J		2.0	4.0	6.9		2.0	4.0	<2.0		2.0	4.0	2.6 J		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Selenium, total	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0
Selenium, dissolved	<2.0		2.0	3.0	2.6 J		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0
Sulfide	<500		500	1,000	<500		500	1,000	99,900		5,000	10,000	<500		500	1,000	5,150		500	1,000	<500		500	1,000	6,780		500	1,000	<500		500	1,000
Sulfide, dissolved	<140		140	1,000	<140		140	1,000	98,000		1,400	10,000	<140		140	1,000	5,380		140	1,000	<140		140	1,000	7,000		140	1,000	<140		140	1,000
Performance Parameters (mg/L)																																
Iron, total	14.5		0.0050	0.0100	12.9		0.0050	0.0100	5.48		0.0050	0.0100	23.5		0.0500	0.100	1.44		0.0050	0.0100	25.1		0.0500	0.100	0.0651		0.0050	0.0100	0.883		0.0050	0.0100
Iron, dissolved	14.3		0.0050	0.0100	12.8		0.0050	0.0100	0.0867		0.0050	0.0100	23.2		0.0500	0.100	1.16		0.0050	0.0100	23.6		0.0500	0.100	0.0326		0.0050	0.0100	0.551		0.0050	0.0100
Manganese	0.321		0.0020	0.0100	0.498		0.0020	0.0100	0.306		0.0020	0.0100	0.323		0.0020	0.0100	0.0689		0.0020	0.0100	0.399		0.0020	0.0100	0.231		0.0020	0.0100	0.0604		0.0020	0.0100
Field Measurements																																
Dissolved Oxygen (mg/L)	0.14		--	--	0.24		--	--	0.16		--	--	2.66		--	--	0.08		--	--	0.47		--	--	0.61		--	--	2.20		--	--
Oxidation Reduction Potential (mV)	-203		--	--	60		--	--	-365		--	--	30		--	--	-259		--	--	37		--	--	-270		--	--	64		--	--
pH (S.U.)	6.35		--	--	5.90		--	--	7.00		--	--	6.27		--	--	5.83		--	--	4.99		--	--	6.96		--	--	6.39		--	--
Specific Conductance (uS/cm)	6,070		--	--	17,700		--	--	26,000		--	--	26,600		--	--	5,460		--	--	27,100		--	--	2,700		--	--	2,330		--	--
Temperature (Degrees Celsius)	19.16		--	--	19.56		--	--	27.40		--	--	20.76		--	--	22.51		--	--	19.82		--	--	20.82		--	--	19.06		--	--
Turbidity (NTU)	1.35		--	--	2.14		--	--	133		--	--	9.23		--	--	9.30		--	--	9.22		--	--	2.65		--	--	9.50		--	--

Table 1
Summary of Corrective Action Monitoring Data
2017 2nd Semi-Annual Monitoring (August 15-17, 2017)
Chesapeake Energy Center Industrial Landfill - Permit #440
Chesapeake, Virginia

Groundwater Monitoring Wells

Sample ID: Parameter Name	PO-10 8/16/2017				PO-10D 8/16/2017				CECW-1D DUP 8/16/2017				FIELD BLANK 8/16/2017			
	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ
Primary Performance Parameters (µg/L)																
Arsenic, total	91.9		15.0	25.0	161		15.0	25.0	53.6		15.0	25.0	<3.0		3.0	5.0
Arsenic, dissolved	86.1		15.0	25.0	157		15.0	25.0	33.6		15.0	25.0	<3.0		3.0	5.0
Arsenic III (dissolved)	34.6		0.400	2.00	89.8		0.400	2.00	28.8		0.400	2.00	<0.400		0.400	2.00
Arsenic V (dissolved)	7.04		0.400	2.00	14.9		0.400	2.00	5.35		0.400	2.00	<0.400		0.400	2.00
Beryllium, total	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Beryllium, dissolved	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Cobalt, total	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Cobalt, dissolved	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Selenium, total	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0
Selenium, dissolved	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0	<2.0		2.0	3.0
Sulfide	2,520		500	1,000	1,050		500	1,000	<500		500	1,000	<500		500	1,000
Sulfide, dissolved	2,460		140	1,000	1,200		140	1,000	<140		140	1,000	<140		140	1,000
Performance Parameters (mg/L)																
Iron, total	1.40		0.0050	0.0100	5.14		0.0050	0.0100	1.48		0.0050	0.0100	<0.0050		0.0050	0.0100
Iron, dissolved	0.463		0.0050	0.0100	1.66		0.0050	0.0100	8.09		0.0050	0.0100	<0.0050		0.0050	0.0100
Manganese	0.0336		0.0020	0.0100	0.0243		0.0020	0.0100	0.0599		0.0020	0.0100	<0.0020		0.0020	0.0100
Field Measurements																
Dissolved Oxygen (mg/L)	0.15		--	--	0.11		--	--	0.41		--	--	--		--	--
Oxidation Reduction Potential (mV)	-275		--	--	296		--	--	-15		--	--	--		--	--
pH (S.U.)	8.25		--	--	7.52		--	--	6.42		--	--	--		--	--
Specific Conductance (uS/cm)	3,480		--	--	5,070		--	--	18,000		--	--	--		--	--
Temperature (Degrees Celsius)	21.58		--	--	19.42		--	--	19.61		--	--	--		--	--
Turbidity (NTU)	29.3		--	--	98.8		--	--	0.57		--	--	--		--	--

Surface Water

Sample ID: Sample Date:	SW-1 8/16/2017				SW-2 8/16/2017				SW-3 8/16/2017				SW-4 8/16/2017				SW-1 DUP 8/16/2017				FIELD BLANK 8/16/2017			
	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ
Primary Constituents (µg/L)																								
Arsenic, total	<3.0		3.0	5.0	<3.0		3.0	5.0	<3.0		3.0	5.0	<3.0		3.0	5.0	<3.0		3.0	5.0	<3.0		3.0	5.0
Arsenic III (dissolved)	<0.400		0.400	2.00	<0.400		0.400	2.00	<0.400		0.400	2.00	<0.400		0.400	2.00	<0.400		0.400	2.00	<0.400		0.400	2.00
Arsenic V (dissolved)	1.17 J		0.400	2.00	1.11 J		0.400	2.00	1.05 J		0.400	2.00	1.13 J		0.400	2.00	1.20 J		0.400	2.00	<0.400		0.400	2.00
Beryllium, total	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Cobalt, total	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0	<2.0		2.0	4.0
Selenium, total	<10.0		10.0	10.0	14.3		10.0	10.0	19.5		10.0	10.0	<20.0		20.0	20.0	17.9		10.0	10.0	<1.00		1.00	1.00
Sulfide	<500		500	1,000	<500		500	1,000	<500		500	1,000	<500		500	1,000	<500		500	1,000	<500		500	1,000
Sulfide, dissolved	<140		140	1,000	<140		140	1,000	<140		140	1,000	<140		140	1,000	<140		140	1,000	<140		140	1,000
Water Quality Parameters (mg/L)																								
Iron, total	1.12		0.0050	0.0100	0.332		0.0050	0.0100	0.744		0.0050	0.0100	1.00		0.0050	0.0100	0.259		0.0050	0.0100	<0.0050		0.0050	0.0100
Total Suspended Solids	25.2		1.00	1.00	5.57		1.00	1.00	6.48		1.00	1.00	3.50		1.00	1.00	22.7		1.00	1.00	<1.00		1.00	1.00
Field Measurements																								
Dissolved Oxygen (mg/L)	9.43		--	--	7.98		--	--	7.05		--	--	6.91		--	--	9.27		--	--	--		--	--
Oxidation Reduction Potential (mV)	123		--	--	108		--	--	104		--	--	101		--	--	122		--	--	--		--	--
pH (S.U.)	6.62		--	--	6.96		--	--	7.09		--	--	7.13		--	--	6.70		--	--	--		--	--
Specific Conductance (uS/cm)	28,400		--	--	28,500		--	--	29,300		--	--	29,900		--	--	28,300		--	--	--		--	--
Temperature (Degrees Celsius)	30.40		--	--	29.16		--	--	28.68		--	--	28.25		--	--	30.39		--	--	--		--	--
Turbidity (NTU)	6.25		--	--	4.57		--	--	3.90		--	--	2.46		--	--	6.44		--	--	--		--	--

Notes:
 LOD = Limit of detection
 LOQ = Limit of quantitation
 mg/L = Milligrams per liter
 µg/L = Micrograms per liter
 < = Less than or equal to reporting LOD
 NS = Not sampled, insufficient water
 mV = Millivolts
 S.U. = Standard units
 uS/cm = MicroSiemens per centimeter
 NTU = Nephelometric Turbidity Units
Bold font = Detected concentration

Laboratory Data Qualifiers (Qual):
 J = The reported result is an estimated value.

Table 1
Summary of Verification Sampling Results - November 7, 2017
Chesapeake Energy Center Industrial Landfill - Permit #440
Chesapeake, Virginia

Surface Water

Sample ID: Sample Date:	SW-1 11/7/2017				SW-2 11/7/2017				SW-3 11/7/2017				SW-1 DUP 11/7/2017				FIELD BLANK 11/7/2017			
Parameter Name	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ	Result	Qual	LOD	LOQ
Primary Constituents (µg/L)																				
Selenium, total	20.4		5.00	20.0	22.7 J		6.25	25.0	23.2		5.00	20.0	14.8 J		6.25	25.0	<0.250		0.250	1.00
Field Measurements																				
Dissolved Oxygen (mg/L)	6.48		--	--	6.28		--	--	6.65		--	--	6.22		--	--	--		--	--
Oxidation Reduction Potential (mV)	56		--	--	21		--	--	13		--	--	47		--	--	--		--	--
pH (S.U.)	6.80		--	--	6.73		--	--	6.98		--	--	6.82		--	--	--		--	--
Specific Conductance (uS/cm)	28,600		--	--	28,900		--	--	29,400		--	--	28,500		--	--	--		--	--
Temperature (Degrees Celsius)	19.23		--	--	19.18		--	--	19.10		--	--	19.21		--	--	--		--	--
Turbidity (NTU)	2.37		--	--	4.14		--	--	3.73		--	--	2.35		--	--	--		--	--

Notes:

LOD = Limit of detection
 LOQ = Limit of quantitation
 µg/L = Micrograms per liter
 mg/L = Milligrams per liter
 < = Less than or equal to reported LOD
 mV = Millivolts
 S.U. = Standard units
 uS/cm = MicroSiemens per centimeter
 NTU = Nephelometric Turbidity Units
Bold font = Detected concentration

Laboratory Data Qualifiers (Qual):

J = The reported result is an estimated value.