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**SITE ASSESSMENT,  
REMEDICATION &  
REVITALIZATION**

**Groundwater Monitoring Report – May 2016**

**CSXF Bramlette Road Site**

**SCDHEC Site ID Number 00801**

**Greenville, South Carolina**

**S&ME Project No. 1264-08-105**



Prepared for:

Duke Energy

Mail Code NCRH15

410 South Wilmington Street

Raleigh, North Carolina 27601

Prepared by:

S&ME, Inc.

301 Zima Park Road

Spartanburg, South Carolina 29301

June 10, 2016

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June 10, 2016

South Carolina Department of Health and Environmental Control  
Bureau of Land and Waste Management  
2600 Bull Street  
Columbia, South Carolina 29201

Attention: Mr. Lucas Berresford  
[berresjl@dhec.sc.gov](mailto:berresjl@dhec.sc.gov)

Reference: **Groundwater Monitoring Report – May 2016**  
**CSXF Bramlette Road Site**  
**SCDHEC Site ID Number 00801**  
Greenville, South Carolina  
S&ME Project Number 1264-08-105

Dear Mr. Berresford:

S&ME, Inc. is pleased to submit this *Groundwater Monitoring Report- May 2016* for the referenced site. We trust this information is responsive to your needs at this time. Please contact us if you have questions or need additional information.

Sincerely,

**S&ME, Inc.**

  
John Whitehead, P.G.  
Senior Geologist  
[jwhitehead@smeinc.com](mailto:jwhitehead@smeinc.com)



cc: Kevin Boland, CSX  
Daniel Schmitt, CSX  
Matt Adkins, CSX  
Andrew Shull, Duke Energy  
Chris Gilbert, Duke Energy

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1. Site Name: CSXF Bramlette Road Site
2. Site ID#: SCDHEC Site ID# 00801
3. Site Location: 400 South Bramlette Road, Greenville, South Carolina
4. Contact: Andrew Shull, P.E.  
Duke Energy  
Mail Code NCRH15  
410 South Wilmington Street  
Raleigh, North Carolina 27601  
Phone: 919.546.2104  
Email: [andrew.shull@duke-energy.com](mailto:andrew.shull@duke-energy.com)
5. Site Owner: CSX Transportation
6. Previous Samplings: September 1996; June 1999; November 2000; May and November 2001 through 2015
7. Current Sampling: May 25, 2016
8. Sampled By: S&ME, Inc.  
301 Zima Park Road  
Spartanburg, South Carolina 29301
9. Wells Sampled: MW-2, MW-6A, MW-18, MW-21, MW-23, MW-24, MW-25R
10. Analytical Laboratory: Duke Energy Analytical Laboratory  
(SC DHEC Laboratory ID #99005)  
13339 Hagers Ferry Road  
Huntersville, North Carolina 28078-7929  
McGuire Nuclear Complex - MG03A2  
  
Subcontract to:  
  
Test America  
(SC Certification Number 84009)  
2960 Foster Creighton Drive  
Nashville, Tennessee 37204



- The monitoring wells were sampled on May 25, 2016 by using a combination of low flow pumps, disposable bailers, and dedicated bailers. The samples were transported to the analytical laboratory via an overnight courier and received by the laboratory on May 26, 2016.
- Chart 1 portrays that groundwater elevations at the CSX/Vaughn Landfill and Bramlette Road MGP Site have historically been generally consistent over time with seasonal fluctuations. Water levels at each well dropped since the last sampling event conducted in November 2015. The fall of 2015 was wetter than normal with higher rainfall amounts, and the spring of 2016 has been somewhat drier than normal with lower rainfall amounts.
- Groundwater potentiometric contours (across the shallow and mid-depth saprolite wells) are provided on Figure 1. During the May 2016 sampling event, groundwater flow within the saprolite followed previously observed patterns. That is from the north/northeast toward the south/southwest and the Reedy River and consistent with historical observations.
- As background, benzene and naphthalene (as indicator parameters) have been historically detected in shallow wells MW-1, MW-2, MW-3, MW-6A, and MW-21; and mid-depth saprolite wells MW-3D, MW-19, and MW-20 over the period-of-record monitoring covered in this report (since May 1999).
- Table 1 summarizes the groundwater field data for the monitoring event; Table 2 summarizes historic VOC detections since 2008. VOCs were not detected in wells MW-18, MW-24, and MW-25R. Chloroform was the only VOC detected in well MW-23.
- Concentration maps were constructed for benzene (Figure 2) and naphthalene (Figure 3). Please note that no iso-concentration contour lines were drawn. In addition and as requested by SCDHEC, cross section maps with benzene and naphthalene concentrations are included as Figures 5 through 9.
- Temporal benzene and naphthalene concentrations in the above noted shallow wells are provided in Chart 2 and Chart 3, respectively (noting that not all these wells are sampled during the Spring monitoring). Prior to the November 2013 sampling event, naphthalene concentrations were based on Method 8270 results. Beginning with the November 2013 sampling event, the naphthalene concentrations are from the Method 8260 results.



- Table 3 summarizes the monitored natural attenuation (MNA) parameters and values during the May 2016 monitoring.

## 16. Actions

- Duke Energy has signed the Voluntary Cleanup Contract (VCC) and returned it to the South Carolina Department of Health and Environmental Control (SC DHEC). S&ME, Inc. understands that SC DHEC will make the document available for public review and comment prior to finalization.
- An access agreement between CSX and Duke Energy has been finalized.
- Duke Energy will conduct the next groundwater monitoring event during November 2016. Each of the site wells will be sampled during November 2016. These groundwater samples will be analyzed for VOCs by Method 8260.

## **Appendices**

## **Appendix I – Tables**

**Table 1 – Groundwater Sampling Field Data – May 2016**

**Table 2 – Summary of 8260 Compounds**

**Table 3 - Monitored Natural Attenuation (MNA) Parameters – May 2016**

**TABLE 1**  
**GROUNDWATER SAMPLING FIELD DATA - MAY 2016**  
**CSXF BRAMLETTE ROAD SITE**  
**GREENVILLE, SOUTH CAROLINA**  
**S&ME Project 1264-08-105**

Well	Date Sampled	Measured Well Depth (feet)	Depth to Water (feet)	Odor (subjective)	Well Volume (gallons)	Purge Method	Evacuated Volume (gallons)	Complete Evacuation (yes/no)	Temperature ( C)	Specific Conductance (umho/cm)	pH (su)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)	
MW-1	May 25, 2016	16.92	7.08												Not Sampled During May Events
MW-2	May 25, 2016	18.20	11.28	none	1.2	Low Flow Pump	1.5	No	19	392	6.12	4.0	0.62	-6	
MW-3	May 25, 2016	16.68	10.02												Not Sampled During May Events
MW-3D	May 25, 2016	23.42	9.90												Not Sampled During May Events
MW-5	May 25, 2016	15.92	10.02												Not Sampled During May Events
MW-6A	May 25, 2016	17.45	8.68	strong	1.5	Disposable Bailer	3.0	No	15	672	7.00	132	1.91	-121	
MW-15	May 25, 2016	57.51	9.88												Not Sampled During May Events
MW-16	May 25, 2016	17.92	9.68												Not Sampled During May Events
MW-18	May 25, 2016	27.28	12.74	none	2.5	Low Flow Pump	0.5	No	17	289	6.13	2.0	0.43	-35	
MW-19	May 25, 2016	21.86	7.04												Not Sampled During May Events
MW-20	May 25, 2016	28.04	10.18												Not Sampled During May Events
MW-21	May 25, 2016	20.58	11.49	none	1.6	Low Flow Pump	4.5	No	15	55	6.88	40	2.18	-124	
MW-22	May 25, 2016	35.36	10.27												Not Sampled During May Events
MW-23	May 25, 2016	45.36	3.80	none	7.6	Dedicated Bailer	7.0	Yes	18	683	6.28	194	2.90	-103	
MW-24	May 25, 2016	10.30	4.65	none	1.0	Dedicated Bailer	1.0	Yes	18	683	6.28	194	2.88	-103	
MW-25R	May 25, 2016	15.90	2.91	none	2.3	Low Flow Pump	2.5	No	20	220	6.12	220	0.56	-41	

**NOTES:**

1. Depths measured relative to top of well casing.
2. C = degress Celcius
3. su = standard units
4. umho/cm = micromhos per centimeter
5. NTU = Nephelometric Turbidity Unit
6. mg/L = milligrams per liter
7. mV = milliVolts





**Table 2**  
**Summary of 8260 Compounds**  
**CSXF Bramlette Road Site**  
**Greenville, South Carolina**  
**S&ME Project Number 1264-08-105**

Well ID	Sample Date	1,2,4-Trimethylbenzene 95-63-6	1,3,5-Trimethylbenzene 108-67-8	Benzene 71-43-2	Chloroform 67-66-3	cis-1,2-Dichloroethene 156-59-2	Ethylbenzene 100-41-4	Isopropylbenzene 98-92-8	Naphthalene 91-20-3	n-Butylbenzene 104-51-8	n-Propylbenzene 103-65-1	p-Isopropyltoluene 99-87-6	Styrene 100-42-5	Toluene 108-88-3	Xylenes, Total 1330-20-7
MW-18	05/29/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/19/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/15/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/12/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2011	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/17/2011	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2012	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/14/2012	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/15/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/13/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/14/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/12/2014	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/13/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	11/11/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
5/25/2016	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3	
MW-19	05/29/2008	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/19/2008	<b>134</b>	<b>48.6</b>	<b>143</b>	<1	<1	<b>164</b>	<b>19.6</b>	<b>7040</b>	<b>4.19</b>	<b>5.11</b>	<1	<1	<b>180</b>	<b>256</b>
	05/15/2009	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/19/2009	<b>112</b>	<b>43.4</b>	<b>138</b>	<1	<1	<b>153</b>	<b>19</b>	<b>5000</b>	<b>3.55</b>	<b>5.26</b>	<b>4.2</b>	<1	<b>176</b>	<b>239</b>
	05/12/2010	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/18/2010	<b>121</b>	<b>43</b>	<b>107</b>	<1	<1	<b>168</b>	<b>19</b>	<b>5410</b>	<1	<b>4.57</b>	<b>4.97</b>	<1	<b>166</b>	<b>243</b>
	5/18/2011	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/19/2011	<b>121</b>	<b>44</b>	<b>111</b>	<1	<1	<b>170</b>	<b>19.9</b>	<b>6150</b>	<1	<b>4.89</b>	<b>4.02</b>	<1	<b>165</b>	<b>255</b>
	5/18/2012	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/15/2012	<b>115</b>	<b>41.7</b>	<b>119</b>	<1	<1	<b>170</b>	<b>19.1</b>	<b>7.13</b>	<b>3.54</b>	<b>4.86</b>	<b>5.3</b>	<1	<b>147</b>	<b>246</b>
	5/15/2013	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/13/2013	<b>122</b>	<b>44.4</b>	<b>84</b>	<1	<1	<b>157</b>	<b>16.2</b>	<b>5150</b>	<b>4.15</b>	<b>4.69</b>	<b>4.62</b>	<1	<b>128</b>	<b>225</b>
	5/14/2014	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/12/2014	<b>88.6</b>	<b>40.1</b>	<b>62.2</b>	<20	<20	<b>63.9</b>	<20	<b>3900</b>	<20	<20	<20	<20	<b>53.3</b>	<b>165</b>
	5/13/2015	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/10/2015	<b>73.6</b>	<b>42.9</b>	<b>107</b>	<20	<20	<b>110</b>	<20	<b>3850</b>	<20	<20	<20	<20	<b>84.9</b>	<b>178</b>
5/25/2016	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
MW-20	05/29/2008	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/19/2008	<b>115</b>	<b>39.5</b>	<b>839</b>	<1	<1	<b>473</b>	<b>17.3</b>	<b>9120</b>	<b>4.47</b>	<b>4.01</b>	<b>3.72</b>	<1	<b>93.9</b>	<b>395</b>
	05/15/2009	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/18/2009	<b>109</b>	<b>35.8</b>	<b>838</b>	<1	<1	<b>450</b>	<b>12.5</b>	<b>6830</b>	<b>7.94</b>	<b>3.24</b>	<b>3.02</b>	<1	<b>82.3</b>	<b>352</b>
	05/12/2010	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/18/2010	<b>108</b>	<b>36.2</b>	<b>736</b>	<1	<1	<b>450</b>	<b>16.7</b>	<b>9580</b>	<1	<b>3.75</b>	<b>4.95</b>	<1	<b>76.9</b>	<b>361</b>
	5/18/2011	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/17/2011	<b>88.4</b>	<b>29.2</b>	<b>616</b>	<1	<1	<b>344</b>	<b>15.3</b>	<b>6410</b>	<b>3.18</b>	<b>3.03</b>	<b>2.53</b>	<1	<b>75.1</b>	<b>368</b>
	5/18/2012	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/14/2012	<b>98</b>	<b>30.3</b>	<b>748</b>	<1	<1	<b>488</b>	<b>13.8</b>	<b>12700</b>	<1	<b>3.04</b>	<b>5.29</b>	<1	<b>70.7</b>	<b>369</b>
	5/15/2013	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/14/2013	<b>85.4</b>	<b>28.4</b>	<b>713</b>	<1	<1	<b>405</b>	<b>13.2</b>	<b>7280</b>	<1	<b>2.41</b>	<b>4.26</b>	<1	<b>71.4</b>	<b>369</b>
	5/14/2014	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/11/2014	<b>86.9</b>	<b>31.0</b>	<b>750</b>	<1	<1	<b>383</b>	<b>11.1</b>	<b>6130</b>	<1	<b>2.34</b>	<b>4.23</b>	<1	<b>68.1</b>	<b>404</b>
	5/13/2015	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/10/2015	<b>92</b>	<b>33.7</b>	<b>687</b>	<1	<1	<b>359</b>	<b>10.7</b>	<b>12800</b>	<b>4.23</b>	<b>1.08</b>	<b>2.86</b>	<1	<b>54.5</b>	<b>400</b>
5/25/2016	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
MW-21	05/29/2008	<b>13</b>	<b>4.75</b>	<b>44.8</b>	<1	<1	<b>15.6</b>	<b>1.82</b>	<b>863</b>	<1	<1	<1	<1	<b>15.9</b>	<b>34.8</b>
	11/19/2008	<b>5.39</b>	<b>1.98</b>	<b>10.1</b>	<1	<1	<b>6.45</b>	<1	<b>392</b>	<1	<1	<1	<1	<b>7.39</b>	<b>14.5</b>
	05/15/2009	<b>1.49</b>	<1	<b>2.53</b>	<1	<1	<b>1.08</b>	<1	<b>63.7</b>	<1	<1	<1	<1	<1	<3
	11/18/2009	<b>2.17</b>	<1	<b>10.7</b>	<1	<1	<b>2.87</b>	<1	<b>27.9</b>	<1	<1	<1	<1	<b>1.93</b>	<b>3.88</b>
	05/12/2010	<b>1.53</b>	<1	<b>8.47</b>	<1	<1	<b>2.18</b>	<1	<b>16.2</b>	<1	<1	<1	<1	<b>1.65</b>	<b>3.13</b>
	11/17/2010	<b>6.97</b>	<b>2.11</b>	<b>33</b>	<1	<1	<b>10.5</b>	<1	<b>326</b>	<1	<1	<1	<1	<b>10.7</b>	<b>21.8</b>
	5/18/2011	<b>4.9</b>	<1	<b>10.9</b>	<1	<1	<b>5.21</b>	<1	<b>62.4</b>	<1	<1	<1	<1	<b>1</b>	<b>7.8</b>
	11/17/2011	<1	<1	<1	<1	<1	<1	<1	<b>62.3</b>	<1	<1	<1	<1	<1	<3
	5/18/2012	<1	<1	<b>1.99</b>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
	11/14/2012	<b>6.27</b>	<b>2.49</b>	<b>39.8</b>	<1	<1	<b>5.31</b>	<1	<b>205</b>	<1	<1	<1	<1	<b>1.92</b>	<b>17.3</b>
	5/15/2013	<1	<1	<b>2.41</b>	<1	<1	<1	<1	<b>9.89</b>	<1	<1	<1	<1	<1	<3
	11/13/2013	<b>3.28</b>	<b>1.47</b>	<b>19.4</b>	<1	<1	<b>3.3</b>	<1	<b>59</b>	<1	<1	<1	<1	<b>2.97</b>	<b>9.07</b>
	5/14/2014	<1	<1	<b>4.7</b>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/11/2014	<b>9.75</b>	<b>3.37</b>	<b>82.7</b>	<1	<1	<b>13.8</b>	<b>1.29</b>	<5	<1	<1	<1	<1	<b>8.36</b>	<b>25.7</b>
	5/13/2015	<1	<1	<b>1.51</b>	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	11/10/2015	<b>2.89</b>	<b>1.09</b>	<b>25.7</b>	<1	<1	<b>5.07</b>	<1	<b>6.08</b>	<1	<1	<1	<1	<1	<b>7.92</b>
5/25/2016	<b>2.56</b>	<b>1.73</b>	<b>21.8</b>	<1	<1	<b>5.07</b>	<1	<b>54.7</b>	<1	<1	<1	<1	<b>2.00</b>	<b>9.31</b>	

**Table 2**  
**Summary of 8260 Compounds**  
**CSXF Bramlette Road Site**  
**Greenville, South Carolina**  
**S&ME Project Number 1264-08-105**

Well ID	Sample Date	1,2,4-Trimethylbenzene 95-63-6	1,3,5-Trimethylbenzene 108-67-8	Benzene 71-43-2	Chloroform 67-66-3	cis-1,2-Dichloroethene 156-59-2	Ethylbenzene 100-41-4	Isopropylbenzene 98-82-8	Naphthalene 91-20-3	n-Butylbenzene 104-51-8	n-Propylbenzene 103-65-1	p-Isopropyltoluene 99-87-6	Styrene 100-42-5	Toluene 108-88-3	Xylenes, Total 1330-20-7
MW-22	05/29/2008	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/19/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/15/2009	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/18/2009	<b>1.22</b>	<1	<1	<1	<1	<1	<1	<5	<b>2.89</b>	<1	<1	<1	<1	<3
	05/12/2010	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/18/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2011	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/17/2011	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2012	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/14/2012	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/15/2013	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/13/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/14/2014	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/11/2014	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/13/2015	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	11/10/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
5/25/2016	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
MW-23	05/29/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/19/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/15/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/12/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2011	<1	<1	<1	<b>1</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/17/2011	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2012	<1	<1	<1	<b>1.05</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/13/2012	<1	<1	<1	<b>1.58</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/16/2013	<1	<1	<1	<b>1.65</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/13/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/14/2014	<1	<1	<1	<b>1.1</b>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/11/2014	<1	<1	<1	<b>1.18</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/13/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	11/10/2015	<1	<1	<1	<b>1.74</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
5/25/2016	<1	<1	<1	<b>1.44</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3	
MW-24	05/29/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/19/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/15/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/12/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2011	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/17/2011	<1	<1	<1	<b>1.35</b>	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2012	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/14/2012	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/15/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/13/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/14/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/11/2014	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/13/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	11/10/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
5/25/2016	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3	
MW-25R	05/29/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/19/2008	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/15/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2009	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	05/12/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/18/2010	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2011	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/17/2011	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/18/2012	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/14/2012	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/15/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	11/13/2013	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
	5/14/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/12/2014	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	5/13/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<2
	11/11/2015	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3
5/25/2016	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<3	

Results are expressed in micrograms per liter (ug/l).  
ns - not sampled during this event

**TABLE 3**  
**MONITORED NATURAL ATTENUATION (MNA) PARAMETERS -MAY 2016**  
**CSXF BRAMLETTE ROAD SITE**  
**GREENVILLE, SOUTH CAROLINA**  
**S&ME Project 1264-08-105**

Well	Sample Date	Alkalinity	Iron (Ferrous)	Manganese	Nitrate (as N)	Sulfate
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-1	May 25, 2016	Not Sampled During May Events				
MW-2	May 25, 2016	<b>172</b>	<b>8.24</b>	<b>0.827</b>	< 0.100	<b>5.24</b>
MW-3	May 25, 2016	Not Sampled During May Events				
MW-3D	May 25, 2016	Not Sampled During May Events				
MW-5	May 25, 2016	Not Sampled During May Events				
MW-6A	May 25, 2016	<b>245</b>	<b>16.8</b>	<b>0.453</b>	< 0.100	<b>2.03</b>
MW-15	May 25, 2016	Not Sampled During May Events				
MW-16	May 25, 2016	Not Sampled During May Events				
MW-18	May 25, 2016	<b>115</b>	<b>5.9</b>	<b>0.738</b>	< 0.100	<b>13.1</b>
MW-19	May 25, 2016	Not Sampled During May Events				
MW-20	May 25, 2016	Not Sampled During May Events				
MW-21	May 25, 2016	<b>240</b>	<b>10.1</b>	<b>0.53</b>	< 0.100	<b>2.66</b>
MW-22	May 25, 2016	Not Sampled During May Events				
MW-23	May 25, 2016	<b>14.1</b>	< 0.100	<b>0.0306</b>	<b>4.35</b>	<b>20.5</b>
MW-24	May 25, 2016	<b>266</b>	<b>55.2</b>	<b>2.73</b>	< 0.100	<b>37.1</b>
MW-25R	May 25, 2016	<b>56.7</b>	<b>9.5</b>	<b>0.29</b>	< 0.100	<b>13.2</b>

**Notes:**

1. Detected concentrations in bold text.
2. mg/L = milligrams per liter
3. The ferrous iron analysis is a field parameter with a hold time of 15 minutes. The analysis is conducted at Duke Energy's request.

## **Appendix II – Figures**

**Figure 1 – Groundwater Flow Map – May 2016**

**Figure 2 – Benzene Concentration Map – May 2016**

**Figure 3 – Naphthalene Concentration Map – May 2016**

**Figure -4 – Cross-Section Locations**

**Figure 5 – Selected Cross-Section A – A'**

**Figure 6 – Selected Cross-Section B – B'**

**Figure 7 – Selected Cross-Section C – C'**

**Figure 8 – Selected Cross-Section D – D'**

**Figure 9 – Selected Cross-Section E – E'**

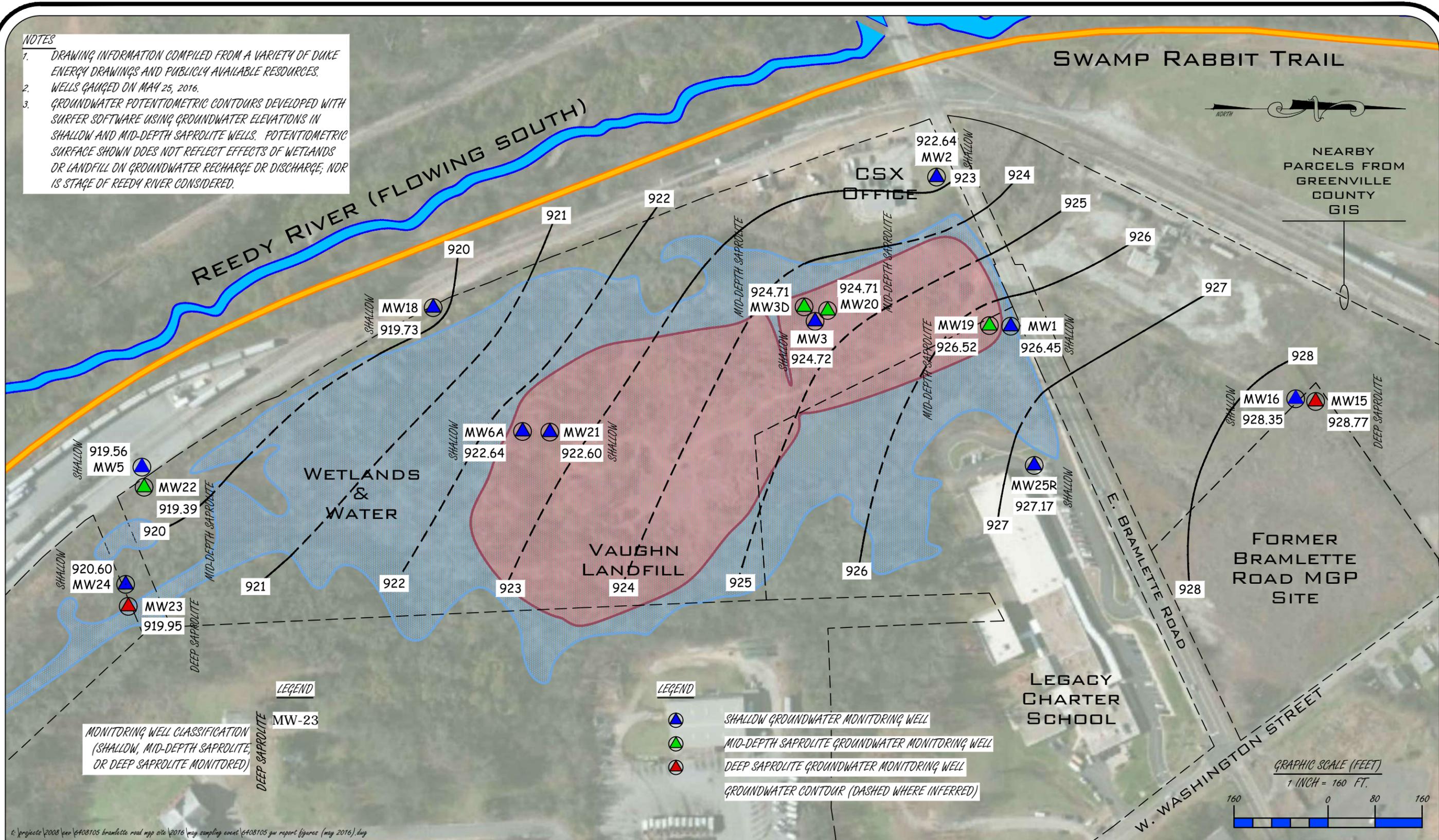
**Chart 1 – Temporal Groundwater Elevations**

**Chart 2 – Temporal Benzene Concentrations in Shallow Wells**

**Chart 3 – Temporal Naphthalene Concentrations in Shallow Wells**

**NOTES**

1. DRAWING INFORMATION COMPILED FROM A VARIETY OF DUKE ENERGY DRAWINGS AND PUBLICLY AVAILABLE RESOURCES.
2. WELLS GAUGED ON MAY 25, 2016.
3. GROUNDWATER POTENTIOMETRIC CONTOURS DEVELOPED WITH SURFER SOFTWARE USING GROUNDWATER ELEVATIONS IN SHALLOW AND MID-DEPTH SAPROLITE WELLS. POTENTIOMETRIC SURFACE SHOWN DOES NOT REFLECT EFFECTS OF WETLANDS OR LANDFILL ON GROUNDWATER RECHARGE OR DISCHARGE; NOR IS STAGE OF REEDY RIVER CONSIDERED.



**LEGEND**

MONITORING WELL CLASSIFICATION  
(SHALLOW, MID-DEPTH SAPROLITE,  
OR DEEP SAPROLITE MONITORED)

**LEGEND**

- SHALLOW GROUNDWATER MONITORING WELL
- MID-DEPTH SAPROLITE GROUNDWATER MONITORING WELL
- DEEP SAPROLITE GROUNDWATER MONITORING WELL
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

SCALE: <i>AS SHOWN</i>	DATE: <i>June 3, 2016</i>
PROJECT NO. <i>1264-08-105</i>	DRAWN BY: <i>J. Whitehead</i>
	CHECKED BY: <i>L. Armstrong</i>

301 Zima Park Road  
Spartanburg, South Carolina 29301  
Phone 864.574.2360  
Fax 864.576.8730  
WWW.SMEINC.COM

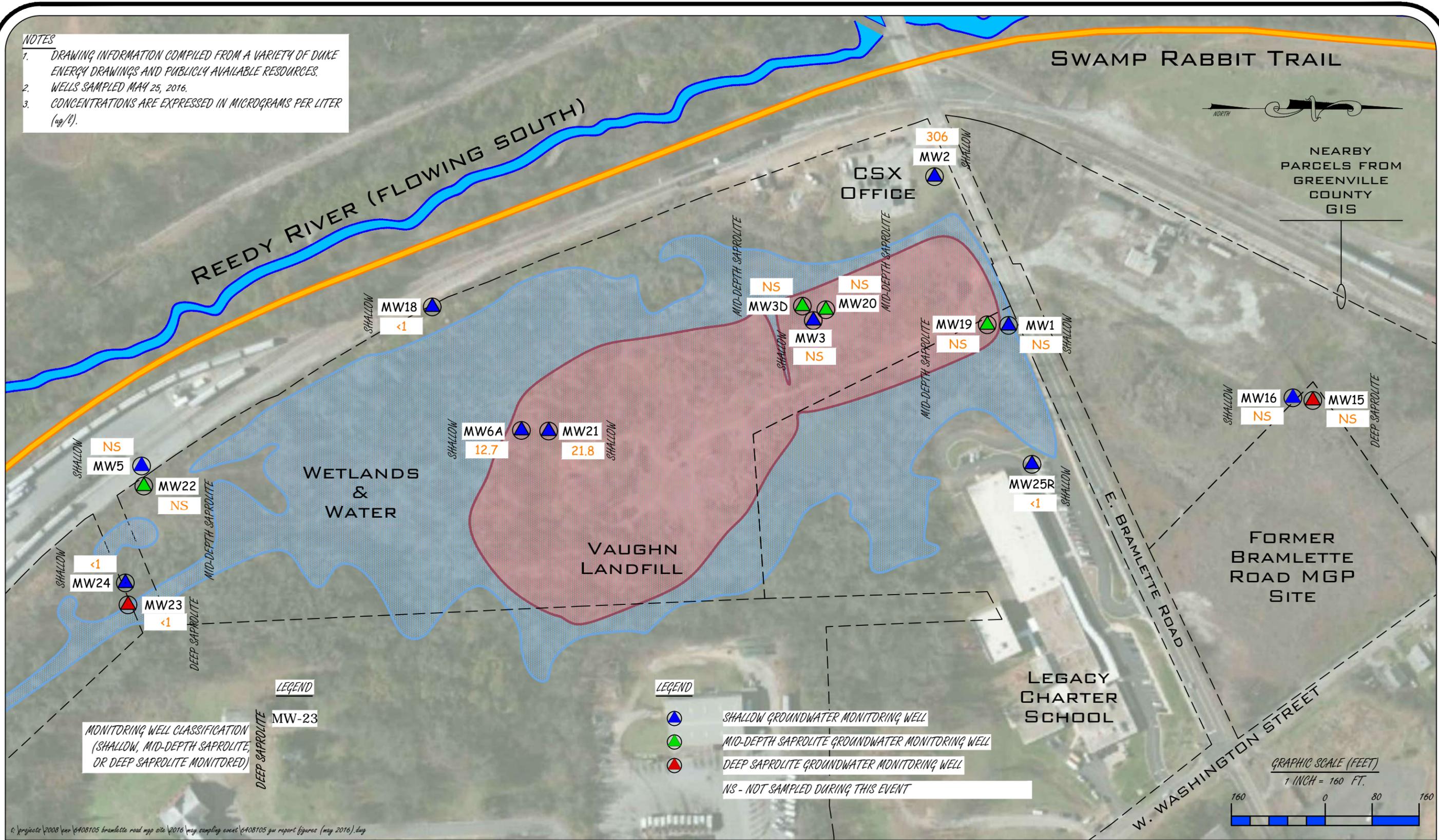
**GROUNDWATER FLOW MAP - MAY 2016  
CSXF BRAMLETTE ROAD SITE  
GREENVILLE, SOUTH CAROLINA**

FIGURE NO.  
**1**

c:\projects\2008\bram\408105\bramlette\_road\_mgp\_site\2016\may\_sampling\_event\408105\_gw\_report\_figures\_may\_2016.dwg

**NOTES**

- DRAWING INFORMATION COMPILED FROM A VARIETY OF DUKE ENERGY DRAWINGS AND PUBLICLY AVAILABLE RESOURCES.
- WELLS SAMPLED MAY 25, 2016.
- CONCENTRATIONS ARE EXPRESSED IN MICROGRAMS PER LITER (ug/l).



SCALE: AS SHOWN  
DATE: June 3, 2016  
PROJECT NO. 1264-08-105  
DRAWN BY: J. Whitehead  
CHECKED BY: L. Armstrong

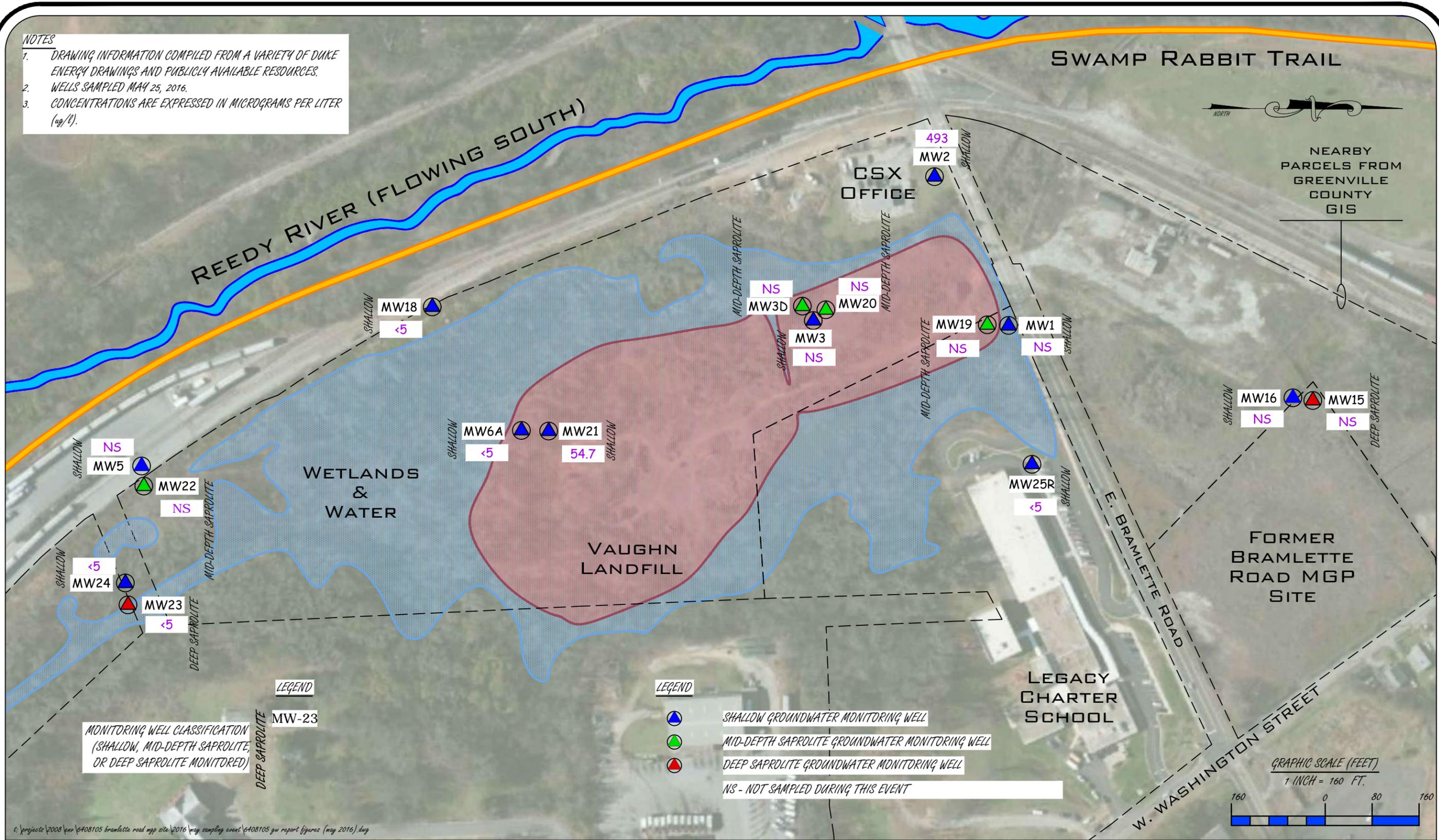
301 Zima Park Road  
Spartanburg, South Carolina 29301  
Phone 864.574.2360  
Fax 864.576.8730  
WWW.SMEINC.COM

**BENZENE CONCENTRATION MAP - MAY 2016**  
**CSXF BRAMLETTE ROAD SITE**  
**GREENVILLE, SOUTH CAROLINA**

FIGURE NO.  
**2**

**NOTES**

- DRAWING INFORMATION COMPILED FROM A VARIETY OF DUKE ENERGY DRAWINGS AND PUBLICLY AVAILABLE RESOURCES.
- WELLS SAMPLED MAY 25, 2016.
- CONCENTRATIONS ARE EXPRESSED IN MICROGRAMS PER LITER (ug/l).



c:\projects\2008\bramlette road mgp site\2016\may sampling event\6408105.gw report figures (may 2016).dwg

SCALE: <i>AS SHOWN</i>	DATE: <i>June 3, 2016</i>
PROJECT NO. <i>1264-08-105</i>	DRAWN BY: <i>J. Whitehead</i>
	CHECKED BY: <i>L. Armstrong</i>



301 Zima Park Road  
Spartanburg, South Carolina 29301  
Phone 864.574.2360  
Fax 864.576.8730  
WWW.SMEINC.COM

**NAPHTHALENE CONCENTRATION MAP - MAY 2016**  
**CSXF BRAMLETTE ROAD SITE**  
**GREENVILLE, SOUTH CAROLINA**

FIGURE NO.  
**3**



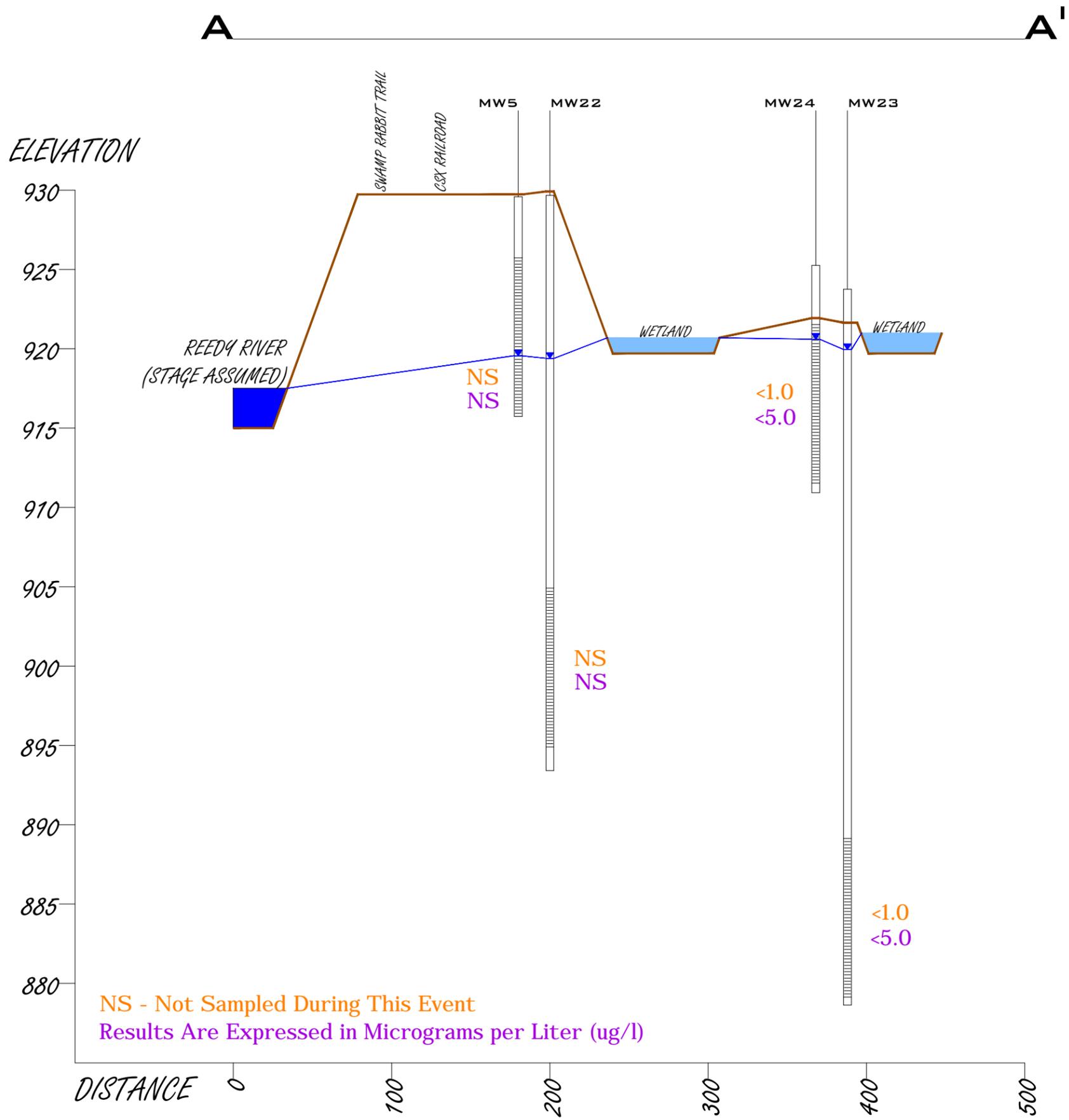


FIGURE 5 - SELECTED CROSS-SECTION A - A'; CSXF BRAMLETTE ROAD SITE; SCALE AS SHOWN BENZENE CONCENTRATIONS (ORANGE) & NAPHTHALENE CONCENTRATIONS (PURPLE) FROM MAY 2016. GROUND SURFACE, LANDFILL, REEDY RIVER, & WETLAND LOCATIONS AND TOPOGRAPHY ARE HIGHLY CONCEPTUALIZED.

ELEVATION

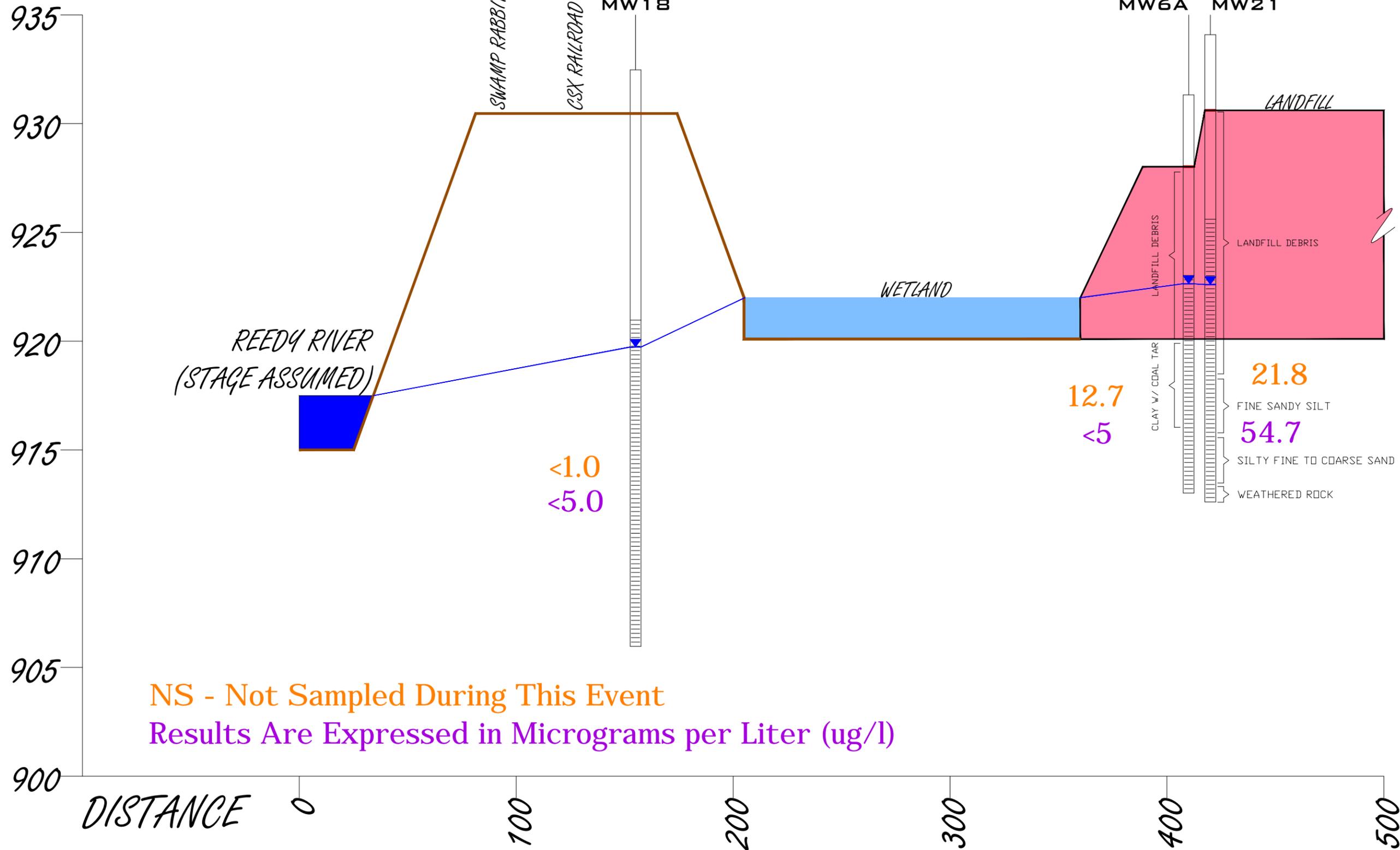


FIGURE 6 - SELECTED CROSS-SECTIONS B - B; CSXF BRAMLETTE ROAD SITE; SCALE AS SHOWN BENZENE CONCENTRATIONS (ORANGE) & NAPHTHALENE CONCENTRATIONS (PURPLE) FROM MAY 2016. GROUND SURFACE, LANDFILL, REEDY RIVER, & WETLAND LOCATIONS AND TOPOGRAPHY ARE HIGHLY CONCEPTUALIZED.

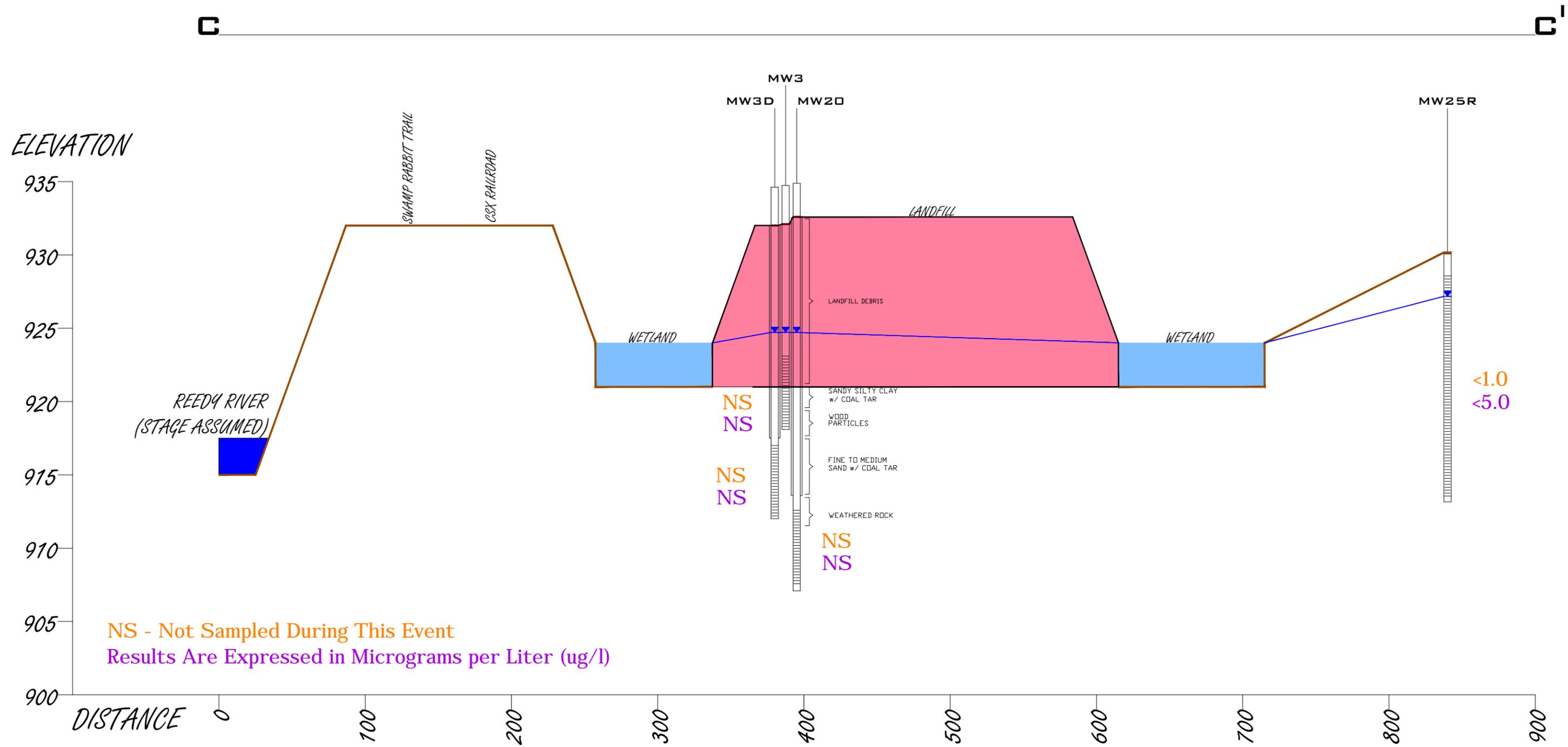


FIGURE 7 - SELECTED CROSS-SECTION C - C'; CSXF BRAMLETTE ROAD SITE; SCALE AS SHOWN  
 BENZENE CONCENTRATIONS (ORANGE) & NAPHTHALENE CONCENTRATIONS (PURPLE) FROM MAY 2016.  
 GROUND SURFACE, LANDFILL, REEDY RIVER, & WETLAND LOCATIONS AND TOPOGRAPHY ARE HIGHLY  
 CONCEPTUALIZED.

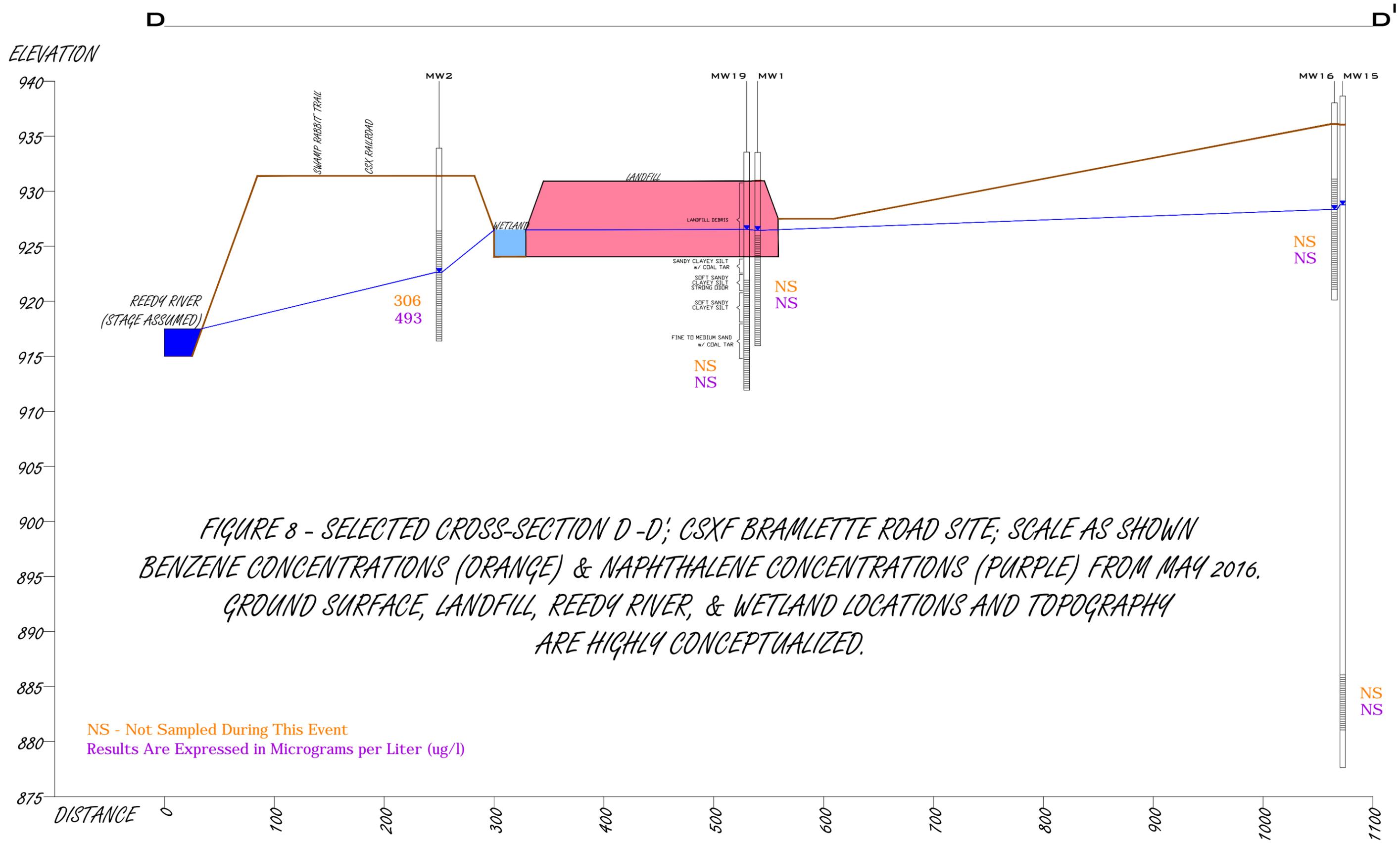


FIGURE 8 - SELECTED CROSS-SECTION D-D'; CSXF BRAMLETTE ROAD SITE; SCALE AS SHOWN  
 BENZENE CONCENTRATIONS (ORANGE) & NAPHTHALENE CONCENTRATIONS (PURPLE) FROM MAY 2016.  
 GROUND SURFACE, LANDFILL, REEDY RIVER, & WETLAND LOCATIONS AND TOPOGRAPHY  
 ARE HIGHLY CONCEPTUALIZED.

NS - Not Sampled During This Event  
 Results Are Expressed in Micrograms per Liter (ug/l)

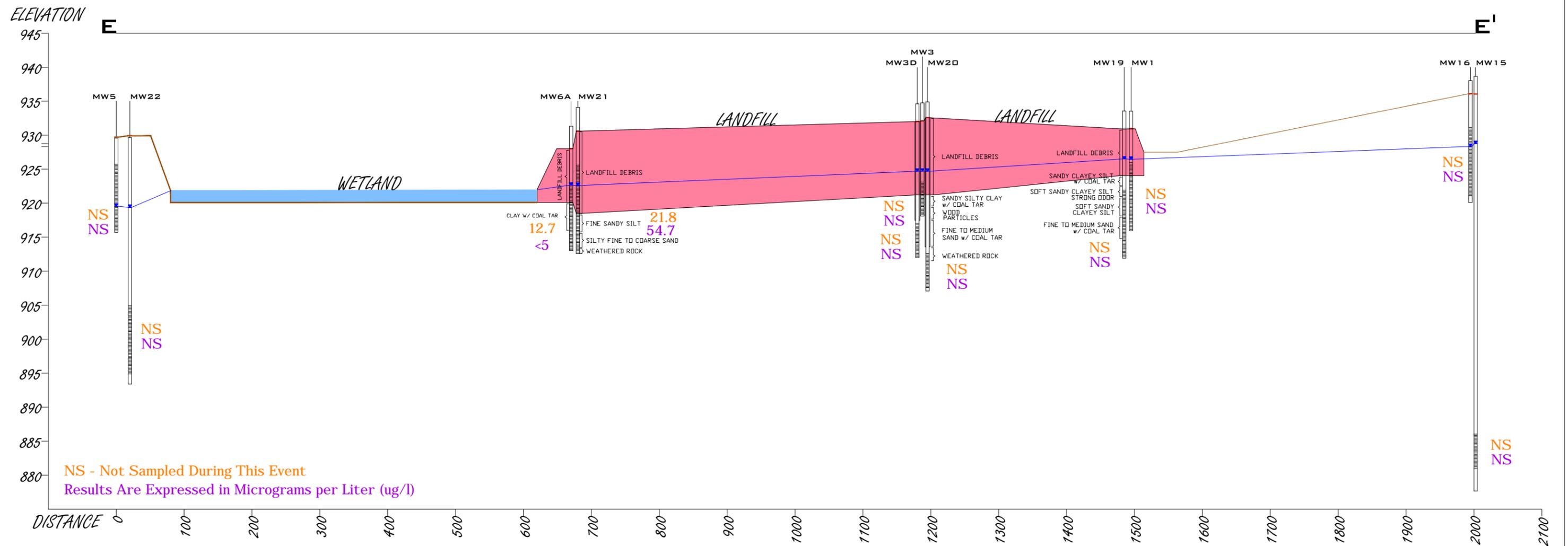
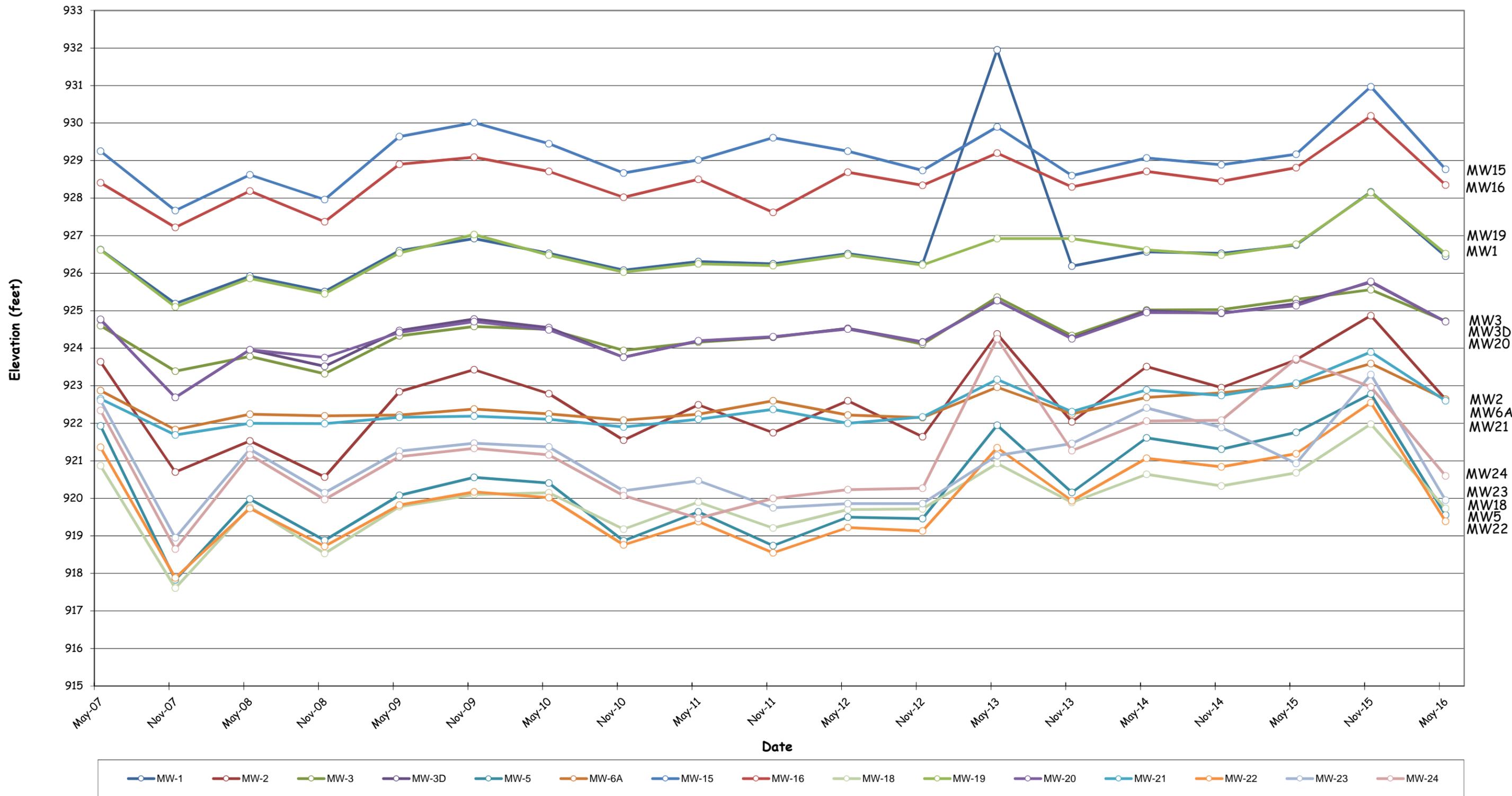
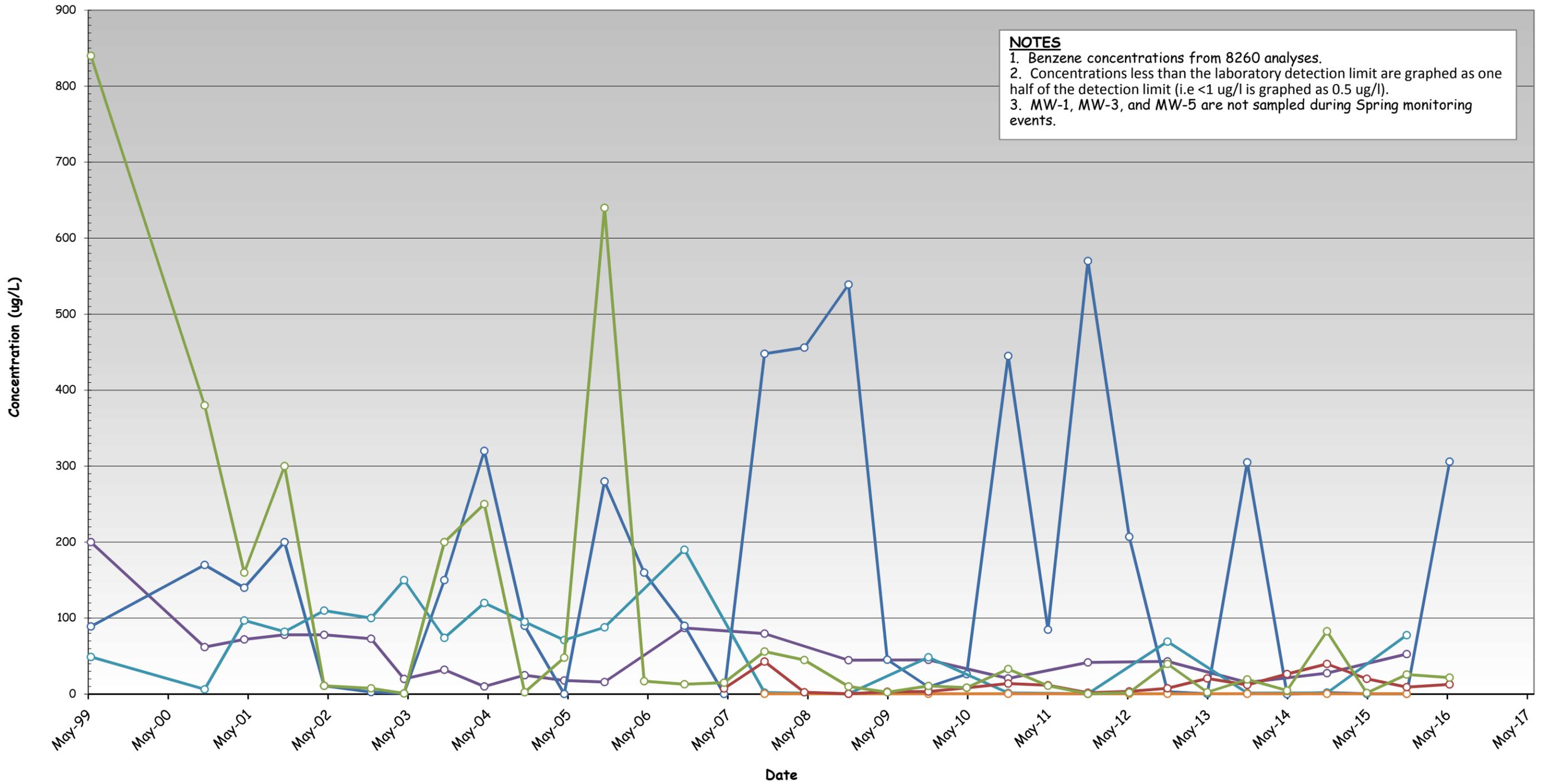


FIGURE 9 - SELECTED CROSS-SECTION E-E'; CSXF BRAMLETTE ROAD SITE; SCALE AS SHOWN  
 BENZENE CONCENTRATIONS (ORANGE) & NAPHTHALENE CONCENTRATIONS (PURPLE) FROM MAY 2016.  
 GROUND SURFACE, LANDFILL, REEDY RIVER, & WETLAND LOCATIONS AND TOPOGRAPHY  
 ARE HIGHLY CONCEPTUALIZED.

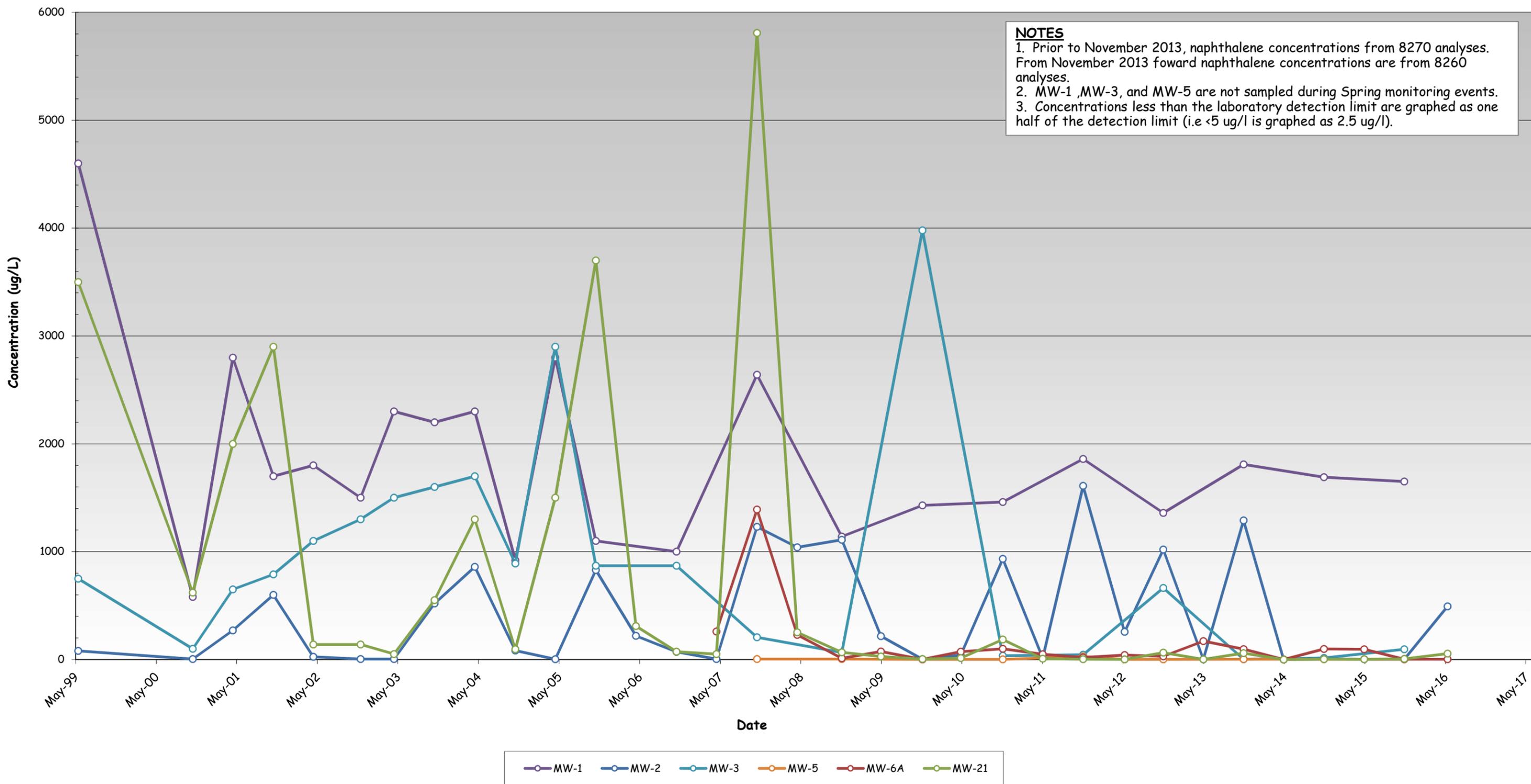
**Chart 1**  
**Temporal Groundwater Elevations**  
**CSXF Bramlette Road Site**



**Chart 2**  
**Temporal Benzene Concentrations in Shallow Wells**  
**CSXF Bramlette Road Site**



**Chart 3**  
**Temporal Naphthalene Concentrations in Shallow Wells**  
**CSXF Bramlette Road Site**



**Appendix III**  
**Groundwater Level Measurements**  
**Sample Collection Summary Sheets**



**SAMPLE COLLECTION  
SUMMARY SHEET**

General

1. Job Name: Bramlette Rd. MGP  
 3. Sampled By: L. Lowery  
 5. Location: Greenville, S.C.

2. Project No.: 1264-08-105  
 4. Weather: Sunny / Warm  
 6. Well #: MW-2

Water Level Information:

1. Date: 5/25/2016 2. Time: 1215 3. Static WL: 11.28 Ft. Below MP  
 4. Description of Measuring Point (MP): Top of Casing  
 5. Height of MP above/below (circle) Land Surface: 3"  
 6. Method of Water Level Measurement: Electric Water Level Tape

Evacuation Procedure:

1. Date: 5/25/2016 2. Time Evac Started: 1220 3. Time Evac. Finished: 1250  
 4. Method of Evacuation: Peristaltic Pump 5. Tot. Depth: 18.20 Ft. Below M. P.  
 6. Casing Diameter (in.): 2 7. Height of water Column (Ft.): 6.92  
 8. Decon Procedure: Dedicated Tubing

Meter Callibration:

Buffer pH 7.00: 7.03 Actual Buffer pH 4.01: 4.00 Actual Cond. 1000uS: 997 Actual

Record of Well Development:

Time	1225	1230	1235	1240	1245	1250	
Water Temp (C)	19	20	20	20	19	19	
pH (Standard Units)	6.46	6.16	6.17	6.16	6.15	6.12	
Spec. Cond. (umhos)	395	508	672	905	394	392	
Turbidity (NTU)	20	30	36	41	25	4	
D.O. (mg/L)	2.65	1.27	1.48	1.01	0.82	0.62	
ORP (mV)	22	2	-18	-22	-10	-6	
Odor (subjective)	None	None	None	None	None	None	
Other:							

Total Volume Purged (gal.): 1.5

Sampling Information

1. Date: 5/25/2016 2. Time: 1252  
 3. Sample Containers(Number/Size/Type): 1/500ml/G, 3/40ml/G, 2/250ml/P  
 4. Analysis Required: 8260, NO3, SO4, ALK, Ferrous Fe, Mn  
 5. Samples Preserved: Yes 6. Preservative: HNO3, HCl, Ice  
 9. Lab Performing Analysis: Test America

Notes: Field Blank at 1258 near well.

**SAMPLE COLLECTION  
SUMMARY SHEET**

General

1. Job Name: Bramlette Rd. MGP  
 3. Sampled By: L. Lowery  
 5. Location: Greenville, S.C.

2. Project No.: 1264-08-105  
 4. Weather: Sunny / Warm  
 6. Well #: MW-6A

Water Level Information:

1. Date: 5/25/2016 2. Time: 1020 3. Static WL: 8.68 Ft. Below MP  
 4. Description of Measuring Point (MP): Top of Casing  
 5. Height of MP above/below (circle) Land Surface: 3"  
 6. Method of Water Level Measurement: Electric Water Level Tape

Evacuation Procedure:

1. Date: 5/25/2016 2. Time Evac Started: 1040 3. Time Evac. Finished: 1048  
 4. Method of Evacuation: Bailer 5. Tot. Depth: 17.45 Ft. Below M. P.  
 6. Casing Diameter (in.): 2 7. Height of water Column (Ft.): 8.77  
 8. Decon Procedure: New Disposable Bailer

Meter Callibration:

Buffer pH 7.00: 7.03 Actual Buffer pH 4.01: 4.00 Actual Cond. 1000uS: 997 Actual

Record of Well Development:

Volume Purged (Gal.)	1	2	3				
Water Temp (C)	15	15	15				
pH (Standard Units)	7.01	6.99	7.00				
Spec. Cond. (umhos)	622	633	672				
Turbidity (NTU)	120	96.00	132				
D.O. (mg/L)	1.94	2.11	1.91				
ORP (mV)	-122	-117	-121				
Odor (subjective)	Strong	Strong	Strong				
Other:							

Sampling Information

1. Date: 5/25/2016 2. Time: 1050  
 3. Sample Containers(Number/Size/Type): 1/500ml/G, 3/40ml/G, 2/250ml/P  
 4. Analysis Required: 8260, NO3, SO4, ALK, Ferrous Fe, Mn  
 5. Samples Preserved: Yes 6. Preservative: HNO3, HCl, Ice  
 9. Lab Performing Analysis: Test America

Notes: Could not get truck to well to sample with a peristaltic pump. Had to sample with a bailer.

**SAMPLE COLLECTION  
SUMMARY SHEET**

General

1. Job Name: Bramlette Rd. MGP  
 3. Sampled By: L. Lowery  
 5. Location: Greenville, S.C.

2. Project No.: 1264-08-105  
 4. Weather: Sunny / Warm  
 6. Well #: MW-18

Water Level Information:

1. Date: 5/25/2016 2. Time: 1430 3. Static WL: 12.74 Ft. Below MP  
 4. Description of Measuring Point (MP): Top of Casing  
 5. Height of MP above/below (circle) Land Surface: 3"  
 6. Method of Water Level Measurement: Electric Water Level Tape

Evacuation Procedure:

1. Date: 5/25/2016 2. Time Evac Started: 1432 3. Time Evac. Finished: 1446  
 4. Method of Evacuation: Peristaltic Pump 5. Tot. Depth: 27.28 Ft. Below M. P.  
 6. Casing Diameter (in.): 2 7. Height of water Column (Ft.): 14.54  
 8. Decon Procedure: Dedicated Tubing

Meter Callibration:

Buffer pH 7.00: 7.03 Actual Buffer pH 4.01: 4.00 Actual Cond. 1000uS: 997 Actual

Record of Well Development:

Time	1437	1442	1446				
Water Temp (C)	17	17	17				
pH (Standard Units)	6.22	6.17	6.13				
Spec. Cond. (umhos)	291	291	289				
Turbidity (NTU)	6	3	2				
D.O. (mg/L)	0.80	0.58	0.43				
ORP (mV)	-35	-35	-35				
Odor (subjective)	None	None	None				
Other:							

Total Volume Purged (gal.): 0.5

Sampling Information

1. Date: 5/25/2016 2. Time: 1450  
 3. Sample Containers(Number/Size/Type): 1/500ml/G, 3/40ml/G, 2/250ml/P  
 4. Analysis Required: 8260, NO3, SO4, ALK, Ferrous Fe, Mn  
 5. Samples Preserved: Yes 6. Preservative: HNO3, HCl, Ice  
 9. Lab Performing Analysis: Test America

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**SAMPLE COLLECTION  
SUMMARY SHEET**

General

1. Job Name: Bramlette Rd. MGP 2. Project No.: 1264-08-105  
 3. Sampled By: L. Lowery 4. Weather: Sunny / Warm  
 5. Location: Greenville, S.C. 6. Well #: MW-21

Water Level Information:

1. Date: 5/25/2016 2. Time: 1018 3. Static WL: 11.49 Ft. Below MP  
 4. Description of Measuring Point (MP): Top of Casing  
 5. Height of MP above/below (circle) Land Surface: 3"  
 6. Method of Water Level Measurement: Electric Water Level Tape

Evacuation Procedure:

1. Date: 5/25/2016 2. Time Evac Started: 1020 3. Time Evac. Finished: 1030  
 4. Method of Evacuation: Peristaltic Pump 5. Tot. Depth: 20.58 Ft. Below M. P.  
 6. Casing Diameter (in.): 2 7. Height of water Column (Ft.): 9.09  
 8. Decon Procedure: Dedicated Tubing

Meter Calibration:

Buffer pH 7.00: 7.03 Actual Buffer pH 4.01: 4.00 Actual Cond. 1000uS: 997 Actual

Record of Well Development:

Volume Purged (Gal.)	1.5	3.0	4.5				
Water Temp (C)	15	15	15				
pH (Standard Units)	6.95	6.89	6.88				
Spec. Cond. (umhos)	532	55	55				
Turbidity (NTU)	24	46	40				
D.O. (mg/L)	3.11	2.30	2.18				
ORP (mV)	-134.0	-125	-124				
Odor (subjective)	Med.	Med.	Med.				
Other:							

Sampling Information

1. Date: 5/25/2016 2. Time: 1032  
 3. Sample Containers(Number/Size/Type): 1/500ml/G, 3/40ml/G, 2/250ml/P  
 4. Analysis Required: 8260, NO3, SO4, ALK, Ferrous Fe, Mn  
 5. Samples Preserved: Yes 6. Preservative: HNO3, HCl, Ice  
 9. Lab Performing Analysis: Test America

Notes: Could not get truck to well to sample with a peristaltic pump. Had to sample with a bailer.

**SAMPLE COLLECTION  
SUMMARY SHEET**

General

1. Job Name: Bramlette Rd. MGP  
 3. Sampled By: L. Lowery  
 5. Location: Greenville, S.C.

2. Project No.: 1264-08-105  
 4. Weather: Sunny / Warm  
 6. Well #: MW-23

Water Level Information:

1. Date: 5/25/2016 2. Time: 0904 3. Static WL: 3.80  
 4. Description of Measuring Point (MP): Top of Casing  
 5. Height of MP above/below (circle) Land Surface: 3'  
 6. Method of Water Level Measurement: Electric Water Level Tape

Evacuation Procedure:

1. Date: 5/25/2016 2. Time Evac. Started: 0915 3. Time Evac. Finished: 0924  
 4. Method of Evacuation: Bailer 5. Tot. Depth: 45.36 Ft. Below M. P.  
 6. Casing Diameter (in.): 2 7. Height of water Column (Ft.): 41.56  
 8. Decon Procedure: Dedicated Bailer

Meter Callibration:

Buffer pH 7.00: 7.03 Actual Buffer pH 4.01: 4.00 Actual Cond. 1000uS: 997 Actual

Record of Well Development:

Volume Purged (Gal.)	7	14	21				
Water Temp (C)	18	---	---				
pH (Standard Units)	6.28	---	---				
Spec. Cond. (umhos)	683	---	---				
Turbidity (NTU)	194	Dry	Dry				
D.O. (mg/L)	2.9	---	---				
ORP (mV)	-103	---	---				
Odor (subjective)	None	---	---				
Other:							

Sampling Information

1. Date: 5/25/2016 2. Time: 0930  
 3. Sample Containers(Number/Size/Type): 1/500ml/G, 3/40ml/G, 2/250ml/P  
 4. Analysis Required: 8260, NO3, SO4, ALK, Ferrous Fe, Mn  
 5. Samples Preserved: Yes 6. Preservative: HNO3, HCl, Ice  
 9. Lab Performing Analysis: Test America

Notes: Could not get truck to well to sample with a peristaltic pump. Had to sample with a bailer.

**SAMPLE COLLECTION  
SUMMARY SHEET**

General

1. Job Name: Bramlette Rd. MGP  
 3. Sampled By: L. Lowery  
 5. Location: Greenville, S.C.

2. Project No.: 1264-08-105  
 4. Weather: Sunny / Warm  
 6. Well #: MW-24

Water Level Information:

1. Date: 5/25/2016 2. Time: 0900 3. Static WL: 4.65  
 4. Description of Measuring Point (MP): Top of Casing  
 5. Height of MP above/below (circle) Land Surface: 3'  
 6. Method of Water Level Measurement: Electric Water Level Tape

Evacuation Procedure:

1. Date: 5/25/2016 2. Time Evac. Started: 0906 3. Time Evac. Finished: 0912  
 4. Method of Evacuation: Bailer 5. Tot. Depth: 10.30 Ft. Below M. P.  
 6. Casing Diameter (in.): 2 7. Height of water Column (Ft.): 5.65  
 8. Decon Procedure: Dedicated Bailer

Meter Callibration:

Buffer pH 7.00: 7.03 Actual Buffer pH 4.01: 4.00 Actual Cond. 1000uS: 997 Actual

Record of Well Development:

Volume Purged (Gal.)	1	2	3				
Water Temp (C)	18	---	---				
pH (Standard Units)	6.28	---	---				
Spec. Cond. (umhos)	683	---	---				
Turbidity (NTU)	194	Dry	Dry				
D.O. (mg/L)	2.88	---	---				
ORP (mV)	-103	---	---				
Odor (subjective)	None	---	---				
Other:							

Sampling Information

1. Date: 5/25/2016 2. Time: 0925  
 3. Sample Containers(Number/Size/Type): 1/500ml/G, 3/40ml/G, 2/250ml/P  
 4. Analysis Required: 8260, NO3, SO4, ALK, Ferrous Fe, Mn  
 5. Samples Preserved: Yes 6. Preservative: HNO3, HCl, Ice  
 9. Lab Performing Analysis: Test America

Notes: Could not get truck to well to sample with a peristaltic pump. Had to sample with a bailer.

**SAMPLE COLLECTION  
SUMMARY SHEET**

General

1. Job Name: Bramlette Rd. MGP 2. Project No.: 1264-08-105  
 3. Sampled By: L. Lowery 4. Weather: Sunny / Warm  
 5. Location: Greenville, S.C. 6. Well #: MW-25R

Water Level Information:

1. Date: 5/25/2016 2. Time: 1320 3. Static WL: 2.91 Ft. Below MP  
 4. Description of Measuring Point (MP): Top of Casing  
 5. Height of MP above/below (circle) Land Surface: 3"  
 6. Method of Water Level Measurement: Electric Water Level Tape

Evacuation Procedure:

1. Date: 5/25/2016 2. Time Evac Started: 1330 3. Time Evac. Finished: 1405  
 4. Method of Evacuation: Peristaltic Pump 5. Tot. Depth: 15.90 Ft. Below M. P.  
 6. Casing Diameter (in.): 2 7. Height of water Column (Ft.): 12.99  
 8. Decon Procedure: Dedicated Tubing

Meter Callibration:

Buffer pH 7.00: 7.03 Actual Buffer pH 4.01: 4.00 Actual Cond. 1000uS: 997 Actual

Record of Well Development:

Time	1335	1340	1345	1350	1355	1400	1405
Water Temp (C)	22	23	19	22	19	20	20
pH (Standard Units)	6.11	6.09	6.03	6.04	6.14	6.04	6.12
Spec. Cond. (umhos)	222	220	218	219	223	220	220
Turbidity (NTU)	103	179	116	119	84	205	173
D.O. (mg/L)	3.22	1.65	1.21	0.73	0.81	0.60	0.56
ORP (mV)	-30	-27	-26	-33	-34	-32	-41
Odor (subjective)	None						
Other:							

Total Volume Purged (gal.): 2.5

Sampling Information

1. Date: 5/25/2016 2. Time: 1408  
 3. Sample Containers(Number/Size/Type): 1/500ml/G, 3/40ml/G, 2/250ml/P  
 4. Analysis Required: 8260, NO3, SO4, ALK, Ferrous Fe, Mn  
 5. Samples Preserved: Yes 6. Preservative: HNO3, HCl, Ice  
 9. Lab Performing Analysis: Test America

Notes: Well would not clear up. Tried to clean out with a bailer after sampling. There was no sediment in bottom of well and water kept getting more turbid the more it was purged. Could be a bad sand pack causing this problem.

**Appendix IV**  
**Analytical Laboratory Reports**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Nashville  
2960 Foster Creighton Drive  
Nashville, TN 37204  
Tel: (615)726-0177

TestAmerica Job ID: 490-104469-1  
Client Project/Site: Bramlett Road MGP (SC) J16050789

For:  
Duke Energy Corporation  
13339 Hagers Ferry Road  
Huntersville, North Carolina 28078

Attn: Lab Customer



Authorized for release by:  
5/31/2016 4:20:31 PM

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Sample Summary

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-104469-1	MW-24	Water	05/25/16 09:25	05/26/16 09:10
490-104469-2	MW-23	Water	05/25/16 09:30	05/26/16 09:10
490-104469-3	MW-21	Water	05/25/16 10:32	05/26/16 09:10
490-104469-4	MW-6A	Water	05/25/16 10:50	05/26/16 09:10
490-104469-5	MW-2	Water	05/25/16 12:52	05/26/16 09:10
490-104469-6	Field Blank	Water	05/25/16 12:58	05/26/16 09:10
490-104469-7	MW-25R	Water	05/25/16 14:08	05/26/16 09:10
490-104469-8	MW-18	Water	05/25/16 14:50	05/26/16 09:10
490-104469-9	Trip Blank	Water	05/25/16 00:01	05/26/16 09:10
490-104469-10	Trip Blank	Water	05/25/16 00:01	05/26/16 09:10



# Case Narrative

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Job ID: 490-104469-1**

**Laboratory: TestAmerica Nashville**

**Narrative**

## CASE NARRATIVE

**Client: Duke Energy Corporation**

**Project: Bramlett Road MGP (SC) J16050789**

**Report Number: 490-104469-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Nashville attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

### **RECEIPT**

The samples were received on 5/26/2016 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.9° C and 1.3° C.

### **VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples MW-24 (490-104469-1), MW-23 (490-104469-2), MW-21 (490-104469-3), MW-6A (490-104469-4), MW-2 (490-104469-5), Field Blank (490-104469-6), MW-25R (490-104469-7), MW-18 (490-104469-8), Trip Blank (490-104469-9) and Trip Blank (490-104469-10) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 05/27/2016 and 05/31/2016.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 490-344181.

Sample MW-2 (490-104469-5)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **TOTAL METALS (ICP)**

# Case Narrative

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Job ID: 490-104469-1 (Continued)

### Laboratory: TestAmerica Nashville (Continued)

Samples MW-24 (490-104469-1), MW-23 (490-104469-2), MW-21 (490-104469-3), MW-6A (490-104469-4), MW-2 (490-104469-5), Field Blank (490-104469-6), MW-25R (490-104469-7) and MW-18 (490-104469-8) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 05/27/2016 and analyzed on 05/30/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### ALKALINITY

Samples MW-24 (490-104469-1), MW-23 (490-104469-2), MW-21 (490-104469-3), MW-6A (490-104469-4), MW-2 (490-104469-5), Field Blank (490-104469-6), MW-25R (490-104469-7) and MW-18 (490-104469-8) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 05/26/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### SULFATE

Samples MW-24 (490-104469-1), MW-23 (490-104469-2), MW-21 (490-104469-3), MW-6A (490-104469-4), MW-2 (490-104469-5), Field Blank (490-104469-6), MW-25R (490-104469-7) and MW-18 (490-104469-8) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 05/27/2016.

Sulfate failed the recovery criteria low for the MS of sample MW-24MS (490-104469-1) in batch 490-343502. Due to the high concentration of Sulfate, the matrix spike (MS) for analytical batch 490-343502 could not be evaluated for accuracy. The associated laboratory control sample (LCS) met acceptance criteria.

Reanalysis of the following sample was performed outside of the analytical holding time due to the sample result exceeding the calibration curve limits: MW-23 (490-104469-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### NITRATE

Samples MW-24 (490-104469-1), MW-23 (490-104469-2), MW-21 (490-104469-3), MW-6A (490-104469-4), MW-2 (490-104469-5), Field Blank (490-104469-6), MW-25R (490-104469-7) and MW-18 (490-104469-8) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 05/27/2016.

Reanalysis of the following sample was performed outside of the analytical holding time due to the sample result exceeding the calibration curve limits: MW-23 (490-104469-2).

Sample MW-23 (490-104469-2)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### FERROUS IRON

Samples MW-24 (490-104469-1), MW-23 (490-104469-2), MW-21 (490-104469-3), MW-6A (490-104469-4), MW-2 (490-104469-5), Field Blank (490-104469-6), MW-25R (490-104469-7) and MW-18 (490-104469-8) were analyzed for ferrous iron in accordance with SM 3500 F+2 B. The samples were analyzed on 05/27/2016.

Samples MW-24 (490-104469-1)[20X], MW-21 (490-104469-3)[10X], MW-6A (490-104469-4)[10X], MW-2 (490-104469-5)[5X], MW-25R (490-104469-7)[10X] and MW-18 (490-104469-8)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
H	Sample was prepped or analyzed beyond the specified holding time

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-24**

**Lab Sample ID: 490-104469-1**

**Date Collected: 05/25/16 09:25**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 16:28	1
Benzene	ND		1.00	ug/L			05/27/16 16:28	1
Bromobenzene	ND		1.00	ug/L			05/27/16 16:28	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 16:28	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 16:28	1
Bromoform	ND		1.00	ug/L			05/27/16 16:28	1
Bromomethane	ND		1.00	ug/L			05/27/16 16:28	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 16:28	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 16:28	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 16:28	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 16:28	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 16:28	1
Chloroethane	ND		1.00	ug/L			05/27/16 16:28	1
Chloroform	ND		1.00	ug/L			05/27/16 16:28	1
Chloromethane	ND		1.00	ug/L			05/27/16 16:28	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 16:28	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 16:28	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 16:28	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 16:28	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 16:28	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 16:28	1
Dibromomethane	ND		1.00	ug/L			05/27/16 16:28	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 16:28	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 16:28	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 16:28	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 16:28	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 16:28	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 16:28	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 16:28	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 16:28	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 16:28	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 16:28	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 16:28	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 16:28	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 16:28	1
2-Hexanone	ND		10.0	ug/L			05/27/16 16:28	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 16:28	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 16:28	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 16:28	1
Naphthalene	ND		5.00	ug/L			05/27/16 16:28	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 16:28	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
Styrene	ND		1.00	ug/L			05/27/16 16:28	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 16:28	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-24

Lab Sample ID: 490-104469-1

Date Collected: 05/25/16 09:25

Matrix: Water

Date Received: 05/26/16 09:10

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 16:28	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 16:28	1
Toluene	ND		1.00	ug/L			05/27/16 16:28	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 16:28	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 16:28	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 16:28	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 16:28	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 16:28	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 16:28	1
Trichloroethene	ND		1.00	ug/L			05/27/16 16:28	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 16:28	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 16:28	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 16:28	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 16:28	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130		05/27/16 16:28	1
Dibromofluoromethane (Surr)	98		70 - 130		05/27/16 16:28	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 130		05/27/16 16:28	1
Toluene-d8 (Surr)	101		70 - 130		05/27/16 16:28	1

### Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 01:46	1
Sulfate	37.1		1.00	mg/L			05/27/16 01:46	1

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.73		0.0150	mg/L		05/27/16 07:20	05/30/16 16:42	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	266		10.0	mg/L			05/26/16 19:20	1
Ferrous Iron	55.2	HF	2.00	mg/L			05/27/16 10:49	20

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-23**

**Lab Sample ID: 490-104469-2**

**Date Collected: 05/25/16 09:30**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 16:54	1
Benzene	ND		1.00	ug/L			05/27/16 16:54	1
Bromobenzene	ND		1.00	ug/L			05/27/16 16:54	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 16:54	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 16:54	1
Bromoform	ND		1.00	ug/L			05/27/16 16:54	1
Bromomethane	ND		1.00	ug/L			05/27/16 16:54	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 16:54	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 16:54	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 16:54	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 16:54	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 16:54	1
Chloroethane	ND		1.00	ug/L			05/27/16 16:54	1
<b>Chloroform</b>	<b>1.44</b>		1.00	ug/L			05/27/16 16:54	1
Chloromethane	ND		1.00	ug/L			05/27/16 16:54	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 16:54	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 16:54	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 16:54	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 16:54	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 16:54	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 16:54	1
Dibromomethane	ND		1.00	ug/L			05/27/16 16:54	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 16:54	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 16:54	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 16:54	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 16:54	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 16:54	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 16:54	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 16:54	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 16:54	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 16:54	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 16:54	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 16:54	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 16:54	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 16:54	1
2-Hexanone	ND		10.0	ug/L			05/27/16 16:54	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 16:54	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 16:54	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 16:54	1
Naphthalene	ND		5.00	ug/L			05/27/16 16:54	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 16:54	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
Styrene	ND		1.00	ug/L			05/27/16 16:54	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 16:54	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-23

Lab Sample ID: 490-104469-2

Date Collected: 05/25/16 09:30

Matrix: Water

Date Received: 05/26/16 09:10

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 16:54	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 16:54	1
Toluene	ND		1.00	ug/L			05/27/16 16:54	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 16:54	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 16:54	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 16:54	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 16:54	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 16:54	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 16:54	1
Trichloroethene	ND		1.00	ug/L			05/27/16 16:54	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 16:54	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 16:54	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 16:54	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 16:54	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130		05/27/16 16:54	1
Dibromofluoromethane (Surr)	97		70 - 130		05/27/16 16:54	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		05/27/16 16:54	1
Toluene-d8 (Surr)	101		70 - 130		05/27/16 16:54	1

### Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	4.35	H	0.200	mg/L			05/27/16 13:47	2
Sulfate	20.5		1.00	mg/L			05/27/16 02:26	1

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.0306		0.0150	mg/L		05/27/16 07:20	05/30/16 16:47	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	14.1		10.0	mg/L			05/26/16 19:25	1
Ferrous Iron	ND	HF	0.100	mg/L			05/27/16 10:49	1

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-21**

**Lab Sample ID: 490-104469-3**

**Date Collected: 05/25/16 10:32**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 17:20	1
<b>Benzene</b>	<b>21.8</b>		1.00	ug/L			05/27/16 17:20	1
Bromobenzene	ND		1.00	ug/L			05/27/16 17:20	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 17:20	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 17:20	1
Bromoform	ND		1.00	ug/L			05/27/16 17:20	1
Bromomethane	ND		1.00	ug/L			05/27/16 17:20	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 17:20	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 17:20	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 17:20	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 17:20	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 17:20	1
Chloroethane	ND		1.00	ug/L			05/27/16 17:20	1
Chloroform	ND		1.00	ug/L			05/27/16 17:20	1
Chloromethane	ND		1.00	ug/L			05/27/16 17:20	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 17:20	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 17:20	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 17:20	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 17:20	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 17:20	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 17:20	1
Dibromomethane	ND		1.00	ug/L			05/27/16 17:20	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 17:20	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 17:20	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 17:20	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 17:20	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 17:20	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 17:20	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 17:20	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 17:20	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 17:20	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 17:20	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 17:20	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 17:20	1
<b>Ethylbenzene</b>	<b>5.07</b>		1.00	ug/L			05/27/16 17:20	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 17:20	1
2-Hexanone	ND		10.0	ug/L			05/27/16 17:20	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 17:20	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 17:20	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 17:20	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 17:20	1
<b>Naphthalene</b>	<b>54.7</b>		5.00	ug/L			05/27/16 17:20	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 17:20	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 17:20	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 17:20	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 17:20	1
Styrene	ND		1.00	ug/L			05/27/16 17:20	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 17:20	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 17:20	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-21**

**Lab Sample ID: 490-104469-3**

Date Collected: 05/25/16 10:32

Matrix: Water

Date Received: 05/26/16 09:10

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 17:20	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 17:20	1
<b>Toluene</b>	<b>2.00</b>		1.00	ug/L			05/27/16 17:20	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 17:20	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 17:20	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 17:20	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 17:20	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 17:20	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 17:20	1
Trichloroethene	ND		1.00	ug/L			05/27/16 17:20	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 17:20	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 17:20	1
<b>1,2,4-Trimethylbenzene</b>	<b>2.56</b>		1.00	ug/L			05/27/16 17:20	1
<b>1,3,5-Trimethylbenzene</b>	<b>1.73</b>		1.00	ug/L			05/27/16 17:20	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 17:20	1
<b>Xylenes, Total</b>	<b>9.31</b>		3.00	ug/L			05/27/16 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130		05/27/16 17:20	1
Dibromofluoromethane (Surr)	97		70 - 130		05/27/16 17:20	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		05/27/16 17:20	1
Toluene-d8 (Surr)	100		70 - 130		05/27/16 17:20	1

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 02:46	1
<b>Sulfate</b>	<b>2.66</b>		1.00	mg/L			05/27/16 02:46	1

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.530</b>		0.0150	mg/L		05/27/16 07:20	05/30/16 17:01	1

## General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Alkalinity</b>	<b>240</b>		10.0	mg/L			05/26/16 19:43	1
<b>Ferrous Iron</b>	<b>10.1</b>	HF	1.00	mg/L			05/27/16 10:49	10

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-6A**

**Lab Sample ID: 490-104469-4**

**Date Collected: 05/25/16 10:50**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 17:46	1
<b>Benzene</b>	<b>12.7</b>		1.00	ug/L			05/27/16 17:46	1
Bromobenzene	ND		1.00	ug/L			05/27/16 17:46	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 17:46	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 17:46	1
Bromoform	ND		1.00	ug/L			05/27/16 17:46	1
Bromomethane	ND		1.00	ug/L			05/27/16 17:46	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 17:46	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 17:46	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 17:46	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 17:46	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 17:46	1
Chloroethane	ND		1.00	ug/L			05/27/16 17:46	1
Chloroform	ND		1.00	ug/L			05/27/16 17:46	1
Chloromethane	ND		1.00	ug/L			05/27/16 17:46	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 17:46	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 17:46	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 17:46	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 17:46	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 17:46	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 17:46	1
Dibromomethane	ND		1.00	ug/L			05/27/16 17:46	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 17:46	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 17:46	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 17:46	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 17:46	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 17:46	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 17:46	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 17:46	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 17:46	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 17:46	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 17:46	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 17:46	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 17:46	1
<b>Ethylbenzene</b>	<b>7.78</b>		1.00	ug/L			05/27/16 17:46	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 17:46	1
2-Hexanone	ND		10.0	ug/L			05/27/16 17:46	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 17:46	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 17:46	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 17:46	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 17:46	1
Naphthalene	ND		5.00	ug/L			05/27/16 17:46	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 17:46	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 17:46	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 17:46	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 17:46	1
Styrene	ND		1.00	ug/L			05/27/16 17:46	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 17:46	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 17:46	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-6A

Lab Sample ID: 490-104469-4

Date Collected: 05/25/16 10:50

Matrix: Water

Date Received: 05/26/16 09:10

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 17:46	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 17:46	1
<b>Toluene</b>	<b>15.4</b>		1.00	ug/L			05/27/16 17:46	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 17:46	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 17:46	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 17:46	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 17:46	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 17:46	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 17:46	1
Trichloroethene	ND		1.00	ug/L			05/27/16 17:46	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 17:46	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 17:46	1
<b>1,2,4-Trimethylbenzene</b>	<b>11.9</b>		1.00	ug/L			05/27/16 17:46	1
<b>1,3,5-Trimethylbenzene</b>	<b>8.09</b>		1.00	ug/L			05/27/16 17:46	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 17:46	1
<b>Xylenes, Total</b>	<b>35.5</b>		3.00	ug/L			05/27/16 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130		05/27/16 17:46	1
Dibromofluoromethane (Surr)	98		70 - 130		05/27/16 17:46	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 130		05/27/16 17:46	1
Toluene-d8 (Surr)	101		70 - 130		05/27/16 17:46	1

### Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 03:06	1
<b>Sulfate</b>	<b>2.03</b>		1.00	mg/L			05/27/16 03:06	1

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.453</b>		0.0150	mg/L		05/27/16 07:20	05/30/16 17:05	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Alkalinity</b>	<b>245</b>		10.0	mg/L			05/26/16 19:49	1
<b>Ferrous Iron</b>	<b>16.8</b>	HF	1.00	mg/L			05/27/16 10:49	10

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-2**

**Lab Sample ID: 490-104469-5**

**Date Collected: 05/25/16 12:52**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 18:12	1
<b>Benzene</b>	<b>306</b>		10.0	ug/L			05/31/16 15:17	10
Bromobenzene	ND		1.00	ug/L			05/27/16 18:12	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 18:12	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 18:12	1
Bromoform	ND		1.00	ug/L			05/27/16 18:12	1
Bromomethane	ND		1.00	ug/L			05/27/16 18:12	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 18:12	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 18:12	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 18:12	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 18:12	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 18:12	1
Chloroethane	ND		1.00	ug/L			05/27/16 18:12	1
Chloroform	ND		1.00	ug/L			05/27/16 18:12	1
Chloromethane	ND		1.00	ug/L			05/27/16 18:12	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 18:12	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 18:12	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 18:12	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 18:12	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 18:12	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 18:12	1
Dibromomethane	ND		1.00	ug/L			05/27/16 18:12	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 18:12	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 18:12	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 18:12	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 18:12	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 18:12	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 18:12	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 18:12	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 18:12	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 18:12	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 18:12	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 18:12	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 18:12	1
<b>Ethylbenzene</b>	<b>28.3</b>		1.00	ug/L			05/27/16 18:12	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 18:12	1
2-Hexanone	ND		10.0	ug/L			05/27/16 18:12	1
<b>Isopropylbenzene</b>	<b>5.14</b>		1.00	ug/L			05/27/16 18:12	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 18:12	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 18:12	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 18:12	1
<b>Naphthalene</b>	<b>493</b>		50.0	ug/L			05/31/16 15:17	10
n-Butylbenzene	ND		1.00	ug/L			05/27/16 18:12	1
<b>N-Propylbenzene</b>	<b>1.57</b>		1.00	ug/L			05/27/16 18:12	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 18:12	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 18:12	1
Styrene	ND		1.00	ug/L			05/27/16 18:12	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 18:12	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 18:12	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-2

Lab Sample ID: 490-104469-5

Date Collected: 05/25/16 12:52

Matrix: Water

Date Received: 05/26/16 09:10

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 18:12	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 18:12	1
Toluene	ND		1.00	ug/L			05/27/16 18:12	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 18:12	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 18:12	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 18:12	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 18:12	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 18:12	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 18:12	1
Trichloroethene	ND		1.00	ug/L			05/27/16 18:12	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 18:12	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 18:12	1
<b>1,2,4-Trimethylbenzene</b>	<b>2.98</b>		1.00	ug/L			05/27/16 18:12	1
<b>1,3,5-Trimethylbenzene</b>	<b>8.01</b>		1.00	ug/L			05/27/16 18:12	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 18:12	1
<b>Xylenes, Total</b>	<b>19.3</b>		3.00	ug/L			05/27/16 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130		05/27/16 18:12	1
4-Bromofluorobenzene (Surr)	87		70 - 130		05/31/16 15:17	10
Dibromofluoromethane (Surr)	95		70 - 130		05/27/16 18:12	1
Dibromofluoromethane (Surr)	105		70 - 130		05/31/16 15:17	10
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		05/27/16 18:12	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		05/31/16 15:17	10
Toluene-d8 (Surr)	101		70 - 130		05/27/16 18:12	1
Toluene-d8 (Surr)	99		70 - 130		05/31/16 15:17	10

### Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 03:26	1
<b>Sulfate</b>	<b>5.24</b>		1.00	mg/L			05/27/16 03:26	1

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.827</b>		0.0150	mg/L		05/27/16 07:20	05/30/16 17:10	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Alkalinity</b>	<b>172</b>		10.0	mg/L			05/26/16 19:55	1
<b>Ferrous Iron</b>	<b>8.24</b>	<b>HF</b>	0.500	mg/L			05/27/16 10:49	5

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: Field Blank**

**Lab Sample ID: 490-104469-6**

**Date Collected: 05/25/16 12:58**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 14:16	1
Benzene	ND		1.00	ug/L			05/27/16 14:16	1
Bromobenzene	ND		1.00	ug/L			05/27/16 14:16	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 14:16	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 14:16	1
Bromoform	ND		1.00	ug/L			05/27/16 14:16	1
Bromomethane	ND		1.00	ug/L			05/27/16 14:16	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 14:16	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 14:16	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 14:16	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 14:16	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 14:16	1
Chloroethane	ND		1.00	ug/L			05/27/16 14:16	1
Chloroform	ND		1.00	ug/L			05/27/16 14:16	1
Chloromethane	ND		1.00	ug/L			05/27/16 14:16	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 14:16	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 14:16	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 14:16	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 14:16	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 14:16	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 14:16	1
Dibromomethane	ND		1.00	ug/L			05/27/16 14:16	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 14:16	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 14:16	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 14:16	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 14:16	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 14:16	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 14:16	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 14:16	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 14:16	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 14:16	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 14:16	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 14:16	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 14:16	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 14:16	1
2-Hexanone	ND		10.0	ug/L			05/27/16 14:16	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 14:16	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 14:16	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 14:16	1
Naphthalene	ND		5.00	ug/L			05/27/16 14:16	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 14:16	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
Styrene	ND		1.00	ug/L			05/27/16 14:16	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 14:16	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: Field Blank

Lab Sample ID: 490-104469-6

Date Collected: 05/25/16 12:58

Matrix: Water

Date Received: 05/26/16 09:10

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 14:16	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 14:16	1
Toluene	ND		1.00	ug/L			05/27/16 14:16	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 14:16	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 14:16	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 14:16	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 14:16	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 14:16	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 14:16	1
Trichloroethene	ND		1.00	ug/L			05/27/16 14:16	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 14:16	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 14:16	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 14:16	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 14:16	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 14:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130		05/27/16 14:16	1
Dibromofluoromethane (Surr)	99		70 - 130		05/27/16 14:16	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 130		05/27/16 14:16	1
Toluene-d8 (Surr)	100		70 - 130		05/27/16 14:16	1

### Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 03:46	1
Sulfate	ND		1.00	mg/L			05/27/16 03:46	1

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.0150	mg/L		05/27/16 07:20	05/30/16 17:14	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		10.0	mg/L			05/26/16 20:00	1
Ferrous Iron	ND	HF	0.100	mg/L			05/27/16 10:49	1

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-25R**

**Lab Sample ID: 490-104469-7**

**Date Collected: 05/25/16 14:08**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 18:39	1
Benzene	ND		1.00	ug/L			05/27/16 18:39	1
Bromobenzene	ND		1.00	ug/L			05/27/16 18:39	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 18:39	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 18:39	1
Bromoform	ND		1.00	ug/L			05/27/16 18:39	1
Bromomethane	ND		1.00	ug/L			05/27/16 18:39	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 18:39	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 18:39	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 18:39	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 18:39	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 18:39	1
Chloroethane	ND		1.00	ug/L			05/27/16 18:39	1
Chloroform	ND		1.00	ug/L			05/27/16 18:39	1
Chloromethane	ND		1.00	ug/L			05/27/16 18:39	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 18:39	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 18:39	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 18:39	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 18:39	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 18:39	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 18:39	1
Dibromomethane	ND		1.00	ug/L			05/27/16 18:39	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 18:39	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 18:39	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 18:39	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 18:39	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 18:39	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 18:39	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 18:39	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 18:39	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 18:39	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 18:39	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 18:39	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 18:39	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 18:39	1
2-Hexanone	ND		10.0	ug/L			05/27/16 18:39	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 18:39	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 18:39	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 18:39	1
Naphthalene	ND		5.00	ug/L			05/31/16 14:51	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 18:39	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
Styrene	ND		1.00	ug/L			05/27/16 18:39	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 18:39	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-25R

Lab Sample ID: 490-104469-7

Date Collected: 05/25/16 14:08

Matrix: Water

Date Received: 05/26/16 09:10

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 18:39	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 18:39	1
Toluene	ND		1.00	ug/L			05/27/16 18:39	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 18:39	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 18:39	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 18:39	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 18:39	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 18:39	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 18:39	1
Trichloroethene	ND		1.00	ug/L			05/27/16 18:39	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 18:39	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 18:39	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 18:39	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 18:39	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130		05/27/16 18:39	1
4-Bromofluorobenzene (Surr)	88		70 - 130		05/31/16 14:51	1
Dibromofluoromethane (Surr)	97		70 - 130		05/27/16 18:39	1
Dibromofluoromethane (Surr)	98		70 - 130		05/31/16 14:51	1
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		05/27/16 18:39	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		05/31/16 14:51	1
Toluene-d8 (Surr)	101		70 - 130		05/27/16 18:39	1
Toluene-d8 (Surr)	99		70 - 130		05/31/16 14:51	1

### Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 04:06	1
<b>Sulfate</b>	<b>13.2</b>		1.00	mg/L			05/27/16 04:06	1

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.290</b>		0.0150	mg/L		05/27/16 07:20	05/30/16 17:18	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Alkalinity</b>	<b>56.7</b>		10.0	mg/L			05/26/16 20:05	1
<b>Ferrous Iron</b>	<b>9.50</b>	<b>HF</b>	1.00	mg/L			05/27/16 10:49	10

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-18**

**Lab Sample ID: 490-104469-8**

**Date Collected: 05/25/16 14:50**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 19:05	1
Benzene	ND		1.00	ug/L			05/27/16 19:05	1
Bromobenzene	ND		1.00	ug/L			05/27/16 19:05	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 19:05	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 19:05	1
Bromoform	ND		1.00	ug/L			05/27/16 19:05	1
Bromomethane	ND		1.00	ug/L			05/27/16 19:05	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 19:05	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 19:05	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 19:05	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 19:05	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 19:05	1
Chloroethane	ND		1.00	ug/L			05/27/16 19:05	1
Chloroform	ND		1.00	ug/L			05/27/16 19:05	1
Chloromethane	ND		1.00	ug/L			05/27/16 19:05	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 19:05	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 19:05	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 19:05	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 19:05	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 19:05	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 19:05	1
Dibromomethane	ND		1.00	ug/L			05/27/16 19:05	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 19:05	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 19:05	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 19:05	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 19:05	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 19:05	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 19:05	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 19:05	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 19:05	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 19:05	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 19:05	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 19:05	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 19:05	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 19:05	1
2-Hexanone	ND		10.0	ug/L			05/27/16 19:05	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 19:05	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 19:05	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 19:05	1
Naphthalene	ND		5.00	ug/L			05/27/16 19:05	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 19:05	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
Styrene	ND		1.00	ug/L			05/27/16 19:05	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 19:05	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-18

Lab Sample ID: 490-104469-8

Date Collected: 05/25/16 14:50

Matrix: Water

Date Received: 05/26/16 09:10

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 19:05	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 19:05	1
Toluene	ND		1.00	ug/L			05/27/16 19:05	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 19:05	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 19:05	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 19:05	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 19:05	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 19:05	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 19:05	1
Trichloroethene	ND		1.00	ug/L			05/27/16 19:05	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 19:05	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 19:05	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 19:05	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 19:05	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130		05/27/16 19:05	1
Dibromofluoromethane (Surr)	99		70 - 130		05/27/16 19:05	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		05/27/16 19:05	1
Toluene-d8 (Surr)	100		70 - 130		05/27/16 19:05	1

### Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 04:26	1
Sulfate	13.1		1.00	mg/L			05/27/16 04:26	1

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.738		0.0150	mg/L		05/27/16 07:20	05/30/16 17:22	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	115		10.0	mg/L			05/26/16 20:11	1
Ferrous Iron	5.90	HF	0.500	mg/L			05/27/16 10:49	5

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 490-104469-9**

**Date Collected: 05/25/16 00:01**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 13:24	1
Benzene	ND		1.00	ug/L			05/27/16 13:24	1
Bromobenzene	ND		1.00	ug/L			05/27/16 13:24	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 13:24	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 13:24	1
Bromoform	ND		1.00	ug/L			05/27/16 13:24	1
Bromomethane	ND		1.00	ug/L			05/27/16 13:24	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 13:24	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 13:24	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 13:24	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 13:24	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 13:24	1
Chloroethane	ND		1.00	ug/L			05/27/16 13:24	1
Chloroform	ND		1.00	ug/L			05/27/16 13:24	1
Chloromethane	ND		1.00	ug/L			05/27/16 13:24	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 13:24	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 13:24	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 13:24	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 13:24	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 13:24	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 13:24	1
Dibromomethane	ND		1.00	ug/L			05/27/16 13:24	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 13:24	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 13:24	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 13:24	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 13:24	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 13:24	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 13:24	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 13:24	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 13:24	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 13:24	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 13:24	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 13:24	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 13:24	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 13:24	1
2-Hexanone	ND		10.0	ug/L			05/27/16 13:24	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 13:24	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 13:24	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 13:24	1
Naphthalene	ND		5.00	ug/L			05/27/16 13:24	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 13:24	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
Styrene	ND		1.00	ug/L			05/27/16 13:24	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 13:24	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 490-104469-9**

**Date Collected: 05/25/16 00:01**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 13:24	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 13:24	1
Toluene	ND		1.00	ug/L			05/27/16 13:24	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 13:24	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 13:24	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 13:24	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 13:24	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 13:24	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 13:24	1
Trichloroethene	ND		1.00	ug/L			05/27/16 13:24	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 13:24	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 13:24	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 13:24	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 13:24	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130		05/27/16 13:24	1
Dibromofluoromethane (Surr)	95		70 - 130		05/27/16 13:24	1
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		05/27/16 13:24	1
Toluene-d8 (Surr)	100		70 - 130		05/27/16 13:24	1

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 490-104469-10**

**Date Collected: 05/25/16 00:01**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 13:50	1
Benzene	ND		1.00	ug/L			05/27/16 13:50	1
Bromobenzene	ND		1.00	ug/L			05/27/16 13:50	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 13:50	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 13:50	1
Bromoform	ND		1.00	ug/L			05/27/16 13:50	1
Bromomethane	ND		1.00	ug/L			05/27/16 13:50	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 13:50	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 13:50	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 13:50	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 13:50	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 13:50	1
Chloroethane	ND		1.00	ug/L			05/27/16 13:50	1
Chloroform	ND		1.00	ug/L			05/27/16 13:50	1
Chloromethane	ND		1.00	ug/L			05/27/16 13:50	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 13:50	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 13:50	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 13:50	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 13:50	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 13:50	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 13:50	1
Dibromomethane	ND		1.00	ug/L			05/27/16 13:50	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 13:50	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 13:50	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 13:50	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 13:50	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 13:50	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 13:50	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 13:50	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 13:50	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 13:50	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 13:50	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 13:50	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 13:50	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 13:50	1
2-Hexanone	ND		10.0	ug/L			05/27/16 13:50	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 13:50	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 13:50	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 13:50	1
Naphthalene	ND		5.00	ug/L			05/27/16 13:50	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 13:50	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
Styrene	ND		1.00	ug/L			05/27/16 13:50	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 13:50	1

TestAmerica Nashville

# Client Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 490-104469-10**

**Date Collected: 05/25/16 00:01**

**Matrix: Water**

**Date Received: 05/26/16 09:10**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 13:50	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 13:50	1
Toluene	ND		1.00	ug/L			05/27/16 13:50	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 13:50	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 13:50	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 13:50	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 13:50	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 13:50	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 13:50	1
Trichloroethene	ND		1.00	ug/L			05/27/16 13:50	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 13:50	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 13:50	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 13:50	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 13:50	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130		05/27/16 13:50	1
Dibromofluoromethane (Surr)	96		70 - 130		05/27/16 13:50	1
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		05/27/16 13:50	1
Toluene-d8 (Surr)	100		70 - 130		05/27/16 13:50	1

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 490-343505/6**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/27/16 12:57	1
Benzene	ND		1.00	ug/L			05/27/16 12:57	1
Bromobenzene	ND		1.00	ug/L			05/27/16 12:57	1
Bromochloromethane	ND		1.00	ug/L			05/27/16 12:57	1
Bromodichloromethane	ND		1.00	ug/L			05/27/16 12:57	1
Bromoform	ND		1.00	ug/L			05/27/16 12:57	1
Bromomethane	ND		1.00	ug/L			05/27/16 12:57	1
2-Butanone (MEK)	ND		50.0	ug/L			05/27/16 12:57	1
Carbon disulfide	ND		1.00	ug/L			05/27/16 12:57	1
Carbon tetrachloride	ND		1.00	ug/L			05/27/16 12:57	1
Chlorobenzene	ND		1.00	ug/L			05/27/16 12:57	1
Chlorodibromomethane	ND		1.00	ug/L			05/27/16 12:57	1
Chloroethane	ND		1.00	ug/L			05/27/16 12:57	1
Chloroform	ND		1.00	ug/L			05/27/16 12:57	1
Chloromethane	ND		1.00	ug/L			05/27/16 12:57	1
2-Chlorotoluene	ND		1.00	ug/L			05/27/16 12:57	1
4-Chlorotoluene	ND		1.00	ug/L			05/27/16 12:57	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 12:57	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 12:57	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/27/16 12:57	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/27/16 12:57	1
Dibromomethane	ND		1.00	ug/L			05/27/16 12:57	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/27/16 12:57	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/27/16 12:57	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/27/16 12:57	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/27/16 12:57	1
1,1-Dichloroethane	ND		1.00	ug/L			05/27/16 12:57	1
1,2-Dichloroethane	ND		1.00	ug/L			05/27/16 12:57	1
1,1-Dichloroethene	ND		1.00	ug/L			05/27/16 12:57	1
1,2-Dichloropropane	ND		1.00	ug/L			05/27/16 12:57	1
1,3-Dichloropropane	ND		1.00	ug/L			05/27/16 12:57	1
2,2-Dichloropropane	ND		1.00	ug/L			05/27/16 12:57	1
1,1-Dichloropropene	ND		1.00	ug/L			05/27/16 12:57	1
Diisopropyl ether	ND		2.00	ug/L			05/27/16 12:57	1
Ethylbenzene	ND		1.00	ug/L			05/27/16 12:57	1
Hexachlorobutadiene	ND		2.00	ug/L			05/27/16 12:57	1
2-Hexanone	ND		10.0	ug/L			05/27/16 12:57	1
Isopropylbenzene	ND		1.00	ug/L			05/27/16 12:57	1
Methylene Chloride	ND		5.00	ug/L			05/27/16 12:57	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/27/16 12:57	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/27/16 12:57	1
Naphthalene	ND		5.00	ug/L			05/27/16 12:57	1
n-Butylbenzene	ND		1.00	ug/L			05/27/16 12:57	1
N-Propylbenzene	ND		1.00	ug/L			05/27/16 12:57	1
p-Isopropyltoluene	ND		1.00	ug/L			05/27/16 12:57	1
sec-Butylbenzene	ND		1.00	ug/L			05/27/16 12:57	1
Styrene	ND		1.00	ug/L			05/27/16 12:57	1
tert-Butylbenzene	ND		1.00	ug/L			05/27/16 12:57	1

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 490-343505/6**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 12:57	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/27/16 12:57	1
Tetrachloroethene	ND		1.00	ug/L			05/27/16 12:57	1
Toluene	ND		1.00	ug/L			05/27/16 12:57	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/27/16 12:57	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/27/16 12:57	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/27/16 12:57	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/27/16 12:57	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/27/16 12:57	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/27/16 12:57	1
Trichloroethene	ND		1.00	ug/L			05/27/16 12:57	1
Trichlorofluoromethane	ND		1.00	ug/L			05/27/16 12:57	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/27/16 12:57	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/27/16 12:57	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/27/16 12:57	1
Vinyl chloride	ND		1.00	ug/L			05/27/16 12:57	1
Xylenes, Total	ND		3.00	ug/L			05/27/16 12:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130		05/27/16 12:57	1
Dibromofluoromethane (Surr)	100		70 - 130		05/27/16 12:57	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		05/27/16 12:57	1
Toluene-d8 (Surr)	100		70 - 130		05/27/16 12:57	1

**Lab Sample ID: LCS 490-343505/3**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	236.0		ug/L		94	39 - 150
Benzene	50.0	48.44		ug/L		97	70 - 130
Bromobenzene	50.0	52.91		ug/L		106	70 - 130
Bromochloromethane	50.0	49.87		ug/L		100	70 - 130
Bromodichloromethane	50.0	44.90		ug/L		90	70 - 130
Bromoform	50.0	55.72		ug/L		111	70 - 137
Bromomethane	50.0	44.41		ug/L		89	53 - 150
2-Butanone (MEK)	250	247.6		ug/L		99	55 - 143
Carbon disulfide	50.0	46.88		ug/L		94	64 - 135
Carbon tetrachloride	50.0	51.52		ug/L		103	70 - 147
Chlorobenzene	50.0	52.42		ug/L		105	70 - 130
Chlorodibromomethane	50.0	54.31		ug/L		109	70 - 133
Chloroethane	50.0	47.43		ug/L		95	60 - 138
Chloroform	50.0	50.04		ug/L		100	70 - 130
Chloromethane	50.0	46.23		ug/L		92	33 - 150
2-Chlorotoluene	50.0	49.13		ug/L		98	70 - 130
4-Chlorotoluene	50.0	49.61		ug/L		99	70 - 130
cis-1,2-Dichloroethene	50.0	55.52		ug/L		111	70 - 130
cis-1,3-Dichloropropene	50.0	50.22		ug/L		100	70 - 133

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 490-343505/3**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	50.0	51.81		ug/L		104	45 - 138
1,2-Dibromoethane (EDB)	50.0	52.42		ug/L		105	70 - 130
Dibromomethane	50.0	42.55		ug/L		85	70 - 130
1,2-Dichlorobenzene	50.0	55.41		ug/L		111	70 - 130
1,3-Dichlorobenzene	50.0	54.66		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	54.38		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	43.12		ug/L		86	48 - 150
1,1-Dichloroethane	50.0	52.85		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	48.11		ug/L		96	70 - 130
1,1-Dichloroethene	50.0	52.24		ug/L		104	70 - 132
1,2-Dichloropropane	50.0	47.97		ug/L		96	70 - 130
1,3-Dichloropropane	50.0	51.77		ug/L		104	70 - 130
2,2-Dichloropropane	50.0	49.57		ug/L		99	60 - 143
1,1-Dichloropropene	50.0	49.44		ug/L		99	70 - 130
Diisopropyl ether	50.0	46.88		ug/L		94	66 - 142
Ethylbenzene	50.0	47.83		ug/L		96	70 - 130
Hexachlorobutadiene	50.0	57.67		ug/L		115	70 - 138
2-Hexanone	250	235.1		ug/L		94	54 - 142
Isopropylbenzene	50.0	49.86		ug/L		100	70 - 131
Methylene Chloride	50.0	46.25		ug/L		93	70 - 130
4-Methyl-2-pentanone (MIBK)	250	244.3		ug/L		98	60 - 137
Methyl tert-butyl ether	50.0	50.53		ug/L		101	70 - 130
Naphthalene	50.0	50.46		ug/L		101	54 - 150
n-Butylbenzene	50.0	51.75		ug/L		103	68 - 137
N-Propylbenzene	50.0	47.18		ug/L		94	70 - 134
p-Isopropyltoluene	50.0	50.11		ug/L		100	66 - 130
sec-Butylbenzene	50.0	49.93		ug/L		100	70 - 135
Styrene	50.0	51.28		ug/L		103	70 - 130
tert-Butylbenzene	50.0	50.05		ug/L		100	70 - 130
1,1,1,2-Tetrachloroethane	50.0	52.57		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	50.0	48.05		ug/L		96	69 - 131
Tetrachloroethene	50.0	54.87		ug/L		110	70 - 130
Toluene	50.0	48.21		ug/L		96	70 - 130
trans-1,2-Dichloroethene	50.0	51.50		ug/L		103	70 - 130
trans-1,3-Dichloropropene	50.0	49.16		ug/L		98	63 - 142
1,2,3-Trichlorobenzene	50.0	54.47		ug/L		109	46 - 150
1,2,4-Trichlorobenzene	50.0	56.49		ug/L		113	58 - 147
1,1,1-Trichloroethane	50.0	48.03		ug/L		96	70 - 135
1,1,2-Trichloroethane	50.0	50.91		ug/L		102	70 - 130
Trichloroethene	50.0	44.65		ug/L		89	70 - 130
Trichlorofluoromethane	50.0	51.49		ug/L		103	59 - 150
1,2,3-Trichloropropane	50.0	47.19		ug/L		94	70 - 131
1,2,4-Trimethylbenzene	50.0	48.67		ug/L		97	70 - 130
1,3,5-Trimethylbenzene	50.0	49.11		ug/L		98	70 - 130
Vinyl chloride	50.0	49.94		ug/L		100	57 - 137
Xylenes, Total	100	97.71		ug/L		98	70 - 132

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-343505/3

Matrix: Water

Analysis Batch: 343505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	89		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: LCSD 490-343505/4

Matrix: Water

Analysis Batch: 343505

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit		
Acetone	250	228.5		ug/L		91	39 - 150	3	23	
Benzene	50.0	47.43		ug/L		95	70 - 130	2	12	
Bromobenzene	50.0	52.21		ug/L		104	70 - 130	1	16	
Bromochloromethane	50.0	49.08		ug/L		98	70 - 130	2	16	
Bromodichloromethane	50.0	44.80		ug/L		90	70 - 130	0	14	
Bromoform	50.0	54.31		ug/L		109	70 - 137	3	14	
Bromomethane	50.0	42.83		ug/L		86	53 - 150	4	19	
2-Butanone (MEK)	250	237.7		ug/L		95	55 - 143	4	19	
Carbon disulfide	50.0	45.21		ug/L		90	64 - 135	4	16	
Carbon tetrachloride	50.0	50.02		ug/L		100	70 - 147	3	16	
Chlorobenzene	50.0	50.49		ug/L		101	70 - 130	4	12	
Chlorodibromomethane	50.0	52.70		ug/L		105	70 - 133	3	13	
Chloroethane	50.0	46.93		ug/L		94	60 - 138	1	15	
Chloroform	50.0	53.41		ug/L		107	70 - 130	7	14	
Chloromethane	50.0	45.66		ug/L		91	33 - 150	1	20	
2-Chlorotoluene	50.0	49.67		ug/L		99	70 - 130	1	15	
4-Chlorotoluene	50.0	48.90		ug/L		98	70 - 130	1	15	
cis-1,2-Dichloroethene	50.0	54.42		ug/L		109	70 - 130	2	15	
cis-1,3-Dichloropropene	50.0	48.70		ug/L		97	70 - 133	3	15	
1,2-Dibromo-3-Chloropropane	50.0	51.36		ug/L		103	45 - 138	1	19	
1,2-Dibromoethane (EDB)	50.0	50.66		ug/L		101	70 - 130	3	13	
Dibromomethane	50.0	42.60		ug/L		85	70 - 130	0	14	
1,2-Dichlorobenzene	50.0	54.51		ug/L		109	70 - 130	2	12	
1,3-Dichlorobenzene	50.0	53.69		ug/L		107	70 - 130	2	13	
1,4-Dichlorobenzene	50.0	53.36		ug/L		107	70 - 130	2	12	
Dichlorodifluoromethane	50.0	42.65		ug/L		85	48 - 150	1	16	
1,1-Dichloroethane	50.0	51.97		ug/L		104	70 - 130	2	17	
1,2-Dichloroethane	50.0	47.34		ug/L		95	70 - 130	2	13	
1,1-Dichloroethene	50.0	51.19		ug/L		102	70 - 132	2	20	
1,2-Dichloropropane	50.0	47.32		ug/L		95	70 - 130	1	15	
1,3-Dichloropropane	50.0	50.55		ug/L		101	70 - 130	2	12	
2,2-Dichloropropane	50.0	48.43		ug/L		97	60 - 143	2	20	
1,1-Dichloropropene	50.0	47.95		ug/L		96	70 - 130	3	16	
Diisopropyl ether	50.0	46.64		ug/L		93	66 - 142	1	14	
Ethylbenzene	50.0	46.19		ug/L		92	70 - 130	3	12	
Hexachlorobutadiene	50.0	56.91		ug/L		114	70 - 138	1	16	
2-Hexanone	250	226.8		ug/L		91	54 - 142	4	17	
Isopropylbenzene	50.0	47.81		ug/L		96	70 - 131	4	13	

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 490-343505/4**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Chloride	50.0	46.10		ug/L		92	70 - 130	0	15
4-Methyl-2-pentanone (MIBK)	250	240.8		ug/L		96	60 - 137	1	21
Methyl tert-butyl ether	50.0	50.71		ug/L		101	70 - 130	0	16
Naphthalene	50.0	49.95		ug/L		100	54 - 150	1	15
n-Butylbenzene	50.0	50.50		ug/L		101	68 - 137	2	14
N-Propylbenzene	50.0	46.44		ug/L		93	70 - 134	2	14
p-Isopropyltoluene	50.0	49.34		ug/L		99	66 - 130	2	13
sec-Butylbenzene	50.0	48.63		ug/L		97	70 - 135	3	14
Styrene	50.0	48.99		ug/L		98	70 - 130	5	12
tert-Butylbenzene	50.0	48.89		ug/L		98	70 - 130	2	14
1,1,1,2-Tetrachloroethane	50.0	51.25		ug/L		103	70 - 130	3	13
1,1,2,2-Tetrachloroethane	50.0	48.85		ug/L		98	69 - 131	2	15
Tetrachloroethene	50.0	53.09		ug/L		106	70 - 130	3	17
Toluene	50.0	46.50		ug/L		93	70 - 130	4	13
trans-1,2-Dichloroethene	50.0	50.71		ug/L		101	70 - 130	2	15
trans-1,3-Dichloropropene	50.0	47.78		ug/L		96	63 - 142	3	13
1,2,3-Trichlorobenzene	50.0	54.08		ug/L		108	46 - 150	1	16
1,2,4-Trichlorobenzene	50.0	55.80		ug/L		112	58 - 147	1	15
1,1,1-Trichloroethane	50.0	48.04		ug/L		96	70 - 135	0	15
1,1,2-Trichloroethane	50.0	48.77		ug/L		98	70 - 130	4	13
Trichloroethene	50.0	44.03		ug/L		88	70 - 130	1	14
Trichlorofluoromethane	50.0	50.25		ug/L		101	59 - 150	2	22
1,2,3-Trichloropropane	50.0	47.53		ug/L		95	70 - 131	1	14
1,2,4-Trimethylbenzene	50.0	47.50		ug/L		95	70 - 130	2	13
1,3,5-Trimethylbenzene	50.0	47.92		ug/L		96	70 - 130	2	14
Vinyl chloride	50.0	48.78		ug/L		98	57 - 137	2	15
Xylenes, Total	100	93.82		ug/L		94	70 - 132	4	11

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	88		70 - 130
Dibromofluoromethane (Surr)	98		70 - 130
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
Toluene-d8 (Surr)	99		70 - 130

**Lab Sample ID: 490-104469-2 MS**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: MW-23**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		250	225.1		ug/L		90	39 - 150
Benzene	ND		50.0	50.18		ug/L		100	55 - 147
Bromobenzene	ND		50.0	52.08		ug/L		104	60 - 133
Bromochloromethane	ND		50.0	52.66		ug/L		105	59 - 132
Bromodichloromethane	ND		50.0	41.94		ug/L		84	70 - 140
Bromoform	ND		50.0	59.72		ug/L		119	53 - 150
Bromomethane	ND		50.0	42.68		ug/L		85	30 - 150
2-Butanone (MEK)	ND		250	231.6		ug/L		93	50 - 143
Carbon disulfide	ND		50.0	44.85		ug/L		90	35 - 150

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 490-104469-2 MS**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: MW-23**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Carbon tetrachloride	ND		50.0	52.82		ug/L		106	56 - 150
Chlorobenzene	ND		50.0	55.35		ug/L		111	70 - 130
Chlorodibromomethane	ND		50.0	57.51		ug/L		115	66 - 140
Chloroethane	ND		50.0	45.53		ug/L		91	58 - 141
Chloroform	1.44		50.0	54.38		ug/L		106	66 - 138
Chloromethane	ND		50.0	41.27		ug/L		83	10 - 150
2-Chlorotoluene	ND		50.0	48.64		ug/L		97	67 - 138
4-Chlorotoluene	ND		50.0	51.11		ug/L		102	69 - 138
cis-1,2-Dichloroethene	ND		50.0	56.00		ug/L		112	68 - 131
cis-1,3-Dichloropropene	ND		50.0	49.42		ug/L		99	70 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	48.88		ug/L		98	38 - 138
1,2-Dibromoethane (EDB)	ND		50.0	53.12		ug/L		106	65 - 137
Dibromomethane	ND		50.0	44.29		ug/L		89	70 - 130
1,2-Dichlorobenzene	ND		50.0	57.13		ug/L		114	70 - 130
1,3-Dichlorobenzene	ND		50.0	56.11		ug/L		112	68 - 131
1,4-Dichlorobenzene	ND		50.0	56.24		ug/L		112	70 - 130
Dichlorodifluoromethane	ND		50.0	34.09		ug/L		68	10 - 150
1,1-Dichloroethane	ND		50.0	53.66		ug/L		107	61 - 139
1,2-Dichloroethane	ND		50.0	49.56		ug/L		99	64 - 136
1,1-Dichloroethene	ND		50.0	51.95		ug/L		104	54 - 150
1,2-Dichloropropane	ND		50.0	49.76		ug/L		100	67 - 130
1,3-Dichloropropane	ND		50.0	51.57		ug/L		103	70 - 130
2,2-Dichloropropane	ND		50.0	48.98		ug/L		98	50 - 146
1,1-Dichloropropene	ND		50.0	50.42		ug/L		101	54 - 150
Diisopropyl ether	ND		50.0	47.13		ug/L		94	56 - 142
Ethylbenzene	ND		50.0	50.57		ug/L		101	65 - 139
Hexachlorobutadiene	ND		50.0	54.19		ug/L		108	61 - 141
2-Hexanone	ND		250	229.3		ug/L		92	44 - 150
Isopropylbenzene	ND		50.0	54.34		ug/L		109	70 - 137
Methylene Chloride	ND		50.0	46.54		ug/L		93	64 - 130
4-Methyl-2-pentanone (MIBK)	ND		250	238.0		ug/L		95	50 - 140
Methyl tert-butyl ether	ND		50.0	49.74		ug/L		99	55 - 141
Naphthalene	ND		50.0	47.13		ug/L		94	32 - 150
n-Butylbenzene	ND		50.0	53.18		ug/L		106	61 - 141
N-Propylbenzene	ND		50.0	47.47		ug/L		95	53 - 150
p-Isopropyltoluene	ND		50.0	52.18		ug/L		104	66 - 137
sec-Butylbenzene	ND		50.0	51.20		ug/L		102	55 - 136
Styrene	ND		50.0	55.90		ug/L		112	70 - 130
tert-Butylbenzene	ND		50.0	51.10		ug/L		102	70 - 138
1,1,1,2-Tetrachloroethane	ND		50.0	55.93		ug/L		112	70 - 131
1,1,2,2-Tetrachloroethane	ND		50.0	45.94		ug/L		92	56 - 145
Tetrachloroethene	ND		50.0	58.04		ug/L		116	57 - 138
Toluene	ND		50.0	50.05		ug/L		100	64 - 136
trans-1,2-Dichloroethene	ND		50.0	51.12		ug/L		102	59 - 143
trans-1,3-Dichloropropene	ND		50.0	49.99		ug/L		100	63 - 142
1,2,3-Trichlorobenzene	ND		50.0	51.09		ug/L		102	36 - 150
1,2,4-Trichlorobenzene	ND		50.0	54.31		ug/L		109	47 - 147
1,1,1-Trichloroethane	ND		50.0	51.62		ug/L		103	68 - 144

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 490-104469-2 MS**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: MW-23**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	ND		50.0	52.10		ug/L		104	70 - 130
Trichloroethene	ND		50.0	47.41		ug/L		95	63 - 135
Trichlorofluoromethane	ND		50.0	50.78		ug/L		102	44 - 150
1,2,3-Trichloropropane	ND		50.0	45.15		ug/L		90	65 - 131
1,2,4-Trimethylbenzene	ND		50.0	50.02		ug/L		100	64 - 136
1,3,5-Trimethylbenzene	ND		50.0	50.15		ug/L		100	69 - 139
Vinyl chloride	ND		50.0	44.98		ug/L		90	57 - 150
Xylenes, Total	ND		100	104.1		ug/L		104	69 - 132

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	81		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
Toluene-d8 (Surr)	97		70 - 130

**Lab Sample ID: 490-104469-2 MSD**

**Matrix: Water**

**Analysis Batch: 343505**

**Client Sample ID: MW-23**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		250	233.2		ug/L		93	39 - 150	4	28
Benzene	ND		50.0	49.21		ug/L		98	55 - 147	2	22
Bromobenzene	ND		50.0	53.90		ug/L		108	60 - 133	3	18
Bromochloromethane	ND		50.0	50.05		ug/L		100	59 - 132	5	21
Bromodichloromethane	ND		50.0	42.31		ug/L		85	70 - 140	1	196
Bromoform	ND		50.0	58.58		ug/L		117	53 - 150	2	20
Bromomethane	ND		50.0	44.12		ug/L		88	30 - 150	3	44
2-Butanone (MEK)	ND		250	239.2		ug/L		96	50 - 143	3	28
Carbon disulfide	ND		50.0	44.43		ug/L		89	35 - 150	1	34
Carbon tetrachloride	ND		50.0	52.47		ug/L		105	56 - 150	1	18
Chlorobenzene	ND		50.0	54.09		ug/L		108	70 - 130	2	15
Chlorodibromomethane	ND		50.0	57.91		ug/L		116	66 - 140	1	19
Chloroethane	ND		50.0	45.44		ug/L		91	58 - 141	0	31
Chloroform	1.44		50.0	53.39		ug/L		104	66 - 138	2	21
Chloromethane	ND		50.0	43.56		ug/L		87	10 - 150	5	43
2-Chlorotoluene	ND		50.0	49.04		ug/L		98	67 - 138	1	17
4-Chlorotoluene	ND		50.0	51.02		ug/L		102	69 - 138	0	15
cis-1,2-Dichloroethene	ND		50.0	55.64		ug/L		111	68 - 131	1	21
cis-1,3-Dichloropropene	ND		50.0	51.51		ug/L		103	70 - 133	4	19
1,2-Dibromo-3-Chloropropane	ND		50.0	52.00		ug/L		104	38 - 138	6	26
1,2-Dibromoethane (EDB)	ND		50.0	54.70		ug/L		109	65 - 137	3	21
Dibromomethane	ND		50.0	43.66		ug/L		87	70 - 130	1	19
1,2-Dichlorobenzene	ND		50.0	56.28		ug/L		113	70 - 130	1	15
1,3-Dichlorobenzene	ND		50.0	55.69		ug/L		111	68 - 131	1	14
1,4-Dichlorobenzene	ND		50.0	55.70		ug/L		111	70 - 130	1	14
Dichlorodifluoromethane	ND		50.0	35.99		ug/L		72	10 - 150	5	50
1,1-Dichloroethane	ND		50.0	53.44		ug/L		107	61 - 139	0	23
1,2-Dichloroethane	ND		50.0	48.63		ug/L		97	64 - 136	2	22

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-104469-2 MSD

Client Sample ID: MW-23

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 343505

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,1-Dichloroethene	ND		50.0	51.23		ug/L		102	54 - 150	1	24
1,2-Dichloropropane	ND		50.0	48.74		ug/L		97	67 - 130	2	19
1,3-Dichloropropane	ND		50.0	53.76		ug/L		108	70 - 130	4	17
2,2-Dichloropropane	ND		50.0	48.04		ug/L		96	50 - 146	2	20
1,1-Dichloropropene	ND		50.0	49.55		ug/L		99	54 - 150	2	24
Diisopropyl ether	ND		50.0	47.07		ug/L		94	56 - 142	0	22
Ethylbenzene	ND		50.0	48.84		ug/L		98	65 - 139	3	18
Hexachlorobutadiene	ND		50.0	57.98		ug/L		116	61 - 141	7	26
2-Hexanone	ND		250	238.4		ug/L		95	44 - 150	4	21
Isopropylbenzene	ND		50.0	52.08		ug/L		104	70 - 137	4	17
Methylene Chloride	ND		50.0	46.16		ug/L		92	64 - 130	1	22
4-Methyl-2-pentanone (MIBK)	ND		250	252.6		ug/L		101	50 - 140	6	24
Methyl tert-butyl ether	ND		50.0	51.02		ug/L		102	55 - 141	3	24
Naphthalene	ND		50.0	51.19		ug/L		102	32 - 150	8	40
n-Butylbenzene	ND		50.0	52.62		ug/L		105	61 - 141	1	17
N-Propylbenzene	ND		50.0	47.91		ug/L		96	53 - 150	1	18
p-Isopropyltoluene	ND		50.0	51.40		ug/L		103	66 - 137	2	16
sec-Butylbenzene	ND		50.0	50.64		ug/L		101	55 - 136	1	50
Styrene	ND		50.0	53.68		ug/L		107	70 - 130	4	16
tert-Butylbenzene	ND		50.0	50.96		ug/L		102	70 - 138	0	17
1,1,1,2-Tetrachloroethane	ND		50.0	53.40		ug/L		107	70 - 131	5	16
1,1,2,2-Tetrachloroethane	ND		50.0	49.38		ug/L		99	56 - 145	7	19
Tetrachloroethene	ND		50.0	57.43		ug/L		115	57 - 138	1	17
Toluene	ND		50.0	49.18		ug/L		98	64 - 136	2	18
trans-1,2-Dichloroethene	ND		50.0	51.23		ug/L		102	59 - 143	0	25
trans-1,3-Dichloropropene	ND		50.0	49.71		ug/L		99	63 - 142	1	18
1,2,3-Trichlorobenzene	ND		50.0	53.84		ug/L		108	36 - 150	5	43
1,2,4-Trichlorobenzene	ND		50.0	56.30		ug/L		113	47 - 147	4	24
1,1,1-Trichloroethane	ND		50.0	50.68		ug/L		101	68 - 144	2	17
1,1,2-Trichloroethane	ND		50.0	53.72		ug/L		107	70 - 130	3	18
Trichloroethene	ND		50.0	46.33		ug/L		93	63 - 135	2	17
Trichlorofluoromethane	ND		50.0	50.44		ug/L		101	44 - 150	1	32
1,2,3-Trichloropropane	ND		50.0	47.61		ug/L		95	65 - 131	5	19
1,2,4-Trimethylbenzene	ND		50.0	49.88		ug/L		100	64 - 136	0	18
1,3,5-Trimethylbenzene	ND		50.0	49.77		ug/L		100	69 - 139	1	17
Vinyl chloride	ND		50.0	46.44		ug/L		93	57 - 150	3	37
Xylenes, Total	ND		100	100.7		ug/L		101	69 - 132	3	17

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	84		70 - 130
Dibromofluoromethane (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
Toluene-d8 (Surr)	99		70 - 130

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-344181/6

Matrix: Water

Analysis Batch: 344181

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	ug/L			05/31/16 13:59	1
Benzene	ND		1.00	ug/L			05/31/16 13:59	1
Bromobenzene	ND		1.00	ug/L			05/31/16 13:59	1
Bromochloromethane	ND		1.00	ug/L			05/31/16 13:59	1
Bromodichloromethane	ND		1.00	ug/L			05/31/16 13:59	1
Bromoform	ND		1.00	ug/L			05/31/16 13:59	1
Bromomethane	ND		1.00	ug/L			05/31/16 13:59	1
2-Butanone (MEK)	ND		50.0	ug/L			05/31/16 13:59	1
Carbon disulfide	ND		1.00	ug/L			05/31/16 13:59	1
Carbon tetrachloride	ND		1.00	ug/L			05/31/16 13:59	1
Chlorobenzene	ND		1.00	ug/L			05/31/16 13:59	1
Chlorodibromomethane	ND		1.00	ug/L			05/31/16 13:59	1
Chloroethane	ND		1.00	ug/L			05/31/16 13:59	1
Chloroform	ND		1.00	ug/L			05/31/16 13:59	1
Chloromethane	ND		1.00	ug/L			05/31/16 13:59	1
2-Chlorotoluene	ND		1.00	ug/L			05/31/16 13:59	1
4-Chlorotoluene	ND		1.00	ug/L			05/31/16 13:59	1
cis-1,2-Dichloroethene	ND		1.00	ug/L			05/31/16 13:59	1
cis-1,3-Dichloropropene	ND		1.00	ug/L			05/31/16 13:59	1
1,2-Dibromo-3-Chloropropane	ND		10.0	ug/L			05/31/16 13:59	1
1,2-Dibromoethane (EDB)	ND		1.00	ug/L			05/31/16 13:59	1
Dibromomethane	ND		1.00	ug/L			05/31/16 13:59	1
1,2-Dichlorobenzene	ND		1.00	ug/L			05/31/16 13:59	1
1,3-Dichlorobenzene	ND		1.00	ug/L			05/31/16 13:59	1
1,4-Dichlorobenzene	ND		1.00	ug/L			05/31/16 13:59	1
Dichlorodifluoromethane	ND		1.00	ug/L			05/31/16 13:59	1
1,1-Dichloroethane	ND		1.00	ug/L			05/31/16 13:59	1
1,2-Dichloroethane	ND		1.00	ug/L			05/31/16 13:59	1
1,1-Dichloroethene	ND		1.00	ug/L			05/31/16 13:59	1
1,2-Dichloropropane	ND		1.00	ug/L			05/31/16 13:59	1
1,3-Dichloropropane	ND		1.00	ug/L			05/31/16 13:59	1
2,2-Dichloropropane	ND		1.00	ug/L			05/31/16 13:59	1
1,1-Dichloropropene	ND		1.00	ug/L			05/31/16 13:59	1
Diisopropyl ether	ND		2.00	ug/L			05/31/16 13:59	1
Ethylbenzene	ND		1.00	ug/L			05/31/16 13:59	1
Hexachlorobutadiene	ND		2.00	ug/L			05/31/16 13:59	1
2-Hexanone	ND		10.0	ug/L			05/31/16 13:59	1
Isopropylbenzene	ND		1.00	ug/L			05/31/16 13:59	1
Methylene Chloride	ND		5.00	ug/L			05/31/16 13:59	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	ug/L			05/31/16 13:59	1
Methyl tert-butyl ether	ND		1.00	ug/L			05/31/16 13:59	1
Naphthalene	ND		5.00	ug/L			05/31/16 13:59	1
n-Butylbenzene	ND		1.00	ug/L			05/31/16 13:59	1
N-Propylbenzene	ND		1.00	ug/L			05/31/16 13:59	1
p-Isopropyltoluene	ND		1.00	ug/L			05/31/16 13:59	1
sec-Butylbenzene	ND		1.00	ug/L			05/31/16 13:59	1
Styrene	ND		1.00	ug/L			05/31/16 13:59	1
tert-Butylbenzene	ND		1.00	ug/L			05/31/16 13:59	1

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-344181/6

Matrix: Water

Analysis Batch: 344181

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L			05/31/16 13:59	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L			05/31/16 13:59	1
Tetrachloroethene	ND		1.00	ug/L			05/31/16 13:59	1
Toluene	ND		1.00	ug/L			05/31/16 13:59	1
trans-1,2-Dichloroethene	ND		1.00	ug/L			05/31/16 13:59	1
trans-1,3-Dichloropropene	ND		1.00	ug/L			05/31/16 13:59	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L			05/31/16 13:59	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L			05/31/16 13:59	1
1,1,1-Trichloroethane	ND		1.00	ug/L			05/31/16 13:59	1
1,1,2-Trichloroethane	ND		1.00	ug/L			05/31/16 13:59	1
Trichloroethene	ND		1.00	ug/L			05/31/16 13:59	1
Trichlorofluoromethane	ND		1.00	ug/L			05/31/16 13:59	1
1,2,3-Trichloropropane	ND		1.00	ug/L			05/31/16 13:59	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L			05/31/16 13:59	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L			05/31/16 13:59	1
Vinyl chloride	ND		1.00	ug/L			05/31/16 13:59	1
Xylenes, Total	ND		3.00	ug/L			05/31/16 13:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130		05/31/16 13:59	1
Dibromofluoromethane (Surr)	96		70 - 130		05/31/16 13:59	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 130		05/31/16 13:59	1
Toluene-d8 (Surr)	101		70 - 130		05/31/16 13:59	1

Lab Sample ID: LCS 490-344181/3

Matrix: Water

Analysis Batch: 344181

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	250	251.6		ug/L		101	39 - 150
Benzene	50.0	50.41		ug/L		101	70 - 130
Bromobenzene	50.0	51.95		ug/L		104	70 - 130
Bromochloromethane	50.0	53.14		ug/L		106	70 - 130
Bromodichloromethane	50.0	44.91		ug/L		90	70 - 130
Bromoform	50.0	54.74		ug/L		109	70 - 137
Bromomethane	50.0	50.72		ug/L		101	53 - 150
2-Butanone (MEK)	250	247.1		ug/L		99	55 - 143
Carbon disulfide	50.0	49.36		ug/L		99	64 - 135
Carbon tetrachloride	50.0	53.43		ug/L		107	70 - 147
Chlorobenzene	50.0	50.99		ug/L		102	70 - 130
Chlorodibromomethane	50.0	53.18		ug/L		106	70 - 133
Chloroethane	50.0	49.88		ug/L		100	60 - 138
Chloroform	50.0	57.40		ug/L		115	70 - 130
Chloromethane	50.0	46.69		ug/L		93	33 - 150
2-Chlorotoluene	50.0	47.66		ug/L		95	70 - 130
4-Chlorotoluene	50.0	47.31		ug/L		95	70 - 130
cis-1,2-Dichloroethene	50.0	45.74		ug/L		91	70 - 130
cis-1,3-Dichloropropene	50.0	50.10		ug/L		100	70 - 133

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-344181/3

Matrix: Water

Analysis Batch: 344181

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	50.0	48.37		ug/L		97	45 - 138
1,2-Dibromoethane (EDB)	50.0	50.65		ug/L		101	70 - 130
Dibromomethane	50.0	41.43		ug/L		83	70 - 130
1,2-Dichlorobenzene	50.0	51.85		ug/L		104	70 - 130
1,3-Dichlorobenzene	50.0	51.92		ug/L		104	70 - 130
1,4-Dichlorobenzene	50.0	51.62		ug/L		103	70 - 130
Dichlorodifluoromethane	50.0	46.29		ug/L		93	48 - 150
1,1-Dichloroethane	50.0	56.25		ug/L		113	70 - 130
1,2-Dichloroethane	50.0	50.98		ug/L		102	70 - 130
1,1-Dichloroethene	50.0	53.18		ug/L		106	70 - 132
1,2-Dichloropropane	50.0	44.86		ug/L		90	70 - 130
1,3-Dichloropropane	50.0	50.48		ug/L		101	70 - 130
2,2-Dichloropropane	50.0	52.73		ug/L		105	60 - 143
1,1-Dichloropropene	50.0	51.14		ug/L		102	70 - 130
Diisopropyl ether	50.0	51.65		ug/L		103	66 - 142
Ethylbenzene	50.0	46.15		ug/L		92	70 - 130
Hexachlorobutadiene	50.0	51.62		ug/L		103	70 - 138
2-Hexanone	250	226.9		ug/L		91	54 - 142
Isopropylbenzene	50.0	46.98		ug/L		94	70 - 131
Methylene Chloride	50.0	48.63		ug/L		97	70 - 130
4-Methyl-2-pentanone (MIBK)	250	239.1		ug/L		96	60 - 137
Methyl tert-butyl ether	50.0	52.87		ug/L		106	70 - 130
Naphthalene	50.0	47.17		ug/L		94	54 - 150
n-Butylbenzene	50.0	46.73		ug/L		93	68 - 137
N-Propylbenzene	50.0	44.54		ug/L		89	70 - 134
p-Isopropyltoluene	50.0	46.09		ug/L		92	66 - 130
sec-Butylbenzene	50.0	45.65		ug/L		91	70 - 135
Styrene	50.0	49.73		ug/L		99	70 - 130
tert-Butylbenzene	50.0	46.64		ug/L		93	70 - 130
1,1,1,2-Tetrachloroethane	50.0	51.75		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	50.0	47.40		ug/L		95	69 - 131
Tetrachloroethene	50.0	51.79		ug/L		104	70 - 130
Toluene	50.0	46.69		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	54.81		ug/L		110	70 - 130
trans-1,3-Dichloropropene	50.0	48.61		ug/L		97	63 - 142
1,2,3-Trichlorobenzene	50.0	50.19		ug/L		100	46 - 150
1,2,4-Trichlorobenzene	50.0	52.11		ug/L		104	58 - 147
1,1,1-Trichloroethane	50.0	50.06		ug/L		100	70 - 135
1,1,2-Trichloroethane	50.0	49.53		ug/L		99	70 - 130
Trichloroethene	50.0	46.97		ug/L		94	70 - 130
Trichlorofluoromethane	50.0	52.61		ug/L		105	59 - 150
1,2,3-Trichloropropane	50.0	46.26		ug/L		93	70 - 131
1,2,4-Trimethylbenzene	50.0	45.70		ug/L		91	70 - 130
1,3,5-Trimethylbenzene	50.0	45.99		ug/L		92	70 - 130
Vinyl chloride	50.0	51.79		ug/L		104	57 - 137
Xylenes, Total	100	94.11		ug/L		94	70 - 132

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-344181/3

Matrix: Water

Analysis Batch: 344181

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	90		70 - 130
Dibromofluoromethane (Surr)	105		70 - 130
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: LCSD 490-344181/4

Matrix: Water

Analysis Batch: 344181

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Acetone	250	284.7		ug/L		114	39 - 150	12		23
Benzene	50.0	49.94		ug/L		100	70 - 130	1		12
Bromobenzene	50.0	51.90		ug/L		104	70 - 130	0		16
Bromochloromethane	50.0	52.36		ug/L		105	70 - 130	1		16
Bromodichloromethane	50.0	47.33		ug/L		95	70 - 130	5		14
Bromoform	50.0	58.04		ug/L		116	70 - 137	6		14
Bromomethane	50.0	51.10		ug/L		102	53 - 150	1		19
2-Butanone (MEK)	250	256.8		ug/L		103	55 - 143	4		19
Carbon disulfide	50.0	48.05		ug/L		96	64 - 135	3		16
Carbon tetrachloride	50.0	52.17		ug/L		104	70 - 147	2		16
Chlorobenzene	50.0	51.89		ug/L		104	70 - 130	2		12
Chlorodibromomethane	50.0	55.37		ug/L		111	70 - 133	4		13
Chloroethane	50.0	50.48		ug/L		101	60 - 138	1		15
Chloroform	50.0	57.22		ug/L		114	70 - 130	0		14
Chloromethane	50.0	49.35		ug/L		99	33 - 150	6		20
2-Chlorotoluene	50.0	47.84		ug/L		96	70 - 130	0		15
4-Chlorotoluene	50.0	47.65		ug/L		95	70 - 130	1		15
cis-1,2-Dichloroethene	50.0	46.84		ug/L		94	70 - 130	2		15
cis-1,3-Dichloropropene	50.0	51.85		ug/L		104	70 - 133	3		15
1,2-Dibromo-3-Chloropropane	50.0	51.97		ug/L		104	45 - 138	7		19
1,2-Dibromoethane (EDB)	50.0	53.68		ug/L		107	70 - 130	6		13
Dibromomethane	50.0	43.52		ug/L		87	70 - 130	5		14
1,2-Dichlorobenzene	50.0	53.52		ug/L		107	70 - 130	3		12
1,3-Dichlorobenzene	50.0	52.81		ug/L		106	70 - 130	2		13
1,4-Dichlorobenzene	50.0	52.36		ug/L		105	70 - 130	1		12
Dichlorodifluoromethane	50.0	46.29		ug/L		93	48 - 150	0		16
1,1-Dichloroethane	50.0	56.59		ug/L		113	70 - 130	1		17
1,2-Dichloroethane	50.0	51.19		ug/L		102	70 - 130	0		13
1,1-Dichloroethene	50.0	53.80		ug/L		108	70 - 132	1		20
1,2-Dichloropropane	50.0	50.62		ug/L		101	70 - 130	12		15
1,3-Dichloropropane	50.0	52.81		ug/L		106	70 - 130	5		12
2,2-Dichloropropane	50.0	49.67		ug/L		99	60 - 143	6		20
1,1-Dichloropropene	50.0	50.98		ug/L		102	70 - 130	0		16
Diisopropyl ether	50.0	50.47		ug/L		101	66 - 142	2		14
Ethylbenzene	50.0	47.55		ug/L		95	70 - 130	3		12
Hexachlorobutadiene	50.0	52.97		ug/L		106	70 - 138	3		16
2-Hexanone	250	247.4		ug/L		99	54 - 142	9		17
Isopropylbenzene	50.0	48.90		ug/L		98	70 - 131	4		13

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-344181/4

Matrix: Water

Analysis Batch: 344181

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Chloride	50.0	49.54		ug/L		99	70 - 130	2	15
4-Methyl-2-pentanone (MIBK)	250	258.5		ug/L		103	60 - 137	8	21
Methyl tert-butyl ether	50.0	54.94		ug/L		110	70 - 130	4	16
Naphthalene	50.0	50.59		ug/L		101	54 - 150	7	15
n-Butylbenzene	50.0	48.73		ug/L		97	68 - 137	4	14
N-Propylbenzene	50.0	45.11		ug/L		90	70 - 134	1	14
p-Isopropyltoluene	50.0	47.16		ug/L		94	66 - 130	2	13
sec-Butylbenzene	50.0	46.83		ug/L		94	70 - 135	3	14
Styrene	50.0	51.35		ug/L		103	70 - 130	3	12
tert-Butylbenzene	50.0	47.58		ug/L		95	70 - 130	2	14
1,1,1,2-Tetrachloroethane	50.0	53.32		ug/L		107	70 - 130	3	13
1,1,2,2-Tetrachloroethane	50.0	48.98		ug/L		98	69 - 131	3	15
Tetrachloroethene	50.0	53.99		ug/L		108	70 - 130	4	17
Toluene	50.0	48.31		ug/L		97	70 - 130	3	13
trans-1,2-Dichloroethene	50.0	54.86		ug/L		110	70 - 130	0	15
trans-1,3-Dichloropropene	50.0	51.22		ug/L		102	63 - 142	5	13
1,2,3-Trichlorobenzene	50.0	53.15		ug/L		106	46 - 150	6	16
1,2,4-Trichlorobenzene	50.0	54.79		ug/L		110	58 - 147	5	15
1,1,1-Trichloroethane	50.0	50.58		ug/L		101	70 - 135	1	15
1,1,2-Trichloroethane	50.0	51.44		ug/L		103	70 - 130	4	13
Trichloroethene	50.0	45.90		ug/L		92	70 - 130	2	14
Trichlorofluoromethane	50.0	53.17		ug/L		106	59 - 150	1	22
1,2,3-Trichloropropane	50.0	47.99		ug/L		96	70 - 131	4	14
1,2,4-Trimethylbenzene	50.0	46.64		ug/L		93	70 - 130	2	13
1,3,5-Trimethylbenzene	50.0	46.52		ug/L		93	70 - 130	1	14
Vinyl chloride	50.0	52.89		ug/L		106	57 - 137	2	15
Xylenes, Total	100	97.17		ug/L		97	70 - 132	3	11

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	87		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
Toluene-d8 (Surr)	99		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-343502/3

Matrix: Water

Analysis Batch: 343502

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.00	mg/L			05/27/16 00:46	1

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: LCS 490-343502/4**

**Matrix: Water**

**Analysis Batch: 343502**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	10.0	9.715		mg/L		97	90 - 110

**Lab Sample ID: LCSD 490-343502/5**

**Matrix: Water**

**Analysis Batch: 343502**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	10.0	9.795		mg/L		98	90 - 110	1	20

**Lab Sample ID: 490-104469-1 MS**

**Matrix: Water**

**Analysis Batch: 343502**

**Client Sample ID: MW-24**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	37.1		2.00	31.67	4	mg/L		-270	80 - 120

**Lab Sample ID: MB 490-343503/3**

**Matrix: Water**

**Analysis Batch: 343503**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 00:46	1

**Lab Sample ID: LCS 490-343503/4**

**Matrix: Water**

**Analysis Batch: 343503**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.00	0.9903		mg/L		99	90 - 110

**Lab Sample ID: LCSD 490-343503/5**

**Matrix: Water**

**Analysis Batch: 343503**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1.00	0.9926		mg/L		99	90 - 110	0	20

**Lab Sample ID: 490-104469-1 MS**

**Matrix: Water**

**Analysis Batch: 343503**

**Client Sample ID: MW-24**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND		0.200	0.1631		mg/L		82	80 - 120

**Lab Sample ID: MB 490-343866/6**

**Matrix: Water**

**Analysis Batch: 343866**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100	mg/L			05/27/16 12:47	1

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Lab Sample ID: LCS 490-343866/7**  
**Matrix: Water**  
**Analysis Batch: 343866**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.00	0.9965		mg/L		100	90 - 110

**Lab Sample ID: LCSD 490-343866/8**  
**Matrix: Water**  
**Analysis Batch: 343866**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1.00	0.9981		mg/L		100	90 - 110	0	20

## Method: 6010C - Metals (ICP)

**Lab Sample ID: MB 490-343452/1-A**  
**Matrix: Water**  
**Analysis Batch: 344101**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 343452**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.0150	mg/L		05/27/16 07:20	05/30/16 15:13	1

**Lab Sample ID: LCS 490-343452/2-A**  
**Matrix: Water**  
**Analysis Batch: 344101**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 343452**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.500	0.5153		mg/L		103	80 - 120

**Lab Sample ID: LCSD 490-343452/3-A**  
**Matrix: Water**  
**Analysis Batch: 344101**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 343452**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.500	0.5116		mg/L		102	80 - 120	1	20

**Lab Sample ID: 490-104388-G-5-B MS**  
**Matrix: Water**  
**Analysis Batch: 344101**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 343452**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.0755		0.500	0.5369		mg/L		92	75 - 125

**Lab Sample ID: 490-104388-G-5-C MSD**  
**Matrix: Water**  
**Analysis Batch: 344101**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 343452**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.0755		0.500	0.5286		mg/L		91	75 - 125	2	20

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 490-343548/33  
 Matrix: Water  
 Analysis Batch: 343548

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		10.0	mg/L			05/26/16 18:07	1

Lab Sample ID: LCS 490-343548/34  
 Matrix: Water  
 Analysis Batch: 343548

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	100	98.21		mg/L		98	90 - 110

Lab Sample ID: LCSD 490-343548/7  
 Matrix: Water  
 Analysis Batch: 343548

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	100	95.11		mg/L		95	90 - 110	1	20

Lab Sample ID: 490-104450-C-1 DU  
 Matrix: Water  
 Analysis Batch: 343548

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	141		143.5		mg/L		2	20

## Method: SM 3500 Fe B - Iron, Ferrous

Lab Sample ID: MB 490-343554/3  
 Matrix: Water  
 Analysis Batch: 343554

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.100	mg/L			05/27/16 10:49	1

Lab Sample ID: LCS 490-343554/4  
 Matrix: Water  
 Analysis Batch: 343554

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	1.01	0.9950		mg/L		99	80 - 120

Lab Sample ID: 490-104469-2 MS  
 Matrix: Water  
 Analysis Batch: 343554

Client Sample ID: MW-23  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	1.01	0.9510		mg/L		94	75 - 125

TestAmerica Nashville

# QC Sample Results

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Method: SM 3500 Fe B - Iron, Ferrous (Continued)

**Lab Sample ID: 490-104469-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 343554**

**Client Sample ID: MW-23**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	1.01	0.9510		mg/L		94	75 - 125	0	20

**Lab Sample ID: 490-104469-2 DU**  
**Matrix: Water**  
**Analysis Batch: 343554**

**Client Sample ID: MW-23**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ferrous Iron	ND	HF	ND		mg/L		NC	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

# QC Association Summary

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## GC/MS VOA

### Analysis Batch: 343505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104469-1	MW-24	Total/NA	Water	8260B	
490-104469-2	MW-23	Total/NA	Water	8260B	
490-104469-2 MS	MW-23	Total/NA	Water	8260B	
490-104469-2 MSD	MW-23	Total/NA	Water	8260B	
490-104469-3	MW-21	Total/NA	Water	8260B	
490-104469-4	MW-6A	Total/NA	Water	8260B	
490-104469-5	MW-2	Total/NA	Water	8260B	
490-104469-6	Field Blank	Total/NA	Water	8260B	
490-104469-7	MW-25R	Total/NA	Water	8260B	
490-104469-8	MW-18	Total/NA	Water	8260B	
490-104469-9	Trip Blank	Total/NA	Water	8260B	
490-104469-10	Trip Blank	Total/NA	Water	8260B	
LCS 490-343505/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-343505/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-343505/6	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 344181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104469-5	MW-2	Total/NA	Water	8260B	
490-104469-7	MW-25R	Total/NA	Water	8260B	
LCS 490-344181/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-344181/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-344181/6	Method Blank	Total/NA	Water	8260B	

## HPLC/IC

### Analysis Batch: 343502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104469-1	MW-24	Total/NA	Water	300.0	
490-104469-1 MS	MW-24	Total/NA	Water	300.0	
490-104469-2	MW-23	Total/NA	Water	300.0	
490-104469-3	MW-21	Total/NA	Water	300.0	
490-104469-4	MW-6A	Total/NA	Water	300.0	
490-104469-5	MW-2	Total/NA	Water	300.0	
490-104469-6	Field Blank	Total/NA	Water	300.0	
490-104469-7	MW-25R	Total/NA	Water	300.0	
490-104469-8	MW-18	Total/NA	Water	300.0	
LCS 490-343502/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-343502/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-343502/3	Method Blank	Total/NA	Water	300.0	

### Analysis Batch: 343503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104469-1	MW-24	Total/NA	Water	300.0	
490-104469-1 MS	MW-24	Total/NA	Water	300.0	
490-104469-3	MW-21	Total/NA	Water	300.0	
490-104469-4	MW-6A	Total/NA	Water	300.0	
490-104469-5	MW-2	Total/NA	Water	300.0	
490-104469-6	Field Blank	Total/NA	Water	300.0	
490-104469-7	MW-25R	Total/NA	Water	300.0	

TestAmerica Nashville

# QC Association Summary

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## HPLC/IC (Continued)

### Analysis Batch: 343503 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104469-8	MW-18	Total/NA	Water	300.0	
LCS 490-343503/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-343503/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-343503/3	Method Blank	Total/NA	Water	300.0	

### Analysis Batch: 343866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104469-2	MW-23	Total/NA	Water	300.0	
LCS 490-343866/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-343866/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-343866/6	Method Blank	Total/NA	Water	300.0	

## Metals

### Prep Batch: 343452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104388-G-5-B MS	Matrix Spike	Total/NA	Water	3010A	
490-104388-G-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
490-104469-1	MW-24	Total/NA	Water	3010A	
490-104469-2	MW-23	Total/NA	Water	3010A	
490-104469-3	MW-21	Total/NA	Water	3010A	
490-104469-4	MW-6A	Total/NA	Water	3010A	
490-104469-5	MW-2	Total/NA	Water	3010A	
490-104469-6	Field Blank	Total/NA	Water	3010A	
490-104469-7	MW-25R	Total/NA	Water	3010A	
490-104469-8	MW-18	Total/NA	Water	3010A	
LCS 490-343452/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 490-343452/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 490-343452/1-A	Method Blank	Total/NA	Water	3010A	

### Analysis Batch: 344101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104388-G-5-B MS	Matrix Spike	Total/NA	Water	6010C	343452
490-104388-G-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010C	343452
490-104469-1	MW-24	Total/NA	Water	6010C	343452
490-104469-2	MW-23	Total/NA	Water	6010C	343452
490-104469-3	MW-21	Total/NA	Water	6010C	343452
490-104469-4	MW-6A	Total/NA	Water	6010C	343452
490-104469-5	MW-2	Total/NA	Water	6010C	343452
490-104469-6	Field Blank	Total/NA	Water	6010C	343452
490-104469-7	MW-25R	Total/NA	Water	6010C	343452
490-104469-8	MW-18	Total/NA	Water	6010C	343452
LCS 490-343452/2-A	Lab Control Sample	Total/NA	Water	6010C	343452
LCSD 490-343452/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	343452
MB 490-343452/1-A	Method Blank	Total/NA	Water	6010C	343452

# QC Association Summary

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## General Chemistry

### Analysis Batch: 343548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104450-C-1 DU	Duplicate	Total/NA	Water	SM 2320B	
490-104469-1	MW-24	Total/NA	Water	SM 2320B	
490-104469-2	MW-23	Total/NA	Water	SM 2320B	
490-104469-3	MW-21	Total/NA	Water	SM 2320B	
490-104469-4	MW-6A	Total/NA	Water	SM 2320B	
490-104469-5	MW-2	Total/NA	Water	SM 2320B	
490-104469-6	Field Blank	Total/NA	Water	SM 2320B	
490-104469-7	MW-25R	Total/NA	Water	SM 2320B	
490-104469-8	MW-18	Total/NA	Water	SM 2320B	
LCS 490-343548/34	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS D 490-343548/7	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
MB 490-343548/33	Method Blank	Total/NA	Water	SM 2320B	

### Analysis Batch: 343554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-104469-1	MW-24	Total/NA	Water	SM 3500 Fe B	
490-104469-2	MW-23	Total/NA	Water	SM 3500 Fe B	
490-104469-2 DU	MW-23	Total/NA	Water	SM 3500 Fe B	
490-104469-2 MS	MW-23	Total/NA	Water	SM 3500 Fe B	
490-104469-2 MSD	MW-23	Total/NA	Water	SM 3500 Fe B	
490-104469-3	MW-21	Total/NA	Water	SM 3500 Fe B	
490-104469-4	MW-6A	Total/NA	Water	SM 3500 Fe B	
490-104469-5	MW-2	Total/NA	Water	SM 3500 Fe B	
490-104469-6	Field Blank	Total/NA	Water	SM 3500 Fe B	
490-104469-7	MW-25R	Total/NA	Water	SM 3500 Fe B	
490-104469-8	MW-18	Total/NA	Water	SM 3500 Fe B	
LCS 490-343554/4	Lab Control Sample	Total/NA	Water	SM 3500 Fe B	
MB 490-343554/3	Method Blank	Total/NA	Water	SM 3500 Fe B	

# Lab Chronicle

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

**Client Sample ID: MW-24**

**Lab Sample ID: 490-104469-1**

Date Collected: 05/25/16 09:25

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 16:28	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 01:46	JHS	TAL NSH
Total/NA	Analysis	300.0		1	343503	05/27/16 01:46	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 16:42	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 19:20	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		20	343554	05/27/16 10:49	AEC	TAL NSH

**Client Sample ID: MW-23**

**Lab Sample ID: 490-104469-2**

Date Collected: 05/25/16 09:30

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 16:54	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 02:26	JHS	TAL NSH
Total/NA	Analysis	300.0		2	343866	05/27/16 13:47	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 16:47	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 19:25	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		1	343554	05/27/16 10:49	AEC	TAL NSH

**Client Sample ID: MW-21**

**Lab Sample ID: 490-104469-3**

Date Collected: 05/25/16 10:32

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 17:20	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 02:46	JHS	TAL NSH
Total/NA	Analysis	300.0		1	343503	05/27/16 02:46	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 17:01	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 19:43	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		10	343554	05/27/16 10:49	AEC	TAL NSH

**Client Sample ID: MW-6A**

**Lab Sample ID: 490-104469-4**

Date Collected: 05/25/16 10:50

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 17:46	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 03:06	JHS	TAL NSH

# Lab Chronicle

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-6A

Lab Sample ID: 490-104469-4

Date Collected: 05/25/16 10:50

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	343503	05/27/16 03:06	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 17:05	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 19:49	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		10	343554	05/27/16 10:49	AEC	TAL NSH

## Client Sample ID: MW-2

Lab Sample ID: 490-104469-5

Date Collected: 05/25/16 12:52

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 18:12	SLM	TAL NSH
Total/NA	Analysis	8260B		10	344181	05/31/16 15:17	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 03:26	JHS	TAL NSH
Total/NA	Analysis	300.0		1	343503	05/27/16 03:26	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 17:10	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 19:55	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		5	343554	05/27/16 10:49	AEC	TAL NSH

## Client Sample ID: Field Blank

Lab Sample ID: 490-104469-6

Date Collected: 05/25/16 12:58

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 14:16	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 03:46	JHS	TAL NSH
Total/NA	Analysis	300.0		1	343503	05/27/16 03:46	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 17:14	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 20:00	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		1	343554	05/27/16 10:49	AEC	TAL NSH

## Client Sample ID: MW-25R

Lab Sample ID: 490-104469-7

Date Collected: 05/25/16 14:08

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 18:39	SLM	TAL NSH
Total/NA	Analysis	8260B		1	344181	05/31/16 14:51	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 04:06	JHS	TAL NSH

TestAmerica Nashville

# Lab Chronicle

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Client Sample ID: MW-25R

Lab Sample ID: 490-104469-7

Date Collected: 05/25/16 14:08

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	343503	05/27/16 04:06	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 17:18	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 20:05	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		10	343554	05/27/16 10:49	AEC	TAL NSH

## Client Sample ID: MW-18

Lab Sample ID: 490-104469-8

Date Collected: 05/25/16 14:50

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 19:05	SLM	TAL NSH
Total/NA	Analysis	300.0		1	343502	05/27/16 04:26	JHS	TAL NSH
Total/NA	Analysis	300.0		1	343503	05/27/16 04:26	JHS	TAL NSH
Total/NA	Prep	3010A			343452	05/27/16 07:20	KMS	TAL NSH
Total/NA	Analysis	6010C		1	344101	05/30/16 17:22	TSC	TAL NSH
Total/NA	Analysis	SM 2320B		1	343548	05/26/16 20:11	AEC	TAL NSH
Total/NA	Analysis	SM 3500 Fe B		5	343554	05/27/16 10:49	AEC	TAL NSH

## Client Sample ID: Trip Blank

Lab Sample ID: 490-104469-9

Date Collected: 05/25/16 00:01

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 13:24	SLM	TAL NSH

## Client Sample ID: Trip Blank

Lab Sample ID: 490-104469-10

Date Collected: 05/25/16 00:01

Matrix: Water

Date Received: 05/26/16 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	343505	05/27/16 13:50	SLM	TAL NSH

### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Method Summary

Client: Duke Energy Corporation  
Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH
6010C	Metals (ICP)	SW846	TAL NSH
SM 2320B	Alkalinity	SM	TAL NSH
SM 3500 Fe B	Iron, Ferrous	SM	TAL NSH

**Protocol References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



# Certification Summary

Client: Duke Energy Corporation  
 Project/Site: Bramlett Road MGP (SC) J16050789

TestAmerica Job ID: 490-104469-1

## Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	07-24-16 *
Arizona	State Program	9	AZ0473	05-05-17
Arkansas DEQ	State Program	6	88-0737	04-25-17
California	State Program	9	2938	10-31-16
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-16 *
Georgia	State Program	4	N/A	12-31-17
Illinois	NELAP	5	200010	12-09-16
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	07-31-16 *
Kentucky (UST)	State Program	4	19	06-30-16 *
Kentucky (WW)	State Program	4	90038	12-31-16
Louisiana	NELAP	6	30613	06-30-16 *
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-17
Massachusetts	State Program	1	M-TN032	06-30-16 *
Minnesota	NELAP	5	047-999-345	12-31-16
Mississippi	State Program	4	N/A	06-30-16 *
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-16
New Hampshire	NELAP	1	2963	10-09-16
New Jersey	NELAP	2	TN965	06-30-16 *
New York	NELAP	2	11342	03-31-17
North Carolina (WW/SW)	State Program	4	387	12-31-16
North Dakota	State Program	8	R-146	06-30-16 *
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-16
Oregon	NELAP	10	TN200001	04-27-17
Pennsylvania	NELAP	3	68-00585	06-30-16 *
Rhode Island	State Program	1	LAO00268	12-30-15 *
South Carolina	State Program	4	84009 (001)	02-28-16 *
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-16
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-16
Virginia	NELAP	3	460152	06-14-16 *
Washington	State Program	10	C789	07-19-16 *
West Virginia DEP	State Program	3	219	02-28-17
Wisconsin	State Program	5	998020430	08-31-16
Wyoming (UST)	A2LA	8	453.07	12-31-17

\* Certification renewal pending - certification considered valid.

## COOLER RECEIPT FORM



Cooler Received/Opened On 5-26-16 @ 910

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # 1108 (last 4 digits, FedEx) Courier: fed ex

IR Gun ID 17960357 pH Strip Lot HC564992 Chlorine Strip Lot 1211515B

2. Temperature of rep. sample or temp blank when opened: 0.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler?  YES...NO...NA

If yes, how many and where: 1 (Front)

5. Were the seals intact, signed, and dated correctly?  YES...NO...NA

6. Were custody papers inside cooler? YES... NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) DA

7. Were custody seals on containers: YES  NO and Intact YES...NO... NA

Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used?  Bubblewrap  Plastic bag  Peanuts  Vermiculite  Foam Insert  Paper  Other  None

9. Cooling process:  Ice  Ice-pack  Ice (direct contact)  Dry ice  Other  None

10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA

12. Did all container labels and tags agree with custody papers?  YES...NO...NA

13a. Were VOA vials received?  YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES... NO...NA

14. Was there a Trip Blank in this cooler?  YES...NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) DA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?  YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used?  YES...NO...NA

16. Was residual chlorine present? YES... NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) DA

17. Were custody papers properly filled out (ink, signed, etc)?  YES...NO...NA

18. Did you sign the custody papers in the appropriate place?  YES...NO...NA

19. Were correct containers used for the analysis requested?  YES...NO...NA

20. Was sufficient amount of sample sent in each container?  YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) DA

I certify that I attached a label with the unique LIMS number to each container (initial) DA

21. Were there Non-Conformance issues at login? YES... NO Was a NCM generated? YES... NO...# \_\_\_\_\_

## COOLER RECEIPT FORM

Cooler Received/Opened On 5-26-16 @ 910

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # 1093 (last 4 digits, FedEx) Courier: fed ex

IR Gun ID 17610176 pH Strip Lot HC564992 Chlorine Strip Lot 1211515B

2. Temperature of rep. sample or temp blank when opened: 1.3 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? 1, front YES...NO...NA

If yes, how many and where: \_\_\_\_\_

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) AES

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 2

I certify that I unloaded the cooler and answered questions 7-14 (Initial) DA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) DA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) DA

I certify that I attached a label with the unique LIMS number to each container (initial) DA

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_

Charlotte Service Center

**Chain of Custody Record**

Temperature on Receipt 0.9, 1.3  
Drinking Water? Yes  No

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

Loc: 490  
104469

TAL-4124 (1007)

Client: SAME, Inc. - Duke Energy Project  
Address: 301 Zinna Park Dr.  
City: SC State: 29301 Zip Code: 29301  
Project Name and Location (State): Spot Sampling  
Contract/Purchase Order/Quote No.: Brownette Rd. MGP (SC)

Project Manager: John Whitehead  
Telephone Number (Area Code)/Fax Number: (844) 574-2360  
Carrier/Website Number: 5790-5717  
FedEx: 808787051108

Date: 5-25-16 Lab Number: 287811  
Chain of Custody Number: 287811

Page 1 of 1

Sample I.D. No. and Description <small>(Containers for each sample may be combined on one line)</small>	Date	Time	Matrix			Containers & Preservatives					Analysis (Attach list if more space is needed)						
			Air	Aqueous	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Vocs	Nitrate	Sulfate	Alkalinity	Ferr. Iron	Manganese
1 MW-24	5-25-16	0925	X			4	1	1			X	X	X	X	X	X	
2 MW-23	"	0930	X			4	1	1			X	X	X	X	X	X	
3 MW-21	"	1032	X			4	1	1			X	X	X	X	X	X	
4 MW-6A	"	1050	X			4	1	1			X	X	X	X	X	X	
5 MW-2	"	1252	X			4	1	1			X	X	X	X	X	X	
6 Field Blank	"	1258	X			4	1	1			X	X	X	X	X	X	
7 MW-25R	"	1408	X			4	1	1			X	X	X	X	X	X	
8 MW-18	"	1450	X			4	1	1			X	X	X	X	X	X	
9 Trip Blank			X														

Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Turn Around Time Required  
 24 Hours  48 Hours  7 Days  14 Days  21 Days  Other Standard

1. Relinquished By: Kenneth Korman Date: 5-25-16 Time: 1700  
 2. Relinquished By: Kenneth Korman Date: 5-25-16 Time: 0910

3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received By: Kevin Oles Date: 5-25-16 Time: 0910  
 2. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

3. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \_\_\_\_\_

DISTRIBUTION: WHITE - Returned to Client with Report. CANARY - Stays with the Sample. PINK - Field Copy

## Login Sample Receipt Checklist

Client: Duke Energy Corporation

Job Number: 490-104469-1

**Login Number: 104469**

**List Source: TestAmerica Nashville**

**List Number: 1**

**Creator: Armstrong, Daniel**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9C, 1.3C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	