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[www.atlcc.net](http://www.atlcc.net)

June 14, 2022

Transmitted via GEOS  
Submittal ID: 671127

Mr. David DuBose, P.G.  
Georgia Department of Natural Resources  
Environmental Protection Division  
Solid Waste Management Program  
4244 International Parkway, Suite 104  
Atlanta, Georgia 30354

**RE:** Periodic Monitoring Report – Second Quarter 2022  
Forsyth County-Hightower Road Landfill  
Solid Waste Permit Nos.: 058-006D(SL), 058-009D(SL), & 058-010D(SL)  
Forsyth County

Dear Mr. DuBose:

Atlantic Coast Consulting, Inc. (ACC) is providing Georgia Department of Natural Resources, Environmental Protection Division (EPD) this Methane Monitoring Report for the closed Hightower Road Solid Waste Landfill. Perimeter monitoring was conducted June 6, 2022, with procedures in accordance with the facility's approved methane monitoring plan. Attached is the SWM-19 form and recent potentiometric map. The monitoring well methane concentrations were reported as being less than 5 percent methane by volume during this monitoring event and the methane concentration in the facility structure was less than 1.25 percent methane by volume.

A copy of this report will be placed in the Operating Record. Please contact me or Sam Buckles with Forsyth County if you have any questions regarding this report.

Thank you,

**ATLANTIC COAST CONSULTING, INC.**

Charles Adams, P.G.  
Project Manager

Attachments

cc: Samuel Buckles with attachments via email.  
EPD Mountain District, Cartersville cover letter only via Regular mail.  
Operating Record via FedEx: 777114659567

**SWM-19 FORM**  
**AND**  
**POTENTIOMETRIC MAP**



**Periodic Methane Monitoring Report**

Quarter Two / 2022

Quarter or Month / Year

<b>Facility Name:</b>	<u>Hightower Road Landfill</u>	<b>Date(s) of Monitoring:</b>	<u>3/2/2022</u>
<b>Facility Permit #'s:</b>	<u>058-006D(SL), 058-009D(SL)</u>	<b>Monitoring Conducted by:</b>	<u>H. Auld</u>
<b>Permit #'s (cont):</b>	<u>058-010D(SL)</u>	<b>Equipment Field Calibrated by:</b>	<u>H. Auld</u>
<b>County (Location):</b>	<u>Forsyth</u>	<b>Date of Field Calibration:</b>	<u>6/6/2022</u>
<b>Monitoring Equipment:</b>	<u>RKI GX-2012</u>	<b>Manufacturer Calibration/Service Date:</b>	<u>6/22/2021</u>

1. All reports must include a scaled and dated potentiometric surface map, (this applies only to those facilities required to perform groundwater monitoring) that shows ALL monitoring points, accompanied by a table listing the as-built depths and corresponding elevations of the bottoms of the methane monitoring wells and/or barhole punches. The potentiometric surface maps must be updated on an annual basis, and signed & sealed by a qualified groundwater scientist. Those facilities that do not conduct groundwater monitoring should, at a minimum, include a site map that shows ALL monitoring locations.
2. All reports must specify whether each monitoring location is a structure, permanent well, barhole punch, or vent (e.g. MM-1=scalehouse, MM-1=well, MM-1=BHP (barhole punch), MM-1=vent, or GWC-1=groundwater well).

**3. Monitoring Results**  
**a. Permanent Approved COMPLIANCE Monitoring Locations**

<u>Monitoring Point Identification</u>	<u>Monitoring Results</u>	<u>Monitoring Point Identification</u>	<u>Monitoring Results</u>
<b>MM-1R</b> Well	% Methane By Volume: <u>0.0%</u> % Oxygen: <u>19.4%</u> Time Sampled: <u>14:15</u>	<b>MM-6</b> Well	% Methane By Volume: <u>0.1%</u> % Oxygen: <u>19.2%</u> Time Sampled: <u>14:34</u>
<b>MM-2</b> Well	% Methane By Volume: <u>0.4%</u> % Oxygen: <u>11.8%</u> Time Sampled: <u>15:23</u>	<b>MM-7</b> Well	% Methane By Volume: <u>0.2%</u> % Oxygen: <u>20.9%</u> Time Sampled: <u>14:39</u>
<b>MM-3</b> Well	% Methane By Volume: <u>0.0%</u> % Oxygen: <u>20.8%</u> Time Sampled: <u>14:20</u>	<b>MM-8</b> Well	% Methane By Volume: <u>0.2%</u> % Oxygen: <u>18.7%</u> Time Sampled: <u>14:44</u>
<b>MM-4</b> Well	% Methane By Volume: <u>0.0%</u> % Oxygen: <u>20.9%</u> Time Sampled: <u>14:24</u>	<b>MM-9</b> Well	% Methane By Volume: <u>0.2%</u> % Oxygen: <u>19.0%</u> Time Sampled: <u>14:49</u>
<b>MM-5</b> Well	% Methane By Volume: <u>0.1%</u> % Oxygen: <u>18.6%</u> Time Sampled: <u>14:29</u>	<b>MM-10</b> Well	% Methane By Volume: <u>0.3%</u> % Oxygen: <u>16.5%</u> Time Sampled: <u>14:54</u>

**a. Permanent Approved COMPLIANCE Monitoring Locations (continued)**

<u>Monitoring Point Identification</u>	<u>Monitoring Results</u>	<u>Monitoring Point Identification</u>	<u>Monitoring Results</u>
<b>MM-11R</b> BHP	% Methane By Volume: 0.0% % Oxygen: 20.9% Time Sampled: 15:04	<b>MM-14</b> Well	% Methane By Volume: 0.0% % Oxygen: 19.1% Time Sampled: 15:12
<b>MM-13</b> Well	% Methane By Volume: 0.2% % Oxygen: 18.4% Time Sampled: 15:09	<b>MM-15</b> Well	% Methane By Volume: 0.0% % Oxygen: 20.9% Time Sampled: 15:15

**b. Facility Structures (All on-site structures must be monitored, listed, and shown on map.)**

<u>Facility Structure</u>	<u>Monitoring Results</u>	<u>Facility Structure</u>	<u>Monitoring Results</u>
<b>Tool Shed</b>	% LEL: 0.0% % Methane by Volume: 0.0% % Oxygen: 20.9% Time Sampled: 15:20	N/A	% LEL: _____ % Methane by Volume: _____ % Oxygen: _____ Time Sampled: _____

**c. Miscellaneous Monitoring Locations (vents, trenches not part of compliance monitoring)**

<u>Monitoring Point Identification</u>	<u>Monitoring Results</u>	<u>Monitoring Point Identification</u>	<u>Monitoring Results</u>
<b>MV-11</b> Vent	% Methane By Volume: 0.0% % Oxygen: 20.9% Time Sampled: 15:29	N/A	% Methane By Volume: _____ % Oxygen: _____ Time Sampled: _____

**d. Adjacent Off-Site Structures (off-site structures at facilities with known release)**

<u>Off-Site Structure</u>	<u>Monitoring Results</u>	<u>Off-Site Structure</u>	<u>Monitoring Results</u>
N/A	% LEL: _____ % Methane by Volume: _____ % Oxygen: _____ Time Sampled: _____	N/A	% LEL: _____ % Methane by Volume: _____ % Oxygen: _____ Time Sampled: _____

4. Climatic/Physical Conditions at Site

Samples must be collected under normal/average conditions of temperature, pressure, and climate for the season. Barhole punch sampling should not be performed during or immediately after rain events, or when soils are saturated or frozen. All sampling at compliance monitoring locations must be performed after 12:00 pm, and completed by 6:00 pm. Barometric information can be obtained from many locations.

(i.e. <http://weather.noaa.gov>)

- a. Soil Conditions: Normal
- b. Weather Conditions: Sunny
- c. Temperature: 75 degrees F
- d. Barometric Conditions: Rising        Falling        Steady   X   Reading: 28.84
- e. Relative Humidity 10-90%? Yes   X   No        Range: 51-87%
- f. Condition/Access: Sampling points are properly identified, secured, and maintained?  
Yes   X   No

If no, please list deficiencies observed:

All points were marked with proper access.

g. If stressed vegetation due to the presence of methane gas is noted, describe the extent and location in the space provided below.

Vegetation is not stressed.

5. Description of Sampling Techniques: Provide a clear and concise description for each type of sampling (well, barhole punch, structure, etc.) performed during the monitoring event. Wells are NOT to be vented; peak readings should be reported. Any exceptions should be noted here.

Wells were not vented prior to taking the sample and are equipped with quick-connect sample ports.  
The instrument was allowed to pump the sample for 3 minutes until the oxygen reading stabilized and the peak reading was recorded.

6. Additional Comments

Event attended by Samuel B. Buckles, Environmental Scientist Manager, Forsyth County  
Recycling & Solid Waste Department

## CERTIFICATION

I CERTIFY that all required information on this form is complete and accurate, and

I further CERTIFY that methane sampling was conducted by myself or my authorized representative in accordance with all applicable rules and current EPD guidance. Concentrations of methane detected during this sampling/monitoring event    do /   X   do not exceed 25 percent of the lower explosive limit (LEL) for methane in facility structures (excluding the gas recovery system components), and gas concentrations    do /   X   do not exceed the LEL for methane at the approved compliance monitoring locations.

**(IF THIS STATEMENT IS NOT SIGNED OR THE FORM IS ALTERED, THE DIVISION WILL NOT ACCEPT THE RESULTS FROM THE SUBJECT FACILITY.)**



(Signature)

Professional Geologist # 1632

(Title)

14-Jun-2022

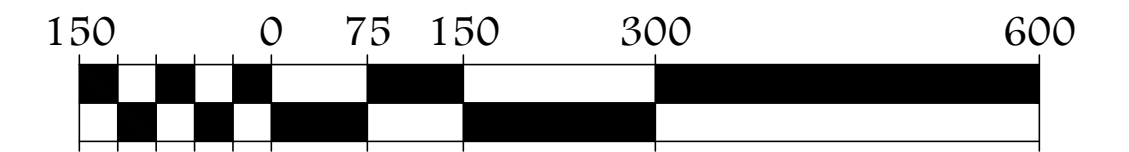
(Date)

Charles Adams, 1150 Northmeadow Pkwy., Suite 100, Roswell, GA 30076, (770) 594-5998

(Typed Name, Address, and Telephone Number)



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SCALE (IN FEET)

**LEGEND:**

EXISTING	DESCRIPTION
— 850 —	PROMINENT CONTOUR
— — — —	INTERMEDIATE CONTOUR
- - - - -	PROPERTY BOUNDARY
- - - - -	APPROXIMATE LIMIT OF WASTE
— — — —	SURFACE WATER/POND
— — — —	GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
→	GROUNDWATER FLOW DIRECTION
● GWA-1	GROUNDWATER MONITORING WELL
▲ SWA-1	SURFACE WATER MONITORING POINT
■ MM-1	METHANE MONITORING POINT
□ MV-1	METHANE VENT
● PH1-MV04	EXTRACTION POINT WITH ACTIVE FLARE

**NOTES**

1. DEPTHS TO GROUNDWATER MEASURED BY ATLANTIC COAST CONSULTING, INC. DECEMBER 13, 2021.
2. WELL AND PROBE LOCATIONS ARE APPROXIMATE AND BASED ON W.L. JORDEN & CO. DRAWINGS DATED MARCH 3, 1996.
3. SURVEY IS PROVIDED BY APPALACHIAN SURVEYING COMPANY IN CUMMING, GEORGIA DATED JANUARY AND APRIL 1998. CONTROL POINT COORDINATES WERE TAKEN FROM THESE SURVEYS.
4. LOCATIONS OF MM-1R, MM-13, MM-14, AND MM-15 ARE APPROXIMATE.
5. LOCATIONS OF AMW-2 AND AMW-3 ARE APPROXIMATE.
6. GWA-1A, GWC-4A, GWC-23A, AMW-2 AND AMW-9 ARE NOT USED FOR POTENTIOMETRIC CONTOURS.
7. POTENTIOMETRIC CONTOUR INTERVAL IS 10 FEET.
8. FT BTWC = FEET BELOW CASING; FT MSL = FEET MEAN SEA LEVEL; AND FT BGS = FEET BELOW GROUND SURFACE; NA = NOT APPLICABLE.

**REVISIONS**

0. INITIAL ISSUE	02/11/2022
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**PROJECT**



FORSYTH COUNTY  
HIGHTOWER ROAD LANDFILL

**POTENTIOMETRIC SURFACE MAP  
DECEMBER 2021**

Drawn by:	AS	Checked by:	TG	QC by:	up
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PROJECT NUMBER:	GO20-113	FIGURE:	1
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SUMMARY OF GROUNDWATER ELEVATION DATA  
FORSYTH COUNTY - HIGHTOWER RD MSWLF  
DECEMBER 2021 SAMPLING EVENT

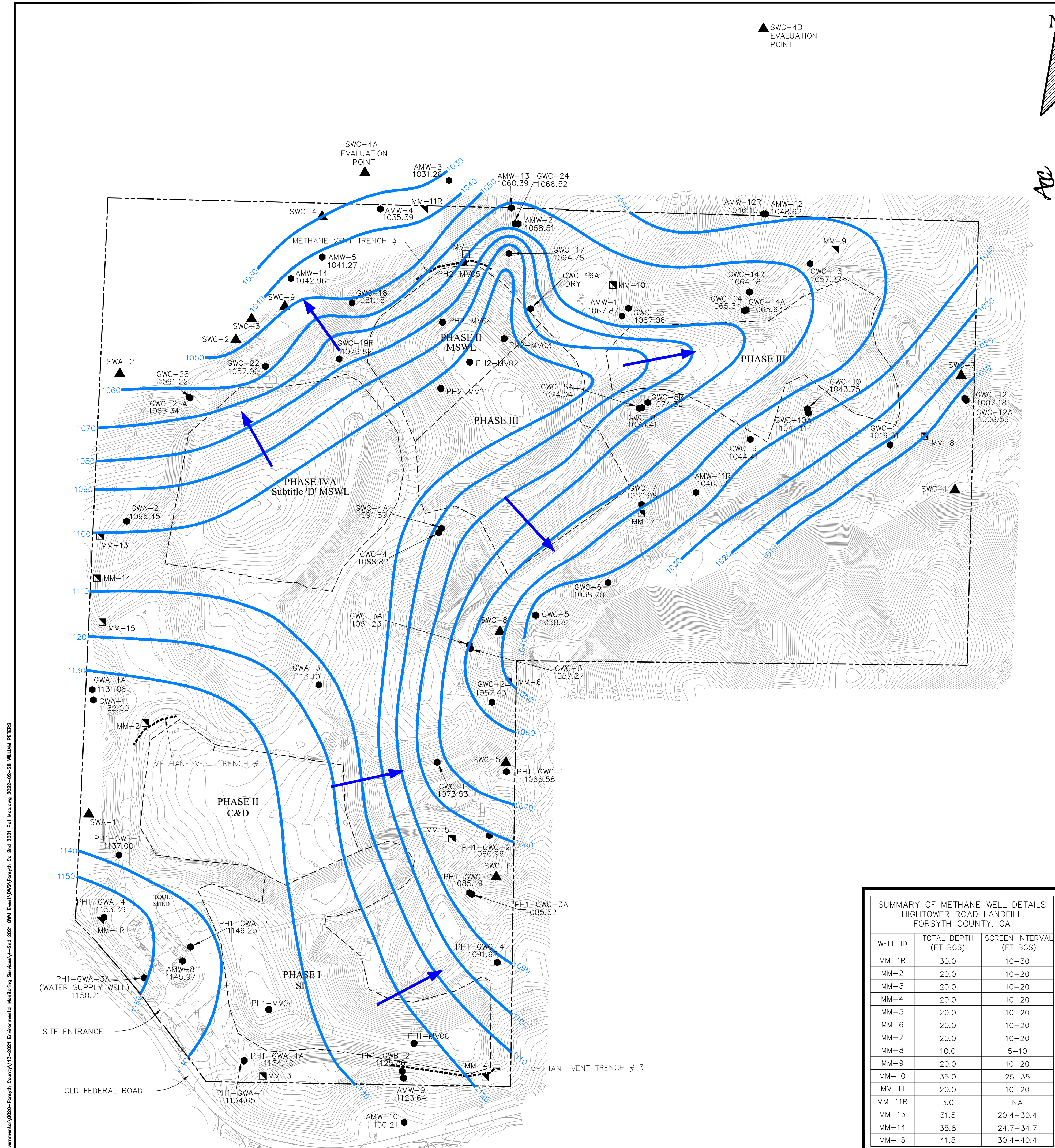
MONITORING WELL ID	TOTAL WELL DEPTH (FT BTWC)	TOC ELEVATION (FT MSL)	DEPTH TO WATER LEVEL (FT BTWC)	GROUNDWATER ELEVATION (FT MSL)
PHASE II - IV WELLS				
GWC-10A	54.30	1066.45	25.34	1041.11
GWC-11A	46.80	1054.08	34.77	1019.31
GWC-12	40.06	1038.06	30.88	1007.18
GWC-12A	49.44	1038.09	31.53	1006.56
GWC-13	44.95	1090.82	33.55	1057.27
GWC-14	28.37	1089.49	24.15	1065.34
GWC-14A	64.75	1089.32	23.69	1065.63
GWC-14R	93.61	1078.60	14.42	1064.18
GWC-15	62.84	1125.68	58.62	1067.06
GWC-16A	51.05	1136.49	DRY	DRY
GWC-17	21.59	1107.78	13.00	1094.78
GWC-18	52.70	1094.87	43.72	1051.15
GWC-19R	39.87	1105.79	28.97	1076.82
GWC-22	35.05	1079.01	22.01	1057.00
GWC-23	32.22	1079.06	17.84	1061.22
GWC-23A	61.67	1079.10	15.76	1063.34
GWC-24	44.09	1102.32	35.80	1066.52
AMW-1	180.70	1130.04	62.17	1067.87
AMW-2	150.00	1101.96	43.45	1058.51
AMW-3	31.30	1041.09	9.83	1031.26
AMW-4	18.80	1040.09	4.70	1035.39
AMW-5	23.06	1049.32	8.05	1041.27
AMW-11R	58.10	1053.63	7.11	1046.52
AMW-12	19.56	1056.85	8.23	1048.62
AMW-12R	46.43	1056.34	10.24	1046.10
AMW-13	36.18	1093.09	32.70	1060.39
AMW-14	21.70	1052.73	9.77	1042.96

SUMMARY OF GROUNDWATER ELEVATION DATA  
FORSYTH COUNTY - HIGHTOWER ROAD MSWLF  
DECEMBER 2021 SAMPLING EVENT

MONITORING WELL ID	TOTAL WELL DEPTH (FT BTWC)	TOC ELEVATION (FT MSL)	DEPTH TO WATER LEVEL (FT BTWC)	GROUNDWATER ELEVATION (FT MSL)
PHASE I WELLS				
PH1-GWA-1	48.66	1176.37	41.72	1134.65
PH1-GWA-1A	108.00	1176.35	41.95	1134.40
PH1-GWA-2	53.60	1183.40	37.17	1146.23
PH1-GWA-3A	250.00	1187.16	36.95	1150.21
PH1-GWA-4	57.00	1191.14	37.75	1153.39
PH1-GWB-1	53.80	1179.10	42.10	1137.00
PH1-GWB-2	42.22	1155.04	29.48	1125.56
PH1-GWC-1	23.79	1074.66	8.08	1066.58
PH1-GWC-2	127.61	1103.93	22.97	1080.96
PH1-GWC-3	23.42	1096.96	11.77	1085.19
PH1-GWC-3A	55.42	1096.28	10.76	1085.52
PH1-GWC-4	33.71	1124.26	32.29	1091.97
GWC-1	38.80	1102.25	28.72	1073.53
AMW-8	50.40	1186.23	40.26	1145.97
AMW-9	41.69	1162.64	39.00	1123.64
AMW-10	56.81	1180.73	50.52	1130.21
PHASE II - IV WELLS				
GWA-1	62.85	1187.70	55.70	1132.00
GWA-1A	141.00	1187.49	56.43	1131.06
GWA-2	52.18	1137.30	40.85	1096.45
GWA-3	48.86	1154.53	41.43	1113.10
GWC-2	55.61	1103.64	46.21	1057.43
GWC-3	39.71	1092.39	35.12	1057.27
GWC-3A	68.95	1094.67	33.44	1061.23
GWC-4	49.81	1132.82	44.00	1088.82
GWC-4A	89.23	1132.39	40.50	1091.89
GWC-5	49.91	1084.55	45.74	1038.81
GWC-6	34.52	1064.01	25.31	1038.70
GWC-7	54.21	1093.44	42.46	1050.98
GWC-8	27.53	1095.63	22.22	1073.41
GWC-8A	46.71	1095.44	21.40	1074.04
GWC-8R	94.67	1098.40	24.08	1074.32
GWC-9	60.50	1093.58	49.17	1044.41
GWC-10	37.51	1068.56	24.81	1043.75

SUMMARY OF METHANE WELL DETAILS  
HIGHTOWER ROAD LANDFILL  
FORSYTH COUNTY, GA

WELL ID	TOTAL DEPTH (FT BGS)	SCREEN INTERVAL (FT BGS)
MM-1R	30.0	10-30
MM-2	20.0	10-20
MM-3	20.0	10-20
MM-4	20.0	10-20
MM-5	20.0	10-20
MM-6	20.0	10-20
MM-7	20.0	10-20
MM-8	10.0	5-10
MM-9	20.0	10-20
MM-10	35.0	25-35
MV-11	20.0	10-20
MM-11R	3.0	NA
MM-13	31.5	20.4-30.4
MM-14	35.8	24.7-34.7
MM-15	41.5	30.4-40.4



P:\Governmental\GO20-Forsyth County\11-2021 Environmental Monitoring Services\1-2nd 2021 GMM Eval\DWG\Forsyth Co 2nd 2021 Pot Map.dwg 2022-02-28 WILLIAM PETERS