

From: [Schroeder, Matthew](#)
To: [Weinzapfel, Adam](#)
Cc: [Beard, Scott](#); [Katelyn Petrycki](#); [Brown, Neil](#)
Subject: IP-Newport Mill 2024 Second Quarter Methane Monitoring Report
Date: Tuesday, June 25, 2024 1:44:00 PM
Attachments: [image001.png](#)
[2024 Second Quarter Methane Monitoring Report IP-Newport Landfill.pdf](#)

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Mr. Weinzapfel,

WSP USA, Inc. (WSP), on behalf of International Paper, has prepared the attached *2024 Second Quarter Methane Monitoring Report* for the Newport Mill Landfill (also known as the Former Temple-Inland Landfill). Please let me know if you have any problems with the attachment or if you have any questions.

Thanks,

Matthew Schroeder, P.G. (NC, LA, TX)
Lead Consultant, Geologist
Earth and Environment



WSP USA
2713 E US 70 HWY New Bern, North Carolina 28562
Office: 404-364-2689
Cell: 985-778-8524
www.wsp.com

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-LAEmHhHzdJzBITWfa4Hgs7pbKl



WSP USA, Inc
1424 South New Jersey Street
Indianapolis, Indiana 46225

P: 800-708-8525
www.wsp.com

June 25, 2024

Mr. Adam Weinzapfel
Indiana Department of Environmental Management
Solid Waste Permits
IGCN 1101
100 North Senate Avenue
Indianapolis, IN 46204-2251

Subject: *2024 Second Quarter Methane Monitoring Report*
International Paper Newport Mill Landfill
South County Road 360
Hillsdale, Vermillion County, Indiana

Dear Mr. Weinzapfel:

WSP USA, Inc. (WSP), on behalf of International Paper, has prepared the *2024 Second Quarter Methane Monitoring Report* for the Newport Mill Landfill (also known as the Former Temple-Inland Landfill). One electronic copy of the document is being submitted for your files.

Please do not hesitate to contact us at (800) 708-8525 if you have any questions regarding this submittal.

Sincerely,

WSP USA Inc.

Matthew Schroeder
Lead Consultant

Neil J. Brown, P.E.
Technical Principle, Engineer

cc: Ms. Stephanie Butler, Environmental Health and Safety Manager, International Paper
Newport Mill

Ms. Katelyn Petrycki, Environmental Manager, International Paper Newport Mill

Enclosures



**2024 SECOND QUARTER METHANE MONITORING REPORT
INTERNATIONAL PAPER NEWPORT MILL LANDFILL
SOUTH COUNTY ROAD 360
HILLSDALE, VERMILLION COUNTY, INDIANA
POST-CLOSURE FACILITY #83-09**

PREPARED FOR:

**INTERNATIONAL PAPER NEWPORT MILL
2585 EAST COUNTY ROAD 200 NORTH
CAYUGA, VERMILLION COUNTY, INDIANA**

PREPARED BY:

**WSP USA INC.
1424 SOUTH NEW JERSEY STREET
INDIANAPOLIS, INDIANA 46225**

June 2024



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1.0 INTRODUCTION

The closed International Paper (IP) Newport Mill Landfill (also known as the Former Temple-Inland Newport Mill Landfill) located off South County Road 360 East near Hillsdale, Indiana (**Figure 1**) was tested for the presence and percent concentration of methane gas by WSP USA Inc. (WSP) at the monitoring points specified in the Indiana Department of Environmental Management (IDEM) approved *Revised Methane Migration Monitoring Plan* for the facility. On May 20, 2024, a total of thirty-eight (38) methane monitoring points (a combination of twenty-five (25) permanent/pre-established barhole punch locations, eight (8) verification barhole punch locations, and five (5) landfill methane vent wells) (see **Figure 2**), were tested along the facility property boundary (i.e., the landfill unit's periphery), and within the landfill unit. Interior methane monitoring was not performed since there are no structures located on the landfill property.

2.0 METHODS

Historically, a total of 25 barhole sample locations were used to screen for the presence of methane gas in the subsurface along the perimeter of buried refuse and the property boundary. As outlined in the *Methane Monitoring Probe Installation Plan*, dated August 10, 2018, revised on November 15, 2018, and approved by the IDEM on February 4, 2019. At the request of IDEM, permanent gas monitoring probes were installed on March 11-14, 2019, to replace seven former barhole probe sample locations. Following the installation of the permanent points, quarterly monitoring events started to detect elevated methane concentrations in five of the seven permanent monitoring points (MM-2, MM-4, MM-7, MM-9, and MM-10).

As described in the *Methane Gas Vent Installation Plan*, dated January 10, 2020, revised on March 9, 2020, and approved by IDEM on April 6, 2020, five permanent landfill methane vent wells identified as GV-1, GV-2, GV-3, GV-4, and GV-5 were installed on June 1-2, 2021. The *Revised Methane Migration Monitoring Plan* (Revised MMP), which describes the landfill gas sampling methods used at the barhole sample locations, the permanent methane monitoring probe sample locations and the landfill methane vent wells were submitted to IDEM July 28, 2021. In their correspondence dated August 9, 2021, IDEM requested revisions to Section 8.0 of the Revised MMP to provide additional contingency plans. The requested revisions were submitted September 8, 2021. The locations of the methane monitoring points are shown on **Figure 2**, and the sampling methods are described below.

A LandTec GEM 5000+ gas meter was used during the monitoring event and was supplier calibrated prior to conducting sampling. The landfill gas meter provides methane concentrations expressed in percent methane by volume in air and as percent of the Lower Explosive Level (LEL). The LEL for methane is 5% by volume in air as defined in 329 IAC 10-20-17(a)(2). A copy of the gas meter calibration sheet is provided in **Appendix A**.

At the barhole probe locations (MP-1, MP-5, MP-6, MP-8, MP-11, MP-13, MP-14, and MP-A through MP-K shown in **Figure 2**), methane concentrations were obtained by driving a

barhole probe into the ground to an average depth of 4-inches below ground surface. After each barhole probe was advanced and withdrawn, the landfill gas monitor was used to determine the presence or absence of methane in the resulting void. Methane was not detected in the barhole probe locations.

Each permanent methane monitoring probe location (MM-2, MM-3, MM-4, MM-7, MM-9, MM-10, and MM-12 shown on **Figure 2**) is equipped with a ¼-inch quick-connect coupling that is used for sampling, and a ½-inch DK-LOK® V61 Series vent relief valve installed at the top of the methane monitoring probe to reduce the potential of methane buildup inside the monitoring probe. The quick-connect coupling was attached to the quick-connect coupling of the sample port for each monitoring point. The gas monitor readings were observed for a period of 1-3 minutes, and the highest observed measurement was recorded on the field forms. If methane was detected at a permanent monitoring probe location, additional barhole probing was conducted in a grid pattern of five-foot offsets in an attempt to further delineate the extent of methane migration. Methane was detected at permanent methane monitoring probe locations MM-2 and MM-7.

Each landfill methane vent well (GV-1, GV-2, GV-3, GV-4, and GV-5 shown on **Figure 2**) is equipped with a ¼-inch port with a quick-connect coupling that is used for sampling. The quick-connect coupling on the tubing from the landfill gas monitor was attached to the quick-connect coupling of the sample port for each landfill methane vent well. The readings on the gas monitor were observed for a period of 1-3 minutes, and the highest measurement observed was recorded on the field forms. Methane was detected in four of the five vent wells (GV-1, GV-2, GV-3, and GV-4) on March 28, 2024. Please note, the facility does not need to conduct barhole probe step-out monitoring around the gas vents, as the gas vents are located within the solid waste boundary, and the step-out locations do not represent methane migration beyond the solid waste boundary per IDEM's letter to Gary Reed dated December 27, 2021.

In Section 3, results of methane measurements are listed in tabular form. Eleven pre-established barhole probe monitoring points were measured along the facility's property line



(**Table 1**). Fourteen monitoring points (seven pre-established barhole probes and seven permanent monitoring probes) were measured along the refuse boundary to provide a zone of detection for methane migrating away from in-place refuse (**Table 2**). Five landfill methane vent wells were measured within the landfill unit or refuse area (**Table 3**). An additional two sets of four verification barhole probes were advanced in a grid pattern of five-foot offsets around MM-2 and MM-7, around each of the two locations to further delineate the potential extent of methane migration (**Table 4**). No additional methane was detected in the step out barhole probe locations. Copies of the original field documentation forms are included in **Appendix B** of this report.



3.0 RESULTS

Table 1 – Monitoring Points Along Property Line

Monitoring Point Identification	Sample Date	% Methane (by volume in air)	% LEL
MP-A	5/20/2024	0.0	0
MP-B	5/20/2024	0.0	0
MP-C	5/20/2024	0.0	0
MP-D	5/20/2024	0.0	0
MP-E	5/20/2024	0.0	0
MP-F	5/20/2024	0.0	0
MP-G	5/20/2024	0.0	0
MP-H	5/20/2024	0.0	0
MP-I	5/20/2024	0.0	0
MP-J	5/20/2024	0.0	0
MP-K	5/20/2024	0.0	0

MP – Barhole monitoring point

Table 2 – Monitoring Points Along Landfill Unit

Sample Date:	5/20/2024	
Monitoring Point Identification	% Methane (by volume in air)	% LEL
MP-1	0.0	0
MM-2	47.9	>100
MM-3	0.0	0
MM-4	0.0	0
MP-5	0.0	0
MP-6	0.0	0
MM-7	45.6	>100
MP-8	0.0	0
MM-9	0.0	0
MM-10	0.0	0
MP-11	0.0	0
MM-12	0.0	0
MP-13	0.0	0
MP-14	0.0	0

MP – Barhole monitoring point

MM – Permanent methane monitoring probe

NM – Not Measured

Table 3 – Monitoring Points Within Landfill Unit

Sample Date:	5/20/2024	
Monitoring Point Identification	% Methane (by volume in air)	% LEL
GV-1	1.6	8
GV-2	6.4	>100
GV-3	1.0	20
GV-4	2.0	40
GV-5	0.0	0

GV – Landfill methane vent well (gas vent) monitoring point

Table 4 – Grid Pattern Results for Locations with Initial Detections – May 20, 2024

Monitoring Point Identification	% Methane North	% LEL North	% Methane South	% LEL South	% Methane West	% LEL West	% Methane East	% LEL East
MM-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MM-7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Measurements recorded on five-foot offsets away from the initial detection to delineate the extent of methane migration.

4.0 RECOMMENDATIONS

Notification to IDEM of a remedial action is required if methane is detected at or above 100% of its LEL at the facility boundary (i.e., monitoring points MP-A through MP-K). Methane was not detected at property line at monitoring points MP-A through MP-K. Additionally, a remedial action is required if methane is detected in a site structure at a concentration of 25% of its LEL. Indoor monitoring was not performed because there are no structures located on the property. Notification and remedial action requirements as described in the *Revised Methane Migration Monitoring Plan* for the facility are not required based on the measurements recorded on May 20, 2024.

Methane was detected at a concentration above 5% of the LEL at landfill methane vent well GV-1 during the March 28, 2024, monitoring event. The landfill methane vent wells are venting the methane from the landfill as designed.



Methane was detected at a concentration above 5% of the LEL at refuse boundary permanent monitoring point MM-2 and MM-7 during the May 20, 2024, monitoring event. Additional barhole probing was conducted in a grid pattern of five-foot offsets around MM-2 and MM-7 in an attempt to further delineate the extent of methane migration. No additional methane was detected in the four step out barhole probe locations. It is expected that the concentrations of methane in MM-2 and MM-7 will decline over time as methane is further vented through the nearby landfill methane vent wells. These locations will continue to be monitored in future events.

Based on the results of the May 20, 2024, monitoring event, continued quarterly monitoring of the closed Newport Mill Landfill as described in the facility's *Revised Methane Migration Monitoring Plan* is recommended. The next methane monitoring event will be conducted in the third quarter 2024.

5.0 SIGNATURES

WSP USA, Inc. is submitting to International Paper, Inc. this *2024 Second Quarter Methane Monitoring Report* for the closed Newport Mill Landfill (also known as the Former Temple-Inland Newport Mill Landfill) located near Hillsdale, Indiana. This report has been prepared for the exclusive use of and reliance by these parties for submittal to the Indiana Department of Environmental Management. This report may not be relied upon by any other person or entity without the express written authorization of WSP.

Any reliance, use, or re-use of this document (or the opinions, findings, conclusions, or recommendations if any represented herein) by parties other than those expressly authorized by WSP is at the sole risk of those parties. This report was prepared by or performed under the direction of the WSP Professionals listed below and approved by these parties.

Signed:

WSP USA INC.

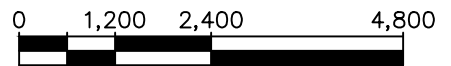
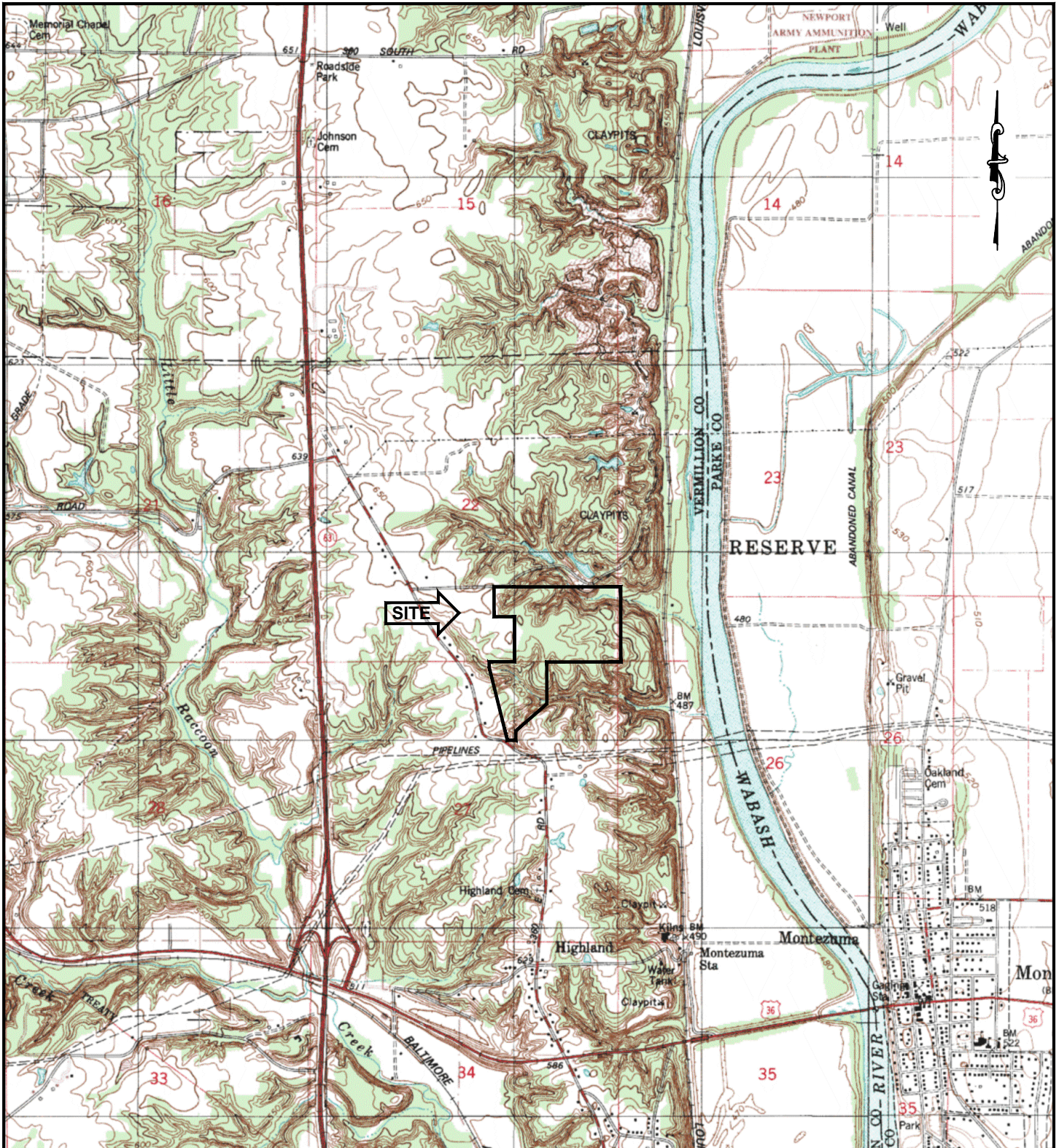


Matthew Schroeder
Lead Consultant



Neil J. Brown, P.E.
Technical Principle, Engineer

FIGURES



SCALE: 1" = 2,400'

SOURCE: MAP PASS. INDIANA, DANA. 1992.

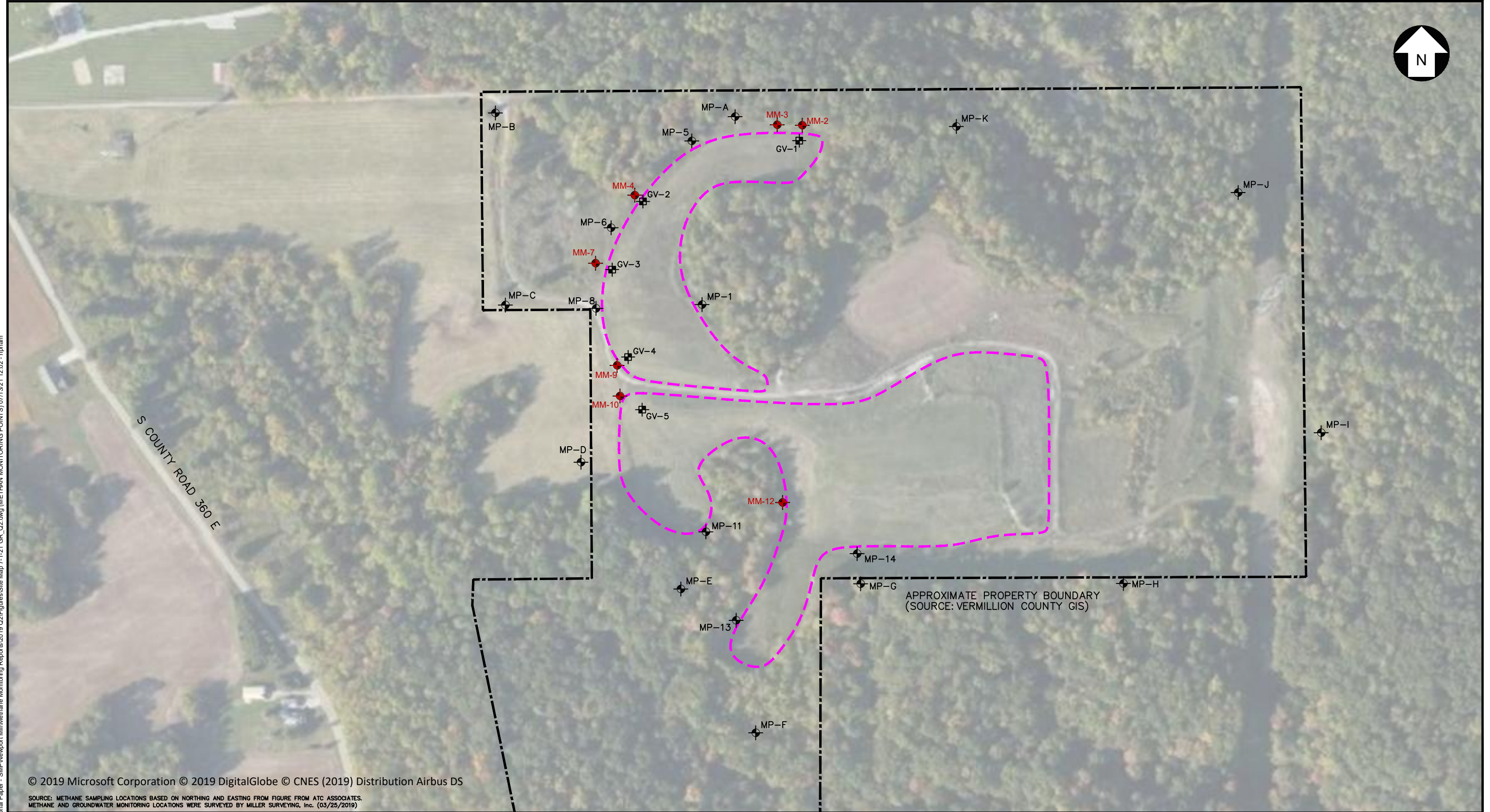
INTERNATIONAL PAPER, LLC
 NEWPORT MILL LANDFILL
 HILLSDALE, INDIANA



SITE LOCATION






1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

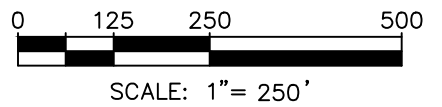
DRAWN: HVP	CHECKED: RJT	DATE: MAY 2018	FIGURE: 1
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© 2019 Microsoft Corporation © 2019 DigitalGlobe © CNES (2019) Distribution Airbus DS

SOURCE: METHANE SAMPLING LOCATIONS BASED ON NORTHING AND EASTING FROM FIGURE FROM ATC ASSOCIATES.
METHANE AND GROUNDWATER MONITORING LOCATIONS WERE SURVEYED BY MILLER SURVEYING, Inc. (03/25/2019)

- LEGEND:**
-  APPROXIMATE PROPERTY BOUNDARY
 -  GV-5 METHANE GAS VENT LOCATIONS
 -  MM-12 PERMANENT METHANE MONITORING LOCATIONS
 -  MP-D METHANE BARHOLE PUNCH MONITORING LOCATIONS
 -  SOLID WASTE BOUNDARY (APPROXIMATE)



INTERNATIONAL PAPER, LLC
NEWPORT MILL LANDFILL
HILLSDALE, INDIANA



METHANE MONITORING POINTS

DRAWN: HVP	CHECKED: SWS	DATE: 3/31/2022	FIGURE: 2
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FILENAME: S:\Premier\Projects\International Paper - SMP\Newport Mill\Methane Monitoring Reports\2019 Q2\Figures\Site Map 7-1-21 GR_Q2.dwg (METHANE MONITORING POINTS) 07/13/21 12:02 - hpham

APPENDIX A

Gas Monitoring Report

Methane Monitoring Probes (Property Line Monitoring)

International Paper Newport Mill Landfill
Hillsdale, Indiana

Analyst: Tom Trojnar

Date: 5-20-24

Gas Instrument Type: Gem 5000

Serial Number: G509386

Date Last Calibrated: 5/16/24

Method: _____

Monitor Point ID	Time	% Methane	Units (ppm, %LEL, %CH4)	Comments
MP-A	1554	0.0	% CH4	
MP-B	1619	0.0		
MP-C	1617	0.0		
MP-D	1520	0.0		
MP-E	1516	0.0		
MP-F	1459	0.0		
MP-G	1457	0.0		
MP-H	1447	0.0		
MP-I	1440	0.0		
MP-J	1438	0.0		
MP-K	1451	0.0		

Weather Conditions: Sunny 91°F

Comments: _____

Gas Monitoring Report

Methane Monitoring Probes (Refuse Boundary Monitoring)

International Paper Newport Mill Landfill
Hillsdale, Indiana

Analyst: Tom Trojnar

Date: 5-20-24

Gas Instrument Type: Gem 5000

Serial Number: 6509386

Date Last Calibrated: 5/16/24

Method: _____

Monitor Point ID	Time	% Methane	Units (ppm, %LEL, %CH4)	Comments
MP-1	1610	0.0	%CH ₄	
MM-2	1605	47.9		
MM-3	1559	0.0		
MM-4	1551	0.0		
MP-5	1547	0.0		
MP-6	1546	0.0		
MM-7	1542	45.6		
MP-8	1537	0.0		
MM-9	1526	0.0		
MM-10	1524	0.0		
MP-11	1517	0.0		
MM-12	1509	0.0		
MP-13	1503	0.0		
MP-14	1456	0.0		

Weather Conditions: Sunny 91°F

Comments: _____

Gas Monitoring Report

Landfill Methane Vent Wells (Refuse Monitoring)

International Paper Newport Mill Landfill
Hillsdale, Indiana

Analyst: Tom Trajnar

Date: 5-20-24

Gas Instrument Type: Gem 5000

Serial Number: 6509386

Date Last Calibrated: 5/16/24

Method: _____

Monitor Point ID	Time	% Methane	Units (ppm, %LEL, %CH4)	Comments
GV-1	1601	1.6	% CH4	
GV-2	1549	6.4		
GV-3	1538	1.0		
GV-4	1528	2.0		
GV-5	1522	0.0		

Weather Conditions: Sunny 91°F

Comments: _____

Gas Monitoring Report

Methane Monitoring Grid Pattern Results

International Paper Newport Mill Landfill
Hillsdale, Indiana

Analyst: Tom Trojnar

Date: 5-20-24

Gas Instrument Type: Gem 5000

Serial Number: G509386

Date Last Calibrated: 5/16/24

Method: _____

Monitor Point ID	% Methane North	% Methane East	% Methane South	% Methane West	Comments
MM-2	0.0	0.0	0.0	0.0	
MM-7	0.0	0.0	0.0	0.0	
GV-1	0.0	0.0	0.0	0.0	
GV-2	0.0	0.0	0.0	0.0	
GV-3	0.0	0.0	0.0	0.0	
GV-4	0.0	0.0	0.0	0.0	

Units are (ppm, %LEL, or % CH4): 1. CH4

Weather Conditions: Sunny 91°F

Comments: _____

APPENDIX B

INSTRUMENT CALIBRATION REPORT



Pine Environmental Services LLC

7136 Zionsville Road
Indianapolis, IN 46268
Ph: 317-238-3441

Pine Environmental Services, Inc.

Instrument ID 221153
Description GEM5000 PLUS
Calibrated 5/16/2024 9:11:12AM

Manufacturer CES Landtec	State Certified
Model Number GEM5000 PLUS	Status Pass
Serial Number/ Lot Number G509386	Temp °C 38
Location Indianapolis	Humidity % 60
Department ENV	

Calibration Specifications

<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
Group # 1 Group Name METHANE CH4 Stated Accy Pct of Reading				Range Acc % 0.0000 Reading Acc % 3.0000 Plus/Minus 3.00			
50.00 / 50.00	%Volume	50.00	%Volume	51.00	50.00	0.00%	Pass
Group # 2 Group Name CARBONDIOXIDE C02 Stated Accy Pct of Reading				Range Acc % 0.0000 Reading Acc % 3.0000 Plus/Minus 3.00			
35.00 / 35.00	%Volume	35.00	%Volume	34.90	35.00	0.00%	Pass
Group # 3 Group Name CARBONMONOXIDE C0 Stated Accy Pct of Range				Range Acc % 3.0000 Reading Acc % 0.0000 Plus/Minus 3.00			
50.00 / 50.00	PPM	50.00	PPM	49.00	50.00	0.00%	Pass
Group # 4 Group Name HYDROGEN SULFIDE H2S Stated Accy Pct of Range				Range Acc % 3.0000 Reading Acc % 0.0000 Plus/Minus 3.00			
10.00 / 10.00	PPM	10.00	PPM	9.00	10.00	0.00%	Pass
Group # 5 Group Name OXYGEN O2 Stated Accy Pct of Reading				Range Acc % 0.0000 Reading Acc % 3.0000 Plus/Minus 3.00			
20.90 / 20.90	%	20.90	%	18.10	20.90	0.00%	Pass

INSTRUMENT CALIBRATION REPORT



Pine Environmental Services LLC

7136 Zionsville Road
Indianapolis, IN 46268
Ph: 317-238-3441

Pine Environmental Services, Inc.

Instrument ID 221153
Description GEM5000 PLUS
Calibrated 5/16/2024 9:11:12AM

<u>Test Instruments Used During the Calibration</u>					<u>(As Of Cal Entry Date)</u>	
<u>Test Standard ID</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number / Lot Number</u>	<u>Next Cal Date /</u>	<u>Last Cal Date/ Expiration Date</u>
IN 4 GAS	10H2S 50CO 50CH4 18O2	Gasco	31514 34L	31514		
INDY CO2 35PPM CH4 50PPM	C02 35ppm/CH4ppm	Gasco	34LS-399	CBH-399-6		

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Eric Martlage

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance