AIR EMISSION TEST REPORT
FOR THE VERIFICATION OF
EUCOATINGLINE3
VOC CAPTURE EFFICIENCY

Prepared for:

INTERTAPE POLYMER GROUP
SRN A6220

ICT Project No.: 2200079
February 8, 2023

IMPACT
COMPLIANCE & TESTING

Report Certification

AIR EMISSION TEST REPORT
FOR THE VERIFICATION OF
VOC CONTROL EFFICIENCY

INTERTAPE POLYMER GROUP
Marysville, Michigan

This report has been reviewed by Intertape Polymer Group representatives and approved for submittal to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD). A Renewable Operating Permit Report Certification form signed by a Responsible Official for the source accompanies this report.

I certify that the testing was conducted in accordance with the reference test methods and submitted test plan unless otherwise specified in this report. I believe the information provided in this report and its attachments are true, accurate, and complete.

IMPACT COMPLIANCE & TESTING, INC.

Robert L. Harvey, P.E.
Services Director

Executive Summary

INTERTAPE POLYMER GROUP
EMISSION TEST RESULTS

Intertape Polymer Group (IPG) contracted Impact Compliance & Testing, Inc. (ICT) to determine the volatile organic compound (VOC) capture efficiency for the Line 3 adhesive coating line associated with the tape manufacturing processes operated at its facility located in Marysville, St. Clair County, Michigan.

The test event was a repeat of VOC capture efficiency testing for Line 3 (emission unit EUCOATINGLINE3) that was performed in April 2022.

The following tables present the results of the VOC capture efficiency evaluation for Line 3.

Measured Parameter	Test 1	Test 2	Test 3	Test 4
VOC Captured to SRS (%wt)	95.0%	99.9%	98.5%	97.3%
VOC Captured to RTO (%wt)	6.9%	8.1%	8.2%	6.8%
VOC Overall Capture Effic (%wt)	101.9%	107.9%	106.6%	104.1%

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1.0 Introduction

Intertape Polymer Group (IPG) manufactures pressure sensitive tape products at the facility located in Marysville, St. Clair County, Michigan (State Registration No. A6220). The facility is classified as a major source of volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions and has been issued a Renewable Operating Permit (ROP) MI-ROP-A6220-2021 by the Michigan Department of Environment, Great Lakes, and Energy (EGLE-AQD).

As a major source of HAP emissions, certain processes are subject to the NESHAP for Paper and Other Web Coating (POWC MACT, 40 CFR Part 63 Subpart JJJJ).

IPG produces tape by applying liquid adhesive to a paper-based tape substrate in web coating lines. The volatile portion of the adhesive applied on the coating lines is primarily toluene, a VOC and listed HAP. Solvent laden air from the adhesive web coating lines is captured and directed to a regenerative thermal oxidizer (RTO) and solvent recovery system (SRS) for emission reduction.

This test report presents the results of VOC capture efficiency testing for Line 3 (EUCOATINGLINE3) that is connected to the RTO and SRS. The test event was performed in December 2022 and is a repeat of VOC capture efficiency testing for EUCOATINGLINE3 that was performed in April 2022.

IPG contracted Impact Compliance & Testing, Inc. (ICT) to perform the VOC capture efficiency testing. This test report has been prepared by ICT to present a description of test methods and results for the testing performed in December 2022 and generally follows the EGLE guidance document *Format for Submittal of Source Emission Test Plans and Reports*.

The gas sampling and analysis was performed using procedures specified in the test plan addendum dated November 4, 2022 that was submitted to Michigan EGLE-AQD.

A copy of the test plan addendum letter is provided in Attachment 1 along with sampling location diagrams that were submitted with the original test plan.

1.1 Project Contacts

Questions regarding this test event should be directed to the individuals below.

Test Consultant Manager	Robert Harvey, P.E. Services Director Impact Compliance & Testing, Inc. 4180 Keller Rd, Ste B Holt MI 48842 (517) 481-3170 rob.harvey@ImpactCandT.com
Environmental Compliance Coordinator	Stephanie Phillips Corporate Environmental Engineer Intertape Polymer Group sphillip@itape.com
Responsible Official	Brian Newman Operations Manager Intertape Polymer Group 317 Kendall Street Marysville, MI 48040 bnewman@itape.com

EGLE AQD was notified of the test dates, however, no representative from the agency observed the testing. IPG material use and process data were primarily collected by John Fortsch and Mark St. Pierre. The testing was performed by Blake Beddow, Tyler Wilson, Nick Steinthal, and Robert Harvey from ICT.

2.0 Summary of Test Results and Operating Conditions

2.1 Purpose and Objective of the Tests

Conditions of MI-ROP-A6220-2021 specify that Intertape … *shall verify the VOC capture efficiencies of the capture systems for the RTO and SRS control systems … During the performance test, the permittee shall monitor and set ranges for static pressures of the work stations, cure zone oven vents and dryer vents to show continued compliance of the capture efficiencies of RTO Control System and SRS Control System.*

Testing was performed to determine VOC capture efficiency for Line 3 and the proportion of VOC/HAP directed to each control device.

2.2 Summary of Air Pollutant Sampling Results

Table 2.1 presents a summary of the Line 3 capture efficiency evaluation (average of the three test periods).

Test results for each sampling period are presented in Section 6.0 of this report.

Results from two of the four test periods result in an overall capture efficiency that exceeds 105% by weight. Without three (3) test periods that are less than 105% and meet the test method data quality objective (DQO), the test is considered invalid. IPG and ICT are reviewing the test results and assessing methods to be used to test this emission unit.

2.3 Operating Conditions During the Compliance Tests

The emission testing was performed while the processes operated normally, as close to maximum throughput as possible. Certain control device and air collection system operating parameters were monitored and recorded during the test periods.

Operating data recorded by IPG and ICT for the coating line air collection systems are provided in Attachment 2. According to the conditions of MI-ROP-A6220-2021, the static pressures shall be kept at a value greater than 75% of the static pressure established during the most recent capture efficiency performance test.

Table 2.1 Summary of EUCOATINGLINE3 capture efficiency evaluation

Measured Parameter	Test 1	Test 2	Test 3	Test 4
VOC Captured to SRS (%wt)	95.0%	99.9%	98.5%	97.3%
VOC Captured to RTO (%wt)	6.9%	8.1%	8.2%	6.8%
VOC Overall Capture Effic (%wt)	101.9%	107.9%	106.6%	104.1%
Permit Requirement	>95%			

3.0 Source and Sampling Location Description

3.1 Coating Line Processes

In EUCOATINGLINE3 paper mill rolls are unwound and travel roll-to-roll through the coating line where layers of liquid adhesive are applied using roll coaters. The coated tape is dried between adhesive applications. At the end of the line the coated tape is rewound.

3.2 Emission Control System Description

The coating line air collection systems consist of multiple supply and exhaust fans for drying applied adhesive coatings and collecting SLA for emission control. The air supply or air collection flowrate for each fan is controlled using a mechanical damper on the fan discharge duct or by variable frequency drive (VFD) on the fan motor. The static pressure in each work station, cure zone, and dryer vent is monitored according to the facility's operating and monitoring plan. Collected air is directed to the RTO and SRS for emission reduction.

3.2.1 Regenerative Thermal Oxidizer

In the RTO, toluene (and any other VOC) is oxidized at high temperature to form carbon dioxide. Solvent laden air (SLA) from Dryer 5 is collected and directed to the RTO for emission reduction.

The RTO system consists of energy recovery chambers, a high-temperature combustion chamber containing natural gas-fired burners, and two VFD fans connect to the exhaust stack. The VFD controllers modulate fan speed to maintain an appropriate vacuum within the process air collection system and to draw the SLA through the RTO. Heated ambient air is added to the inlet gas stream to increase the temperature prior to the RTO unit. The inlet air is further preheated by the RTO heat exchange media and is then heated to the final oxidation temperature in the RTO combustion chamber. The heated air flows through the outlet energy recovery chamber and is cooled (which raises the temperature of the heat exchange media) prior to being discharged to the ambient air through the vertical exhaust stack. At a predetermined interval, the air flow through the unit is reversed such that the heated heat exchange media (which was used to cool the exiting gas stream) becomes the preheating heat exchange media that is used to preheat the incoming SLA.

3.2.2 Solvent Recovery System

The SRS consists of four (4) horizontal activated carbon vessels. Collected SLA is divided among the vessels and the toluene is captured in the granulated carbon by pore adsorption. At predetermined intervals (or based on stack monitoring) a single vessel is taken off-line and the adsorbed toluene is desorbed by forcing stream through the carbon bed. The steam and desorbed toluene vapor are condensed in a chilled water condenser and separated. The recovered toluene is pumped to above ground storage tanks where it is used (recycled) on-site to formulate new adhesive. The recovery efficiency of the SRS is determined on a rolling 30-day period based on facility records of solvent use and recovery.

4.0 Sampling and Analytical Procedures

A test protocol for the testing project was reviewed and approved by the EGLE-AQD. This section provides a summary of the sampling and analytical procedures that were used during the testing periods.

4.1 Coating Line Processes; Captured VOC Determination

VOC capture efficiency for EUCOATINGLINE3 was determined using the following test methods.

Parameter / Analyte	Sampling Methodology	Analytical Methodology
Velocity Traverses	Method 1	Selection of velocity traverse and sample locations based on physical measurements
Volumetric Flowrate	Method 2	Measurement of velocity head using a Type-S Pitot tube and inclined manometer
Molecular Weight	Method 2	All captured gas streams are predominately ambient air, use a dry molecular weight of 29.0
Toluene Concentration	Method 18	Sampling using adsorption tubes and analysis by gas chromatography

The capture efficiency for EUCOATINGLINE3 was determined based on the amount of toluene:

1. Captured by the RTO air collection system
2. Captured by the SRS air collection system
3. Contained in the adhesive that was applied during the test period.

EUCOATINGLINE3 was tested individually with Line Nos. 1 and 4 turned off since the captured SLA from each line cannot be adequately isolated from one another.

The concentration of toluene in the RTO and SRS captured gas streams was measured by adsorbing toluene onto activated carbon sampling tubes. In a laboratory, the toluene was desorbed and the amount of toluene catch was measured using gas chromatography. A recovery factor (R) was calculated for each test period per Section 8.4.3 in USEPA Method 18 based on a comparison of the toluene catch in spiked and unspiked sample trains. The R value was used to correct the toluene catch amount.

Air flowrate measurements were performed once per hour of each two-hour test period in accordance with USEPA Methods 1 and 2.

Diagrams of the sampling locations are provided in Attachment 1.

Attachment 3 provides captured gas air flowrate measurements.

The captured gas streams are primarily building air captured by the coating line air collection systems. Oxygen was considered to be consistent with ambient air and a dry molecular weight of 29.0 was used for the air flowrate calculations.

The toluene mass flowrate (lb/hr) in each captured gas stream was calculated based on the measured air flowrate, measured toluene concentration (average ppmv for test period), and molecular weight of toluene (92.1).

$M_{Tol} = Q\ [C_{Tol}]\ (MW_{Tol})\ (60\ min/hr) / V_M / 1E+06$

Where:
- M_{Tol} = Mass flowrate toluene (lb/hr)
- Q = Volumetric flowrate (scfm)
- C_{Tol} = Toluene concentration (ppmv)
- MW_{Tol} = Molecular weight of toluene (92.1 lb/lb-mol)
- V_M = Molar volume of ideal gas at standard condition (385 scf/lb-mol)

Attachment 4 provides the Method 18 sample train data

Attachment 5 provides the Method 18 laboratory report for captured gas toluene concentration.

4.2 Coating Line Processes; VOC Use Determination

The amount of adhesive used during each test period was based on initial and ending tote weights using calibrated floor scales.

IPG formulates its adhesives on-site. Each adhesive tote has a specific lot number that is recorded and tracked throughout the production process. During coating operations, IPG personnel sample and analyze each tote (lot) during the production run to measure the solids content using a laboratory procedure similar to USEPA Method 24 where wet adhesive is weighed before and after a controlled dry down procedure. The analytical data (solids content, %weight) was provided to ICT to calculate the toluene use rate for each test period. Additionally, IPG/ICT obtained samples of the adhesives that were analyzed by a third-party laboratory.

The solids content in the adhesive used for each test period was based on the average of all available data from:

- Formulation data for each batch produced by IPG
- Coating solids (volatile content) analysis performed by IPG's on-site QA laboratory
- Coating solids (volatile content) analysis performed by Enthalpy Analytical (Durham, North Carolina) referencing EPA Method 24.

Toluene use for each capture efficiency test period was calculated using the following equation:

$$U_{Tol} = \Sigma [(W_{Ti} - W_{Tf}) \times (1\text{-}\%S)]$$

Where:
- U_{Tol} = Mass of toluene used during the test period (lbs)
- W_{Ti} = Adhesive tote weight, initial (lbs)
- W_{Tf} = Adhesive tote weight, final (lbs)
- %S = Weight % solids based on formulation data and analyses

Attachment 6 provides test run coating use data and analytical reports for VOC content.

4.3 Coating Line Processes; Capture Efficiency Calculation

The VOC/HAP capture efficiency (CE) for each test run was calculated based on the amount of toluene used at the coating line for the test period and measured toluene mass flowrate in the two captured gas streams:

$$CE_{Tot} = (M_{Tol,RTO} + M_{Tol,SRS}) \times Hrs / U_{Tol} \times 100\ \%$$

Additionally, the proportion of toluene captured to each control device (CE_{RTO} and CE_{SRS}) was calculated for use in IPG's monthly emission recordkeeping.

$$CE_{RTO} = (M_{Tol,RTO}) \times Hrs / U_{Tol} \times 100\ \%$$

$$CE_{SRS} = (M_{Tol,SRS}) \times Hrs / U_{Tol} \times 100\ \%$$

Where:
- CE = VOC/HAP capture efficiency for coating line (% weight)
- CE_{RTO} = Percentage of toluene used on coating line captured to RTO (% wt)
- CE_{SRS} = Percentage of toluene used on coating line captured to SRS (% wt)
- $M_{Tol,RTO}$ = Toluene mass flowrate in RTO captured stream (lb/hr)
- $M_{Tol,SRS}$ = Toluene mass flowrate in SRS captured stream (lb/hr)
- U_{Tol} = Total amount of toluene used during test period (lbs)
- Hrs = Length of test period (hours)

5.0 QA/QC Activities

5.1 Flow Measurement Equipment (Methods 1 and 2)

Prior to arriving onsite, the instruments used during the source test to measure exhaust gas properties and velocity (barometer and Pitot tube) were calibrated to specifications in the sampling methods.

The absence of cyclonic flow for each sampling location was verified using an S-type Pitot tube and oil manometer. The Pitot tube was positioned at each of the velocity traverse points with the planes of the face openings of the Pitot tube perpendicular to the stack cross-sectional plane. The Pitot tube was then rotated to determine the null angle (rotational angle as measured from the perpendicular, or reference, position at which the differential pressure is equal to zero).

5.2 Analyte Concentration and Recovery Efficiency (Method 18)

The sampling systems were leak checked at the beginning of the test day. The rotometers were calibrated using a recently calibrated Bios DryCal DC-Lite flow calibrator. At the beginning of each test period, the sample rotometers were set to the recommended flowrate for the sample media and expected toluene concentration (200 mL/min) and monitored throughout the test period. Two tubes were used in series to monitor for any sample breakthrough. At the end of each test period, the tubes were removed from the sampling train, capped, labeled, and refrigerated to prevent any sample loss.

The samples were submitted to Enthalpy Analytical (Durham, North Carolina) for analyte desorption and gas chromatograph analysis. A recovery factor (R) was calculated per Section 8.4.3 in USEPA Method 18 based on a comparison of the toluene catch in the spiked and unspiked sample trains. The R value was used to correct the field measurements as described in the laboratory report in Attachment 5.

6.0 Results

Table 6.1 presents a summary of adhesive coating VOC content and use rates for each capture efficiency test period.

Tables 6.2 presents measured gas conditions and results for each capture efficiency test period.

VOC/HAP capture efficiency for EUCOATINGLINE3 was determined by simultaneously measuring the captured toluene mass flowrate to the SRS and RTO and comparing the amount of toluene captured during the test period to the mass of toluene applied during the test period.

Results from two of the four test periods result in an overall capture efficiency that exceeds 105% by weight. Without three test periods that are less than 105% and meet the test method data quality objective (DQO), the test is considered invalid.

Attachment 7 provides summary capture efficiency calculations for EUCOATINGLINE3.

Table 6.1 Adhesive VOC content and use rates for capture efficiency test periods Intertape Polymer Group

Test No.	IPG Batch Formula (% solids)	IPG Lab (% solids)	Contract Lab (% solids)	Adhesive Used (lbs)	VOC Used[1] (lbs)
December 8, 2022					
Line 3, Test 1	41.1	41.3	40.1	3,256	1,927
Line 3, Test 2	41.1	41.9	40.6	3,210	1,888
Line 3, Test 3	41.1	41.9	39.9	3,143	1,856
Line 3, Test 4	41.1	42.7	40.7	3,170	1,855

1. Calculated using the average of all available data (formulation and laboratory analyses)
VOC used = (1 - %solids) x (adhesive used, lbs)

Table 6.2 Capture efficiency test results for Line 3 (EUCOATINGLINE3)

Test No.	1	2	3	4
Test date	12/8/22	12/8/22	12/8/22	12/8/22
Test duration (min)	105	96	96	130
Captured to SRS				
Flowrate (scfm)	80,549	82,729	82,235	82,839
Toluene conc. (ppmv)	906	994	969	702
Toluene mass flow (lb/hr)	1,046	1,179	1,142	833
Toluene captured (lbs)	1,831	1,886	1,827	1,805
Captured to RTO				
Flowrate (scfm)	11,360	11,160	11,551	12,026
Toluene conc. (ppmv)	466	594	572	339
Toluene mass flow (lb/hr)	76	95	95	58
Toluene captured (lbs)	133	152	152	127
Toluene Used				
Toluene used (lbs)	1,927	1,888	1,856	1,855
Capture Efficiency				
Captured to SRS (%wt)	95.0%	99.9%	98.5%	97.3%
Captured to RTO (%wt)	6.9%	8.1%	8.2%	6.8%
Overall Capture (%wt)	101.9%	107.9%	106.6%	104.1%

ATTACHMENT 1

Test Plan Letter and Sampling Diagrams

Robert Harvey

From: Robert Harvey
Sent: Friday, November 4, 2022 5:51 PM
To: Wells, Lindsey (EGLE); Konanahalli, Iranna (EGLE)
Cc: Brian Newman; Aili Wilen; Howe, Jeremy (EGLE); Stephanie Phillips; Tyler Wilson
Subject: Intertape A6220 test protocol revisions
Attachments: Intertape A6220; test protocol edits.pdf; Intertape 2022 test plan approval.pdf

Hello Lindsey,

As we've discussed, we are proposing to repeat the capture efficiency evaluation for Line 3 at Intertape using USEPA Method 18. All other test procedures essentially remain the same.

We're proposing a test dates of **December 7-8, 2022**.

Please feel free to contact me with any questions you may have.

Thank you,

Rob Harvey | *Services Director*

Direct/Mobile: (517) 481-3170

Rob.Harvey@ImpactCandT.com

4180 Keller Rd, Ste B, Holt MI 48842

IMPACT COMPLIANCE & TESTING

November 4, 2022

Ms. Lindsey Wells
Air Quality Division; Technical Programs Unit
STATE OF MICHIGAN
Department of Environment, Great Lakes, and Energy
WellsL8@michigan.gov

Subject: Intertape Polymer Group; SRN A6220
Proposed revisions to emission test procedures
EUCOATINGLINE3 VOC capture efficiency

Dear Ms. Wells;

Impact Compliance & Testing, Inc. (ICT) has prepared this correspondence to request approval for revisions to the compliance test procedures for determining volatile organic compound (VOC) capture efficiency for Coating Line No. 3 (EUCOATINGLINE3) at Intertape Polymer Group (Intertape) located in Marysville, St. Clair County, Michigan.

Earlier this year, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) approved a test plan for determining VOC capture efficiency for adhesive coating lines operated by Intertape (EGLE test plan approval letter dated April 11, 2022). The test results for EUCOATINGLINE3 for compliance testing performed in April 2022 did not satisfy the Data Quality Objective (DQO) requirements of USEPA Method 204. ICT is proposing to repeat the testing using USEPA Method 18 to determine captured gas toluene concentration in place of USEPA Method 320 as originally approved.

The testing will be performed using the procedures presented in the test plan submitted to EGLE in February 2022 with the following modifications.

Captured Gas Toluene Concentration Measurements; Method 18

Section 6.2.1 of the original test protocol indicated that concentration of toluene in the thermal oxidizer (RTO) and solvent recovery system (SRS) captured gas streams would be determined by Extractive Fourier Transform Infrared (FTIR) instruments in accordance with the procedures of USEPA Method 320 and ASTM D6348-12.

ICT is proposing to modify the sampling and analytical procedures for the EUCOATINGLINE3 retest to use USEPA Method 18; Measurement of Gaseous Organic Compound Emissions by Gas Chromatography.

Separate sampling systems will be located at the RTO inlet and SRS captured gas sampling locations. Each sampling system will consist of:

- Sample probes and short lengths of PTFE tubing;
- Unspiked sorbent tubes; two (2) activated carbon sampling tubes in series (the second tube is used to check for analyte breakthrough)
- Colocated spiked sorbent tubes; two (2) activated carbon sampling tubes in series, one of which is spiked with approximately 50% of the expected toluene catch.
- Calibrated rotometers;
- Sample pump.

The sampling systems will be leak checked at the beginning of each test day. The rotometers will be calibrated using a recently calibrated Bios DryCal DC-Lite flow calibrator. At the beginning of each test period, the rotometers will be set the recommended flowrate for the sample media and expected toluene concentration (expected to be 200 mL/min) and monitored throughout the test period. At the end of each two-hour test period, the tubes will be removed from the sampling train, capped, labeled, and refrigerated to prevent any sample loss.

The samples will be submitted to Enthalpy Analytical (Durham, North Carolina) for analyte desorption and gas chromatograph analysis. A recovery factor (R) will be calculated per Section 8.4.3 in USEPA Method 18 based on a comparison of the toluene catch in the spiked and unspiked sample trains. The R value is used to correct the field measurements.

The mass of toluene captured to each control device (RTO and SRS) will be calculated for each test run as presented in the original test plan based on the measured captured gas volumetric flowrate and the measured toluene concentration.

Adhesive / Toluene Use Measurements

For each two-hour test period, Intertape will determine adhesive use by weighing adhesive totes using calibrated floor scales. As presented in the April 2022 test report for VOC capture efficiency, the adhesive toluene content will be determined based on an average of:

1. Formulation data for each batch produced by Intertape;
2. Coating solids (volatile content) analysis performed by Intertape's on-site QA laboratory
3. Coating solids (volatile content) analysis performed by a third-party laboratory using ASTM D2369, or equivalent.

This is slight deviation from the method presented in the approved test plan, which proposed to rely only on the results from Intertape's on-site laboratory. The method used (averaging all available coating formulation and analytical data) is expected to result in the most consistent capture efficiency results and minimize test-to-test variations that have been observed in the analytical data.

Summary of VOC capture efficiency test methods

Parameter / Analyte	Sampling or Test Method	Analytical Description
Velocity Traverses	Method 1	Selection of velocity traverse and sample locations based on physical measurements
Volumetric Flowrate	Method 2	Measurement of velocity head using a Type-S Pitot tube and inclined manometer. Performed at least once per test period
Molecular Weight	Method 2	All captured gas streams are predominately ambient air, use a dry molecular weight of 29.0
Moisture	Method 4	Moisture determination by wet bulb / dry bulb temperature measurements. The moisture content will be comparable to ambient air, 2-3%.
Toluene Concentration	Method 18	Sampling using adsorption tubes and analysis by gas chromatography

Proposed Test Dates

ICT is proposing to perform the EUCOATINGLINE3 retest **December 7-8, 2022**.

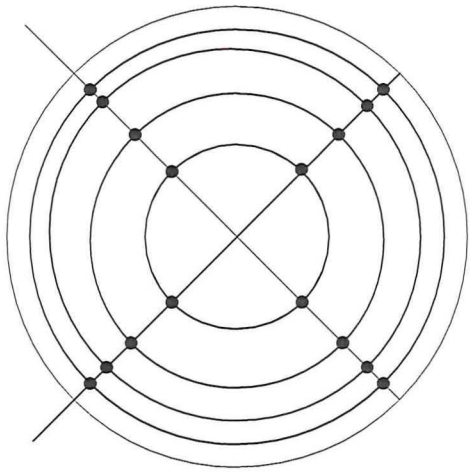
We appreciate EGLE's review of the proposed, revised test method procedures. Please contact us at 517-481-3170 or rob.harvey@impactcandt.com if you have any questions or require additional information.

Sincerely,

IMPACT COMPLIANCE & TESTING, INC.

Robert Harvey, P.E.
Services Director

Copy: Iranna Konanahalli; EGLE Southeast Michigan District Office
Jeremy Howe; EGLE Technical Programs
Brian Newman; Intertape Polymer Group
Aili Wilen; Intertape Polymer Group
Stephanie Phillips; Intertape Polymer Group



Velocity and
Sample Location

To SRS — 75-in dia duct — **Collected from Lines 1, 3, 4**

BLDG 48

Coating Lines
BLDG 42/43

Velocity locations as measured from stack wall

Pt	inch
1	2.40
2	7.88
3	14.55
4	24.23
5	50.78
6	60.45
7	67.13
8	72.60

Intertape Polymer Group
Solvent Recovery Inlet Sampling Diagram

Scale	Sheet
None	1 of 1

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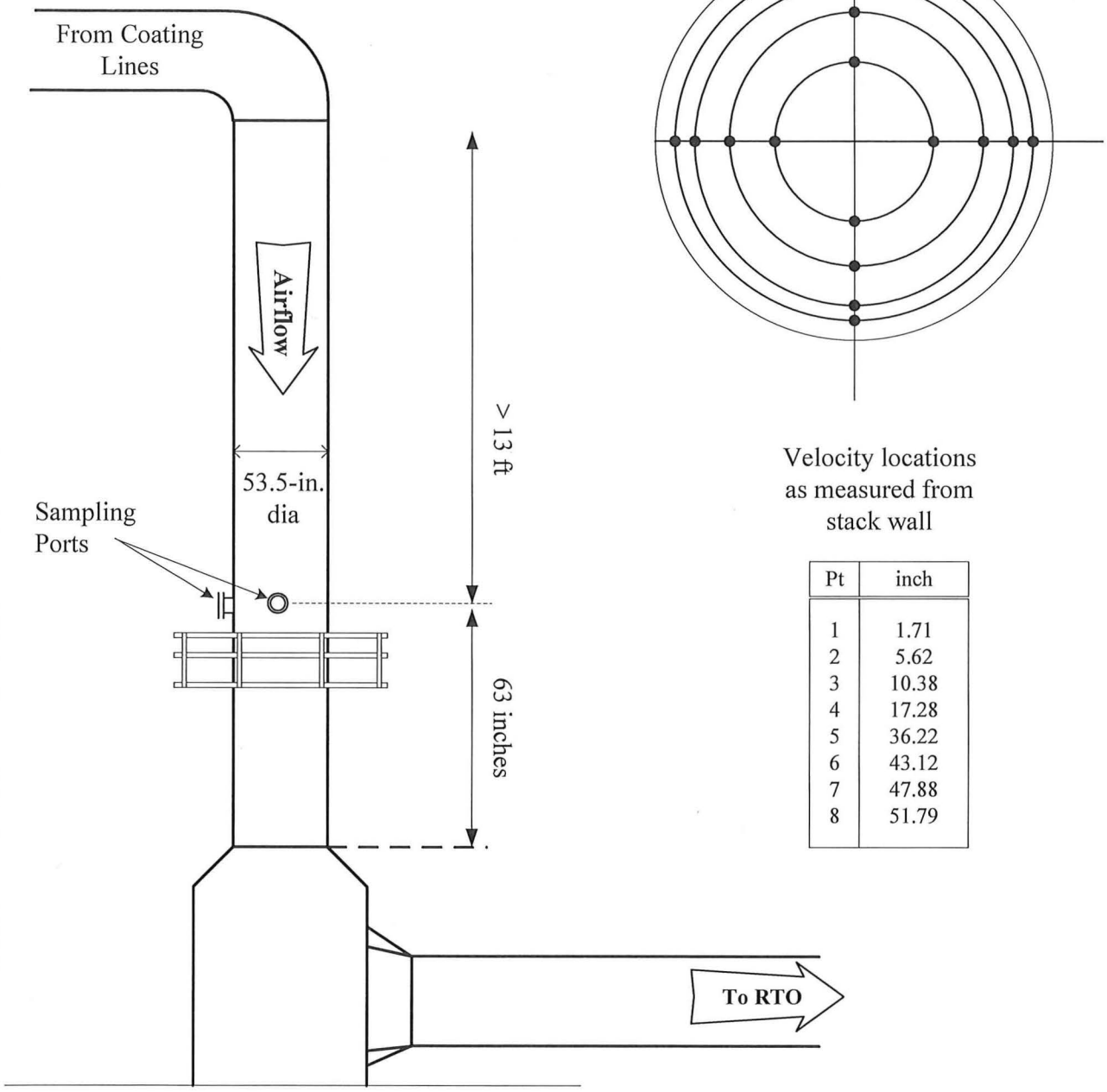

Velocity locations as measured from stack wall

Pt	inch
1	1.71
2	5.62
3	10.38
4	17.28
5	36.22
6	43.12
7	47.88
8	51.79

Intertape Polymer Group
RTO Inlet Sampling Diagram

Scale	Sheet
None	1 of 1

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