



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING DISTRICT OFFICE



PHILLIP D. ROOS  
DIRECTOR

January 26, 2024

VIA EMAIL

Robert Cross, President  
Rodzina Industries, Inc.  
3518 Fenton Road  
Flint, MI 48507

SRN: U252202640, Genesee County

Dear Robert Cross:

**VIOLATION NOTICE**

On January 24, 2024 and August 23, 2023, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), conducted complaint investigations of Rodzina Industries, Inc. (Rodzina Industries) located at 3518 Fenton Road, Flint, Michigan. The purpose of this inspection was to determine Rodzina Industries' compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; and to investigate recent complaints which we received on January 12, 2024, and on August 22, November 8, and December 5, 2023, regarding odors and smoke attributed to Rodzina Industries' operations.

During the complaint investigations, staff observed the following:

<b>Process Description</b>	<b>Rule/Permit Condition Violated</b>	<b>Comments</b>
Laser cutting of rubber	Rule 901(b)	Odors detected offsite were of sufficient intensity, frequency, and duration to constitute unreasonable interference with the comfortable enjoyment of life and property.
Laser cutting of rubber	Rule 901(b)	Fallout samples identified as neoprene rubber with fillers.

In the professional judgment of the AQD staff, the odors that were observed on January 24, 2024, and on August 23, 2023, were of sufficient intensity, frequency and duration so as to constitute a violation of Rule 901 of the administrative rules promulgated under Act 451.

Additionally, sample results were received by the AQD on December 20, 2023, from a contracted private laboratory. These were from analysis of suspected fallout samples collected at a nearby residence on August 23, 2023, and September 26, 2022. The sample results indicated the presence of neoprene rubber with two fillers, Manganosite and Cummingtonite. Copies of these results are attached. Although the AQD was not permitted to collect a sample of material from one of the particulate filters for the rubber laser cutter, these fallout samples are believed to be associated with the laser cutter's operations. The presence of air contaminants offsite is an *additional* violation of Rule 901, which prohibits unreasonable interference with the comfortable enjoyment of life and property.

Please initiate actions necessary to correct the cited violation and submit a written response to this Violation Notice by February 16, 2024, which coincides with 3 weeks from the date of this letter. The written response should include: the dates the violation occurred; an explanation of the causes and duration of the violation; whether the violation is ongoing; a summary of the actions that have been taken and are proposed to be taken to correct the violation and the dates by which these actions will take place; and what steps are being taken to prevent a reoccurrence.

Please submit the written response to Daniel McGeen at EGLE, AQD, Lansing District, at Constitution Hall, P.O. Box 30242, First Floor South, Lansing, Michigan 48909 or mcgeend@michigan.gov and submit a copy to Jenine Camilleri, Enforcement Unit Supervisor at EGLE, AQD, P.O. Box 30260, Lansing, Michigan 48909-7760.

Additionally, pursuant to Rule 911, please provide a Malfunction Abatement Plan (MAP) for the rubber laser cutting process and the particulate filters associated with it. The purpose of the MAP is to prevent, detect, and correct malfunctions or equipment failures resulting in emissions exceeding any applicable emission limitation. Rule 911 requires the following:

- (1) Upon request of the department, a person responsible for the operation of a source of an air contaminant shall prepare a malfunction abatement plan to prevent, detect, and correct malfunctions or equipment failures resulting in emissions exceeding any applicable emission limitation.
- (2) A malfunction abatement plan required by subrule (1) of this rule shall be in writing and shall, at a minimum, specify all of the following: (a) A complete preventative maintenance program, including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement. (b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method

Robert Cross  
Rodzina Industries, Inc.  
Page 3  
January 26, 2024

of monitoring or surveillance procedures. (c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

(3) A malfunction abatement plan required by subrule (1) of this rule shall be submitted to the department and shall be subject to review and approval by the department. If, in the opinion of the department, the plan does not adequately carry out the objectives as set forth in subrules (1) and (2) of this rule, then the department may disapprove the plan, state its reasons for disapproval, and order the preparation of an amended plan within the time period specified in the order. If, within the time period specified in the order, an amended plan is submitted which, in the opinion of the department, fails to meet the objective, then the department, on its own initiative, may amend the plan to cause it to meet the objective.

4) Within 180 days after the department approves a malfunction abatement plan, a person responsible for the preparation of a malfunction abatement plan shall implement the malfunction abatement plan required by subrule (1) of this rule.

If Rodzina Industries believes the above observations or statements are inaccurate or do not constitute violations of the applicable legal requirements cited, please provide appropriate factual information to explain your position.

Thank you for your attention to resolving the violation cited above and for the cooperation that was extended to me during my complaint investigation of Rodzina Industries. If you have any questions regarding the violation or the actions necessary to bring this facility into compliance, please contact me at the number listed below.

Sincerely,



Daniel A. McGeen  
Environmental Quality Analyst  
Air Quality Division  
517-648-7547

Enclosures

cc: Annette Switzer, EGLE  
Christopher Ethridge, EGLE  
Brad Myott, EGLE  
Jenine Camilleri, EGLE  
Robert Byrnes, EGLE



# Analytical Laboratory Report

Report ID: S41696.01(01)  
Generated on 12/20/2023

## Report to

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Attention: Daniel McGeen  
EGLE, Air Quality Division  
525 West Allegan Street  
P.O. Box 30242, 1st Fl. South  
Lansing, MI 48909

Phone: 517-648-7547 FAX:  
Email: mcgeend@michigan.gov

## Report produced by

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Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

## Report Summary

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Lab Sample ID(s): S41696.01  
Project: Rodzina Complaint Invest.  
Collected Date(s): 09/26/2022  
Submitted Date/Time: 10/21/2022 10:45  
Sampled by: Daniel A. McGeen  
P.O. #: 30242

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

---

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (\*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

## Report Narrative

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

## Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

## Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



# Analytical Laboratory Report

## Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S41696.01	001	Solid	09/26/22 09:20



# Analytical Laboratory Report

Lab Sample ID: S41696.01

Sample Tag: 001

Collected Date/Time: 09/26/2022 09:20

Matrix: Solid

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Petri Dish	None	No	RT	IR

**Other / Misc.**

**Method: , Run Date: 12/20/23 14:00, Analyst: MGG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		1

1-See Summary of Results.

# Merit Laboratories Login Checklist

Lab Set ID:S41696

Client:EGLEAIR (MI Dept. of Environment, Great Lakes, and Energy)

Project: Rodzina Complaint Invest.

Submitted: 10/21/2022 10:45 Login User: MMC

Attention: Daniel McGeen

Address: EGLE, Air Quality Division  
525 West Allegan Street  
P.O. Box 30242, 1st Fl. South  
Lansing, MI 48909

Phone: 517-648-7547 FAX:

Email: mcgeend@michigan.gov

Selection	Description	Note
<b>Sample Receiving</b>		
01.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer # RT
02.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped USPS
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
05.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked
<b>Chain of Custody</b>		
06.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out
07.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab
08.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC
09.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontracted to:
<b>Preservation</b>		
10.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation
11.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)
12.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?
<b>Bottle Conditions</b>		
13.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact
14.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used
15.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used
16.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received
17.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration
18.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time
19.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_





## MERIT LABORATORIES, INC.

2680 EAST LANSING DRIVE

PHONE: 517-332-0167

FULL SERVICE ANALYTICAL TESTING

EAST LANSING • MICHIGAN • 48823

FAX: 517-332-6333

FIELD SERVICES • CONSULTING • TRAINING

# Summary of Results

For

Merit No.: S41696.01 Tag: 001

Merit No.: S53559.01 Tag: 001

Merit No.: S53559.02 Tag: 002

**Conclusion:** Fourier Transform Infrared Spectroscopy (FTIR) showed good matches for the following likely components in Merit No.: S41696.01 Tag: 001: Polychloroprene (Neoprene Rubber), Manganosite (MnO), and Cummingtonite (Magnesium Iron Silicate Hydroxide). These components were identified in the industrial dust contained in this sample. Other components in the sample, identified by Polarized Light Microscopy (PLM) include Plant fibers, Silica (sand), Calcite (CaCO<sub>3</sub>), and Pollen. These latter listed components are routine outdoor dust components. In addition, PLM showed that all three of these samples are consistent regarding the industrial dust they contain, as well as, the other natural dust components. Furthermore, all three of these samples had identical FTIR scans, which demonstrates that they likely are made up of the same components.

**Discussion:** Prior to the FTIR scans PLM observations of these samples did not allow for an identification of the industrial components of this dust. PLM did show that the samples did not contain natural rubber since the samples did not match the optical properties of rubber, even though the likely source of this dust described the process used as “laser cutting of rubber.” Indeed, we compared rubber band rubber and erasure rubber FTIR scans with the FTIR scans of the three samples and found no matches.

Other testing performed on the samples included a spot test to show whether the components contained double bonds, since that is the case for rubber. This test was inconclusive. Furthermore, we performed a spot test for protein, since some rubbers contain protein. This too was inconclusive since the plant fibers in the samples also contain proteins.



# Analytical Laboratory Report

Report ID: S53559.01(01)  
Generated on 12/20/2023

## Report to

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Attention: Daniel McGeen  
EGLE, Air Quality Division  
525 West Allegan Street  
P.O. Box 30242, 1st Fl. South  
Lansing, MI 48909

Phone: 517-648-7547 FAX:  
Email: mcgeend@michigan.gov

## Report produced by

---

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

## Report Summary

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Lab Sample ID(s): S53559.01-S53559.02  
Project: Rodzina Complaint Invest.  
Collected Date(s): 08/23/2023  
Submitted Date/Time: 09/20/2023 10:15  
Sampled by: Daniel McGeen  
P.O. #: 30242

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (\*) analytes are not NY NELAP accredited.

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Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

## Report Narrative

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

## Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

## Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



# Analytical Laboratory Report

## Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53559.01	001	Solid	08/23/23 14:24
S53559.02	002	Solid	08/23/23 14:45



# Analytical Laboratory Report

Lab Sample ID: S53559.01

Sample Tag: 001

Collected Date/Time: 08/23/2023 14:24

Matrix: Solid

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Petri Dish	None	No	RT	IR

**Other / Misc.**

**Method: , Run Date: 12/20/23 14:00, Analyst: MGG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		1

1-See Summary of Results.



# Analytical Laboratory Report

Lab Sample ID: S53559.02

Sample Tag: 002

Collected Date/Time: 08/23/2023 14:45

Matrix: Solid

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Petri Dish	None	No	RT	IR

**Other / Misc.**

**Method: , Run Date: 12/20/23 14:00, Analyst: MGG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		1

1-See Summary of Results.

# Merit Laboratories Login Checklist

Lab Set ID:S53559

Client:EGLEAIR (MI Dept. of Environment, Great Lakes, and Energy)

Project: Rodzina Complaint Invest.

Submitted:09/20/2023 10:15 Login User: MMC

Attention: Daniel McGeen

Address: EGLE, Air Quality Division  
525 West Allegan Street  
P.O. Box 30242, 1st Fl. South  
Lansing, MI 48909

Phone: 517-648-7547 FAX:

Email: mcgeend@michigan.gov

Selection	Description	Note
<b>Sample Receiving</b>		
01.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer # RT
02.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped USPS
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
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09.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontracted to:
<b>Preservation</b>		
10.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation
11.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)
12.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?
<b>Bottle Conditions</b>		
13.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact
14.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used
15.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used
16.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received
17.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration
18.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time
19.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_





## MERIT LABORATORIES, INC.

2680 EAST LANSING DRIVE  
PHONE: 517-332-0167  
FULL SERVICE ANALYTICAL TESTING

EAST LANSING • MICHIGAN • 48823  
FAX: 517-332-6333  
FIELD SERVICES • CONSULTING • TRAINING

# Summary of Results

For

Merit No.: S41696.01 Tag: 001

Merit No.: S53559.01 Tag: 001

Merit No.: S53559.02 Tag: 002

**Conclusion:** Fourier Transform Infrared Spectroscopy (FTIR) showed good matches for the following likely components in Merit No.: S41696.01 Tag: 001: Polychloroprene (Neoprene Rubber), Manganosite (MnO), and Cummingtonite (Magnesium Iron Silicate Hydroxide). These components were identified in the industrial dust contained in this sample. Other components in the sample, identified by Polarized Light Microscopy (PLM) include Plant fibers, Silica (sand), Calcite (CaCO<sub>3</sub>), and Pollen. These latter listed components are routine outdoor dust components. In addition, PLM showed that all three of these samples are consistent regarding the industrial dust they contain, as well as, the other natural dust components. Furthermore, all three of these samples had identical FTIR scans, which demonstrates that they likely are made up of the same components.

**Discussion:** Prior to the FTIR scans PLM observations of these samples did not allow for an identification of the industrial components of this dust. PLM did show that the samples did not contain natural rubber since the samples did not match the optical properties of rubber, even though the likely source of this dust described the process used as “laser cutting of rubber.” Indeed, we compared rubber band rubber and erasure rubber FTIR scans with the FTIR scans of the three samples and found no matches.

Other testing performed on the samples included a spot test to show whether the components contained double bonds, since that is the case for rubber. This test was inconclusive. Furthermore, we performed a spot test for protein, since some rubbers contain protein. This too was inconclusive since the plant fibers in the samples also contain proteins.