EMSL Analytical, Inc.

5406 Hoover Blvd., Ste 21, Tampa, FL. 33634
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (813)-280-8752 (856) 858-4800

Attn.: *Jenn Rock*
Compliance Designs, Inc.
159 South Stark Highway
Weare, NH 03281
jennrock@cdiweare.com
Phone: 603-273-0954

EMSL Case No.: 362501997
Sample(s) Received: 5/6/2025
Date of Reporting: 5/20/2025
Date Printed: 5/29/2025Rev1
Reported By: C. Helou

- Laboratory Report -

Analysis of Microplastics

Project: Microplastics – 107 – Fox Ledge, Inc.
1432 Bethany Turnpike, Honesdale, PA 18431

Conclusions:

The data obtained during analysis indicates the following:

- No microplastics were detected in the sample submitted.

Procurement of Samples and Analytical Overview:

The sample submitted for analysis arrived at EMSL Analytical on 5/6/2025. The package arrived in satisfactory condition with no evidence of damage to the contents. The data reported herein has been obtained using the following equipment and methodologies.

Methods & Equipment: Simultaneous Transmitted Polarized Light Microscopy (PLM) and Darkfield Reflected Light Microscopy (RLM)
Fourier Transform Infrared Spectroscopy (FTIR)

Analyzed by: Christen Helou — *Christen Helou, Assistant Laboratory Manager* — 20 May 2025 *Date*

Reviewed/Approved by : — *Eugenia Mirica, Ph.D., Laboratory Director* — 20 May 2025 *Date*

5/29/25. Rev 1 revises report 362501997 reported on 5/20/25. Reason for revision: updated source name per client request.

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Background:

One sample was submitted for analysis. The purpose of the analysis was to determine the microplastics concentration.

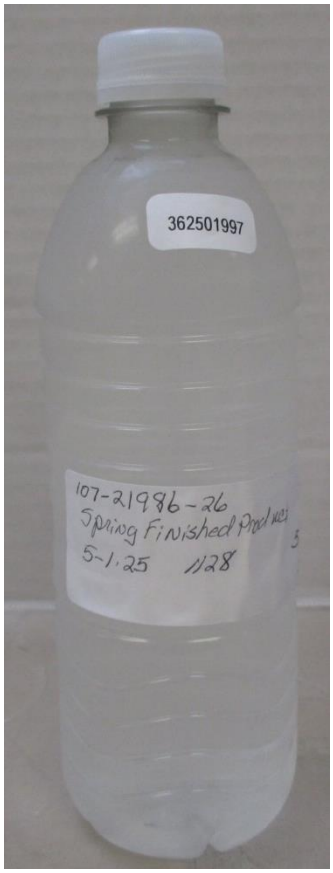

Figure 1: Sample as received for analysis.

Sample ID	Description	Date/Time Sampled
107-21986	Spring Finished Product – Produced From: Fox Spring #1	5.1.25 1128

Sample Preparation:

See Appendix 1 for sample preparation.

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Summary of Results:

Table 1: Summary of microplastics analysis.

Sample ID	Description	Microplastics
107-21986	Spring Finished Product – Produced From: Fox Spring #1	No Microplastics Detected [C,D]
NIST Spike [A]	EMSL Lab	NIST traceable polystyrene spheres present within accepted control range
Laboratory Blank [B]	EMSL Lab Water	No Microplastics Detected

Comments: A) NIST traceable polystyrene microsphere control sample prepared by laboratory for QC purposes.
B) Laboratory prepared particle-free water used during NIST sample preparation, filter rinse and glassware cleaning.
C) Particles containing high levels of carbon black pigment, including rubber, may not be detected due to the propensity of carbon black to absorb the laser wavelengths.
D) This qualifier is based on the reporting size range and within the limit of detection of the method.

Sample Preparation:

See Appendix 1 for sample preparation.

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Results and Discussion:

Table 2: Microplastics results for sample 107-21986.

EMSL ID:	362401997-0001		
Sample ID:	107-21986		
Description:	Spring Finished Product – Produced From: Fox Spring #1		
Amount Analyzed:	530 (ml)		
Preparation Parameters	Value	Units	Comments
Sub-sample (prepared):	530	(ml)	A
Effective Filter Area:	1370	(mm2)	
Field Area:	1370	(mm2)	
No. Fields Analyzed:	1	(No.)	
Area Analyzed:	1370	(mm2)	
Limit of Detection:	0.0007	(Particles/mm2)	
Limit of Quantitation:	0.0019	(Particles/ml)	F
Particle Size Range (µm)	Concentration (Particles/ml)	Percent in Range	Comments
1 - 5	<LOQ	N/A	B
5 - 10	<LOQ	N/A	B
10 - 50	<LOQ	N/A	C
50 - 100	<LOQ	N/A	C
100 - 500	<LOQ	N/A	C
500 - 1000	<LOQ	N/A	C,D
1000 - 5000	<LOQ	N/A	D
>5000	<LOQ	N/A	D,E
Total Microplastics	None Detected	N/A	N/A
Count by Morphology	(%)		(%)
Spherical	ND	Sheet	ND
Non-uniform	ND	Fibrous	ND
		Shaving	ND

Comments: LOQ = Limit of Quantitation (see Appendix 2). Sample volume based on particle concentration.

A) Parameters used in the preparation of the sample.

B) Presumptive microplastic particles observed by microscopic analysis; complete identification by FTIR cannot be determined because the particle size is below the minimum detection area.

C) Particles observed by microscopic analysis and identifiable by FTIR.

D) Particles observed by sieve separation and stereo microscopic analysis and identifiable by FTIR.

E) Particles larger than the generally accepted definition of microplastics and identifiable by FTIR.

F) See appendix 2 for calculations.

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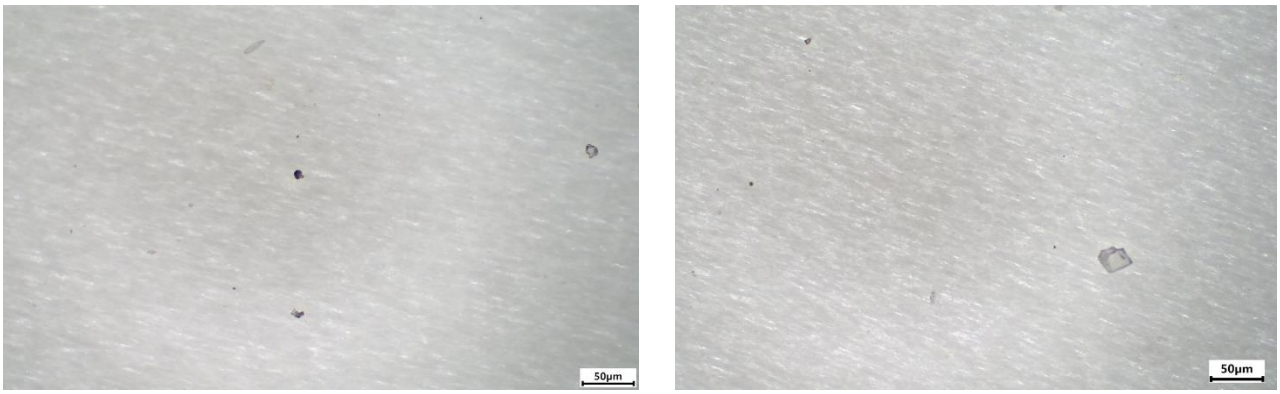

Figure 2: Microscopic images showing mineral grains and organic dust in sample 107-21986 with no evidence of microplastics.

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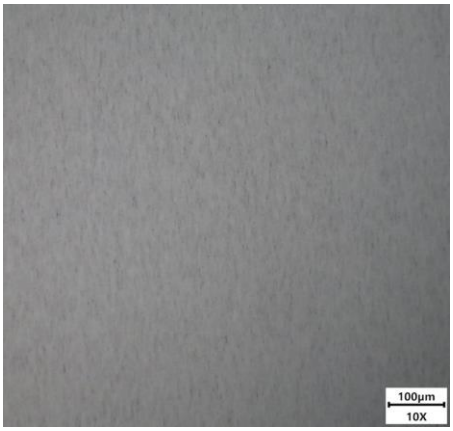
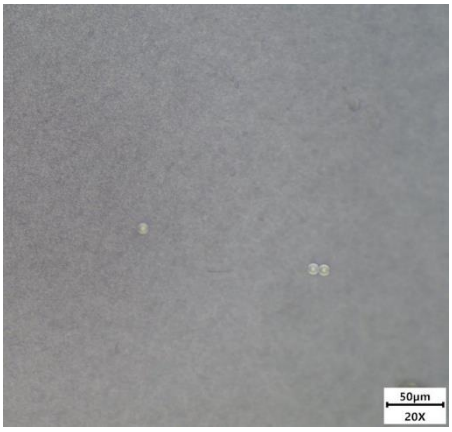
Figure 3: Microscopic image of 1000ml filtered laboratory prepared particle free water used for sample preparation, filter rinse and glassware cleaning. No microplastic particles are detected.



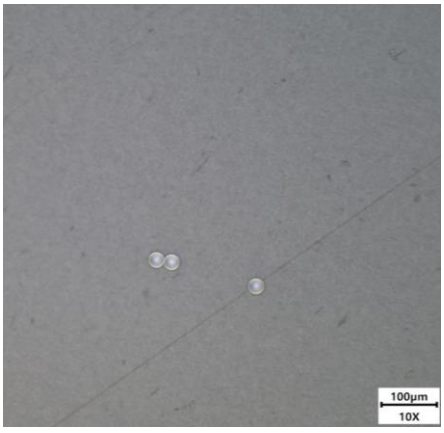
Analyte	Particle Free Laboratory Water
Target Concentration	0 microplastic particles/ml
Measured Concentration	0 microplastic particles/ml
Acceptance Criteria	0 microplastic particles/ml

Figure 4: Microscopic image showing NIST traceable polystyrene microsphere control sample prepared by laboratory for QC purposes.



Analyte	NIST p-styrene spheres (10µm nominal diameter)
Target Concentration	2000 particles/ml
Measured Concentration	2009 particles/ml
Percent Recovery (PR)	100.5%
Acceptance Criteria	±10% (PR) (90-110%)

Figure 5: Microscopic image showing NIST traceable polystyrene microsphere control sample prepared by laboratory for QC purposes.



Analyte	NIST p-styrene spheres (30µm nominal diameter)
Target Concentration	2000 particles/ml
Measured Concentration	1997 particles/ml
Percent Recovery (PR)	99.9%
Acceptance Criteria	±10% (PR) (90-110%)

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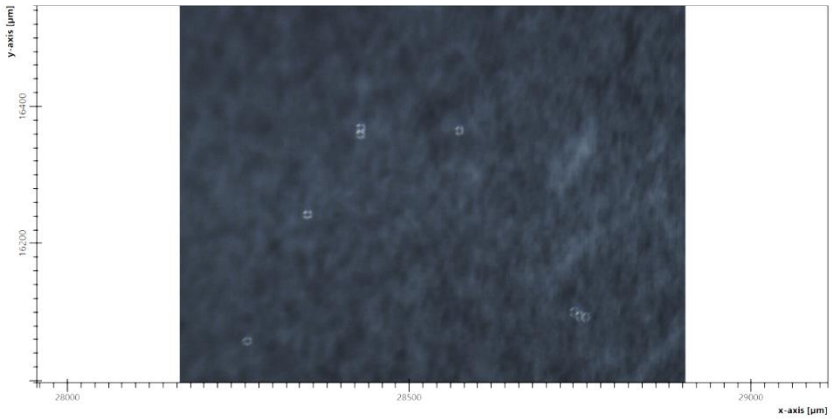

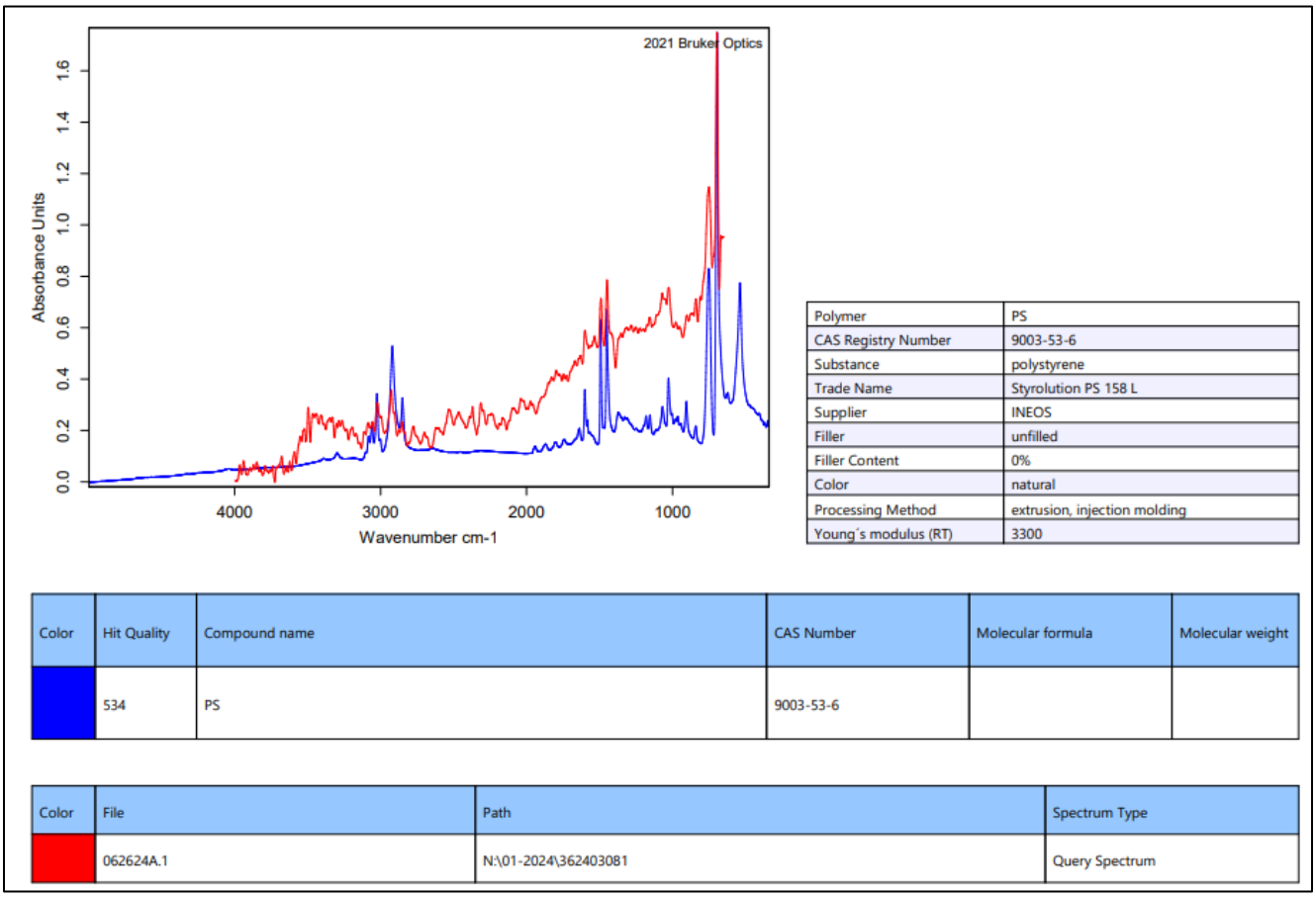

Polymer	PS
CAS Registry Number	9003-53-6
Substance	polystyrene
Trade Name	Styrolution PS 158 L
Supplier	INEOS
Filler	unfilled
Filler Content	0%
Color	natural
Processing Method	extrusion, injection molding
Young´s modulus (RT)	3300

Color	Hit Quality	Compound name	CAS Number	Molecular formula	Molecular weight
	534	PS	9003-53-6		

Color	File	Path	Spectrum Type
	062624A.1	N:\01-2024\362403081	Query Spectrum

Figure 6: Microscopic images and associated FTIR spectra showing the NIST traceable polystyrene spheres (10µm nominal diameter) present the in NIST Spike sample.

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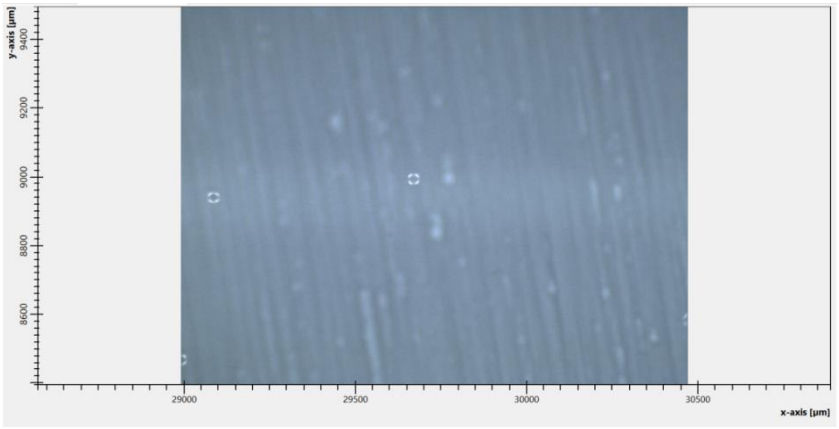

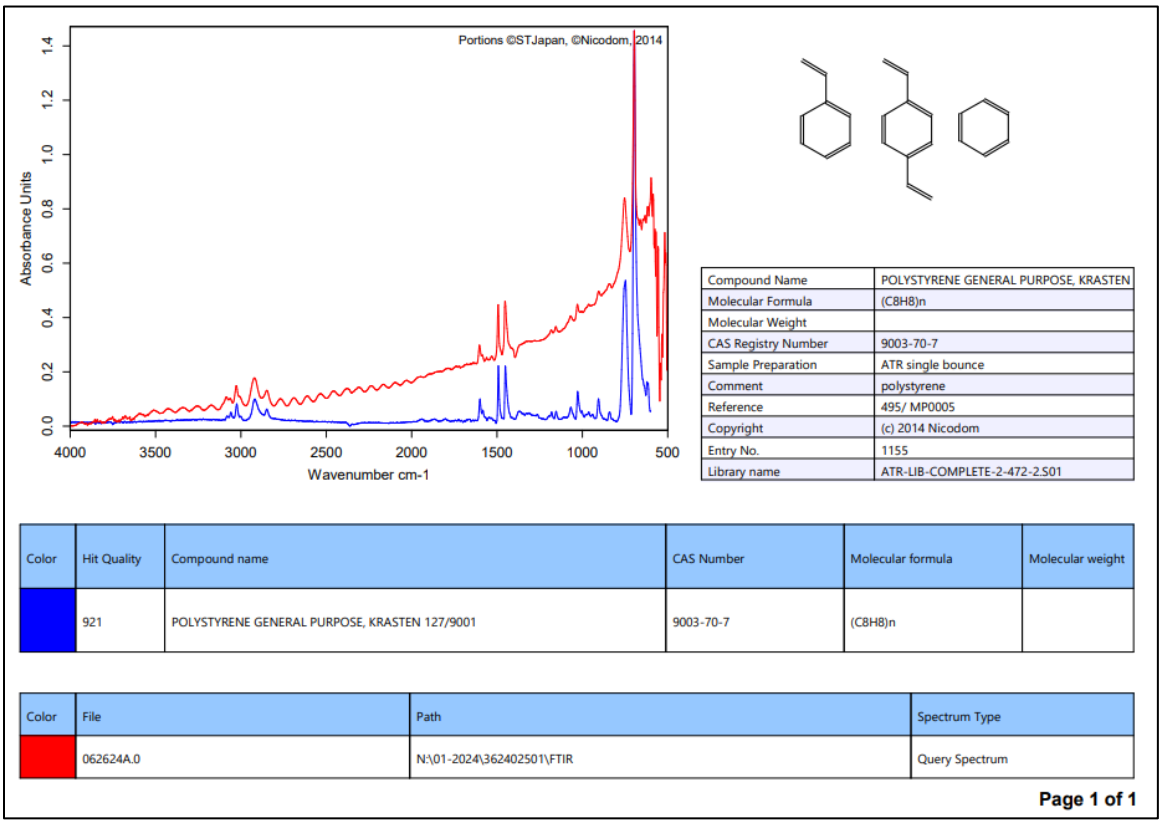

Compound Name	POLYSTYRENE GENERAL PURPOSE, KRASTEN
Molecular Formula	(C8H8)n
Molecular Weight	
CAS Registry Number	9003-70-7
Sample Preparation	ATR single bounce
Comment	polystyrene
Reference	495/ MP0005
Copyright	(c) 2014 Nicodom
Entry No.	1155
Library name	ATR-LIB-COMPLETE-2-472-2.S01

Color	Hit Quality	Compound name	CAS Number	Molecular formula	Molecular weight
	921	POLYSTYRENE GENERAL PURPOSE, KRASTEN 127/9001	9003-70-7	(C8H8)n	

Color	File	Path	Spectrum Type
	062624A.0	N:\01-2024\362402501\FTIR	Query Spectrum

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Figure 7: Microscopic images and associated FTIR spectra showing the NIST traceable polystyrene spheres (30µm nominal diameter) present the in NIST Spike sample.

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Appendix 1: Sample Preparation

Each sample was hand mixed and filtered in order to collect the solid particles. The filter was then dried at ambient temperatures prior to analysis.

Appendix 2: Analysis Calculations

Limit of Detection (LOD): For microscopic analysis the limit of detection is considered to be a single (1) observed particle in the sample portion analyzed.

Limit of Quantitation (LOQ): $$LOQ = \frac{\frac{LOD}{(FA \times F)} \times EFA}{SP}$$

Where:
LOD = Limit of Detection (1)
FA = Field Area (mm^2)
F = Number of Fields Analyzed
EFA = Effective Filter Area (mm^2)
SP = Sample Portion Prepared (gm or ml)
Dependent upon solid or liquid sample.

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Descriptions & Definitions:

Microplastics are generally defined as polymeric particles smaller than 5 mm in size in any one dimension, present in waste water, rivers, lakes and oceans. Due to the small size, they may not be easily removed during the waste water filtration processes and can enter the ecosystem, negatively impacting the environment. The common sources of microplastics are: additives in personal care products, synthetic fibers, resin pellets, tire recycling, medical products, abrasion and exfoliating beads used in furniture and insulation, fragments of larger plastic items as they degrade from the effects of ultraviolet rays and other weathering factors. Microplastics can potentially leach toxic chemicals, including endocrine disruption chemicals, such as bisphenol A and phthalates.

None Detected (ND) denotes the absence of analyte in the subsample analyzed. Trace levels of the analyte may be present in the sample below the limit of detection (LOD).

Limit of Detection (LOD): The minimum concentration that can be theoretically achieved for a given analytical procedure in the absence of matrix or sample processing effects. Particle analysis is limited to a single occurrence of an analyte particle in the sub-sample analyzed.

Limit of Quantitation (LOQ): The minimum concentration of an analyte that can be measured within specified limits of precision and accuracy during routine laboratory operating conditions

Important Terms, Conditions, and Limitations:

Sample Retention: Samples analyzed by EMSL will be retained for 60 days after analysis date. Storage beyond this period is available for a fee with written request prior to the initial 30 day period. Samples containing hazardous/toxic substances which require special handling may be returned to the client immediately. EMSL reserves the right to charge a sample disposal or return shipping fee.

Change Orders and Cancellation: All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL is not responsible for holding times that are exceeded due to such changes.

Warranty: EMSL warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures, when available. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied. EMSL disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability.

Limits of Liability: In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to ensure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL, the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder.

The data and other information contained in this report, as well as any accompanying documents, represent only the samples analyzed. They are reported upon the condition that they are not to be reproduced wholly or in part for advertising or other purposes without the written approval from the laboratory.

CHAIN OF CUSTODY RECORD

362501997

107-21986-26

INVOICE TO/SEND ORIGINAL REPORT TO:	CLIENT NAME TO APPEAR ON REPORT:	LAB USED:	ORDER #
Compliance Designs 159 South Stark Highway Weare, New Hampshire 03281 Tel (603) 273-0954 Fax (603) 695-7318	Fox Ledge Inc. 1432 Bethany Turnpike Honesdale PA 18431	EMSL	
		TURNAROUND TIME: STND/BUT ASAP	PWS #: 2646395

PROJECT NAME:	PROJECT #:
Microplastics	107

SAMPLE NUMBER	DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION AND PRODUCTION CODE	NUMBER OF CONTAINERS	ANALYSIS REQUIRED
(1) 107-21986	5.1.25 1128	Spring Finished Product	1	Microplastics-Count & ID (Raman Spectroscopy)
		Produced From: ~~Well 1~~ For Spring #1		
		Size: 5 Gallon **If multiple shipments indicate shipment __ of ___**		
LAB, PLEASE INDICATE DATE AND TIME BOTTLES OPENED (SAMPLE DATE & TIME)		Prod Code: NA Line: 5-Gal		

RECEIVED
EMSL
CINNAMINSON, NJ
25 MAY -6 PM 12:38

SAMPLER'S SIGNATURE:	PLEASE PRINT BELOW:	COMPLIANCE CRITERIA:
Monica DelCuore	MONICA DelCuore	50 State Compliance

RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	NOTES TO LABORATORY
Sign Here:	5.1.25 1128	FxG	5/6/25 1240	
Monica DelCuore				

1 Pm water

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OrderID: 362501997