



Kevin Mooney
Senior Project Manager
GE Aerospace

1 Plastics Ave.
Pittsfield, MA 01201

T (413) 553-6610
kevin.mooney@ge.com

Via Electronic Mail

January 03, 2025

Mr. Joshua Fontaine
U.S. Environmental Protection Agency, New England Region
Five Post Office Square
Suite 100
Boston, MA 02109

**Re: GE-Pittsfield/Housatonic River Site
Rest of River (GECD850)
Rising Pond Dam - 2024 Penstock Investigations – Material Identification Testing**

Dear Mr. Fontaine:

On December 19, 2024, GE submitted the *2024 Penstock Investigations End-of-Year Report*, prepared by our consultants at GZA GeoEnvironmental, Inc. (GZA), which described the 2024 investigations of the penstock at Rising Pond Dam. That report noted that samples of the apparent interior penstock coating had been collected and submitted to a laboratory for material identification testing. The results of that testing have now been received and are attached. The results show that the sampled materials consist of “iron oxide rust, presumably from some type of mild steel due to the presence of manganese and no chromium, nickel, or other type of steel alloy additive.” GZA understands this to mean that there is no coating inside the penstock, and that the sampled materials are likely rust flakes from corrosion of the steel penstock.

Please let me know if you have any questions about these testing results.

Very truly yours,

Kevin G. Mooney
Senior Project Manager

Attachment

Cc: (via electronic mail)
Dean Tagliaferro, EPA
John Kilborn, EPA
Alexander Carli-Dorsey, EPA
Christopher Ferry, ASRC Federal

Thomas Czelusniak, HDR Inc.
Scott Campbell, Taconic Ridge Environmental
Izabella Zapisek, Taconic Ridge Environmental
Emily Caruso, MassDCR, Office of Dam Safety
Michael Gorski, MassDEP
Tamara Cardona-Marek, MassDEP
Ben Guidi, MassDEP
Michelle Craddock, MassDEP
Jeffrey Mickelson, MassDEP
Mark Tisa, MassDFW
Eve Schluter, MassDFW
Betsy Harper, MA AG
Traci Iott, CT DEEP
Susan Peterson, CT DEEP
Graham Stevens, CT DEEP
Carol Papp, CT DEEP
Lori DiBella, CT AG
Whitney Behr, USFWS
Mark Barash, US DOI
Katie Zarada, NOAA
James McGrath, City of Pittsfield
Andrew Cambi, City of Pittsfield
Michael Coakley, PEDA
Melissa Provencher, BRPC
Smitty Pignatelli, Town of Lenox
R. Christopher Brittain, Town of Lee
Town Manager, Great Barrington
Town Administrator, Stockbridge
Town Administrator, Sheffield
Jim Wilusz, Tri Town Health Dept.
Lance Hauer, GE
Andrew Thomas, GE
Matthew Calacone, GE
Jonathan Andrews and Seth Krause, GZA
James Bieke, Counsel for GE
Public Information Repository at David M. Hunt Library in Falls Village, CT
GE Internal Repository



Accreditation#
98218

December 27, 2024

GZA GeoEnvironmental, Inc.

MicroVision Labs Project #: 17006

GZA GeoEnvironmental Project #: 19896.50

GZA GeoEnvironmental Project Name: Rising Pond Dam Penstock

Report Analyst: T. Wozmak

Scope of Work:

This report covers the methods and findings of the unknown material identification that MicroVision Laboratories, Inc. conducted on two (2) samples from project number 19896.50. The purpose of the analysis was to examine the sample material by SEM/EDS to identify the elemental composition of the solids. The results presented in this report relate only to the samples examined and as received.

Equipment:

Scanning Electron Microscopy (SEM)
Energy Dispersive X-Ray Spectroscopy (EDS)

Methods:

MicroVision Labs is accredited to the ISO/IEC 17025:2017 standard. This analysis follows our in-house SOP #MVL01 (Scanning Electron Microscopy/Energy Dispersive X-Ray Spectroscopy [SEM/EDS] Analysis). This method is listed on our certificate of accreditation and has been validated.

Representative portions of the solid materials were sectioned and affixed to aluminum analysis stubs using double-sided conductive tape. Images were taken at various magnifications and EDS data was collected.

ISO/IEC 17025:2017 Accredited

MicroVision Laboratories, Inc. 187 Billerica Road, Chelmsford, MA 01824
Phone: (978) 250-9909 Fax: (978) 250-9901 Email: Sales@MicroVisionLabs.com
www.MicroVisionLabs.com

Findings:

Sample: 01 – Sta. 40, 4 o'clock (blue cap)



The SEM image above shows the sample material and the location where the EDS data was collected (yellow box). The elemental composition was predominantly iron and oxygen with lower to trace concentrations of carbon, manganese, silicon, calcium, nitrogen, aluminum, magnesium, potassium, sulfur, phosphorus, and sodium. The material was brittle, multilayered, flakey, and had a reddish color to it. These properties along with the elemental composition detected in the material suggests that this sample is composed of rust flakes, presumably from a mild steel due to the presence of manganese and no chromium, nickel, or other type of steel additive.

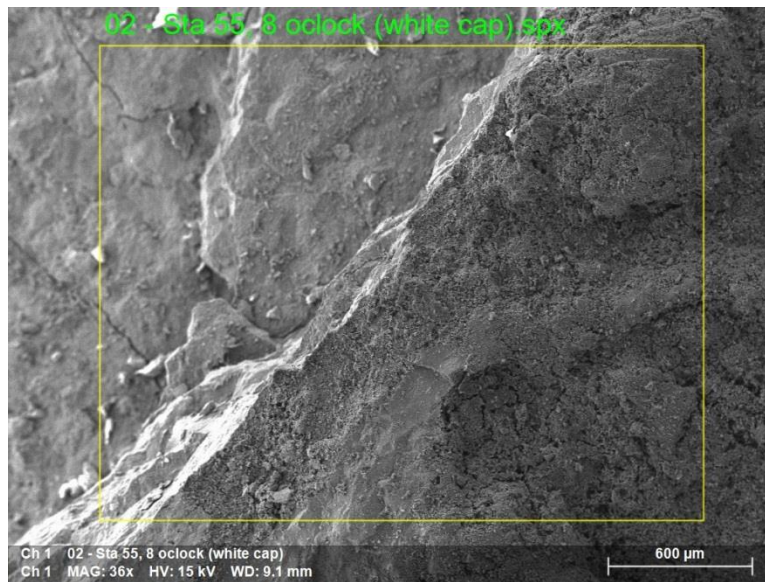
The mass percentages of each element detected in this sample are listed in the table below.

01 - Sta. 40, 4 o'clock (blue cap)			
Element	Mass Norm. [%]	abs. error [%](1 sigma)	rel. error [%](1 sigma)
Iron	47.98	1.03	2.04
Oxygen	33.20	1.49	4.24
Carbon	10.27	0.55	5.05
Manganese	2.74	0.07	2.36
Silicon	1.80	0.06	3.23
Calcium	1.28	0.03	2.36
Nitrogen	1.08	0.06	5.48
Aluminium	0.77	0.04	4.49
Magnesium	0.24	0.02	7.51
Potassium	0.22	0.01	5.12
Sulfur	0.21	0.01	5.31
Phosphorus	0.12	0.01	8.28
Sodium	0.10	0.02	16.36
	100		

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Sample: 02 – Sta. 55, 8 o'clock (white cap)



The SEM image above shows the sample material and the location where the EDS data was collected (yellow box). The elemental composition was also predominantly iron and oxygen with lower to trace concentrations of carbon, manganese, silicon, calcium, aluminum, magnesium, potassium, sodium, titanium, sulfur, and phosphorus. The material was brittle, multilayered, flakey, and had a reddish color to it. These properties along with the elemental composition detected in the material suggests that this sample is composed of rust flakes, presumably from a mild steel due to the presence of manganese and no chromium, nickel, or other type of steel additive.

The mass percentages of each element detected in this sample are listed in the table below.

02 - Sta. 55, 8 o'clock (white cap)				
Element	Mass Norm.[%]	abs. error [%](1 sigma)	rel. error [%](1 sigma)	
Iron	37.28		0.59	1.56
Oxygen	35.49		1.56	4.30
Carbon	11.99		0.62	5.05
Manganese	6.64		0.11	1.62
Silicon	2.90		0.08	2.72
Calcium	2.34		0.04	1.62
Aluminium	1.61		0.06	3.57
Magnesium	0.55		0.03	5.03
Potassium	0.39		0.01	2.50
Sodium	0.39		0.03	8.34
Titanium	0.15		0.01	5.24
Sulfur	0.14		0.01	4.72
Phosphorus	0.14		0.01	5.19
	100			

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Summary:

Sample 01 – Sta. 40, 4 o'clock (blue cap) and sample 02 – Sta. 55, 8 o'clock (white cap) were analyzed by SEM with EDS to determine their elemental compositions. Both samples are iron oxide rust, presumably from some type of mild steel due to the presence of manganese and no chromium, nickel, or other type of steel alloy additive.

Please let us know if you have any questions or if there is anything else we can do for you.

Sincerely,

Tyler Wozmak

Tyler Wozmak
Analytical Microscopist

Reviewed by: JHK

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Chain Of Custody

MicroVision Labs Job#: **90071**

Client Information	Project Information
Client: GZA GeoEnvironmental, Inc.	Project Name: Rising Pond Dam Penstock
Billing Address: 249 Vanderbilt Avenue Norwood, MA 02062	Project Location: Great Barrington, MA
	Project Number: 19896.50
	Project Manager: Seth Krause
Phone: (781) 278-5793	PO#:
Email: seth.krause@gza.com	

Sample ID	Collected Date	Sampler's Initials	Requested Analyses															
			Coal Ash Test	Lead Paint Chips Analysis	SEM/EDS	Micro-FTIR	X-Ray Imaging	Micro-XRF	PLM/Light Microscopy	Soot ID	Unknown Material ID	Polished Cross Section	Membrane Autopsy	Particle Size Analysis	Other			
1) 01 - Sta. 40, 4 o'clock (blue cap)	11/19/24	SK											X					
2) 02 - Sta. 55, 8 o'clock (white cap)	11/19/24	SK											X					
3)																		
4)																		
5)																		
6)																		
7)																		
8)																		
9)																		
10)																		

Relinquished By: Seth Krause	Date/Time: 12/18/2024 6:05PM	Received By: <i>[Signature]</i>	Date/Time: 12/19/24	Turn Around Time and Notes: Samples are from the inside of a 14-ft diameter steel penstock pipe. The samples are flakes from the inside of the pipe. Possible steel pipe material or possible pipe coating of unkonwn material.
List any known Hazardous Materials: Unknown				
Analytical Report Requested: YES / NO				

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