



Element
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Fort Wayne, Indiana
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October 31, 2022

Ken Myers
East Chicago Sanitary District
5201 Indianapolis Blvd
East Chicago, IN 46312

RE: Downstream

Dear Ken Myers:

Lot Id: 129285

Element Materials Technology – Fort Wayne received 6 sample(s) on 10/20/2022 for the analyses presented in the following report.

In accordance with your instructions, a laboratory of Element Materials Technology Fort Wayne LLC either conducted or subcontracted these analyses. Subcontracted analyses will be identified in an accompanying case narrative and any associated report(s) will be attached in full. Unless otherwise noted in the case narrative, all analyses were conducted using approved methodologies. Reported results relate only to the items tested.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

Megan Krauskopf
Project Manager
Suite 100, 328 Ley Road,
Fort Wayne, IN 46825

Accreditation

TNI:2016 (Florida)
ISO 17025:2017 (A2LA)
Indiana
Michigan
South Dakota
Tennessee

Cert #

E871168
6190.02
M-02-05
9030
--
04911

Analytical Report

Bill To: East Chicago Sanitary District 5201 Indianapolis Blvd East Chicago, IN, United States 46312	Project ID: Downstream Project Name: Project Location: LSD: P.O.:	Lot ID: 129285 Control Number: Date Received: Oct 20, 2022 Date Reported: Oct 31, 2022 Report Number: 229883
Attn: Ken Myers Sampled By: HP Company:	Proj. Acct. code:	

Reference Number	129285-1	Sample Date	2022-10-20 11:00			
Sample Description	Downstream	Sample Matrix	Wastewater			
Analyte	Result	Units	DF	Nominal DL	Analysis Start Date/Time	Analyst Initials
Subcontracted Services						
Subcontractor Report ID	180-146677-1		1		Oct 26, 2022 09:35	MK
Cyanide, Available	0.003	mg/L	1	0.002	Oct 25, 2022 14:44	MK

Reference Number	129285-2	Sample Date	2022-10-20 11:00			
Sample Description	Downstream	Sample Matrix	Wastewater			
Analyte	Result	Units	DF	Nominal DL	Analysis Start Date/Time	Analyst Initials
Aggregate Organic Constituents						
Oil & Grease, Total	<5	mg/L	1		Oct 26, 2022 17:45	SK
Oil & Grease, Total	Calculated Reporting Limit	mg/L	1		Oct 26, 2022 17:45	SK

Reference Number	129285-3	Sample Date	2022-10-20 11:00			
Sample Description	Downstream	Sample Matrix	Wastewater			
Analyte	Result	Units	DF	Nominal DL	Analysis Start Date/Time	Analyst Initials
Microbiology						
Escherichia coli	Multi Well	20	MPN/100mL	1	1	Oct 20, 2022 16:28 CS

Reference Number	129285-4	Sample Date	2022-10-20 11:00			
Sample Description	Downstream	Sample Matrix	Wastewater			
Analyte	Result	Units	DF	Nominal DL	Analysis Start Date/Time	Analyst Initials
Aggregate Organic Constituents						
Biochemical Oxygen Demand	BOD	<2	mg/L	1	2	Oct 20, 2022 18:30 AS
Physical and Aggregate Properties						
Total Suspended Solids	Non-Filterable Residue	161	mg/L	1	2	Oct 21, 2022 13:09 AS
Routine Water						
Chloride		40	mg/L	5	2	Oct 25, 2022 19:02 RB
Sulfate		50	mg/L	5	2	Oct 25, 2022 19:02 RB

Reference Number	129285-5	Sample Date	2022-10-20 11:00			
Sample Description	Downstream	Sample Matrix	Wastewater			
Analyte	Result	Units	DF	Nominal DL	Analysis Start Date/Time	Analyst Initials
Metals - Total in Water by ICP-MS						
Cadmium	Total	<0.0002	mg/L	1	0.0002	Oct 24, 2022 08:54 FR
Chromium	Total	0.0022	mg/L	1	0.0004	Oct 24, 2022 08:54 FR
Copper	Total	0.0009	mg/L	1	0.0002	Oct 24, 2022 08:54 FR
Lead	Total	0.0030	mg/L	1	0.0002	Oct 24, 2022 08:54 FR

Analytical Report

Bill To: East Chicago Sanitary District 5201 Indianapolis Blvd East Chicago, IN, United States 46312	Project ID: Downstream Project Name: Project Location: LSD: P.O.:	Lot ID: 129285 Control Number: Date Received: Oct 20, 2022 Date Reported: Oct 31, 2022 Report Number: 229883
Attn: Ken Myers Sampled By: HP Company:	Proj. Acct. code:	

Reference Number 129285-5	Sample Date 2022-10-20 11:00
Sample Description Downstream	Sample Matrix Wastewater

Analyte	Result	Units	DF	Nominal DL	Analysis Start Date/Time	Analyst Initials
Metals - Total in Water by ICP-MS - Continued						
Nickel	Total	0.004	mg/L	1	0.001	Oct 24, 2022 08:54 FR
Zinc	Total	0.0205	mg/L	1	0.0004	Oct 24, 2022 08:54 FR

Reference Number 129285-6	Sample Date 2022-10-20 11:00
Sample Description Downstream	Sample Matrix Wastewater

Analyte	Result	Units	DF	Nominal DL	Analysis Start Date/Time	Analyst Initials
Inorganic Nonmetallic Parameters						
Nitrogen, Ammonia (As N)	0.2	mg/L	1	0.1	Oct 24, 2022 10:22	AS
Nitrogen, Nitrate + Nitrite (As N)	1.5	mg/L	1	0.1	Oct 26, 2022 15:39	RW
Total Phosphorus	0.1	mg/L	1	0.1	Oct 30, 2022 21:43	JB
Total Kjeldahl Nitrogen	1.9	mg/L	1	0.5	Oct 28, 2022 12:20	AS
Total Nitrogen	3.4	mg/L	1	0.5	Oct 28, 2022 12:20	AS

Approved by: 
Megan Krauskopf
Project Manager

Methodology and Notes

Bill To: East Chicago Sanitary District 5201 Indianapolis Blvd East Chicago, IN, United States 46312	Project ID: Downstream	Lot ID: 129285
Attn: Ken Myers	Project Name:	Control Number:
Sampled By: HP	Project Location:	Date Received: Oct 20, 2022
Company:	LSD:	Date Reported: Oct 31, 2022
	P.O.:	Report Number: 229883
	Proj. Acct. code:	

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Ammonia-N by FIA	EPA	Determination of Ammonia Nitrogen by Semi-Automated Colorimetry, E350.1	Oct 24, 2022	Fort Wayne
Anions by IC in Water	EPA	Determination of Inorganic Anions by Ion Chromatography, E300.0	Oct 25, 2022	Fort Wayne
BOD and CBOD in water	SMEWW	BOD: 5-Day Test, 5210B	Oct 20, 2022	Fort Wayne
Coliforms by Quantitray	SMEWW	Enzyme Substrate Test, 9223B	Oct 20, 2022	Fort Wayne
External Sublet Data Entry	Ext. Lab	External Lab, Ext. Lab	Oct 25, 2022	Fort Wayne
Metals ICP-MS Total in water	EPA	Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry, E200.8	Oct 24, 2022	Fort Wayne
Nitrate Nitrite in Water by FIA	EPA	Determination of Nitrate-Nitrite Nitrogen by Automated Colorimetry, E353.2	Oct 26, 2022	Fort Wayne
Oil and Grease	EPA	n-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, E1664	Oct 26, 2022	Fort Wayne
Phosphorus Total in Water by FIA	SMEWW	Phosphorus: Automated Ascorbic Acid Reduction Method, 4500-P F	Oct 30, 2022	Fort Wayne
Solids - Suspended	SMEWW	Total Suspended Solids, 2540D	Oct 21, 2022	Fort Wayne
Sublet to Test America-Pittsburgh	Ext. Lab	External Lab, Ext. Lab	Oct 26, 2022	Test America-Pittsburgh
TKN in Water by FIA	Calculated	Calculated Result, Calculated	Oct 28, 2022	Fort Wayne
TKN in Water by FIA	EPA	Total Kjeldahl Nitrogen by Semi-Automated Colorimetry, E351.2	Oct 28, 2022	Fort Wayne

References

Calculated	Calculated Result
EPA	United States Environmental Protection Agency
Ext. Lab	External Laboratory
SMEWW	Standard Methods for the Examination of Water and Wastewater

Comments:

- Oct 26, 2022 - The Available Cyanide testing was subcontracted to Eurofins/Test America Pittsburgh PA. Their report is attached in its entirety.
- Oct 26, 2022 - The dilution water blank for the BOD analysis was outside of acceptance limits. This data is accepted based on acceptable recoveries in additional associated QC.

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.

Report Transmission Cover Page

Bill To: East Chicago Sanitary District 5201 Indianapolis Blvd East Chicago, IN, United States 46312	Project ID: Downstream Project Name: Project Location: LSD: P.O.:	Lot ID: 129285 Control Number: Date Received: Oct 20, 2022 Date Reported: Oct 31, 2022 Report Number: 229883
Attn: Ken Myers Sampled By: HP Company:	Proj. Acct. code:	

Contact	Company	Address
Ken Myers	East Chicago Sanitary District	5201 Indianapolis Blvd East Chicago, IN 46312 Phone: (219) 391-8466 Fax: Email: kmyers@eastchicago.com

Delivery	Format	Deliverables
Email - Merge Deliverables	PDF	COC / Test Report
Email - Multiple Deliverables By Lot	East Chicago	Test Report

Contact	Company	Address
Megan Krauskopf	East Chicago Sanitary District	Fort Wayne, IN null Phone: (260) 471-7000 Fax: Email: megan.krauskopf@element.com

Delivery	Format	Deliverables
Email - Single Deliverable	East Chicago	Test Report

Contact	Company	Address
San Operator	East Chicago Sanitary District	5201 Indianapolis Blvd. East Chicago, IN 46312 Phone: (219) 391-8466 Fax: Email: sanoperator@eastchicago.com

Delivery	Format	Deliverables
Email - Merge Deliverables	PDF	COC / Test Report
Email - Multiple Deliverables By Lot	East Chicago	Test Report

Notes To Clients:

- Oct 26, 2022 - The Available Cyanide testing was subcontracted to Eurofins/Test America Pittsburgh PA. Their report is attached in its entirety.
- Oct 26, 2022 - The dilution water blank for the BOD analysis was outside of acceptance limits. This data is accepted based on acceptable recoveries in additional associated QC.

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ANALYTICAL REPORT

Eurofins Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-146677-1

Client Project/Site: Available Cyanide 129285

For:

Element Materials Technology
328 Ley Rd
Suite100
Fort Wayne, Indiana 46825

Attn: Don Ellis



Authorized for release by:

10/26/2022 8:19:53 AM

Khadejha Brown, Project Management Assistant I

(412)963-7058

Khadejha.Brown@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	9
QC Sample Results	10
QC Association Summary	11
Chain of Custody	12
Receipt Checklists	13

Case Narrative

Client: Element Materials Technology
Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Job ID: 180-146677-1

Laboratory: Eurofins Pittsburgh

Narrative

Job Narrative
180-146677-1

Comments

No additional comments.

Receipt

The sample was received on 10/21/2022 9:26 AM. Unless otherwise noted below, the sample arrived in good condition, and wh required, properly preserved and on ice. The temperature of the cooler at receipt was 2.7° C.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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- 3
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- 5
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Definitions/Glossary

Client: Element Materials Technology
Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Element Materials Technology
 Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Laboratory: Eurofins Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-22 *
California	State	2891	04-30-23
Connecticut	State	PH-0688	09-30-22 *
Florida	NELAP	E871008	06-30-23
Georgia	State	PA 02-00416	04-30-23
Illinois	NELAP	004375	06-30-23
Kansas	NELAP	E-10350	03-31-23
Kentucky (UST)	State	162013	04-30-23
Kentucky (WW)	State	KY98043	12-31-22
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-23
Maine	State	PA00164	03-06-24
Minnesota	NELAP	042-999-482	12-31-22
New Hampshire	NELAP	2030	04-04-23
New Jersey	NELAP	PA005	06-30-23
New York	NELAP	11182	04-01-23
North Carolina (WW/SW)	State	434	12-31-22
North Dakota	State	R-227	04-30-23
Oregon	NELAP	PA-2151	02-07-23
Pennsylvania	NELAP	02-00416	04-30-23
Rhode Island	State	LAO00362	12-31-22
South Carolina	State	89014	04-20-23
Texas	NELAP	T104704528	03-31-23
USDA	US Federal Programs	P330-16-00211	06-21-24
Utah	NELAP	PA001462019-8	05-31-23
Virginia	NELAP	10043	09-14-23
West Virginia DEP	State	142	01-31-23
Wisconsin	State	998027800	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Sample Summary

Client: Element Materials Technology
Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-146677-1	129285-1	Water	10/20/22 11:00	10/21/22 09:26

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Method Summary

Client: Element Materials Technology
Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Method	Method Description	Protocol	Laboratory
OIA - 1677	Available Cyanide by Flow Injection, Lig	EPA	EET PIT

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



Lab Chronicle

Client: Element Materials Technology
Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Client Sample ID: 129285-1

Lab Sample ID: 180-146677-1

Date Collected: 10/20/22 11:00

Matrix: Water

Date Received: 10/21/22 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			416185	10/25/22 14:44	SNR	EET PIT

Instrument ID: ALPKEM3

Laboratory References:

EET PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: EET PIT

Batch Type: Analysis

SNR = Sabra Richart



Client Sample Results

Client: Element Materials Technology
Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Client Sample ID: 129285-1

Lab Sample ID: 180-146677-1

Date Collected: 10/20/22 11:00

Matrix: Water

Date Received: 10/21/22 09:26

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Available (EPA OIA - 1677)	0.0027		0.0020	0.0016	mg/L			10/25/22 14:44	1

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QC Sample Results

Client: Element Materials Technology
 Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

Method: OIA - 1677 - Available Cyanide by Flow Injection, Lig

Lab Sample ID: MB 180-416185/58
Matrix: Water
Analysis Batch: 416185

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Available	ND		0.0020	0.0016	mg/L	-		10/25/22 14:31	1

Lab Sample ID: LCS 180-416185/59
Matrix: Water
Analysis Batch: 416185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Available	0.0501	0.0535		mg/L	-	107	82 - 132



QC Association Summary

Client: Element Materials Technology
Project/Site: Available Cyanide 129285

Job ID: 180-146677-1

General Chemistry

Analysis Batch: 416185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-146677-1	129285-1	Total/NA	Water	OIA - 1677	
MB 180-416185/58	Method Blank	Total/NA	Water	OIA - 1677	
LCS 180-416185/59	Lab Control Sample	Total/NA	Water	OIA - 1677	

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External Sublet Request

Purchase Order Number: PO# PIFW002602
Printed Date: Oct 20, 2022
Shipping Method: Ground

10/26/2022

To: Sample Receiving
Attn: Sample Receiving
Test America-Pittsburgh
301 Alpha Dr
Pittsburgh, PA 15238
Phone: (111) 111-1111
Fax:

Results To: Fort Wayne
Suite 100, 328 Ley Road
Fort Wayne, IN 46825
Phone: (260) 471-7000
Fax: (260) 471-7777
Email: info.FortWayne@element.com

Bill To: Accounts Payable
Attn: Accounts Payable
Element Materials Technology Canada Inc.
3701 Port Union Road
Fairfield OH 45014
United States
Phone: (513) 984-4112
Fax: (513) 984-8258
Email: accpayable.americas@element.com,
wregpurch@element.com

Please contact the requisitioner named below with all questions related to this purchase order.

** THE PURCHASE ORDER NUMBER MUST APPEAR ON ALL INVOICES. INVOICES MUST BE SENT TO BOTH BILL TO EMAIL ADDRESSES. **

Page 1 of 1

Due Date Requisitioner Sample Id Sampled Date Element Service Code Vendor Service Code Service Name Sample Description
Oct 27, 2022 John Himelick 129285 - 1 Oct 20, 2022 11:00 CYAN 1677 CYAN 1677 Cyanide, Available by Downstream Ligand Exchange

Reinquinshed By	Date/Time	Received By	Date/Time	Temp of Samples °C	Attempt to Cool? Y / N
1 <i>BS/KR</i>	10/20/22 1710	<i>[Signature]</i>	10/20/22 900		
2					
3					



180-146877 Chain of Custody

Shipping Method: (circle)

NOW / UPS / Fed Ex

RUSH!

NOTE: Element Materials Technology Canada Inc. is not an exempt entity and subject to GST, HST, QST and applicable provincial sales taxes.

The standard terms and conditions of purchase below are included in each purchase order (r-O) of Element Materials Technology Canada Inc. and its subsidiaries (Element) as part of its contract with a supplier of goods and/or services (Vendor). Any Vendor terms and conditions of supply do not apply unless Element agrees in writing. Where terms and conditions exist under an existing written contract between Element and a Vendor, these terms and conditions do not apply.

Login Sample Receipt Checklist

Client: Element Materials Technology

Job Number: 180-146677-1

Login Number: 146677

List Source: Eurofins Pittsburgh

List Number: 1

Creator: Abernathy, Eric L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



