



**VIA ELECTRONIC MAIL**

January 17, 2023

Karen A. Cahill  
Division of Environmental Remediation  
NYSDEC R7  
615 Erie Blvd West  
Syracuse, NY 13204-2400

**Subject: Compliance Sampling for Free Cyanide – Outfall 011  
Emerson Electric Co. Site in Ithaca, New York (DER Site No. 7-55-010)**

Dear Ms. Cahill:

On behalf of Emerson Electric Co. (Emerson), WSP USA Inc. (WSP) collected three discharge samples on September 27, October 14, and November 14, 2022, from Outfall 011 at the former Emerson Power Transmission site at 620 South Aurora Street in Ithaca, New York (Figure 1). The samples were collected to comply with the requirements specified in the Schedule of Compliance for Cyanide in Emerson's Project Site Remediation Wastewater Discharge State Pollutant Discharge Elimination System Permit Equivalent (SPDES PEQ), effective on August 1, 2022. The Schedule of Compliance for Cyanide requires that "The discharge from Outfall 011 shall be sampled for Free Cyanide...until three samples (3) have been collected."

Please find enclosed the laboratory analytical data for all three samples collected from Outfall 011 (Enclosure A)<sup>1</sup>. As the enclosed results indicate, no free cyanide was detected in any of the three samples collected from Outfall 011. Emerson has met the requirements of the Schedule of Compliance for Cyanide as it pertains to Outfall 011. No additional sampling of Outfall 011 will be conducted per the SPDES PEQ.

If you have any questions regarding the enclosed information, please contact me at (315) 374-1175.

Sincerely yours,

A handwritten signature in black ink, reading 'Amy M. Romano'.

Amy M. Romano  
Senior Lead Consultant, Environmental Scientist

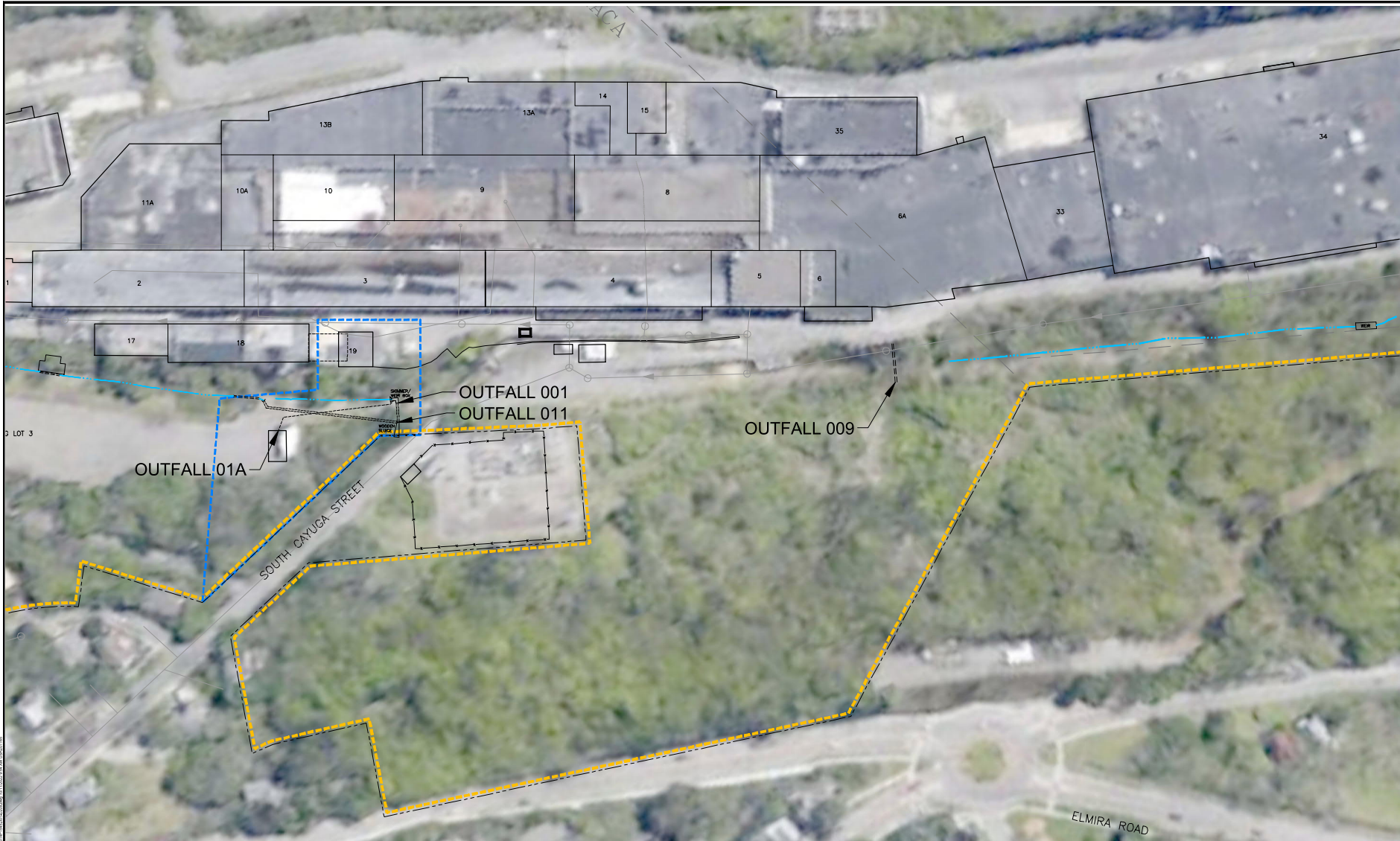
Enclosures

cc: Stephen L. Clarke, Emerson

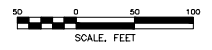
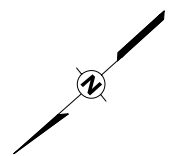
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<sup>1</sup> The free cyanide results for Outfall 011 were previously provided to you in WSP's correspondence, dated October 21, November 2, and December 16, 2022, which included SPDES PEQ results for all outfall samples collected in September, October, and November 2022.

FIGURE



- LEGEND
- 34 BUILDING NUMBER
  - SANITARY SEWER
  - PROPERTY LINE
  - DRAINAGE DITCH
  - BOUNDARY FOR OU-1 (RETAINED PROPERTY)
  - BOUNDARY FOR OU-2



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

REVISIONS	
REV	DESCRIPTION

DATE	

SCALE

DRAWN BY: *AKR* 1/18/2022  
APPROVED: *AKR* 1/18/2022

PROPERTY OF WSP USA, INC.  
WSP USA, INC. IS A REGISTERED PROFESSIONAL ENGINEERING FIRM IN THE STATE OF MISSOURI. THE DESIGN AND CONSTRUCTION OF THIS PROJECT IS THE SOLE RESPONSIBILITY OF WSP USA, INC. AND IS NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF WSP USA, INC.

OUTFALL LOCATIONS  
EMERSON ELECTRIC CO.  
ITHACA, NEW YORK  
EMERSON  
ST. LOUIS, MISSOURI

WSP USA, INC.  
11 STAMM STREET, SUITE 100  
ST. LOUIS, MISSOURI 63103  
TEL: +1 412.604.1040

FIGURE 1  
Drawing Number  
314P1545.001-D209

## ENCLOSURE A – LABORATORY ANALYTICAL DATA



SEPTEMBER 2022



WSP

October 11, 2022

Attn: Amy Romano  
7000 East Genesee St BD.D 2nd Floor  
Fayetteville, NY 13066

Enclosed is the analytical report prepared by Alloway Marion for the following samples that were received on 9/28/2022

Outfall 01A	Laboratory assigned ID: 2202540-01
Outfall 001	Laboratory assigned ID: 2202540-02
Outfall 001D	Laboratory assigned ID: 2202540-03
Outfall 009	Laboratory assigned ID: 2202540-04
Outfall 011	Laboratory assigned ID: 2202540-05

All analyses were performed by the methods documented in the analytical report and the samples were analyzed by EPA approved methods.

I have personally examined and am familiar with the information submitted in this document and based on my inquiry of those individuals immediately responsible for obtaining information; I believe the submitted information is true, accurate and complete.

Should you have any questions regarding the analytical report please feel free to contact me. Thank you for using Alloway.

I appreciate your business.

Sincerely,

Rhonda Morris

Laboratory Manager

**CERTIFICATE OF ANALYSIS**  
**Reported by Alloway - Marion**

Chain of Custody attached

WSP

Attn: Amy Romano

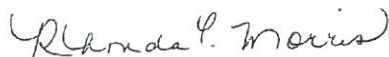
7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

**Project Name: EMERSON (Ithaca, NY)****Sample ID: Outfall 01A****Lab Sample # 2202540-01****Lab Project # 2202540****Received: 9/28/2022****Reported: 10/10/2022****Date/Time Sampled: 09/27/2022 11:00****Sampled By: NW****Sampled Matrix: Wastewater****Containers: 1****Collection Method: Grab**

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
<b>Analytical Method: ASTM-D7237-15A</b>			<b>Preparation Method:</b>			<b>Validation Date: 10/10/2022</b>
Cyanide, Free (pH 6)	<0.003	mg/L	0.003	BCM		10/03/2022 12:28

Analysis Certified By: \_\_\_\_\_



Rhonda C Morris

*This report shall not be reproduced, except in its entirety, without the written approval of the laboratory.  
The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.*

**CERTIFICATE OF ANALYSIS**  
**Reported by Alloway - Marion**

Chain of Custody attached

WSP

Attn: Amy Romano

7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

**Project Name: EMERSON (Ithaca, NY)**
**Sample ID: Outfall 001**
**Lab Sample # 2202540-02**
**Lab Project # 2202540**
**Received: 9/28/2022**
**Reported: 10/10/2022**
**Date/Time Sampled: 09/27/2022 11:10**
**Sampled By: NW**
**Sampled Matrix: Wastewater**
**Containers: 1**
**Collection Method: Grab**

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
<b>Analytical Method: ASTM-D7237-15A</b>			<b>Preparation Method:</b>			<b>Validation Date: 10/10/2022</b>
Cyanide, Free (pH 6)	<0.003	mg/L	0.003	BCM		10/07/2022 15:10

Analysis Certified By:



Rhonda C Morris

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**Reported by Alloway - Marion**

Chain of Custody attached

WSP

Attn: Amy Romano

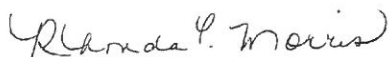
7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

**Project Name: EMERSON (Ithaca, NY)****Sample ID: Outfall 001D****Lab Sample # 2202540-03****Lab Project # 2202540****Received: 9/28/2022****Reported: 10/10/2022****Date/Time Sampled: 09/27/2022 09:00****Sampled By: NW****Sampled Matrix: Wastewater****Containers: 1****Collection Method: Grab**

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
<b>Analytical Method: ASTM-D7237-15A</b>		<b>Preparation Method:</b>			<b>Validation Date: 10/10/2022</b>	
Cyanide, Free (pH 6)	<0.003	mg/L	0.003	BCM		10/07/2022 15:10

Analysis Certified By: \_\_\_\_\_



Rhonda C Morris

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**CERTIFICATE OF ANALYSIS**  
**Reported by Alloway - Marion**

Chain of Custody attached

WSP

Attn: Amy Romano


7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

**Project Name: EMERSON (Ithaca, NY)****Sample ID: Outfall 009****Lab Sample # 2202540-04****Lab Project # 2202540****Received: 9/28/2022****Reported: 10/10/2022****Date/Time Sampled: 09/27/2022 10:40****Sampled By: NW****Sampled Matrix: Wastewater****Containers: 1****Collection Method: Grab**

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
<b>Analytical Method: ASTM-D7237-15A</b>		<b>Preparation Method:</b>			<b>Validation Date: 10/10/2022</b>	
Cyanide, Free (pH 6)	<0.003	mg/L	0.003	BCM		10/07/2022 15:10

Analysis Certified By: \_\_\_\_\_



Rhonda C Morris

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**Reported by Alloway - Marion**

Chain of Custody attached

WSP

Attn: Amy Romano

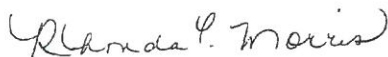
7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

**Project Name: EMERSON (Ithaca, NY)****Sample ID: Outfall 011****Lab Sample # 2202540-05****Lab Project # 2202540****Received: 9/28/2022****Reported: 10/10/2022****Date/Time Sampled: 09/27/2022 11:20****Sampled By: NW****Sampled Matrix: Wastewater****Containers: 1****Collection Method: Grab**

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
<b>Analytical Method: ASTM-D7237-15A</b>		<b>Preparation Method:</b>			<b>Validation Date: 10/10/2022</b>	
Cyanide, Free (pH 6)	<0.003	mg/L	0.003	BCM		10/07/2022 15:10

Analysis Certified By: \_\_\_\_\_



Rhonda C Morris

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10/3/2022

[illegible]

Original Run Filename: OM\_10-3-2022\_12-25-57PM.OMN Created: 10/3/2022 12:25:57 PM

Original Run Author's Signature: [AllowayM]

Current Run Filename: OM\_10-3-2022\_12-25-57PM.OMN Last Modified: 10/3/2022 4:03:58 PM

Current Run Author's Signature: [AllowayM]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2		Detection Time	Description
			Free Cyanide	Area (V.s)		
ICV TV=0.1425 mg/L	1	8	0.13515	133.97	10/3/2022@12:28:55 PM	✓
Known Conc:			0.14250			
Calibration:			Table/Fig. : 1			
ICB	1	7	-0.0013276	-1.4011	10/3/2022@12:35:23 PM	
RDLCHK TV=0.00276 mg/L	1	9	0.0032642	3.5303	10/3/2022@12:41:51 PM	118.3%
LCSA1 TV=0.138 mg/L	1	10	0.12739	126.81	10/3/2022@12:48:19 PM	92.3%
Known Conc:			0.13800			
LCSA2 TV=0.184 mg/L	1	11	0.17133	166.63	10/3/2022@12:54:47 PM	93.1%
Known Conc:			0.18400			
2201970-01 OOH	1	12	-0.00063748	-0.65799	10/3/2022@1:01:14 PM	
2201970-01 OOH MS TV=0.184 mg/L	1	13	0.012093	12.927	10/3/2022@1:07:42 PM	
2201970-01 OOH MSD TV=0.184 mg/L	1	14	0.015418	16.437	10/3/2022@1:14:09 PM	
2201970-02 OOH	1	15	0.0014818	1.6198	10/3/2022@1:20:36 PM	0.022826
2202033-13 20X DIL	1	16	0.0011413	1.2542	10/3/2022@1:27:05 PM	0.022826
2202033-16 20X DIL	1	17	2.3524e-5	0.053141	10/3/2022@1:33:34 PM	0.00047048
2202033-17 20X DIL	1	18	0.00073937	0.82255	10/3/2022@1:40:02 PM	0.0147874
2202033-20 20X DIL	1	19	-4.8949e-5	-0.024797	10/3/2022@1:46:31 PM	0.00097896
2202064-01	1	20	-0.00036512	-0.36490	10/3/2022@1:52:59 PM	
2202064-02	1	21	0.00018565	0.22746	10/3/2022@1:59:28 PM	
2202066-01	1	22	0.044266	46.272	10/3/2022@2:05:56 PM	
2202067-01	1	23	-0.00015814	-0.14224	10/3/2022@2:12:24 PM	
CCV1 TV=0.1425 mg/L	1	36	0.14137	139.66	10/3/2022@2:18:52 PM	✓
Known Conc:			0.14250			
CCB1	1	37	-0.00041564	-0.41925	10/3/2022@2:25:20 PM	
2202272-01	1	24	-0.00018649	-0.17273	10/3/2022@2:31:48 PM	
2202272-01 MS TV=0.184 mg/L	1	25	0.0042304	4.5640	10/3/2022@2:38:16 PM	
2202272-01 MSD TV=0.184 mg/L	1	26	0.0041018	4.4265	10/3/2022@2:44:43 PM	
2202273-01	1	27	0.00056354	0.63363	10/3/2022@2:51:11 PM	
2202366-02	1	28	2.6710e-5	0.056566	10/3/2022@2:57:38 PM	
2202379-01	1	29	0.0024673	2.6767	10/3/2022@3:04:06 PM	
2202434-02	1	30	0.012998	13.883	10/3/2022@3:10:33 PM	
2202498-01	1	31	-0.0010860	-1.1408	10/3/2022@3:17:02 PM	
2202540-01	1	32	0.00069084	0.77040	10/3/2022@3:23:30 PM	
2202727-02	1	33	0.00014169	0.18020	10/3/2022@3:29:59 PM	
2202037-02	1	34	-0.00058716	-0.60383	10/3/2022@3:36:28 PM	
2202037-03	1	35	-0.00019557	-0.18250	10/3/2022@3:42:56 PM	
* CCV2 TV=0.1425 mg/L	1	36	* 0.14957	119.53	10/3/2022@3:49:24 PM	X rem 10/4/22
Known Conc:			0.14250			
CCB2	1	37	-0.00013083	-0.11286	10/3/2022@3:55:52 PM	

Analyte Properties Table for : OM\_10-3-2022\_12-25-57PM.OMN

Property	Channel 2
Concentration Units	Free Cyanide
Calibration Fit Type	MG/L
Clear Calibration	Second Order
Force through Zero	Yes
Calibration Weighting	No
Auto Dilution Trigger	1/x
% of High Standard	No
Quik Chem Method	110
Chemistry	10-204-00-5-C
Calibration by Height	Brackish
Inject to Peak Start	No
Peak Base Width	43
	263

\* Reron on next page.

Author: BEN MORRIS

LACHAT SERIAL #10100001274

Date : 10/3/2022

Original Run Filename: OM\_10-3-2022\_04-53-00PM.OMN Created: 10/3/2022 4:53:00 PM

Original Run Author's Signature: [AllowayM]

Current Run Filename: OM\_10-3-2022\_04-53-00PM.OMN Last Modified: 10/3/2022 5:10:32 PM

Current Run Author's Signature: [AllowayM]

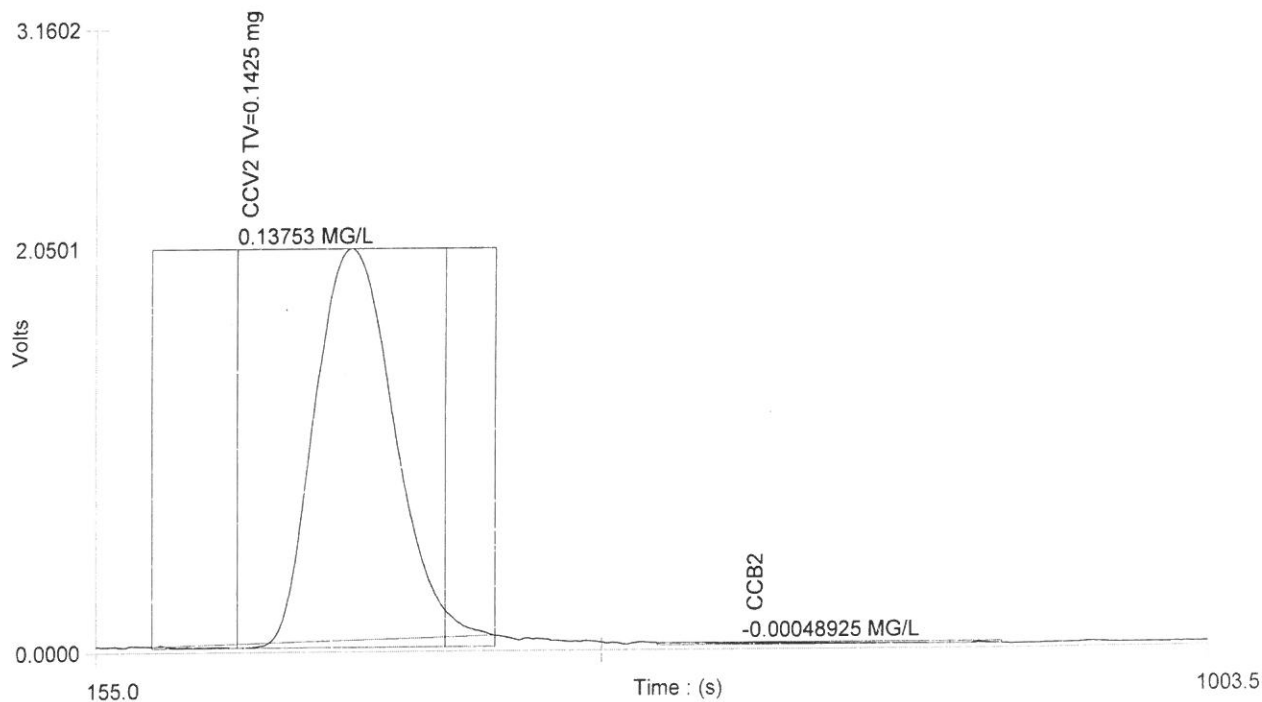
Description: Default New Run

Sample	Rep.	Cup No.	Channel 2		Detection Time	Description
			Free Cyanide			
			Conc. (MG/L)	Area (V.s)		
CCV2 TV=0.1425 mg/L	1	8	0.13753	136.15	10/3/2022@4:55:59 PM	✓
Known Conc:			0.14250			
Calibration:			Table/Fig. : 1			
CCB2	1	7	-0.00048925	-0.49846	10/3/2022@5:02:27 PM	

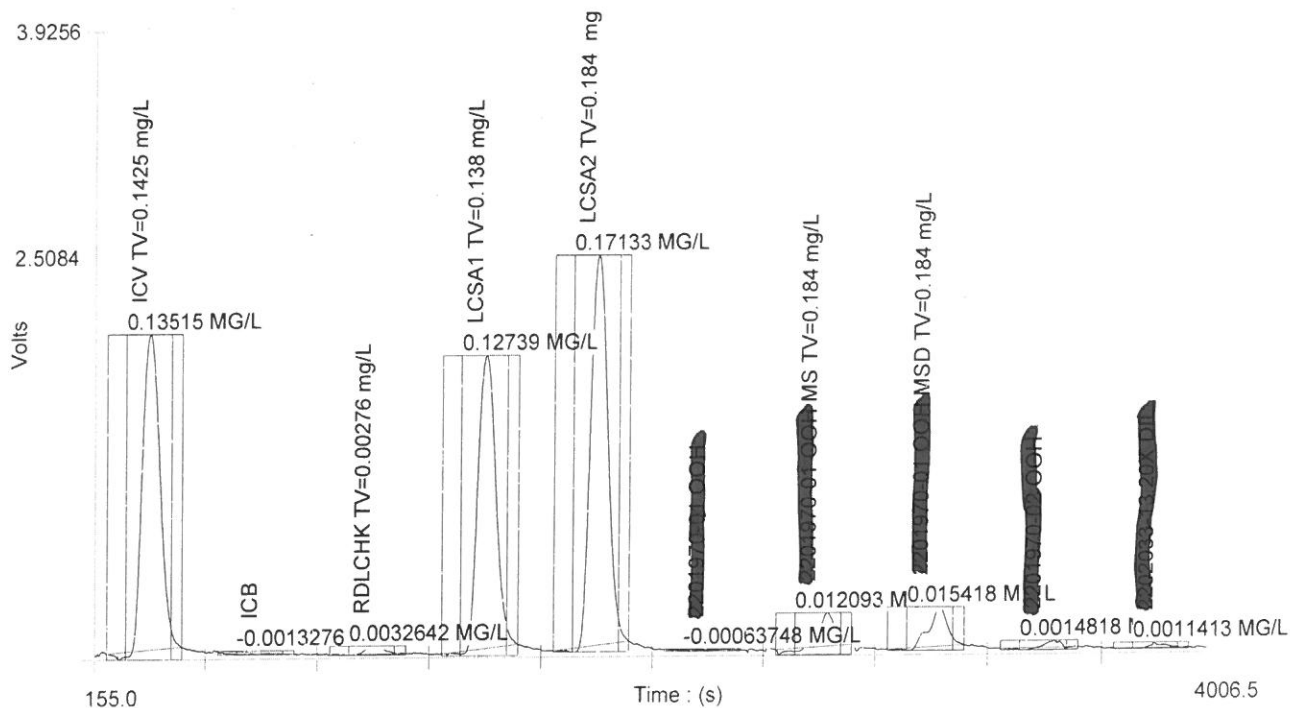
Analyte Properties Table for : OM\_10-3-2022\_04-53-00PM.OMN

Property	Channel 2
	Free Cyanide
Concentration Units	MG/L
Calibration Fit Type	Second Order
Clear Calibration	Yes
Force through Zero	No
Calibration Weighting	1/x
Auto Dilution Trigger	No
% of High Standard	110
Quik Chem Method	10-204-00-5-C
Chemistry	Brackish
Calibration by Height	No
Inject to Peak Start	43
Peak Base Width	263

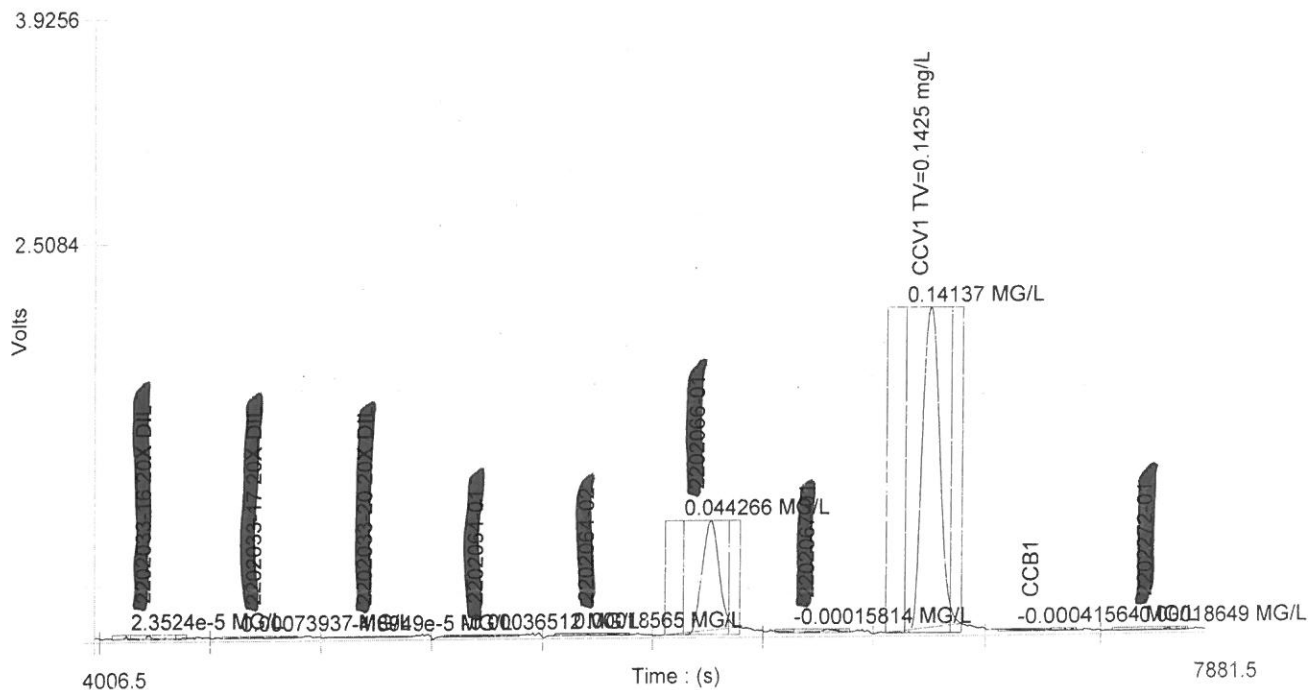
Channel 2 (Free CN) - Set: 1 / 1



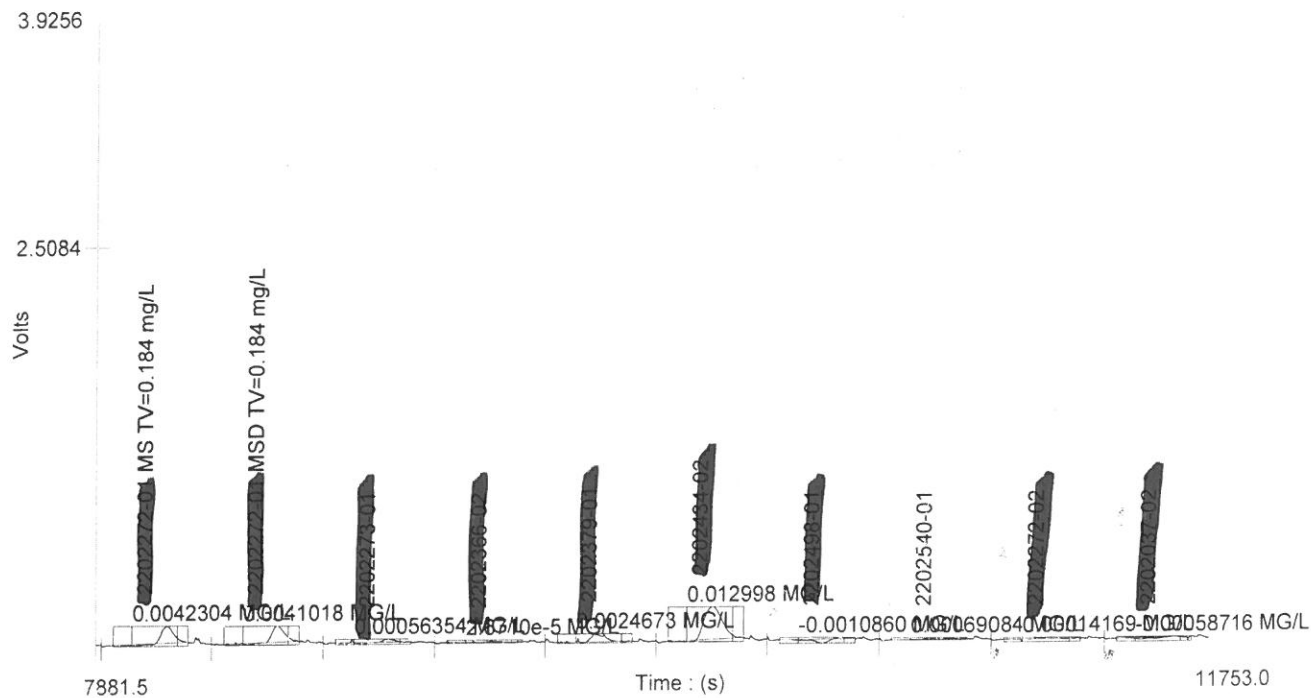
Channel 2 (Free CN) - Set: 1 / 4



Channel 2 (Free CN) - Set: 2 / 4



Channel 2 (Free CN) - Set: 3 / 4



Channel 2 (Free CN) - Set: 4 / 4

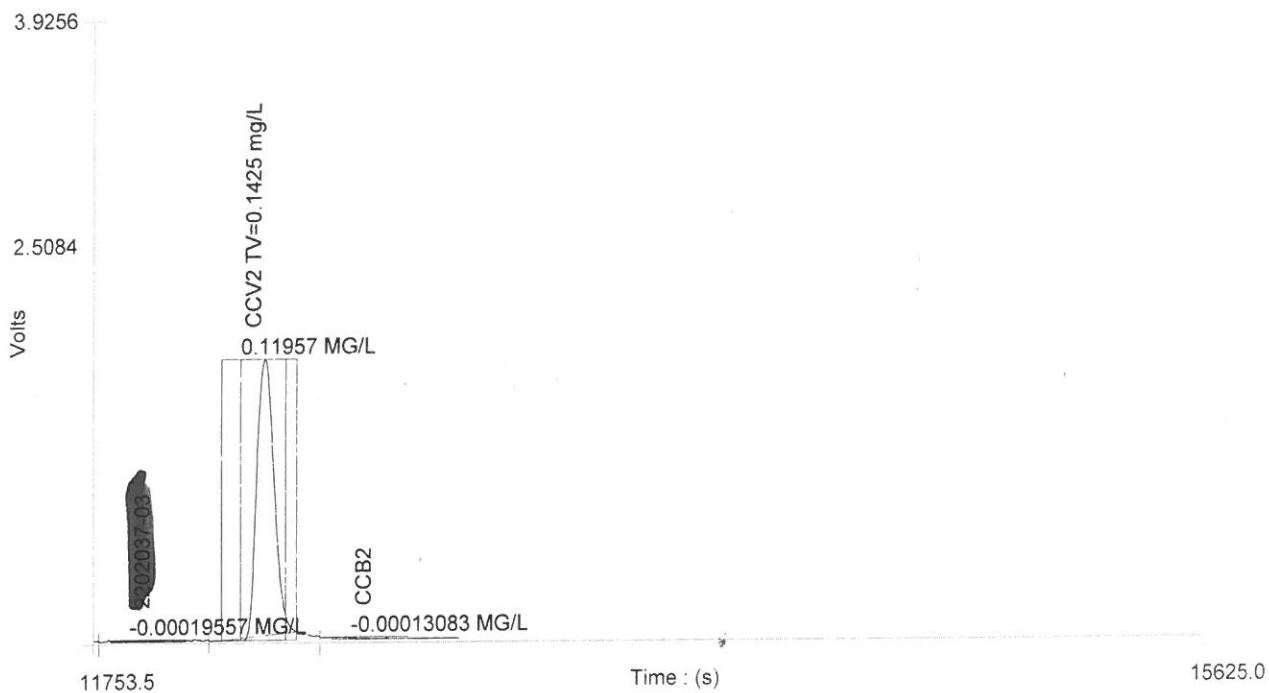




Table : 1 (Free Cyanide)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	0.27600	1	256.03	3.7631	0.0	-0.3	0.27678	10/3/2022	11:31:37 AM
2	0.18400	1	177.36	2.6097	0.0	0.5	0.18349	10/3/2022	11:38:06 AM
3	0.092000	1	93.037	1.3869	0.0	0.2	0.091602	10/3/2022	11:44:35 AM
4	0.046000	1	46.444	0.68525	0.0	2.6	0.044436	10/3/2022	11:51:03 AM
5	0.0092000	1	10.664	0.15211	0.0	-9.3	0.0099574	10/3/2022	11:57:32 AM
6	0.0027600	1	3.5714	0.061234	0.0	-19.4	0.0033026	10/3/2022	12:04:00 PM
7	0.0000	1	-0.68681	-0.028449			0.0006642 6	10/3/2022	12:10:28 PM

✓  
✓  
✓  
✓  
108.2%  
119.7%

Figure : 1 (Free Cyanide)

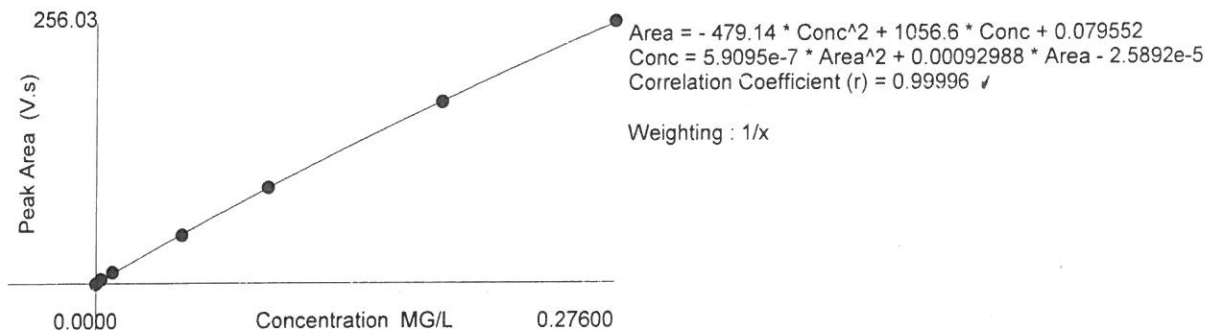
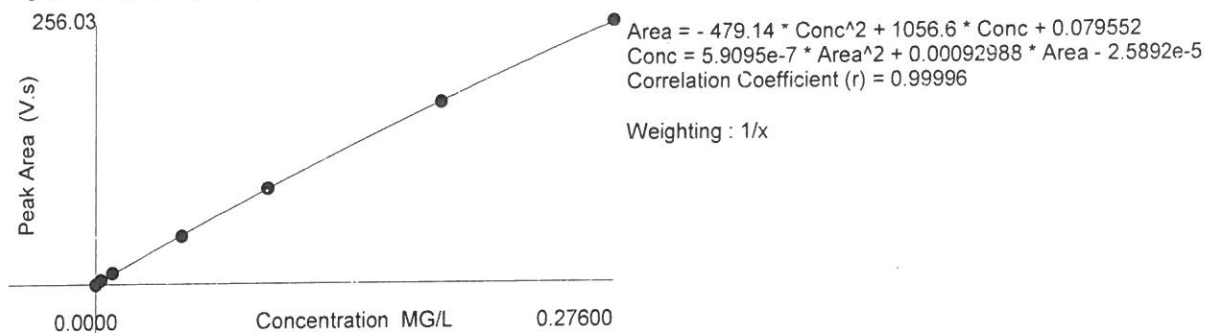


Table : 1 (Free Cyanide)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	0.27600	1	256.03	3.7631	0.0	-0.3	0.27678	10/3/2022	11:31:37 AM
2	0.18400	1	177.36	2.6097	0.0	0.5	0.18349	10/3/2022	11:38:06 AM
3	0.092000	1	93.037	1.3869	0.0	0.2	0.091602	10/3/2022	11:44:35 AM
4	0.046000	1	46.444	0.68525	0.0	2.6	0.044436	10/3/2022	11:51:03 AM
5	0.0092000	1	10.664	0.15211	0.0	-9.3	0.0099574	10/3/2022	11:57:32 AM
6	0.0027600	1	3.5714	0.061234	0.0	-19.4	0.0033026	10/3/2022	12:04:00 PM
7	0.0000	1	-0.68681	-0.028449			0.0006642 6	10/3/2022	12:10:28 PM

Figure : 1 (Free Cyanide)



Batch: 68894

Form 7237\_2 - 1

# **Alloway** **Cyanide Free Sample Preparation Sheet**

Instrument: Lachat Quikchem QC8500 Series II, Serial Number: 101000001274

Date: 9-30-22

Analyst: BCM

Note: Place 1 drop acetate buffer on lead acetate test strip prior to checking samples for sulfide

Acetate Buffer Reagent Number S120005

Lead Acetate Test Strip Reagent Number R-30899

	Lab #	Sulfide Check (+ or -)	Comments
✓ 1	2201970-01	—	NS/MSD
✓ 2	2201970-02	—	
✓ 3	2202033-13	—	20x Dilution
✓ 4	2202033-15	—	20x Dilution
✓ 5	2202033-17	—	20x Dilution
✓ 6	2202033-20	—	20x Dilution
✓ 7	2202064-01	—	
✓ 8	2202064-02	—	
✓ 9	2202066-01	—	
✓ 10	2202067-01	—	
11	2202272-01	—	NS/MSD
12	2202273-01	—	
13	2202366-02	—	
14	2202379-01	—	
15	2202434-02	—	
16	2202498-01	—	
17	2202540-01	—	
18	2202272-02	—	
19	2202037-02	—	
20	2202037-03	—	
21			
22			
23			
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26			
27			
28			
29			
30			

## Cyanide Free Reagent Tracking Sheet

ASTM Method D7237-15A

Instrument: Lachat Quikchem QC8500 Series II, Serial  
Number: 101000001274

Analyst:	BCM
Date:	10-3-22

CALIBRATION STANDARDS	
	Reagent/Solution #
1000 mg/L Calibration Standard:	R-33173
100 mg/L Standard:	N/A
10 mg/L Standard:	S120530
0.3 mg/L Calibration Standard:	→
0.2 mg/L Calibration Standard:	→
0.10 mg/L Calibration Standard:	→
0.05 mg/L Calibration Standard:	→
0.01 <del>0.005 mg/L</del> Calibration Standard:	→
0.003 mg/L Calibration Standard:	→

Set of  
S120530

SECOND SOURCE STANDARD	
	Reagent/Solution #
1000 mg/L ICV/CCV Stock Standard:	R-33052
10 mg/L <del>100 mg/L</del> QCS: Standard:	S120532
0.15 mg/L ICV/CCV Standard:	S121011

Reagent	Reagent / Solution Number
1 M Sodium Hydroxide (NaOH)	S120295
0.1 M Sodium Hydroxide (NaOH)	S120537
0.025 M Sodium Hydroxide (NaOH)	S121010
Buffer Solution A	S120288
Buffer Solution B	S120289
0.2 M Phosphate Buffer - 6.0 pH	S120859
pH paper	N/A
Lead Carbonate	R-31332

Cyanide QC in mg/L  
10/7/2022

QC	Result in mg/L		True Value	Recovery	% RSD	Acceptance Range	Acceptance Range
ICV	0.14227		0.1425	99.8		90 - 110	
ICB	-0.00075					<0.003	
RDLCHK	0.003161		0.00276	114.5		50 - 150	
LCS1	0.13536		0.138	98.1		90 - 110	
LCS2	0.17517		0.184	95.2		90 - 110	
Sample 1	-0.0005205						
Sample 1 MS	0.18311		0.184	99.5		90 - 110	
Sample 1 MSD	0.1896		0.184	103.3	3.4	90 - 110	<20%
CCV1	0.13787		0.1425	96.8		90 - 110	
CCB1	-0.000923					<0.003	
Sample 2	-0.0002821						
Sample 2 MS	0.17877		0.184	97.3		90 - 110	
Sample 2 MSD	0.18553		0.184	101.0	3.7	90 - 110	<20%
CCV2	0.13513		0.1425	94.8		90 - 110	
CCB2	-0.00074					<0.003	

Author: BEN MORRIS

LACHAT SERIAL #10100001274

Date : 10/7/2022

Original Run Filename: OM\_10-7-2022\_03-07-02PM.OMN Created: 10/7/2022 3:07:02 PM

Original Run Author's Signature: [AllowayM]

Current Run Filename: OM\_10-7-2022\_03-07-02PM.OMN Last Modified: 10/7/2022 6:44:38 PM

Current Run Author's Signature: [AllowayM]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2		Detection Time	Description
			Free Cyanide			
			Conc. (MG/L)	Area (V.s)		
ICV TV=0.1425 mg/L	1	8	0.14227	92.646	10/7/2022@3:10:00 PM	
		Known Conc:	0.14250			
		Calibration:	Table/Fig. : 1			
ICB	1	7	-0.00075318	-0.35887	10/7/2022@3:16:28 PM	
RDLCHK TV=0.00276 mg/L	1	9	0.0031610	2.2088	10/7/2022@3:22:56 PM	
LCSA1 TV=0.138 mg/L	1	10	0.13536	88.194	10/7/2022@3:29:24 PM	
		Known Conc:	0.13800			
LCSA2 TV=0.184 mg/L	1	11	0.17517	113.81	10/7/2022@3:35:51 PM	
		Known Conc:	0.18400			
2202540-02	1	12	-0.00052046	-0.20617	10/7/2022@3:42:19 PM	
2202540-02 MS TV=0.184 mg/L	1	13	0.18311	118.91	10/7/2022@3:48:46 PM	99.5%
2202540-02 MSD TV=0.184 mg/L	1	14	0.18960	123.07	10/7/2022@3:55:14 PM	105.0% ✓
2202540-03	1	15	0.00032076	0.34574	10/7/2022@4:01:41 PM	(4)
2202540-04	1	16	0.00051448	0.47284	10/7/2022@4:08:10 PM	
2202540-05	1	17	0.00053806	0.48830	10/7/2022@4:14:38 PM	
2202685-01	1	18	0.073684	48.254	10/7/2022@4:21:07 PM	
2202687-01	1	19	0.0022650	1.6211	10/7/2022@4:27:36 PM	
2202693-01	1	20	0.0083115	5.5855	10/7/2022@4:34:04 PM	
2202808-01	1	21	-0.00069862	-0.32308	10/7/2022@4:40:32 PM	
2202808-02	1	22	-0.00029030	-0.055162	10/7/2022@4:47:00 PM	
2202808-03	1	23	-0.00037873	-0.11318	10/7/2022@4:53:28 PM	
CCV1 TV=0.1425 mg/L	1	36	0.13787	89.811	10/7/2022@4:59:57 PM	
		Known Conc:	0.14250			
CCB1	1	37	-0.00092296	-0.47028	10/7/2022@5:06:25 PM	
2202808-04	1	24	-0.00028214	-0.049813	10/7/2022@5:12:53 PM	
2202808-04 MS TV=0.184 mg/L	1	25	0.17877	116.12	10/7/2022@5:19:21 PM	97.3%
2202808-04 MSD TV=0.184 mg/L	1	26	0.18553	120.46	10/7/2022@5:25:48 PM	100.5%
2202808-05	1	27	-0.0010306	-0.54090	10/7/2022@5:32:16 PM	
2202808-06	1	28	-0.00061925	-0.27100	10/7/2022@5:38:43 PM	
2202821-01	1	29	-0.00032373	-0.077097	10/7/2022@5:45:10 PM	
2202849-01	1	30	1.0201e-5	0.14199	10/7/2022@5:51:38 PM	
2202849-02	1	31	-0.00035864	-0.10000	10/7/2022@5:58:07 PM	
2202850-01 10X DIL	1	32	-0.00036044	-0.10119	10/7/2022@6:04:35 PM	
2202891-01 MTX PR	1	33	0.00040721	0.40246	10/7/2022@6:11:04 PM	
2202891-02 MTX PR	1	34	-0.00020025	0.0039199	10/7/2022@6:17:33 PM	
2203032-03	1	35	0.0028604	2.0116	10/7/2022@6:24:01 PM	
CCV2 TV=0.1425 mg/L	1	36	0.16460	107.02	10/7/2022@6:30:29 PM	
		Known Conc:	0.14250			
CCB2	1	37	-0.00063443	-0.28096	10/7/2022@6:36:57 PM	

Analyte Properties Table for : OM\_10-7-2022\_03-07-02PM.OMN

Property	Channel 2
Concentration Units	MG/L
Calibration Fit Type	Second Order
Clear Calibration	Yes
Force through Zero	No
Calibration Weighting	1/x
Auto Dilution Trigger	No
% of High Standard	110
Quik Chem Method	10-204-00-5-C
Chemistry	Brackish
Calibration by Height	No
Inject to Peak Start	19
Peak Base Width	263

\*Reron CCV2 on the following page.



Author: BEN MORRIS

LACHAT SERIAL #10100001274

Date : 10/7/2022

Original Run Filename: OM\_10-7-2022\_06-46-28PM.OMN Created: 10/7/2022 6:46:28 PM

Original Run Author's Signature: [AllowayM]

Current Run Filename: OM\_10-7-2022\_06-46-28PM.OMN Last Modified: 10/7/2022 7:03:36 PM

Current Run Author's Signature: [AllowayM]

Description: Default New Run

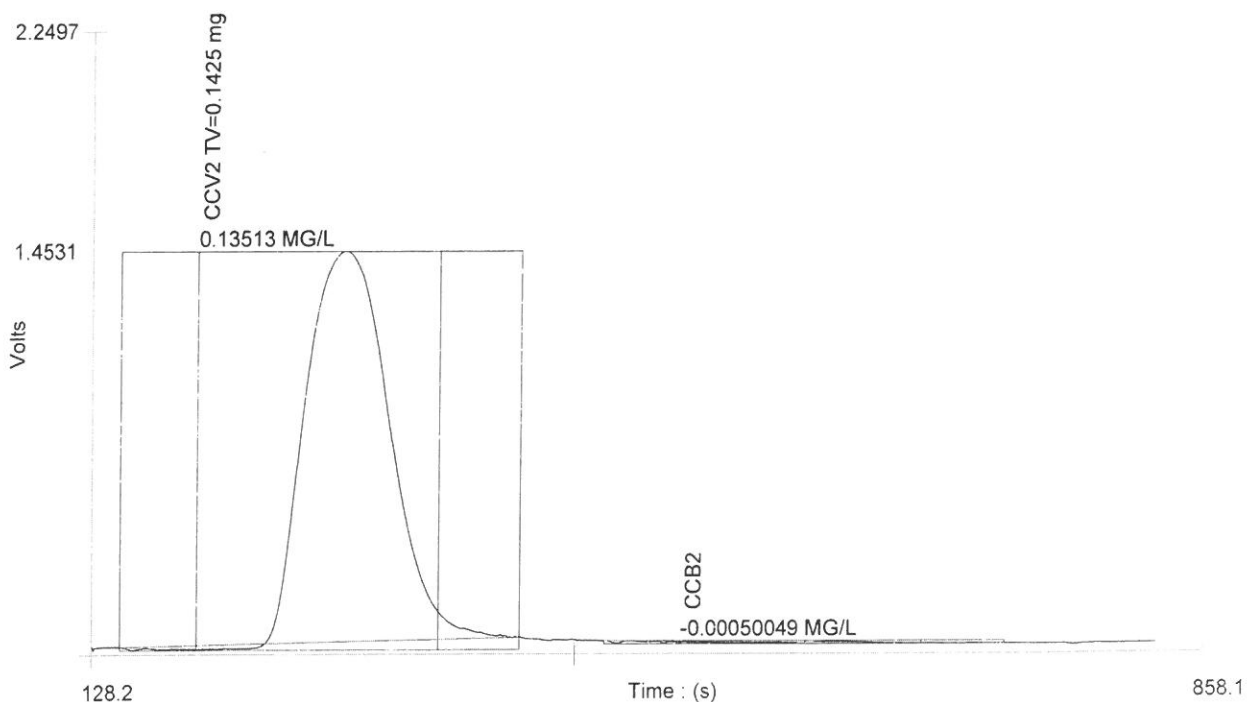
Sample	Rep.	Cup No.	Channel 2		Detection Time	Description
			Free Cyanide			
			Conc. (MG/L)	Area (V.s)		
CCV2 TV=0.1425 mg/L	1	36	0.13513	88.047	10/7/2022@6:49:27 PM	
Known Conc:			0.14250			
CCB2	1	37	-0.00050049	-0.19308	10/7/2022@6:55:55 PM	
Calibration:			Table/Fig. : 1			

94.8%

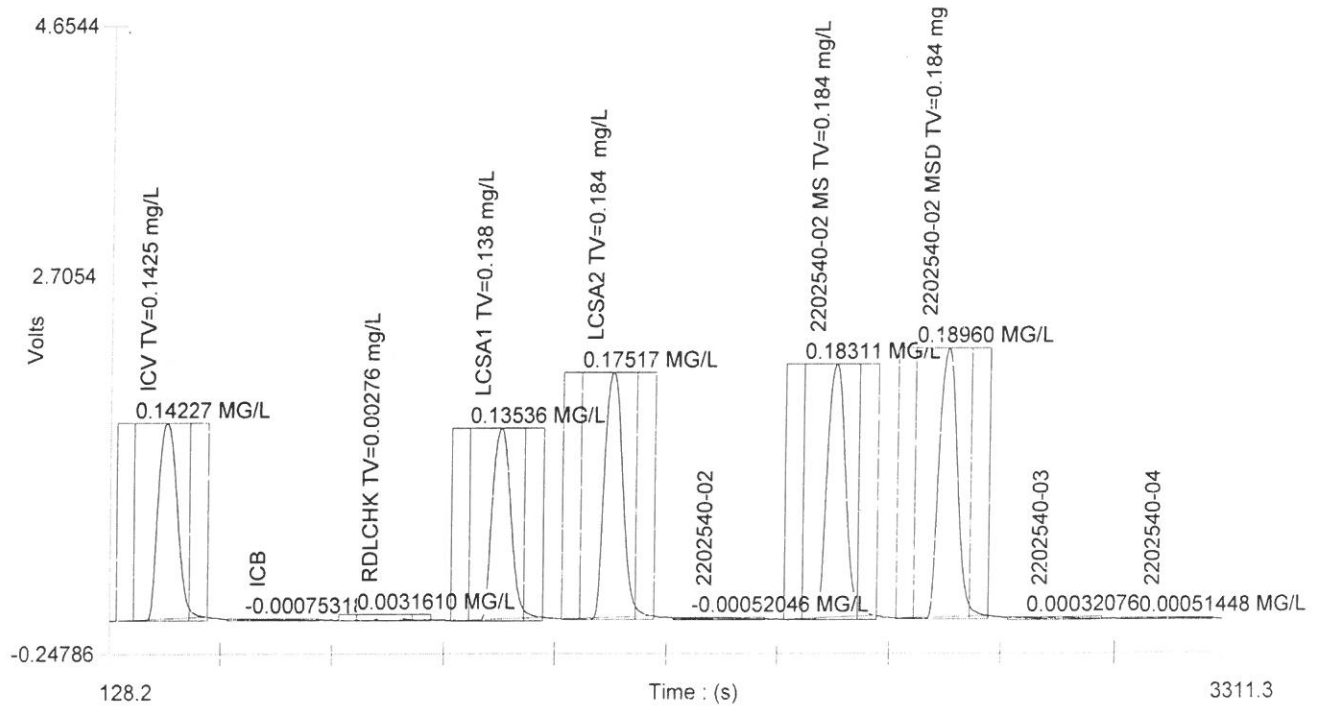
Analyte Properties Table for : OM\_10-7-2022\_06-46-28PM.OMN

Property	Channel 2
	Free Cyanide
Concentration Units	MG/L
Calibration Fit Type	Second Order
Clear Calibration	Yes
Force through Zero	No
Calibration Weighting	1/x
Auto Dilution Trigger	No
% of High Standard	110
Quik Chem Method	10-204-00-5-C
Chemistry	Brackish
Calibration by Height	No
Inject to Peak Start	19
Peak Base Width	263

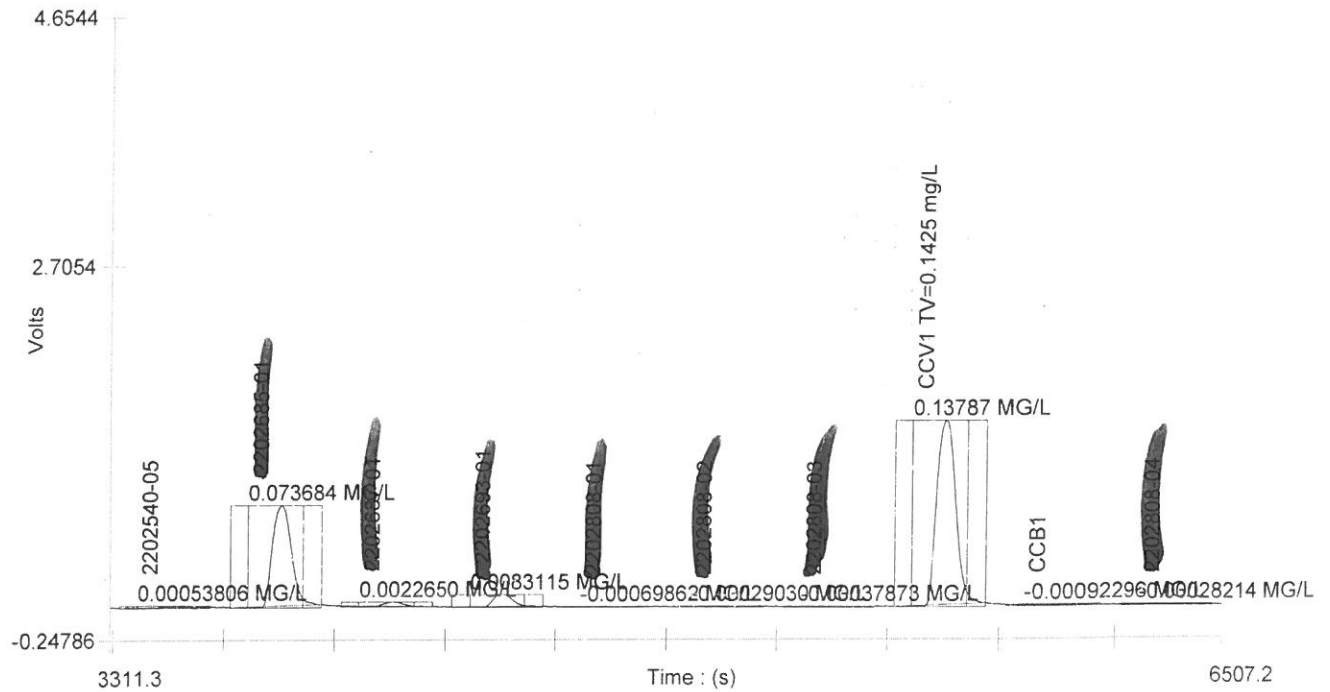
Channel 2 (Free CN) - Set: 1 / 1



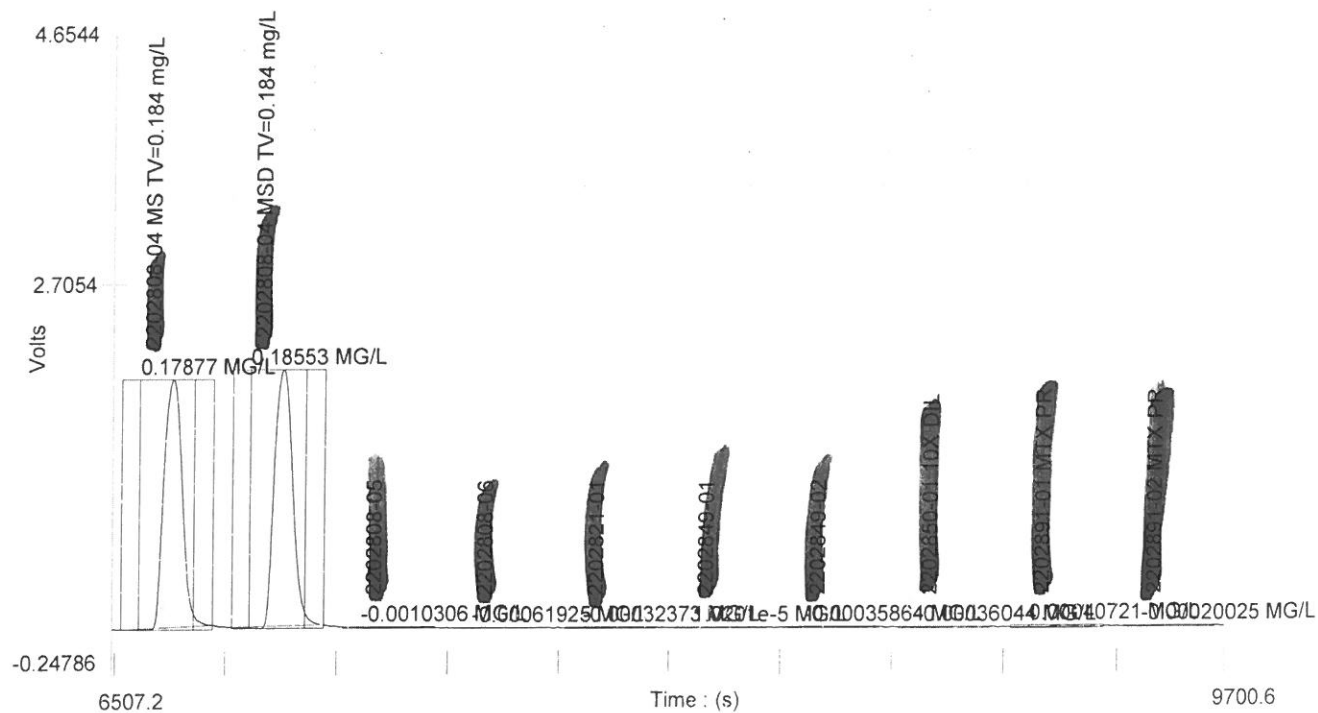
Channel 2 (Free CN) - Set: 1 / 4



Channel 2 (Free CN) - Set: 2 / 4



Channel 2 (Free CN) - Set: 3 / 4



Channel 2 (Free CN) - Set: 4 / 4

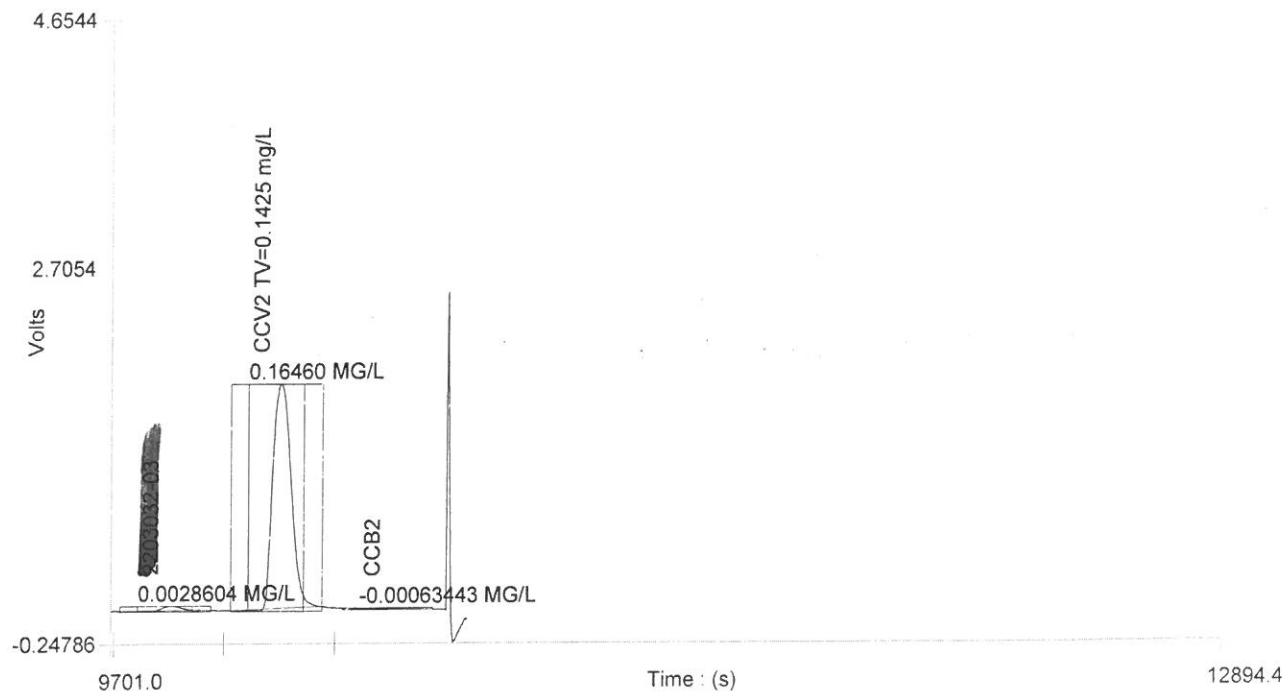


Table : 1 (Free Cyanide)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	0.27600	1	180.25	2.9290	0.0	-1.3	0.27932	10/7/2022	2:07:02 PM
2	0.18400	1	115.96	1.8933	0.0	2.9	0.17852	10/7/2022	2:13:31 PM
3	0.092000	1	59.875	1.0028	0.0	0.4	0.091580	10/7/2022	2:19:59 PM
4	0.046000	1	30.908	0.51406	0.0	-2.3	0.047042	10/7/2022	2:26:28 PM
5	0.0092000	1	6.7333	0.11402	0.0	-9.2	0.010063	10/7/2022	2:32:56 PM
6	0.0027600	1	2.1101	0.036401	0.0	-8.3	0.0030105	10/7/2022	2:39:24 PM
7	0.0000	1	-0.19950	-0.0045534			0.0005102 9	10/7/2022	2:45:53 PM

Figure : 1 (Free Cyanide)

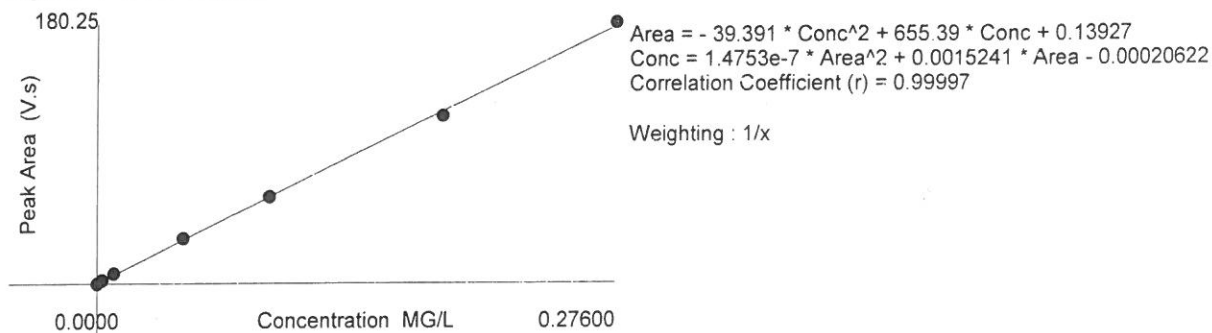
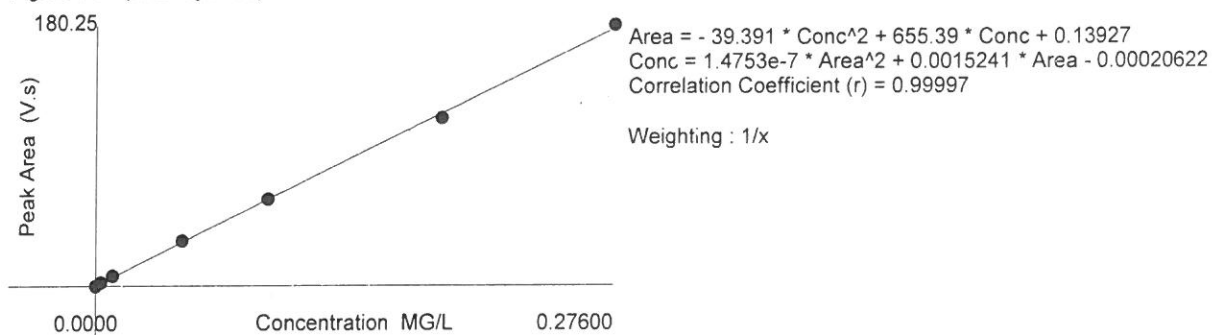


Table : 1 (Free Cyanide)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	0.27600	1	180.25	2.9290	0.0	-1.3	0.27932	10/7/2022	2:07:02 PM
2	0.18400	1	115.96	1.8933	0.0	2.9	0.17852	10/7/2022	2:13:31 PM
3	0.092000	1	59.875	1.0028	0.0	0.4	0.091580	10/7/2022	2:19:59 PM
4	0.046000	1	30.908	0.51406	0.0	-2.3	0.047042	10/7/2022	2:26:28 PM
5	0.0092000	1	6.7333	0.11402	0.0	-9.2	0.010063	10/7/2022	2:32:56 PM
6	0.0027600	1	2.1101	0.036401	0.0	-8.3	0.0030105	10/7/2022	2:39:24 PM
7	0.0000	1	-0.19950	-0.0045534			0.0005102 9	10/7/2022	2:45:53 PM

101.2%  
97.0%  
99.5%  
102.3%  
109.4%  
109.1%

Figure : 1 (Free Cyanide)



Batch: 68999

Form 7237\_2 - 1

# Alloway Cyanide Free Sample Preparation Sheet

Instrument: Lachat Quikchem QC8500 Series II, Serial Number: 101000001274

Date: 10-2-22

Analyst: BCM

Note: Place 1 drop acetate buffer on lead acetate test strip prior to checking samples for sulfide

Acetate Buffer Reagent Number S120005

Lead Acetate Test Strip Reagent Number R-30899

Lab #	Sulfide Check (+ or -)	Comments
1 2202540-02	—	MS/MSD
2 2202540-03	—	
3 2202540-04	—	
4 2202540-05	—	
5 2202540-01	—	
6 2202540-01	—	
7 2202540-01	—	
8 2202540-01	—	
9 2202540-02	—	
10 2202540-03	—	
11 2202540-04	—	MS/MSD
12 2202540-05	—	
13 2202540-06	—	
14 2202540-01	—	
15 2202540-01	—	
16 2202540-02	—	
17 2202540-01	—	10x Dil.
18 2202540-01	—	Matrix Issues
19 2202540-02	—	Matrix Issues
20 2203032-03	—	
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		



## Cyanide Free Reagent Tracking Sheet

ASTM Method D7237-15A

Instrument: Lachat Quikchem QC8500 Series II, Serial  
Number: 101000001274

Analyst:	BCM
Date:	10-7-22

CALIBRATION STANDARDS	
	Reagent/Solution #
1000 mg/L Calibration Standard:	R-33173
100 mg/L Standard:	N/A
10 mg/L Standard:	S120530
0.3 mg/L Calibration Standard:	→
0.2 mg/L Calibration Standard:	→
0.10 mg/L Calibration Standard:	→
0.05 mg/L Calibration Standard:	→
0.01 mg/L Calibration Standard:	→
0.005 mg/L Calibration Standard:	→
0.003 mg/L Calibration Standard:	→

As a set  
of S120530BCM  
10/7/22

SECOND SOURCE STANDARD	
	Reagent/Solution #
1000 mg/L ICV/CCV Stock Standard:	R-33052
10 mg/L <del>100</del> mg/L QCS: Standard:	S120532
0.15 mg/L ICV/CCV Standard:	S

Reagent	Reagent / Solution Number
1 M Sodium Hydroxide (NaOH)	S120295
0.1 M Sodium Hydroxide (NaOH)	S120537
0.025 M Sodium Hydroxide (NaOH)	S
Buffer Solution A	S120288
Buffer Solution B	S120289
0.2 M Phosphate Buffer - 6.0 pH	S
pH paper	N/A
Lead Carbonate	R-31332



# Chain of Custody Record

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement.

- 1101 North Cole Street, Lima, OH 45805  
(P) 419-223-1362 (F) 419-227-3792  
1776 Marion-Waldo Road, Marion OH 43302  
(P) 740-389-5991 (F) 740-389-1481  
1502 W. Fourth Street, Mansfield, OH 44906  
(P) 419-525-1644 (F) 419-524-5575

Report To: Amy Romano  
Name: WSP USA INC.  
Company: 250 W 34th St., 4th Fl  
Address: New York, NY 10119

Invoice To (If Different): Environmental Accounts Payable  
Name: WSP USA Inc.  
Company: 13530 Dulles Technology Drive  
Address: Herndon, VA 20171

Phone #: 315-374-1175

E-mail: amy.romano@wsp.com

Fax #:

PO#: 31401545.001/Task 01

Project Name: EMERSON (Ithaca, NY)

Sampler: Nate Winston  
(Print)

(Signature)

Project: 2202540

Notes/Comments:



Next Day ☐ Turnaround: (Rush Charges May Apply)  
3 Working Days ☐  
2 Working Days ☐ 5 Working Days ☐

Routine ☒

	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	OUTFALL 01A	9/27/02	1100		X	WW	1	5	Free Cyanide by ASTM D7237-15A	01
2	OUTFALL 001		1110		X	WW	1	5	Free Cyanide by ASTM D7237-15A	02
3	OUTFALL 001D		0900		X	WW	1	5	Free Cyanide by ASTM D7237-15A	03
4	OUTFALL 009		1040		X	WW	1	5	Free Cyanide by ASTM D7237-15A	04
5	OUTFALL 011		1120		X	WW	1	5	Free Cyanide by ASTM D7237-15A	05
6										
7										
8										

Relinquished by:

Received by:

Date

Time

Method of Delivery

Matrix Codes:

Preservation Codes:

Sample Receiving

(For Lab Use Only)

1									ww - wastewater gw - groundwater	1 - None 7 - Sodium Thiosulfate 13 - Zinc Acetate	Ice Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
2									dw - drinking water sw - surface water	2 - HNO <sub>3</sub> 8 - Ascorbic Acid 14 - Sodium Sulfite	
3									w - water oil - oil	3 - H <sub>2</sub> SO <sub>4</sub> 9 - Maleic Acid 15 - Potassium Dihydrogen Citrate	
4									s - solid sg - sludge	4 - HCl 10 - EDA 16 - Sodium Sulfite/Sodium Bisulfate	
5									l - leachate a - acid	5 - NaOH 11 - Ammonium Chloride	Proper Preservation? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
6									p - product o - other	6 - NaOH & Zinc Acetate 12 - (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> & NH <sub>4</sub> OH	Container Temperature: JSC

Received for Laboratory By: (circle one) Mansfield Lima Marion

(Signature)

Transported to: Lima  
Marion

By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Transported to: Lima  
Marion

By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

02540

 $2/2$ 

Cooler Temp

0.5

C

Analyst:

Signature: \_\_\_\_\_

[illegible]

OCTOBER 2022


**CERTIFICATE OF ANALYSIS**

Reported by Alloway - Marion

PA State Lab ID: 68-00370 NY

State Lab ID: 11071

Chain of Custody attached

WSP

Attn: Amy Romano

7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

Lab Project # 2204550

Received: 10/18/2022

Reported: 10/26/2022

Date/Time Sampled: 10/14/2022 10:30

Sampled By: NW

Sampled Matrix: Wastewater

Containers: 1

Project Name: Emerson (Ithaca, NY)

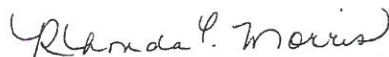
Sample ID: Outfall 01A

Lab Sample # 2204550-01

The LCSA2 and the Continuing Calibration Verification Standards were biased above method limits. The high bias does not affect this non-detect result obtained.

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
Cyanide, Free (pH 6)	<0.003	mg/L	0.003		ASTM-D7237-15A	BCM		10/20/2022 22:34

Analysis Certified By:



Rhonda C Morris

This report shall not be reproduced, except in its entirety, without the written approval of the laboratory.

The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.





**CERTIFICATE OF ANALYSIS**

**Reported by Alloway - Marion**

**PA State Lab ID: 68-00370 NY**

**State Lab ID: 11071**

Chain of Custody attached

WSP

Attn: Amy Romano

7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

**Lab Project #** 2204550

**Received:** 10/18/2022

**Reported:** 10/26/2022

**Date/Time Sampled:** 10/14/2022 11:10

**Sampled By:** NW

**Sampled Matrix:** Water

**Containers:** 1

**Project Name:** Emerson (Ithaca, NY)

**Sample ID:** Outfall 011

**Lab Sample #** 2204550-02

The LCSA2 and the Continuing Calibration Verification Standards were biased above method limits. The high bias does not affect this non-detect result obtained.

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
Cyanide, Free (pH 6)	<0.003	mg/L	0.003		ASTM-D7237-15A	BCM		10/20/2022 22:34

Analysis Certified By: \_\_\_\_\_

*Rhonda C. Morris*

Rhonda C Morris

*This report shall not be reproduced, except in its entirety, without the written approval of the laboratory.*

*The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.*

10/20/2022

[illegible]

Original Run Filename: OM\_10-20-2022\_10-26-43AM.OMN Created: 10/20/2022 10:26:43 AM

Original Run Author's Signature: [AllowayM]

Current Run Filename: 2022CNFBM1020QUALIFY.omn Last Modified: 10/20/2022 3:09:15 PM

Current Run Author's Signature: [AllowayM]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2		Detection Time	Description
			Free Cyanide	Area (V.s)		
1 PPM	1	76	Conc. (MG/L)			
			0.95577	583.80	10/20/2022@10:34:31 AM	
Calibration: Table/Fig. : 1						
1 PPM	1	76	1.0346	621.15	10/20/2022@10:40:54 AM	
RINSE	1	77	0.00010753	-0.82145	10/20/2022@10:47:21 AM	
0.276 mg/L	1	1	0.27600	226.76	10/20/2022@10:53:49 AM	
0.184 mg/L	1	2	0.18400	158.50	10/20/2022@11:00:18 AM	
0.092 mg/L	1	3	0.092000	84.558	10/20/2022@11:06:47 AM	
0.046 mg/L	1	4	0.046000	43.832	10/20/2022@11:13:15 AM	
0.0092 mg/L	1	5	0.0092000	10.031	10/20/2022@11:19:43 AM	
0.00276 mg/L	1	6	0.0027600	3.6740	10/20/2022@11:26:12 AM	
0.000 mg/L Blank	1	7	0.0000	0.16720	10/20/2022@11:32:40 AM	
ICV TV=0.1425 mg/L	1	8	0.15393	135.79	10/20/2022@11:39:08 AM	108.2%
Known Conc: 0.14250						
Calibration: Table/Fig. : 2						
ICB	1	7	-0.00079263	-0.18564	10/20/2022@11:45:36 AM	
RDLCHK TV=0.00276 mg/L	1	9	0.0029379	3.4964	10/20/2022@11:52:04 AM	106.4%
LCSA1 TV=0.138 mg/L	1	10	0.14756	130.74	10/20/2022@11:58:32 AM	106.9%
Known Conc: 0.13800						
* LCSA2 TV=0.184 mg/L	1	11	0.20639	176.02	10/20/2022@12:04:59 PM	112.2%
Known Conc: 0.18400						
<del>2203930-02</del>	1	12	-0.00043219	0.17121	10/20/2022@12:11:27 PM	
<del>2204078-01</del>	1	13	-2.7911e-5	0.57120	10/20/2022@12:17:54 PM	
<del>2204176-01</del> 20X DIL	1	14	6.2342e-5	0.66045	10/20/2022@12:24:22 PM	
<del>2204179-01</del>	1	15	-0.00029743	0.30458	10/20/2022@12:30:49 PM	
<del>2204180-01</del>	1	16	0.00032605	0.92115	10/20/2022@12:37:18 PM	
<del>2204182-01</del>	1	17	-0.00043143	0.17197	10/20/2022@12:43:47 PM	
<del>2204183-01</del>	1	18	-0.00032858	0.27375	10/20/2022@12:50:15 PM	
<del>2204185-01</del> MS TV=0.184 mg/L	1	19	0.061044	57.908	10/20/2022@12:56:44 PM	33.2
<del>2204187-01</del> MSD TV=0.184 mg/L	1	20	0.064412	60.909	10/20/2022@1:03:12 PM	35.2
<del>2204184-01</del> 20X DIL	1	21	-0.00050839	0.095788	10/20/2022@1:09:40 PM	
<del>2204187-01</del>	1	22	-0.00041556	0.18768	10/20/2022@1:16:08 PM	
<del>2204334-01</del>	1	23	-0.00035832	0.24432	10/20/2022@1:22:36 PM	
* CCV2 TV=0.1425 mg/L	1	8	0.16299	142.91	10/20/2022@1:29:04 PM	114.4%
Known Conc: 0.14250						
CCB1	1	33	-0.00066364	-0.057909	10/20/2022@1:35:33 PM	
<del>2204463-01</del>	1	24	-0.00041411	0.18911	10/20/2022@1:42:01 PM	
* CCV2 TV=0.1425 mg/L	1	32	0.15976	140.39	10/20/2022@1:48:30 PM	118.1%
Known Conc: 0.14250						
<del>2203077-02</del>	1	25	0.0004243	3.9743	10/20/2022@1:54:57 PM	
<del>2204188-03</del>	1	26	0.00070233	1.2929	10/20/2022@2:01:25 PM	
2204550-01	1	27	0.00098125	1.5683	10/20/2022@2:07:53 PM	
2204550-01 MS TV=0.184 mg/L	1	28	0.19769	169.51	10/20/2022@2:14:20 PM	106.9%
2204550-01 MSD TV=0.184 mg/L	1	29	0.19511	167.57	10/20/2022@2:20:47 PM	105.5%
2204550-02	1	30	0.00074124	1.3314	10/20/2022@2:27:15 PM	
<del>2204551-05</del>	1	31	0.0017387	2.3155	10/20/2022@2:33:43 PM	
* LCSA2 TV=0.184 mg/L	1	11	0.22036	186.36	10/20/2022@2:40:11 PM	119.8%
Known Conc: 0.18400						
* CCV2 TV=0.1425 mg/L	1	32	0.16175	141.94	10/20/2022@2:46:40 PM	113.5%
Known Conc: 0.14250						
CCB3	1	33	-0.00072922	-0.12285	10/20/2022@2:53:09 PM	

Analyte Properties Table for : 2022CNFBM1020QUALIFY.omn

Property	Channel 2
	Free Cyanide
Concentration Units	MG/L
Calibration Fit Type	Second Order
Clear Calibration	Yes

\* LCSA 2 Failed 2 times with a high bias.  
 \*\* All CCV's after the ICV Failed with a high bias.

\* All samples that tested below limits can be qualified.

(M) 48%  
1 PL

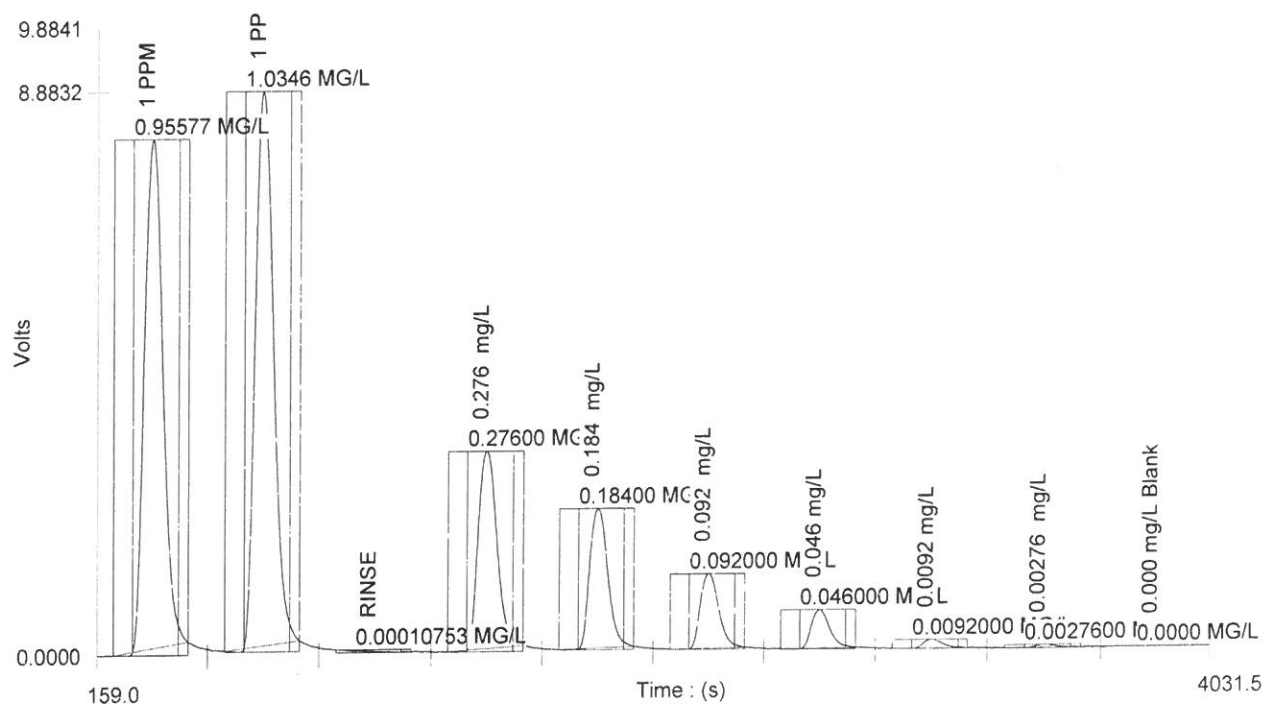
Rerun (not below limits)

1.3RPD



Force through Zero	No
Calibration Weighting	1/x
Auto Dilution Trigger	No
% of High Standard	110
Quik Chem Method	10-204-00-5-C
Chemistry	Brackish
Calibration by Height	No
Inject to Peak Start	58
Peak Base Width	261

Channel 2 (Free CN) - Set: 1 / 5



Chromatogram showing detector response (Volts) versus Time (s). The plot displays several peaks, each labeled with its retention time and concentration. The peaks are:

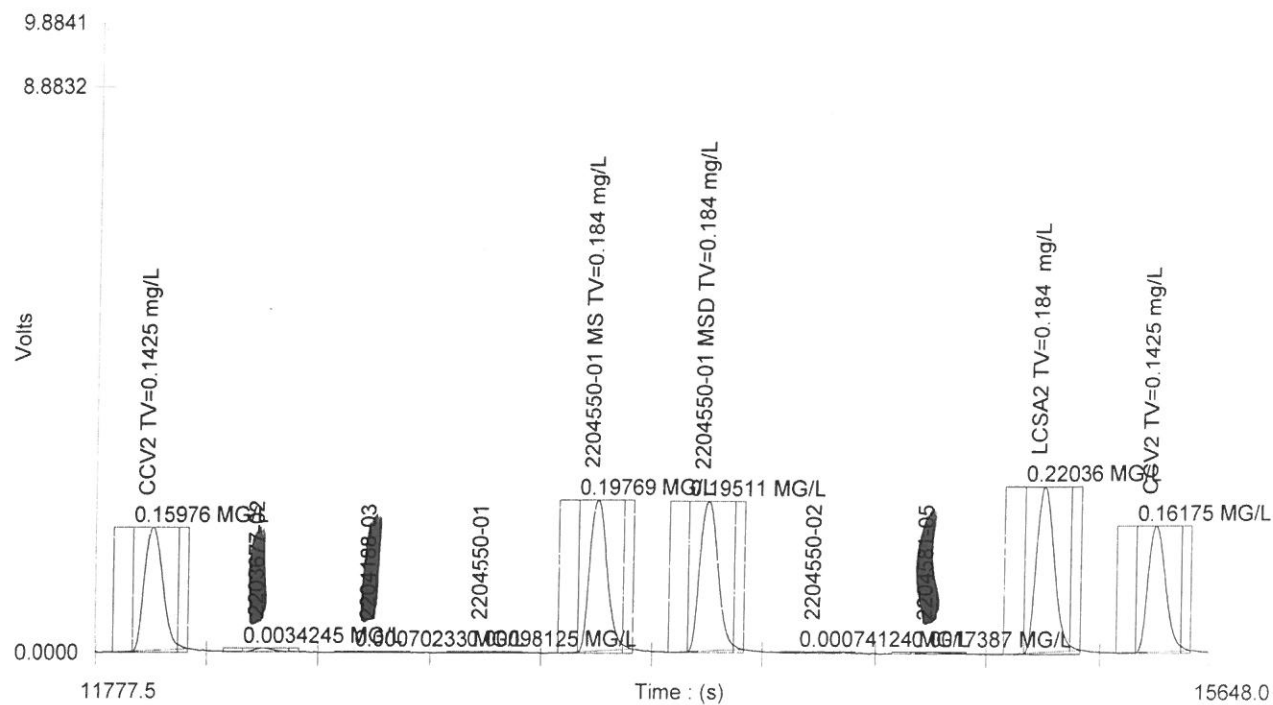
- 0.15393 MG/L (ICV TV=0.1425 mg/L)
- 0.00079263 MG/L (ICB)
- 0.002379 MG/L (RDLCHK TV=0.00276 mg/L)
- 0.14756 MG/L (LCSA1 TV=0.138 mg/L)
- 0.20639 MG/L (LCSA2 TV=0.184 mg/L)
- 0.00043219 MG/L (01)
- 0.00042 MG/L (01)
- 0.00029743 MG/L (01)
- 0.00082605 MG/L (01)

The x-axis ranges from 4031.5 to 7902.0 seconds, and the y-axis ranges from 0.0000 to 9.8841 Volts.

Chromatogram showing detector response (Volts) versus Time (s). The plot displays several peaks, some labeled with chemical names and concentrations. The y-axis ranges from 0.0000 to 9.8841 Volts, and the x-axis ranges from 7902.0 to 11777.0 seconds. Peaks are labeled with names like MS, MSD, DIL, CCV2, and CCB1, along with their respective concentrations in mg/L or MG/L.

Peak Label	Concentration
MS	0.184 mg/L
MSD	0.184 mg/L
DIL	0.16299 MG/L
CCV2	0.1425 mg/L
CCB1	0.1411 MG/L

Channel 2 (Free CN) - Set: 4 / 5



Channel 2 (Free CN) - Set: 5 / 5

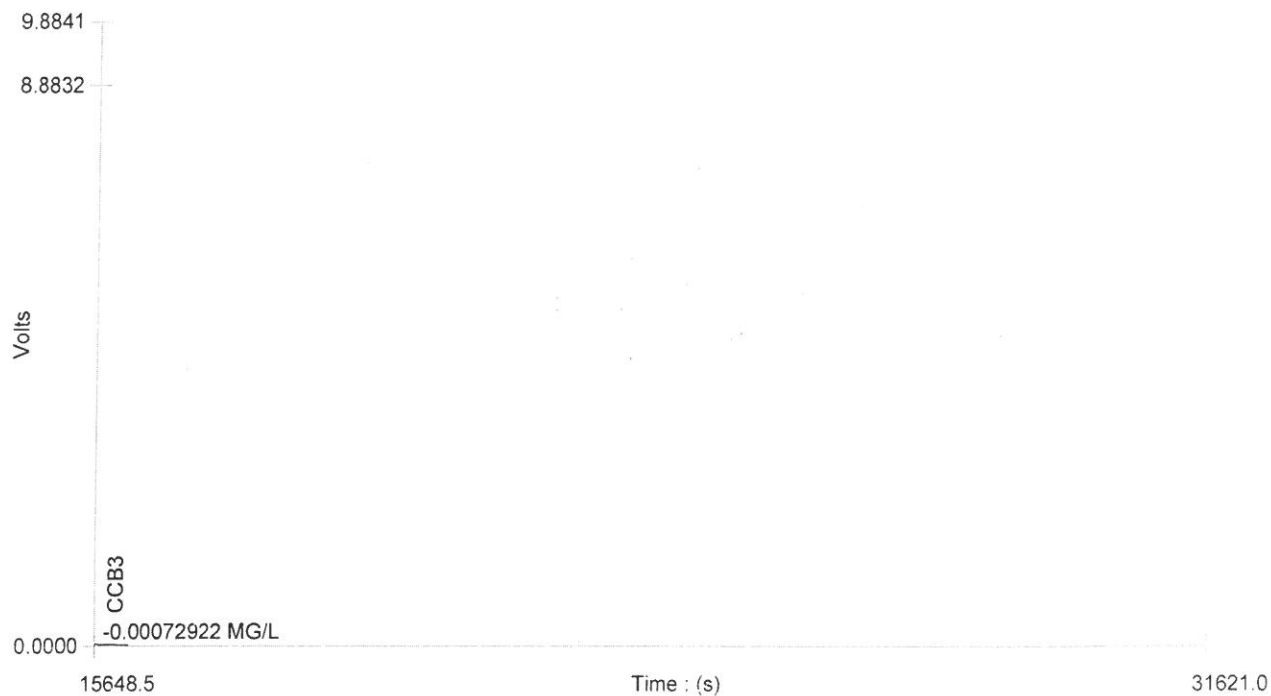


Table : 1 (Free Cyanide)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	0.27600	1	201.62	2.7507	0.0	1.2	0.27169	10/19/2022	1:41:39 PM
2	0.18400	1	145.91	1.9944	0.0	-3.2	0.19068	10/19/2022	1:48:08 PM
3	0.092000	1	72.019	0.99378	0.0	1.4	0.090585	10/19/2022	1:54:36 PM
4	0.046000	1	34.984	0.47554	0.0	5.0	0.043566	10/19/2022	2:01:05 PM
5	0.0092000	1	7.7005	0.10661	0.0	-13.6	0.010273	10/19/2022	2:07:33 PM
6	0.0027600	1	1.2513	0.022573	0.0	12.5	0.0025696	10/19/2022	2:14:02 PM

Figure : 1 (Free Cyanide)

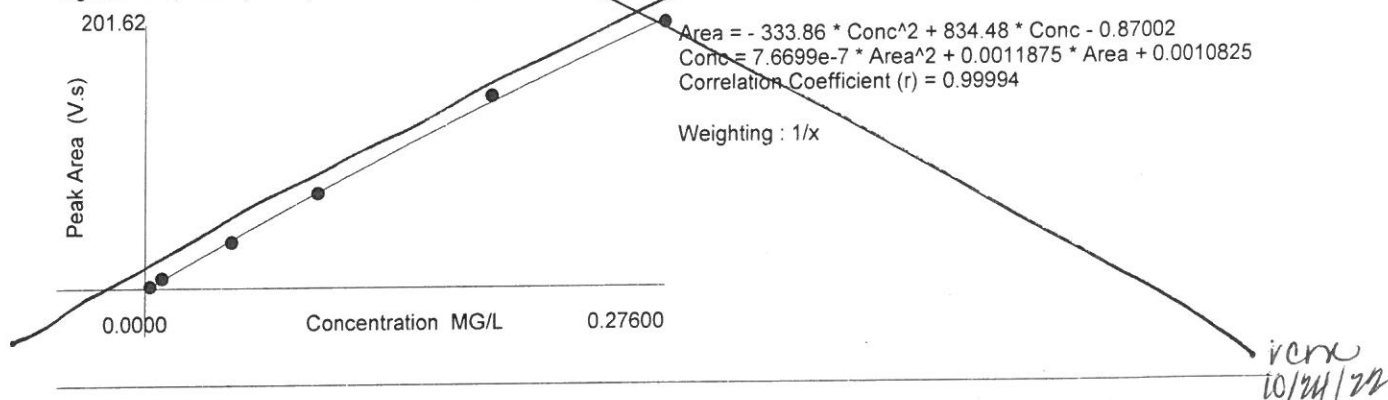
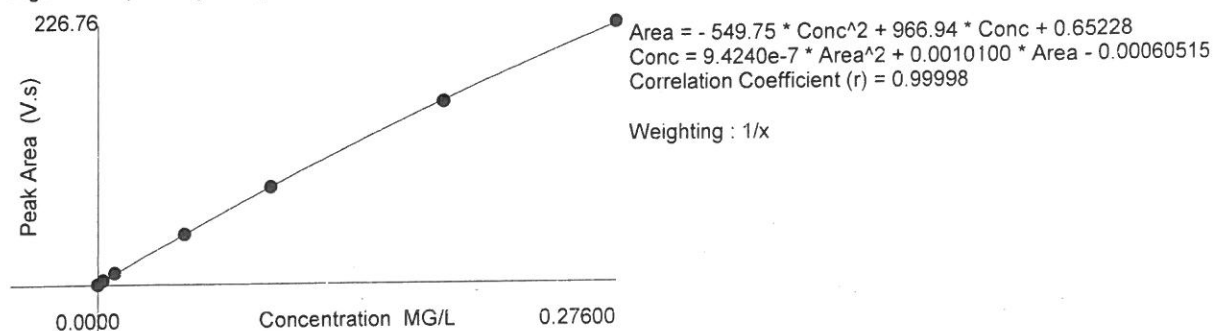


Table : 2 (Free Cyanide)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	0.27600	1	226.76	3.1105	0.0	-0.5	0.27689	10/20/2022	10:53:49 AM
2	0.18400	1	158.50	2.1920	0.0	0.9	0.18316	10/20/2022	11:00:18 AM
3	0.092000	1	84.558	1.1729	0.0	0.5	0.091540	10/20/2022	11:06:47 AM
4	0.046000	1	43.832	0.60793	0.0	0.3	0.045478	10/20/2022	11:13:15 AM
5	0.0092000	1	10.031	0.13692	0.0	-5.6	0.0096217	10/20/2022	11:19:43 AM
6	0.0027600	1	3.6740	0.047757	0.0	-10.8	0.0031185	10/20/2022	11:26:12 AM
7	0.0000	1	0.16720	0.0029313			0.0004362 5	10/20/2022	11:32:40 AM

Figure : 2 (Free Cyanide)



Batch: 69465

Form 7237\_2 - 1

# Alloway Cyanide Free Sample Preparation Sheet

Instrument: Lachat Quikchem QC8500 Series II, Serial Number: 101000001274

Date: 10/19/22

Analyst: BCM

Note: Place 1 drop acetate buffer on lead acetate test strip prior to checking samples for sulfide

Acetate Buffer Reagent Number S120005

Lead Acetate Test Strip Reagent Number R-30899

Lab #	Sulfide Check (+ or -)	Comments
1 2203988-02	-	
2 2204078-01	-	
3 2204176-01	-	20x Dilution
4 2204179-01	-	
5 2204180-01	-	
6 2204182-01	-	
7 2204183-01	-	MS/MSD
8 2204184-01	-	20x Dilution
9 2204187-01	-	
10 2204219-01	-	Excluded,
10N 2204334-01	-	
11 2204463-01	-	
12 2203677-02	-	
13N 2204188-03	-	/
14 2204550-01	-	MS/MSD
15 2204550-02	-	
16 2204581-05	-	
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

BCM  
10/19/22

## Cyanide Free Reagent Tracking Sheet

ASTM Method D7237-15A

Instrument: Lachat Quikchem QC8500 Series II, Serial  
Number: 101000001274

Analyst:	BCM
Date:	10/19/22

CALIBRATION STANDARDS	
	Reagent/Solution #
1000 mg/L Calibration Standard:	R-33173
<del>100 mg/L</del> Standard:	N/A
10 mg/L Standard:	S121178
0.3 mg/L Calibration Standard:	—————→
0.2 mg/L Calibration Standard:	—————→
0.10 mg/L Calibration Standard:	—————→
0.05 mg/L Calibration Standard:	—————→
0.01 mg/L <del>0.005 mg/L</del> Calibration Standard:	—————→
0.003 mg/L Calibration Standard:	—————→

As a set of  
S121178

SECOND SOURCE STANDARD	
	Reagent/Solution #
1000 mg/L ICV/CCV Stock Standard:	R-33052
10 mg/L <del>100 mg/L</del> QCS: Standard:	S121255
0.15 mg/L ICV/CCV Standard:	S121336


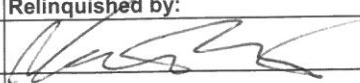
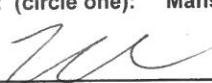
Reagent	Reagent / Solution Number
1 M Sodium Hydroxide (NaOH)	S120295
0.1 M Sodium Hydroxide (NaOH)	S121251
0.025 M Sodium Hydroxide (NaOH)	S121337
Buffer Solution A	S121097
Buffer Solution B	S120289
0.2 M Phosphate Buffer - 6.0 pH	S120859
pH paper	N/A
Lead Carbonate	R-31332



# Chain of Custody Record

This is a legal document that authorizes Allowway to perform testing on samples submitted under this agreement.

- 1101 North Cole Street, Lima, OH 45805  
(P) 800-436-1243 (F) 419-227-3792  
1776 Marion-Waldo Road, Marion OH 43302  
(P) 800-873-2835 (F) 740-389-1481  
1500 W. Fourth Street, Suite 4, Mansfield, OH 44906  
(P) 419-525-1644 (F) 419-524-5575

Report To: <b>AMY ROMANO</b> Name: <b>WSP USA INC</b> Company: <b>250 W 34th 4th FL</b> Address: <b>NEW YORK, NY 10119</b>		Invoice To (If Different): <b>ENVIRONMENTAL ACCOUNTS</b> Name: <b>WSP USA INC</b> Company: <b>13530 Dulles Tech Drive</b> Address: <b>Herndon VA, 20171</b>		Project: <b>2204550</b> 								
Phone #: <b>315-374-1175</b> E-mail: <b>AMY.ROMANO@WSP.COM</b>		Fax #: <b>314-01545 001 (TTSK)</b> PO#: <b>31401545 001 (TTSK)</b>		Turnaround: (Rush Charges May Apply) Next Day <input type="checkbox"/> 3 Working Days <input type="checkbox"/> 2 Working Days <input type="checkbox"/> 5 Working Days <input type="checkbox"/> Routine <input checked="" type="checkbox"/>								
Project Name: <b>EMERSON (ITHACA, NY)</b>		Sampler: <b>NATE WINSTON</b> (Print) (Signature)		Allowway LIMS # For Lab Use Only								
	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required			
1	OUTFALL 01A	10/14/22	1030	<del>WW</del>	X	WW	1	5	Free CN by ASTM D7237-15A		01	
2	<del>OUTFALL 01A</del>	<del>10/14/22</del>										
3	OUTFALL 011	10/14/22	1110	<del>WW</del>	X	W	1	5	Free CN by ASTM D7237-15A		02	
4												
5												
6												
7												
8												
Relinquished by:		Received by:		Date	Time	Method of Delivery	Matrix Codes:	Preservation Codes:		Sample Receiving (For Lab Use Only)		
1 				10/17/22	1200	UPS <input type="checkbox"/>	ww - wastewater gw - groundwater	1 - None	7 - Sodium Thiosulfate	13 - Zinc Acetate	Ice Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  Proper Preservation? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  Container Temperature: 15°C	
2						Fed Ex <input checked="" type="checkbox"/>	dw - drinking water sw - surface water	2 - HNO <sub>3</sub>	8 - Ascorbic Acid	14 - Sodium Sulfite		
3						Client <input type="checkbox"/>	w - water oil - oil	3 - H <sub>2</sub> SO <sub>4</sub>	9 - Maleic Acid	15 - Potassium Dihydrogen Citrate		
4						Allowway Pick Up <input type="checkbox"/>	s - solid sg - sludge	4 - HCl	10 - EDA	16 - Sodium Sulfite/Sodium Bisulfate		
5						Allowway Sampling <input type="checkbox"/>	l - leachate a - acid	5 - NaOH	11 - Ammonium Chloride			
6						Other <input type="checkbox"/>	p - product o - other	6 - NaOH & Zinc Acetate	12 - (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> & NH <sub>4</sub> OH			
Received for Laboratory By: (circle one): Mansfield Lima Marion				10/18/22 1030								
(Signature) 												

Transported to: Lima  
Marion

By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Transported to: Lima  
Marion

By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

04550

 $2/2$ 

Cooler Temp

1.5

**Analyst:**

Za

[illegible]



NOVEMBER 2022



**CERTIFICATE OF ANALYSIS**

**Reported by Alloway - Marion**

**PA State Lab ID: 68-00370 NY**

**State Lab ID: 11071**

Chain of Custody attached

WSP

Attn: Amy Romano

7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

**Lab Project #** 2207384

**Received:** 11/15/2022

**Reported:** 11/28/2022

**Date/Time Sampled:** 11/14/2022 09:45

**Sampled By:** NW

**Sampled Matrix:** Wastewater

**Containers:** 1

**Project Name:** Emerson (Ithaca, NY)

**Sample ID:** Outfall 01A

**Lab Sample #** 2207384-01

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
Cyanide, Free (pH 6)	<0.003	mg/L	0.003		ASTM-D7237-15A	BCM		11/17/2022 15:55
The matrix spike and matrix spike duplicate recoveries are biased below method limits.								

Analysis Certified By: \_\_\_\_\_

*Rhonda C. Morris*

Rhonda C Morris

*This report shall not be reproduced, except in its entirety, without the written approval of the laboratory.*

*The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.*

**CERTIFICATE OF ANALYSIS**

Reported by Alloway - Marion

PA State Lab ID: 68-00370 NY

State Lab ID: 11071

Chain of Custody attached

WSP

Attn: Amy Romano

7000 East Genesee St BD.D 2nd Floor

Fayetteville, NY 13066

Lab Project # 2207384

Received: 11/15/2022

Reported: 11/28/2022

Date/Time Sampled: 11/14/2022 11:10

Sampled By: NW

Sampled Matrix: Wastewater

Containers: 1

Project Name: Emerson (Ithaca, NY)

Sample ID: Outfall 011

Lab Sample # 2207384-02

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
Cyanide, Free (pH 6)	<0.003	mg/L	0.003		ASTM-D7237-15A	BCM		11/17/2022 15:55

Analysis Certified By: \_\_\_\_\_



Rhonda C Morris

*This report shall not be reproduced, except in its entirety, without the written approval of the laboratory.**The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.*

## 11/17/2022

[illegible]

Original Run Filename: OM\_11-17-2022\_03-52-17PM.OMN Created: 11/17/2022 3:52:17 PM

Original Run Author's Signature: [AllowayM]

Current Run Filename: OM\_11-17-2022\_03-52-17PM.OMN Last Modified: 11/17/2022 7:38:52 PM

Current Run Author's Signature: [AllowayM]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2		Detection Time	Description
			Free Cyanide	Area (V.s)		
ICV TV=0.1425 mg/L	1	8	0.15033	96.353	11/17/2022@3:55:15 PM	105.5%
Known Conc:			0.14250			
ICB	1	7	-0.0023289	-1.4105	11/17/2022@4:01:43 PM	
Calibration:			Table/Fig.: 1			
RDLCHK TV=0.00276 mg/L	1	9	0.0032714	2.3640	11/17/2022@4:08:11 PM	118.5%
LCSA1 TV=0.138 mg/L	1	10	0.15198	97.360	11/17/2022@4:14:39 PM	
Known Conc:			0.13800			
LCSA2 TV=0.184 mg/L	1	11	0.19979	126.03	11/17/2022@4:21:06 PM	108.6%
Known Conc:			0.18400			
<del>2207071-00</del>	1	12	-0.0015990	-0.91770	11/17/2022@4:27:34 PM	
<del>2207071-00</del>	1	13	-1.2378e-5	0.15268	11/17/2022@4:34:01 PM	
LCSA1 TV=0.138 mg/L	1	10	0.14219	91.389	11/17/2022@4:40:29 PM	103%
Known Conc:			0.13800			
<del>2207081-01</del>	1	14	0.29597	181.39	11/17/2022@4:46:56 PM	
<del>2207127-02</del>	1	15	-0.0031182	-1.9438	11/17/2022@4:53:24 PM	
<del>2207231-01</del>	1	16	-0.0011258	-0.59830	11/17/2022@4:59:52 PM	
<del>2207231-01</del> MS TV=0.184 mg/L	1	17	0.013661	9.3244	11/17/2022@5:06:21 PM	
<del>2207231-01</del> MSD TV=0.184 mg/L	1	18	0.016274	11.067	11/17/2022@5:12:50 PM	
<del>2207081-01</del> 5X DIL	1	14	0.054623	36.262	11/17/2022@5:19:17 PM	
<del>2207231-02</del>	1	19	-0.0012650	-0.69222	11/17/2022@5:25:46 PM	
<del>2207231-03</del>	1	20	-0.00091828	-0.45830	11/17/2022@5:32:14 PM	
<del>2207231-01</del>	1	21	0.0033238	2.3992	11/17/2022@5:38:42 PM	
<del>2207242-01</del>	1	22	-0.0015955	-0.91529	11/17/2022@5:45:10 PM	
<del>2207259-02</del>	1	23	-0.00066767	-0.28923	11/17/2022@5:51:39 PM	
CCV1 TV=0.1425 mg/L	1	35	0.14289	91.813	11/17/2022@5:58:07 PM	100.3%
Known Conc:			0.14250			
CCB1	1	36	-0.0022909	-1.3849	11/17/2022@6:04:35 PM	
<del>2207231-01</del>	1	24	-0.00013659	0.068933	11/17/2022@6:11:03 PM	
<del>2206487-02</del>	1	25	0.0012081	0.97515	11/17/2022@6:17:31 PM	
<del>2206511-11</del>	1	26	2.4762e-5	0.17772	11/17/2022@6:23:58 PM	
<del>2206714-02</del>	1	27	-0.00013121	0.072562	11/17/2022@6:30:26 PM	
<del>2206714-02</del>	1	28	-0.00037177	-0.089658	11/17/2022@6:36:54 PM	
2207384-01	1	29	0.021579	14.593	11/17/2022@6:43:21 PM	
2207384-01 MS TV=0.184 mg/L	1	30	0.021202	14.343	11/17/2022@6:49:48 PM	
2207384-01 MSD TV=0.184 mg/L	1	31	-0.00082528	-0.39556	11/17/2022@6:56:17 PM	
2207384-02	1	32	-0.00033872	-0.067372	11/17/2022@7:02:46 PM	
<del>2207812-01</del>	1	33	-0.00021983	0.012801	11/17/2022@7:09:14 PM	
<del>22-21890-01</del>	1	34	-0.00023747	0.00090527	11/17/2022@7:15:43 PM	
CCV2 TV=0.1425 mg/L	1	35	0.15003	96.172	11/17/2022@7:22:11 PM	105.3%
Known Conc:			0.14250			
CCB2	1	36	-0.0017624	-1.0280	11/17/2022@7:28:39 PM	

REV  
11/17/22

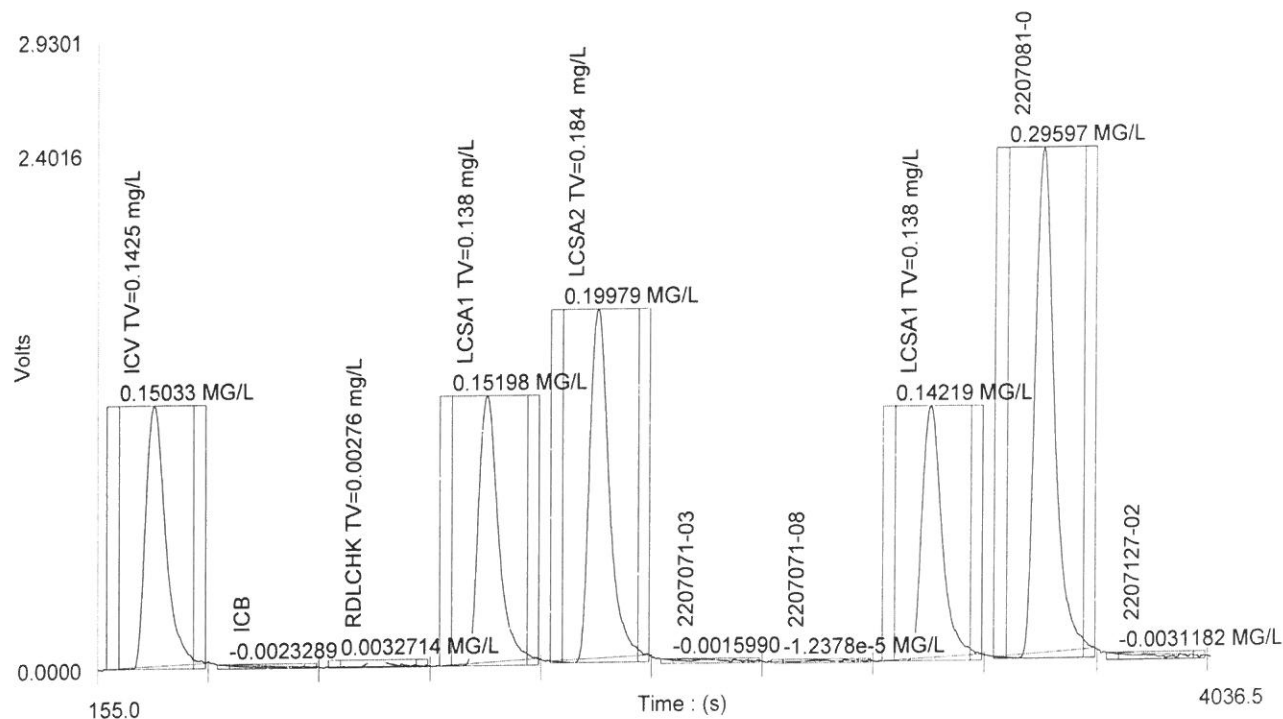
(Q) low recovery

(Q) low recovery

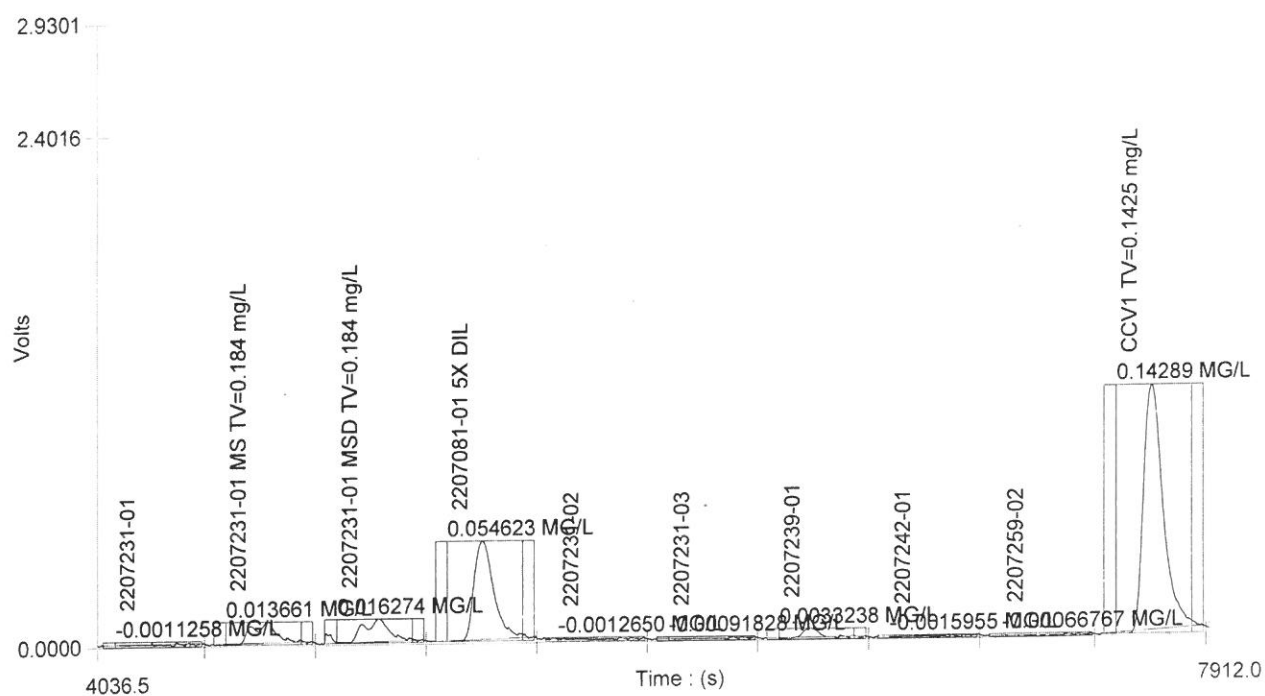
Analyte Properties Table for : OM\_11-17-2022\_03-52-17PM.OMN

Property	Channel 2
Concentration Units	MG/L
Calibration Fit Type	Second Order
Clear Calibration	Yes
Force through Zero	No
Calibration Weighting	1/x
Auto Dilution Trigger	No
% of High Standard	110
Quik Chem Method	10-204-00-5-C
Chemistry	Brackish
Calibration by Height	No
Inject to Peak Start	32
Peak Base Width	346

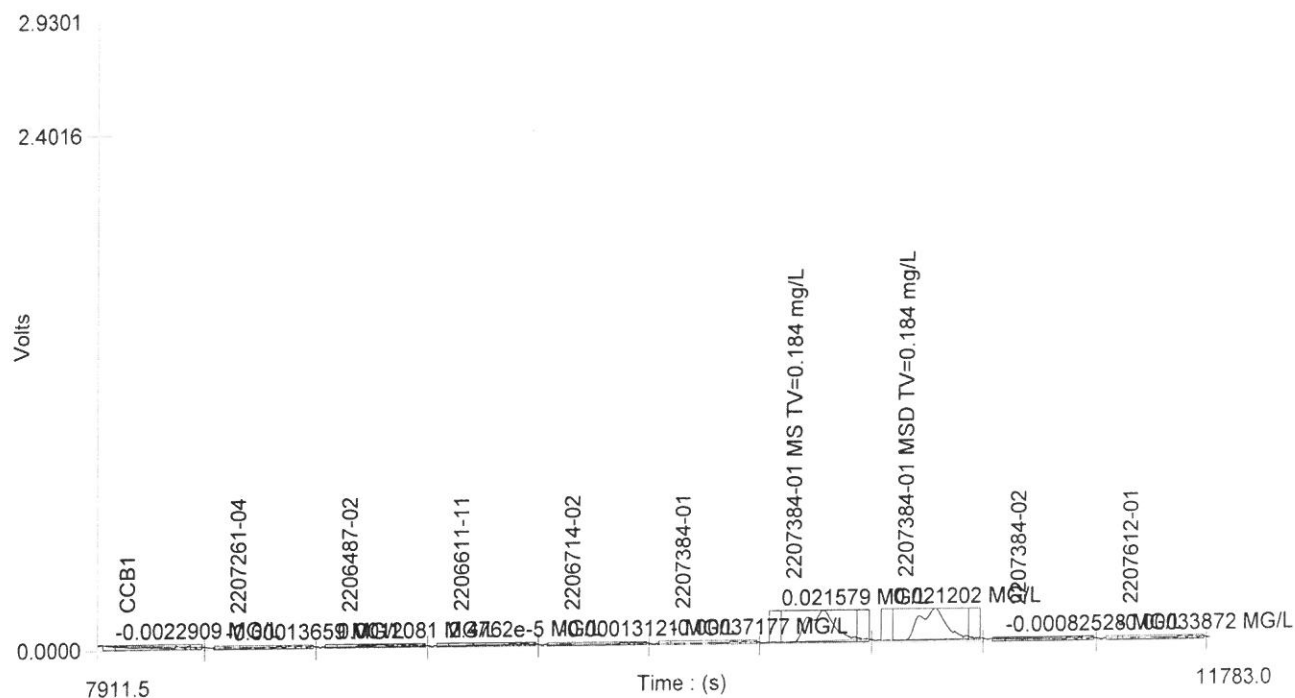
Channel 2 (Free CN) - Set: 1 / 4



Channel 2 (Free CN) - Set: 2 / 4



Channel 2 (Free CN) - Set: 3 / 4



Channel 2 (Free CN) - Set: 4 / 4

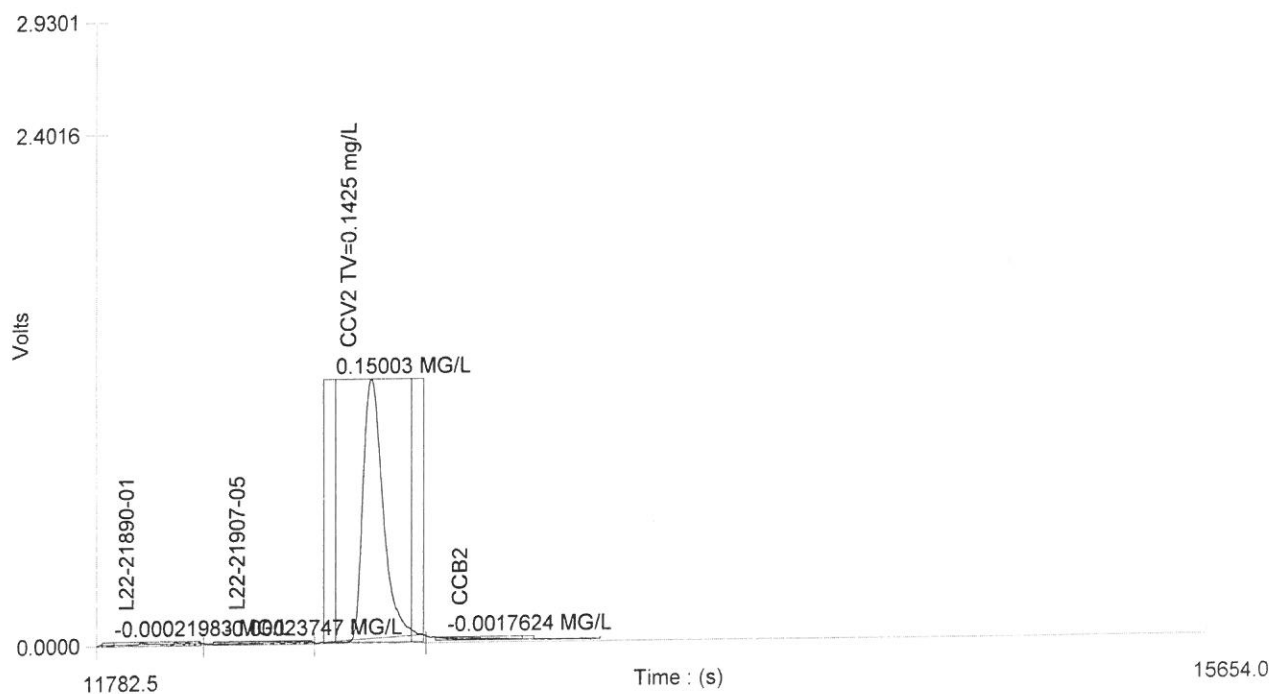
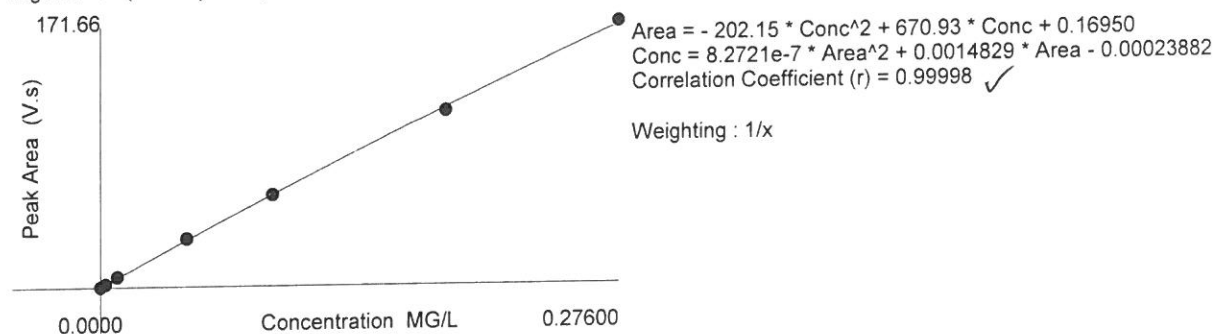


Table : 1 (Free Cyanide)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	0.27600	1	171.66	2.1949	0.0	-1.0	0.27870	11/17/2022	2:56:16 PM
2	0.18400	1	114.14	1.4911	0.0	2.3	0.17980	11/17/2022	3:02:45 PM
3	0.092000	1	59.831	0.77536	0.0	0.6	0.091449	11/17/2022	3:09:14 PM
4	0.046000	1	31.465	0.40943	0.0	-2.8	0.047241	11/17/2022	3:15:42 PM
5	0.0092000	1	6.7763	0.088190	0.0	-7.1	0.0098481	11/17/2022	3:22:11 PM
6	0.0027600	1	1.9792	0.028927	0.0	2.0	0.0026994	11/17/2022	3:28:39 PM
7	0.0000	1	0.055920	0.020402			0.0001558 9	11/17/2022	3:35:07 PM

100.9%  
97.7%  
94.4%  
102.7%  
107%  
97.8%

Figure : 1 (Free Cyanide)





Batch: 70463

Form 7237\_2 - 1

# Alloway Cyanide Free Sample Preparation Sheet

Instrument: Lachat Quikchem QC8500 Series II, Serial Number: 101000001274

Date: 11-17-22

Analyst: BCM

Note: Place 1 drop acetate buffer on lead acetate test strip prior to checking samples for sulfide

Acetate Buffer Reagent Number 5120959

Lead Acetate Test Strip Reagent Number R-30899

Lab #	Sulfide Check (+ or -)	Comments
1 2207071-03	-	
2 2207071-08	-	
3 2207081-01	-	
4 2207127-02	-	
5 2207231-01	-	MS/MSD
6 2207231-02	-	
7 2207231-03	-	
8 2207239-01	-	
9 2207242-01	-	
10 2207259-02	-	
11 2207261-04	-	
12 2206487-02	-	ug/L
13 2206611-11	-	ug/L
14 2206714-02	-	ug/L
15 2207384-01	-	MS/MSD
16 2207384-02	-	
17 2207612-01	-	
18 22-21890-01	-	
19 22-21907-05	-	
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

## Cyanide Free Reagent Tracking Sheet

ASTM Method D7237-15A

Instrument: Lachat Quikchem QC8500 Series II, Serial  
Number: 101000001274

Analyst:	BCM
Date:	11-17-22

CALIBRATION STANDARDS	
	Reagent/Solution #
1000 mg/L Calibration Standard:	R-33173
100 mg/L Standard:	N/A
10 mg/L Standard:	S121918
0.3 mg/L Calibration Standard:	→
0.2 mg/L Calibration Standard:	→
0.10 mg/L Calibration Standard:	→
0.05 mg/L Calibration Standard:	→
0.01 mg/L Calibration Standard:	→
0.005 mg/L Calibration Standard:	→
0.003 mg/L Calibration Standard:	→

As a set of  
S121918 on  
11-17-22

SECOND SOURCE STANDARD	
	Reagent/Solution #
1000 mg/L ICV/CCV Stock Standard:	R-33052
10 mg/L <del>100 mg/L</del> QCS: Standard:	S121919
0.15 mg/L ICV/CCV Standard:	S121924

Reagent	Reagent / Solution Number
1 M Sodium Hydroxide (NaOH)	S121353
0.1 M Sodium Hydroxide (NaOH)	S121251
0.025 M Sodium Hydroxide (NaOH)	S121923
Buffer Solution A	S121097
Buffer Solution B	S120289
0.2 M Phosphate Buffer - 6.0 pH	S121542
pH paper	✓
Lead Carbonate	R-31332



# Chain of Custody Record

This is a legal document that authorizes Allowway to perform testing on samples submitted under this agreement.

1/2

- 1101 North Cole Street, Lima, OH 45805  
(P) 419-223-1362 (F) 419-227-3792
- 1776 Marion-Waldo Road, Marion OH 43302  
(P) 740-389-5991 (F) 740-389-1481
- 1502 W. Fourth Street, Mansfield, OH 44906  
(P) 419-525-1644 (F) 419-524-5575

<b>Report To:</b> Name: Amy Romano Company: WSP USA INC. Address: 250 W 34th St., 4th Fl New York, NY 10119		<b>Invoice To (If Different):</b> Name: Environmental Accounts Payable Company: WSP USA Inc. Address: 13530 Dulles Technology Drive Herndon, VA 20171		<b>Project:</b> 2207384 						
Phone #: 315-374-1175 E-mail: amy.romano@wsp.com		Fax #: PO#: 31405608.001/Task 02								
Project Name: EMERSON (Ithaca, NY)		Sampler: Nate Winston (Print) (Signature)		Turnaround: (Rush Charges May Apply) Next Day <input type="checkbox"/> 3 Working Days <input type="checkbox"/> 2 Working Days <input type="checkbox"/> 5 Working Days <input type="checkbox"/> Routine <input checked="" type="checkbox"/>						
	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	OUTFALL 01A	11/14/22	0945		X	WW	1	5	Free Cyanide by ASTM D7237-15A	01
2	OUTFALL 011	11/14/22	1110		X	WW	1	5	Free Cyanide by ASTM D7237-15A	02
3										
4										
5										
6										
7										
8										
<b>Relinquished by:</b>		<b>Received by:</b>		<b>Date</b>	<b>Time</b>	<b>Method of Delivery</b>	<b>Matrix Codes:</b>	<b>Preservation Codes:</b>	<b>Sample Receiving</b> (For Lab Use Only)	
1			11/14/22			UPS <input type="checkbox"/>	ww - wastewater gw - groundwater	1 - None 7 - Sodium Thiosulfate 13 - Zinc Acetate	Ice Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
2						Fed Ex <input checked="" type="checkbox"/>	dw - drinking water sw - surface water	2 - HNO <sub>3</sub> 8 - Ascorbic Acid 14 - Sodium Sulfite		
3						Client <input type="checkbox"/>	w - water oil - oil	3 - H <sub>2</sub> SO <sub>4</sub> 9 - Maleic Acid 15 - Potassium Dihydrogen Citrate		
4						Alloway Pick Up <input type="checkbox"/>	s - solid sg - sludge	4 - HCl 10 - EDA 16 - Sodium Sulfite/Sodium Bisulfate	Proper Preservation? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
5						Alloway Sampling <input type="checkbox"/>	l - leachate a - acid	5 - NaOH 11 - Ammonium Chloride		
6						Other <input type="checkbox"/>	p - product o - other	6 - NaOH & Zinc Acetate 12 - (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> & NH <sub>4</sub> OH	Container Temperature: 13.0°C	
<b>Received for Laboratory By. (circle one):</b> Mansfield   Lima <u>Marion</u>										
<b>(Signature)</b> 11/15/22 10:45										

Transported to: Lima  
Marion

By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Transported to: Lima  
Marion

By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

07384

2/2

Cooler Temp

1.3

**Analyst:**

2

[illegible]