Sarah Aldridge
Project Manager
Site Investigation & Remediation

nationalgrid

July 13, 2018

Mr. R. Scott Deyette
Chief, Inspection Unit
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Western Remedial Action
625 Broadway, 11th Floor
Albany, New York 12233-7014

East Garden City Former Stewart Avenue Holder Station
Site Management Routine Annual Groundwater Well Sampling Report
Order on Consent – Index No. A2-0552-0606

Dear Mr. Deyette:

The purpose of this letter is to document the groundwater sampling activities completed by GEI Consultants, Inc., P.C. (GEI) on May 7, 2018 at the East Garden City Former Stewart Avenue Holder Station (the Site) located in Nassau County, New York. A site location map is provided as Figure 1 in Attachment 1 (Site Figures).

The sampling activities discussed below were completed pursuant to the requirements of the New York State Department of Environmental Conservation (NYSDEC) March 2013 Site Management Plan (SMP). The SMP was prepared to document the processes to be followed to monitor and manage residual contamination at the Site, identified during completion of a Site Characterization (SC) investigation at the Site in 2011 by Dvirka & Bartilucci Consulting Engineers and Architects, P.C. (D&B). As detailed in the December 2011 SC Report by D&B, the SC program identified low-level manufactured gas plant (MGP)-related residual contamination and other low-level contaminants (polycyclic aromatic hydrocarbons [PAHs], target analyte list [TAL] metals, and polychlorinated biphenyls [PCBs]), in surface and subsurface soil at the Site. In addition, elevated concentrations of total cyanide above the NYSDEC Class GA Groundwater Standards and Guidance Values were identified in one monitoring well (EGCMW-06) located in the southern portion of the Site. Site-wide monitoring well locations are depicted on Figure 2.

Based on elevated concentrations of total cyanide detected in groundwater samples collected from monitoring well EGCMW-06 during the SC investigation, the March 2013 SMP prepared by D&B and subsequent final version (D&B – February 2018) for the Site included provisions for the sampling of three groundwater monitoring wells (EGCMW-03, EGCMW-06 and EGCMW-07) for total cyanide analysis on an annual basis for an initial period of three years. Wells EGCMW-01 and EGCMW-03 are located on the downgradient perimeter of the Site. Per the requirements of the SMP, the frequency of future sampling events will be determined by the NYSDEC based on an evaluation of the associated analytical data generated throughout this initial three-year period; though, it should be noted that the May 2018 sample event represents the fifth sample event completed at the Site, based on NYSDEC direction.

175 East Old Country Road, Hicksville, NY 11801
T: 516.545.2568 ■ F: 516.545.2582 ■ Sarah.Aldridge@nationalgrid.com ■ www.nationalgrid.com

The following discussion provides a summary of the completed field activities and a detailed evaluation of the groundwater analytical results generated as part of the May 2018 groundwater sampling event.

Summary of Field Activities

Groundwater sampling activities, utilizing low-flow sampling techniques, were completed on May 7, 2018. Water level measurements were obtained using an electronic water level indicator. The depth to groundwater within each well was measured in reference to the top of the PVC casing in order to calculate the required purge volume. A check-valve and poly tubing was then utilized to purge and sample each well. The tubing was inserted into the well, within the area of the well screens (15 to 25 feet, 12.5 to 22.5 feet, and 16 to 26 feet below grade at EGCMW- 03, EGCMW-06, and EGCMW-07, respectively). The purge water generated from the wells was contained in a labeled 55-gallon drum and overpack for subsequent proper off-site disposal by National Grid.

The purge water was monitored for conductivity, dissolved oxygen, pH, temperature and turbidity utilizing a calibrated Horiba U-52 water quality meter. Results were recorded on Monitoring Well Sample Data Forms provided as Attachment 2. Purging continued until the pH, temperature and conductivity had stabilized to within 10 percent for three consecutive readings, and the minimum purge water volume requirements had been removed from each well.

Samples were transferred directly to the laboratory-supplied sample containers and sent to the analytical laboratory, TestAmerica Laboratories, Inc., within 24 hours of sample collection, for total cyanide analysis. Quality control (QC) samples collected during the groundwater sampling event included one matrix spike/matrix spike duplicate (MS/MSD) set.

Findings/Analysis of Analytical Results

Groundwater Flow

Based on the water level measurements, groundwater is located approximately 23 feet below grade and the groundwater flow direction beneath the Site, as determined during the 2011 SC investigation, is generally to the south.

Analytical Results

The total cyanide analytical results are provided below:

Sample ID	EGCMW-03	EGCMW-06	EGCMW-07	NYSDEC Class GA
Sampling Date	5/7/18	5/7/18	5/7/18	Standard or
Dilution Factor	1	10	1	Guidance Value
Units	µg/L	µg/L	µg/L	µg/L
Total Cyanide	19	**1,200**	25	200

Note:
Bold text denotes an exceedance of the Class GA Groundwater Standard.

Similar to previous results, exceedances were limited to monitoring well EGCMW-06. The total cyanide concentration of 1,200 micrograms per liter (µg/L) in EGCMW-06 was above the Class GA Standard of 200 µg/L. The total cyanide concentrations detected in EGCMW-06 have

varied since sampling began from a high of 1,590 µg/L in September 2011 to a low of 271 µg/L in April 2014.

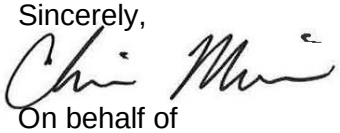
As shown above, total cyanide was detected well below the Class GA Standard in wells EGCMW-03 and EGCMW-07, at concentrations of 19 µg/L and 25 µg/L, respectively. Total cyanide concentrations at EGCMW-03 have generally been decreasing in recent sampling events. The total cyanide concentration in EGCMW-07 represents an increase relative to recent sampling events; however, it remains significantly below the Class GA Standard.

Sample locations and the May 2018 total cyanide concentrations in groundwater are depicted on Figure 2. The laboratory data package and a data usability summary report (DUSR) are provided in Attachment 3. Historical total cyanide concentrations are provided in Attachment 4.

Based on the relative consistency of the results of the annual total cyanide analysis of monitoring wells EGCMW-03, EGCMW-06 and EGCMW- 07, National Grid requests the sampling and reporting frequency be reduced to every other year.

Please do not hesitate to contact me at (516) 545-2568, if you have any questions and/or comments.

Sincerely,



On behalf of
Sarah Aldridge

Enclosures

cc: M. Quinlan, GEI

I:\Admin\Projects\Environmental\National Grid\OMM Downstate\13 Sites\East Garden City\Site Reports\2018 GW Report\letter.A2-0552-0606.2018-07-13.AnnualGWSummary.docx

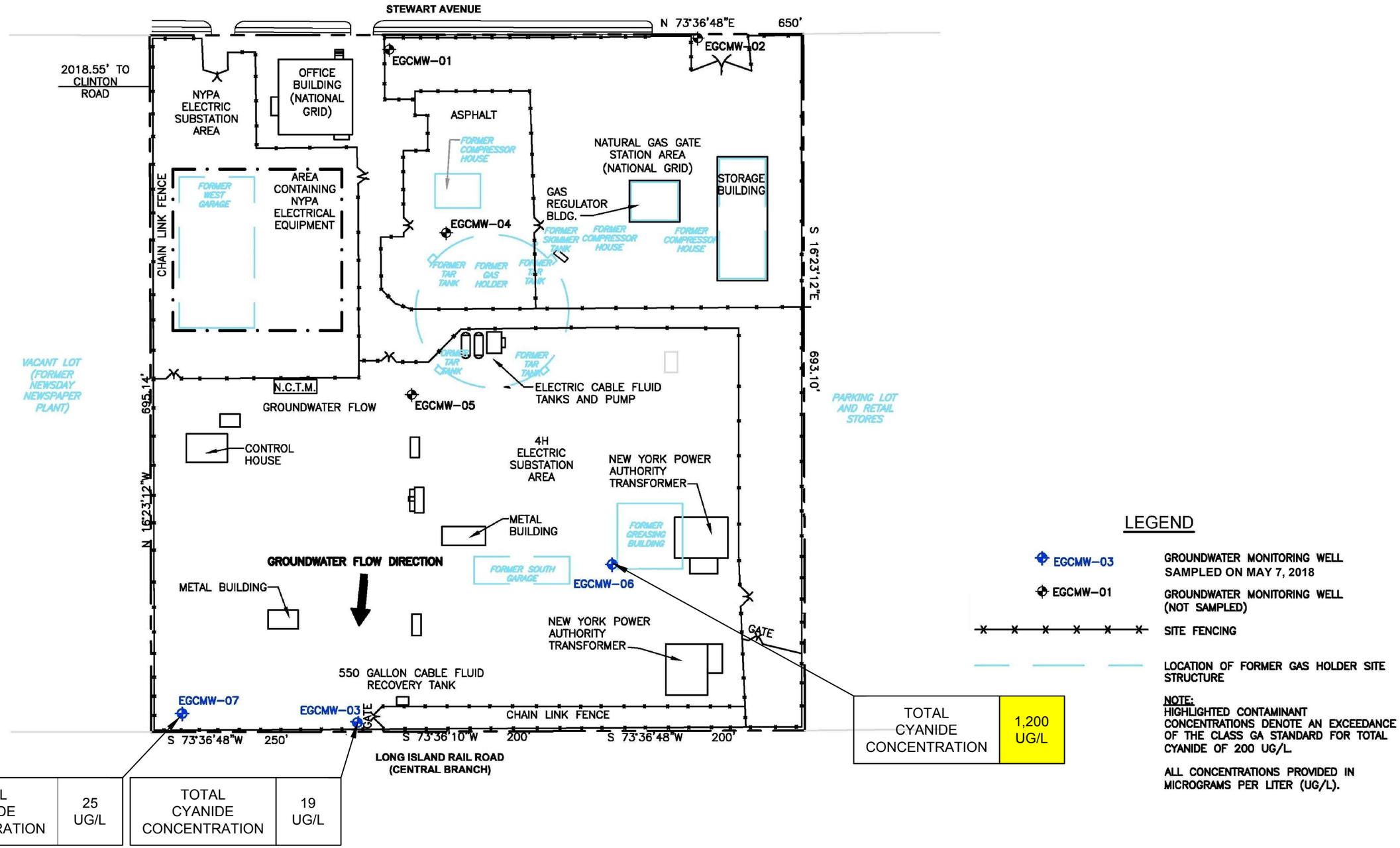
ATTACHMENT 1

SITE FIGURES

SOURCE:
MAP EXTRACTED FROM GOOGLE MAPS

EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION EAST GARDEN CITY, NEW YORK	GEI Consultants	SITE LOCATION MAP
NATIONAL GRID GARDEN CITY, NEW YORK	Project 1702897	JULY 2018 Fig. 1

\\hts1v-fs01\ I:\Tech\Environmental Projects\National Grid\OMM Downstate\13 Sites\East Garden City\CAD\Figures\1702897 - FIG 2.dwg - 6/6/2018



EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION
EAST GARDEN CITY, NEW YORK

NATIONAL GRID
GARDEN CITY, NEW YORK

GEI Consultants

SAMPLE LOCATION AND TOTAL CYANIDE CONCENTRATION SUMMARY MAP

Project 1702897 | JULY 2018 | Fig. 2

\\hts1v-fs01\ I:\Tech\Environmental Projects\National Grid\OMM Downstate\13 Sites\East Garden City\CAD\Figures\1702897 - FIG 1.dwg - 6/6/2018

ATTACHMENT 2

SAMPLING FORMS

MS | MSD

Monitoring Well Sample Data Form

Project: National Grid - East Garden City **Well ID:** EGCMW-03 **Sample Date:** 5/7/15

Total Well Depth (from top of casing): 27.00 **Depth to Water (from top of casing):** 24.46

Well Diameter: 3/4" 1" (2") 4" **Pump Intake Depth (Mid-Point of Screen Zone):** ~~20.0~~

Sampling Crew: Robert Sakalauskas **Purge Time:** Start: 1005 Finish: 10:50

Purging Method: Peristaltic Pump **Sample Time:** Start: (10:55) Finish:

Sampling Method: Low Flow CHECK VALVE

Sample Analysis: Cyanide 9012B CHECK VALVE

Purge Data										
Sample Time	~~Flow Rate~~ (lpm/gpm)	Volume Purged (liters/gals.)	pH (std. Units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (Cel.)	Salinity (%)	ORP (mV)	Comments/Observations
10.05	0.4	Initial	5.94	195	244	8.16	23.43	0.1	410	Well Headspace PID = 0.0
10.10		2	6.73	196	235	5.94	23.09	0.1	329	
10.15		4	6.64	195	237	5.77	23.01	0.1	332	
10.20		6		SAMPLE WELL AND COLLECT						
10:25		8		DATA USING		CHECK	VALVE			
10.30		10	6.75	.192	195	5.22	19.83	0.1	309	DTW 24.47
10.35		12	6.46	192	36.3	4.63	18.91	0.1	325	
10.40		14	6.44	194	5.5	4.55	19.27	0.1	329	
10.45		16	6.47	195	0.0	4.57	19.03	0.1	326	
10 50		18	6.52	196	0.0	4.61	18.57	0.1	326	CLEAR / cloudy NO ODOR

Monitoring Well Sample Data Form

Project: National Grid - East Garden City **Well ID:** EGCMW-05 **Sample Date:** 5/7/19

Total Well Depth (from top of casing): 25.50 **Depth to Water (from top of casing):** 22.02

Well Diameter: 3/4" 1" (2") 4" **Pump Intake Depth (Mid-Point of Screen Zone):** ~~17.50~~

Sampling Crew: Robert Sakalauskas **Purge Time:** Start: 12:30 Finish: 13:05

Purging Method: Peristaltic Pump **Sample Time:** Start: (13:10) Finish:

Sampling Method: Low Flow Check Valve

Sample Analysis: Cyanide 9012B Check Valve

Purge Data

Sample Time	Flow Rate (lpm/gpm)	Volume Purged (liters/gals.)	pH (std. Units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (Cel.)	Salinity (%)	ORP (mV)	Comments/Observations
12:30	0.4	Initial	6.56	324	0.0	4.02	20.70	0.2	336	Well Headspace PID = 0.0
12:35		2	6.44	327	0.0	3.91	17.93	0.2	344	
12:40		4	6.45	324	0.4	3.85	17.62	0.2	346	
12:45		6	6.43	323	0.7	4.03	17.41	0.2	350	
12:50		8	6.38	320	0.0	3.79	17.23	0.2	348	
12:55		10	6.37	318	0.0	3.73	17.88	0.2	349	DWL 22.02
13:00		12	6.37	317	0.0	3.78	17.91	0.2	348	
13:05		14	6.40	317	0.0	3.68	18.02	0.2	344	
										Clear/Cloudy
										No Odor

Monitoring Well Sample Data Form

Project: National Grid - East Garden City **Well ID:** EGCMW-07 **Sample Date:** 5/7/18

Total Well Depth (from top of casing): 28.00

Depth to Water (from top of casing): ~~23.91~~ 23.81

Well Diameter: 3/4" 1" (2") 4"

Pump Intake Depth (Mid-Point of Screen Zone): ~~27.00~~

Sampling Crew: Robert Sakalauskas

Purge Time: Start: 11.25 Finish: 12.05

Purging Method: Peristaltic Pump

Sampling Method: Low Flow CHECK VALVE

Sample Time: Start: (12.10) Finish:

Sample Analysis: Cyanide 9012B

Purge Data

Sample Time	Flow Rate (lpm/gpm)	Volume Purged (liters/gals.)	pH (std. Units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (Cel.)	Salinity (%)	ORP (mV)	Comments/Observations
11.25	0.4	Initial	6.35	.161	0.0	4.66	21.40	0.1	326	Well Headspace PID = 0.0
11.30		2	6.06	.166	0.0	5.30	19.40	0.1	315	
11.35		4	5.81	.163	0.0	4.88	18.81	0.1	333	
11.40		6	5.76	.162	0.0	4.65	19.28	0.1	350	
11.45		8	5.71	.161	4.93	4.42	18.53	0.1	347	
11.50		10	5.73	.162	2.15	4.84	15.70	0.1	353	DWL: 25.84
11.55		12	5.99	.162	0.0	4.69	19.77	0.1	346	
12.00		14	5.84	.163	0.0	4.75	17.78	0.1	350	
12.05		16	5.96	.160	0.0	4.55	18.09	0.1	346	
										CLEAR
										12:00 ODOR.

ATTACHMENT 3

LABORATORY DATA AND DATA USABILITY SUMMARY REPORT

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 460-155672-1

Job Description: National Grid-Downstate East Garden City

For:
GEI Consultants, Inc.
110 Walt Whitman Road
Suite 204
Huntington Station, NY 11746

Attention: Christopher Morris

Melissa Haas

Approved for release.
Melissa Haas
Project Manager I
6/18/2018 1:29 PM

Melissa Haas, Project Manager I
777 New Durham Road, Edison, NJ, 08817
(203)944-1310
melissa.haas@testamericainc.com
06/18/2018

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LAO00132

Job Number: 460-155672-1

Job Description: National Grid-Downstate East Garden City

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Approved for release.
Melissa Haas
Project Manager I
6/18/2018 1:29 PM

Melissa Haas

Table of Contents

Table of Contents

CASE NARRATIVE

Client: GEI Consultants, Inc.

Project: National Grid-Downstate East Garden City

Report Number: 460-155672-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 5/8/2018 7:11 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

TOTAL CYANIDE
Samples EGCMW-03 (460-155672-1), EGCMW-06 (460-155672-2) and EGCMW-07 (460-155672-3) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012B. The samples were prepared on 05/13/2018 and analyzed on 05/14/2018.

Sample EGCMW-06 (460-155672-2)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the cyanide analysis.

All quality control parameters were within the acceptance limits.

Sample Summary

Client: GEI Consultants, Inc.
TestAmerica Job ID: 460-155672-1
Project/Site: National Grid-Downstate East Garden City

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-155672-1	EGCMW-03	Water	05/07/18 10:55	05/08/18 19:11
460-155672-2	EGCMW-06	Water	05/07/18 13:10	05/08/18 19:11
460-155672-3	EGCMW-07	Water	05/07/18 12:10	05/08/18 19:11

Detection Summary

Client: GEI Consultants, Inc.
Project/Site: National Grid-Downstate East Garden City

TestAmerica Job ID: 460-155672-1

Client Sample ID: EGCMW-03 — Lab Sample ID: 460-155672-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.019		0.010	0.0020	mg/L	1		9012B	Total/NA

Client Sample ID: EGCMW-06 — Lab Sample ID: 460-155672-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	1.2		0.10	0.020	mg/L	10		9012B	Total/NA

Client Sample ID: EGCMW-07 — Lab Sample ID: 460-155672-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.025		0.010	0.0020	mg/L	1		9012B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GEI Consultants, Inc. TestAmerica Job ID: 460-155672-1
Project/Site: National Grid-Downstate East Garden City

Method	Method Description	Protocol	Laboratory
9012B	Cyanide, Total andor Amenable	SW846	TAL EDI
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Client Sample ID: EGCMW-03 — Lab Sample ID: 460-155672-1

Date Collected: 05/07/18 10:55 — **Matrix: Water**
Date Received: 05/08/18 19:11

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.019		0.010	0.0020	mg/L		05/13/18 17:15	05/14/18 11:05	1

Client Sample ID: EGCMW-06 — Lab Sample ID: 460-155672-2

Date Collected: 05/07/18 13:10 — **Matrix: Water**
Date Received: 05/08/18 19:11

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	1.2		0.10	0.020	mg/L		05/13/18 17:15	05/14/18 11:37	10

Client Sample ID: EGCMW-07 — Lab Sample ID: 460-155672-3

Date Collected: 05/07/18 12:10 — **Matrix: Water**
Date Received: 05/08/18 19:11

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.025		0.010	0.0020	mg/L		05/13/18 17:15	05/14/18 11:09	1

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 460-518763/1-A
Matrix: Water
Analysis Batch: 518955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 518763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0020	mg/L		05/13/18 17:15	05/14/18 11:04	1

Lab Sample ID: LCS 460-518763/2-A
Matrix: Water
Analysis Batch: 518955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 518763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0992		mg/L		99	85 - 115

Lab Sample ID: 460-155672-1 MS
Matrix: Water
Analysis Batch: 518955

Client Sample ID: EGCMW-03
Prep Type: Total/NA
Prep Batch: 518763

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.019		0.200	0.227		mg/L		104	90 - 110

Lab Sample ID: 460-155672-1 MSD
Matrix: Water
Analysis Batch: 518955

Client Sample ID: EGCMW-03
Prep Type: Total/NA
Prep Batch: 518763

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.019		0.200	0.238		mg/L		109	90 - 110	5	20

Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

General Chemistry

Prep Batch: 518763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-155672-1	EGCMW-03	Total/NA	Water	9012B	
460-155672-2	EGCMW-06	Total/NA	Water	9012B	
460-155672-3	EGCMW-07	Total/NA	Water	9012B	
MB 460-518763/1-A	Method Blank	Total/NA	Water	9012B	
LCS 460-518763/2-A	Lab Control Sample	Total/NA	Water	9012B	
460-155672-1 MS	EGCMW-03	Total/NA	Water	9012B	
460-155672-1 MSD	EGCMW-03	Total/NA	Water	9012B	

Analysis Batch: 518955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-155672-1	EGCMW-03	Total/NA	Water	9012B	518763
460-155672-2	EGCMW-06	Total/NA	Water	9012B	518763
460-155672-3	EGCMW-07	Total/NA	Water	9012B	518763
MB 460-518763/1-A	Method Blank	Total/NA	Water	9012B	518763
LCS 460-518763/2-A	Lab Control Sample	Total/NA	Water	9012B	518763
460-155672-1 MS	EGCMW-03	Total/NA	Water	9012B	518763
460-155672-1 MSD	EGCMW-03	Total/NA	Water	9012B	518763

Lab Chronicle

Client: GEI Consultants, Inc.
Project/Site: National Grid-Downstate East Garden City

TestAmerica Job ID: 460-155672-1

Client Sample ID: EGCMW-03
Date Collected: 05/07/18 10:55
Date Received: 05/08/18 19:11

Lab Sample ID: 460-155672-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			518763	05/13/18 17:15	MBE	TAL EDI
Total/NA	Analysis	9012B		1	518955	05/14/18 11:05	HTV	TAL EDI

Client Sample ID: EGCMW-06
Date Collected: 05/07/18 13:10
Date Received: 05/08/18 19:11

Lab Sample ID: 460-155672-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			518763	05/13/18 17:15	MBE	TAL EDI
Total/NA	Analysis	9012B		10	518955	05/14/18 11:37	HTV	TAL EDI

Client Sample ID: EGCMW-07
Date Collected: 05/07/18 12:10
Date Received: 05/08/18 19:11

Lab Sample ID: 460-155672-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			518763	05/13/18 17:15	MBE	TAL EDI
Total/NA	Analysis	9012B		1	518955	05/14/18 11:09	HTV	TAL EDI

Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: GEI Consultants, Inc. TestAmerica Job ID: 460-155672-1
Project/Site: National Grid-Downstate East Garden City

Laboratory: TestAmerica Edison

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Connecticut	State Program	1	PH-0200	09-30-18
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	N/A	12-31-18
New Jersey	NELAP	2	12028	06-30-18
New York	NELAP	2	11452	04-01-19
Pennsylvania	NELAP	3	68-00522	02-28-19
Rhode Island	State Program	1	LAO00132	12-30-18
USDA	Federal		NJCA-003-08	06-13-20

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job Number: 460-155672-1

SDG No.:

Project: National Grid-Downstate East Garden City

Client Sample ID	Lab Sample ID
EGCMW-03	460-155672-1
EGCMW-06	460-155672-2
EGCMW-07	460-155672-3

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EGCMW-03 Lab Sample ID: 460-155672-1

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG ID.:

Matrix: Water Date Sampled: 05/07/2018 10:55

Reporting Basis: WET Date Received: 05/08/2018 19:11

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
57-12-5	Cyanide, Total	0.019	0.010	0.0020	mg/L			1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EGCMW-06 Lab Sample ID: 460-155672-2

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG ID.:

Matrix: Water Date Sampled: 05/07/2018 13:10

Reporting Basis: WET Date Received: 05/08/2018 19:11

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
57-12-5	Cyanide, Total	1.2	0.10	0.020	mg/L			10	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EGCMW-07 Lab Sample ID: 460-155672-3

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG ID.:

Matrix: Water Date Sampled: 05/07/2018 12:10

Reporting Basis: WET Date Received: 05/08/2018 19:11

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
57-12-5	Cyanide, Total	0.025	0.010	0.0020	mg/L			1	9012B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Analyst: HTV Batch Start Date: 05/14/2018

Reporting Units: mg/L Analytical Batch No.: 518955

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
10	ICV	09:49	Cyanide, Total	0.200	0.200	100	85-115		WTcn6ppm_ICV_00083
11	ICB	09:50	Cyanide, Total	0.010				U	
80	CCV	10:59	Cyanide, Total	0.200	0.200	100	85-115		WTcn6ppm_Pri_00104
81	CCB	11:02	Cyanide, Total	0.010				U	
92	CCV	11:12	Cyanide, Total	0.200	0.200	100	85-115		WTcn6ppm_Pri_00104
93	CCB	11:14	Cyanide, Total	0.010				U	
104	CCV	11:24	Cyanide, Total	0.201	0.200	101	85-115		WTcn6ppm_Pri_00104
105	CCB	11:26	Cyanide, Total	0.010				U	
116	CCV	11:38	Cyanide, Total	0.202	0.200	101	85-115		WTcn6ppm_Pri_00104
117	CCB	11:41	Cyanide, Total	0.010				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 518955	Date: 05/14/2018 11:04	Prep Batch: 518763	Date: 05/13/2018 17:15				
9012B	MB 460-518763/1-A	Cyanide, Total	0.010	U	mg/L	0.010	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 518955	Date: 05/14/2018 11:06		Prep Batch: 518763		Date: 05/13/2018 17:15						
9012B	460-155672-1	Cyanide, Total	0.019		mg/L						
9012B	460-155672-1 MS	Cyanide, Total	0.227		mg/L	0.200	104	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 518955	Date: 05/14/2018 11:07		Prep Batch: 518763		Date: 05/13/2018 17:15						
9012B	460-155672-1 MSD	Cyanide, Total	0.238		mg/L	0.200	109	90-110	5	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 518955	Date: 05/14/2018 11:05		Prep Batch: 518763		Date: 05/13/2018 17:15						
					LCS Source: WTcnCmplex-IM_00093						
9012B	LCS 460-518763/2-A	Cyanide, Total	0.0992		mg/L	0.100	99	85-115			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job Number: 460-155672-1

SDG Number:

Matrix: Water Instrument ID: Lachat3

Method: 9012B MDL Date: 04/20/2018 11:15

Prep Method: 9012B

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Cyanide, Total		0.01	0.002

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job Number: 460-155672-1

SDG Number:

Matrix: Water Instrument ID: Lachat3

Method: 9012B XMDL Date: 04/20/2018 11:15

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Cyanide, Total		0.01	0.002

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Prep Method: 9012B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 460-518763/1-A	05/13/2018 17:15	518763		6	6
LCS 460-518763/2-A	05/13/2018 17:15	518763		6	6
460-155672-1	05/13/2018 17:15	518763		6	6
460-155672-1 MS	05/13/2018 17:15	518763		6	6
460-155672-1 MSD	05/13/2018 17:15	518763		6	6
460-155672-2	05/13/2018 17:15	518763		6	6
460-155672-3	05/13/2018 17:15	518763		6	6

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Instrument ID: Lachat3 Method: 9012B

Start Date: 05/14/2018 09:40 End Date: 05/14/2018 11:41

Lab Sample ID	D/F	Type	Time	Analytes																			
				CN																			
IC 460-518760/8-A			09:40	X																			
IC 460-518760/9-A			09:41	X																			
IC 460-518760/10-A			09:42	X																			
IC 460-518760/11-A			09:42	X																			
IC 460-518760/12-A			09:43	X																			
IC 460-518760/13-A			09:44	X																			
IC 460-518760/14-A			09:45	X																			
CCV 460-518760/15-A			09:46																				
CCB 460-518955/9			09:49																				
ICV 460-517973/39-A	1		09:49	X																			
ICB 460-518955/11	1		09:50	X																			
ZZZZZZ			09:51																				
ZZZZZZ			09:52																				
ZZZZZZ			09:53																				
ZZZZZZ			09:54																				
ZZZZZZ			09:55																				
ZZZZZZ			09:55																				
ZZZZZZ			09:56																				
ZZZZZZ			09:57																				
CCV 460-518760/15-A			09:58																				
CCB 460-518955/21			10:01																				
ZZZZZZ			10:02																				
ZZZZZZ			10:03																				
ZZZZZZ			10:03																				
ZZZZZZ			10:04																				
ZZZZZZ			10:05																				
ZZZZZZ			10:06																				
ZZZZZZ			10:07																				
ZZZZZZ			10:08																				
ZZZZZZ			10:09																				
ZZZZZZ			10:09																				
CCV 460-518760/15-A			10:10																				
CCB 460-518955/33			10:13																				
ZZZZZZ			10:14																				
ZZZZZZ			10:15																				
ZZZZZZ			10:16																				
ZZZZZZ			10:16																				
ZZZZZZ			10:17																				
ZZZZZZ			10:18																				
ZZZZZZ			10:19																				
ZZZZZZ			10:20																				
ZZZZZZ			10:21																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Instrument ID: Lachat3 Method: 9012B

Start Date: 05/14/2018 09:40 End Date: 05/14/2018 11:41

Lab Sample ID	D / F	Type	Time	Analytes																			
				CN																			
ZZZZZZ			10:22																				
CCV 460-518760/15-A			10:23																				
CCB 460-518955/45			10:25																				
ZZZZZZ			10:26																				
ZZZZZZ			10:27																				
ZZZZZZ			10:28																				
ZZZZZZ			10:29																				
ZZZZZZ			10:30																				
ZZZZZZ			10:30																				
ZZZZZZ			10:31																				
ZZZZZZ			10:32																				
ZZZZZZ			10:33																				
ZZZZZZ			10:34																				
CCV 460-518760/15-A			10:35																				
CCB 460-518955/57			10:37																				
ZZZZZZ			10:38																				
ZZZZZZ			10:39																				
ZZZZZZ			10:40																				
ZZZZZZ			10:41																				
ZZZZZZ			10:42																				
ZZZZZZ			10:43																				
ZZZZZZ			10:44																				
ZZZZZZ			10:44																				
ZZZZZZ			10:45																				
ZZZZZZ			10:46																				
CCV 460-518760/15-A			10:47																				
CCB 460-518955/69			10:50																				
ZZZZZZ			10:51																				
ZZZZZZ			10:51																				
ZZZZZZ			10:52																				
ZZZZZZ			10:53																				
ZZZZZZ			10:54																				
ZZZZZZ			10:55																				
ZZZZZZ			10:56																				
ZZZZZZ			10:57																				
ZZZZZZ			10:58																				
ZZZZZZ			10:58																				
CCV 460-518760/15-A	1		10:59	X																			
CCB 460-518955/81	1		11:02	X																			
ZZZZZZ			11:03																				
MB 460-518763/1-A	1	T	11:04	X																			
LCS 460-518763/2-A	1	T	11:05	X																			

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Instrument ID: Lachat3 Method: 9012B

Start Date: 05/14/2018 09:40 End Date: 05/14/2018 11:41

Lab Sample ID	D/F	Type	Time	Analytes																			
				CN																			
460-155672-1	1	T	11:05	X																			
460-155672-1 MS	1	T	11:06	X																			
460-155672-1 MSD	1	T	11:07	X																			
ZZZZZZ			11:08																				
460-155672-3	1	T	11:09	X																			
ZZZZZZ			11:10																				
ZZZZZZ			11:11																				
CCV 460-518760/15-A	1		11:12	X																			
CCB 460-518955/93	1		11:14	X																			
ZZZZZZ			11:15																				
ZZZZZZ			11:16																				
ZZZZZZ			11:17																				
ZZZZZZ			11:18																				
ZZZZZZ			11:19																				
ZZZZZZ			11:19																				
ZZZZZZ			11:20																				
ZZZZZZ			11:21																				
ZZZZZZ			11:22																				
ZZZZZZ			11:23																				
CCV 460-518760/15-A	1		11:24	X																			
CCB 460-518955/105	1		11:26	X																			
ZZZZZZ			11:27																				
ZZZZZZ			11:28																				
ZZZZZZ			11:29																				
ZZZZZZ			11:30																				
ZZZZZZ			11:31																				
ZZZZZZ			11:32																				
ZZZZZZ			11:33																				
ZZZZZZ			11:33																				
ZZZZZZ			11:34																				
460-155672-2	10	T	11:37	X																			
CCV 460-518760/15-A	1		11:38	X																			
CCB 460-518955/117	1		11:41	X																			

Prep Types

T = Total/NA

Original Run Filename: OM_5-14-2018_09-39-17AM.OMN Created: 5/14/2018 9:39:17 AM
Original Run Author's Signature: [EdiLachat]
Current Run Filename: OM_5-14-2018_09-39-17AM.OMN Last Modified: 5/14/2018 11:42:47 AM
Current Run Author's Signature: [EdiLachat]
Description: Default New Run

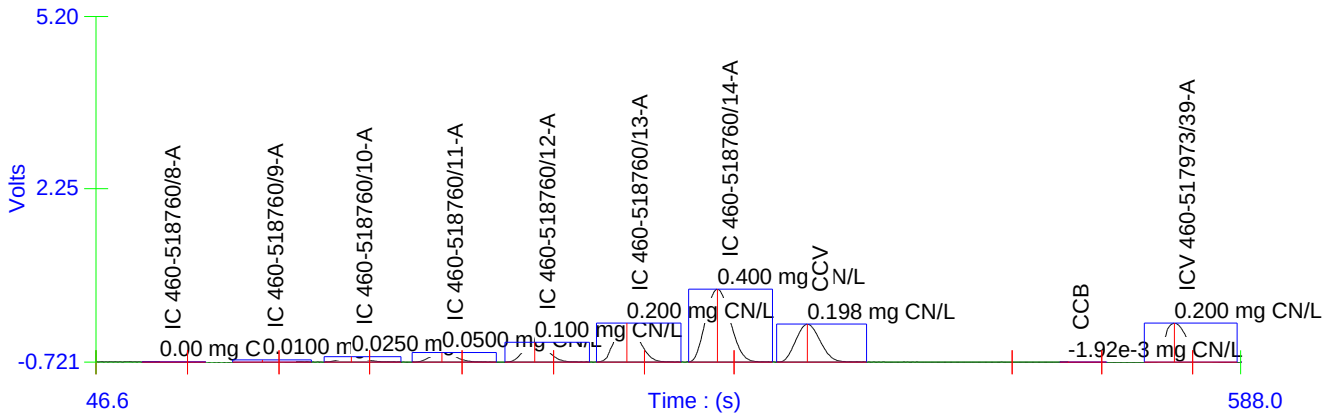
Sample	Rep.	Cup No.	Channel 1 Cyanide Conc. (mg CN/L)	Channel 1 Cyanide Area (V.s)
IC 460-518760/8-A	1	1	0.00	0.0436
IC 460-518760/9-A	1	2	0.0100	0.501
IC 460-518760/10-A	1	3	0.0250	1.23
IC 460-518760/11-A	1	4	0.0500	2.20
IC 460-518760/12-A	1	5	0.100	4.46
IC 460-518760/13-A	1	6	0.200	8.81
IC 460-518760/14-A	1	7	0.400	16.7
CCV	1	S8	0.198	8.52
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	-1.0 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	-1.0 > -10.0	
		Message	CCV Passed	
		Action	Continue	
		Calibration:	Table/Fig. : 1	
CCB	1	S9	-1.92e-3	-5.65e-4
		Known Conc:	0.00	
ICV 460-517973/39-A	1	8	0.200	8.59
ICB	1	9	-1.21e-3	0.0297
MB 460-518760/1-A	1	10	1.66e-3	0.152
LCSSRM 460-518760/2-A@20	1	11	0.128	5.52
460-155919-D-1-D	1	12	4.23e-3	0.262
460-155919-D-1-E MS	1	13	0.193	8.32
460-155919-D-1-F MSD	1	14	0.201	8.63
460-155919-D-2-C	1	15	6.06e-4	0.107
460-155919-E-3-C	1	16	-6.89e-4	0.0519
MB 460-518755/1-A	1	17	1.08e-3	0.127
CCV	1	S8	0.198	8.52
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	-1.0 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	-1.0 > -10.0	
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-1.39e-3	0.0221
		Known Conc:	0.00	
LCSSRM 460-518755/2-A@20	1	18	0.129	5.56
460-155704-I-3-D	1	19	3.50e-3	0.230
460-155704-I-3-E MS	1	20	0.0578	2.55
460-155704-I-3-F MSD	1	21	0.0605	2.66
460-155704-G-2-E	1	22	5.38e-3	0.310
460-155704-M-3-A	1	23	3.02e-3	0.210
460-155704-G-4-D	1	24	0.0120	0.591
460-155704-I-5-B	1	25	0.0116	0.576
460-155704-M-6-B	1	26	0.0148	0.714
460-155704-L-7-B	1	27	0.0188	0.882
CCV	1	S8	0.197	8.49
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	-1.4 < 10.0	
		Message	Passed ccv	
		Action	Continue	

DQM Test: < - Percent Relative Difference				
		Result:	-1.4 > -10.0	
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-1.59e-3	0.0136
		Known Conc:	0.00	
460-155704-K-8-B	1	28	4.32e-3	0.265
460-155749-F-1-C	1	29	-2.23e-3	-0.0136
460-155749-F-2-C	1	30	1.57e-4	0.0880
460-155749-F-3-C	1	31	-1.33e-3	0.0247
460-155749-F-3-D MS	1	32	0.202	8.68
460-155749-F-3-E MSD	1	33	0.210	9.03
460-155749-H-4-D	1	34	-1.15e-3	0.0322
460-155749-H-5-B	1	35	6.54e-4	0.109
460-155749-H-7-D	1	36	2.33e-5	0.0823
460-155795-A-1-H	1	37	3.02e-3	0.210
CCV	1	S8	0.199	8.55
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	-0.7 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	-0.7 > -10.0	
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-1.88e-3	1.11e-3
		Known Conc:	0.00	
460-155795-B-6-I	1	38	1.70e-3	0.154
460-155795-B-11-C	1	39	3.00e-3	0.209
460-155795-A-16-H	1	40	0.0118	0.583
460-155795-A-21-C	1	41	0.0151	0.726
460-155795-B-28-C	1	42	3.71e-3	0.239
MB 460-518409/1-A	1	43	-9.01e-4	0.0429
LCSSRM 460-518409/2-A@20	1	44	0.118	5.11
460-155254-B-140-G	1	45	3.40e-5	0.0827
460-155254-B-140-H MS	1	46	0.203	8.73
460-155254-B-140-I MSD	1	47	0.215	9.26
CCV	1	S8	0.199	8.57
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	-0.4 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	-0.4 > -10.0	
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-1.30e-3	0.0259
		Known Conc:	0.00	
460-155254-B-7-C	1	48	3.93e-4	0.0981
460-155254-A-67-C	1	49	6.11e-4	0.107
460-155254-A-61-C	1	50	-1.34e-3	0.0240
460-155254-A-148-D	1	51	-1.86e-3	2.13e-3
460-155568-B-18-C	1	52	7.57e-4	0.114
460-155568-B-19-C	1	53	7.82e-4	0.115
460-155568-B-20-C	1	54	-1.82e-4	0.0735
460-155568-B-21-C	1	55	9.29e-4	0.121
460-155235-F-1-F	1	56	-7.43e-4	0.0496
460-155235-G-2-B	1	57	7.14e-3	0.385
CCV	1	S8	0.200	8.59
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	-0.2 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	-0.2 > -10.0	

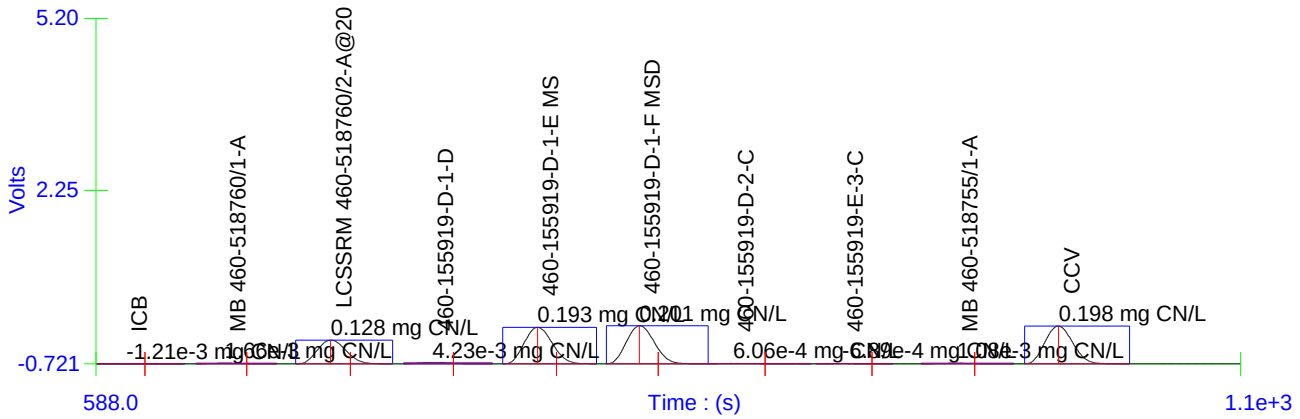
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-6.72e-3	-0.205
		Known Conc:	0.00	
460-155235-G-2-C MS	1	58	0.117	5.05
460-155235-G-2-D MSD	1	59	0.126	5.46
460-155477-C-1-A	1	60	1.83e-4	0.0891
460-155579-E-10-A	1	61	4.18e-3	0.259
460-155579-E-9-B	1	62	9.16e-4	0.120
460-155629-H-1-F	1	63	-7.56e-4	0.0491
460-155629-E-2-F	1	64	-4.67e-4	0.0614
460-155629-E-3-F	1	65	-4.82e-4	0.0607
460-155629-G-4-B	1	66	-5.47e-3	-0.152
460-155667-F-1-D	1	67	9.41e-3	0.482
CCV	1	S8	0.200	8.59
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	-0.2 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	-0.2 > -10.0	
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-1.55e-3	0.0154
		Known Conc:	0.00	
460-155715-G-1-E	1	68	5.51e-3	0.316
MB 460-518763/1-A	1	69	-9.68e-4	0.0400
LCS 460-518763/2-A	1	70	0.0992	4.31
460-155672-A-1-D	1	71	0.0192	0.898
460-155672-A-1-E MS	1	72	0.227	9.75
460-155672-A-1-F MSD	1	73	0.238	10.2
460-155672-A-2-B	1	74	1.03	43.9
460-155672-A-3-B	1	75	0.0246	1.13
460-155212-E-1-D	1	76	0.0219	1.02
460-155212-E-2-B	1	77	7.96e-3	0.420
CCV	1	S8	0.200	8.62
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	0.1 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	0.1 > -10.0	
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-1.54e-3	0.0155
		Known Conc:	0.00	
460-155212-E-3-B	1	78	2.68e-3	0.196
460-155405-F-2-B	1	79	2.17e-3	0.174
460-155405-F-3-B	1	80	1.89e-3	0.162
460-155192-A-1-A	1	81	-7.78e-5	0.0780
460-155192-A-2-A	1	82	7.64e-4	0.114
460-155192-A-3-A	1	83	-6.70e-5	0.0784
460-155192-A-3-B MS	1	84	0.215	9.23
460-155192-A-3-C MSD	1	85	0.203	8.72
460-155154-D-1-A	1	86	-1.14e-3	0.0326
460-155234-A-1-A	1	87	2.69e-3	0.196
CCV	1	S8	0.201	8.65
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	0.6 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	0.6 > -10.0	
		Message	CCV Passed	
		Action	Continue	

CCB	1	S9	-1.54e-3	0.0157
		Known Conc:	0.00	
460-155251-I-1-A	1	88	2.93e-4	0.0938
460-155229-A-1-A	1	89	2.66e-3	0.195
460-155392-C-6-A	1	90	1.78e-3	0.157
460-155760-L-27-A	1	91	-5.90e-5	0.0788
460-155627-G-1-A	1	92	3.75e-3	0.241
460-155530-E-3-B	1	93	5.22e-3	0.304
460-155210-A-2-A	1	94	3.54e-3	0.232
460-155210-A-2-B MS	1	95	0.143	6.18
460-155210-A-2-C MSD	1	96	0.0877	3.82
460-155672-A-2-B@10	1	97	0.115	4.98
CCV	1	S8	0.202	8.69
		Known Conc:	0.200	
DQM Test: > + Percent Relative Difference				
		Result:	1.0 < 10.0	
		Message	Passed ccv	
		Action	Continue	
DQM Test: < - Percent Relative Difference				
		Result:	1.0 > -10.0	
		Message	CCV Passed	
		Action	Continue	
CCB	1	S9	-1.58e-3	0.0140
		Known Conc:	0.00	

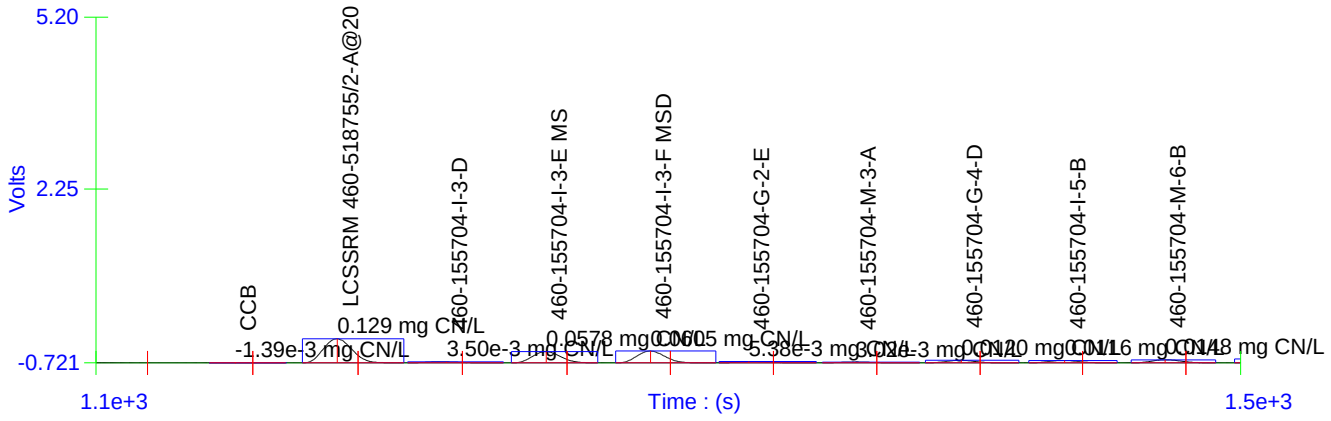
Channel 1 (Cyanide) - Set: 1 / 12



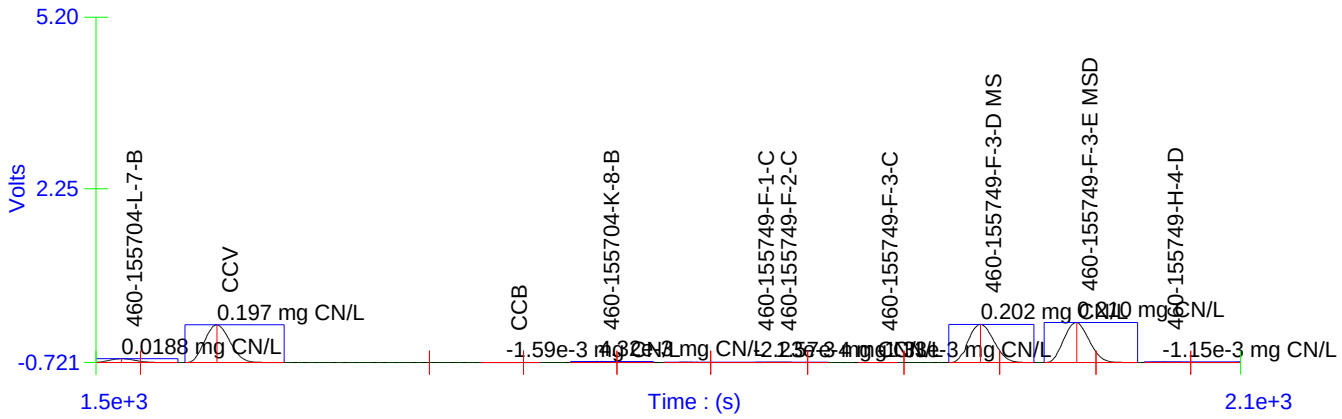
Channel 1 (Cyanide) - Set: 2 / 12



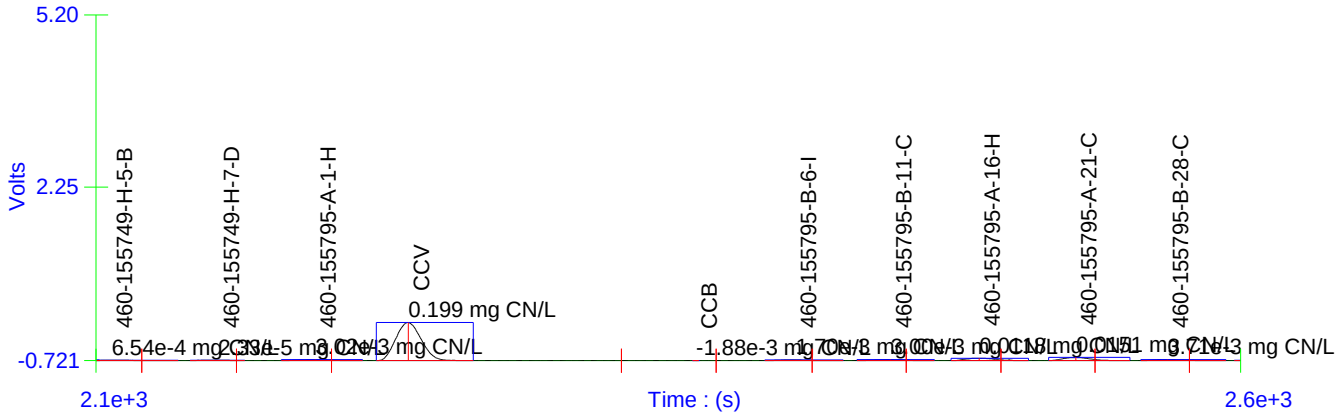
Channel 1 (Cyanide) - Set: 3 / 12



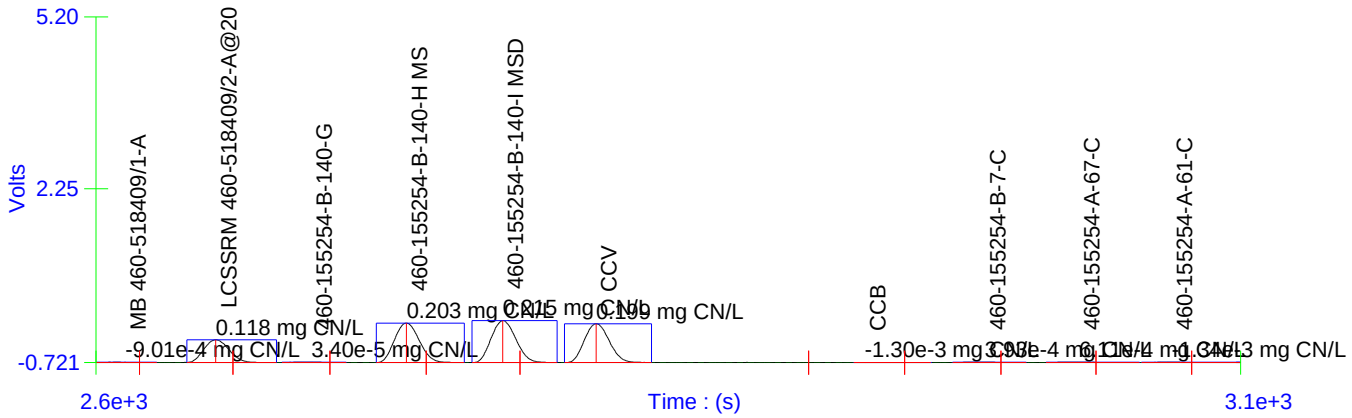
Channel 1 (Cyanide) - Set: 4 / 12



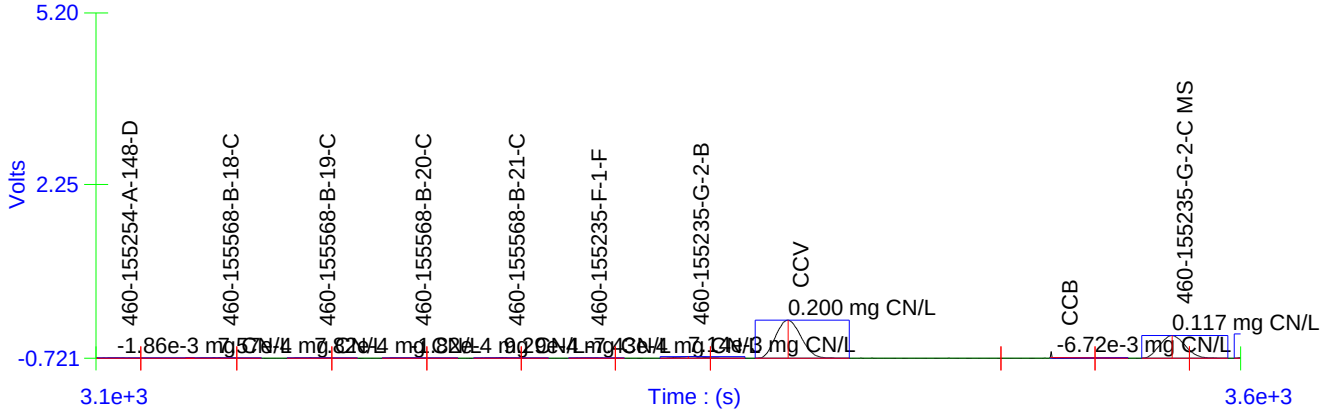
Channel 1 (Cyanide) - Set: 5 / 12



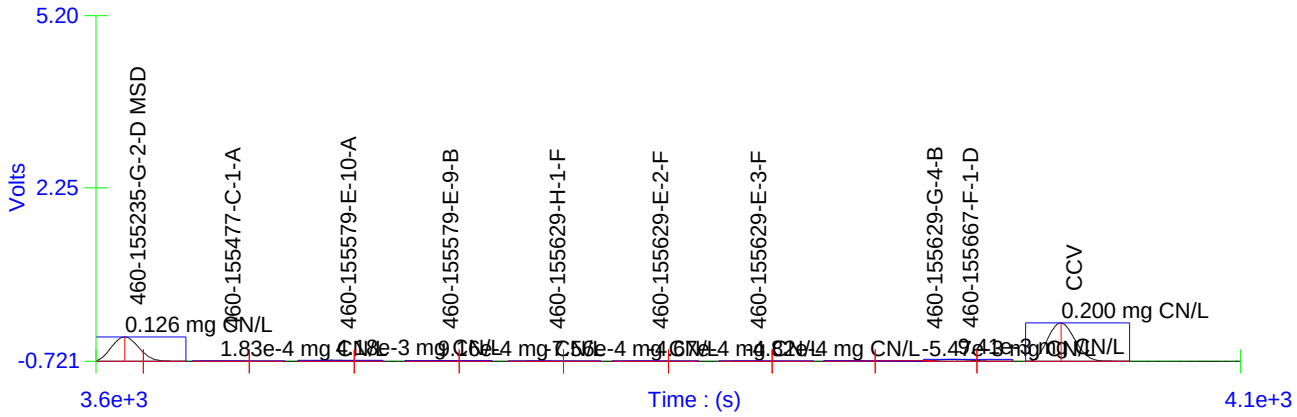
Channel 1 (Cyanide) - Set: 6 / 12



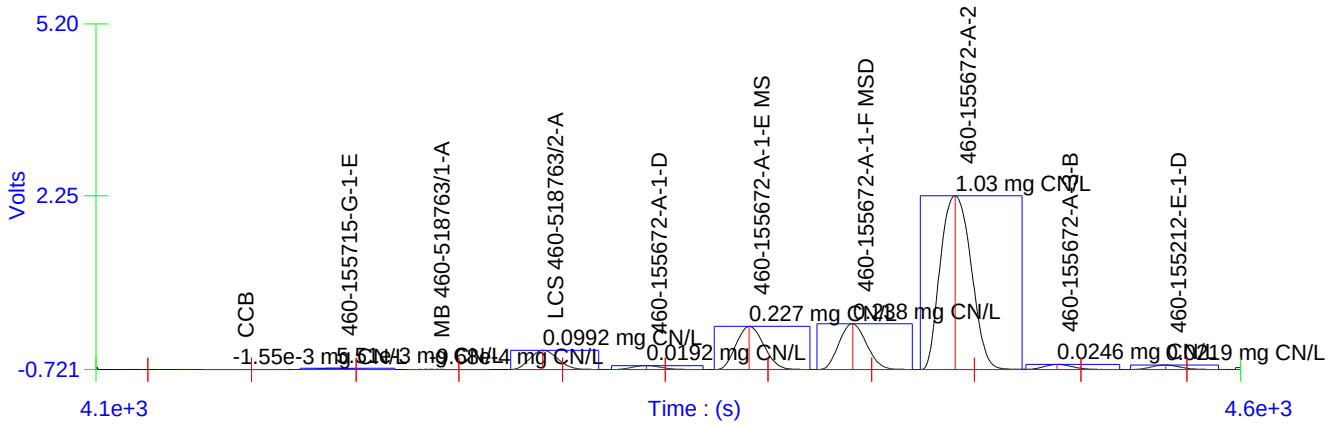
Channel 1 (Cyanide) - Set: 7 / 12



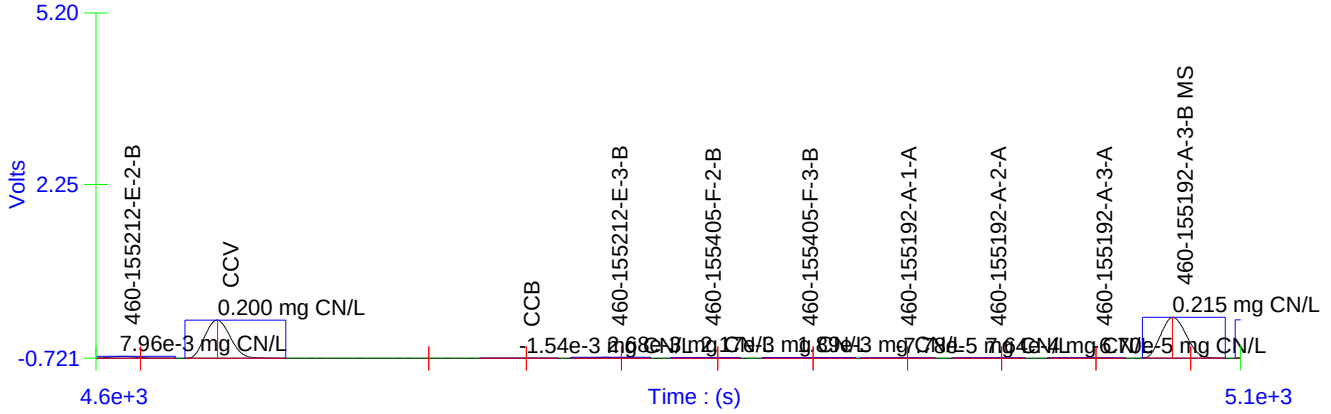
Channel 1 (Cyanide) - Set: 8 / 12



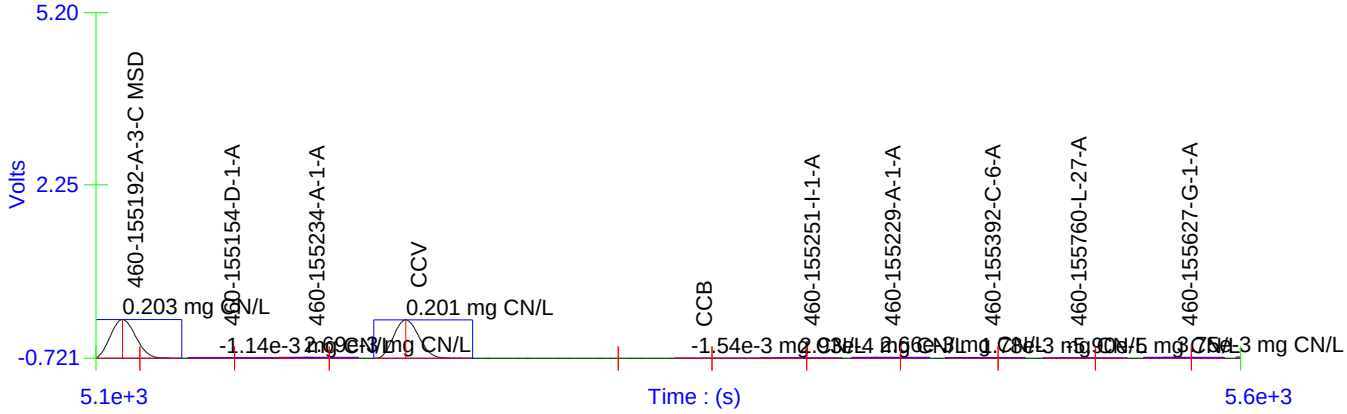
Channel 1 (Cyanide) - Set: 9 / 12



Channel 1 (Cyanide) - Set: 10 / 12



Channel 1 (Cyanide) - Set: 11 / 12



Channel 1 (Cyanide) - Set: 12 / 12

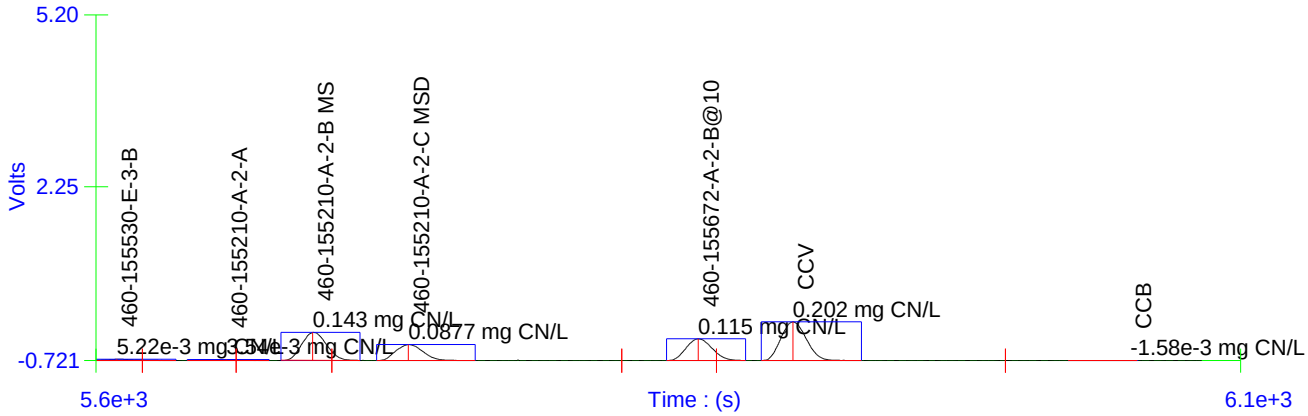
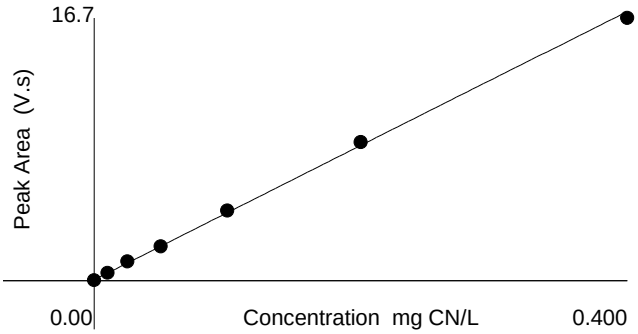


Table : 1 (Cyanide)

	Known Conc. (mg CN/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg CN/L)	Detection Date	Detection Time
1	0.400	1	16.7	1.24	0.0	2.4	0.390	5/14/2018	9:45:32 AM
2	0.200	1	8.81	0.666	0.0	-2.5	0.205	5/14/2018	9:44:40 AM
3	0.100	1	4.46	0.338	0.0	-2.8	0.103	5/14/2018	9:43:48 AM
4	0.0500	1	2.20	0.165	0.0	0.4	0.0498	5/14/2018	9:42:55 AM
5	0.0250	1	1.23	0.0920	0.0	-7.5	0.0270	5/14/2018	9:42:03 AM
6	0.0100	1	0.501	0.0350	0.0	1.4	9.85e-3	5/14/2018	9:41:10 AM
7	0.00	1	0.0436	3.60e-3			-8.85e-4	5/14/2018	9:40:17 AM

Figure : 1 (Cyanide)



Area = 42.6 * Conc + 0.0823
Conc = 0.0235 * Area - 1.91e-3
Correlation Coefficient (r) = 0.99988

Weighting : 1/x

TestAmerica
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Sample Dilution Log
Wet Chemistry

Method No.: 325.4 Analyst: HV

Prep Batch: _____ Analysis Date: 05/14/18

Analytical Batch: 510955

Job/Sample Number	Dilution Factor	Sample Volume (ml)	Final Volume (ml)	Diluent
155672-29	10	5	50	0.25N NaOH

EDS-WI-101, Rev 0
05/24/11

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Batch Number: 517973 Batch Start Date: 05/10/18 06:00 Batch Analyst: Antoque, Tania L

Batch Method: 9012B Batch End Date: 05/10/18 09:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WTcn6ppm_ICV 00083			
ICV 460-517973/39		9012B, 9012B		6.0 mL	6.0 mL	0.2 mL			

Batch Notes	
Batch Comment	Distillation start time - 8:30 am ;; ; end time 9:00 am
Sodium Hydroxide ID	# C - 6098-18 exp 10/02/18
Sulfamic Acid ID	# C- 5464-18 Exp 08/16/18
Sulfuric Acid Reagent ID Number	releasing agent # C- 6213-18 Exp 11/08/18

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Batch Number: 518760 Batch Start Date: 05/13/18 17:05 Batch Analyst: Esteban, Maria

Batch Method: 9012B Batch End Date: 05/13/18 20:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WTcn6ppm_Pri 00104			
CCV 460-518760/15		9012B, 9012B		6 mL	6 mL	0.2 mL			

Batch Notes	
Batch Comment	Distillation start time - 19:00 pm; ; ; end time 19:30 pm
Sodium Hydroxide ID	# C - 6098-18 exp 10/02/18
Sulfamic Acid ID	# C- 5464-18 Exp 08/16/18
Sulfuric Acid Reagent ID Number	releasing agent # C- 6213-18 Exp 11/08/18

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-155672-1

SDG No.:

Batch Number: 518763 Batch Start Date: 05/13/18 17:15 Batch Analyst: Esteban, Maria

Batch Method: 9012B Batch End Date: 05/13/18 23:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ChlorineCheck	SulfideCheck	DistillpHCheck	WTcnCmplex-IM 00093
MB 460-518763/1		9012B, 9012B		6 mL	6 mL				
LCS 460-518763/2		9012B, 9012B		6 mL	6 mL				0.1 mL
460-155672-A-1	EGCMW-03	9012B, 9012B	T	6 mL	6 mL	N	N	pH>12	
460-155672-A-1 MS	EGCMW-03	9012B, 9012B	T	6 mL	6 mL	N	N	pH>12	0.2 mL
460-155672-A-1 MSD	EGCMW-03	9012B, 9012B	T	6 mL	6 mL	N	N	pH>12	0.2 mL
460-155672-A-2	EGCMW-06	9012B, 9012B	T	6 mL	6 mL	N	N	pH>12	
460-155672-A-3	EGCMW-07	9012B, 9012B	T	6 mL	6 mL	N	N	pH>12	

Batch Notes	
Batch Comment	Distillation start time - 22:15 pm; ; ; end time 22:45 pm
Sodium Hydroxide ID	# C - 6098-18 exp 10/02/18
Sulfamic Acid ID	# C- 5464-18 Exp 08/16/18
Sulfuric Acid Reagent ID Number	releasing agent # C- 6213-18 Exp 11/08/18

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica New York City
47-32 32nd Place
Suite 1141
Long Island City, NY 11101-2425
phone 347.507.0579 fax

NYSC
460501

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Chris Morris	Site Contact: Mike Quinlan	Date: 5/7/18	COC No:
GEI Consultants Inc. P.C.	Tel/Fax: (631) 759-2967	Lab Contact: Melissa Haas	Carrier: Test America	1 of 1 COCs
110 Walte Whitman Road Suite 204	**Analysis Turnaround Time**			Sampler: R. Sakalauskas
Huntington Station, NY 11746	☑ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
(631) 760 - 9300 Phone	TAT if different from Below standard			Walk-in Client:
(631) 760 - 9301 FAX	☐ 2 weeks			Lab Sampling:
Project Name: National Grid Downstate	☐ 1 week			
Site: East Garden City	☐ 2 days			Job / SDG No.: 55672
P O # 1702897.2.2	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Total Cyanide 9012B	Sample Specific Notes:
EGCMW-03	5/7/18	10:55	G	GW	3			X	MS/MSD -1
EGCMW-06	"	13:10	G	GW	1			X	-2
EGCMW-07	"	12:10	G	GW	1			X	-3
								1	

460-155672 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: CAT B Report

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by: Robert Sakalauskas	Company: GEI Consultants Inc. P.C	Date/Time: 5/7/18	Received by:	Company: TA	Date/Time: 5/8/18 1115
Relinquished by:	Company: TA Edison	Date/Time: 05/8/18 1911	Received by:	Company: TA Edi	Date/Time: 5/8/18 1911
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Cust # 11 #11 1.4°C

Form No. CA-C-WI-002, Rev. 4.11, dated 1/24/2017

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TestAmerica Edison
Receipt Temperature and pH Log

Job Number: 155672

Number of Coolers: 1 IR Gun # 11

Cooler Temperatures

	RAW	CORRECTED		RAW	CORRECTED		RAW	CORRECTED
Cooler #1:	6.4 °C	6.4 °C	Cooler #4:	°C	°C	Cooler #7:	°C	°C
Cooler #2:	°C	°C	Cooler #5:	°C	°C	Cooler #8:	°C	°C
Cooler #3:	°C	°C	Cooler #6:	°C	°C	Cooler #9:	°C	°C

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate Nitrite (pH<2)	Metals* (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or QAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other
1												>12			
2												>12			
3												>12			

If pH adjustments are required record the information below:

Sample No(s). adjusted: NA

Preservative Name/Conc.: NA Volume of Preservative used (ml): NA

Lot # of Preservative(s): NA Expiration Date: NA

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.

* *Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.*

Initials: [illegible] Date: 05/08/18

Login Sample Receipt Checklist

Client: GEI Consultants, Inc.

Job Number: 460-155672-1

Login Number: 155672
List Number: 1
Creator: Lysy, Susan

List Source: TestAmerica Edison

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.	N/A	
Sample custody seals, if present, are intact.	N/A	
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").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Site: National Grid, Downstate East Garden City
Laboratory: Test America, Edison, NJ
Report No.: 460-155672
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 21, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
EGCMW-03	460-155672-01	Cyanide
EGCMW-06	460-155672-02	Cyanide
EGCMW-07	460-155672-03	Cyanide

The above-listed aqueous samples were collected on May 7, 2018 and were analyzed for total cyanide by SW-846 method 9012B. The data validation was performed in accordance with the USEPA Region 2 SOP HW-2c (Revision 15), *SOP for the Evaluation of Cyanide for the Contract Laboratory Program* (December 2012), modified for the SW-846 methodology utilized.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Initial and Continuing Calibrations
- Blanks
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Results
- Quantitation Limits
- Sample Quantitation

All results are usable as reported. The validation findings were based on the following information.

Data Completeness

The data package was complete as received by the laboratory.

Holding Times and Sample Preservation

All criteria were met.

Initial and Continuing Calibrations

All criteria were met.

Blanks

Contamination was not detected in the associated laboratory method and instrument blank samples.

MS/MSD Results

MS/MSD analyses were performed on sample EGCMW-03. All recovery and precision criteria were met.

LCS Results

All criteria were met.

Quantitation Limits

A 10-fold dilution was performed on sample EGCMW-06 to bring the result for cyanide within the instrument calibration range.

Sample Quantitation

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.

J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.

UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.

JN - The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.

R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

ATTACHMENT 4

HISTORICAL TOTAL CYANIDE CONCENTRATIONS

NATIONAL GRID
EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION
HISTORICAL TOTAL CYANIDE GROUNDWATER RESULTS

Sample ID	EGCMW-03	EGCMW-06	EGCMW-07
Units	µg/L	µg/L	µg/L
Sample Date			
June 2011	14	972 D	17
September 2011	NA	1,590	27
April 2014	63	271	7
May 2015	74	1,020	8
June 2016	113	1,110 D	4 J
May 2017	27	850 D	6
May 2018	19	1,200	25

Notes:
µg/L: micrograms per liter
J: Estimated value
D: Reported from reanalysis at secondary dilution
Shaded values exceed the NYSDEC Class GA Groundwater Standard for cyanide of 200 µg/L