

Ms. Ann DiDonato
U.S. EPA Region 3
1650 Arch Street
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Philadelphia, PA 19103

Arcadis U.S., Inc.
1 Harvard Way
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Hillsborough
New Jersey 08844
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Subject:

Quarterly Progress Report: January through March 2022
Precision National Plating Services, Inc.
Clarks Summit, Pennsylvania
Docket No. CERC-03-2012-0031DC

ELECTRONIC MAIL

ENVIRONMENT

Date:
May 25, 2022

Contact:
Lawrence G. Brunt, PE

Phone:
908.526.1000

Email:
Larry.brunt@arcadis.com

Our ref:
30134460.04

Dear Ms. DiDonato:

On behalf of Precision National Plating Services, Inc. (Precision), Arcadis U.S., Inc. (Arcadis) is submitting this progress report to summarize the activities completed between January 1, 2022 and March 31, 2022. This progress report is being submitted in accordance with Section 8.7 of the Administrative Settlement Agreement and Order on Consent (AS) for Removal Response Action (Docket No. CERC-03-2012-0031DC).

1. Response actions completed and the actions that have been taken toward achieving compliance with the Settlement Agreement:

General

Precision and Arcadis worked closely with the U.S. Environmental Protection Agency (U.S. EPA) from January through March 2022 to do the following:

- Precision performed semiannual surface water monitoring in January 2022 as approved in the RAP.
- Precision performed general site maintenance activities.
- Precision also provided the U.S. EPA and PADEP with available sampling information.

Ongoing Administrative Settlement (AS) Activities

Seep Remediation

- Precision continued the operation of the Seep Shed treatment system.

- The influent and effluent of the Seep Shed Treatment System were sampled on January 19, 2022, for hexavalent chromium and total chromium. The midpoints between the resin beds of the system also were sampled. At the time of sampling, the influent pH was 7.05 su and the temperature was 10.0° C.
- On January 19, 2022, the flow totalizer reading for the Seep Shed Treatment System was 7,447,140 gallons.
- The influent and effluent of the Seep Shed Treatment System were sampled on February 21, 2022, for hexavalent chromium and total chromium. The midpoints between the resin beds of the system were also sampled for hexavalent and total chromium. At the time of sampling, the influent pH was 6.29 su and the temperature was 9.7° C.
- On February 21, 2022, the Seep Shed flow totalizer reading was 7,458,999 gallons.
- The influent and effluent of the Seep Shed Treatment System were sampled on March 28, 2022, for hexavalent chromium and total chromium. The midpoints between the resin beds of the system were also sampled for hexavalent and total chromium. At the time of sampling, the influent pH was 6.54 su and the temperature was 8.09° C.
- On March 28, 2022, the flow totalizer reading for the Seep Shed Treatment System was 7,527,389 gallons.

Lagoon Assessment/Remediation Activities

- Precision continued the operation of the Lagoon Treatment System.
- The influent and system effluent of the Lagoon Treatment System were sampled on January 19, 2022, for hexavalent chromium and TAL metals. The effluent of the lead resin bed was also sampled for hexavalent chromium and total chromium. The pH of the lagoon system influent at the time of sampling was 7.07 su and the temperature was 10.1° C.
- By January 19, 2022, the total volume treated by the Lagoon Treatment System was approximately 38,884,960 gallons.
- The influent and system effluent of the Lagoon Treatment System were sampled on February 21, 2022, for hexavalent chromium and TAL metals. The effluent of the lead resin bed was also sampled for hexavalent chromium and total chromium. The pH of the lagoon system influent at the time of sampling was 6.31 su and the temperature was 10.0° C.
- By February 21, 2022, the total volume treated by the Lagoon Treatment System was 38,952,053 gallons.
- The influent and system effluent of the Lagoon Treatment System were sampled on March 28, 2022, for hexavalent chromium and TAL metals. The effluent of the lead resin bed was also

sampled for hexavalent chromium and total chromium. The pH of the lagoon system influent at the time of sampling was 6.29 su and the temperature was 9.17° C.

- By March 28, 2022, the total volume treated by the Lagoon Treatment System was approximately 39,251,738 gallons.

Semiannual Surface Water Monitoring

- As approved in the RAP, surface water samples were collected from Ackerly Creek on January 19, 2022. Samples were analyzed for hexavalent chromium and total chromium. Analytical results were received from TestAmerica Laboratories and validated. Summaries of the data are attached.

Additional Monitoring

- To supplement the semiannual monitoring and monthly treatment system monitoring, samples were collected from the French Drain Sump and Lagoon Sump on January 19, 2022, February 21, 2022, and March 28, 2022. Samples were also collected from the Trolley Track Seep, Cinderblock Seep, and Bathtub Seep on February 21, 2022. Samples were analyzed for hexavalent chromium and total chromium. Analytical results were received from TestAmerica Laboratories and validated. Summaries of the data are attached.
- In addition, groundwater samples were collected on January 19, 2022 from three monitoring wells in which hexavalent chromium concentrations greater than 100 ug/L had been identified during the October 2021 semiannual monitoring event. Samples were analyzed for hexavalent chromium and total chromium. Analytical results were received from TestAmerica Laboratories and validated. Summaries of the data are attached.

2. Description of all data anticipated, and activities scheduled for the next ninety (90) calendar days:

- Operation of the treatment systems will continue at the site.
- Precision will sample the Lagoon and Seep Shed Treatment systems monthly in April, May, and June 2022. Data is anticipated to be received four weeks after each sampling event.
- Semiannual groundwater monitoring is scheduled for April 2022

3. Description of any problems encountered or anticipated:

- None.

4. Any actions taken to prevent or mitigate such problems.

- None.

5. A schedule for completion of such actions:

- Containment and treatment of water in the lagoon will continue as needed.
- Operation of the Seep Shed treatment system will continue as needed.

6. Analytical data received during the reporting period:

- Laboratory data for the samples collected during the January semiannual surface water monitoring event were received from TestAmerica Laboratories and validated. A summary of the data is attached.
- Laboratory data for the additional groundwater monitoring well samples collected on January 19, 2022 were received from TestAmerica Laboratories and validated. A summary of the data is attached.
- Laboratory data for the samples collected from the Lagoon and French Drain sumps on January 19, 2022 were received from TestAmerica Laboratories and validated. Summaries of the data are attached.
- Laboratory data for the January 19, 2022 sampling of the Seep Shed Treatment System and the Lagoon Treatment System were received from TestAmerica Laboratories and validated. A summary of the data is attached.

Hexavalent chromium and total chromium were not detected above the laboratory method detection limits in the effluent of the Lagoon Treatment System.

Hexavalent chromium was not detected above the laboratory method detection limit in the effluent of the Seep Shed Treatment System. Total chromium was detected in the effluent at a concentration of 15.7 ug/L, which does not exceed the MCL of 100 ug/L.

- Laboratory data for the February 21, 2022 sampling of the Lagoon and Seep Shed Treatment Systems were received from TestAmerica Laboratories and validated. A summary of the data is attached.

Hexavalent chromium and total chromium were not detected above the laboratory method detection limits in the effluent of the Lagoon Treatment System.

Hexavalent chromium and total chromium were not detected above the laboratory method detection limits in the effluent of the Seep Shed Treatment System.

- Laboratory data for the samples collected from the seeps, lagoon surface water, and Lagoon and French Drain sumps on February 21, 2022 were received from TestAmerica Laboratories and validated. Summaries of the data are attached.

Ms. Ann DiDonato
U.S. EPA
May 25, 2022

- Laboratory data for the March 28, 2022 sampling of the Lagoon Treatment System and the Seep Shed Treatment System were received from TestAmerica Laboratories and validated. A summary of the data is attached.

Hexavalent chromium and total chromium were not detected above the laboratory method detection limits in the effluent of the Lagoon Treatment System.

Hexavalent chromium and total chromium were not detected above the laboratory method detection limits in the effluent of the Seep Shed Treatment System.

- Laboratory data for the samples collected from the Lagoon and French Drain sumps on March 28, 2022 were received from TestAmerica Laboratories and validated. Summaries of the data are attached.

7. Modifications to the response action, RAP, and schedule made in accordance with Section XIV of the Settlement Agreement during this reporting period.

- None.

If you have any questions or require additional information, please call me at 908.526.1000.

Sincerely,

Arcadis U.S., Inc.



Lawrence G. Brunt, P.E.
Principal Engineer

Copies:

D. Rood - PADEP

Enclosure

Data Validation Summary

Arcadis U.S., Inc. (Arcadis) performed a level III data validation evaluation of the analytical data collected during the Precision National Plating site investigation. The data evaluation was conducted in accordance with the United States Environmental Protection Agency's (USEPA) Data Validation Functional Guidelines for Evaluating Environmental Analyses, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," dated October 1999, and "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," dated October 2004 ("the USEPA Guidance"). The following is a summary of the analytical data review for samples collected and analyzed from January through March 2022. The samples were submitted to TestAmerica Laboratories located in Edison, New Jersey for analysis. The TestAmerica sample delivery groups (SDGs) evaluated for this report include: 460-250937-1, 460-250939-1, 460-250944-1, 460-252928-1, and 460-255162-1.

The samples were analyzed using the following methods:

EPA Method 200.7 for metals
EPA Method 245.1 for mercury
EPA Method 7196A for hexavalent chromium

The data were evaluated based on the following parameters according to the USEPA Guidance for Level III data validation:

- data completeness
- holding times
- blanks
- duplicates and ICP serial dilution
- matrix spike/matrix spike duplicate/post-digestion spike recoveries (MS/MSD/PDS)
- laboratory control spike/laboratory control spike duplicate recoveries (LCS/LCSD)

A review of the laboratory reports revealed no issues which caused the data to be qualified. The sample temperature, hold times, calibrations, spike samples, laboratory control samples, duplicates, serial dilutions, and all other laboratory blanks were all within compliance criteria for all samples.

The following items were noted during the data review:

The laboratory indicated the percent recovery of calcium in the matrix spike was lower than the acceptance criteria (68%) in metals analysis batch 460-825917 which included samples from PNP SDG 460-250944-1. The concentration of calcium in the sample utilized for the matrix spike analysis (460-250937-3, PNP sample MW-9S) was approximately four times greater than the concentration of the spike, and the spiked sample concentration was more than four times the spike amount. Therefore, the percent recovery criterion does not apply. The recovery of calcium was acceptable in the post-digestion spike analyzed in the batch. All other QA/QC parameters were in compliance. Also, the groundwater sample from MW-9S used for the matrix spike was likely to contain residual calcium polysulfide from previous in situ chemical reduction activities and could not be considered a sufficiently similar matrix to the influent water of the treatment systems for which calcium results are reported. Therefore, the calcium results are not qualified in the PNP samples.

Similarly, the percent recovery of iron in the matrix spike was higher than the acceptance criteria (1,930%) in metals analysis batch 460-830827 which included samples from PNP SDG 460-252928-1. The concentration of iron in the sample utilized for the matrix spike analysis (not a PNP sample) was approximately 800 times greater than the concentration of the spike. Therefore, the percent recovery criterion does not apply. The recovery of iron was not calculated in the post-digestion spike analyzed in the batch due to this significant difference between the spike and sample concentrations. All other QA/QC parameters were in compliance. Also, since the concentration of iron in the sample used for the matrix

Data Validation Summary

spike was several orders of magnitude larger than the concentrations in the PNP samples and the sample did not come from PNP, the MS/PDS sample could not be considered sufficiently similar to the influent water of the treatment systems for which iron results are reported. Therefore, the iron results are not qualified in the PNP samples.

Summary of Quality Assurance/Quality Control Evaluation of Data

Based upon the QA/QC review, the project data are valid and available for use in site characterization without qualifications.

TREATMENT SYSTEM AND SUMP MONITORING RESULTS

Eurofins Edison

Eurofins Environment Testing Northeast, LLC

Eurofins Edison

Lab Job ID: 460-250944-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Influent			Lagoon Post lead			Lagoon Effluent			Seep Shed Influent			Seep Shed Mid			Seep Shed Effluent			Lagoon Sump		
Lab Sample ID	460-250944-1			460-250944-2			460-250944-3			460-250944-4			460-250944-5			460-250944-6			460-250944-7		
Sampling Date	01/19/2022 14:15:00			01/19/2022 14:16:00			01/19/2022 14:17:00			01/19/2022 15:15:00			01/19/2022 15:01:00			01/19/2022 15:02:00			01/19/2022 09:45:00		
Matrix	Water			Water			Water			Water			Water			Water			Water		
Unit																					
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)																					
Aluminum	137	J	40.7	NR			40.7	U	40.7	NR			NR			NR			NR		
Antimony	7.8	U	7.8	NR			7.8	U	7.8	NR			NR			NR			NR		
Arsenic	4.1	J	3.6	NR			3.6	U	3.6	NR			NR			NR			NR		
Barium	28.6	J	20.9	NR			20.9	U	20.9	NR			NR			NR			NR		
Beryllium	0.35	U	0.35	NR			0.35	U	0.35	NR			NR			NR			NR		
Cadmium	0.31	U	0.31	NR			0.31	U	0.31	NR			NR			NR			NR		
Calcium	54700		358	NR			63300		358	NR			NR			NR			NR		
Chromium	162		5.7	7.9	J	5.7	5.7	U	5.7	104		5.7	73.3		5.7	15.7		5.7	133		5.7
Cobalt	3.4	U	3.4	NR			3.4	U	3.4	NR			NR			NR			NR		
Copper	6.1	U	6.1	NR			6.1	U	6.1	NR			NR			NR			NR		
Iron	2420		76.8	NR			76.8	U	76.8	NR			NR			NR			NR		
Lead	3.1	U	3.1	NR			3.1	U	3.1	NR			NR			NR			NR		
Magnesium	5710		329	NR			6580		329	NR			NR			NR			NR		
Manganese	2810		1.2	NR			5.0	J	1.2	NR			NR			NR			NR		
Nickel	11.0	J	3.6	NR			3.6	U	3.6	NR			NR			NR			NR		
Potassium	1160	J	492	NR			1370	J	492	NR			NR			NR			NR		
Selenium	8.6	U	8.6	NR			8.6	U	8.6	NR			NR			NR			NR		
Silver	5.0	U	5.0	NR			5.0	U	5.0	NR			NR			NR			NR		
Sodium	24000		502	NR			27200		502	NR			NR			NR			NR		
Thallium	7.8	J	5.8	NR			5.8	U	5.8	NR			NR			NR			NR		
Vanadium	3.9	U	3.9	NR			3.9	U	3.9	NR			NR			NR			NR		
Zinc	59.5		4.5	NR			20.2	J	4.5	NR			NR			NR			NR		
WATER BY 245.1(UG/L)																					
Mercury	0.091	U	0.091	NR			0.091	U	0.091	NR			NR			NR			NR		

NR: Not Analyzed
 J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
 U : Indicates the analyte was analyzed for but not detected.

Lab Contact:
 Grace Chang
 Project Manager II
 (732)593-2579

Eurofins Edison

Eurofins Environment Testing Northeast, LLC

Eurofins Edison

Lab Job ID: 460-250944-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Influent			Lagoon Post lead			Lagoon Effluent			Seep Shed Influent			Seep Shed Mid			Seep Shed Effluent			Lagoon Sump		
Lab Sample ID	460-250944-1			460-250944-2			460-250944-3			460-250944-4			460-250944-5			460-250944-6			460-250944-7		
Sampling Date	01/19/2022 14:15:00			01/19/2022 14:16:00			01/19/2022 14:17:00			01/19/2022 15:15:00			01/19/2022 15:01:00			01/19/2022 15:02:00			01/19/2022 09:45:00		
Matrix	Water			Water			Water			Water			Water			Water			Water		
	Result Q MDL			Result Q MDL			Result Q MDL			Result Q MDL			Result Q MDL			Result Q MDL			Result Q MDL		
WATER BY 7196A																					
Cr (VI) (ug/l)	119		8.1	8.1	U	8.1	8.1	U	8.1	71.6		8.1	8.1	U	8.1	8.1	U	8.1	114		8.1

U : Indicates the analyte was analyzed for but not detected.

Lab Contact:
 Grace Chang
 Project Manager II
 (732)593-2579

Eurofins Environment Testing Northeast, LLC

Eurofins Edison

Lab Job ID: 460-252928-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Influent			Lagoon Post Lead			Lagoon Effluent			Seep Shed Influent		
Lab Sample ID	460-252928-1			460-252928-2			460-252928-3			460-252928-4		
Sampling Date	02/21/2022 14:00:00			02/21/2022 14:01:00			02/21/2022 14:02:00			02/21/2022 10:10:00		
Matrix	Water			Water			Water			Water		
Unit												
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)												
Aluminum	40.7	U	40.7	NR			40.7	U	40.7	NR		
Antimony	7.8	U	7.8	NR			7.8	U	7.8	NR		
Arsenic	3.6	U	3.6	NR			3.6	U	3.6	NR		
Barium	20.9	U	20.9	NR			20.9	U	20.9	NR		
Beryllium	0.35	U	0.35	NR			0.35	U	0.35	NR		
Cadmium	0.31	U	0.31	NR			0.31	U	0.31	NR		
Calcium	44700		358	NR			43700		358	NR		
Chromium	70.1		5.7	7.8	J	5.7	5.7	U	5.7	383		5.7
Cobalt	3.4	U	3.4	NR			3.4	U	3.4	NR		
Copper	7.4	J	6.1	NR			6.1	U	6.1	NR		
Iron	615		76.8	NR			76.8	U	76.8	NR		
Lead	3.1	U	3.1	NR			3.1	U	3.1	NR		
Magnesium	4590	J	329	NR			4560	J	329	NR		
Manganese	210		1.2	NR			12.8	J	1.2	NR		
Nickel	38.6	J	3.6	NR			3.6	U	3.6	NR		
Potassium	1790	J	492	NR			1870	J	492	NR		
Selenium	8.6	U	8.6	NR			8.6	U	8.6	NR		
Silver	5.0	U	5.0	NR			5.0	U	5.0	NR		
Sodium	16900		502	NR			17100		502	NR		
Thallium	5.8	U	5.8	NR			5.8	U	5.8	NR		
Vanadium	3.9	U	3.9	NR			3.9	U	3.9	NR		
Zinc	28.0	J	4.5	NR			4.5	U	4.5	NR		
WATER BY 245.1(UG/L)												
Mercury	0.091	U	0.091	NR			0.091	U	0.091	NR		

NR: Not Analyzed

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

Eurofins Environment Te
Eurofins Edison

Lab Job ID: 460-252928-1

Job Description: Precision Nationa

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Seep Shed Mid			Seep Shed Effluent			Cinderblock Seep			Bathtub Seep		
Lab Sample ID	460-252928-5			460-252928-6			460-252928-7			460-252928-8		
Sampling Date	02/21/2022 10:11:00			02/21/2022 10:12:00			02/21/2022 10:45:00			02/21/2022 10:40:00		
Matrix	Water			Water			Water			Water		
Unit												
	Result	Q	MDL									
WATER BY 200.7 REV 4.4(UG/L)												
Aluminum	NR			NR			NR			NR		
Antimony	NR			NR			NR			NR		
Arsenic	NR			NR			NR			NR		
Barium	NR			NR			NR			NR		
Beryllium	NR			NR			NR			NR		
Cadmium	NR			NR			NR			NR		
Calcium	NR			NR			NR			NR		
Chromium	302		5.7	5.7	U	5.7	257		5.7	294		5.7
Cobalt	NR			NR			NR			NR		
Copper	NR			NR			NR			NR		
Iron	NR			NR			NR			NR		
Lead	NR			NR			NR			NR		
Magnesium	NR			NR			NR			NR		
Manganese	NR			NR			NR			NR		
Nickel	NR			NR			NR			NR		
Potassium	NR			NR			NR			NR		
Selenium	NR			NR			NR			NR		
Silver	NR			NR			NR			NR		
Sodium	NR			NR			NR			NR		
Thallium	NR			NR			NR			NR		
Vanadium	NR			NR			NR			NR		
Zinc	NR			NR			NR			NR		
WATER BY 245.1(UG/L)												
Mercury	NR			NR			NR			NR		

NR: Not Analyzed

J : Result is less than the RL but greater

U : Indicates the analyte was analyzed f

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

Eurofins Environment Te
Eurofins Edison

Lab Job ID: 460-252928-1

Job Description: Precision Nationa

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Trolley Track Seep			Lagoon Sump			French Drain Sump			Lagoon SW		
Lab Sample ID	460-252928-9			460-252928-10			460-252928-11			460-252928-12		
Sampling Date	02/21/2022 11:14:00			02/21/2022 12:10:00			02/21/2022 12:15:00			02/21/2022 12:20:00		
Matrix	Water			Water			Water			Water		
Unit												
	Result	Q	MDL									
WATER BY 200.7 REV 4.4(UG/L)												
Aluminum	NR			NR			NR			NR		
Antimony	NR			NR			NR			NR		
Arsenic	NR			NR			NR			NR		
Barium	NR			NR			NR			NR		
Beryllium	NR			NR			NR			NR		
Cadmium	NR			NR			NR			NR		
Calcium	NR			NR			NR			NR		
Chromium	302		5.7	77.7		5.7	32.8		5.7	83.3		5.7
Cobalt	NR			NR			NR			NR		
Copper	NR			NR			NR			NR		
Iron	NR			NR			NR			NR		
Lead	NR			NR			NR			NR		
Magnesium	NR			NR			NR			NR		
Manganese	NR			NR			NR			NR		
Nickel	NR			NR			NR			NR		
Potassium	NR			NR			NR			NR		
Selenium	NR			NR			NR			NR		
Silver	NR			NR			NR			NR		
Sodium	NR			NR			NR			NR		
Thallium	NR			NR			NR			NR		
Vanadium	NR			NR			NR			NR		
Zinc	NR			NR			NR			NR		
WATER BY 245.1(UG/L)												
Mercury	NR			NR			NR			NR		

NR: Not Analyzed

J : Result is less than the RL but greater

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Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

Eurofins Environment Testing Northeast, LLC

Eurofins Edison

Lab Job ID: 460-252928-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Influent			Lagoon Post Lead			Lagoon Effluent			Seep Shed Influent			Seep Shed Mid			Seep Shed Effluent		
Lab Sample ID	460-252928-1			460-252928-2			460-252928-3			460-252928-4			460-252928-5			460-252928-6		
Sampling Date	02/21/2022 14:00:00			02/21/2022 14:01:00			02/21/2022 14:02:00			02/21/2022 10:10:00			02/21/2022 10:11:00			02/21/2022 10:12:00		
Matrix	Water																	
	Result	Q	MDL															
WATER BY 7196A																		
Cr (VI) (ug/l)	36.2		8.1	8.1	U	8.1	8.1	U	8.1	69.5		8.1	8.1	U	8.1	8.1	U	8.1

U : Indicates the analyte was analyzed for but not detected.

Lab Contact:
 Grace Chang
 Project Manager II
 (732)593-2579

Eurofins Environment Testi

Eurofins Edison

Lab Job ID: 460-252928-1

Job Description: Precision National Pl

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Cinderblock Seep			Bathtub Seep			Trolley Track Seep			Lagoon Sump			French Drain Sump			Lagoon SW		
Lab Sample ID	460-252928-7			460-252928-8			460-252928-9			460-252928-10			460-252928-11			460-252928-12		
Sampling Date	02/21/2022 10:45:00			02/21/2022 10:40:00			02/21/2022 11:14:00			02/21/2022 12:10:00			02/21/2022 12:15:00			02/21/2022 12:20:00		
Matrix	Water																	
	Result	Q	MDL															
WATER BY 7196A																		
Cr (VI) (ug/l)	8.1	U	8.1	8.1	U	8.1	44.2		8.1	59.1		8.1	33.9		8.1	55.7		8.1

U : Indicates the analyte was analyzed for b

Lab Contact:
 Grace Chang
 Project Manager II
 (732)593-2579

Eurofins Environment Testing Northeast, LLC

Eurofins Edison

Lab Job ID: 460-255162-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Influent			Lagoon Post Lead			Lagoon Effluent			Seep Shed Influent		
Lab Sample ID	460-255162-1			460-255162-2			460-255162-3			460-255162-4		
Sampling Date	03/28/2022 12:00:00			03/28/2022 12:01:00			03/28/2022 12:02:00			03/28/2022 13:30:00		
Matrix	Water			Water			Water			Water		
Unit												
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)												
Aluminum	93.1	U	93.1	NR			93.1	U	93.1	NR		
Antimony	7.8	U	7.8	NR			7.8	U	7.8	NR		
Arsenic	3.6	U	3.6	NR			3.6	U	3.6	NR		
Barium	20.9	U	20.9	NR			20.9	U	20.9	NR		
Beryllium	0.35	U	0.35	NR			0.35	U	0.35	NR		
Cadmium	0.31	U	0.31	NR			0.31	U	0.31	NR		
Calcium	51500		358	NR			49800		358	NR		
Chromium	72.3		5.7	5.7	U	5.7	5.7	U	5.7	343		5.7
Cobalt	3.4	U	3.4	NR			3.4	U	3.4	NR		
Copper	6.1	U	6.1	NR			6.1	U	6.1	NR		
Iron	668		76.8	NR			76.8	U	76.8	NR		
Lead	3.1	U	3.1	NR			3.1	U	3.1	NR		
Magnesium	5410		329	NR			5200		329	NR		
Manganese	10.7	J	1.2	NR			2.7	J	1.2	NR		
Nickel	9.9	J	3.6	NR			3.6	U	3.6	NR		
Potassium	1390	J	492	NR			1280	J	492	NR		
Selenium	8.6	U	8.6	NR			8.6	U	8.6	NR		
Silver	5.0	U	5.0	NR			5.0	U	5.0	NR		
Sodium	21600		502	NR			20800		502	NR		
Thallium	5.8	U	5.8	NR			5.8	U	5.8	NR		
Vanadium	3.9	U	3.9	NR			3.9	U	3.9	NR		
Zinc	12.9	J	4.5	NR			4.5	U	4.5	NR		
WATER BY 245.1(UG/L)												
Mercury	0.091	U	0.091	NR			0.091	U	0.091	NR		

NR: Not Analyzed

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

Eurofins Environment T
Eurofins Edison

Lab Job ID: 460-255162-1
 Job Description: Precision Natio
 For:
 ARCADIS U.S., Inc
 1 Harvard Way
 Hillsborough, New Jersey 08844

Client ID	Seep Shed Mid			Seep Shed Effluent			Lagoon Sump			French Drain Sump		
Lab Sample ID	460-255162-5			460-255162-6			460-255162-7			460-255162-8		
Sampling Date	03/28/2022 13:31:00			03/28/2022 13:32:00			03/28/2022 13:05:00			03/28/2022 13:10:00		
Matrix	Water			Water			Water			Water		
Unit												
	Result	Q	MDL									
WATER BY 200.7 REV 4.4(UG/L)												
Aluminum	NR			NR			NR			NR		
Antimony	NR			NR			NR			NR		
Arsenic	NR			NR			NR			NR		
Barium	NR			NR			NR			NR		
Beryllium	NR			NR			NR			NR		
Cadmium	NR			NR			NR			NR		
Calcium	NR			NR			NR			NR		
Chromium	343		5.7	5.7	U	5.7	71.3		5.7	38.4		5.7
Cobalt	NR			NR			NR			NR		
Copper	NR			NR			NR			NR		
Iron	NR			NR			NR			NR		
Lead	NR			NR			NR			NR		
Magnesium	NR			NR			NR			NR		
Manganese	NR			NR			NR			NR		
Nickel	NR			NR			NR			NR		
Potassium	NR			NR			NR			NR		
Selenium	NR			NR			NR			NR		
Silver	NR			NR			NR			NR		
Sodium	NR			NR			NR			NR		
Thallium	NR			NR			NR			NR		
Vanadium	NR			NR			NR			NR		
Zinc	NR			NR			NR			NR		
WATER BY 245.1(UG/L)												
Mercury	NR			NR			NR			NR		

NR: Not Analyzed
 J : Result is less than the RL but greater than the MDL
 U : Indicates the analyte was analyzed

Lab Contact:
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Eurofins Environment Testing Northeast, LLC

Eurofins Edison

Lab Job ID: 460-255162-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Influent			Lagoon Post Lead			Lagoon Effluent			Seep Shed Influent			Seep Shed Mid			Seep Shed Effluent		
Lab Sample ID	460-255162-1			460-255162-2			460-255162-3			460-255162-4			460-255162-5			460-255162-6		
Sampling Date	03/28/2022 12:00:00			03/28/2022 12:01:00			03/28/2022 12:02:00			03/28/2022 13:30:00			03/28/2022 13:31:00			03/28/2022 13:32:00		
Matrix	Water			Water			Water			Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL									
WATER BY 7196A																		
Cr (VI) (ug/l)	34.4		8.1	8.1	U	8.1	8.1	U	8.1	316		16.3	8.1	U	8.1	8.1	U	8.1

U : Indicates the analyte was analyzed for but not detected.

Lab Contact:

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Eurofins Environment
Eurofins Edison

Lab Job ID: 460-255162-1
 Job Description: Precision Nati
 For:
 ARCADIS U.S., Inc
 1 Harvard Way
 Hillsborough, New Jersey 0884

Client ID	Lagoon Sump			French Drain Sump		
Lab Sample ID	460-255162-7			460-255162-8		
Sampling Date	03/28/2022 13:05:00			03/28/2022 13:10:00		
Matrix	Water			Water		
	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A						
Cr (VI) (ug/l)	43.4		8.1	29.9		8.1

U : Indicates the analyte was analyz

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SEMIANNUAL SURFACE WATER MONITORING RESULTS

Eurofins Environment Testing Northeast, LLC
Eurofins Edison

Lab Job ID: 460-250939-1
 Job Description: Precision National
 Plating
 For:
 ARCADIS U.S., Inc
 1 Harvard Way
 Hillsborough, New Jersey 08844

Client ID	SW-10			SW-14			SW-14BC2			SW-14DE			SW-14G			SW-15			SW-16		
Lab Sample ID	460-250939-1			460-250939-2			460-250939-3			460-250939-4			460-250939-5			460-250939-6			460-250939-7		
Sampling Date	01/19/2022 11:30:00			01/19/2022 11:38:00			01/19/2022 11:49:00			01/19/2022 12:00:00			01/19/2022 12:03:00			01/19/2022 12:07:00			01/19/2022 12:21:00		
Matrix	Water																				
Unit																					
	Result	Q	MDL																		
WATER BY 200.7 REV																					
Chromium	5.7	U	5.7	5.7	U	5.7	5.7	U	5.7	10.0		5.7	5.7	U	5.7	5.7	U	5.7	5.7	U	5.7

U : Indicates the analyte was analyzed for but not detected.

Lab Contact:
 Grace Chang
 Project Manager II
 (732)593-2579

Eurofins Environment Testing Northeast, LLC

Eurofins Edison

Lab Job ID: 460-250939-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	SW-10			SW-14			SW-14BC2			SW-14DE			SW-14G			SW-15			SW-16		
Lab Sample ID	460-250939-1			460-250939-2			460-250939-3			460-250939-4			460-250939-5			460-250939-6			460-250939-7		
Sampling Date	01/19/2022 11:30:00			01/19/2022 11:38:00			01/19/2022 11:49:00			01/19/2022 12:00:00			01/19/2022 12:03:00			01/19/2022 12:07:00			01/19/2022 12:21:00		
Matrix	Water																				
	Result	Q	MDL																		
WATER BY 7196A																					
Cr (VI) (ug/l)	8.1	U	8.1																		

U : Indicates the analyte was analyzed for but not detected.

Lab Contact:
 Grace Chang
 Project Manager II
 (732)593-2579

ADDITIONAL GROUNDWATER MONITORING RESULTS

Eurofins Environment Testing Northeast, LLC**Eurofins Edison**

Lab Job ID: 460-250937-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-2			OMW-32			MW-9S		
Lab Sample ID	460-250937-1			460-250937-2			460-250937-3		
Sampling Date	01/19/2022 10:15:00			01/19/2022 10:10:00			01/19/2022 13:55:00		
Matrix	Water			Water			Water		
Unit									
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)									
Chromium	143		5.7	743		5.7	84.5		5.7

Lab Contact:

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Eurofins Environment Testing Northeast, LLC**Eurofins Edison**

Lab Job ID: 460-250937-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-2			OMW-32			MW-9S		
Lab Sample ID	460-250937-1			460-250937-2			460-250937-3		
Sampling Date	01/19/2022 10:15:00			01/19/2022 10:10:00			01/19/2022 13:55:00		
Matrix	Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A									
Cr (VI) (ug/l)	43.3		8.1	344		16.3	59.6		8.1

Lab Contact:

Grace Chang

Project Manager II

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