

Ms. Ann DiDonato
U.S. EPA Region 3
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Arcadis U.S., Inc.
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Subject:

Quarterly Progress Report: October through December 2019
Precision National Plating Services, Inc.
Clarks Summit, Pennsylvania
Docket No. CERC-03-2012-0031DC

ELECTRONIC MAIL

ENVIRONMENT

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 October 1, 2019 and December 31, 2019. 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).

Date:
March 20, 2020

Contact:
Lawrence G. Brunt, PE

Phone:
908.526.1000

Email:
Larry.brun@arcadis.com

Our ref:
BB014215.2019.00004

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 October through December 2019 to do the following:

- Precision performed semiannual ground water, potable well water, and seep monitoring in October 2019 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.
- On October 15, 2019, the first resin vessel was rebedded with fresh SIR-300 resin for removal of total chromium.
- The influent and effluent of the Seep Shed Treatment System were sampled on October 21, 2019 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 7.0 su and the temperature was 10.7° C.

- On October 21, 2019, the flow totalizer reading for the Seep Shed Treatment System was 6,675,243 gallons.
- The influent and effluent of the Seep Shed Treatment System were sampled on November 7, 2019 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 6.11 su and the temperature was 9.9° C.
- On November 7, 2019, the Seep Shed flow totalizer reading was 6,680,398 gallons.
- The influent and effluent of the Seep Shed Treatment System were sampled on December 19, 2019 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 7.01 su and the temperature was 10.12° C.
- On December 20, 2019, the flow totalizer reading for the Seep Shed Treatment System was 6,694,400 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 October 21, 2019 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 7.1 su and the temperature was 11.6° C.
- By October 21, 2019, the total volume treated by the Lagoon Treatment System was approximately 35,646,856 gallons.
- The influent and system effluent of the Lagoon Treatment System were sampled on November 7, 2019 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 6.12 su and the temperature was 9.0° C.
- By November 7, 2019 the total volume treated by the Lagoon Treatment System was 35,680,670 gallons.
- The influent and system effluent of the Lagoon Treatment System were sampled on December 19, 2019 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 6.99 su and the temperature was 14.1° C.
- By December 19, 2019, the total volume treated by the Lagoon Treatment System was 35,843,273 gallons.

Quarterly Surface Water Monitoring

- On September 20, 2019, Precision submitted a request to the U.S. EPA to reduce the required frequency of surface water monitoring from quarterly to semiannual. Based on the EPA approval of this modification to the AS, Precision did not collect surface water samples from Ackerly Creek in October 2019. The next surface water monitoring event is planned for January 2020.

Semiannual Groundwater Monitoring

- As approved in the RAP, semiannual monitoring of groundwater monitoring wells, residential wells, and seeps was conducted in October 2019. Samples were analyzed for hexavalent chromium and total chromium. Results were received from TestAmerica Laboratories and validated. A summary of the data is 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 January, February, and March 2020. Data is anticipated to be received four weeks after each sampling event.
- Semiannual sampling of surface water as approved in the RAP is scheduled for January 2020.

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 October 21, 2019 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 was not detected above the laboratory method detection limit in the effluent of the Lagoon Treatment System. Total chromium was detected in the effluent at an estimated concentration of 3.7 ug/L, which does not exceed the MCL of 100 ug/L.

Hexavalent chromium was not detected above the laboratory method detection limit in the effluent of the Seep Shed Treatment System. Total chromium was detected at a concentration of 41.3 ug/L which does not exceed the MCL of 100 ug/L.

- Laboratory data for the semiannual groundwater monitoring well and residential well samples collected in October 2019 were received from TestAmerica Laboratories and validated. A summary of the data is attached.
- Laboratory data for the November 7, 2019 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 was not detected above the laboratory method detection limit in the effluent of the Lagoon Treatment System. Total chromium was detected in the effluent at an estimated concentration of 3.4 ug/L, which does not exceed the MCL of 100 ug/L.

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 14.7 ug/L, which does not exceed the MCL of 100 ug/L.

- Laboratory data for the December 19, 2019 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.

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


- None.

Ms. Ann DiDonato
U.S. EPA
March 20, 2020

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

Enclosures

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 October through December 2019. 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: 460-193928-1, 460-194012-1, 460-194089-1, 460-194149-1, 460-194221-1, 460-194237-1, 460-194533-1, 460-194536-1, 460-194561-1, 460-194621-1, 460-194669-1, 460-194736-1, 460-194776-1, 460-194848-1, 460-194897-1, 460-195919-1, and 460-199333-1.

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 recoveries (MS/MSD)
- laboratory control spike/laboratory control spike duplicate recoveries (LCS/LCSD)

A review of the laboratory reports revealed one issue which caused the data to be qualified. Potassium was detected at a concentration above the method detection limit, but below the reporting limit, in the method blank and the initial and continuing calibration blanks analyzed in conjunction with metals batches 460-651536 and 460-651792, which contained samples from PNP SDG 460-194533-1, and metals batch 460-664375, which contained samples from PNP SDG 460-199333-1. The potassium results in samples 460-194533-01 (Lagoon Influent), 460-194533-03 (Lagoon Effluent), 460-199333-01 (Lagoon Influent) and 460-199333-03 (Lagoon Effluent) were qualified by the laboratory as estimated (J).

The sample temperature, hold times, calibrations, 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:

There was an omission on the chain of custody submitted with SDG 460-199333-1 such that no turn-around time was specified. The laboratory logged in the samples and notified Arcadis. Arcadis requested the standard turn-around time of two weeks and the analyses were performed accordingly.

In metals batch 460-655676, which included samples from PNP SDG 460-195919-1, the recovery of iron was lower than the acceptable range in the matrix spike analyzed with this batch. However, the concentration of iron in the sample was greater than four times the spike amount, so the percent recovery criteria does not apply, and the recovery in the PDS was acceptable. The sample utilized for the MS was not a PNP sample. All of the other QA/QC parameters were in compliance, so the results are not qualified. Similarly, the recovery of sodium in the post-digestion spike was low at 60%. However, the concentration of sodium in the sample was greater than four times the spike amount, so the percent

Data Validation Summary

recovery criteria does not apply and the recovery in the MS analysis was acceptable. The sample utilized for the PDS was not a PNP sample. There is no need for qualification.

The relative percent difference was high (47%) between the concentration of potassium in the initial result and the duplicate analyzed along with metals batches 460-651536 and 460-651792, which included samples from PNP SDG 460-194533-1. However, the concentrations of potassium in the sample and the duplicate were less than the reporting limit and less than five times the method detection limit, so the criteria for comparison becomes the method detection limit. The difference in results is not greater than the method detection limit. The sample used for the duplicate analysis was not a PNP sample. All of the other QA/QC parameters were in compliance, so the results are not qualified.

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 further qualification beyond those exceptions noted by the laboratory.

TREATMENT SYSTEM MONITORING RESULTS

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL

RESULTS: 460-194533-1

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	460-194533-1			460-194533-2			460-194533-3			460-194533-4			460-194533-5			460-194533-6		
Sampling Date	10/21/2019 16:45:00			10/21/2019 16:46:00			10/21/2019 16:47:00			10/21/2019 17:00:00			10/21/2019 17:01:00			10/21/2019 17:02:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Aluminum	28.7	U	28.7	NR			28.7	U	28.7	NR			NR			NR		
Antimony	2.9	U	2.9	NR			2.9	U	2.9	NR			NR			NR		
Arsenic	3.3	U	3.3	NR			3.3	U	3.3	NR			NR			NR		
Barium	14.9	J	14.7	NR			14.7	U	14.7	NR			NR			NR		
Beryllium	0.41	U	0.41	NR			0.41	U	0.41	NR			NR			NR		
Cadmium	0.45	U	0.45	NR			0.45	U	0.45	NR			NR			NR		
Calcium	46600		391	NR			44400		391	NR			NR			NR		
Chromium	82.9		1.4	50.8		1.4	3.7	J	1.4	364		1.4	156		1.4	41.3		1.4
Cobalt	4.4	U	4.4	NR			4.4	U	4.4	NR			NR			NR		
Copper	2.6	U	2.6	NR			2.6	U	2.6	NR			NR			NR		
Iron	495		26.4	NR			26.4	U	26.4	NR			NR			NR		
Lead	4.2	U	4.2	NR			4.2	U	4.2	NR			NR			NR		
Magnesium	4610	J	349	NR			4550	J	349	NR			NR			NR		
Manganese	198		1.2	NR			488		1.2	NR			NR			NR		
Nickel	13.5	J	3.4	NR			3.4	U	3.4	NR			NR			NR		
Potassium	2330	J	195	NR			2570	J	195	NR			NR			NR		
Selenium	4.4	U	4.4	NR			4.4	U	4.4	NR			NR			NR		
Silver	1.4	U	1.4	NR			1.4	U	1.4	NR			NR			NR		
Sodium	23600		241	NR			23500		241	NR			NR			NR		
Thallium	7.0	U	7.0	NR			7.0	U	7.0	NR			NR			NR		
Vanadium	3.2	U	3.2	NR			3.2	U	3.2	NR			NR			NR		
Zinc	15.6	J	4.2	NR			4.2	U	4.2	NR			NR			NR		
WATER BY 245.1(UG/L)																		
Mercury	0.12	U	0.12	NR			0.12	U	0.12	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

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

SUMMARY OF ANALYTICAL RESULTS: 460-194533-1

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	460-194533-1			460-194533-2			460-194533-3			460-194533-4			460-194533-5			460-194533-6		
Sampling Date	10/21/2019 16:45:00			10/21/2019 16:46:00			10/21/2019 16:47:00			10/21/2019 17:00:00			10/21/2019 17:01:00			10/21/2019 17:02:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0	307		12.0	3.0	U	3.0	3.0	U	3.0

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL

RESULTS: 460-195919-1

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			Lagoon Seep			Seep Shed Influent			Seep Shed Mid			Seep Shed Effluent		
Lab Sample ID	460-195919-1			460-195919-2			460-195919-3			460-195919-4			460-195919-5			460-195919-6			460-195919-7		
Sampling Date	11/07/2019 13:30:00			11/07/2019 13:31:00			11/07/2019 13:32:00			11/07/2019 13:55:00			11/07/2019 14:00:00			11/07/2019 14:02:00			11/07/2019 14:05:00		
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	31.0	J	28.7	NR			28.7	U	28.7	NR			NR			NR			NR		
Antimony	2.9	U	2.9	NR			2.9	U	2.9	NR			NR			NR			NR		
Arsenic	3.3	U	3.3	NR			3.3	U	3.3	NR			NR			NR			NR		
Barium	14.7	U	14.7	NR			14.7	U	14.7	NR			NR			NR			NR		
Beryllium	0.41	U	0.41	NR			0.41	U	0.41	NR			NR			NR			NR		
Cadmium	0.45	U	0.45	NR			0.45	U	0.45	NR			NR			NR			NR		
Calcium	37800		391	NR			39500		391	NR			NR			NR			NR		
Chromium	54.5		1.4	49.1		1.4	3.4	J	1.4	40800		13.5	408		1.4	77.6		1.4	14.7		1.4
Chromium, Dissolved	NR			NR			NR			438		1.4	NR			NR			NR		
Cobalt	4.4	U	4.4	NR			4.4	U	4.4	NR			NR			NR			NR		
Copper	5.3	J	2.6	NR			2.6	U	2.6	NR			NR			NR			NR		
Iron	124	J	26.4	NR			26.4	U	26.4	NR			NR			NR			NR		
Lead	4.2	U	4.2	NR			4.2	U	4.2	NR			NR			NR			NR		
Magnesium	3860	J	349	NR			4110	J	349	NR			NR			NR			NR		
Manganese	22.0		1.2	NR			38.4		1.2	NR			NR			NR			NR		
Nickel	34.0	J	3.4	NR			3.4	U	3.4	NR			NR			NR			NR		
Potassium	2580	J	195	NR			2580	J	195	NR			NR			NR			NR		
Selenium	4.4	U	4.4	NR			4.4	U	4.4	NR			NR			NR			NR		
Silver	1.4	U	1.4	NR			1.4	U	1.4	NR			NR			NR			NR		
Sodium	19900		241	NR			20400		241	NR			NR			NR			NR		
Thallium	7.0	U	7.0	NR			7.0	U	7.0	NR			NR			NR			NR		
Vanadium	3.2	U	3.2	NR			3.2	U	3.2	NR			NR			NR			NR		
Zinc	25.5	J	4.2	NR			8.3	J	4.2	NR			NR			NR			NR		
WATER BY 245.1(UG/L)																					
Mercury	0.12	U	0.12	NR			0.12	U	0.12	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

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS:

460-195919-1

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			Lagoon Seep			Seep Shed Influent			Seep Shed Mid			Seep Shed Effluent		
Lab Sample ID	460-195919-1			460-195919-2			460-195919-3			460-195919-4			460-195919-5			460-195919-6			460-195919-7		
Sampling Date	11/07/2019 13:30:00			11/07/2019 13:31:00			11/07/2019 13:32:00			11/07/2019 13:55:00			11/07/2019 14:00:00			11/07/2019 14:02:00			11/07/2019 14:05:00		
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)	31.3		8.1	37.0		8.1	8.1	U	8.1	407	U	407	395		32.6	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

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

SUMMARY OF ANALYTICAL RESULTS: 460-199333-

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	460-199333-1			460-199333-2			460-199333-3			460-199333-4			460-199333-5			460-199333-6		
Sampling Date	12/19/2019 11:30:00			12/19/2019 11:31:00			12/19/2019 11:32:00			12/19/2019 12:00:00			12/19/2019 12:01:00			12/19/2019 12:02:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Aluminum	69.3	J	20.7	NR			20.7	U	20.7	NR			NR			NR		
Antimony	5.9	U	5.9	NR			5.9	U	5.9	NR			NR			NR		
Arsenic	4.2	J	3.6	NR			3.6	U	3.6	NR			NR			NR		
Barium	17.3	J	7.9	NR			10.3	J	7.9	NR			NR			NR		
Beryllium	0.30	U	0.30	NR			0.30	U	0.30	NR			NR			NR		
Cadmium	0.31	U	0.31	NR			0.31	U	0.31	NR			NR			NR		
Calcium	53300		130	NR			47900		130	NR			NR			NR		
Chromium	193		5.7	126		5.7	5.7	U	5.7	515		5.7	8.5	J	5.7	5.7	U	5.7
Cobalt	1.5	U	1.5	NR			1.5	U	1.5	NR			NR			NR		
Copper	5.5	U	5.5	NR			5.5	U	5.5	NR			NR			NR		
Iron	2530		76.8	NR			76.8	U	76.8	NR			NR			NR		
Lead	3.1	U	3.1	NR			3.1	U	3.1	NR			NR			NR		
Magnesium	5460		160	NR			5010		160	NR			NR			NR		
Manganese	1030		0.66	NR			3.7	J	0.66	NR			NR			NR		
Nickel	10.9	J	2.1	NR			2.1	U	2.1	NR			NR			NR		
Potassium	2090	J B	127	NR			1900	J B	127	NR			NR			NR		
Selenium	4.9	U	4.9	NR			4.9	U	4.9	NR			NR			NR		
Silver	5.0	U	5.0	NR			5.0	U	5.0	NR			NR			NR		
Sodium	26100		107	NR			23900		107	NR			NR			NR		
Thallium	2.8	U	2.8	NR			2.8	U	2.8	NR			NR			NR		
Vanadium	3.9	U	3.9	NR			3.9	U	3.9	NR			NR			NR		
Zinc	35.9		2.6	NR			5.9	J	2.6	NR			NR			NR		
WATER BY 245.1(UG/L)																		
Mercury	0.12	U	0.12	NR			0.12	U	0.12	NR			NR			NR		

NR: Not Analyzed

B : Compound was found in the blank and sample.

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

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-199333-1

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	460-199333-1			460-199333-2			460-199333-3			460-199333-4			460-199333-5			460-199333-6		
Sampling Date	12/19/2019 11:30:00			12/19/2019 11:31:00			12/19/2019 11:32:00			12/19/2019 12:00:00			12/19/2019 12:01:00			12/19/2019 12:02:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	122		8.1	110		8.1	8.1	U	8.1	60.3		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

SEMIANNUAL MONITORING RESULTS

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS:

460-193928-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-43s			MW-41D			OMW-41			MW-42D			MW-43D		
Lab Sample ID	460-193928-1			460-193928-2			460-193928-3			460-193928-4			460-193928-5		
Sampling Date	10/15/2019 09:45:00			10/15/2019 12:00:00			10/15/2019 11:35:00			10/15/2019 11:10:00			10/15/2019 10:20:00		
Matrix	Water			Water			Water			Water			Water		
Unit															
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)															
Chromium	379		1.4	1.4	U	1.4	729		1.4	4.9	J	1.4	1.4	U	1.4

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

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS:

460-193928-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-43s			MW-41D			OMW-41			MW-42D			MW-43D		
Lab Sample ID	460-193928-1			460-193928-2			460-193928-3			460-193928-4			460-193928-5		
Sampling Date	10/15/2019 09:45:00			10/15/2019 12:00:00			10/15/2019 11:35:00			10/15/2019 11:10:00			10/15/2019 10:20:00		
Matrix	Water			Water			Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A															
Cr (VI) (ug/l)	15.1	U	15.1	3.0	U	3.0	8.9	J	3.0	3.0	U	3.0	4.3	J	3.0

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

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-194012-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-38I			MW-39S			OMW-44			MW-40I			MW-40D			OMW-40		
Lab Sample ID	460-194012-1			460-194012-2			460-194012-3			460-194012-4			460-194012-5			460-194012-6		
Sampling Date	10/16/2019 12:45:00			10/16/2019 10:40:00			10/16/2019 11:45:00			10/16/2019 10:40:00			10/16/2019 12:30:00			10/16/2019 11:45:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Chromium	14.6		1.4	108		1.4	1220		1.4	629		1.4	16.3		1.4	872		1.4

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

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-194012-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-38I			MW-39S			OMW-44			MW-40I			MW-40D			OMW-40		
Lab Sample ID	460-194012-1			460-194012-2			460-194012-3			460-194012-4			460-194012-5			460-194012-6		
Sampling Date	10/16/2019 12:45:00			10/16/2019 10:40:00			10/16/2019 11:45:00			10/16/2019 10:40:00			10/16/2019 12:30:00			10/16/2019 11:45:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	20.2		6.0	6.0	U	6.0	2170		301	177		6.0	7.8	J	3.0	37.8		3.0

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

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

SUMMARY OF ANALYTICAL RESULTS: 460-

194089-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	SB-2			MW-30			MW-B01S			MW-B01D		
Lab Sample ID	460-194089-1			460-194089-2			460-194089-3			460-194089-4		
Sampling Date	10/16/2019 16:35:00			10/16/2019 15:30:00			10/16/2019 16:35:00			10/16/2019 15:40:00		
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)												
Chromium	1080		1.4	6.1	J	1.4	57.1		1.4	123		1.4

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-194089-1****Job Description: Precision National Plating****For:****ARCADIS U.S., Inc****1 Harvard Way****Hillsborough, New Jersey 08844**

Client ID	SB-2			MW-30			MW-B01S			MW-B01D		
Lab Sample ID	460-194089-1			460-194089-2			460-194089-3			460-194089-4		
Sampling Date	10/16/2019 16:35:00			10/16/2019 15:30:00			10/16/2019 16:35:00			10/16/2019 15:40:00		
Matrix	Water			Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A												
Cr (VI) (ug/l)	15.9		3.0	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-194149-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-14S			OMW-24			MW-9D			MW-9S			MW-9IB			MW-38S			OMW-15		
Lab Sample ID	460-194149-1			460-194149-2			460-194149-3			460-194149-4			460-194149-5			460-194149-6			460-194149-7		
Sampling Date	10/17/2019 11:30:00			10/17/2019 11:35:00			10/17/2019 12:25:00			10/17/2019 10:45:00			10/17/2019 12:10:00			10/17/2019 10:35:00			10/17/2019 11:00:00		
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)																					
Chromium	413		1.4	395		1.4	1.4	U	1.4	367		1.4	9.2	J	1.4	16.6		1.4	13.2		1.4

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

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-194149-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-14S			OMW-24			MW-9D			MW-9S			MW-9IB			MW-38S			OMW-15		
Lab Sample ID	460-194149-1			460-194149-2			460-194149-3			460-194149-4			460-194149-5			460-194149-6			460-194149-7		
Sampling Date	10/17/2019 11:30:00			10/17/2019 11:35:00			10/17/2019 12:25:00			10/17/2019 10:45:00			10/17/2019 12:10:00			10/17/2019 10:35:00			10/17/2019 11:00:00		
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)	360		6.0	91.6		3.0	3.0	U	3.0	241		6.0	3.0	U	3.0	3.0	U	3.0	18.2		3.0

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

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

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-194221-1****Job Description: Precision National Plating****For:****ARCADIS U.S., Inc****1 Harvard Way****Hillsborough, New Jersey 08844**

Client ID	Bathtub Seep			OMW-26			AGM-4I			AGM-4S		
Lab Sample ID	460-194221-1			460-194221-2			460-194221-3			460-194221-4		
Sampling Date	10/17/2019 14:50:00			10/17/2019 15:30:00			10/17/2019 15:35:00			10/17/2019 15:20:00		
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)												
Chromium	345		1.4	308		1.4	2.0	J	1.4	1.6	J	1.4

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

194221-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Bathtub Seep			OMW-26			AGM-4I			AGM-4S		
Lab Sample ID	460-194221-1			460-194221-2			460-194221-3			460-194221-4		
Sampling Date	10/17/2019 14:50:00			10/17/2019 15:30:00			10/17/2019 15:35:00			10/17/2019 15:20:00		
Matrix	Water			Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A												
Cr (VI) (ug/l)	3.0	U H	3.0	3.0	U	3.0	3.0	U	3.0	3.0	U F1	3.0

F1 : MS and/or MSD Recovery is outside acceptance limits.

H : Sample was prepped or analyzed beyond the specified holding time

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-****194237-1****Job Description: Precision National****Plating****For:****ARCADIS U.S., Inc****1 Harvard Way****Hillsborough, New Jersey 08844**

Client ID	SB-1			MW-23			MW-24			MW-25			OMW-18			MW-37s			OMW-13		
Lab Sample ID	460-194237-1			460-194237-2			460-194237-3			460-194237-4			460-194237-5			460-194237-6			460-194237-7		
Sampling Date	10/18/2019 10:00:00			10/18/2019 11:15:00			10/18/2019 13:00:00			10/18/2019 12:10:00			10/18/2019 12:25:00			10/18/2019 10:40:00			10/18/2019 12:45:00		
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)																					
Chromium	294		1.4	53.8		1.4	4.4	J	1.4	16.0		1.4	4.8	J	1.4	50.7		1.4	839		1.4

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-****194237-1****Job Description:** Precision National**Plating****For:****ARCADIS U.S., Inc****1 Harvard Way****Hillsborough, New Jersey 08844**

Client ID	SB-1			MW-23			MW-24			MW-25			OMW-18			MW-37s			OMW-13		
Lab Sample ID	460-194237-1			460-194237-2			460-194237-3			460-194237-4			460-194237-5			460-194237-6			460-194237-7		
Sampling Date	10/18/2019 10:00:00			10/18/2019 11:15:00			10/18/2019 13:00:00			10/18/2019 12:10:00			10/18/2019 12:25:00			10/18/2019 10:40:00			10/18/2019 12:45:00		
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)	3.0	U	3.0	6.0	U	6.0	59.8		12.0	5.8	J	3.0	3.0	U	3.0	3.0	U	3.0	74.6		3.0

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

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL

RESULTS: 460-194533-1

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	460-194533-1			460-194533-2			460-194533-3			460-194533-4			460-194533-5			460-194533-6		
Sampling Date	10/21/2019 16:45:00			10/21/2019 16:46:00			10/21/2019 16:47:00			10/21/2019 17:00:00			10/21/2019 17:01:00			10/21/2019 17:02:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Aluminum	28.7	U	28.7	NR			28.7	U	28.7	NR			NR			NR		
Antimony	2.9	U	2.9	NR			2.9	U	2.9	NR			NR			NR		
Arsenic	3.3	U	3.3	NR			3.3	U	3.3	NR			NR			NR		
Barium	14.9	J	14.7	NR			14.7	U	14.7	NR			NR			NR		
Beryllium	0.41	U	0.41	NR			0.41	U	0.41	NR			NR			NR		
Cadmium	0.45	U	0.45	NR			0.45	U	0.45	NR			NR			NR		
Calcium	46600		391	NR			44400		391	NR			NR			NR		
Chromium	82.9		1.4	50.8		1.4	3.7	J	1.4	364		1.4	156		1.4	41.3		1.4
Cobalt	4.4	U	4.4	NR			4.4	U	4.4	NR			NR			NR		
Copper	2.6	U	2.6	NR			2.6	U	2.6	NR			NR			NR		
Iron	495		26.4	NR			26.4	U	26.4	NR			NR			NR		
Lead	4.2	U	4.2	NR			4.2	U	4.2	NR			NR			NR		
Magnesium	4610	J	349	NR			4550	J	349	NR			NR			NR		
Manganese	198		1.2	NR			488		1.2	NR			NR			NR		
Nickel	13.5	J	3.4	NR			3.4	U	3.4	NR			NR			NR		
Potassium	2330	J	195	NR			2570	J	195	NR			NR			NR		
Selenium	4.4	U	4.4	NR			4.4	U	4.4	NR			NR			NR		
Silver	1.4	U	1.4	NR			1.4	U	1.4	NR			NR			NR		
Sodium	23600		241	NR			23500		241	NR			NR			NR		
Thallium	7.0	U	7.0	NR			7.0	U	7.0	NR			NR			NR		
Vanadium	3.2	U	3.2	NR			3.2	U	3.2	NR			NR			NR		
Zinc	15.6	J	4.2	NR			4.2	U	4.2	NR			NR			NR		
WATER BY 245.1(UG/L)																		
Mercury	0.12	U	0.12	NR			0.12	U	0.12	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

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-194533-1****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	460-194533-1			460-194533-2			460-194533-3			460-194533-4			460-194533-5			460-194533-6		
Sampling Date	10/21/2019 16:45:00			10/21/2019 16:46:00			10/21/2019 16:47:00			10/21/2019 17:00:00			10/21/2019 17:01:00			10/21/2019 17:02:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0	307		12.0	3.0	U	3.0	3.0	U	3.0

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

194536-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-As			MW-AD		
Lab Sample ID	460-194536-1			460-194536-2		
Sampling Date	10/21/2019 15:40:00			10/21/2019 16:10:00		
Matrix	Water			Water		
Unit						
	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)						
Chromium	17.8		1.4	39.6		1.4

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

194536-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Client ID	MW-As			MW-AD		
Lab Sample ID	460-194536-1			460-194536-2		
Sampling Date	10/21/2019 15:40:00			10/21/2019 16:10:00		
Matrix	Water			Water		
	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A						
Cr (VI) (ug/l)	50.9		3.0	31.9		3.0

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

SUMMARY OF ANALYTICAL RESULTS: 460-

194561-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	AGM-2S			AGM-2I			AGM-3I		
Lab Sample ID	460-194561-1			460-194561-2			460-194561-3		
Sampling Date	10/22/2019 11:40:00			10/22/2019 12:30:00			10/22/2019 10:40:00		
Matrix	Water			Water			Water		
Unit									
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)									
Chromium	4.9	J	1.4	2.8	J	1.4	4.9	J	1.4

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-

194561-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	AGM-2S			AGM-2I			AGM-3I		
Lab Sample ID	460-194561-1			460-194561-2			460-194561-3		
Sampling Date	10/22/2019 11:40:00			10/22/2019 12:30:00			10/22/2019 10:40:00		
Matrix	Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A									
Cr (VI) (ug/l)	12.6		3.0	3.0	U	3.0	3.0	U	3.0

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

Lab Contact:

Grace Chang

Project Manager II

(732)593-2579

TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-

194621-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-16S			MW-9IA			MW-15S			OMW-27			OMW-28		
Lab Sample ID	460-194621-1			460-194621-2			460-194621-3			460-194621-4			460-194621-5		
Sampling Date	10/22/2019 16:10:00			10/22/2019 16:15:00			10/22/2019 16:45:00			10/22/2019 15:52:00			10/22/2019 16:22:00		
Matrix	Water			Water			Water			Water			Water		
Unit															
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)															
Chromium	23.5		1.4	101		1.4	18.6		1.4	772		1.4	52.5		1.4

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

TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-194621-****1****Job Description: Precision National Plating****For:****ARCADIS U.S., Inc****1 Harvard Way**

Client ID	MW-16S			MW-9IA			MW-15S			OMW-27			OMW-28		
Lab Sample ID	460-194621-1			460-194621-2			460-194621-3			460-194621-4			460-194621-5		
Sampling Date	10/22/2019 16:10:00			10/22/2019 16:15:00			10/22/2019 16:45:00			10/22/2019 15:52:00			10/22/2019 16:22:00		
Matrix	Water			Water			Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A															
Cr (VI) (ug/l)	3.0	U	3.0	102		3.0	8.1	J	3.0	4.6	J	3.0	5.8	J	3.0

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

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TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-

194669-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Sump			French Drain Sump			SB-10			OMW-32			Lagoon Seep			MW BS		
Lab Sample ID	460-194669-1			460-194669-2			460-194669-3			460-194669-4			460-194669-5			460-194669-6		
Sampling Date	10/23/2019 11:50:00			10/23/2019 11:55:00			10/23/2019 11:15:00			10/23/2019 10:35:00			10/23/2019 10:30:00			10/23/2019 10:20:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Chromium	288		1.4	44.8		1.4	35.7		1.4	4800		1.4	93300		13.5	17.8		1.4

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

Lab Contact:

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TestAmerica Laboratories, |
Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS: 460-194669-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-6			SB--6			OMW-3			MW-BD								
Lab Sample ID	460-194669-7			460-194669-8			460-194669-9			460-194669-10			460-194669-11			460-194669-12		
Sampling Date	10/23/2019 12:15:00			10/23/2019 10:15:00			10/23/2019 09:55:00			10/23/2019 11:20:00			10/23/2019 12:45:00			10/23/2019 13:00:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Chromium	16.9		1.4	2930		1.4	344		1.4	151		1.4	1.4	U	1.4	1.4	U	1.4

U : Indicates the analyte was analyzed for b

Lab Contact:

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TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-194669-1

Job Description: Precision National
 Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	Lagoon Sump			French Drain Sump			SB-10			OMW-32			Lagoon Seep			MW BS		
Lab Sample ID	460-194669-1			460-194669-2			460-194669-3			460-194669-4			460-194669-5			460-194669-6		
Sampling Date	10/23/2019 11:50:00			10/23/2019 11:55:00			10/23/2019 11:15:00			10/23/2019 10:35:00			10/23/2019 10:30:00			10/23/2019 10:20:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	32.2		3.0	3.0	U	3.0	3.0	U	3.0	142		6.0	301	U	301	6.1	J	3.0

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

TestAmerica Laboratories, |
Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS: 460-194669-1

Job Description: Precision National
 Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-6			SB--6			OMW-3			MW-BD								
Lab Sample ID	460-194669-7			460-194669-8			460-194669-9			460-194669-10			460-194669-11			460-194669-12		
Sampling Date	10/23/2019 12:15:00			10/23/2019 10:15:00			10/23/2019 09:55:00			10/23/2019 11:20:00			10/23/2019 12:45:00			10/23/2019 13:00:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0	15.1	U	15.1	3.0	U	3.0	3.0	U	3.0

J : Result is less than the RL but greater than

U : Indicates the analyte was analyzed for b

Lab Contact:

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TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison**

SUMMARY OF ANALYTICAL RESULTS: 4007

194736-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-2			MW-CS			MW-CI			MW-28S			MW-28I		
Lab Sample ID	460-194736-1			460-194736-2			460-194736-3			460-194736-4			460-194736-5		
Sampling Date	10/23/2019 16:45:00			10/23/2019 15:10:00			10/23/2019 15:50:00			10/23/2019 15:00:00			10/23/2019 16:10:00		
Matrix	Water			Water			Water			Water			Water		
Unit															
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)															
Chromium	237		1.4	393		1.4	110		1.4	66.6		1.4	47.3		1.4

Lab Contact:

Patricia Grieco

Senior Project Manager

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TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-
 194736-1

Job Description: Precision National
 Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-2			MW-CS			MW-CI			MW-28S			MW-28I		
Lab Sample ID	460-194736-1			460-194736-2			460-194736-3			460-194736-4			460-194736-5		
Sampling Date	10/23/2019 16:45:00			10/23/2019 15:10:00			10/23/2019 15:50:00			10/23/2019 15:00:00			10/23/2019 16:10:00		
Matrix	Water			Water			Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A															
Cr (VI) (ug/l)	108		3.0	31.1		3.0	7.3	J	3.0	52.6		3.0	43.6		3.0

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

Lab Contact:

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TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-
 194776-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-16			OMW-30			MW-10I			MW-18I			MW-18S			MW-11S		
Lab Sample ID	460-194776-1			460-194776-2			460-194776-3			460-194776-4			460-194776-5			460-194776-6		
Sampling Date	10/24/2019 12:45:00			10/24/2019 11:15:00			10/24/2019 12:20:00			10/24/2019 10:10:00			10/24/2019 11:00:00			10/24/2019 10:05:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Chromium	1.4	U	1.4	4080		1.4	96.8		1.4	196		1.4	43.3		1.4	324		1.4

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

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TestAmerica Laboratories, |
Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS: 460-

194776-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	OMW-17			MW-11I			MW-10S		
Lab Sample ID	460-194776-7			460-194776-8			460-194776-9		
Sampling Date	10/24/2019 10:40:00			10/24/2019 10:45:00			10/24/2019 11:55:00		
Matrix	Water			Water			Water		
Unit									
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)									
Chromium	296		6.8	70.9		1.4	626		1.4

U : Indicates the analyte was analyzed for b

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TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-194776-****1****Job Description: Precision National Plating****For:****ARCADIS U.S., Inc****1 Harvard Way**

Client ID	OMW-16			OMW-30			MW-10I			MW-18I			MW-18S			MW-11S		
Lab Sample ID	460-194776-1			460-194776-2			460-194776-3			460-194776-4			460-194776-5			460-194776-6		
Sampling Date	10/24/2019 12:45:00			10/24/2019 11:15:00			10/24/2019 12:20:00			10/24/2019 10:10:00			10/24/2019 11:00:00			10/24/2019 10:05:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	12.6		3.0	13.5	J	6.0	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0

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Lab Contact:

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TestAmerica Laboratories, |
Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS:

1

Job Description: Precision National Pla

For:

ARCADIS U.S., Inc

1 Harvard Way

Client ID	OMW-17			MW-111			MW-10S		
Lab Sample ID	460-194776-7			460-194776-8			460-194776-9		
Sampling Date	10/24/2019 10:40:00			10/24/2019 10:45:00			10/24/2019 11:55:00		
Matrix	Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A									
Cr (VI) (ug/l)	3.0	U	3.0	18.4		3.0	3.0	U	3.0

J : Result is less than the RL but greater than the RL

U : Indicates the analyte was analyzed for but not detected

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TestAmerica Laboratories, Inc.
Eurofins TestAmerica, Edison

SUMMARY OF ANALYTICAL RESULTS: 460-
 194848-1

Job Description: Precision National
 Plating

For:

ARCADIS U.S., Inc
 1 Harvard Way
 Hillsborough, New Jersey 08844

Client ID	MW-3S			MW-4D			MW-4S			MW-3D			OMW-4			OMW-11		
Lab Sample ID	460-194848-1			460-194848-2			460-194848-3			460-194848-4			460-194848-5			460-194848-6		
Sampling Date	10/24/2019 17:00:00			10/24/2019 15:10:00			10/24/2019 15:20:00			10/24/2019 16:45:00			10/24/2019 16:25:00			10/24/2019 16:45:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Chromium	24.1		1.4	4.6	J	1.4	10.7		1.4	31.0		1.4	148		1.4	329		1.4

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:
 Patricia Grieco
 Senior Project Manager
 (732)593-2507

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 (732)593-2579

TestAmerica Laboratories, |
Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS: 460-194848-1

Job Description: Precision National Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	AGM-5I			AGM-5S		
Lab Sample ID	460-194848-7			460-194848-8		
Sampling Date	10/24/2019 15:05:00			10/24/2019 15:35:00		
Matrix	Water			Water		
Unit						
	Result	Q	MDL	Result	Q	MDL
WATER BY 200.7 REV 4.4(UG/L)						
Chromium	1.4	U	1.4	61.0		1.4

J : Result is less than the RL but greater than

U : Indicates the analyte was analyzed for but

Lab Contact:

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TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-194848-1****Job Description: Precision National Plating****For:****ARCADIS U.S., Inc****1 Harvard Way****Hillsborough, New Jersey 08844**

Client ID	MW-3S			MW-4D			MW-4S			MW-3D			OMW-4			OMW-11		
Lab Sample ID	460-194848-1			460-194848-2			460-194848-3			460-194848-4			460-194848-5			460-194848-6		
Sampling Date	10/24/2019 17:00:00			10/24/2019 15:10:00			10/24/2019 15:20:00			10/24/2019 16:45:00			10/24/2019 16:25:00			10/24/2019 16:45:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	3.0	U	3.0	3.3	J	3.0	3.0	U	3.0	3.0	U	3.0	30.1	U	30.1	3.0	U	3.0

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:

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TestAmerica Laboratories, |
Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS: 4

Job Description: Precision National Pla

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	AGM-5I			AGM-5S		
Lab Sample ID	460-194848-7			460-194848-8		
Sampling Date	10/24/2019 15:05:00			10/24/2019 15:35:00		
Matrix	Water			Water		
	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A						
Cr (VI) (ug/l)	3.0	U	3.0	38.1		3.0

J : Result is less than the RL but greater than the RL

U : Indicates the analyte was analyzed for but not detected

Lab Contact:

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TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-****194897-1****Job Description: Precision National****Plating****For:****ARCADIS U.S., Inc****1 Harvard Way****Hillsborough, New Jersey 08844**

Client ID	MW-8s			MW-34s			MW-26s			MW-33s			MW-27s			MW-35s		
Lab Sample ID	460-194897-1			460-194897-2			460-194897-3			460-194897-4			460-194897-5			460-194897-6		
Sampling Date	10/25/2019 10:15:00			10/25/2019 13:20:00			10/25/2019 11:30:00			10/25/2019 12:27:00			10/25/2019 10:30:00			10/25/2019 12:30:00		
Matrix	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
WATER BY 200.7 REV 4.4(UG/L)																		
Chromium	95.8		1.4	31.2		1.4	103		1.4	67.8		1.4	183		1.4	18.6		1.4

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

Lab Contact:

Grace Chang

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TestAmerica Laboratories, |

Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS: 460-

194897-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-32s			MW-36s			MW-32I			MW-34I		
Lab Sample ID	460-194897-7			460-194897-8			460-194897-9			460-194897-10		
Sampling Date	10/25/2019 11:55:00			10/25/2019 10:30:00			10/25/2019 13:05:00			10/25/2019 14:10:00		
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)												
Chromium	6.5	J	1.4	13.6		1.4	109		1.4	72.4		1.4

J : Result is less than the RL but greater thar

Lab Contact:

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TestAmerica Laboratories, Inc.**Eurofins TestAmerica, Edison****SUMMARY OF ANALYTICAL RESULTS: 460-****194897-1****Job Description: Precision National****Plating****For:****ARCADIS U.S., Inc****1 Harvard Way****Hillsborough, New Jersey 08844**

Client ID	MW-8s			MW-34s			MW-26s			MW-33s			MW-27s			MW-35s		
Lab Sample ID	460-194897-1			460-194897-2			460-194897-3			460-194897-4			460-194897-5			460-194897-6		
Sampling Date	10/25/2019 10:15:00			10/25/2019 13:20:00			10/25/2019 11:30:00			10/25/2019 12:27:00			10/25/2019 10:30:00			10/25/2019 12:30:00		
Matrix	Water			Water			Water			Water			Water			Water		
	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)	30.1	U	30.1	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0

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

Lab Contact:

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TestAmerica Laboratories, |
Eurofins TestAmerica, Edis

SUMMARY OF ANALYTICAL RESULTS: 460-194897-1

Job Description: Precision National

Plating

For:

ARCADIS U.S., Inc

1 Harvard Way

Hillsborough, New Jersey 08844

Client ID	MW-32s			MW-36s			MW-32I			MW-34I		
Lab Sample ID	460-194897-7			460-194897-8			460-194897-9			460-194897-10		
Sampling Date	10/25/2019 11:55:00			10/25/2019 10:30:00			10/25/2019 13:05:00			10/25/2019 14:10:00		
Matrix	Water			Water			Water			Water		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
WATER BY 7196A												
Cr (VI) (ug/l)	3.0	U	3.0	3.0	U	3.0	3.0	U	3.0	6.0	U	6.0

U : Indicates the analyte was analyzed for b

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