



July 25, 2022

Sent Via Electronic Mail

Ms. Cindy Mulkey
Florida Department of Environmental Protection
Program Administrator
Siting Coordination Office (SCO)
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399-2400

Subject: Duke Energy Florida, LLC
Citrus Combined Cycle Plant
WAFR ID FLA964891
Conditions of Certification PA 77-09U
Amendment Request-Disposal of Gas Turbine Wash Water into IWW Percolation
Ponds

Dear Ms. Mulkey:

Duke Energy Florida (DEF) respectfully submits this request for an amendment of Attachment H of the above-referenced Conditions of Certification for authorization to discharge Gas Turbine Wash Water into the Industrial Wastewater Percolation Ponds. Enclosed please find supporting documentation for this request, including signed and sealed DEP Form 62-620.910(9), a description of the request, a drawing indicating piping/pump changes, analysis results of the gas turbine wash water, and a revised flow diagram.

Should you have any questions regarding this submittal, please contact Ms. Ilia Balcom at (813) 362-5123 or ilia.balcom@duke-energy.com. Please copy Ms. Balcom on all correspondence related to this submittal

Sincerely,


Martin J. Drango
Station Manager
Citrus Combined Cycle Plant

Enclosures



APPLICATION FOR A MINOR REVISION TO A WASTEWATER FACILITY OR ACTIVITY PERMIT

1. Instructions

- a. In accordance with Rule 62-620.325, F.A.C., this form must be submitted to the appropriate Department district office or approved local program when requests for minor revisions to a permit or minor modifications to a facility are made by a permittee, except for transfer of a permit to a new permittee and addition of a major user of reclaimed water to a Part III reuse system. Application for transfer of a permit to a new permittee shall be made on DEP Form 62-620.910(11). Application for addition of a major user of reclaimed water shall be made on DEP Form 62-610.300(4)(a)1.
- b. Each applicable item must be completed in full in order to avoid delay in processing of this form. Where attached sheets or other technical documentation are provided, indicate appropriate cross-references.
- c. Three (3) copies of this application with supporting documentation shall be submitted with this form.
- d. All information is to be typed or printed in ink. Dates are to be entered in MM/DD/YR format.
- e. This application and attachments shall be signed in accordance with Rule 62-620.305, F.A.C. Also, as applicable, this application and all attachments shall be signed and sealed by a professional engineer registered in Florida in accordance with Rule 62-620.310, F.A.C.

2. Facility Information

a. Permit Number:	FLA964891	b. Facility Identification Number:	FLA964891
c. Project/Facility Name:	Citrus Combined Cycle Station		
d. Contact Name:	Ilia Balcom		
Number and Street:	299 First Avenue North		
City/State/Zip Code:	St. Petersburg, FL 33701		
Telephone	813-362-5123		

3. Type of Revision

- ☐ **Correct Typographical Errors¹** - Submit one copy of each page of the permit showing revisions being requested.
- ☐ **Change Improvement Schedule¹** - Provide a description of the improvement, a list of the dates to be revised, and a reason for the proposed change in each date.
- ☐ **Change Expiration Date of Permit¹** - Provide the current and proposed expiration dates for the permit and the reasons for the proposed change.
- ☐ **Change Staffing Requirements²** - Describe the proposed change and submit justification for the change in accordance with Chapter 62-699, F.A.C.

¹A processing fee is not required.

²A processing fee is required with the application in accordance with Rule 62-4.050, F.A.C.

- ☐ **Change Monitoring and Reporting Requirements²** - Describe the proposed change and submit justification for the change in accordance with Chapter 62-601, F.A.C.
- ☐ **Modify Approved Pretreatment Program¹** - Describe the proposed modification and provide the information required by Rule 62-625.540, F.A.C.
- ☐ **Delete Point Source Outfall¹** - Identify the outfall and explain why the outfall is being eliminated.
- ☐ **Modify or Expand Approved Residuals Land Application Sites²** - Attach a new or updated Agricultural Use or Dedicated Site Plan as required by Chapter 62-640, F.A.C.
- ☒ **Minor Modification to the Facility²** - Provide a description of the proposed modification. If applicable, attach any reports, plans, and specifications which have been developed to implement this modification.
- ☐ **Other²** - Provide appropriate documentation. Describe.

4. Certifications

a. Applicant or Authorized Representative

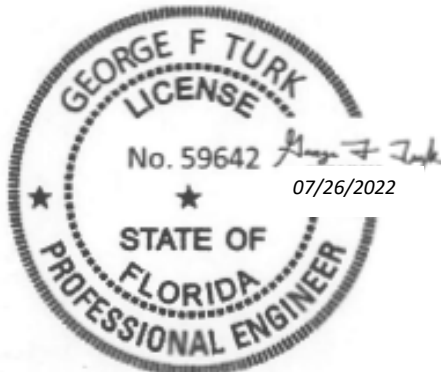
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Martin Drango (Signature of Applicant or Authorized Representative¹) 7/27/22 (Date)

Name (please type)	<u>Martin Drango</u>	Company Name	<u>Duke Energy Florida, LLC</u>
Title	<u>Station Manager</u>	Company Address:	<u>1438 No. Access Rd</u>
Phone	<u>352 501-2003</u>	City/State/Zip Code:	<u>Crystal River, FL 34428</u>
Email (optional):	<u>Martin.Drango@Duke-Energy.com</u>		

Professional Engineer Registered in Florida

I certify that the engineering features of this project have been (designed) (examined) by me and found to conform to engineering principles applicable to such projects. In my professional judgement, this facility, when properly constructed, operated, and maintained, will comply with all applicable statutes of the State of Florida and rules of the Department.



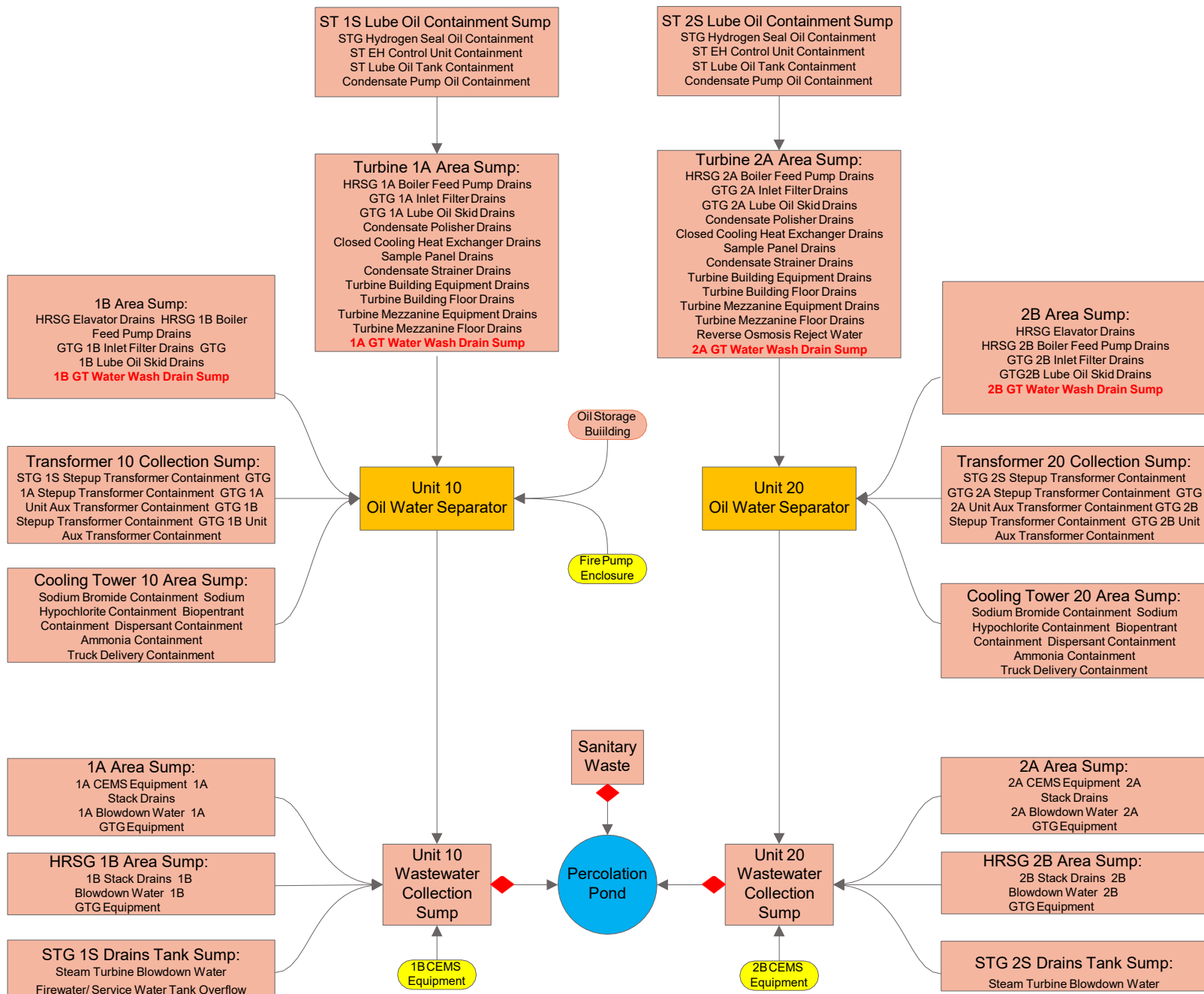
Name (please type): George Turk

¹If signed by the authorized representative, attach a letter of authorization in accordance Rule 62-620.305, F.A.C.

Florida Registration Number: 59642
Company Name: Duke Energy Florida LLC
Company Address: 1438 N. Access Rd
City/State/Zip Code: Crystal River, FL 34428
Phone Number: 561-267-8568

Email (optional): George.Turk@Duke-Energy.com

Drain System Flow Diagram



Unit and Abbreviations Key:

STG – Steam Turbine Generator

GTG – Gas Turbine Generator

HRSG – Heat Recovery Steam Generator

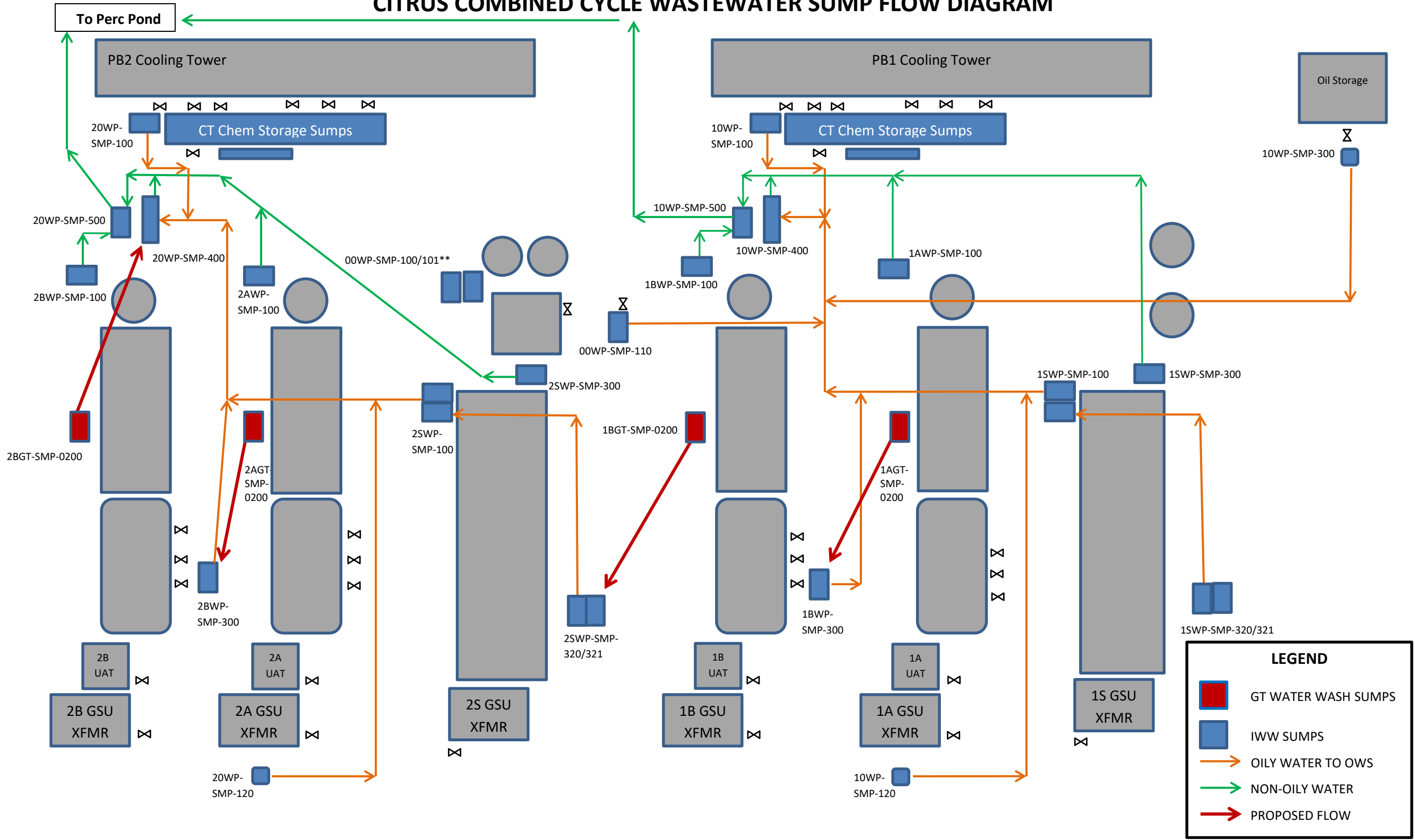
1S, 2S – Steam Turbine Units

1A, 1B, 2A, 2B – Gas Turbine Units or HRSG Units

10, 20 – Common for Power Block (Services STG, HRSG, GTG Equipment)

◆ Flow Measurement Location

CITRUS COMBINED CYCLE WASTEWATER SUMP FLOW DIAGRAM



Gas Turbine Water Wash Sump Analysis

Parameter	1A	1B	2A	2B	Permit Standard
	parts per million (ppm)				
Aluminum	0.025	0.027	BDL	0.027	0.2 ppm
Arsenic	BDL	BDL	BDL	BDL	10 ppb
Cadmium	BDL	BDL	BDL	BDL	5 ppb
Chromium	BDL	BDL	BDL	BDL	100 ppb
Iron	0.11	BDL	0.036	BDL	0.3 ppm
Lead	BDL	BDL	BDL	BDL	15 ppb
Manganese	BDL	0.028	0.0094	BDL	0.05 ppm
Sodium	2.7	8.5	2.5	6.5	160 ppm
Chloride	BDL	9	BDL	BDL	250 ppm
Fluoride	0.21	0.3	0.1	0.21	2 ppm
Nitrate as N	1	0.8	0.2	0.8	10 ppm
Sulfate	4	11	5	11	250 ppm
color	BDL	BDL	BDL	BDL	15 CU
TDS	72	84	24	103	500 ppm
pH	7.3	6.8	6.43	7.23	6.5-8.5 SU

BDL: Below Detection Limit

PPB: Parts per Billion

TDS: Total Dissolved Solids



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Phone: (352) 377-2349
Fax: (352) 395-6639

FINAL

Workorder:

July 14, 2022

Ms. Tiffany Petersen
Duke Energy-Citrus Combined Facility
14385 North Access Road
Crystal River, FL 34428

RE: Workorder: G2205201 GAS TURBINE SUMP SAMPLING

Dear Ms. Tiffany Petersen:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday June 27, 2022. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matt Wolfe
MWolfe@aellab.com

Certificate of Analysis

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Workorder:

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
G2205201001	1A SUMP	WA	EPA 200.7	06/27/2022 10:50	06/27/2022 13:00	8	NA
G2205201001	1A SUMP	WA	EPA 300.0	06/27/2022 10:50	06/27/2022 13:00	8	NA
G2205201001	1A SUMP	WA	SM 2120 B	06/27/2022 10:50	06/27/2022 13:00	1	NA
G2205201001	1A SUMP	WA	SM 2540 C	06/27/2022 10:50	06/27/2022 13:00	1	NA
G2205201001	1A SUMP	WA	SM 4500H+B	06/27/2022 10:50	06/27/2022 13:00	1	NA
G2205201001	1A SUMP	WA	SM 4500NO3-F	06/27/2022 10:50	06/27/2022 13:00	2	NA
G2205201002	1B SUMP	WA	EPA 200.7	06/27/2022 11:02	06/27/2022 13:00	8	NA
G2205201002	1B SUMP	WA	EPA 300.0	06/27/2022 11:02	06/27/2022 13:00	8	NA
G2205201002	1B SUMP	WA	SM 2120 B	06/27/2022 11:02	06/27/2022 13:00	1	NA
G2205201002	1B SUMP	WA	SM 2540 C	06/27/2022 11:02	06/27/2022 13:00	1	NA
G2205201002	1B SUMP	WA	SM 4500H+B	06/27/2022 11:02	06/27/2022 13:00	1	NA
G2205201002	1B SUMP	WA	SM 4500NO3-F	06/27/2022 11:02	06/27/2022 13:00	2	NA
G2205201003	2A SUMP	WA	EPA 200.7	06/27/2022 11:12	06/27/2022 13:00	8	NA
G2205201003	2A SUMP	WA	EPA 300.0	06/27/2022 11:12	06/27/2022 13:00	8	NA
G2205201003	2A SUMP	WA	SM 2120 B	06/27/2022 11:12	06/27/2022 13:00	1	NA
G2205201003	2A SUMP	WA	SM 2540 C	06/27/2022 11:12	06/27/2022 13:00	1	NA
G2205201003	2A SUMP	WA	SM 4500H+B	06/27/2022 11:12	06/27/2022 13:00	1	NA
G2205201003	2A SUMP	WA	SM 4500NO3-F	06/27/2022 11:12	06/27/2022 13:00	2	NA
G2205201004	2B SUMP	WA	EPA 200.7	06/27/2022 11:20	06/27/2022 13:00	8	NA
G2205201004	2B SUMP	WA	EPA 300.0	06/27/2022 11:20	06/27/2022 13:00	8	NA
G2205201004	2B SUMP	WA	SM 2120 B	06/27/2022 11:20	06/27/2022 13:00	1	NA
G2205201004	2B SUMP	WA	SM 2540 C	06/27/2022 11:20	06/27/2022 13:00	1	NA
G2205201004	2B SUMP	WA	SM 4500H+B	06/27/2022 11:20	06/27/2022 13:00	1	NA
G2205201004	2B SUMP	WA	SM 4500NO3-F	06/27/2022 11:20	06/27/2022 13:00	2	NA

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Workorder:

Workorder Summary

Method Comments

COLR-SM-W

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Workorder:

Analytical Results Qualifiers

Parameter Qualifiers

- U The compound was analyzed for but not detected.
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J4 Estimated Result

Lab Qualifiers

- G DOH Certification #E82001 (FL NELAC) AEL-Gainesville
- T DOH Certification #E84589 (FL NELAC) AEL-Tampa

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Workorder:

Analytical Results

Lab ID: G2205201001
Sample ID: 1A SUMP

Date Collected: 06/27/2022 10:50
Date Received: 06/27/2022 13:00

Matrix: Water

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (EPA 200.7)								
Aluminum	0.025 I	mg/L	0.10	0.021	1	07/01/2022 13:00	07/05/2022 13:49	T
Arsenic	0.0080 U	mg/L	0.010	0.0080	1	07/01/2022 13:00	07/05/2022 13:49	T
Cadmium	0.0010 U	mg/L	0.0020	0.0010	1	07/01/2022 13:00	07/05/2022 13:49	T
Chromium	0.0050 U	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:49	T
Iron	0.11	mg/L	0.10	0.0067	1	07/01/2022 13:00	07/05/2022 13:49	T
Lead	0.0030 U	mg/L	0.010	0.0030	1	07/01/2022 13:00	07/05/2022 13:49	T
Manganese	0.0050 U	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:49	T
Sodium	2.7	mg/L	1.0	0.80	1	07/01/2022 13:00	07/05/2022 13:49	T
WET CHEMISTRY (EPA 300.0)								
Bromide	0 U	mg/L			2	06/28/2022 18:34	06/28/2022 18:34	G
Chloride	4 U	mg/L	10	4	2	06/28/2022 18:34	06/28/2022 18:34	G
Fluoride	0.2 I	mg/L	0.2	0.1	2	06/28/2022 18:34	06/28/2022 18:34	G
Nitrate (as N)	1	mg/L	0.2	0.1	2	06/28/2022 18:34	06/28/2022 18:34	G
Nitrate + Nitrite	1.03	mg/L	0.4	0.2	2	06/28/2022 18:34	06/28/2022 18:34	G
Nitrite (as N)	0.1 U	mg/L	0.2	0.1	2	06/28/2022 18:34	06/28/2022 18:34	G
Orthophosphate	0.5	mg/L	0.2	0.1	2	06/28/2022 18:34	06/28/2022 18:34	G
Sulfate	4 I	mg/L	10	2	2	06/28/2022 18:34	06/28/2022 18:34	G
WET CHEMISTRY (SM 2120 B)								
Color	5.0 U	PCU	5	5.0	1	06/27/2022 16:00	06/27/2022 16:00	G
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	72	mg/L	2	2.5	.5	06/27/2022 17:00	06/27/2022 17:00	G
WET CHEMISTRY (SM 4500H+B)								
pH	7.30	SU	0.1	0.1	1	06/27/2022 15:55	06/27/2022 15:55	G
WET CHEMISTRY (SM 4500NO3-F)								
Nitrate (as N)	1	mg/L	0.2	0.10	1	06/28/2022 16:12	06/28/2022 16:12	G
Nitrite (as N)	0.10 U	mg/L	0.2	0.10	1	06/28/2022 16:12	06/28/2022 16:12	G





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Workorder:

Analytical Results

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Workorder:

Analytical Results

Lab ID: G2205201002
Sample ID: 1B SUMP

Date Collected: 06/27/2022 11:02
Date Received: 06/27/2022 13:00

Matrix: Water

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (EPA 200.7)								
Aluminum	0.027 I	mg/L	0.10	0.021	1	07/01/2022 13:00	07/05/2022 13:52	T
Arsenic	0.0080 U	mg/L	0.010	0.0080	1	07/01/2022 13:00	07/05/2022 13:52	T
Cadmium	0.0010 U	mg/L	0.0020	0.0010	1	07/01/2022 13:00	07/05/2022 13:52	T
Chromium	0.0050 U	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:52	T
Iron	0.0067 U	mg/L	0.10	0.0067	1	07/01/2022 13:00	07/05/2022 13:52	T
Lead	0.0030 U	mg/L	0.010	0.0030	1	07/01/2022 13:00	07/05/2022 13:52	T
Manganese	0.028	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:52	T
Sodium	8.5	mg/L	1.0	0.80	1	07/01/2022 13:00	07/05/2022 13:52	T
WET CHEMISTRY (EPA 300.0)								
Bromide	0 U	mg/L			2	06/28/2022 18:49	06/28/2022 18:49	G
Chloride	9 I	mg/L	10	4	2	06/28/2022 18:49	06/28/2022 18:49	G
Fluoride	0.3	mg/L	0.2	0.1	2	06/28/2022 18:49	06/28/2022 18:49	G
Nitrate (as N)	0.8	mg/L	0.2	0.1	2	06/28/2022 18:49	06/28/2022 18:49	G
Nitrate + Nitrite	0.838	mg/L	0.4	0.2	2	06/28/2022 18:49	06/28/2022 18:49	G
Nitrite (as N)	0.1 U	mg/L	0.2	0.1	2	06/28/2022 18:49	06/28/2022 18:49	G
Orthophosphate	0.2	mg/L	0.2	0.1	2	06/28/2022 18:49	06/28/2022 18:49	G
Sulfate	11	mg/L	10	2	2	06/28/2022 18:49	06/28/2022 18:49	G
WET CHEMISTRY (SM 2120 B)								
Color	5.0 U	PCU	5	5.0	1	06/27/2022 16:00	06/27/2022 16:00	G
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	84	mg/L	2	2.5	.5	06/27/2022 17:00	06/27/2022 17:00	G
WET CHEMISTRY (SM 4500H+B)								
pH	6.80	SU	0.1	0.1	1	06/27/2022 15:55	06/27/2022 15:55	G
WET CHEMISTRY (SM 4500NO3-F)								
Nitrate (as N)	0.8	mg/L	0.2	0.10	1	06/28/2022 16:14	06/28/2022 16:14	G
Nitrite (as N)	0.10 U	mg/L	0.2	0.10	1	06/28/2022 16:14	06/28/2022 16:14	G





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Workorder:

Analytical Results

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Workorder:

Analytical Results

Lab ID: G2205201003
Sample ID: 2A SUMP

Date Collected: 06/27/2022 11:12
Date Received: 06/27/2022 13:00

Matrix: Water

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (EPA 200.7)								
Aluminum	0.021 U	mg/L	0.10	0.021	1	07/01/2022 13:00	07/05/2022 13:55	T
Arsenic	0.0080 U	mg/L	0.010	0.0080	1	07/01/2022 13:00	07/05/2022 13:55	T
Cadmium	0.0010 U	mg/L	0.0020	0.0010	1	07/01/2022 13:00	07/05/2022 13:55	T
Chromium	0.0050 U	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:55	T
Iron	0.036 I	mg/L	0.10	0.0067	1	07/01/2022 13:00	07/05/2022 13:55	T
Lead	0.0030 U	mg/L	0.010	0.0030	1	07/01/2022 13:00	07/05/2022 13:55	T
Manganese	0.0094 I	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:55	T
Sodium	2.5	mg/L	1.0	0.80	1	07/01/2022 13:00	07/05/2022 13:55	T
WET CHEMISTRY (EPA 300.0)								
Bromide	0 U	mg/L			2	06/28/2022 19:04	06/28/2022 19:04	G
Chloride	4 U	mg/L	10	4	2	06/28/2022 19:04	06/28/2022 19:04	G
Fluoride	0.1 I	mg/L	0.2	0.1	2	06/28/2022 19:04	06/28/2022 19:04	G
Nitrate (as N)	0.2	mg/L	0.2	0.1	2	06/28/2022 19:04	06/28/2022 19:04	G
Nitrate + Nitrite	0.214 I	mg/L	0.4	0.2	2	06/28/2022 19:04	06/28/2022 19:04	G
Nitrite (as N)	0.1 U	mg/L	0.2	0.1	2	06/28/2022 19:04	06/28/2022 19:04	G
Orthophosphate	0.1 I	mg/L	0.2	0.1	2	06/28/2022 19:04	06/28/2022 19:04	G
Sulfate	5 I	mg/L	10	2	2	06/28/2022 19:04	06/28/2022 19:04	G
WET CHEMISTRY (SM 2120 B)								
Color	5.0 U	PCU	5	5.0	1	06/27/2022 16:00	06/27/2022 16:00	G
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	24	mg/L	2	2.5	.5	06/28/2022 13:00	06/28/2022 13:00	G
WET CHEMISTRY (SM 4500H+B)								
pH	6.43	SU	0.1	0.1	1	06/27/2022 15:55	06/27/2022 15:55	G
WET CHEMISTRY (SM 4500NO3-F)								
Nitrate (as N)	0.2 I	mg/L	0.2	0.10	1	06/28/2022 16:15	06/28/2022 16:15	G
Nitrite (as N)	0.10 U	mg/L	0.2	0.10	1	06/28/2022 16:15	06/28/2022 16:15	G

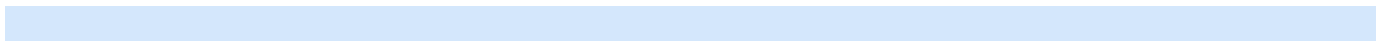
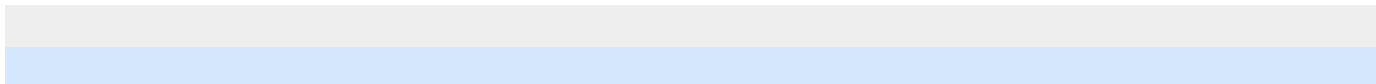
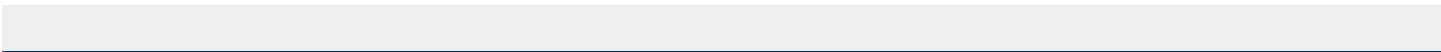




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Workorder:





FINAL

Workorder:

Analytical Results

Lab ID: G2205201004
Sample ID: 2B SUMP

Date Collected: 06/27/2022 11:20
Date Received: 06/27/2022 13:00

Matrix: Water

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (EPA 200.7)								
Aluminum	0.027 I	mg/L	0.10	0.021	1	07/01/2022 13:00	07/05/2022 13:58	T
Arsenic	0.0080 U	mg/L	0.010	0.0080	1	07/01/2022 13:00	07/05/2022 13:58	T
Cadmium	0.0010 U	mg/L	0.0020	0.0010	1	07/01/2022 13:00	07/05/2022 13:58	T
Chromium	0.0050 U	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:58	T
Iron	0.0067 U	mg/L	0.10	0.0067	1	07/01/2022 13:00	07/05/2022 13:58	T
Lead	0.0030 U	mg/L	0.010	0.0030	1	07/01/2022 13:00	07/05/2022 13:58	T
Manganese	0.0050 U	mg/L	0.010	0.0050	1	07/01/2022 13:00	07/05/2022 13:58	T
Sodium	6.5	mg/L	1.0	0.80	1	07/01/2022 13:00	07/05/2022 13:58	T
WET CHEMISTRY (EPA 300.0)								
Bromide	0 U	mg/L			2	06/28/2022 19:19	06/28/2022 19:19	G
Chloride	4 U	mg/L	10	4	2	06/28/2022 19:19	06/28/2022 19:19	G
Fluoride	0.2 I	mg/L	0.2	0.1	2	06/28/2022 19:19	06/28/2022 19:19	G
Nitrate (as N)	0.8	mg/L	0.2	0.1	2	06/28/2022 19:19	06/28/2022 19:19	G
Nitrate + Nitrite	0.830	mg/L	0.4	0.2	2	06/28/2022 19:19	06/28/2022 19:19	G
Nitrite (as N)	0.1 U	mg/L	0.2	0.1	2	06/28/2022 19:19	06/28/2022 19:19	G
Orthophosphate	0.1 I	mg/L	0.2	0.1	2	06/28/2022 19:19	06/28/2022 19:19	G
Sulfate	11	mg/L	10	2	2	06/28/2022 19:19	06/28/2022 19:19	G
WET CHEMISTRY (SM 2120 B)								
Color	5.0 U	PCU	5	5.0	1	06/27/2022 16:00	06/27/2022 16:00	G
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	103	mg/L	2	2.5	.5	06/28/2022 13:00	06/28/2022 13:00	G
WET CHEMISTRY (SM 4500H+B)								
pH	7.23	SU	0.1	0.1	1	06/27/2022 15:55	06/27/2022 15:55	G
WET CHEMISTRY (SM 4500NO3-F)								
Nitrate (as N)	0.8	mg/L	0.2	0.10	1	06/28/2022 16:23	06/28/2022 16:23	G
Nitrite (as N)	0.10 U	mg/L	0.2	0.10	1	06/28/2022 16:23	06/28/2022 16:23	G





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Workorder:

Analytical Results

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Workorder:

QC Results

QC Batch: ICPI/2863
Preparation Method: EPA 200.7
Analysis Method: EPA 200.7
Associated Lab IDs: G2205201001, G2205201002, G2205201003, G2205201004

Method Blank(4375381)

Parameter	Results	Units	PQL	MDL	Lab
Aluminum	0.021 U	mg/L	0.10	0.021	T
Arsenic	0.0080 U	mg/L	0.010	0.0080	T
Cadmium	0.0010 U	mg/L	0.0020	0.0010	T
Chromium	0.0050 U	mg/L	0.010	0.0050	T
Iron	0.0067 U	mg/L	0.10	0.0067	T
Manganese	0.0050 U	mg/L	0.010	0.0050	T
Sodium	0.80 U	mg/L	1.0	0.80	T
Lead	0.0030 U	mg/L	0.010	0.0030	T





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Workorder:

QC Results

QC Batch: WCAg/7012 Analysis Method: SM 2120 B
Preparation Method: SM 2120 B
Associated Lab IDs: G2205201001, G2205201002, G2205201003, G2205201004

Method Blank(4368552)

Parameter	Results	Units	PQL	MDL	Lab
Color	5.0 U	PCU	5.0	5.0	G

Method Blank(4368557)

Parameter	Results	Units	PQL	MDL	Lab
Color	5.0 U	PCU	5.0	5.0	G

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Workorder:

QC Results

QC Batch: WCAg/7016
Preparation Method: SM 2540 C
Associated Lab IDs: G2205201001, G2205201002

Analysis Method: SM 2540 C

Method Blank(4368682)

Parameter	Results	Units	PQL	MDL	Lab
Total Dissolved Solids	5.0 U	mg/L	5.0	5.0	G

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Workorder:

QC Results

QC Batch: WCAg/7022
Preparation Method: SM 2540 C
Associated Lab IDs: G2205201003, G2205201004

Analysis Method: SM 2540 C

Method Blank(4369466)

Parameter	Results	Units	PQL	MDL	Lab
Total Dissolved Solids	5.0 U	mg/L	5.0	5.0	G

Method Blank(4369468)

Parameter	Results	Units	PQL	MDL	Lab
Total Dissolved Solids	5.0 U	mg/L	5.0	5.0	G

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Workorder:

QC Results

QC Batch: WCAg/7046 Analysis Method: EPA 300.0
Preparation Method: EPA 300.0
Associated Lab IDs: G2205201001, G2205201002, G2205201003, G2205201004

Method Blank(4370996)

Parameter	Results	Units	PQL	MDL	Lab
Fluoride	0.05 U	mg/L	0.1	0.05	G
Chloride	2 U	mg/L	5	2	G
Nitrite (as N)	0.05 U	mg/L	0.1	0.05	G
Bromide	0 U	mg/L			G
Nitrate (as N)	0.05 U	mg/L	0.1	0.05	G
Orthophosphate	0.2	mg/L	0.1	0.05	G
Sulfate	1 U	mg/L	5	1	G
Nitrate + Nitrite	0.1 U	mg/L	0.2	0.1	G

Method Blank(4371000)

Parameter	Results	Units	PQL	MDL	Lab
Fluoride	0.05 U	mg/L	0.1	0.05	G
Chloride	2 U	mg/L	5	2	G
Nitrite (as N)	0.05 U	mg/L	0.1	0.05	G
Bromide	0 U	mg/L			G
Nitrate (as N)	0.05 U	mg/L	0.1	0.05	G
Orthophosphate	0.07 I	mg/L	0.1	0.05	G
Sulfate	1 U	mg/L	5	1	G
Nitrate + Nitrite	0.1 U	mg/L	0.2	0.1	G





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Workorder:

QC Results

QC Batch: WCAg/7047
Preparation Method: SM 4500NO3-F
Associated Lab IDs: G2205201001, G2205201002, G2205201003

Analysis Method: SM 4500NO3-F

Method Blank(4371371)

Parameter	Results	Units	PQL	MDL	Lab
Nitrate (as N)	0.10 U	mg/L	0.20	0.10	G
Nitrite (as N)	0.10 U	mg/L	0.20	0.10	G

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Workorder:

QC Results

QC Batch: WCAg/7047 Analysis Method: SM 4500NO3-F
Preparation Method: SM 4500NO3-F
Associated Lab IDs: G2205201001, G2205201002, G2205201003, G2205201004

Method Blank(4371375)

Parameter	Results	Units	PQL	MDL	Lab
Nitrate (as N)	0.10 U	mg/L	0.20	0.10	G
Nitrite (as N)	0.10 U	mg/L	0.20	0.10	G

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Workorder:

QC Cross Reference

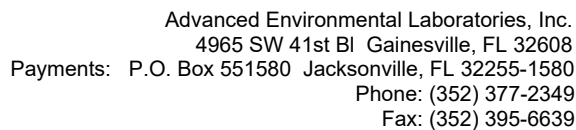
Lab ID	Sample ID	Prep Batch	Prep Method
ICP/2863 - EPA 200.7			
G2205201001	1A SUMP	DGMt/4165	EPA 200.7
G2205201002	1B SUMP	DGMt/4165	EPA 200.7
G2205201003	2A SUMP	DGMt/4165	EPA 200.7
G2205201004	2B SUMP	DGMt/4165	EPA 200.7
WCAg/7011 - SM 4500H+B			
G2205201001	1A SUMP		
G2205201002	1B SUMP		
G2205201003	2A SUMP		
G2205201004	2B SUMP		
WCAg/7012 - SM 2120 B			
G2205201001	1A SUMP		
G2205201002	1B SUMP		
G2205201003	2A SUMP		
G2205201004	2B SUMP		
WCAg/7016 - SM 2540 C			
G2205201001	1A SUMP		
G2205201002	1B SUMP		
WCAg/7022 - SM 2540 C			
G2205201003	2A SUMP		
G2205201004	2B SUMP		
WCAg/7046 - EPA 300.0			
G2205201001	1A SUMP		
G2205201002	1B SUMP		
G2205201003	2A SUMP		
G2205201004	2B SUMP		
WCAg/7047 - SM 4500NO3-F			
G2205201001	1A SUMP		
G2205201002	1B SUMP		
G2205201003	2A SUMP		
G2205201004	2B SUMP		

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Workorder:

Thursday, July 14, 2022 3:50:37 PM
Dates and times are displayed using (-04:00)
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Work Order: G2205201
Client: Duke Energy
Project ID: GAS TURBINE SUMP SAMPLING

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: G2205198 was received by the lab past the recommended holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data is qualified to indicate the holding time violation.

III. Method

Analysis: SM 4500NO3-F
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes The matrix spike and matrix spike duplicate percent recoveries applying to parent sample G2205198001 for NO₃ were (80%, 94%) and for NO₂ were (117%, 105%); respectively. The recoveries for both analytes in the Laboratory Control Sample were within the method required 90-110% range, indicating the batch was in control. The sample results have been qualified to indicate any matrix interference.

The matrix spike and matrix spike duplicate percent recoveries applying to parent sample G2205201004 for NO₃ were (106%, 104%) and for NO₂ were (110%, 112%); respectively. The recoveries for both analytes in the Laboratory Control Sample were within the method required 90-110% range, indicating the batch was in control. The sample results have been qualified to indicate any matrix interference.

Internal Standard: All acceptance criteria were met.

Samples: All acceptance criteria were met.



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Other: All acceptance criteria were met.

Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.



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Work Order: G2205201
Client: Duke Energy
Project ID: GAS TURBINE SUMP SAMPLING

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: EPA 300.0

Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.

Blanks: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Spikes The matrix spike recoveries of Chloride for G2205193015 were outside control criteria due to the presence of target analytes in the sample. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The affected sample is qualified to indicate matrix interference.

Internal Standard: All acceptance criteria were met.

Samples: All acceptance criteria were met.

Other: All acceptance criteria were met.

Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.