LSASD Project ID: 23 - 0290

Sampling and Analysis Plan
NPDES NCI Compliance Sampling Inspection
Hunter Engineering Company

Location: 2489 Raymond Clinton Road Raymond, MS

Project Date(s): July 18th – 19th, 2023

Final SAP Approval Date: July 13, 2023

Project Leader: Chris McHugh
Water Quality Section
Field Services Branch
Laboratory Services & Applied Science Division
USEPA – Region 4
980 College Station Road
Athens, Georgia 30605-2720

The ANSI National Accreditation Board attests that U.S. EPA Region 4 Laboratory Services and Applied Science Division fulfills the requirements of ISO/IEC 17025:2017 ANAB Forensic Testing & Calibration AR 3125:2019 in the field of Forensic Testing. The activities contained in this report fall within the scope of accreditation, Certificate Number: AT-2628. Expires 08 June 2024.

Project Requestor:

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Approvals:

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Chris McHugh
Water Quality Section
Field Services Branch

Date

Approving Officials:

Digitally signed by DEREK LITTLE Date: 2023.07.13 09:33:50 -04'00'

Derek Little, Technical Reviewer
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Date

GREGORY WHITE Digitally signed by GREGORY WHITE Date: 2023.07.13 10:03:46 -04'00'

Greg White, Supervisor
Water Quality Section
Field Services Branch

Date

This Sampling and Analysis Plan (SAP) is designed to be used in conjunction with the *Applied Science Branch Quality Assurance Project Plan* December 2019.

SECTION A: Project Planning Elements

A1. Distribution List

Recipient	Organization	Address/Email
Laurie Jones	U.S. EPA Region 4 Enforcement & Compliance Assurance Division	64 Forsyth St. SW Atlanta, Georgia 30303-8960 Jones.laurie@epa.gov
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A2. Project Personnel

Team Members[1]	Organization	Responsibilities
Chris McHugh	EPA/R4/LSASD	LSASD Project Lead, Safety, Sampling
Asher Sampong	EPA/R4/LSASD	Safety, Sampling

[1]Project Leader and all Task Leaders assisting with this project have been deemed competent by LSASD management to conduct the tasks required to fulfill the prescribed goals.

A3. Site Description and Background Information

Hunter Engineering Company in Raymond, MS, is permitted by NPDES permit MSP090222 to discharge its pretreatment effluent discharge from outfall labeled Outfall 001 to the Raymond POTW East MS0025852. The facility has been inspected previously by EPA NEIC and Region 4 Enforcement and Compliance Assurance Division (ECAD) to evaluate the NPDES permit exceedances for Total Recoverable Copper.

A4. Problem Definition

The purpose of this Industrial Pretreatment Compliance Sampling Inspection (CSI) is to evaluate the facility's NPDES pretreatment sampling, collect representative pretreatment samples for analysis by EPA and provide evidence for potential compliance problems where appropriate. The analytical data will be provided to U.S. EPA Region 4 ECAD for evaluation of the effluent discharge parameters in Section B1 below.

A5. Project Description, Goals, and Study Boundaries

Study Goal:

Support the Enforcement and Compliance Assurance Division (ECAD) by collecting NPDES effluent discharge samples at Hunter Engineering Company.

LSASD will provide a sample evaluation report containing the analytical results compared to the effluent limitations set forth in the NPDES permits limitations in Effluent Limitations and Monitoring Requirements table of the permit. Analyses and containers to be used for sampling are referenced in Table B1.

LSASD will also provide observations and an evaluation of the sampling set – up and procedures.

Study Objectives:

Set – up and collect effluent 24-hour composite samples at the effluent discharge location and collect grab samples from the circuit board wash discharge, eco-wash stage, and the facility's water incoming water source. In-situ pH, temperature, and dissolved oxygen will be measured at the effluent discharge location.

Evaluate the facility's sampling procedures and plant condition.

Study Area:

The study area is the grounds of the facility and the pretreatment discharge equipment.

Study Design/Approach:

The planned approach utilizes an automatic sampler and a collection container to collect an effluent 24-hour composite sample. Operating procedures for all sampling and field measurement activities outlined in this study plan are referenced in Section B5: Sampling and Measurement Procedures.

Quality Control Samples

Trip blank with DI water prepared before going on-site.
Duplicate Sample at Outfall 001
Temperature blank.

Project Timeline:

All field activities are planned for the week of July 17th, 2023.

Proposed schedule (subject to change):

July 17th – Drive to Jackson, MS
July 18th – Inspection at Hunter engineering
July 19th – Collect composite samples
July 20th – Drive back to LSASD and deliver samples.

A6. Applicable Regulatory Information

40 CFR 136
NPDES Permit No: MSP090222

A7. Decision(s) to be made based on data

The results of this study will support the ECAD Water Enforcement Branch workplan. ECAD will use the analytical data as needed for any future enforcement actions against the wastewater treatment facilities.

SECTION B: Data Generation, Acquisition, and Reporting

Will samples or physical evidence be collected:	☒ **Yes –** *If yes, complete all subsections in Section B.*
	☐ **No** – *If no, no action needed for B1, B2, B3 or B4, proceed to B5.*

B1. Sampling Design/Information Inputs

Sample Media	Total Number of Samples	Analyses
Pretreatment Effluent	4 – 1L Metals	Total Copper, Zinc, Cadmium, Chromium, Nickel, Lead, and Silver

B2. Sampling Handling and Custody

As outlined in the *Field Services Branch Quality Assurance Project Plan*, all samples will be handled and custody maintained in accordance with the LSASD Laboratory Services Branch Laboratory Operations and Quality Assurance Manual, LSASD Operating Procedure for Sample and Evidence Management, LSASDPROC-005, and LSASD Operating Procedure for Packing, Labeling and Shipping of Environmental and Waste Samples, LSASDPROC-209.

Will a Chain-of-Custody be produced?	☒ **Yes**
	☐ **No**

Throughout the duration of the event, have preparations been made to ensure that custody is maintained? *Custody of a sample or physical evidence is defined as:* • *It is in the actual possession of an investigator* • *It is in the view of an investigator, after being in their physical possession* • *It was in the physical possession of an investigator and then they secured it to prevent tampering* • *It is placed in a designated secure area*	☒ **Yes** ☐ **No**

B3. Quality Control

Field quality control measures will be conducted in accordance with the LSASD Operating Procedure for Field Sampling Quality Control, LSASDPROC-011.

The sample equipment and in-situ meters will be calibrated and set-up prior to use.

Laboratory quality control measures are specified in the *LSASD Laboratory Services Branch Laboratory Operations and Quality Assurance Manual*.

B4. Analytical Methods and Support

Samples will be analyzed by the EPA/Region 4 LSASD laboratory in Athens, GA in accordance with the *LSASD Laboratory Services Branch Laboratory Operations and Quality Assurance Manual*. Specific analytical methods include:

Metals by EPA Method 200.7

Laboratory Turn-Around-Time Requested: 30 Days

Reporting Levels:	☒ Non-Routine Reporting Levels **ARE NOT** Required, No Further Action. ☐ Non-Routine Reporting Levels **ARE** Required, List Below.
Non-Routine Reporting Levels:	

Waste Samples Anticipated:	☐ **Yes** ☒ **No** ☐ **Unknown**

If answer is yes, specify laboratory name/address to receive samples:

Not applicable

B5. Sampling and Measurement Procedures

Sampling and measurement activities will be in accordance with the LSASD operating procedures. The following field procedures will be followed during this study, check all that apply: *(Last Update: 09/13/2022)*

	Field Measurement Procedures*	LSASD/SESDPROC-	Revision
☒	Field pH Measurement	100	R5
☐	Field Specific Conductance Measurement	101	R7
☒	Field Temperature Measurement	102	R6
☐	Field Turbidity Measurement	103	R5
☐	Groundwater Level and Well Depth Measurement	105	R4
☐	Field Measurement of Dissolved Oxygen	106	R4
☐	Field X-Ray Fluorescence (XRF) Measurement	107	R5
☐	Wastewater Flow Measurement	109	R5
☒	Global Positioning System	110	R5
☐	In-Situ Water Quality Monitoring	111	R5
☐	Field Measurement of Total Residual Chlorine	112	R6
☐	Field Measurement of Oxidation-Reduction Potential (ORP)	113	R3
	General Field Sampling Procedures*	**LSASD/SESDPROC-**	**Revision**
☐	Sediment Sampling	200	R4
☐	Surface Water Sampling	201	R5
	Hazardous Waste Section Field Sampling Procedures*	**LSASD/SESDPROC-**	**Revision**
☐	Soil Sampling	300	R4
☐	Groundwater Sampling	301	R5
☐	Waste Sampling	302	R4
☐	Ambient Air Sampling	303	R5
☐	Potable Water Supply Sampling	305	R4
☒	Wastewater Sampling	306	R5
☐	Soil Gas Sampling	307	R4
	Water Quality Section Field Sampling Procedures*	**LSASD/SESDPROC-**	**Revision**
☐	Hydrological Studies	501	R6
☐	Reaeration Measurement by Diffusion Dome	505	R5
☐	Sediment Oxygen Demand	507	R5
☐	Multi-Habitat Macroinvertebrate Sampling in Wadeable Freshwater Streams	508	R5
☐	Marine Macroinvertebrate Field Sampling	511	R5
☐	Fish Field Sampling	512	R5
☐	Pore Water Sampling	513	R4
☐	Bottom Water Sampling for Sulfide	515	R0

***If procedures allow for different sampling and measurement methods, the utilized method(s) must be identified in the project description section. Additionally, verify procedure revision numbers before issuance of SAP.**

Section C: Reporting

C1. Reporting

Estimated Report Completion Date:	09/16/2023
Is a Provisional Data Release Anticipated?	☒ **Yes**
	☒ **No**

Provisional data may be provided prior to the completion of the LSASD final report only if LSASD management approves the release of the information and the analytical data have been released as final from the LSASD Laboratory Services Branch, for LSASD generated data, and/or the LSASD Quality Assurance Section, for non-LSASD generated data. Release of provisional data will be transmitted by electronic or hard copy with official correspondence from the Section Supervisor in accordance with the LSASD Operating Procedure for Report Preparation and Distribution (LSASDPROC-003).

Additional Comments:

Provisional data may be released to EPA R4 Enforcement and Compliance Assurance Division pending issuance of final report.

Site Figures and Tables

Table 1: Effluent Limitations for Hunter Engineer Company

Parameter	Permitted Limit	Unit	Frequency	Statistical Base
Copper	0.100	mg/L	Weekly	Maximum
Zinc	1.6	mg/L	Weekly	Maximum
Cadmium	0.003	mg/L	Monthly	Maximum
Nickel	1.27	mg/L	Weekly	Maximum
Chromium	2.77	mg/L	Weekly	Maximum
Lead	0.015	mg/L	Weekly	Maximum
Silver	0.02	mg/L	Weekly	Maximum

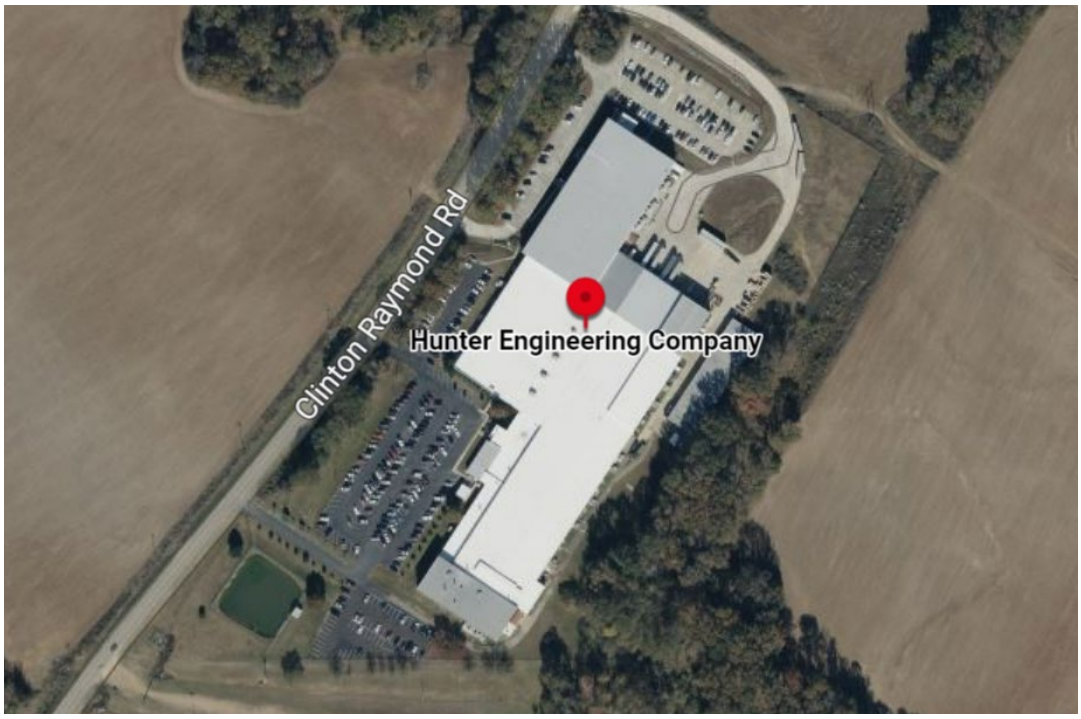

Figure 1 – Aerial of Hunter Engineering Company

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