FEB 2 9 2024

February 28, 2024

Mr. Allen Wilkinson
Tennessee Department of Environment and Conservation
Division of Water Resources
Knoxville Field Office
3711 Middlebrook Pike
Knoxville, TN 37921

RE: 2023 Annual Storm Water Discharge Monitoring Report
Aqua-Chem, Inc.
3001 E. Gov John Sevier Highway
Knoxville, Tennessee
TMSP Number: TNR050328
WSP Project Number 3031142002

Dear Mr. Wilkinson:

On behalf of Aqua-Chem, Inc. (Water Technology Division), WSP USA, Inc. (WSP) is submitting the attached 2022 Annual Stormwater Monitoring Reports for Outfalls SW-001 through SW-005 (SW-004 combines and comingles with SW-003 and has been deleted).

Aqua-Chem Inc. (Water Technology Division), located at 3001 East Governor John Sevier Highway, Knoxville, Tennessee is covered under Sector AA of the Tennessee Multi-Sector General Permit for industrial stormwater discharges (TNR 050000). Annual stormwater sampling was conducted on January 9, 2024. The outfalls were sampled during the first significant precipitation event in 2024 due to most of 2023 having inadequate rainfall at the site to cause runoff. Attempts to collect samples were attempted in each quarter of 2023 however the precipitation events were not large enough to generate runoff at the site.

The samples were analyzed for aluminum, iron, nitrate as nitrogen, and zinc. Attachment A provides a copy of the analytical results. Completed CN-1115 forms for the sampling event is provided in Attachment B.

At Outfall SWOF-001 the concentration of aluminum was 0.819 milligrams per liter (mg/L) exceeding the benchmark concentration of 0.75 mg/L. There were no other exceedances of the respective Benchmark Values from the 2023 Annual Stormwater Monitoring Event. The stormwater run-off flow patterns and outfall locations are provided in Figure 1. Outfall SWOF-001 receives run-off from the southwest portion of the facility which is primarily a grassy area. A root cause investigation determined that the aluminum exceedance at SWOF-001 likely resulted from welding and machining dust generated in the fabrication area in the southwest portion of the building shown in Figure 1. Based on the investigation,

Aqua-Chem will be implementing the following operational changes and Best Management Practices (BMPs):

- The bay doors located near southwest corner of the building will remain closed as much as possible.

The revised BMP will be incorporated in an updated SWPPP and implemented within 60 days as required by the multi-sector general permit. Following implementation, each outfall will be re-sampled as soon as practical and those results will be provided to the Knoxville Field Office.

If you have any questions or require any additional information, please contact me at (865) 671-6774 or william.teichert@wsp.com in Knoxville.

Respectfully,

W. Paul Teichert
Senior Environmental Principal

Jacob Parker PE
Senior Engineer

Attachment A
Analytical Results

ANALYTICAL REPORT

January 17, 2024

WSP USA E&I - Knoxville, TN

Sample Delivery Group:	L1694746
Samples Received:	01/10/2024
Project Number:	3031142002.07.****
Description:	Aquachem Annual Monitoring
Site:	KNOXVILLE, TN
Report To:	Mr. William Tiechert 2030 Falling Waters Road; Ste 300 Knoxville, TN 37922

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

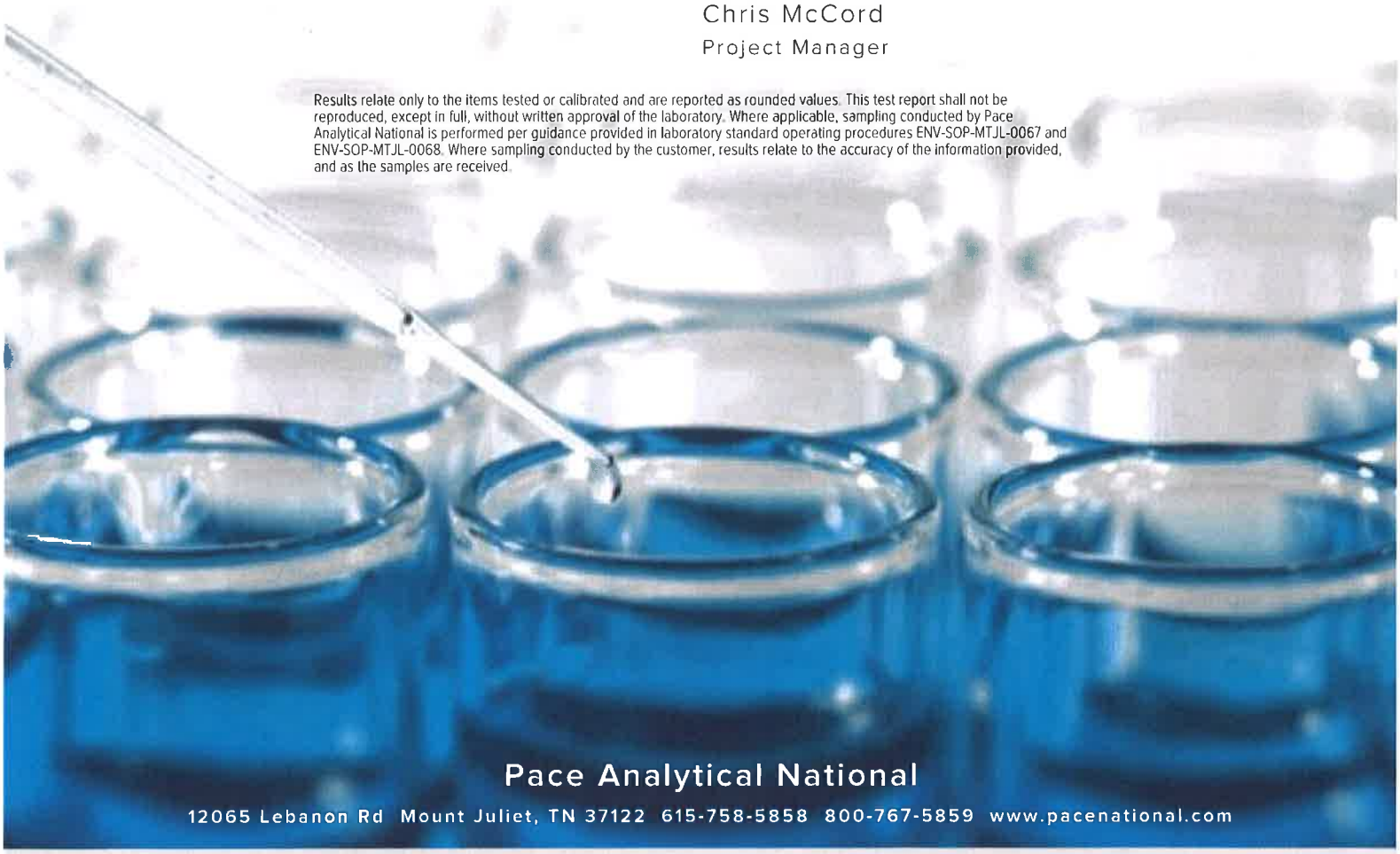

TABLE OF CONTENTS

SAMPLE SUMMARY

FEB 29 2024

SWOF-001 L1694746-01 WW

Collected by: Jacob Parker | Collected date/time: 01/09/24 10:45 | Received date/time: 01/10/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG2204301	1	01/10/24 16:36	01/10/24 16:36	GEB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2204913	1	01/11/24 07:35	01/11/24 20:26	JTM	Mt. Juliet, TN

SWOF-002 L1694746-02 WW

Collected by: Jacob Parker | Collected date/time: 01/09/24 11:05 | Received date/time: 01/10/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG2204301	1	01/10/24 16:49	01/10/24 16:49	GEB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2204913	1	01/11/24 07:35	01/11/24 20:29	JTM	Mt. Juliet, TN

SWOF-003 L1694746-03 WW

Collected by: Jacob Parker | Collected date/time: 01/09/24 11:15 | Received date/time: 01/10/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG2204301	1	01/10/24 17:03	01/10/24 17:03	GEB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2204913	1	01/11/24 07:35	01/11/24 20:32	JTM	Mt. Juliet, TN

SWOF-005 L1694746-04 WW

Collected by: Jacob Parker | Collected date/time: 01/09/24 10:55 | Received date/time: 01/10/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG2204301	1	01/10/24 17:17	01/10/24 17:17	GEB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2204913	1	01/11/24 07:35	01/11/24 20:35	JTM	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate as (N)	0.0536	J	0.0480	0.100	1	01/10/2024 16:36	WG2204301

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	0.819		0.0592	0.200	1	01/11/2024 20:26	WG2204913
Iron	0.583		0.0205	0.100	1	01/11/2024 20:26	WG2204913
Zinc	0.00774	J	0.00578	0.0500	1	01/11/2024 20:26	WG2204913

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate as (N)	0.0656	J	0.0480	0.100	1	01/10/2024 16:49	WG2204301

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	U		0.0592	0.200	1	01/11/2024 20:29	WG2204913
Iron	0.0356	J	0.0205	0.100	1	01/11/2024 20:29	WG2204913
Zinc	0.0259	J	0.00578	0.0500	1	01/11/2024 20:29	WG2204913

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate as (N)	0.121		0.0480	0.100	1	01/10/2024 17:03	WG2204301

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	0.0628	J	0.0592	0.200	1	01/11/2024 20:32	WG2204913
Iron	0.0896	J	0.0205	0.100	1	01/11/2024 20:32	WG2204913
Zinc	0.0488	J	0.00578	0.0500	1	01/11/2024 20:32	WG2204913

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate as (N)	0.0622	J	0.0480	0.100	1	01/10/2024 17:17	WG2204301

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	0.572		0.0592	0.200	1	01/11/2024 20:35	WG2204913
Iron	0.0724	J	0.0205	0.100	1	01/11/2024 20:35	WG2204913
Zinc	0.0125	J	0.00578	0.0500	1	01/11/2024 20:35	WG2204913

QUALITY CONTROL SUMMARY

L1694746-01,02,03,04

Method Blank (MB)

(MB) R4023485-1 01/10/24 09:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Nitrate as (N)	U		0.0480	0.100

L1694742-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1694742-02 01/10/24 14:36 • (DUP) R4023485-3 01/10/24 14:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Nitrate as (N)	0.604	0.554	1	8.69		15

L1694756-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1694756-01 01/10/24 18:46 • (DUP) R4023485-6 01/10/24 18:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Nitrate as (N)	0.436	0.412	1	5.57		15

Laboratory Control Sample (LCS)

(LCS) R4023485-2 01/10/24 09:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Nitrate as (N)	8.00	8.04	101	90.0-110	

L1694742-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1694742-02 01/10/24 14:36 • (MS) R4023485-4 01/10/24 15:02 • (MSD) R4023485-5 01/10/24 15:14

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate as (N)	8.00	0.604	8.25	8.67	95.6	101	1	80.0-120			4.96	15

L1694756-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1694756-01 01/10/24 18:46 • (MS) R4023485-7 01/10/24 19:11

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Nitrate as (N)	8.00	0.436	8.25	97.7	1	80.0-120	

QUALITY CONTROL SUMMARY

L1694746-01,02,03,04

Method Blank (MB)

(MB) R4022330-1 01/11/24 19:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum	U		0.0592	0.200
Iron	**U**		**0.0205**	**0.100**
Zinc	U		0.00578	0.0500

Laboratory Control Sample (LCS)

(LCS) R4022330-2 01/11/24 19:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.1	101	85.0-115	
Iron	**10.0**	**10.3**	**103**	**85.0-115**	
Zinc	1.00	1.02	102	85.0-115	

L1694807-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1694807-01 01/11/24 19:50 • (MS) R4022330-4 01/11/24 19:56 • (MSD) R4022330-5 01/11/24 19:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	U	10.2	10.3	102	103	1	70.0-130			1.12	20
Iron	**10.0**	**0.304**	**10.3**	**10.4**	**100**	**101**	1	**70.0-130**			**1.16**	**20**
Zinc	1.00	0.0246	1.05	1.06	102	104	1	70.0-130			1.50	20

L1694911-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1694911-01 01/11/24 20:10 • (MS) R4022330-6 01/11/24 20:12 • (MSD) R4022330-7 01/11/24 20:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	0.350	10.4	10.9	100	106	1	70.0-130			5.37	20
Iron	**10.0**	**0.430**	**10.5**	**11.0**	**100**	**105**	1	**70.0-130**			**4.67**	**20**
Zinc	1.00	0.103	1.10	1.16	99.9	106	1	70.0-130			5.02	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

WSP USA Inc.-Knoxville,TN
2030 Falling Waters Road; Suite 300

Billing Information:
Accounts Payable
2030 Falling Waters Road Suite 300
Knoxville, TN 37922

Pres Chk

Report to: **William Teichert & Jacob Parker**

Email To: **william.teichert@woodplc.com;**

Project Description: **Aquachem Annual Monitoring**

City/State Collected: **Knoxville,TN**

Please Circle: PT MT CT ET

Phone: **865-671-6774**

Client Project # **3031142002.07.****

Lab Project # **MACTECKTN-3031142002**

Collected by (print): **Jacob Parker**

Site/Facility ID # **Knoxville,TN**

P.O. # **3031142002.07.****

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote # **NA**

Date Results Needed **Standard**

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1694746
C023

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Metals 250mlHDPE-HNO3	Nitrate"Short Hold"125HDPE-NoPres	Remarks	Sample # (lab only)
SWOF-001	Grab	WW	NA	1/9/24	1045	2	X	X		-01
SWOF-002	Grab	WW	NA	1/9/24	1105	2	X	X		-02
SWOF-003	Grab	WW	NA	1/9/24	1115	2	X	X		-03
SWOF-005	Grab	WW	NA	1/9/24	1055	2	X	X		-04

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
ORG-7650, GL Code-573000, Short Hold Time on Nitrate Analyze Immediately

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	1/9/24	1200		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
	1/9/24	1250		8
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
	1-9-24	1700		1-10-24 0900

If r PH-10BDH5021 TRC-2352367 CR6-20221V te/Time

Hold:

Condition: NCF / OK

1/10-NCF-L1694746 MACTECKTN

Shortholds

Time estimate: oh **Time spent:** oh

Members

Hailey Robertson (responsible) Christopher McCord

Due on *13 January 2024 8:00 AM* for target *Done*

- [ ] Login Clarification needed
- [ ] Chain of custody is incomplete
- [x] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [x] Client informed by Email
- [ ] Client informed by Voicemail
- [x] Date/Time: 1/10/24 10:40
- [x] PM initials: CM
- [x] Client Contact: William Teichert

Comments

Hailey Robertson *10 January 2024 9:47 AM*

What Metals?

Christopher McCord *10 January 2024 11:16 AM*

Log as WW for ALICP, FEICP, ZNICP.

Hailey Robertson *10 January 2024 11:17 AM*

Done

Attachment B
Completed CN-115 Forms

Tennessee Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

FEB 2 9 2024

ANNUAL STORMWATER MONITORING REPORT
for Stormwater Discharges Associated with Industrial Activity under the
TENNESSEE MULTI-SECTOR GENERAL PERMIT (TMSP)

Facility Name: Aqua-Chem, Inc.	TMSP Number: TNR050328
Contact Person: Frank Keefer	Phone Number: 865-540-1933
This report is submitted for the following calendar year (e.g. 2015): 2023	Outfall Number: SW001
List all TMSP sectors which apply to discharge from this outfall: AA	Sample Date: 1/9/24
Low Concentration Waiver (Note 3): list all parameters for which the facility is certifying that there has not been a significant change in industrial activity or the pollution prevention measures in the area of the facility that drains to the outfall for which sampling was waived:	

DIRECTIONS: In the spaces below, provide the results of stormwater monitoring for the designated outfall. For each outfall, one Annual Stormwater Monitoring Report must be submitted. The parameters for which monitoring must be conducted depend on which industry sector(s) of the TMSP applies to the discharge. Look up your sector(s) in the TMSP and analyze for the parameters that apply. If parameter is not listed below, submit additional sheets. All samples should be grab.

Parameter	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	0.819
Ammonia	4.0	
Arsenic, Total	0.16854	
BOD, 5-Day	30	
Cadmium, Total	0.0159	
COD	120	
Copper, Total	0.018	
Cyanide, Total	0.064	
Fluoride	1.8	
Iron, Total	5.0	0.583
Lead, Total	0.15	

Parameter (continued)	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Magnesium, Total	0.0636	
Mercury, Total	0.0024	
Nickel, Total	0.875	
Nitrate + Nitrite Nitrogen	0.68	0.0536
Oil and Grease	15	
pH	5.0-9.0	
Phosphorus, Total (as P)	2.0	
Selenium, Total	0.2385	
Silver, Total	0.032	
Total Suspended Solids	150	
Zinc, Total	0.395	0.00774

CERTIFICATION AND SIGNATURE: (Make all entries in ink, not with a pencil. This report must be signed by a responsible corporate officer for a corporation, a general partner for a partnership, the proprietor for a sole proprietorship, or a principal executive officer or ranking elected official for a public agency.)

I certify under penalty of law that this document and all of its attachments were prepared under my direction or my supervision in accordance with a system designed to assure qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

William (Paul) Teichert	Project Manager		2/28/24
Printed Name	Official Title	Signature	Date

Tennessee Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

FEB 2 9 2024

ANNUAL STORMWATER MONITORING REPORT
for Stormwater Discharges Associated with Industrial Activity under the
TENNESSEE MULTI-SECTOR GENERAL PERMIT (TMSP)

Facility Name: Aqua-Chem, Inc.	TMSP Number: TNR050328
Contact Person: Frank Keefer	Phone Number: 865-540-1933
This report is submitted for the following calendar year (e.g. 2015): 2023	Outfall Number: SW002
List all TMSP sectors which apply to discharge from this outfall: AA	Sample Date: 1/09/24
Low Concentration Waiver (Note 3): list all parameters for which the facility is certifying that there has not been a significant change in industrial activity or the pollution prevention measures in the area of the facility that drains to the outfall for which sampling was waived:	

DIRECTIONS: In the spaces below, provide the results of stormwater monitoring for the designated outfall. For each outfall, one Annual Stormwater Monitoring Report must be submitted. The parameters for which monitoring must be conducted depend on which industry sector(s) of the TMSP applies to the discharge. Look up your sector(s) in the TMSP and analyze for the parameters that apply. If parameter is not listed below, submit additional sheets. All samples should be grab.

Parameter	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	<0.200
Ammonia	4.0	
Arsenic, Total	0.16854	
BOD, 5-Day	30	
Cadmium, Total	0.0159	
COD	120	
Copper, Total	0.018	
Cyanide, Total	0.064	
Fluoride	1.8	
Iron, Total	5.0	0.0356
Lead, Total	0.15	

Parameter (continued)	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Magnesium, Total	0.0636	
Mercury, Total	0.0024	
Nickel, Total	0.875	
Nitrate + Nitrite Nitrogen	0.68	0.0656
Oil and Grease	15	
pH	5.0-9.0	
Phosphorus, Total (as P)	2.0	
Selenium, Total	0.2385	
Silver, Total	0.032	
Total Suspended Solids	150	
Zinc, Total	0.395	0.0259

CERTIFICATION AND SIGNATURE: (Make all entries in ink, not with a pencil. This report must be signed by a responsible corporate officer for a corporation, a general partner for a partnership, the proprietor for a sole proprietorship, or a principal executive officer or ranking elected official for a public agency.)

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William (Paul) Teichert	Project Manager		2/28/24
Printed Name	Official Title	Signature	Date

Tennessee Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

FEB 2 9 2024

ANNUAL STORMWATER MONITORING REPORT
for Stormwater Discharges Associated with Industrial Activity under the
TENNESSEE MULTI-SECTOR GENERAL PERMIT (TMSP)

Facility Name: Aqua-Chem, Inc.	TMSP Number: TNR050328
Contact Person: Frank Keefer	Phone Number: 865-540-1933
This report is submitted for the following calendar year (e.g. 2015): 2023	Outfall Number: SW003
List all TMSP sectors which apply to discharge from this outfall: AA	Sample Date: 1/9/24
Low Concentration Waiver (Note 3): list all parameters for which the facility is certifying that there has not been a significant change in industrial activity or the pollution prevention measures in the area of the facility that drains to the outfall for which sampling was waived:	

DIRECTIONS: In the spaces below, provide the results of stormwater monitoring for the designated outfall. For each outfall, one Annual Stormwater Monitoring Report must be submitted. The parameters for which monitoring must be conducted depend on which industry sector(s) of the TMSP applies to the discharge. Look up your sector(s) in the TMSP and analyze for the parameters that apply. If parameter is not listed below, submit additional sheets. All samples should be grab.

Parameter	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	0.0628
Ammonia	4.0	
Arsenic, Total	0.16854	
BOD, 5-Day	30	
Cadmium, Total	0.0159	
COD	120	
Copper, Total	0.018	
Cyanide, Total	0.064	
Fluoride	1.8	
Iron, Total	5.0	0.0896
Lead, Total	0.15	

Parameter (continued)	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Magnesium, Total	0.0636	
Mercury, Total	0.0024	
Nickel, Total	0.875	
Nitrate + Nitrite Nitrogen	0.68	0.121
Oil and Grease	15	
pH	5.0-9.0	
Phosphorus, Total (as P)	2.0	
Selenium, Total	0.2385	
Silver, Total	0.032	
Total Suspended Solids	150	
Zinc, Total	0.395	0.0488

CERTIFICATION AND SIGNATURE: (Make all entries in ink, not with a pencil. This report must be signed by a responsible corporate officer for a corporation, a general partner for a partnership, the proprietor for a sole proprietorship, or a principal executive officer or ranking elected official for a public agency.)

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William (Paul) Teichert	Project Manager		2/28/24
Printed Name	Official Title	Signature	Date

Tennessee Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

FEB 2 9 2024

ANNUAL STORMWATER MONITORING REPORT
for Stormwater Discharges Associated with Industrial Activity under the
TENNESSEE MULTI-SECTOR GENERAL PERMIT (TMSP)

Facility Name: Aqua-Chem, Inc.	TMSP Number: TNR050328
Contact Person: Frank Keefer	Phone Number: 865-540-1933
This report is submitted for the following calendar year (e.g. 2015): 2023	Outfall Number: SW005
List all TMSP sectors which apply to discharge from this outfall: AA	Sample Date: 1/9/24
Low Concentration Waiver (Note 3): list all parameters for which the facility is certifying that there has not been a significant change in industrial activity or the pollution prevention measures in the area of the facility that drains to the outfall for which sampling was waived:	

DIRECTIONS: In the spaces below, provide the results of stormwater monitoring for the designated outfall. For each outfall, one Annual Stormwater Monitoring Report must be submitted. The parameters for which monitoring must be conducted depend on which industry sector(s) of the TMSP applies to the discharge. Look up your sector(s) in the TMSP and analyze for the parameters that apply. If parameter is not listed below, submit additional sheets. All samples should be grab.

Parameter	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	0.572
Ammonia	4.0	
Arsenic, Total	0.16854	
BOD, 5-Day	30	
Cadmium, Total	0.0159	
COD	120	
Copper, Total	0.018	
Cyanide, Total	0.064	
Fluoride	1.8	
Iron, Total	5.0	0.0724
Lead, Total	0.15	

Parameter (continued)	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Magnesium, Total	0.0636	
Mercury, Total	0.0024	
Nickel, Total	0.875	
Nitrate + Nitrite Nitrogen	0.68	0.0622
Oil and Grease	15	
pH	5.0-9.0	
Phosphorus, Total (as P)	2.0	
Selenium, Total	0.2385	
Silver, Total	0.032	
Total Suspended Solids	150	
Zinc, Total	0.395	0.0125

CERTIFICATION AND SIGNATURE: (Make all entries in ink, not with a pencil. This report must be signed by a responsible corporate officer for a corporation, a general partner for a partnership, the proprietor for a sole proprietorship, or a principal executive officer or ranking elected official for a public agency.)

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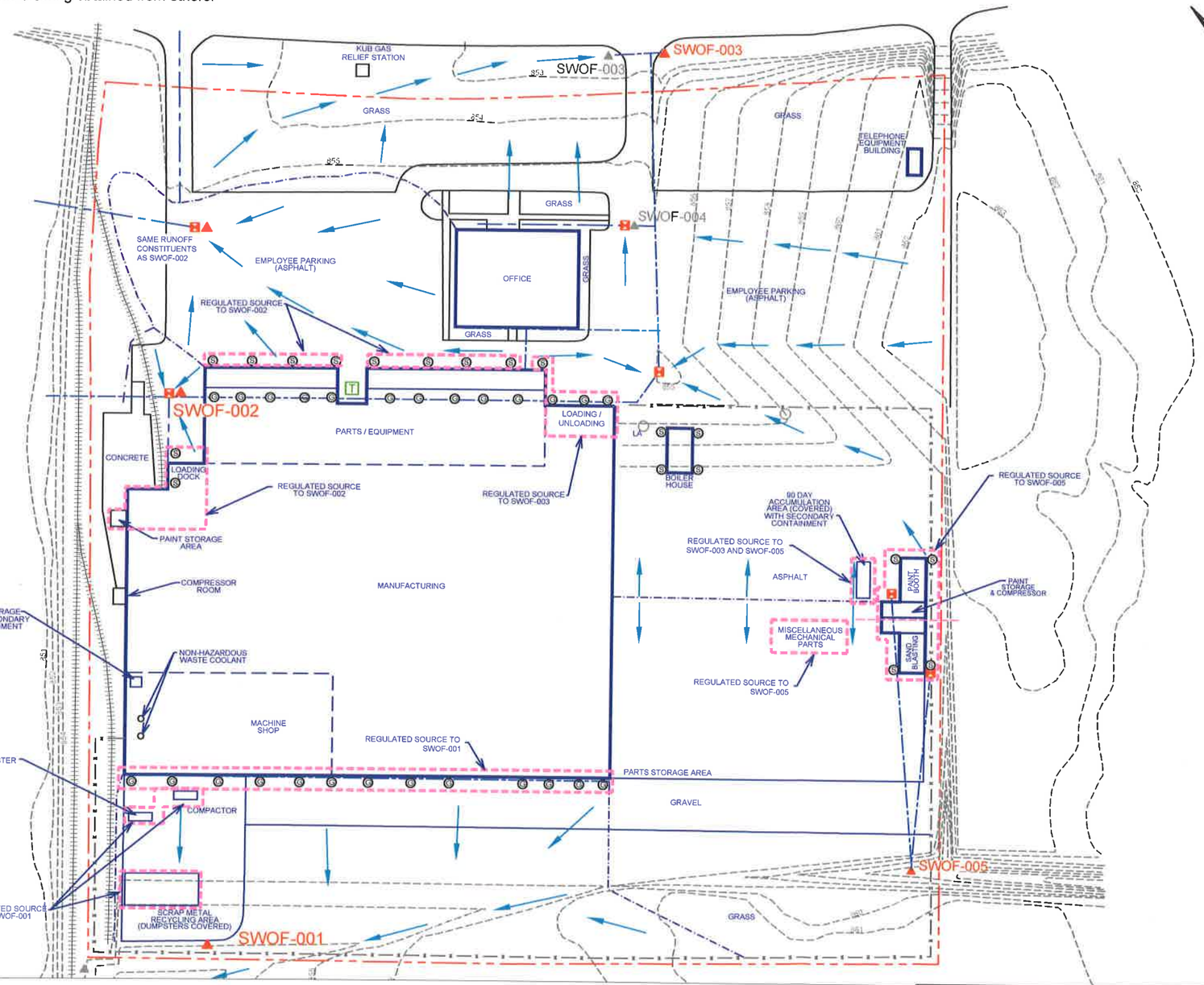
William (Paul) Teichert	Project Manager		2/28/24
Printed Name	Official Title	Signature	Date

Source: This drawing obtained from others.



LEGEND

FEB 2 9 2024

- FENCE (WIRED FOR INTRUSION)
- PROPERTY LINE
- CONTOUR ELEVATION
- DRAINAGE BOUNDARY
- CULVERT
- RAIL LINE
- AREA INLET
- REGULATED AREAS
- FLOW DIRECTION
- SWOF-001 CURRENT STORM WATER OUTFALL
- SWOF-001 FORMER STORM WATER OUTFALL
- T TRANSFORMER ON GROUND
- S *ROOF DRAINS TO GROUND SURFACE
- G *ROOF DRAINS TO UNDERGROUND SYSTEM
- LA 12,000 GALLON LIQUID ARGON

* NOTE:
ROOF DRAINS FROM MANUFACTURING BUILDINGS, AREAS OF REFUSE HANDLING, AND LOADING/UNLOADING AREAS ARE SOURCES OF REGULATED STORMWATER.

NOTES:

Environment & Infrastructure Solutions
2030 FALLING WATERS ROAD, SUITE 300
KNOXVILLE, TN. 37922

CLIENT:
Aqua-Chem, Inc.
3001 East Governor John Sevier Highway
Knoxville, TN

TITLE:
Storm Water Drainage
Aqua-Chem, Inc.
Knoxville, TN

DRAW:	REVIEW:	SCALE:
MJP	MJP	AS SHOWN
CHECK::	DATE:	FIGURE:
WPT	02/29/2024	1
PROJ. NO.:		
3031142002		