



3M Midway

Ceradyne, Inc. a 3M Company
510 Midway Circle
Midway, TN 37809
423 422 6051

3/27/2020

Tennessee Dept. of Environment and Conservation
Johnson City Field Office
2305 Silverdale Dr.
Johnson City, TN 37601

Reference: Ceradyne, Inc. Annual Storm Water Monitoring Report
TNR053148

Mr. Tipton,

This letter is to satisfy our annual storm water testing requirements for the year of 2019.

Enclosed are the storm water monitoring reports, chain of custody and the laboratory analytical results to show compliance.

Please note our facility recently changed from Sector C, SIC Code 2819 to Sector E, SIC Code 3297 in April, 2019.

If you have any questions or concerns, please contact myself at (423) 422-2000.

Respectfully,

Mark Strong
EHS Engineer

"I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document and all attachments are true, accurate, and complete."

Mr. Michael Wilds, Plant Manager
Ceradyne, Inc. A 3M Company

3/30/20
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

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

Facility Name: <u>Ceradyne, Inc. a 3M Company</u>	TMSP Number: <u>TNR053148</u>
Contact Person: <u>Mark Strong</u>	Phone Number: <u>423-422-6051</u>
This report is submitted for the following calendar year (e.g. 2015): <u>2019</u>	Outfall Number: <u>SW-01</u>
List all TMSP sectors which apply to discharge from this outfall: <u>E</u>	Sample Date:
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)	Parameter (continued)	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	<u>.328</u>	Magnesium, Total	0.0636	
Ammonia	4.0		Mercury, Total	0.0024	
Arsenic, Total	0.16854		Nickel, Total	0.875	
BOD, 5-Day	30		Nitrate + Nitrite Nitrogen	0.68	
Cadmium, Total	0.0159		Oil and Grease	15	
COD	120		pH	5.0-9.0	
Copper, Total	0.018		Phosphorus, Total (as P)	2.0	
Cyanide, Total	0.064		Selenium, Total	0.2385	
Fluoride	1.8		Silver, Total	0.032	
Iron, Total	5.0	<u>.367</u>	Total Suspended Solids	150	
Lead, Total	0.15		Zinc, Total	0.395	

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.

<u>Mike Wilds</u> Printed Name	<u>Plant Manager</u> Official Title	<u>[Signature]</u> Signature	<u>3/30/20</u> Date
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**Tennessee Multi-Sector General Permit (TMSP)
Annual Stormwater Monitoring Report - Instructions**

1. The purpose of this form is to report stormwater (SW) monitoring results under the TMSP. **Only 1 sample per calendar year is required** (except Sectors J and H). **For each outfall, one Annual Stormwater Monitoring Report form must be submitted.** Grab samples should be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. A separate form must be submitted for each outfall. If more than one pH sample is collected for any outfall, report all individual pH monitoring results for a given outfall on the corresponding form or in a separate, referenced attachment if necessary. If more than 1 sample for other parameters is collected at any outfall, submit the average results of all monitoring data (for calculating average, use the numerical method detection limit (MDL) if a parameter was not detected). If all monitoring results for a given parameter were non-detect, report the parameter as below detection limit (BDL) and provide the applicable numerical MDL value in parentheses (e.g., BDL (<0.001 mg/L)). New facilities must conduct sampling in the year during which permit coverage was obtained and during each following year. The form(s) shall be submitted 30 days after the sampling results are obtained, but no later than the March 31st of the following calendar year, whichever comes first.
2. If the results of annual SW runoff monitoring demonstrates that the facility has exceeded the cut-off concentration(s), the permittee must inform the division's local Environmental Field Office (EFO) in writing within 30 days from the time SW monitoring results were received, describing the likely cause of the exceedance(s). Furthermore, within 60 days from the time SW monitoring results were received, the facility must review its stormwater pollution prevention plan (SWPPP), make any modifications or additions to the plan which would assist in reducing runoff concentrations to less than the monitoring cut-off concentrations for that parameter, and submit to the local EFO a summary of the proposed SWPPP modifications (including a timetable for implementation).
3. Low Concentration Waiver – When the average concentration for a pollutant calculated from monitoring data collected from 4 consecutive calendar years of monitoring is less than the cut-off concentration, a facility may waive monitoring requirements in the following annual monitoring period. This form should be used for certification of low concentration waiver provision.

Complete, sign and date this form before it is submitted. Keep a copy of the completed form for your records. The division supports and encourages submission of electronic documents (e.g., scanned reports submitted as PDF files) by using the following dedicated email address: Water.Permits@tn.gov. You may also submit the original completed and signed form to the appropriate Environmental Field Office using the addresses below.

EFO	Street Address	City	Zip	Telephone
Chattanooga	1301 Riverfront Parkway, Suite #206	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 432-4015
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400
Knoxville	3711 Middlebrook Pike	Knoxville	37921	(865) 594-6035
Memphis	8383 Wolf Lake Drive	Bartlett	38133	(901) 371-3000
Nashville	711 RS Gass Boulevard	Nashville	37216	(615) 687-7000

Mining and quarrying facilities only (Sectors J and H) should submit one signed copy of Annual Stormwater Monitoring Report to the division's Mining Section at the following address:

**Tennessee Division of Water Resources
Mining Section
3711 Middlebrook Pike
Knoxville, TN 37921**



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

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

Facility Name: <u>Ceradyne, Inc., a 3M Company</u>	TMSP Number: <u>TNR053/48</u>
Contact Person: <u>Mark Strong</u>	Phone Number: <u>423-422-6051</u>
This report is submitted for the following calendar year (e.g. 2015): <u>2019</u>	Outfall Number: <u>SW-02</u>
List all TMSP sectors which apply to discharge from this outfall: <u>E</u>	Sample Date: <u>2/5/20</u>
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)	Parameter (continued)	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	<u>.276</u>	Magnesium, Total	0.0636	
Ammonia	4.0		Mercury, Total	0.0024	
Arsenic, Total	0.16854		Nickel, Total	0.875	
BOD, 5-Day	30		Nitrate + Nitrite Nitrogen	0.68	
Cadmium, Total	0.0159		Oil and Grease	15	
COD	120		pH	5.0-9.0	
Copper, Total	0.018		Phosphorus, Total (as P)	2.0	
Cyanide, Total	0.064		Selenium, Total	0.2385	
Fluoride	1.8		Silver, Total	0.032	
Iron, Total	5.0	<u>.349</u>	Total Suspended Solids	150	
Lead, Total	0.15		Zinc, Total	0.395	

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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.

<u>Mike Wilds</u> Printed Name	<u>Plant Manager</u> Official Title	<u>Mike Wilds</u> Signature	<u>3/30/20</u> Date
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Contact Person: <u>Mark Strong</u>	Phone Number: <u>423-422-6051</u>
This report is submitted for the following calendar year (e.g. 2015): <u>2019</u>	Outfall Number: <u>SW-03</u>
List all TMSP sectors which apply to discharge from this outfall: <u>F</u>	Sample Date: <u>2/5/20</u>
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:	

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Parameter	Cut-off Conc. (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	<u>.294</u>
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	<u>.344</u>
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	
Oil and Grease	15	
pH	5.0-9.0	
Phosphorus, Total (as P)	2.0	
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Total Suspended Solids	150	
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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.

<u>Mike Wilds</u> Printed Name	<u>Plant Manager</u> Official Title	<u>[Signature]</u> Signature	<u>3/30/20</u> Date
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Knoxville, TN 37921**

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

CERADYNE, INC. - A 3M Company

Sample Delivery Group: L1186927
Samples Received: 02/07/2020
Project Number: ANNUAL STORMWATER
Description: Stormwater

Report To: Mark Strong
510 Midway Circle
Midway, TN 37809

Entire Report Reviewed By:

Cassandra Foster

Cassandra Foster
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.

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SAMPLE SUMMARY



				Collected by	Collected date/time	Received date/time	
SW-01 L1186927-01 WW				Mark Strong	02/05/20 07:00	02/07/20 08:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location	
Gravimetric Analysis by Method 2540 D-2011	WG1424544	1	02/08/20 10:08	02/08/20 12:27	TH	Mt. Juliet, TN	
Metals (ICP) by Method 200.7	WG1424385	1	02/09/20 06:53	02/12/20 11:53	TRB	Mt. Juliet, TN	

1
Cp

2
Tc

3
Ss

				Collected by	Collected date/time	Received date/time	
SW-02 L1186927-02 WW				Mark Strong	02/05/20 07:05	02/07/20 08:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location	
Gravimetric Analysis by Method 2540 D-2011	WG1426108	1	02/11/20 16:54	02/11/20 19:31	TH	Mt. Juliet, TN	
Metals (ICP) by Method 200.7	WG1424385	1	02/09/20 06:53	02/12/20 12:09	TRB	Mt. Juliet, TN	

4
Cn

5
Sr

6
Qc

				Collected by	Collected date/time	Received date/time	
SW-03 L1186927-03 WW				Mark Strong	02/05/20 07:10	02/07/20 08:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location	
Gravimetric Analysis by Method 2540 D-2011	WG1426108	1	02/11/20 16:54	02/11/20 19:31	TH	Mt. Juliet, TN	
Metals (ICP) by Method 200.7	WG1424385	1	02/09/20 06:53	02/12/20 12:12	TRB	Mt. Juliet, TN	

7
Gl

8
Al

9
Sc



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.

Cassandra Foster
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SW-01

Collected date/time: 02/05/20 07:00

SAMPLE RESULTS - 01

L1186927

ONE LAB. NATIONWIDE.



Gravimetric Analysis by Method 2540 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Suspended Solids	60.8		10.0	1	02/08/2020 12:27	WG1424544

1 Cp

2 Tc

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	0.328		0.200	1	02/12/2020 11:53	WG1424385
Iron	0.367		0.100	1	02/12/2020 11:53	WG1424385

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Suspended Solids	66.3		2.70	1	02/11/2020 19:31	WG1426108

1 Cp

2 Tc

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	0.276		0.200	1	02/12/2020 12:09	WG1424385
Iron	0.349		0.100	1	02/12/2020 12:09	WG1424385

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Suspended Solids	60.2		2.80	1	02/11/2020 19:31	WG1426108

1 Cp

2 Tc

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	0.294		0.200	1	02/12/2020 12:12	WG1424385
Iron	0.344		0.100	1	02/12/2020 12:12	WG1424385

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

WG1424544

Gravimetric Analysis by Method 2540 D-2011

QUALITY CONTROL SUMMARY

L1186927-01

ONE LAB. NATIONWIDE.

Method Blank (MB)

(MB) R3498160-1 02/08/20 12:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U	0.350	2.50	

L1186920-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1186920-02 02/08/20 12:27 • (DUP) R3498160-3 02/08/20 12:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	54.0	55.4	1	2.56		5

L1186939-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1186939-01 02/08/20 12:27 • (DUP) R3498160-4 02/08/20 12:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	30.8	31.6	1	2.56		5

Laboratory Control Sample (LCS)

(LCS) R3498160-2 02/08/20 12:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	732	94.7	85.0-115	

ACCOUNT:
CERADYNE, INC. - A 3M Company

PROJECT:
ANNUAL STORMWATER

SDG:
L1186927

DATE/TIME:
02/13/20 12:28

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1 Cp	2 Tc	3 Ss	4 Cn	5 Sr	6 Oc	7 Gl	8 Al	9 Sc
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WG1426108

Gravimetric Analysis by Method 2540 D-2011

QUALITY CONTROL SUMMARY

[L1186927-02.03](#)

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3499002-1 02/11/20 19:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U		0.350	2.50

L1186316-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1186316-01 02/11/20 19:31 • (DUP) R3499002-3 02/11/20 19:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	57.2	50.4	1	12.6	<u>J3</u>	5

Laboratory Control Sample (LCS)

(LCS) R3499002-2 02/11/20 19:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	748	96.8	85.0-115	

1 Cp	2 Tc	3 Ss	4 Cn	5 Sr	6 Qc	7 Gl	8 Al	9 Sc
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ACCOUNT:
CERADYNE, INC. - A 3M Company

PROJECT:
ANNUAL STORMWATER

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L1186927

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WG1424385

Metals (ICP) by Method 200.7

QUALITY CONTROL SUMMARY

L1186927-01.02.03

ONE LAB. NATIONWIDE.

Method Blank (MB)

(MB) R3499209-1 02/12/20 11:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum	U	0.0273	0.200	
Iron	U	0.0282	0.100	

Laboratory Control Sample (LCS)

(LCS) R3499209-2 02/12/20 11:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	9.94	99.4	85.0-115	
Iron	10.0	9.56	95.6	85.0-115	

L1186902-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186902-05 02/12/20 11:43 • (MS) R3499209-4 02/12/20 11:48 • (MSD) R3499209-5 02/12/20 11:50

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Result mg/l	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	2.89	13.0	101	15.1	122	1	70.0-130			15.4	20
Iron	10.0	2.66	12.0	93.1	13.1	105	1	70.0-130			9.26	20

L1186927-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186927-01 02/12/20 11:53 • (MS) R3499209-6 02/12/20 11:56 • (MSD) R3499209-7 02/12/20 11:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Result mg/l	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	0.328	10.3	99.6	10.1	98.2	1	70.0-130			1.33	20
Iron	10.0	0.367	9.85	94.9	9.68	93.2	1	70.0-130			1.75	20

ACCOUNT:
CERADYNE, INC. - A 3M Company

PROJECT:
ANNUAL STORMWATER

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L1186927

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02/13/20 12:28

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1 Cp	2 Tc	3 Ss	4 Cn	5 Sr	6 Qc	7 Gl	8 Al	9 Sc
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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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Gl

⁸ Al

⁹ Sc

Qualifier Description

J3 The associated batch QC was outside the established quality control range for precision.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
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}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA



Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



CERADYNE, INC. - A 3M Company
 510 Midway Circle
 Midway, TN 37809

Report to: **Mark Strong**
 Project: **Stormwater**
 Description: **Stormwater**
 Phone: **423-422-2000**
 Fax:

Billing Information:
 Accounts Payable
 510 Midway Circle
 Midway, TN 37809
 Email To: **dmstrong@mmmm.com**

City/State Collected: **Midway TN**
 Client Project #: **2019 ANNUAL STORMWATER**
 Lab Project #: **2019**
 Site/Facility ID #: **2019**
 P.O. #: **2019**
 Quote #: **2019**

Collected by (Print): **Mark Strong**
 Collected by (Signature): *Mark Strong*
 Rush? (Lab MUST be Notified)
 Same Day Five Day
 Next Day 5 Day (Fast Only)
 Two Day 10 Day (Rad Only)
 Three Day

Immediately Packed on Ice: **N** **Y**
 Sample ID

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Chvs
SW-01	Grab	WW		2/5/20	7:00 AM	2
SW-02	Grab	WW		2/5/20	7:05 AM	2
SW-03	Grab	WW		2/5/20	7:10 AM	2

Remarks:
 * Matrix: SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - Wastewater
 DW - Drinking Water
 OT - Other

Samples returned via: UPS FedEx Courier Other

Date: **2/5/20** Time: **9:00 AM**
 Date: **2.6.20** Time: **9:00 AM**
 Date: **2.6.20** Time: **9:00 AM**

Retinquished by: (Signature) *Mark Strong*
 Retinquished by: (Signature) *Mark Strong*
 Retinquished by: (Signature) *Mark Strong*



12065 Lebban Rd
 Mount Lake, VA 22122
 Phone: 615-258-5558
 Phone: 800-361-5859
 Fax: 615-258-5559

SOG # **H06027**
 TI **H148**
 Account: **MINCO**
 Template: **T157997**
 Prelogin: **P736986**
 PVI: **510 - Llanb M Dranes**
 PS: **2/5/20**

Shipped Via: **FedEX Ground**
 Remarks: **Sample # (Lab only)**

01
 02
 03

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IF Preservation required by Login: Date/Time
 Trip: **01/01/20** Condition: **NCF / OK**