



## Indiana Department of Environmental Management

*We Protect Hoosiers and Our Environment.*

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**Eric J. Holcomb**  
*Governor*

**Bruno Pigott**  
*Commissioner*

December 12, 2018

Via Email to: [tsullivan@uss.com](mailto:tsullivan@uss.com)  
Mr. Tim Sullivan, Compliance Manager  
US Steel, Midwest Plant  
6300 US Highway 12  
Portage, Indiana 46368

Dear Mr. Sullivan:

**Re: Inspection Summary/ Noncompliance Letter**  
US Steel Midwest  
NPDES Permit No. IN0000337  
Portage, Porter County

An inspection of the above-referenced facility or location was conducted by a representative of the Indiana Department of Environmental Management, Northwest Regional Office, pursuant to IC 13-18-3-9. A summary of the inspection is provided below:

Date(s) of Inspection: November 29, 2018 , December 03, 2018  
Type of Inspection: Complaint Investigation  
Inspection Results: Violations were observed.

The following concerns were noted:

1. An anonymous complaint was made to the IDEM Spill Line on November 28, 2018 alleging US Steel Midwest was discharging foam and scum. The complaint was sent to Dave Greinke with IDEM Spill Response section at approximately 12:30 pm Central Time.

Upon approaching US Steel Midwest on November 28, 2018, at approximately 12:35 pm Central Time, Mr. Greinke, observed and photographed minor foaming from Outfall 003 and excessive foaming from Outfall 004, which extended into the receiving water, Burns Waterway. The photos are attached to the inspection report.

Upon arrival at US Midwest on November 28, 2018, shortly after 12:35 pm, Mr. Greinke made contact with US Steel Midwest environmental representative, Mr. Tim Sullivan. Mr. Greinke, escorted by Mr. Sullivan, proceeded to Outfall 004. Mr. Greinke advised Mr. Sullivan to grab a sample of the Outfall 004 discharge, which he did, in Mr. Greinke's presence. Within approximately 5 minutes of Mr. Greinke's entry to the US Steel Midwest facility, the foaming from Outfall 004 ceased.

Subsequent to Mr. Greinke's arrival, US Steel Midwest filed an NRC report 1231542 regarding the incident.

On the morning of November 29, 2018, Mr. Greinke, Wastewater Inspector Nick Mr. Ream and I went to the US Steel Midwest site. This group observed Outfalls 002, 003, and 004. No foaming issues were observed at the time. We spoke to Mr. Sullivan, who stated that grab sample taken on November 28, 2018 had not yet been analyzed. Mr. Sullivan also stated that personnel were still investigating the cause of the foam. One of the potential causes being investigated was the utilization of a defoaming agent, Chemtreat FO120, which is authorized in the NPDES permit for use for Outfall 004.

On the afternoon of November 29, 2018, US Steel attempted to recreate the conditions leading to the observance of foam in the discharge, as part of its effort to determine the source. US Steel informed IDEM of these trials on the morning of November 30, 2018. In the meantime, IDEM was separately advised by the NPS that NPS personnel observed an intermittent discharge of foam from US Steel Midwest's Outfall 004 the afternoon of November 29.

On December 3, 2018, Mr. Dave Greinke and I again visited US Steel Midwest. We observed Outfalls 002, 003, and 004. No foaming issues were observed at the time. While on-site, Mr. Sullivan provided us with the analytical results of the grab sample taken at Outfall 004 in Mr. Greinke's presence. The results are set forth in the attached document, entitled US Steel Foaming Response Report. The sample was analyzed for Surfactants and Oil & Grease. The surfactant result was below the detection limit. The Oil & Grease result was 2.5 mg/L. Outfall 004 does not have a limit for oil and grease, but the result of 2.5 mg/L is consistent with general operational range for the outfall. Additionally, while on-site, we reviewed the available results for November 2018 of the routine NPDES permit monitoring for Outfall 304, which is the mathematical summation of Outfalls 104 and 204. Subsequent to leaving the facility, Mr. Ream requested, received, and reviewed the available results for November 2018 of the routine NPDES Permit monitoring for Outfalls 003, 004, 104 and 204. No numeric effluent limit violations were observed during the review, as noted in the Effluent Limits Compliance Category.

On December 3, 2018, subsequent to our visit, US Steel Midwest submitted a five day notification letter attributing the cause of the foaming to insufficient use of the defoaming agent. The US Steel Midwest - Five Day Letter is attached hereto.

Part I. B. of the NPDES permit contains narrative effluent limitations prohibiting the discharge from any and all point sources specified within the permit from causing receiving waters, including the mixing zone, to contain substances, materials, floating debris, oil, or scum: 1) that will settle to form putrescent or otherwise objectionable deposits; 2) that are in amounts sufficient to be unsightly or deleterious; 3) that produce color, visible oil sheen, odor, or other conditions in such degree as to create nuisance. The

discharge of foam from US Steel Midwest outfalls into Burns Waterway, as observed by Mr. Greinke on November 28, 2018, is in violation of Part I.B. of the NPDES permit, resulting in an unsatisfactory rating in both the "Receiving Water Appearance" and "Other: Complaint" categories.

Part II. A. 1. of your permit requires you to comply with its terms and conditions. Any noncompliance with the terms of your permit may subject you to an enforcement action which can include the imposition of penalties. You are required to immediately take all necessary measures to comply with the terms and conditions of your NPDES Permit, specifically those violations identified above.

Within 30 days of receipt of this letter, a written detailed response documenting correction of the concerns listed above and/or a plan for assuring future compliance must be submitted to this office. Failure to respond adequately to this letter may result in formal enforcement action. Please direct your response to this letter to the attention of Bridget S. Murphy, at our letterhead address or via email to [wwViolationResponse@idem.IN.gov](mailto:wwViolationResponse@idem.IN.gov). Any questions should be directed to Nicholas Ream at 219-730-1691 or by email to [nream@idem.IN.gov](mailto:nream@idem.IN.gov). Thank you for your attention to this matter.

Sincerely,



Rick Massoels, Deputy Director  
Northwest Regional Office

Enclosure



# NPDES Industrial Facility Inspection Report

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NPDES Permit Number: <b>IN0000337</b>	Facility Type: Industrial	Facility Classification: Major	Facility Classification: D	TEMPO AI ID 14435			
Date(s) of Inspection: November 29, 2018 , December 03, 2018							
Type of Inspection: Complaint Investigation							
Name and Location of Facility Inspected: <b>US Steel Midwest</b> 6300 US Highway 12 Portage IN 46368		County: Porter	Receiving Waters/POTW: Portage-Burns Waterway to Lake Michigan	Permit Expiration Date: 3/31/2021 Design Flow: NA			
On Site Representative(s): First Name Last Name Title Email Phone Tim Sullivan Compliance Manager tjsullivan@uss.com 219-763-5022 Mark Henry Operator mhenry@uss.com							
Was a verbal summary of the inspection given to the on-site rep? <b>Yes</b>							
Certified Operator: Mark Henry	Number: 20376	Class: IV	Effective Date: 7-1-18	Expiration Date: 6-30-20 Email: mhenry@uss.com			
Responsible Official: Mr. Tim Sullivan, Compliance Manager 6300 US Highway 12 Portage, Indiana 46368		Permittee: US Steel, Midwest Plant Email: tjsullivan@uss.com Phone: 219-763-5022 Fax: Contacted? Yes					
<b>INSPECTION FINDINGS</b>							
<input type="radio"/> Conditions evaluated were found to be satisfactory at the time of the inspection. (5) <input type="radio"/> Violations were discovered but corrected during the inspection. (4) <input type="radio"/> Potential problems were discovered or observed. (3) <input checked="" type="radio"/> Violations were discovered and require a submittal from you and/or a follow-up inspection by IDEM. (2) <input type="radio"/> Violations were discovered and may subject you to an appropriate enforcement response. (1)							
<b>AREAS EVALUATED DURING INSPECTION</b> (S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)							
U	Receiving Waters	N	Facility/Site	N	Self-Monitoring	N	Compliance Schedules
N	Effluent/Discharge	N	Operation	N	Flow Measurement		
N	Permit	N	Maintenance	N	Laboratory	S	Effluent Limits Compliance
		N	Sludge	N	Records/Reports	U	Other: Complaint
<b>DETAILED AREA EVALUATIONS</b>							
<b>Receiving Waters:</b> Comments: Please refer to Other: Complaint category.							
<b>Effluent Limits Compliance:</b> <u>No</u> 1. Were DMRs reviewed as part of the inspection? Comments: While the November 2018 DMR and MMR were not yet completed, a review of the available analytical results for November 2018 for Outfalls 104, 204, 304, 003, and 004 was conducted. No numeric effluent limit exceedances were identified. Please refer to Other: Complaint Category for information regarding observations made with regard to the narrative effluent limitations applicable to Outfall 004.							
<b>Other:</b> <b>Complaint</b> Comments: An anonymous complaint was made to the IDEM Spill Line on November 28, 2018 alleging US Steel Midwest was discharging foam and scum. The complaint was sent to Dave Greinke with IDEM Spill Response section at approximately 12:30 pm Central Time. The complaint was entered into TEMPO and assigned TEMPO No. 84287.							

Upon approaching US Steel Midwest on November 28, 2018, at approximately 12:35 pm Central Time, Mr. Greinke, observed and photographed minor foaming from Outfall 003 and excessive foaming from Outfall 004, which extended into the receiving water, Burns Waterway. The photos are attached to the inspection report.

Upon arrival at US Midwest on November 28, 2018, shortly after 12:35 pm, Mr. Greinke made contact with US Steel Midwest environmental representative, Mr. Tim Sullivan. Mr. Greinke, escorted by Mr. Sullivan, proceeded to Outfall 004. Mr. Greinke advised Mr. Sullivan to grab a sample of the Outfall 004 discharge, which he did, in Mr. Greinke's presence. Within approximately 5 minutes of Mr. Greinke's entry to the US Steel Midwest facility, the foaming from Outfall 004 ceased.

Subsequent to Mr. Greinke's arrival, US Steel Midwest filed an NRC report 1231542 regarding the incident.

On the morning of November 29, 2018, Mr. Greinke, IDEM Northwest Regional Office Deputy Director Rick Massoels, and wastewater inspector Nick Ream went to the US Steel Midwest site. Outfalls 002, 003, and 004 were observed by the group. No foaming issues were observed at the time. The IDEM representatives spoke to Mr. Sullivan, who stated that grab sample taken on November 28, 2018 had not yet been analyzed. Mr. Sullivan also stated that personnel were still investigating the cause of the foam. One of the potential causes being investigated was the utilization of a defoaming agent, Chemtreat FO120, which is authorized in the NPDES permit for use for Outfall 004.

On the afternoon of November 29, 2018, US Steel attempted to recreate the conditions leading to the observance of foam in the discharge, as part of its effort to determine the source. US Steel informed IDEM of these trials on the morning of November 30, 2018. In the meantime, IDEM was separately advised by the National Park Service (NPS) that NPS personnel observed an intermittent discharge of foam from US Steel Midwest's Outfall 004 the afternoon of November 29.

On December 3, 2018, Mr. Greinke and Mr. Ream again visited US Steel Midwest. Outfalls 002, 003, and 004 were observed. No foaming issues were observed at the time. While on-site, Mr. Sullivan provided the IDEM representatives with the analytical results of the grab sample taken at Outfall 004 in Mr. Greinke's presence. The results are set forth in the attached document, entitled US Steel Foaming Response Report. The sample was analyzed for Surfactants and Oil & Grease. The surfactant result was below the detection limit. The Oil & Grease result was 2.5 mg/L. Outfall 004 does not have a limit for oil and grease, but the result of 2.5 mg/L is consistent with general operational range for this outfall. Additionally, while on-site, IDEM reviewed the available results for November 2018 of the routine NPDES permit monitoring for Outfall 304, which is the mathematical summation of Outfalls 104 and 204. Subsequent to leaving the facility, IDEM requested, received, and reviewed the available results for November 2018 of the routine NPDES Permit monitoring for Outfalls 003, 004, 104 and 204. No numeric effluent limit violations were observed during the review, as noted in the Effluent Limits Compliance Category.

On December 3, 2018, subsequent to our visit, US Steel Midwest submitted a five day notification letter attributing the cause of the foaming to insufficient use of the defoaming agent. Please refer to the attached letter, US Steel Midwest - Five Day Letter.

Part I. B. of the NPDES permit contains narrative effluent limitations prohibiting the discharge from any and all point sources specified within the permit from causing receiving waters, including the mixing zone, to contain substances, materials, floating debris, oil, or scum: 1) that will settle to form putrescent or otherwise objectionable deposits; 2) that are in amounts sufficient to be unsightly or deleterious; 3) that produce color, visible oil sheen, odor, or other conditions in such degree as to create nuisance. The discharge of foam from US Steel Midwest outfalls into Burns Waterway, as observed by Mr. Greinke on November 28, 2018, is in violation of Part I.B. of the NPDES permit, resulting in an **unsatisfactory** rating in both the "Receiving Water Appearance" and "Other: Complaint" categories.

#### IDEM REPRESENTATIVE

Inspector Name:  
Nicholas Ream

Email:  
nream@idem.IN.gov

Phone Number:  
219-730-1691

#### IDEM MANAGER REVIEW

IDEM Manager:

Rick Massoels

Date:

12/7/2018

## Inspection Photographs



Facility:
<b>US Steel Midwest</b>
Photographer:
Date: 11/28/2018 Time: 1:35 PM
Others Present:
Tim Sullivan
Location/Description:
Photo by Dave Greinke. Northeast view of foam at Outfall 004



Facility:
<b>US Steel Midwest</b>
Photographer:
Date: 11/28/2018 Time: 1:35 PM
Others Present:
Tim Sullivan
Location/Description:
Photo by Dave Greinke. West view of Outfall 003.





United States Steel Corporation – Midwest Plant  
U. S. Highway 12  
Portage, IN 46368

*VIA ELECTRONIC SUBMITTAL*

December 3, 2018

David Greinke  
Office of Water Quality  
Indiana Department of Environmental Management (IDEM)  
100 North Senate Avenue – Post Office Box 6015  
Indianapolis, IN 46206

Subject: United States Steel Corporation Gary Works – Midwest Plant  
NPDES Permit IN0000337  
Foaming at Outfall 004

Dear Mr. Greinke:

This letter is the written five-day submission regarding foaming at Outfall 004 at the U. S. Steel Corporation – Midwest Plant (“Midwest”) which occurred on November 28, 2018. Outfall 004 is a permitted outfall to the Portage-Burns Waterway under NPDES Permit IN0000337 effective April 1, 2016. Outfall 004 sources includes the Final Treatment Plant (internal Outfall 104) and the Chrome Treatment Plant (internal Outfall 204). As described below, the foam was found to be due to insufficient defoamer addition, and was not attributed to any pollutant regulated under the NPDES permit, including chromium.

On November 28, 2018 IDEM visited the Midwest facility outfalls in response to a public report of a “white discharge” to Burns Waterway from the facility, which was submitted to IDEM on that same day. David Greinke, IDEM Emergency Response, contacted Midwest regarding the report at approximately 1:37 p.m. and arrived at the facility at approximately 1:45 p.m. Mr. Greinke and a Midwest Environmental Manager observed Outfall 004 and saw evidence of foam extending approximately 40 yards into the Burns Waterway before dissipating. Midwest Environmental attempted to collect a grab sample of the foam, but by the time personnel were able to access the waterway for sampling, the foam was no longer present in the receiving stream. A grab sample was collected at Outfall 004 and analyzed for surfactants by a third-party laboratory. The result of the analysis is attached.

The effluent discharge channel of the Final Treatment Plant (internal Outfall 104) was observed with no visible indication of foaming. A 24-hour composite sample and a grab sample were collected and expedited for analysis by Midwest’s contracted third-party laboratory. Both results were found to be non-detect for hexavalent chromium and well below permit limits for all other constituents.

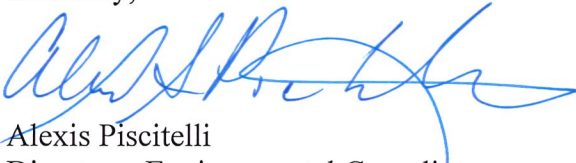
U. S. Steel made notification to the National Response Center as is required in the current draft of the Operations and Maintenance Plan Appendix B This notification was made at approximately 4:15pm, and complied with both permit requirements and the current Operations and Maintenance Manual Notification List. IDEM was already made aware through the phone call and site visit.

On November 29, 2018 David Greinke, Nick Ream (IDEM NPDES inspector), and Rick Massoels (IDEM Deputy Director) visited Midwest again as a follow up. There was no foaming observed at Outfall 004. U. S. Steel made several observations of Outfall 004 throughout the day on November 29<sup>th</sup>, and on subsequent days as well, and has not observed any more foaming.

Upon completion of the initial observation and sampling efforts on November 28<sup>th</sup>, U. S. Steel began an investigation into the cause of the Outfall 004 foam, and continues to evaluate the potential interactions between the Outfall 004 and Burns Waterway. The Chrome Treatment Plant was found to be operating normally. Internal process monitoring indicated no issues or elevated chromium levels. The Final Treatment Plant was operating normally.

If you have any questions about this matter, please call me at (313) 749-3900 or email me at APiscitelli@uss.com.

Sincerely,



Alexis Piscitelli  
Director – Environmental Compliance  
United States Steel Corporation  
Great Lakes Works, Midwest Plant

cc: Nicholas Ream, IDEM  
Tim Sullivan, U. S. Steel  
Eric Williams, U. S. Steel  
Nicole Benoit, P.E., U. S. Steel





03-Dec-2018

Tim Sullivan  
U.S. Steel - Gary Works  
1 North Broadway  
Mail Station 70  
Gary, IN 46402

Re: **USS-Midwest Foaming Response**

Work Order: **18111844**

Dear Tim,

ALS Environmental received 1 sample on 30-Nov-2018 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 11.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA  
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink that reads "Amanda Grzybowski".

Electronically approved by: Amanda Grzybowski

Amanda Grzybowski  
Project Manager

## Report of Laboratory Analysis

Certificate No: IN: C-MI-08

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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**Client:** U.S. Steel - Gary Works  
**Project:** USS-Midwest Foaming Response  
**Work Order:** 18111844

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**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
18111844-01	Outfall 004 with Foaming	Aqueous		11/29/2018 12:35	11/30/2018 08:30	<input type="checkbox"/>

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## ALS Group, USA

*Date: 03-Dec-18*

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**Client:** U.S. Steel - Gary Works  
**Project:** USS-Midwest Foaming Response  
**Work Order:** 18111844

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### Case Narrative

Batch R250367, Method GCFID\_8015\_W, Sample 18111844-01B: No diesel range organic compounds apparent in sample chromatograph.

**ALS Group, USA****Date:** 03-Dec-18

**Client:** U.S. Steel - Gary Works  
**Project:** USS-Midwest Foaming Response  
**Sample ID:** Outfall 004 with Foaming  
**Collection Date:** 11/29/2018 12:35 PM

**Work Order:** 18111844  
**Lab ID:** 18111844-01  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>ORGANIC COMPOUNDS BY GC-FID</b>			<b>SW8015M</b>				Analyst: <b>RP</b>
BatchID: <a href="#">R250367</a>							
Fingerprint	Complete		0		mg/L	1	11/30/2018
<b>ANIONIC SURFACTANTS AS MBAS</b>			<b>A5540C-11</b>				Analyst: <b>JSH</b>
BatchID: <a href="#">R250292</a>							
Anionic Surfactants as MBAS	U		0.12	0.40	mg MBAS/L	1	11/30/2018 10:00
<b>OIL AND GREASE</b>			<b>E1664A</b>				Analyst: <b>BTG</b>
BatchID: <a href="#">R250344</a>							
Oil and Grease	2.5	J	0.97	5.0	mg/L	1	11/30/2018 10:30

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

Data Path : C:\msdchem\1\data\181130DR\  
 Data File : 30NOV26.d  
 Signal(s) : FID1A.ch  
 Acq On : 30 Nov 2018 3:48 pm  
 Operator : RJP  
 Sample : 18111844-01B  
 Misc : FINGERPRINT  
 ALS Vial : 20 Sample Multiplier: 1

Integration File: EVEA.e  
 Quant Time: Nov 30 17:37:55 2018  
 Quant Method : C:\msdchem\1\methods\ALLF180910M.M  
 Quant Title :  
 QLast Update : Tue Sep 11 11:51:22 2018  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. :  
 Signal Phase :  
 Signal Info :

Compound	R.T.	Response	Conc	Units
-----				
System Monitoring Compounds				
1) S Nitrobenzene-d5	0.000	0	N.D.	ug/mL
2) S 2-Fluorobiphenyl	0.000	0	N.D.	ug/mL
3) S 2,4,6-Tribromophenol	0.000	0	N.D.	ug/mL
4) S 4-Terphenyl-d14	0.000	0	N.D.	ug/mL
Spiked Amount 50.000		Recovery =	0.00%	
Target Compounds				
5) H DRO (C10-C20)	0.000	0	N.D.	ug/mL
6) H ORO (C20-C34)	0.000	0	N.D.	ug/mL
7) H DRO (C10-C28)	0.000	0	N.D.	ug/mL
8) H ORO (C28-C40)	0.000	0	N.D.	ug/mL
9) H ORO (C20-C40)	0.000	0	N.D.	ug/mL
10) H ORO (C28-C35)	0.000	0	N.D.	ug/mL
11) H ERO (C10-C36)	0.000	0	N.D.	ug/mL
12) H ERO (C8-C36)	0.000	0	N.D.	ug/mL
13) H DRO (C9-C20)	0.000	0	N.D.	ug/mL
14) H ERO (C8-C40)	0.000	0	N.D.	ug/mL
15) H DIESEL (IOWA)	0.000	0	N.D.	ug/mL
16) H OIL (IOWA)	0.000	0	N.D.	ug/mL
-----				

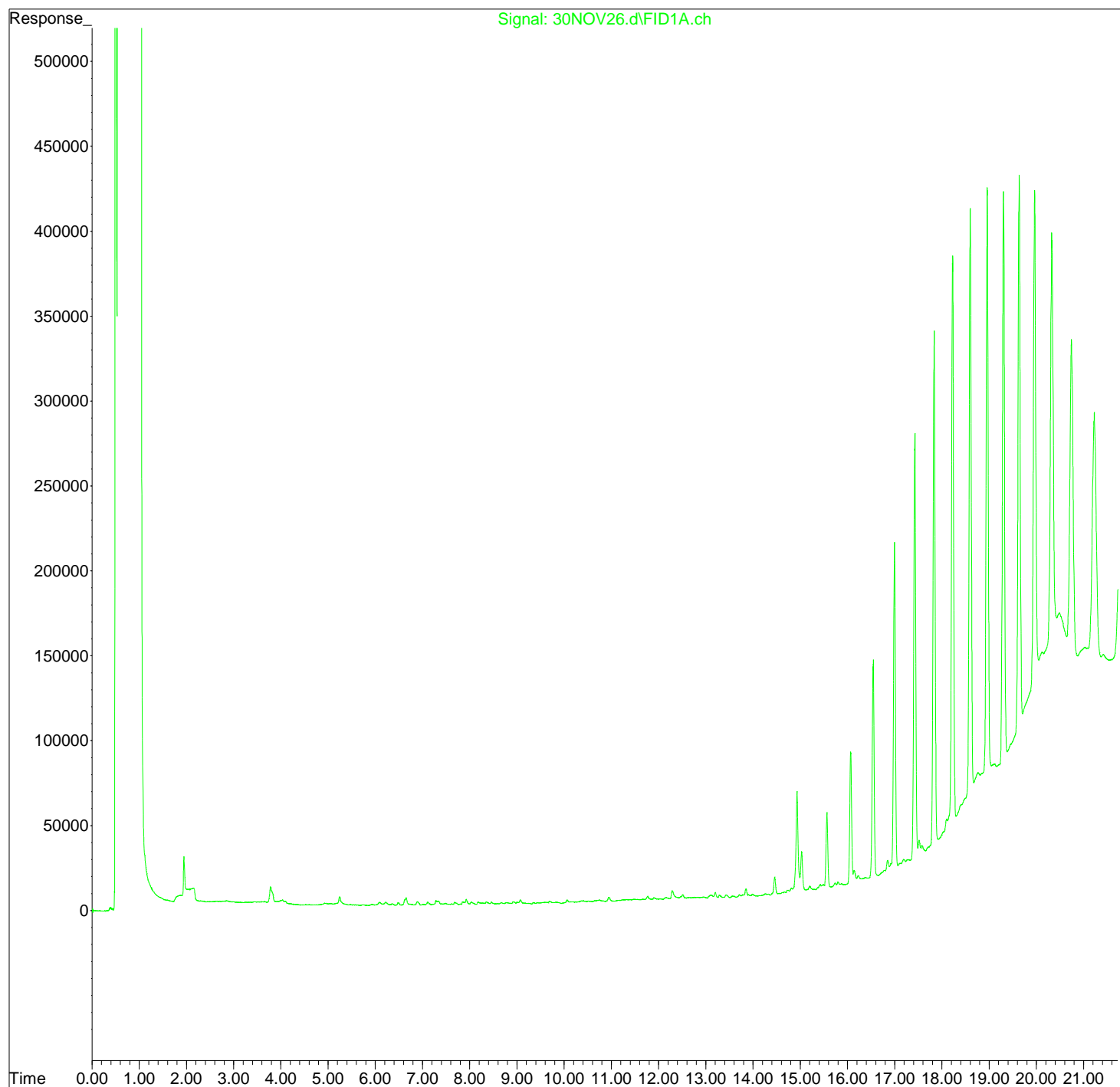
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : C:\msdchem\1\data\181130DR\  
Data File : 30NOV26.d  
Signal(s) : FID1A.ch  
Acq On : 30 Nov 2018 3:48 pm  
Operator : RJP  
Sample : 18111844-01B  
Misc : FINGERPRINT  
ALS Vial : 20 Sample Multiplier: 1

Integration File: EVEA.e  
Quant Time: Nov 30 17:37:55 2018  
Quant Method : C:\msdchem\1\methods\ALLF180910M.M  
Quant Title :  
QLast Update : Tue Sep 11 11:51:22 2018  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :





**Client:** U.S. Steel - Gary Works  
**Project:** USS-Midwest Foaming Response  
**WorkOrder:** 18111844

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
mg MBAS/L	Milligrams Methylene Blue Active Substances per Liter
mg/L	Milligrams per Liter

Client: U.S. Steel - Gary Works

Work Order: 18111844

Project: USS-Midwest Foaming Response

**QC BATCH REPORT**Batch ID: **R250292**Instrument ID **WETCHEM**Method: **A5540C-11**

<b>MBLK</b>	Sample ID: <b>MBLK-R250292</b>				Units: <b>mg MBAS/L</b>		Analysis Date: <b>11/30/2018 10:00 AM</b>			
Client ID:	Run ID: <b>WETCHEM_181130C</b>				SeqNo: <b>5410909</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Anionic Surfactants as MBAS U 0.40

<b>LCS</b>	Sample ID: <b>LCS-R250292</b>				Units: <b>mg MBAS/L</b>		Analysis Date: <b>11/30/2018 10:00 AM</b>			
Client ID:	Run ID: <b>WETCHEM_181130C</b>				SeqNo: <b>5410906</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Anionic Surfactants as MBAS 0.4 0.40 0.5 0 80 75-125 0

<b>DUP</b>	Sample ID: <b>18111815-01B DUP</b>				Units: <b>mg MBAS/L</b>		Analysis Date: <b>11/30/2018 10:00 AM</b>			
Client ID:	Run ID: <b>WETCHEM_181130C</b>				SeqNo: <b>5410911</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Anionic Surfactants as MBAS U 0.40 0 0 0 0-0 0.1 0 25

The following samples were analyzed in this batch:

18111844-01A

**Client:** U.S. Steel - Gary Works  
**Work Order:** 18111844  
**Project:** USS-Midwest Foaming Response

## QC BATCH REPORT

Batch ID: **R250344** Instrument ID **O&G** Method: **E1664A**

<b>MBLK</b>		Sample ID: <b>MBLK-R250344</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/30/2018 10:30 AM</b>		
Client ID:		Run ID: <b>O&amp;G_181130A</b>				SeqNo: <b>5411745</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	2	5.0								J

LCS				Sample ID: LCS-R250344				Units: mg/L			Analysis Date: 11/30/2018 10:30 AM			
Client ID:				Run ID: O&G_181130A				SeqNo: 5411743			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Oil and Grease		35.4	5.0	40	0	88.5	78-114	0						

MS				Sample ID: 18111576-01C MS				Units: mg/L			Analysis Date: 11/30/2018 10:30 AM			
Client ID:				Run ID: O&G_181130A				SeqNo: 5411703			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Oil and Grease		39.88	5.0	40	1.124	96.9	78-114		0					

DUP				Sample ID: 18111576-02C DUP				Units: mg/L			Analysis Date: 11/30/2018 10:30 AM		
Client ID:				Run ID: O&G_181130A				SeqNo: 5411706		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Oil and Grease	U	5.0	0	0	0	0-0	0.2105	0	18				

The following samples were analyzed in this batch:

18111844-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH  
+1 513 733 5336  
Everett, WA  
+1 425 356 2600

Port Collins, CO  
+1 970 490 1511  
Holland, MI  
+1 616 399 6070

## Chain of Custody Form

Houston, TX  
+1 281 530 5656  
Middletown, PA  
+1 717 944 5541

Spring City, PA  
+1 610 948 4903  
Salt Lake City, UT  
+1 801 266 7700  
South Charleston, WV  
+1 304 356 3168  
York, PA  
+1 717 505 5280

## Environmental

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COC ID: 29108

Customer Information				Project Information				ALS Project Manager:				ALS Work Order #:					
Purchase Order				Project Name				Parameter/Method Request for Analysis				1811844					
Work Order				Project Number				Surfactants									
Company Name				Bill To Company				VSS MW				Fingerprint					
Send Report To				Invoice Attn				Ti Sullivan				D+C					
Address				Address													
City/State/Zip				City/State/Zip													
Phone				Phone													
Fax				Fax													
e-Mail Address				e-Mail Address													
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Outfall 004 w/ Farming	11-29-18	1235	AQ	g	1	X	X	X								
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Sampler(s) Please Print & Sign				Shipment Method				Turnaround Time in Business Days (BD)				Results Due Date:					
Relinquished by: <i>B. Payne</i>								<input type="checkbox"/> 10 BD <input type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				ASAP					
Relinquished by: <i>B. Payne</i>								Received by: <i>SL</i>				Notes:					
Time: 11-30-18				Time: 0830				Cooler ID: 562				Cooler Temp: 4.0°C					
Date: 11/30/18				Date: 11/30/18				QC Package: (Check One Box Below)									
Date: 11/30				Date: 11/30				<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist									
Date: 11/30				Date: 11/30				<input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> TRRP Level IV									
Date: 11/30				Date: 11/30				<input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other									
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other 8-4°C 9-5035																	

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
3. The Chain of Custody is a legal document. All information must be completed accurately.

Sample Receipt Checklist

Client Name: **USS-GARY**

Date/Time Received: **30-Nov-18 00:00**

Work Order: **18111844**

Received by: **DS**

Checklist completed by Diane Shaw  
eSignature

30-Nov-18  
Date

Reviewed by: Amanda Przybowski  
eSignature

30-Nov-18  
Date

Matrices: **Aqueous**

Carrier name: **ALSHN**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.0/4.0 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>11/30/2018 8:37:29 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: