

Jessica Sharrow Thompson  
412.566.5941  
jsharrow@eckertseamans.com

January 17, 2018

***Via Email and USPS***

John C. Matson, Assistant Regional Counsel  
U.S. EPA Region V  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

***Via Email and USPS***

Humane Zia, Assistant Regional Counsel  
U.S. EPA Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

**Re: S.H. Bell Company, 2217 Michigan Avenue  
Root Cause Analysis  
*United States v. S.H. Bell Company, No. 4:17-cv-131 (N.D. Ohio)***

To Whom it May Concern:

On behalf of S.H. Bell Company, we are submitting the enclosed Root Cause Analysis in accordance with Paragraph 21 of the above-referenced Consent Decree that was lodged with the Northern District of Ohio on January 18, 2017.

Please note that Appendix 2 to the Root Cause Analysis contains confidential business information ("CBI") and therefore, is not subject to public disclosure under 5 U.S.C. § 552(b)(4) and 40 C.F.R. §§ 2.105(a)(4). S.H. Bell is only providing the content of Appendix 2, which has been marked as CBI, on a separate CD with its hard-copy mailing. The courtesy electronic transmission of this letter will have a CBI placeholder for Appendix 2 as is customary practice

Regards,



Jessica Sharrow Thompson

cc: *John Bedeck (S.H. Bell)*  
*Scott Dismukes, Esq. (Eckert Seamans)*

## **Root Cause Analysis Report**

Stateline Terminal

January 17, 2018

In accordance with the Consent Decree lodged in *United States v. S.H. Bell Company*, No. 4:17-cv-131 (N.D. Ohio) (the “Consent Decree”), S.H. Bell Company (“S.H. Bell”) is timely submitting this Root Cause Analysis Report within 30 days of calculating a Monthly Manganese Concentration that exceeds the Exceptional Action Level as required by paragraph 21 of the Consent Decree under Section IV, Injunctive Relief.

### I. Background

In accordance with Appendix A, paragraph 8.c of the Consent Decree and the Quality Assurance Project Plan, Version 2, dated September 2017 (the “QAPP”), for the S.H. Bell East Liverpool Facility’s PM<sub>10</sub>-Mn and Meteorological Monitoring Program, S.H. Bell submits a Monthly Data Report that contains the monthly monitoring data from each monitor and the monthly meteorological data that has undergone QA/QC within 45 days after the end of the reporting month. These Monthly Data Reports also calculate and present the Monthly Manganese Concentration and the Rolling Annual Manganese Concentration (as those terms are defined under paragraph 7 of the Consent Decree) from the final QA/QC monitoring data from each of the three monitors.

Under paragraphs 19 to 21 of the Consent Decree, if the calculated Monthly Manganese Concentration or the Rolling Annual Manganese Concentration presented in the Monthly Data Report exceeds the Preventative Action Levels or the Exceptional Action Level (as applicable), a Root Cause Analysis is required to be submitted to EPA.

Pursuant to Appendix A, paragraph 8.c of the Consent Decree and the QAPP, the Monthly Data Report for the November 2017 reporting month data was submitted on January 16, 2018. The November 2017 Monthly Data Report calculated a Monthly Manganese Concentration of 1.08 µg/m<sup>3</sup> from the West monitoring location, which exceeds the Exceptional Action Level of 1.0 µg/m<sup>3</sup> as defined in paragraph 20 of the Consent Decree.

Accordingly, S.H. Bell has conducted a root cause analysis, as required by paragraph 21 of the Consent Decree, to identify any and all emission unit(s) at the facility that caused or significantly contributed to increased manganese (“Mn”) emissions above the Exceptional Action Level. This Root Cause Analysis Report provides the results of this analysis along with the elements required under paragraphs 19.a, 19.b, and 21.a of the Consent Decree.

### II. Information and Data Considered

S.H. Bell reviewed and considered the following information in conducting this Root Cause Analysis:

1. November 2017 weekly batch average data

2. November 2017 daily concentrations from the West monitoring location
3. November 2017 Meteorological Data
4. November 2017 Affected Materials Tracking System Records
5. November 2017 Digital Video Recording System videos
6. Ohio EPA November 2017 Water Plant PM<sub>10</sub> Monitor Mn data

### III. Identification of Emissions Units

All of the emissions units at the facility that processed, transferred, or stored Affected Materials during November 2017 are provided in Appendix 1 in accordance with paragraph 19.b.1 of the Consent Decree. Additionally, in accordance with paragraph 19.b.3 of the Consent Decree, the November 2017 Affected Material Tracking Reports are provided at Appendix 2.<sup>1</sup>

Further, in accordance with paragraph 19.b.2 of the Consent Decree, a list of the emissions units operating or in use on the top ten highest ambient Mn concentration days in November 2017 is provided in Appendix 3.

### IV. Root Cause Analysis

Based on the November 2017 daily concentrations from the West monitoring location (which are provided at Appendix 4), it is mathematically clear that the high Mn concentration on November 27 at the West monitoring location was the sole reason for the exceedance of the Exceptional Action Level. Accordingly, S.H. Bell conducted an analysis of potential onsite and offsite factors that caused the high Mn concentration on November 27.

#### *Onsite Factors*

A review of operations and the information listed in Section II above, particularly records from the digital video recording system, determined that unloading silicomanganese from a barge at the straight-side dock from around 2:30 pm until approximately 8:30 pm was the emission unit/activity that caused the high Mn concentration on November 27.

While reviewing video footage of the Straight-Side Barge Dock area for information regarding barge switch movements, Terminal Management observed the second shift excavator operator failing to properly locate and adjust the wet suppression unit during the unloading process. Specifically, Terminal Management observed that the wet suppression unit was not being appropriately moved and repositioned as the excavator moved along the barge, which minimized the effectiveness of the wet suppression unit.

Under the Terminal's Fugitive Operating Program, mobile wet suppression is required to control fugitive dust emissions that may be generated during the unloading of Affected Materials at the straight-side barge dock. The unloading process is done by a hydraulic excavator that scoops material from the barge hold and places it directly into the bed of an awaiting truck. During this unloading process, the excavator moves along the length of the barge in order to unload all of the

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<sup>1</sup> The Affected Material Tracking System records constitute confidential business information ("CBI") and therefore, are not subject to public disclosure under 5 U.S.C. § 552(b)(4) and 40 C.F.R. §§ 2.105(a)(4).

material. In addition to moving the excavator during the unloading process, it is the excavator operator's responsibility to insure that the mobile wet suppression units are in good working order and properly place them to effectively control any dust emissions that may be generated. The operator is required to stop and readjust the location of the mobile wet suppression unit to maintain effective misting in order to create a cloud of mist that fully surrounds any dust that is generated and causes it to settle out of the air during the entire unloading process. Terminal Management determined that the excavator operator did not follow these procedures for the mobile wet suppression unit when unloading the silicomanganese barge on November 27.

Accordingly, when the Terminal received the higher than normal preliminary weekly batch average for the week of November 26 through November 30, the November 27 barge unloading incident was strongly suspected as the main potential contributor. This suspicion was confirmed when the daily November 2017 daily concentrations from the West monitoring location were received and showed an unusually high Mn concentration on November 27. No other Affected Material operations on November 27 were determined to cause or significantly contribute to the unusually high Mn concentration recorded on this day. The Terminal carefully reviewed records from the other emissions units operating or in use for Affected Materials on November 27, which are listed in Appendix 3. Activity was normal at these other emissions units on November 27 and there is no indication that the fugitive operating program procedures were not being followed. Additionally, there were no upsets at these additional units and applicable baghouses were operational and operating within the normal pressure drop range.

The Terminal also reviewed daily concentrations from the West monitoring location for the first seven days in December (provided at Appendix 4) which were all below  $1.0 \mu\text{g}/\text{m}^3$ . These filters were collected and shipped to the lab before the results were received on the preliminary weekly batch average for the week of November 26 through November 30 and thus, are reflective of normal operations as opposed to enhanced scrutiny. Accordingly, the results of the daily concentrations from the West monitoring location for the first seven days in December strongly indicate that the unusually high Mn concentration on November 27 was an isolated incident.

The following causal factors for the November 27 barge unloading incident were identified:

- The excavator operator failed to routinely move and position the wet suppression unit into the proper location as the barge unloading activity progressed. The wet suppression unit was repositioned, but only sporadically throughout the unloading process, which minimized its effectiveness.
- The excavator operator was pressing to finish the second barge that day as it was approaching the end of his regular work shift.
- The shift supervisor provided initial guidance on the wet suppression operation at the beginning of the barge unloading and gave further instruction to the operator several times to notify him if additional help was needed to properly reposition the wet suppression unit during the unloading process. However, the excavator operator failed to make such a notification.

By analyzing these causal factors, the following root causes of the November 27 barge unloading incident were identified:

- Need for additional training on proper Affected Material handling procedure during barge unloading, specifically additional training on proper placement of the wet suppression unit.
- Need for additional oversight of barge unloading of Affected Materials,
- Lack of written verification that proper Affected Material handling procedure is followed for each barge that is unloaded containing Affected Materials.
- Lack of severe employee discipline for failing to follow proper Affected Material handling procedure during barge unloading.

#### *Offsite Factors*

As the predominant wind direction (24-hour) on November 27 was from the west-southwest direction, there is a potential that offsite Mn emissions impacted S.H. Bell's West monitor. A copy of the wind rose for November 2017 is attached at Appendix 5.

#### V. Corrective Action Measures

Based on the root causes identified in the preceding section for the November 27 barge unloading incident that caused the unusually high Mn concentration, S.H. Bell has identified the following corrective action measures:

- The excavator operator that was responsible for the November 27 barge incident has been removed as a crane operator and is no longer permitted to unload barges. This removal includes a reduction in pay rate.
  - Schedule for Implementation: This corrective action measure has already been implemented as of the date of this Root Cause Analysis Report. The employee was given a documented warning and removed as a crane operator on December 4, 2017.
- Implementation of stronger employee discipline for failure to follow proper Affected Material handling procedure during barge unloading.
  - Schedule for Implementation: This corrective action measure has already been implemented as of the date of this Root Cause Analysis Report. On January 15, 2018, the Terminal issued a Memorandum to all employees which states that a failure to comply with proper Affected Material handling procedures during barge unloading will subject the employee to a 3-day suspension for a

first offense and a suspension pending termination for a second offense. A copy of the Memorandum is provided at Appendix 6.

- Implementation of a new policy requiring excavator operators to contact supervision and halt the barge unloading process if there is any doubt as to compliance with the unloading procedure or the effective use of the mobile misters.
  - Schedule for Implementation: This corrective action measure has already been implemented as of the date of this Root Cause Analysis Report. In addition to more severe discipline, the Memorandum sent to all employees noted in the preceding paragraph emphasizes the importance of following proper Affected Material handling procedure and also implements a new policy requiring excavator operators to contact supervision and halt the barge unloading process if there is any question as to compliance with the unloading procedure or the effective use of the mobile misters. A copy of the Memorandum is provided at Appendix 6.
  
- Additional employee training on proper Affected Material handling procedure for barge unloading with an emphasis on taking time during the unloading process and proper placement of the wet suppression unit.
  - Schedule for Implementation: This corrective action measure has already been implemented as of the date of this Root Cause Analysis Report. On January 15 and January 16, 2018, the Terminal conducted additional training of all excavator operators regarding proper procedures for barge unloading of Affected Material, with an emphasis on proper wet suppression unit placement, not rushing such barge unloading, and the new policy, described above, requiring excavator operators to contact supervision and halt the barge unloading process if there is any question as to compliance with the unloading procedure or the effective use of the mobile misters. A copy of the training syllabus along with employee signatures confirming that they attended the training is provided at Appendix 7.
  
- Development and use of a written checklist to verify that proper Affected Material handling procedures are followed for each barge that is unloaded containing Affected Materials.
  - Schedule for Implementation: This corrective action measure has already been implemented as of the date of this Root Cause Analysis Report. On January 15, 2018, the Terminal began using a checklist to be used by both excavator operators and supervisors for each barge that is unloaded containing Affected Material. The checklist not only reminds excavator operators and supervisors of the proper procedures for barge unloading of Affected Materials, but also serves to verify that proper procedures were followed or identify when they were not. A copy of this new checklist is provided at Appendix 8.

- Increased supervision of barge unloading of Affected Materials.
  - Schedule for Implementation: This corrective action measure has already been implemented as of the date of this Root Cause Analysis Report. On January 15, 2018, the Terminal began using the checklist provided at Appendix 8 that requires supervisor's verification of proper implementation of Affected Material handling procedures and observation of the initial unloading process. Live video access is also being provided to Terminal management personnel for real-time review of the Terminal barge unloading activity and environmental control applications.
  
- Additional controls for Affected Material barge unloading, namely, leaving lid covers on unless the excavator is unloading the material and wetting material when allowed by the customer.
  - Schedule for Implementation: This corrective action measure has already been implemented as of the date of this Root Cause Analysis Report. On January 15, 2018, the Terminal began implementing the following additional controls for barge unloading of Affected Materials in addition to the controls provided for in the Fugitive Operating Program, S.H. Bell Co. Stateline Terminal, dated April 2017: *If allowed by the customer, Affected Materials will be wetted once the lids on the barges are removed and prior to the start of barge unloading. If the customer requires that the Affected Materials remain dry, the lids on the barges will remain in place except when the lids are removed to allow excavators to unload the material from that portion of the barge unless this operation cannot be done in a safe manner.*

# Appendix 1



**Emission Units that Processed, Transferred, or Stored Affected Materials**

**November 2017**

**Storage Buildings**

National Drawn Building (packaged materials)  
Packaged Goods Building #1/#2 (packaged materials)  
Mays 3 (southern side)  
Mays 4  
Mays 5 (northern side)  
Mays 10/SHB1/Addition to SHB1  
MTM3  
Mays 8 (southern side)  
Mays 9 (northern side)

**Processing Units**

Area 'C' Crusher - Screener  
Area 'C' Screener  
Screenbox  
MEV Screener

**Packaging Units**

Carman Packaging Hopper  
North Packaging Hopper  
Pneumatic Vacuum Packaging (Temporary)

**Barge Unloading**

Straight-Sided Barge Dock

**Truck Unloading (bulk materials)**

MN-Receiving Pan

**Truck Loading (bulk materials)**

PA-Side Truck Load-Out Shed  
OH-Side Truck Load-Out Shed

# Appendix 2

PLACEHOLDER FOR CBI  
MATERIAL

# Appendix 3

**SH Bell West Site 10 Highest Daily Concentrations for November 2017**

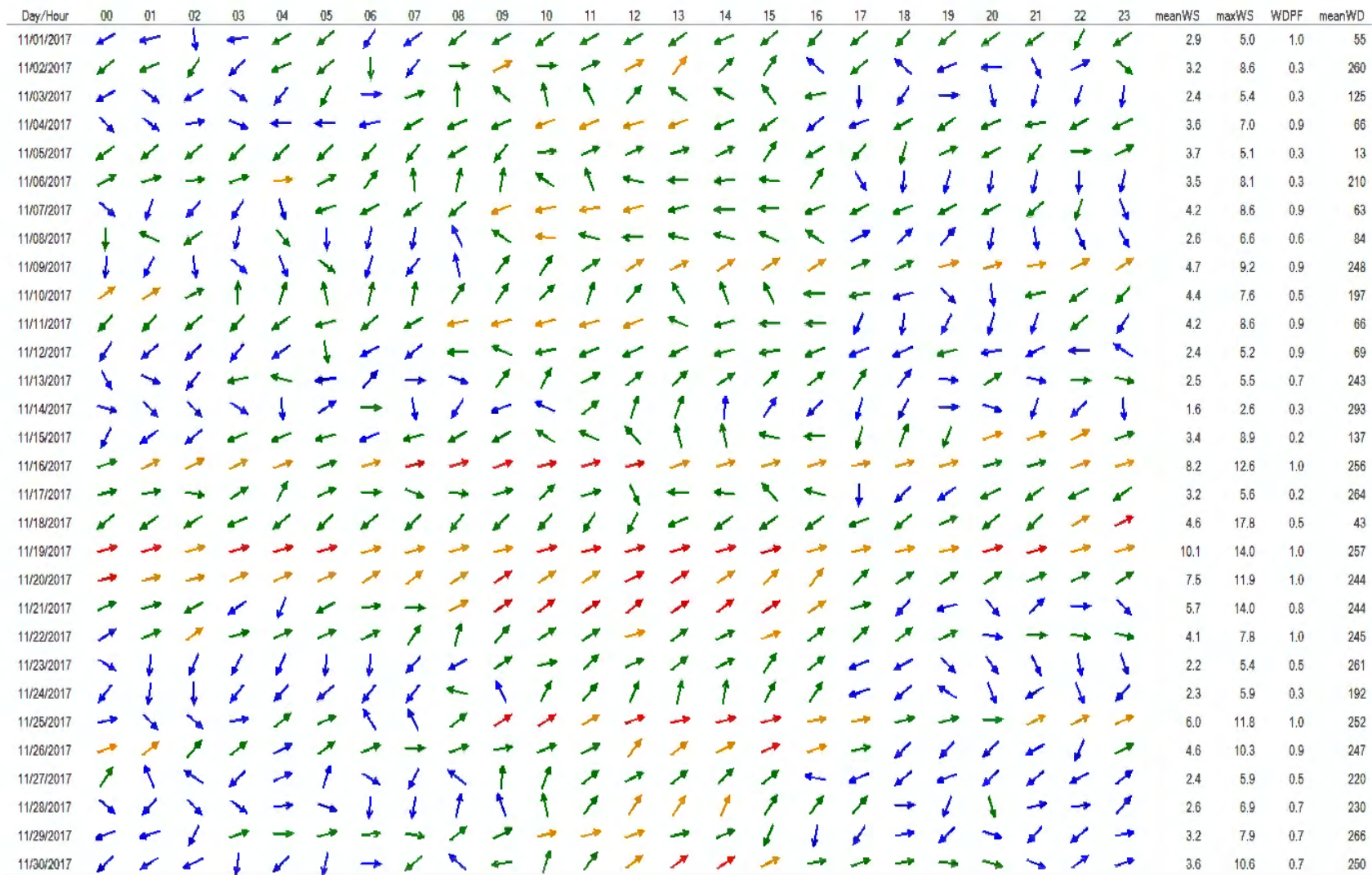
Date	Mn Daily Concentration ug/m3	Daily Avg. Wind - Degree Direction	Daily Avg. Wind - Cardinal Direction	Wind Direction Persistence Factor	Wind Speed - Daily Avg. mph	Wind Speed - Daily Max. mph	Daily Main Precip.	Count Of Hours With Precip.	Emission Units Operating or In Use for Affected Materials
11/27/2017	20.83205	219.9	SW	0.5	2.41	5.89	0		Straight-Sided Barge Dock / Truck Unloading / PA Truck Load-Out Shed / Ohio Truck Load-Out Shed / Carman Packaging Hopper / Pneumatic Vacuum Packaging System
11/28/2017	2.98507	229.7	SW	0.7	2.59	6.94	0		Straight-Sided Barge Dock / PA Truck Load-Out Shed / Ohio Truck Load-Out Shed / Carman Packaging Hopper / Pneumatic Vacuum Packaging System
11/18/2017	2.60545	42.7	NE	0.5	4.57	17.82	2.34	16	Area 'C' Crusher - Screener
11/30/2017	0.55989	249.8	WSW	0.7	3.64	10.62	0.13	3	Truck Unloading / PA Truck Load-Out Shed / Ohio Truck Load-Out Shed / Carman Packaging Hopper / Area 'C' Crusher - Screener / Pneumatic Vacuum Packaging System
11/2/2017	0.55207	259.6	W	0.3	3.19	8.56	0.09	5	Straight-Sided Barge Dock / Truck Unloading / PA Truck Load-Out Shed / Carman Packaging Hopper / North Packaging Hopper / Area 'C' Crusher - Screener / Pneumatic Vacuum Packaging System
11/1/2017	0.48676	54.8	NE	1	2.93	4.98	0.6	15	Straight-Sided Barge Dock / PA Truck Load-Out Shed / Carman Packaging Hopper / Area 'C' Crusher - Screener / Pneumatic Vacuum Packaging System
11/3/2017	0.44141	125.4	SE	0.3	2.43	5.41	0.15	4	Straight-Sided Barge Dock / Truck Unloading / PA Truck Load-Out Shed / Area 'C' Crusher - Screener / Area 'C' Screener / Pneumatic Vacuum Packaging System
11/17/2017	0.40012	264.2	W	0.2	3.19	5.55	0		Truck Unloading / PA Truck Load-Out Shed / Ohio Truck Load-Out Shed / Carman Packaging Hopper / Area 'C' Crusher - Screener
11/24/2017	0.34933	192.1	SSW	0.3	2.34	5.92	0		PA Truck Load-Out Shed / Ohio Truck Load-Out Shed / Carman Packaging Hopper
11/10/2017	0.30583	196.5	SSW	0.5	4.36	7.64	0		Truck Unloading / PA Truck Load-Out Shed / Ohio Truck Load-Out Shed / Carman Packaging Hopper / North Packaging Hopper / Area 'C' Crusher - Screener

# Appendix 4

SH Bell West Site Daily Data - Nov 1 to Dec 7 2017

DateTime	Lab Mn Results ug/filter	Validated Sample Volume m3 STD	Daily Concentration ug/m3	Daily Avg. Wind - Degree Direction	Daily Avg. Wind - Cardinal Direction	Wind Direction Persistence Factor	Wind Speed - Daily Avg. mph	Wind Speed - Daily Max. mph	Main Precip	Count Of Hours With Precip	Comments
11/1/2017	770	1581.9	0.49	54.8	NE	1	2.93	4.98	0.6	15	
11/2/2017	853	1545.1	0.55	259.6	W	0.3	3.19	8.56	0.09	5	
11/3/2017	698	1581.3	0.44	125.4	SE	0.3	2.43	5.41	0.15	4	
11/4/2017	22	1539.4	0.01	65.6	ENE	0.9	3.56	7	0		
11/5/2017	18	1524.3	0.01	12.8	NNE	0.3	3.74	5.11	1.94	10	
11/6/2017	232	1570.5	0.15	209.6	SSW	0.3	3.48	8.06	0.55	11	
11/7/2017				63.2	ENE	0.9	4.23	8.59	0		INVALID SAMPLE DATE
11/8/2017	399	1580	0.25	83.9	E	0.6	2.64	6.62	0		
11/9/2017	263	1591.5	0.17	248.4	WSW	0.9	4.74	9.23	0		
11/10/2017	519	1697	0.31	196.5	SSW	0.5	4.36	7.64	0		
11/11/2017	232	1614.6	0.14	66	ENE	0.9	4.2	8.62	0		
11/12/2017	112	1640.6	0.07	68.7	ENE	0.9	2.37	5.18	0		
11/13/2017	12	1651.4	0.01	243.3	WSW	0.7	2.53	5.47	0.03	2	
11/14/2017	343	1626.8	0.21	293.2	WNW	0.3	1.57	2.58	0		
11/15/2017	440	1624.7	0.27	137	SE	0.2	3.4	8.88	0.05	2	
11/16/2017	6	1635.5	0.00	256	WSW	1	8.16	12.56	0		
11/17/2017	646	1614.5	0.40	264.2	W	0.2	3.19	5.55	0		
11/18/2017	4120	1581.3	2.61	42.7	NE	0.5	4.57	17.82	2.34	16	
11/19/2017	2.81	1624	0.00	257.2	WSW	1	10.06	13.96	0.05	1	
11/20/2017	11.2	1616.7	0.01	243.7	WSW	1	7.47	11.92	0		
11/21/2017	247	1612.4	0.15	244.1	WSW	0.8	5.68	14.01	0		
11/22/2017	8.41	1655.7	0.01	244.8	WSW	1	4.14	7.75	0.08	3	
11/23/2017	49.1	1624.7	0.03	260.9	W	0.5	2.21	5.38	0		
11/24/2017	565	1617.4	0.35	192.1	SSW	0.3	2.34	5.92	0		
11/25/2017	15.5	1611.7	0.01	252	WSW	1	5.99	11.78	0		
11/26/2017	64.2	1615.3	0.04	247	WSW	0.9	4.57	10.33	0		
11/27/2017	33800	1622.5	20.83	219.9	SW	0.5	2.41	5.89	0		
11/28/2017	4880	1634.8	2.99	229.7	SW	0.7	2.59	6.94	0		
11/29/2017	207	1607.3	0.13	266.2	W	0.7	3.22	7.93	0		
11/30/2017	904	1614.6	0.56	249.8	WSW	0.7	3.64	10.62	0.13	3	
12/1/2017	310	1650.7	0.19	231.1	SW	0.6	2.1	4.26	0		
12/2/2017	1480	1624.7	0.91	99.3	E	0.3	1.72	4.1	0		
12/3/2017	244	1631.9	0.15	234.1	SW	0.3	2.18	6.58	0		
12/4/2017	1450	1639.1	0.88	69.3	ENE	0.8	3.32	5.07	0		
12/5/2017	200	1582.7	0.13	262.2	W	0.8	7.62	12.53	0.34	8	
12/6/2017	42	1617.5	0.03	247.5	WSW	1	9.65	14.02	0		
12/7/2017	32	1646.7	0.02	256.7	WSW	1	7.43	10.28	0		

### SH Bell East Liverpool Monthly Wind Vector Time Series Plot for November, 2017



Wind Speeds < 2 mph < 6 mph < 10 mph > 10 mph      WD is from ---> to

The vector arrows indicate the direction the wind is blowing to and the color of the arrow indicates the general wind speed range. The Wind Direction Persistence Factor (WDPF) is a unit less factor with 0 representing highly variable wind directions during the day and 1 representing very persistent wind directions throughout the day.

# Appendix 5



S.H. Bell Company  
Stateline Terminal

Monday 27 Nov 2017  
24 Hour



# Appendix 6



S. H. Bell Company  
S. H. Bell Company (Baltimore), LLC

Handling With Care • LME Approved

644 Alpha Drive • P. O. Box 11495 • Pittsburgh, PA • 15238-3190  
Tel: (412) 963-9910 • Fax: (412) 963-1206 • www.shbellco.com

TO: All Employees  
FROM: Gary Smith, Terminal Manager  
DATE: 12 January 2018  
RE: Unloading of Manganese Material (“Affected Material”) from Straight-sided Barge Dock

This memo is to provide clarification regarding employees’ duties when unloading Affected Materials\* (e.g., materials containing manganese such as ferromanganese, silicomanganese, and manganese ore) from the straight-sided barge dock at S. H. Bell Company’s Stateline Terminal (called the “Material” for purposes of this memorandum). As all of you know, the unloading of this Material from a barge at the dock requires the use of a wet suppression system to control dust emissions, if any, from the unloading of the river barges and then loading the Material into the trucks from the barge. Weather permitting, the wet suppression system that we use are the mobile misters. It is *imperative* that the mobile misters are properly placed to effectively suppress any dust during the unloading of the barge and the loading of the trucks. Additionally, as you all know, once the Material is loaded into the trucks, the trucks must be covered with a drayage truck tarp before the Material is moved to an indoor storage location.

**Reminder of Procedure Requirements:** During the unloading of the barge, the equipment operator is responsible for insuring that the mobile misters are in good working order and properly placing the mobile misters to effectively control any dust emissions that are generated during the barge unloading of the Material. The operator is required to stop and readjust the location of the mobile misters to maintain effective misting in order to create a cloud of mist that fully surrounds any dust that is generated and causes it to settle out of the air during the entire unloading process. It is also the responsibility of any employee working in the area to report to supervision any conditions, natural or man-made, that inhibits the full effectiveness of the mobile misters.

As of the date of this memorandum, we are implementing a new policy that when there is any question as to compliance with the unloading procedure or the effective use of the mobile misters, the operator, and any other employee working in area, must contact his supervisor immediately. In such situation, the operator must halt the unloading process until supervision has assessed the situation.

**If Procedures are Not Followed:** Failure to comply with the Company’s standard operating procedure or this memorandum, will be considered a Group III, Rule 1 violation under S.H, Bell Company’s Policy on East Liverpool Warehouse and Office Employee Code of Conduct, subjecting the employee to a 3-day suspension for a first offense, and a suspension pending termination for a second offense.

This memorandum will be reviewed at all regularly scheduled tool box talks on Monday, 15 January 2018, and also will be posted in the terminal. If anyone has any questions regarding this memorandum, please contact me or Chris McKenzie.

\* The term “Affected Materials” is defined as ferromanganese materials and other materials with a manganese content (raw material, intermediate, or finished product) that are processed or otherwise handled in a manner that could cause the generation of stack or fugitive emissions containing ferromanganese or manganese compounds.

{J2308793.1}

# Appendix 7

## **AFFECTED MATERIALS BARGE TRAINING**

### I. General Awareness of Manganese Dust Issues

- Fugitive Dust Program
- Wind direction and speed

### II. Barge Lids

- Only take off what you need to work that portion of the barge
- Replace lids and move on

### III. Wet Material in Barge

- When possible (Customer Permission) wet down material in the barge

### IV. Proper Placement and Movement of Wet Suppression

- Wet Suppression should encompass truck bed
- Adjusted as needed to maintain maximum effectiveness

### V. Reduce Drop Height to Minimum Possible

- Lower backhoe bucket into truck bed as low as possible

### VI. Drayage Trucks and Tarps

- Make sure drayage trucks are tarping before moving
- Make sure drayage trucks are tarped when they return

### VII. Completing Affected Materials Barge Checklist

- Document your observations during the barge unloading process

### VIII. Team Effort

- Everyone works together
- Halt unloading process and contact a supervisor immediately if you have a question

Affected Materials Barge Training

Sign In Sheet

January 15, 2018

Eric Verraccini

Eric Verraccini

Braxton Savin

Braxton Savin

Ben Belich

Ben Belich

ERIC STEPHENSON

Eric Stephenson

Bob Millhorn

Bob Millhorn

Phillip Jackson

Phillip Jackson

# Appendix 8

# Affected Material Barge Report

BARGE NO: \_\_\_\_\_

CONTENTS: \_\_\_\_\_

DATE WORKED: \_\_\_\_\_

START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

*IF BARGE IS WORKED OVER MULTIPLE DAYS, A NEW FORM MUST BE COMPLETED FOR EACH DAY WORKED*

WEATHER OBSERVATIONS: \_\_\_\_\_

## CONTROL

MONSOON  ID# \_\_\_\_\_

MONSOON  ID# \_\_\_\_\_

FOG CART

MATERIAL WETTED  
IN BARGE

WET SUPPRESSION UNIT(S) MUST BE PLACED SO THAT THE SPRAY IS AIMED AT THE TRANSFER POINT THAT IS TO BE CONTROLLED. ENSURE THAT THE SPRAY AREA IS ENCOMPASSING THE BED OF THE TRUCK AND THE EXCAVATOR BUCKET WHILE MATERIAL IS BEING UNLOADED. MONITOR WIND DIRECTION AND ADJUST THE PLACEMENT AND AIM OF THE UNITS AS NECESSARY TO ENSURE THAT THE SPRAY AREA IS ADEQUATELY COVERING THE TRANSFER POINT. DEPLOY ADDITIONAL UNITS AS NECESSARY.

IF THERE IS ANY QUESTION AS TO THE COMPLIANCE WITH THE UNLOADING PROCEDURE OR THE EFFECTIVE USE OF THE MOBILE WET SUPPRESSION UNITS, HALT THE UNLOADING PROCESS AND CONTACT SUPERVISION.

## BARGE LIDS

ALL LIDS REMOVED AT START:  YES\*  
 NO

*\*IF YES, EXPLAIN WHY ALL LIDS WERE REMOVED*

BARGE LIDS SHOULD REMAIN IN PLACE, EXCEPT FOR THOSE REQUIRED TO BE REMOVED TO ALLOW THE EXCAVATOR TO UNLOAD MATERIAL FROM THAT PORTION OF THE BARGE UNLESS THIS OPERATION CANNOT BE DONE IN A SAFE MANNER.

## DRAYAGE TRUCKS

TARPED:  YES\* *DRAYAGE TRUCKS **MUST** BE TARPED. IF TRUCKS CANNOT TARP THEY MUST BE REMOVED FROM SERVICE IMMEDIATELY.*  
 NO

COMMENTS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

## UNLOADING OPERATION

NUMBER OF WET SUPPRESSION UNITS \_\_\_\_\_

ADDITIONAL UNITS DEPLOYED  YES\*  
 NO

*\*IF YES, NOTE TIME OF DEPLOYMENT*

PROPER PLACEMENT OF WET SUPPRESSION UNIT(S)  YES  
*MUST BE VERIFIED BY TERMINAL MANAGEMENT AT START OF UNLOADING AND ADJUSTED AS NECESSARY THROUGHOUT THE ENTIRE UNLOADING PROCESS*

VERIFIED BY \_\_\_\_\_

TIME \_\_\_\_\_

COMMENTS:

OPERATOR: \_\_\_\_\_

SUPERVISOR: \_\_\_\_\_