

# **APPENDIX**

## **F**

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510 Bering Drive Ste 455  
Houston, TX 77057

<http://www.universalminerals.com>

Phone: 832-530-4545

Fax: 832-530-4542

## MATERIAL SAFETY DATA SHEET

### GENERAL INFORMATION

Manufacturer: Universal Minerals, Inc.  
510 Bering Drive Ste 455  
Houston, Texas 77057

Creation Date: 5/16

For Additional Information, Contact:

Universal Minerals, Inc.  
Phone: (832) 530-4545  
Fax: (832) 530-4542

MSDS Code: A.G.M.

### PRODUCT IDENTIFICATION

Product Name: Natural Iron Oxide 90 Grade Magnetite

Formula: Fe<sub>3</sub>O<sub>4</sub>

Synonym (s): NA

Chemical Family  
Oxide of (1) Iron  
(Magnetite)

### TYPICAL CHEMICAL COMPOSITION

#### General Chemical Analysis

Fe	67.5%
SiO <sub>2</sub>	2.00%
Al <sub>2</sub> O <sub>3</sub>	2.20%
CaO	.61%
S	.02%
MgO	.20%
P	.40%

#### Permissible Air Level

<u>OSHA PEL</u>	<u>ACGIH TLV</u>
NE	NE

3

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Footnotes:

- (1) See last page for additional terms & conditions, including disclaimer of warranties.
- (2) Chemical Composition shown is typical. Elemental concentrations will vary between batches or lots.
- (3) Common names, if applicable, appear in parenthesis following the chemical names.

PHYSICAL DATA

2.643 g/cm<sup>3</sup> - 2.963 g/cm<sup>3</sup>

<u>Physical State:</u>	Fine Powder	<u>Bulk Density:</u>	165 - 185 lbs/ft <sup>3</sup>
<u>Appearance and Odor:</u>	Black, Odorless	<u>Vapor Pressure:</u>	NA
<u>Boiling Point (Method):</u>	NA	<u>Vapor Density:</u>	NA
<u>Melting Point:</u>	Over 1200° F	<u>Evaporation Rate:</u>	NA
<u>PH:</u>	NA	<u>Particle Size Distribution:</u>	90% passing #325 sieve

FIRE AND EXPLOSION HAZARD DATA

<u>Flash Point (Method):</u>	NA	<u>Lower Explosive Limit:</u>	NA
<u>Auto Ignition Temperature:</u>	NA	<u>Upper Explosive Limit:</u>	NA
<u>Fire Hazard:</u>	Non Flammable	<u>Explosion Hazard:</u>	NA
<u>Extinguishing Media:</u>	NA	<u>Special Fire Fighting Procedures:</u>	NA
<u>Unusual Fire and Explosion Hazards:</u>	NA		

REACTIVITY DATA

<u>Stability:</u>	Stable	<u>Incompatibilities (Materials to Avoid):</u>	Strong mineral acids Eg. HCl, H <sub>2</sub> SO <sub>4</sub> , HNO <sub>3</sub> .
<u>Hazardous Thermal Decomposition Products:</u>	None Expected		
<u>Polymerization:</u>	Will not occur		

3

### HEALTH HAZARD DATA

Health Effects/Signs and Symptoms: Long-term exposure to iron oxide fumes or dusts has been associated with a benign lung condition known as siderosis which is observable as an X-ray change. No physical impairment of lung function has been linked to siderosis.

Usual Route (s) of Entry: Inhalation

Medical Conditions Possibly Aggravated: Chronic diseases or disorders of the respiratory system.

Carcinogen Information: Not considered to be a Carcinogen.

### FIRST AID AND MEDICAL EMERGENCY PROCEDURES

Eye Contact: Not anticipated to pose an acute or significant eye contact hazard.

Skin Contact: Not anticipated to pose an acute or significant skin contact hazard.

Inhalation: Not anticipated to pose an acute or significant inhalation hazard.

Ingestion: Not considered to be an ingestion hazard.

### OCCUPATIONAL EXPOSURE CONTROL MEASURES

Engineering Controls (Ventilation, etc.): Ventilation should be sufficient to maintain dust levels below applicable exposure limit.

Work Practices (Handling and Storage, etc.): Avoid creating airborne dust by dust suppression methods.

Eye Protection: Safety glasses or goggles are recommended when dust levels are excessive.

Skin Protection: Gloves and long-sleeved clothing are recommended when dust levels are excessive.

Respiratory Protection: When engineering controls are not sufficient to lower dust levels below the applicable exposure limit, use a NIOSH-approved respirator for dusts and mists within the use limits of the respirator.

### SPILL, LEAK AND DISPOSAL INFORMATION

Procedures to Follow if Material is Released or Spilled: Material should be swept or vacuumed into appropriate containers.

Waste Disposal Method(s): Dispose of waste material in accordance with local, state and federal regulations. Wastes may be reclaimed or salvaged for further use.

3

ADDITIONAL MISCELLANEOUS INFORMATION

NONE

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Abbreviations:      NA      Not Applicable  
                             NE      Not Established

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This Heavy Media product does not meet the criteria of hazardous chemicals as defined by the Federal Occupational Safety and Health Hazard Communication Standard 29 CFR 1910.1200 ©. This form is being provided solely as General Information and should not be constructed as a determination that the product is a hazardous chemical. All sales of this product are subject to Universal Minerals, Inc. standard terms and conditions of sale. Universal Minerals, Inc. makes no warranties, express or implied, including the Implied Warranty of Merchantability. Any implied warranty of fitness for a particular purpose or any implied warranties otherwise arising from course of dealing or trade.



# **APPENDIX**

## **G**

VISIBLE EMISSION OBSERVATION FORM

No.

6

COMPANY NAME  
Waco

STREET ADDRESS  
2926 E. 126th

CITY  
Chicago

STATE  
IL

ZIP  
60633

PHONE (KEY CONTACT)  
793-666-8000

SOURCE ID NUMBER

OBSERVATION DATE  
5/5/2017

START TIME  
9:40

END TIME  
10:10

PROCESS EQUIPMENT  
unlabeled bag of alloy

OPERATING MODE

CONTROL EQUIPMENT

OPERATING MODE

DESCRIBE EMISSION POINT  
5 ft above the dump truck

HEIGHT ABOVE GROUND LEVEL  
12 to 15 ft

HEIGHT RELATIVE TO OBSERVER  
Start 15 ft End 15 ft

DISTANCE FROM OBSERVER  
Start 50 yd End 50 yd

DIRECTION FROM OBSERVER  
Start Front End Front

DESCRIBE EMISSIONS  
Start Dust from water

EMISSION COLOR  
Start Green End Green

IF WATER DROPLET PLUME  
Attached  Detached

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED  
Start 5 ft above truck End 5 ft above truck

DESCRIBE PLUME BACKGROUND  
Start Trees End Trees

BACKGROUND COLOR  
Start Green End Green

SKY CONDITIONS  
Start Cloudy End Cloudy

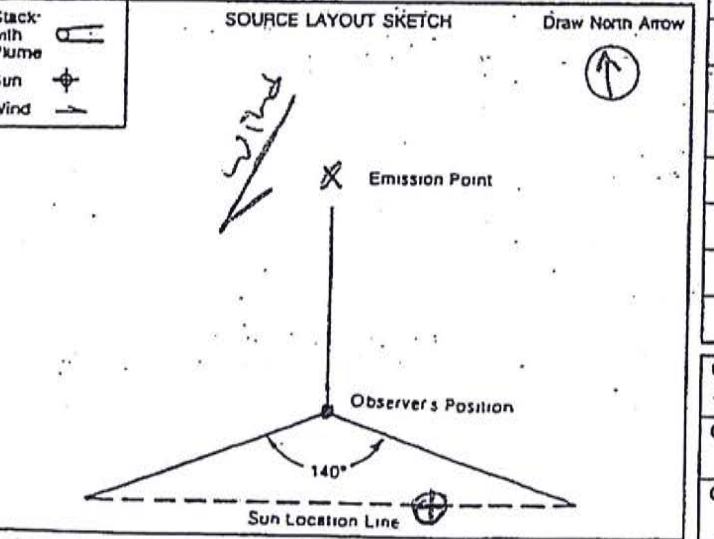
WIND SPEED  
Start 20 MPH End

WIND DIRECTION  
Start W to S End W to S

AMBIENT TEMP  
Start 52° End

WET BULB TEMP

RH, percent



SEC	OBSERVATION DATE				START TIME	END TIME	COMMENTS
	0	15	30	45			
1	0	5	10	25			
2	0	10	20	0			
3	20	5	5	30			
4	15	0	0	25			
5	5	5	20	20			
6	0	0	5	5			
7	5	25	25	0			
8	0	5	5	0			
9	0	0	0	5			
10	5	15	5	5			
11	20	5	5	0			
12	20	5	0	10			
13	5	5	5	5			
14	0	5	30	10			
15	0	0	5	5			
16	5	5	10	5			
17	5	5	5	5			
18	20	5	10	5			
19	0	0	15	15			
20	0	0	5	0			
21	0	50	0	0			
22	5	20	5	0			
23	5	30	0	5			
24	5	5	15	5			
25	5	25	0	0			
26	0	5	0	0			
27	0	0	0	0			
28	5	5	0	5			
29	0	5	5	5			
30	0	0	5	5			

OBSERVER'S NAME (PRINT)  
John Slager

OBSERVER'S SIGNATURE  
*John Slager*

DATE  
5/5/2017

ORGANIZATION  
Waco

CERTIFIED BY

DATE

CONTINUED ON VEO FORM NUMBER

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Total 815 Total ÷ 120 observations = 6.792



VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME  
**Chicago Ferro**

STREET ADDRESS

CITY **Chicago** STATE **IL** ZIP **60633**

PHONE (KEY CONTACT) SOURCE ID NUMBER  
**773-640-1535**

OBSERVATION DATE		START TIME		END TIME	COMMENTS
5-5-17		8:15 A.M.			
MIN	SEC	0	15	30	45
1	5	5	40	10	-
2	65	10	5	5	
3	65	65	5	5	
4	10	50	10	60	
5	5	5	5	25	
6	10	5	10	25	
7	5	5	5	20	
8	5	5	10	75	
9	10	5	5	10	
10	75	10	5	5	
11	15	5	5	5	
12	15	5	75	15	
13	5	5	5	5	
14	20	10	25	45	
15	5	5	5	5	
16	5	5	15	50	
17	5	15	60	5	
18	5	5	5	50	
19	10	20	45	10	
20	5	5	5	5	
21	30	10	10	5	
22	10	5	30	65	
23	15	15	75	10	
24	10	10	5	5	
25	20	10	60	15	
26	25	10	10	5	
27	5	5	10	5	
28	5	5	75	20	
29	5	50	10	5	
30	5	10	60	25	

PROCESS EQUIPMENT **Back-Hoe / Barge** OPERATING MODE **loading Trucks**

CONTROL EQUIPMENT OPERATING MODE

DESCRIBE EMISSION POINT  
**Dust from Barge to Trucks**

HEIGHT ABOVE GROUND LEVEL **10 feet** HEIGHT RELATIVE TO OBSERVER  
Start **6 ft** End **6 ft**

DISTANCE FROM OBSERVER **30ft** End **30ft** DIRECTION FROM OBSERVER  
Start **North** End **North**

DESCRIBE EMISSIONS  
Start **Black** End **Black**

EMISSION COLOR Start **Black** End **Black** IF WATER DROPLET PLUME  
Attached  **North** Detached

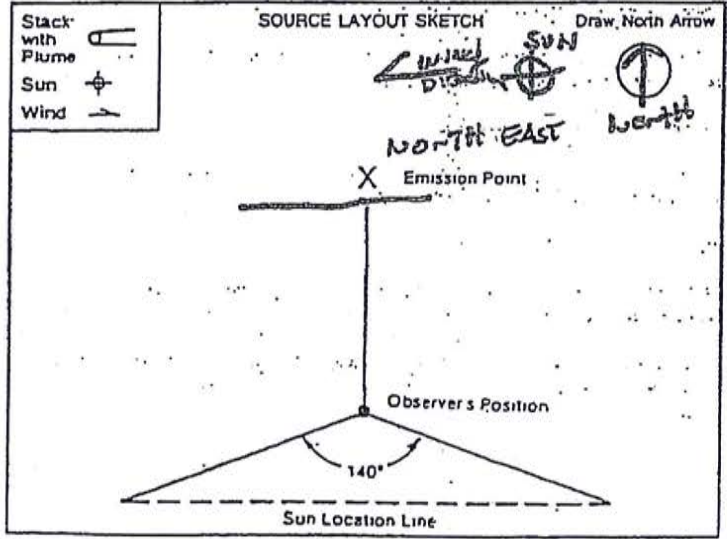
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED  
Start **EYE Level** End **EYE Level**

DESCRIBE PLUME BACKGROUND  
Start **Trees** End **Trees**

BACKGROUND COLOR Start **Green** End **Green** SKY CONDITIONS Start **Blue** End **Blue**

WIND SPEED Start **21 mph** End WIND DIRECTION Start **North** End **North**

AMBIENT TEMP Start **34°** End WET BULB TEMP RH, percent **None**



OBSERVER'S NAME (PRINT) **Bill Buchinski**

OBSERVER'S SIGNATURE **Bill Buchinski** DATE **5-5-17**

ORGANIZATION **Water Corp.**

CERTIFIED BY DATE

ADDITIONAL INFORMATION  
**Barge INO 75048**  
**MINORALS customer**

**Aug 17, 75**



# **APPENDIX**

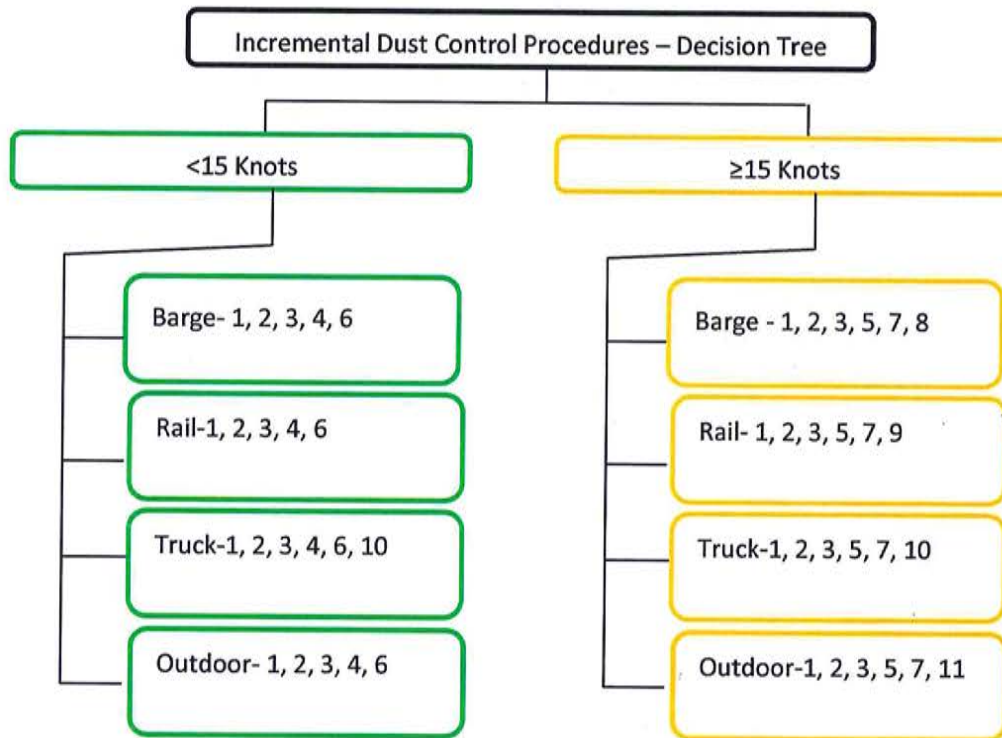
## **H**

## Appendix A: Chicago Arrow Terminal – Incremental Dust Control Procedures and Decision

### Tree for Bulk Products

#### Four bulk product categories

1. Barge Bulk Loading or Unloading (Barge)
2. Rail Car Bulk Loading or Unloading (Rail)
3. Truck Bulk Loading or Unloading (Truck)
4. Outdoor storage piles; Pig Iron, Aggregates and other non-moisture sensitive products. (Outdoor)



#### Control Procedures

1. Follow Best Management Practices
2. Utilize "You Can Stop" when visible emissions and/or opacity are in question.
3. Any transfer point will cease operation if opacity or visible emission limits are reached and/or in question, until corrective actions are taken.
4. Apply water to non-moisture sensitive products (Ex. Pig iron and aggregates) as needed and weather (temperature) permitting.
5. Apply water to non-moisture sensitive products (Ex. Pig iron and aggregates), weather (temperature) permitting.
6. Personnel on call who can measure opacity and/or visible emissions; according to EPA Method 9 and/or 22.
7. Personnel on site who can measure opacity and/or visible emissions; according to EPA Method 9 and/or 22.
8. Limit the number of barge lids removed from a covered barge at a time, as follows:
  - a. Fiberglass Stacking Barge Lids – 3.
  - b. Metal Rolling/Sliding Barge Lids - 3
  - c. Metal Stacking Barge Lids - 5.
9. Open and load or unload rail cars through one access point at a time.

10. Load outbound trucks (from indoor storage) indoors.
11. Load outbound trucks (from indoor or outdoor storage) indoors.



# **APPENDIX**

## **I**



CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH
PERMITTING AND ENFORCEMENT

NARRATIVE EVALUATION

INSPECTION DATE: 12/01/2016
SITE NAME: KINDER MORGAN
SITE ADDRESS: 2926 E 126TH ST, CHICAGO, IL 60633
SITE CODE: KINDER MORGAN
PERMIT #: ENVAIR113986

TIME: 10:59 am
EMPLOYEE: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 464879

SUMMARY

I carried out the routine inspection of Kinder Morgan. Today was cloudy, temperature: high 41 degree F, low 34 degree F, wind: WSW at 14 mph according to The Weather Channel. Upon arrival I met Messrs. Steve Caudle (The Facility Terminal Manager) and Terry Jagiello (Environmental Health & Safety Manager), they both took me around the facility for today's inspection, after a brief meeting. Summary of the facility PROCESS DESCRIPTION, according to Steve: The Chicago Arrow Terminal Facility is a specialty warehouse and Marine loading/unloading terminal that receives, stores, and loads dry-bulk material for the iron and steel industry. Products are received by the Terminal by barge, truck, and rail. Processing operations include crushing, screening, packaging and bagging of customer products.

Today's inspection revealed the following: The access roads were very dry and dusty. I did not observe any sweeper nor water truck in operation as at the time of this inspection (see photo #s 2, 3, 4 & 5). According to the daily street sweeper/water truck log obtained from the facility; between January 2016 to August 2016, there was no indication or record that water was applied on the roads (the log only indicated sweeping). I observed track-out on 126th Street (see photo #4). Material pile height appeared to be approximately just below 30ft. No post mark for 30 feet bulk material height was visible anywhere on the facility ( see photo #1). I observed truck wheels driving through, picking up and dispersing dust. There is no berm at the river edge to protect material from falling into the river, during loading and unloading operations (see photo #5). See the attachments.

REPORT COMPLETED? [X] YES [ ] NO
INVESTIGATION COMPLETED? [X] YES [ ] NO
NOV ISSUED? [ ] YES [X] NO
ATTACHMENTS? [X] YES [ ] NO

I, EMMANUEL ADESANYA, an employee of the City of Chicago, Department of Public Health, declare that I have conducted an inspection of the above mentioned property on the date indicated. I further declare that the observations set forth on the report are true and accurate.

82

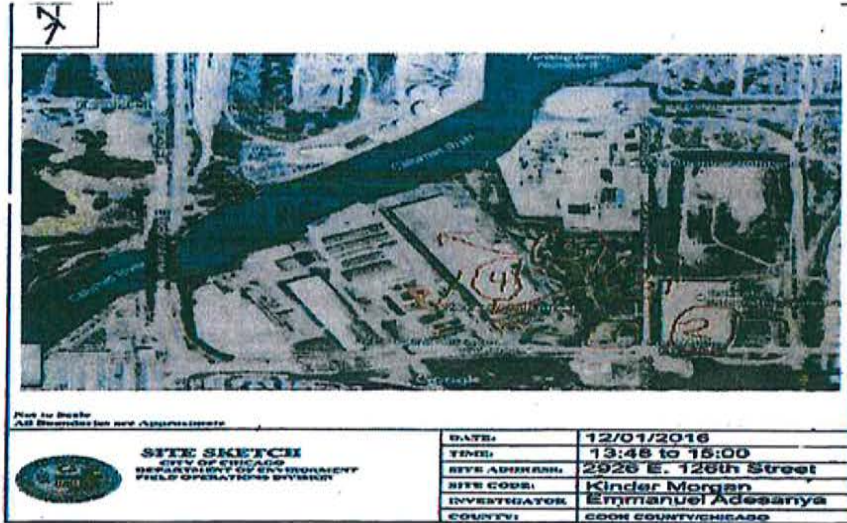
STAR #

Handwritten signature of Emmanuel Adesanya over a horizontal line, with the word 'SIGNATURE' printed below it.

SIGNATURE
Page 1 of 5

DATE: 12/01/2016  
SITE: 2926 E 126TH ST  
SITE CODE: KINDER MORGAN  
PERMIT #: ENVAIR113986

TIME: 10:59 am  
INSPECTOR: EMMANUEL ADESANYA  
COUNTY: COOK / CHICAGO  
INSPECTION #: 464879



COMMENTS:

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DATE: 12/01/2016  
SITE: 2926 E 126TH ST  
SITE CODE: KINDER MORGAN  
PERMIT #: ENVAIR113986

TIME: 10:59 am  
INSPECTOR: EMMANUEL ADESANYA  
COUNTY: COOK / CHICAGO  
INSPECTION #: 464879



COMMENTS: Photo #1 Direction: NW Comments: No pole mark for 30 feet material height limit, anywhere in the facility.

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DATE: 12/01/2016  
SITE: 2926 E 126TH ST  
SITE CODE: KINDER MORGAN  
PERMIT #: ENVAIR113986

TIME: 10:59 am  
INSPECTOR: EMMANUEL ADESANYA  
COUNTY: COOK / CHICAGO  
INSPECTION #: 464879



COMMENTS: Photo #2 Direction: NW Comments: This photo shows dry and dusty road.

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DATE: 12/01/2016  
SITE: 2926 E 126TH ST  
SITE CODE: KINDER MORGAN  
PERMIT #: ENVAIR113986

TIME: 10:59 am  
INSPECTOR: EMMANUEL ADESANYA  
COUNTY: COOK / CHICAGO  
INSPECTION #: 464879



COMMENTS: Photo #3 Direction: SW Comments: This photo shows dry and dusty road.

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DATE: 12/01/2016  
SITE: 2926 E 126TH ST  
SITE CODE: KINDER MORGAN  
PERMIT #: ENVAIR113986

TIME: 10:59 am  
INSPECTOR: EMMANUEL ADESANYA  
COUNTY: COOK / CHICAGO  
INSPECTION #: 464879



COMMENTS: Photo #4 Direction: SW Comments: This photo shows dry and dusty road and track-out on 126th Street.

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DATE: 12/01/2016  
SITE: 2926 E 126TH ST  
SITE CODE: KINDER MORGAN  
PERMIT #: ENVAIR113986

TIME: 10:59 am  
INSPECTOR: EMMANUEL ADESANYA  
COUNTY: COOK / CHICAGO  
INSPECTION #: 464879



COMMENTS: Photo #5 Direction: NW Comments: This photo shows dry and dusty road. The edge of Calumet River was without berm to protect material from falling into the river.

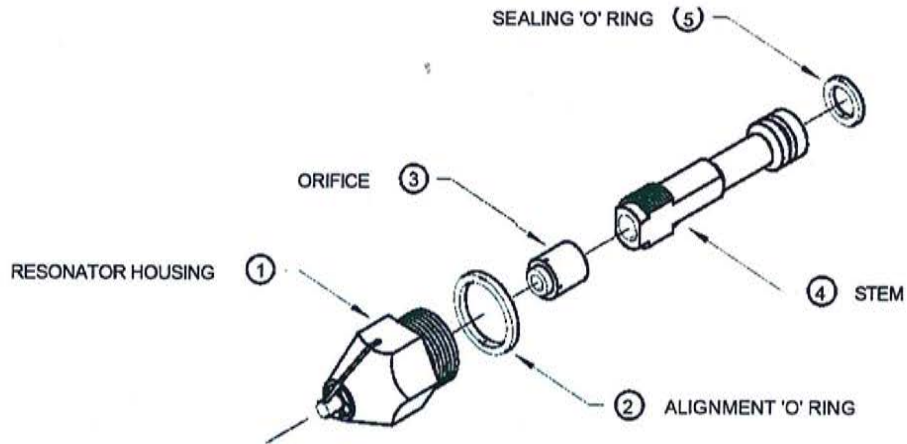
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# **APPENDIX**

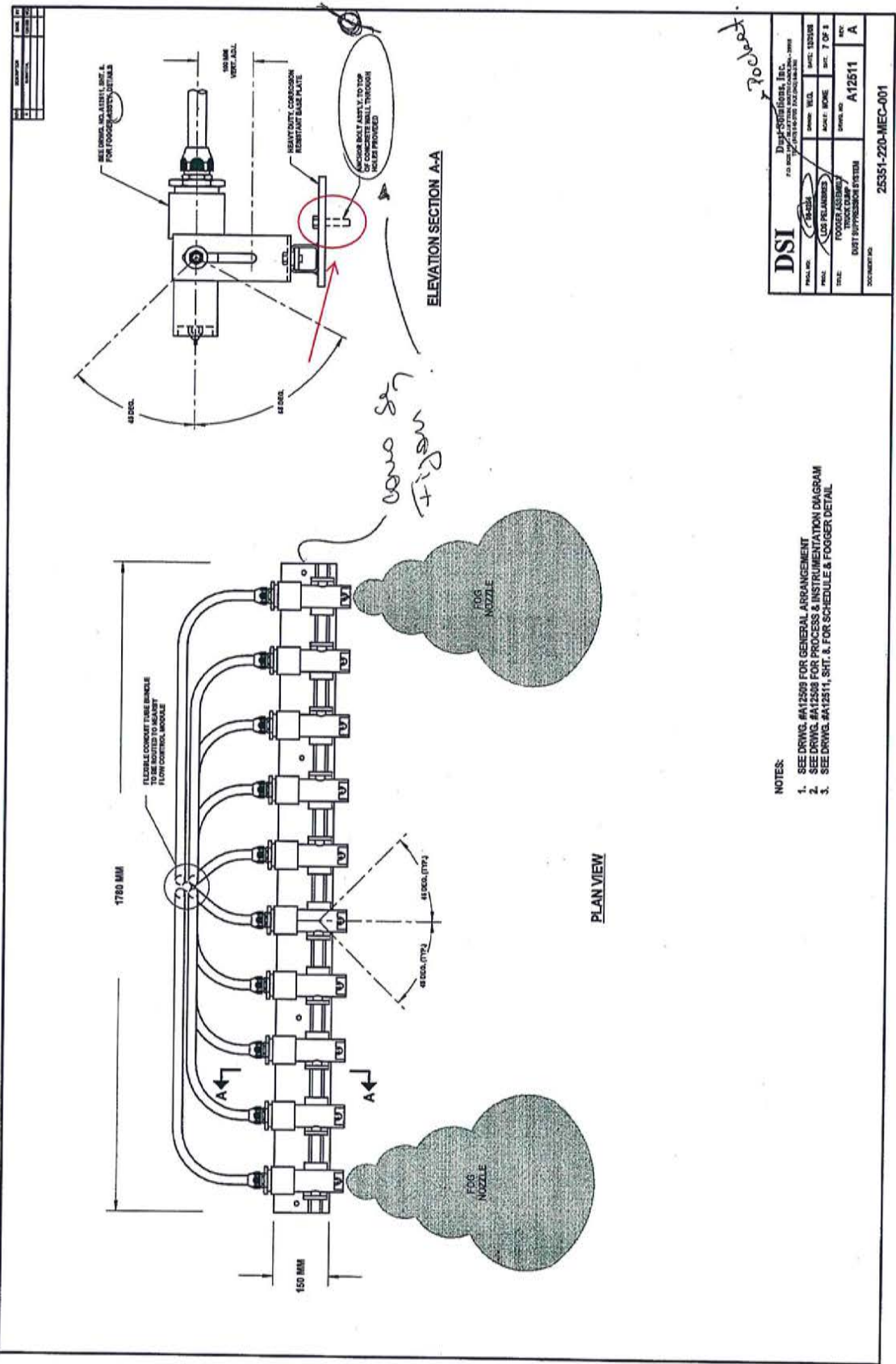
## **J**



## NOZZLE SPECIFICATIONS

NOTE: ALL NOZZLES ARE THE SAME PHYSICAL SIZE & FIT INTO THE SAME ADAPTOR.

NOZZLE ASSEMBLY - DSN 3	
NOMINAL FLOW RATE:	3.5 GAL. /HR. (13.25 LITERS/HR.)
AIR CONSUMPTION:	3 SCFM @ 70 PSI (5.1 CUBIC METERS/HR.)
AIR ORIFICE DIA:	.052 INCHES (1.3 MM)
APPLICATIONS:	TRANSFER POINTS WITH LOW FINES OR SMALL WIDTH CONVEYORS CONFINED AREAS, MISCELLANEOUS LOW FLOW APPLICATIONS
NOZZLE ASSEMBLY - DSN 6	
NOMINAL FLOW RATE:	7.8 GAL. /HR. (29.52 LITERS/HR.)
AIR CONSUMPTION:	7.5 SCFM @ 70 PSI (12.7 CUBIC METERS/HR.)
AIR ORIFICE DIA:	.078 INCHES (1.98 MM)
APPLICATIONS:	TRANSFER POINTS WITH HIGH FINES, SMALL HOPPERS PROTECTED DUMPING AREAS, MISCELLANEOUS MEDIUM FLOW
NOZZLE ASSEMBLY - DSN 10	
NOMINAL FLOW RATE:	10.8 GAL. /HR. (40.88 LITERS/HR.)
AIR CONSUMPTION:	9.5 SCFM @ 70 PSI (16.1 CUBIC METERS/HR.)
AIR ORIFICE DIA:	.086 INCHES (2.18 MM)
APPLICATIONS:	SHIP & CARGO LOADING, LARGE HOPPERS LARGE, UNCONFINED DUMPING AREAS, MISCELLANEOUS HIGH FLOW APPLICATIONS
NOZZLE ASSEMBLY - DSN 12	
NOMINAL FLOW RATE:	13.5 GAL. /HR. (51.1 LITERS/HR.)
AIR CONSUMPTION:	12.5 SCFM @ 70 PSI (21.2 CUBIC METERS/HR.)
AIR ORIFICE DIA:	.111 INCHES (2.82 MM)
APPLICATIONS:	LARGE TRUCK DUMPS, PRIMARY CRUSHER APPLICATIONS



NOTES:

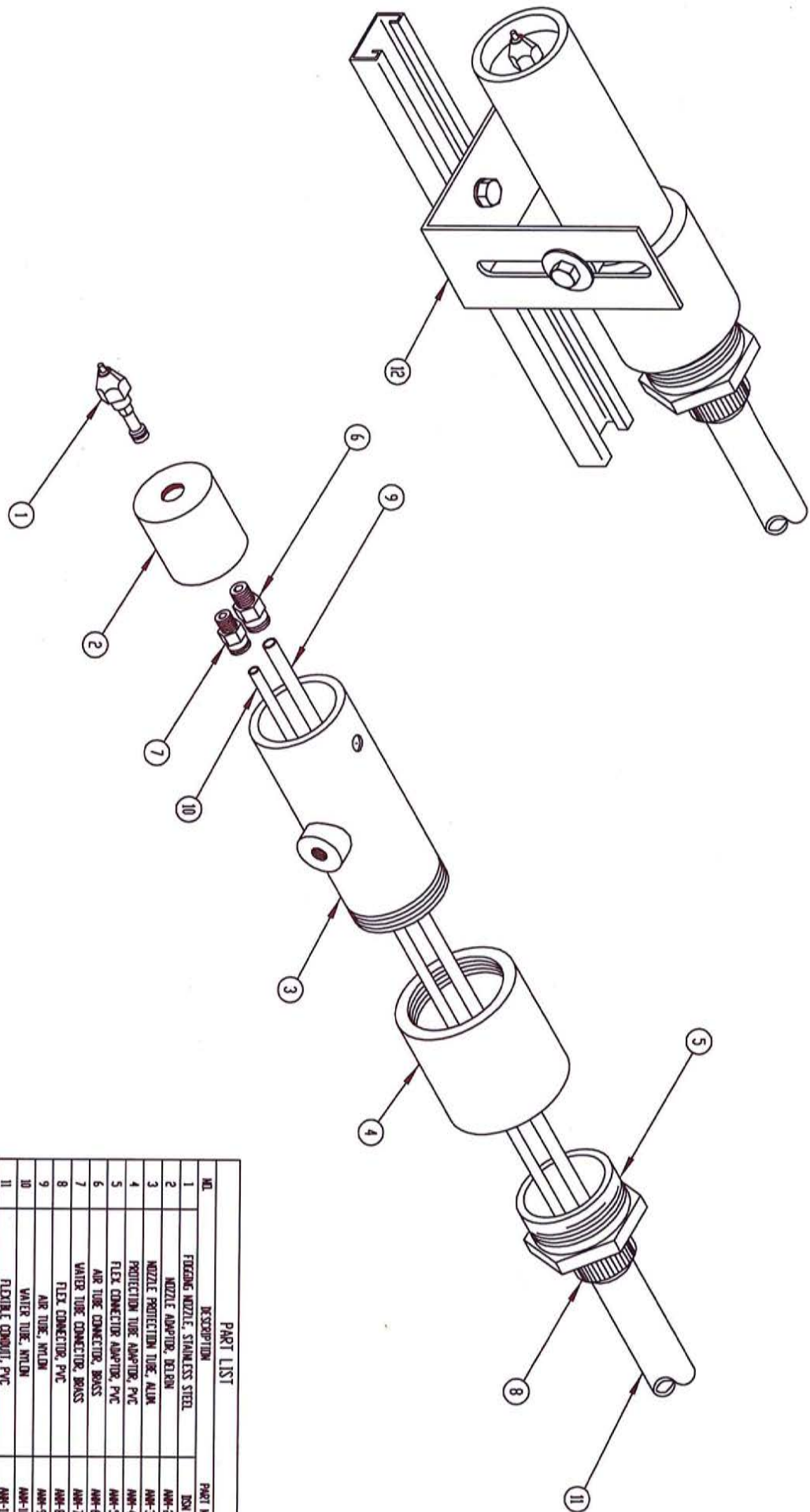
1. SEE DRWG. #A12509 FOR GENERAL ARRANGEMENT
2. SEE DRWG. #A12508 FOR PROCESS & INSTRUMENTATION DIAGRAM
3. SEE DRWG. #A12511, SHT. 8, FOR SCHEDULE & FOGGER DETAIL

<b>DSI</b> Design Solutions, Inc. <small>PO BOX 1000000, WASHINGTON, DC 20000</small>	
PROJECT NO. 95-034	SHEET NO. SHEET 12 OF 18
DRAWN BY LOR PELANBERS	CHECKED BY BOB BOWE
TITLE FOGGER ASSEMBLY TRUCK CAMP DUST SUPPRESSION SYSTEM	DRAWING NO. A12511
DOCUMENT NO. 25351-220-MEC-001	

*none set  
+ sign*

*Robert*





**PART LIST**

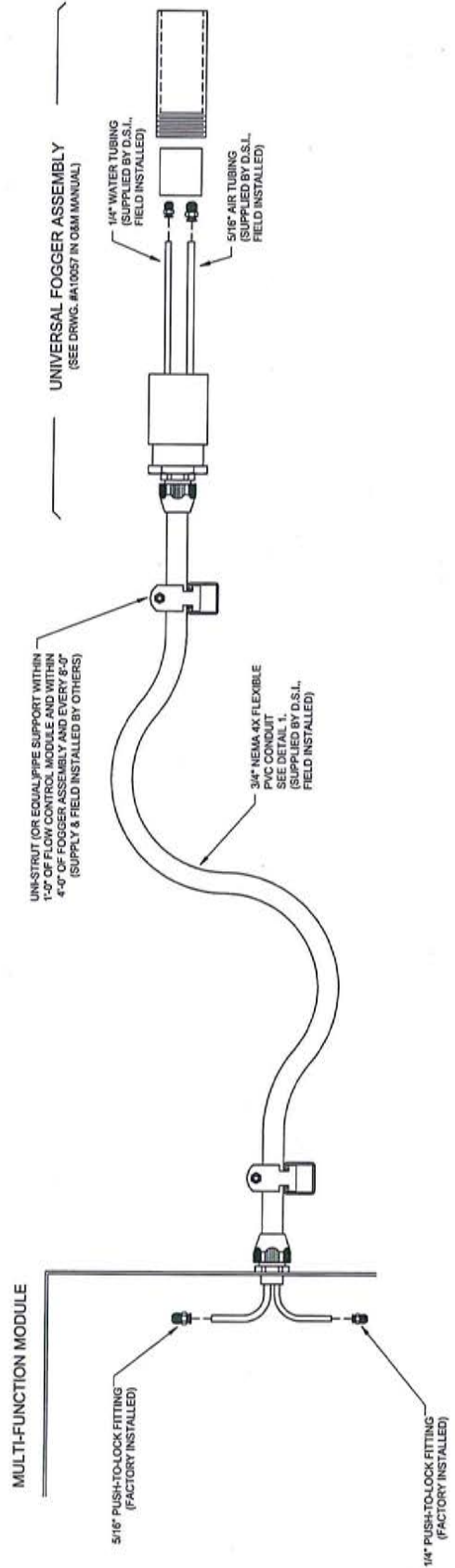
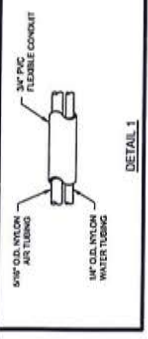
NO	DESCRIPTION	PART NO.
1	FIRING NOZZLE, STAINLESS STEEL	NSN
2	NOZZLE ADAPTER, BERYL	AM-2
3	NOZZLE PROTECTION TUBE, ALUM	AM-3
4	PROTECTION TUBE ADAPTER, PVC	AM-4
5	FLEX CONNECTOR ADAPTER, PVC	AM-5
6	AIR TUBE CONNECTOR, BRASS	AM-6
7	WATER TUBE CONNECTOR, BRASS	AM-7
8	FLEX CONNECTOR, PVC	AM-8
9	AIR TUBE, NYLON	AM-9
10	WATER TUBE, NYLON	AM-10
11	FLEXIBLE CONDUIT, PVC	AM-11
12	ANGLE BRACKET, ALUM.	AM-12
13	HEAT TRACE CABLE OVERT SPRING	AM-13

Dust Solutions, Inc.

P.O. Box 1484 - Burlington, South Carolina - 29910

FOGGER NOZZLE MOUNT ASSEMBLY

Rev	Date	No
	6/17/96	A10926



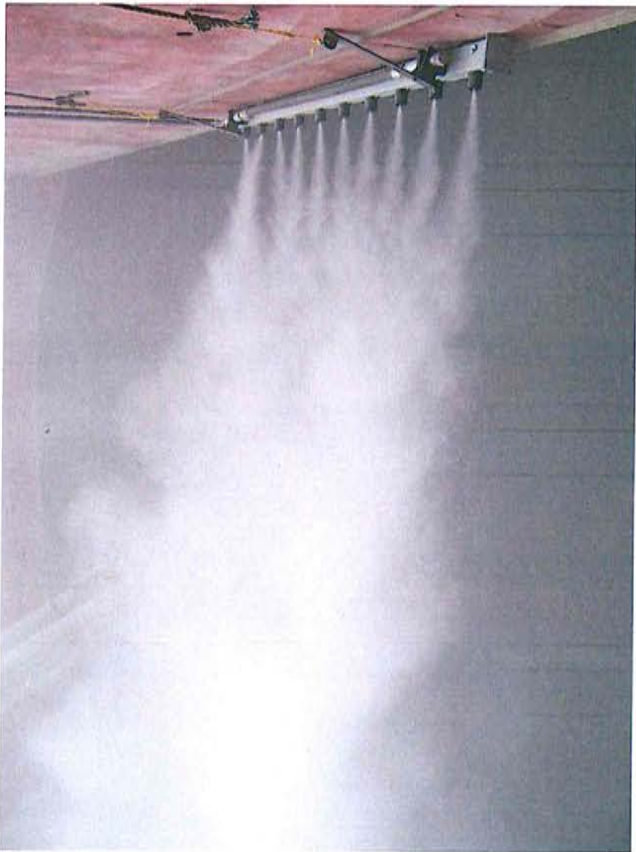
**NOTES:**

- NEMA 4X CONDUIT CONNECTORS TO BE PROVIDED BY D.S.I. ON ALL MODULES AND FOGGER ASSEMBLIES TO TERMINATE TUBING CONDUITS.

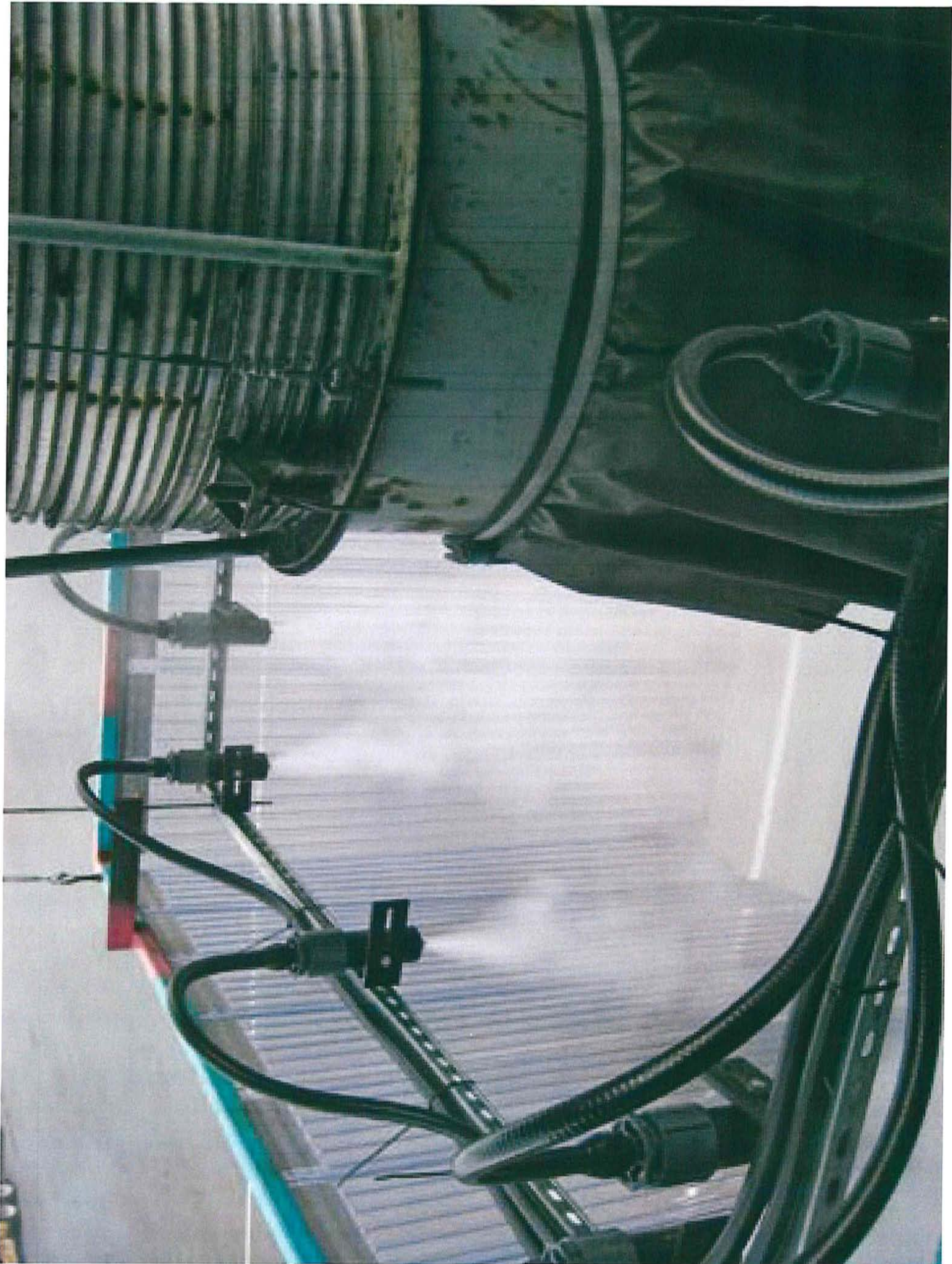
**DSI**  
DUST SOLUTIONS, INC.  
Beaufort, South Carolina, 29503  
Tel. +1 843-646-3700 Fax +1 843-646-3701  
WWW.DUSTSOLUTIONS.COM

**Dust Solutions, Inc.**  
Beaufort, South Carolina, 29503  
Tel. +1 843-646-3700 Fax +1 843-646-3701  
WWW.DUSTSOLUTIONS.COM

PROJECT NAME	CUSTOMER NAME	DSI PROJECT NO.	DSI JOB NUMBER
TITLE	INTERCONNECTION DETAILS	DWG. SCALE	SHEET NO. OF SHEETS
	LOCATION	DRAWN BY	3
	DUST SUPPRESSION SYSTEM	CHECKED BY	3
REV.	DESCRIPTION	DATE	REV.
A	SUBMITTAL	00-00-00	A





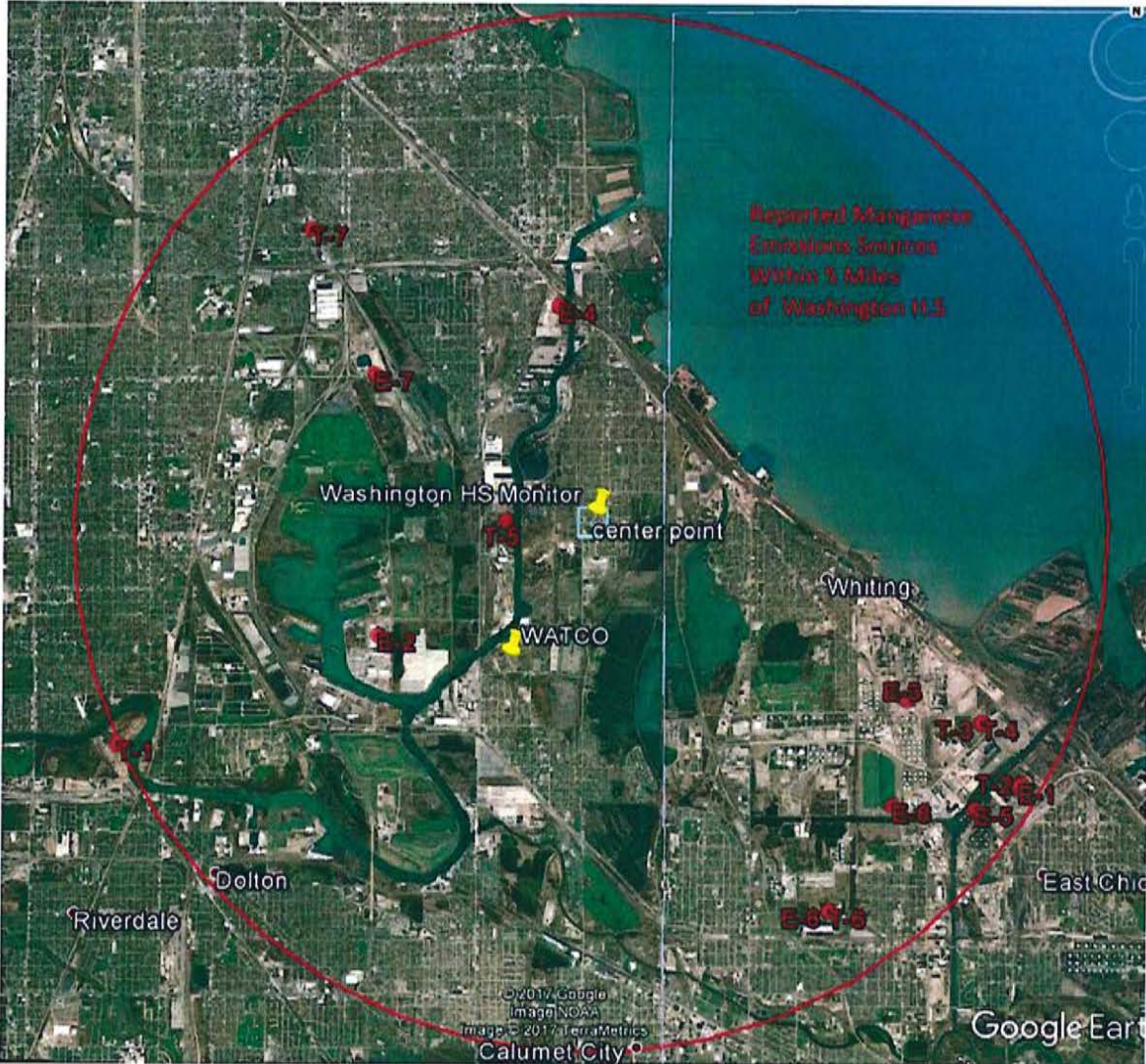


# **APPENDIX**

## **K**



Figure 1. Location of Sources Reporting Manganese Emissions



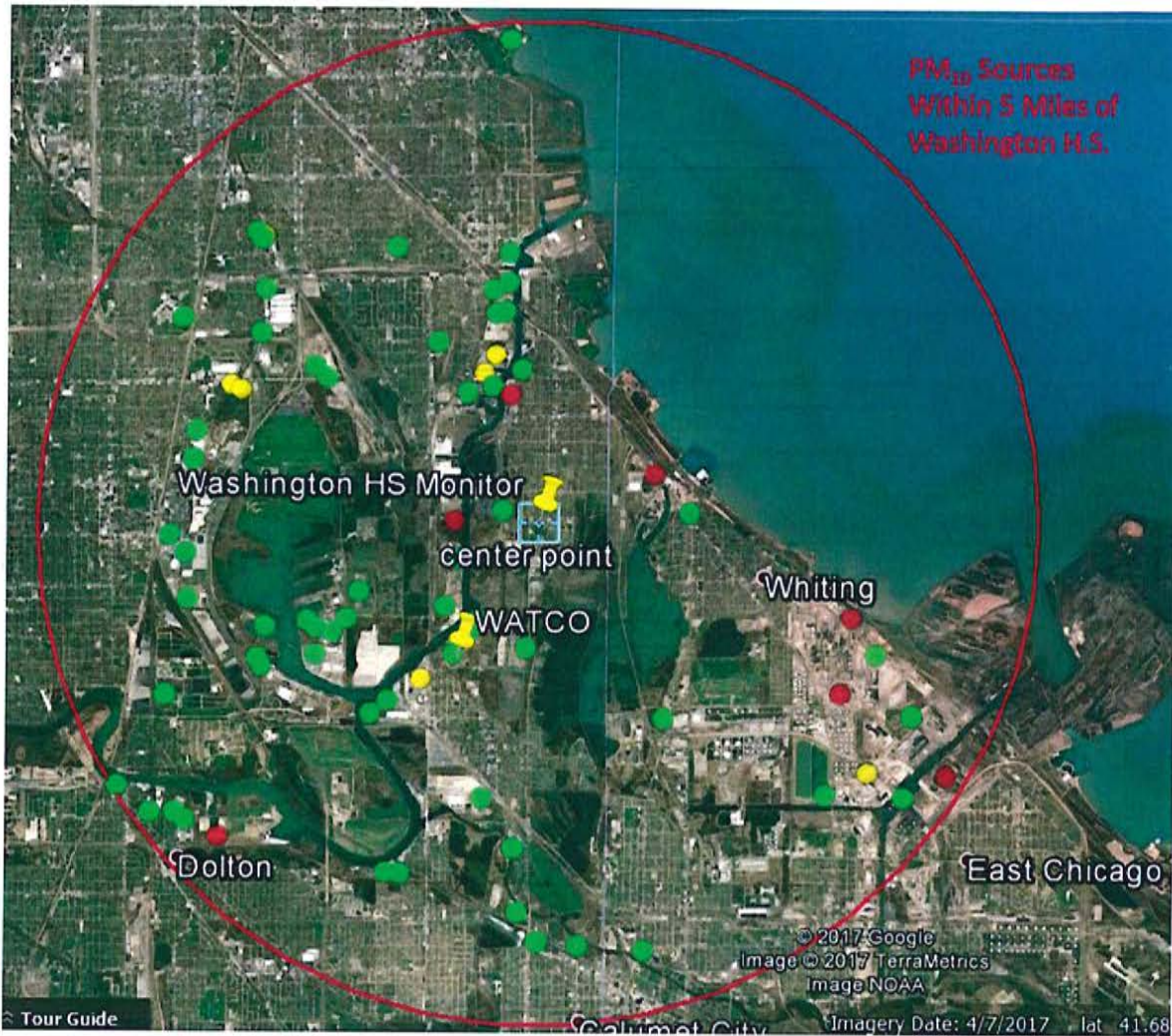
**Legend:**

T-# Labels: Data found in EPA TRI Database

E-# Labels: Data found in EPA ECHO Database



Figure 2. Location of Sources Reporting PM<sub>10</sub> Emissions



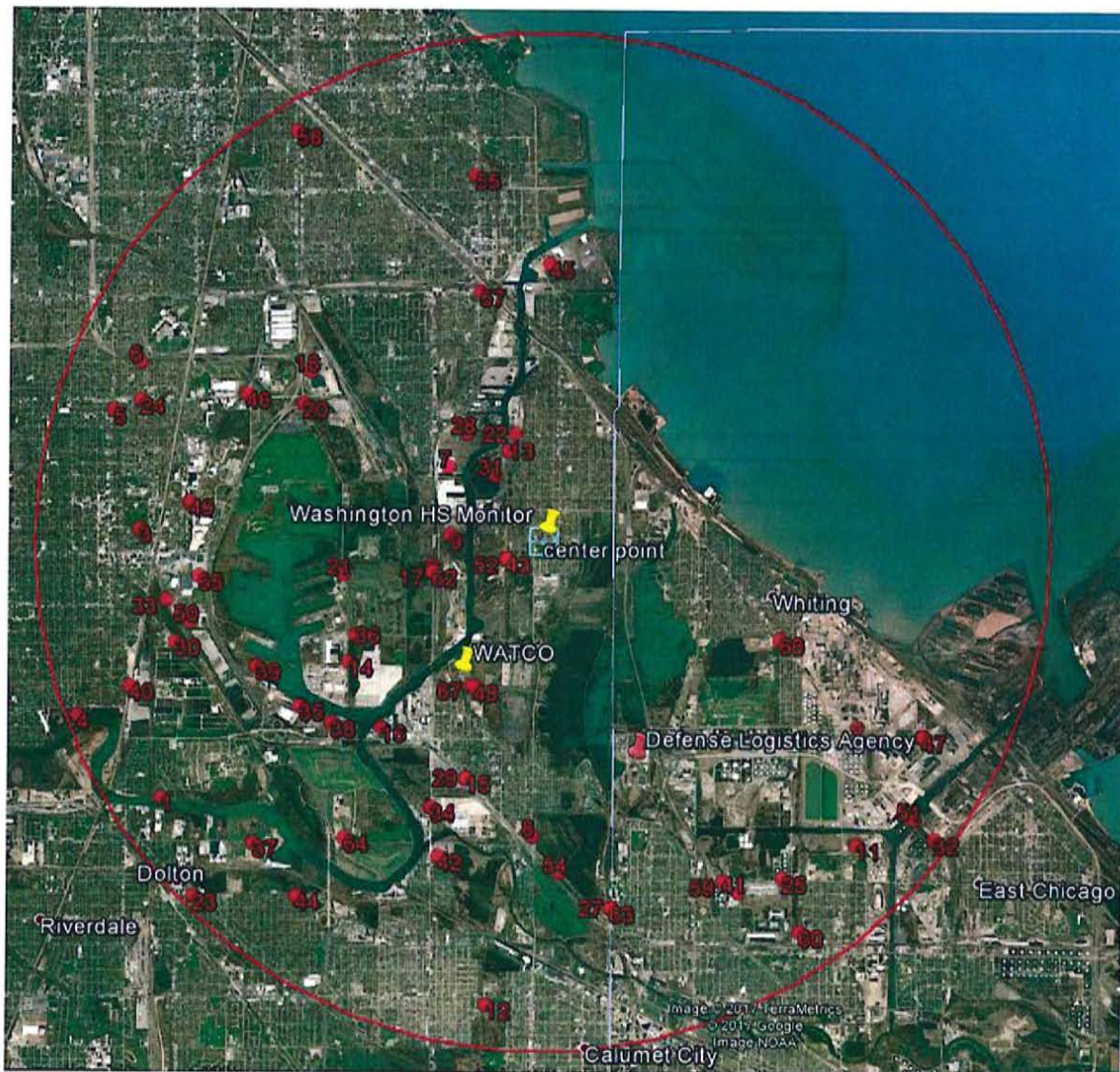
**Legend:**

- Red Dots: PM<sub>10</sub> emissions greater than 100,000 pounds
- Yellow Dots: PM<sub>10</sub> emissions between 100,000 – 20,000 pounds
- Green Dots: PM<sub>10</sub> emissions less than 20,000 pounds

Source: EPA ECHO Database



Figure 3. Location of Other Sources (Not Reported to be Emitting PM<sub>10</sub>)



Source: EPA ECHO Database (sites were included in ECHO database but not reported to emit PM<sub>10</sub>)

# **APPENDIX**

## **L**





1. My name is Steven Caudle.
2. I am the Terminal Manager for Watco Transcorp LLC, and supervise operations at the Chicago Arrow Terminal (the Terminal) Located at 2926 E. 126th Street, Chicago, Illinois. I was the Terminal Manager during calendar year 2015 and had the same responsibilities for supervising operations during that time.
3. I am familiar the hours of operation of the Terminal for the year 2015.
4. The Terminal was not in operation from 6pm to 9pm on March 5th, 2015. Terminal employees left at 3:30pm. No materials transfers occurred at the site after 3:00pm.
5. The Terminal was not in operation on March 15th, 2015. March 15, 2015 was a Sunday. The Terminal is not in operation on weekends.

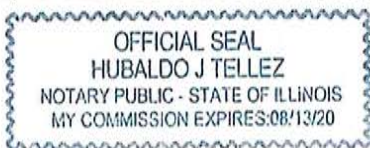
  
Steven J. Caudle

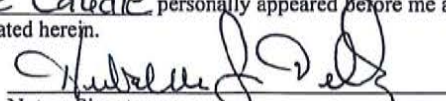
7-28-17  
Date

STATE OF ILLINOIS )

COUNTY OF COOK )

On this 28<sup>th</sup> day of July, 2017, Steve Caudle personally appeared before me and having been duly sworn, did execute the above document for the purposes stated herein.



  
Notary Signature

# **APPENDIX**

## **M**

5

### Daily Street Sweeper Log

Day/Date	Driver Name	Start Time	End Time	Area/s Swept	Ran Unit (Y/N)	(N) Describe
Monday, March 20, 2017	Nick Z	11:30	3:00	Yard	Y	
Tuesday, March 21, 2017	Estase	7:15	1:30	Yard Buildings	Y	
Wednesday, March 22, 2017	Estase	5:00	3:00	Yard Buildings	Y	
Thursday, March 23, 2017	Estase	5:00	3:00	Yard	Y	
Friday, March 24, 2017	Estase	8:00	2:00	SEAN	Y	
Saturday, March 25, 2017	Ron Rupp	7:30	11:00	Big G	Y	closed
Sunday, March 26, 2017					N	closed
Monday, March 27, 2017	Ron				Y	
Tuesday, March 28, 2017	Joe H	11:50	3:00	Yard	Y	
Wednesday, March 29, 2017	Joe H	7:30	1:30	Yard	Y	
Thursday, March 30, 2017	Estase	11:45	3:00	Yard	Y	
Friday, March 31, 2017	Estase	7:15	10:15	Buildings	Y	
Saturday, April 01, 2017					N	closed
Sunday, April 02, 2017					N	closed



Daily Water Truck Log

Day/Date	Driver Name	Start Time	End Time	Area/s Water Applied	Ran Unit (Y/N)	(N) Describe
Monday, May 01, 2017	Joe Hines	12:00	2:30	Roads	Y	
Tuesday, May 02, 2017	Joe Hines	8:00	11:00	Roads	Y	
Wednesday, May 03, 2017	Joe Hines	7:30	11:00	Roads	Y	
Thursday, May 04, 2017	Joe Hines	12:00	3:00	Roads	Y	
Friday, May 05, 2017	Ron Hedges	8:00	11:00	Roads	Y	
Saturday, May 06, 2017					N	Closed
Sunday, May 07, 2017					N	Closed
Monday, May 08, 2017	Ernie	8:00	5:00	Yard/Dock	Y	
Tuesday, May 09, 2017	Ernie	1:00	3:00	Yard/Dock	Y	
Wednesday, May 10, 2017	Ron Hedges	9:00	11:00	Roads	Y	
Thursday, May 11, 2017	Ernie	7:00	1:50	Yard Pits/Road	Y	
Friday, May 12, 2017	Ernie	12:00	3:00	Yards area	Y	
Saturday, May 13, 2017					N	Closed
Sunday, May 14, 2017					N	Closed



# APPENDIX

## N

### Office Portion of EPA visit

The Federal EPA arrived at 1:20PM on 6/9/14 for an unannounced inspection of the Chicago Ferro Main Terminal. Two environmental engineers, Alexandra Letuchy and Patrick Miller arrived from the EPA Region 5 office in Chicago. Steve Caudle, Jeff Wilson, Ken Grzywana, Dan Logreco, and Jeremy Doss attended the meeting.

After watching the safety video and completing a safety orientation, the following was discussed.

- I. We have a Ross Permit with limits of less than 5 tons of air emissions per year.
- II. General review of our business was completed.
  - a. Previously Arrow Terminals, purchased by Kinder Morgan in 2004.
    - i. We run one turn, typically operating hours 7:00 AM-3:30PM.
  - b. Barge, truck and rail transportation.
    - i. 25 barges average per month
    - ii. 2 barges capacity at a time
  - c. Bulk consists of ferro alloys and pig iron.
    - i. Sizes ¼" to 6"
  - d. We also handle various finished steel products and package ferro alloy products.
  - e. We crush and screen ferro alloy material.
    - i. 5000 – 6000 tons average per month
  - f. We package material.
- III. Our dust preventative measures are as follows.
  - a. Wet down pig iron (cannot wet down ferro alloys)
  - b. Water trucks runs at all times except when raining or winter
    - i. All roads
    - ii. Hoses down pig iron
  - c. Street sweeper runs daily
  - d. We have 4 dust collection units (EPA is looking for size of collectors CFM)
    - i. Two at the processor
    - ii. One at each packaging location
    - iii. We installed dust collectors as a best management practice, not due to any permit requirements
    - iv. No visible emissions have been seen by KM management
    - v. We store in drums. Goes to landfill.
    - vi. All dust collectors checked daily.
    - vii. EPA reviewed dust collector PM. Described review of PMs and then filing of documentation. Explained how differential pressure automatically triggers alarms.
      1. EPA took copy of PM
    - viii. EPA asked if any "stack" testing had been done. We have not.
  - e. Bulk in loaded in breezeway building F, Loaders are used.
    - i. Plans to install dust collection units in building F are pending

- ii. Unit is already designed
  - f. Wind socks used so dust does not cross property line.
    - i. Wind sock locations marked on map. Copy taken by EPA.
  - g. We are submitting new fugitive dust control plan to the city of Chicago
    - i. Part of pet coke issue
    - ii. New regulations pending
    - iii. Recently met with city on proposed regulations
- IV. Described rail car loading
  - a. Between building E&F
  - b. All material wet down if leaving via open top car
  - c. Wind speed monitored
  - d. We control flow into rail car.
  - e. Rail loading is a small portion of our business, the majority of outbound leaves by truck.
- V. New pertinent plans for improvement that are ongoing
  - a. Dust collector building F
  - b. Black topping
  - c. EPA asked why these have not been completed. We let them know that we did not get budget approval.
- VI. Terminal Tour was completed
- VII. EPA concluded visit
  - a. No findings
  - b. No complaints were received that prompted EPA visit; Random inspection
  - c. They will issue an inspection report in approximately 2 months.
    - i. Send an email to request a copy of the report
    - ii. Inform them if any information discussed or pictures taken are confidential. We can file with them to have these omitted from public documents.
      - 1. All reports are available through Freedom of Information Act.
  - d. This was not an air compliance evaluation. No testing was performed.
  - e. They may send a Section 114 to request additional information



# **APPENDIX**

## **O**



7. On April 10, 2006, the Illinois Environmental Protection Agency (IEPA) issued a Federally Enforceable State Operating Permit (FESOP) to S.H. Bell at its 10218 South Avenue O, Chicago, Illinois location, under the Application Number 83020023.
8. Condition Number 2(c) of S.H. Bell's FESOP lists emission limitations for storage piles. Specifically, "no person shall cause or allow fugitive particulate matter emissions from any storage pile to exceed an opacity of 10%, to be measured four feet from the pile surface," pursuant to SIP Rule 212.316(d).
9. Condition Number 9 of S.H. Bell's FESOP states "no person shall cause or allow any visible emissions of fugitive particulate matter from any process, including material handling or storage activity, beyond the property line of the emission source..." pursuant to SIP Rule 212.301.

#### Findings of Fact

10. S.H. Bell is a bulk material storage handling facility located at 10218 South Avenue O, Chicago, Illinois (the facility).
11. S.H. Bell performs crushing, screening, loading and unloading operations of various materials, 90% of which are manganese-based alloys.
12. EPA inspected the facility on April 25, 2014; May 19, 2014; and May 20, 2014.
13. On each of the three inspections, April 25, 2014; May 19, 2014; and May 20, 2014, EPA inspectors noted dry, dusty roads with heavy truck traffic.
14. At the April 25, 2014 inspection, James Langbehn, S.H. Bell Terminal Manager, stated that S.H. Bell waters its roadways two times each day: in the morning and at 3:00 pm.
15. At the April 25, 2014 inspection, James Langbehn stated that S.H. Bell purchased a water truck one week before the inspection to do additional pile and roadway watering.
16. At the May 19, 2014 inspection, James Langbehn stated that S.H. Bell typically watered its roadway 2 times each hour.
17. At the May 19, 2014 inspection, EPA inspectors witnessed S.H. Bell watering its roads at 11:31 am and 11:52 am.
18. On May 19, 2014, an EPA inspector certified to perform EPA Reference Method 9 conducted visible emission observations on a direct reduced iron (DRI) storage pile at the barge pile loading dock.
19. DRI is a manganese-based alloy.
20. At the May 20, 2014 inspection, two EPA inspectors witnessed fugitive dust crossing the property line at multiple locations at S.H. Bell.



21. At the May 20, 2014 inspection, EPA inspectors witnessed S.H. Bell watering its roads at 7:58 am, 8:16 am, and 8:35 am.
22. At the May 20, 2014 inspection, James Langbehn stated that the water truck operates from 7 am to 3 pm.
23. KCBX Terminals Company (KCBX) operates two bulk storage facilities at 3259 East 100<sup>th</sup> Street (North Plant) and 10740 South Burley Avenue (South Plant) in Chicago, Illinois. The North and South Plants unload, store, and load coal and petroleum coal that contain trace amounts of manganese. The North Plant is located directly west, across the Calumet River, of S.H. Bell.
24. Analysis of the materials processed by KCBX have demonstrated manganese is present in trace amounts.
25. On February 28, 2014, an air monitor at KCBX North Plant, near the S.H. Bell facility, reported readings of 0.576 microgram per cubic meter concentration of manganese at its North Plant NE monitoring station. The wind on February 28, 2014 was from the south-southeast.
26. The Agency for Toxic Substances and Disease Registry (ATSDR) has identified the inhalation minimal risk level (MRL) for chronic exposure to manganese to be 0.3  $\mu\text{g}/\text{m}^3$ . An MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure.
27. On April 17, 2014, EPA staff conducted a first round of wipe sampling from home and public spaces in the residential neighborhoods adjacent to the North and South Plants. Eleven wipes were given to the EPA Regional Laboratory for analysis for metals and polycyclic aromatic hydrocarbons.
28. On May 20, 2014, EPA received results from the preliminary wipe sampling conducted April 17, 2014. The wipe sample taken in direct proximity to the S.H. Bell facility, approximately 2,640 feet away, showed the highest concentration of manganese, at 11.5%, as compared to the other 10 samples which ranged in manganese concentration between 2% to 7%.

#### Violations

29. On April 25, 2014, EPA inspectors noted that normal traffic pattern access areas surrounding storage piles, and throughout the property were not treated with water, oils, or other chemical dust suppressants pursuant to SIP Rule 212.306.
30. From 11:33 am through 11:39 am on May 19, 2014, an observation using Method 9 visible emissions found opacity from a storage pile on the barge pile loading dock to have an opacity average of 12.7%. Opacity readings reached 85% during the 6-minute average. A 12.7% opacity average is in excess of SIP Rule 212.316(d).

31. From 11:45 am through 11:51 am on May 19, 2014, an observation using Method 9 visible emissions found opacity from a storage pile on the barge pile loading dock to have an opacity average of 10.4%. Opacity readings reached 80% during the 6-minute average. A 10.4% opacity average is in excess of SIP Rule 212.316(d).
32. On May 20, 2014, EPA inspectors noted and photographed visible fugitive particulate matter from material handling crossing the western property line beyond the emission source, and at the eastern property line beyond the emission source at the S.H. Bell facility, in violation of SIP Rule 212.301.

Environmental Impact of Violations

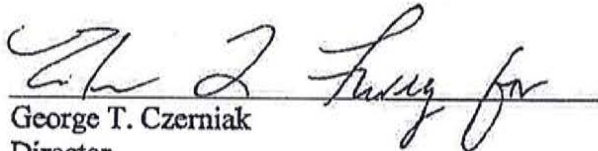
33. These violations have caused or can cause excess emissions of particulate matter.

Particulate Matter: Particulate matter, especially fine particulates contains microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. Particulate matter exposure contributes to:

- irritation of the airways, coughing, and difficulty breathing;
- decreased lung function;
- aggravated asthma;
- chronic bronchitis;
- irregular heartbeat;
- nonfatal heart attacks; and
- premature death in people with heart or lung disease.

Date

7/15/14



George T. Czerniak  
Director  
Air and Radiation Division