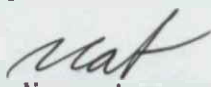


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

77 West Jackson Boulevard
Chicago, Illinois 60604

DATE: AUG 26 2014
SUBJECT: INSPECTION REPORT – S.H. Bell Company, Chicago, IL
FROM: Katie Owens, Environmental Engineer
Air Enforcement and Compliance Assurance Section, (IL/IN)
THRU: Nathan A. Frank, Chief 
Air Enforcement and Compliance Assurance Section, (IL/IN)
TO: File

Date of Inspection: May 20, 2014

Attendees: Katie Owens, Environmental Engineer, U.S. EPA
Molly Smith, Environmental Scientist, U.S. EPA
Patrick Miller, Environmental Engineer, U.S. EPA
James (Jim) M. Langbehn, Terminal Manager, S.H. Bell Company

Purpose of Inspection: The purpose of conducting a third inspection of S.H. Bell was to determine compliance with their permit and various Illinois State Implantation Plan (IL SIP) requirements, including fugitive dust crossing the property boundary and opacity exceedances at the beginning of SH Bell's work day. We brought a Method 9 certified reader, Patrick Miller, with us to read opacity off S.H. Bells' stockpiled materials and roadway.

Company Description and Background:

Location: 10218 South Avenue O, Chicago, Illinois

Primary Contact: Jim Langbehn, Terminal Manager

S.H. Bell is a bulk material storage handler that receives bulk materials via truck, rail and barge.

Facility Tour and Method 9 Observation

Molly Smith, Patrick Miller and I (we) arrived at S.H. Bell (SHB) at approximately 7:40 am. While driving onsite, we observed barge unloading operations. Upon entry, we presented our credentials to the receptionist and explained that we were at SHB for an unannounced Clean Air Act (CAA) inspection. We asked to speak with Jim Langbehn, Terminal Manager, so that we could tour the facility. The receptionist got Mr. Langbehn who escorted us to the yard for observation.

Mr. Langbehn stated that the facility was currently unloading a barge containing direct reduce iron (DRI) material from Trinidad and the process was close to completion at the barge slip near Building #3. We asked Mr. Langbehn when the next barge unloading would begin. Mr. Langbehn stated that the next barge should be in place in about 15 minutes and should begin unloading in the next 45 minutes to 1 hour. We asked Mr. Langbehn to describe the load contained within each barge currently at the facility. Mr. Langbehn stated that each barge has a 3 million pounds or 1500 metric tons or 70 semi loads capacity. In general each barge takes about 8 hours to unload, but these barges can be unloaded in four hours. We asked Mr. Langbehn when the last large barge delivery occurred. Mr. Langbehn stated that the last large barge delivery was in October or November 2013.

We began walking toward the warehouse storage areas when Mr. Miller stopped to take visible emissions readings from the roadway due to heavy truck traffic and visible emissions. Mr. Miller began the Method 9 reading at 7:55 am between Building #5 and the Crushing Complex (Crushing Building). We observed a water truck pass through the area of Mr. Miller's Method 9 readings at 7:58 am to water the roadway. We asked Mr. Langbehn if SHB altered its watering schedule from the last two inspections. Mr. Langbehn stated that the first watering of the day today was at 7:58 am.

While Mr. Miller continued the Method 9 readings of the roadway, Ms. Smith and I proceed to observe a backhoe depositing material into a hopper which loads material into Super Sacks. SHB uses a baghouse on this operation. We observed the pressure drop device while in the location (Photo 1). The pressure drop device read 2" and jumped to 3" when material was deposited into the Super Sack (Photo 2). We asked for the operating range of the baghouse. Mr. Langbehn stated that the operating range is 1.5 – 5" and later clarified that it was 1.5" – 3". Mr. Langbehn stated that the baghouse has 12 bags and SHB changes out all the bags twice per year. The other baghouse at the facility is only used 5 times per year and doesn't have a pressure drop device.

We observed a second pass of the water truck watering the roadways at 8:15 am. Mr. Miller stopped the Method 9 readings at 8:15 am. Mr. Miller began Method 9 readings from the roadways in a new area to observe a forklift moving the Super Sacks to storage at 8:15 am (Photo 3, 4). Mr. Miller ceased the Method 9 readings at 8:21 am.

Ms. Smith and I observed several semi-trucks queued and idling, waiting to have material loaded into the trucks near Building #7. We noted that residential property was less than 100 yards from the truck loading operations. We asked Mr. Langbehn to approximate how many trucks arrive onsite each day. Mr. Langbehn stated that normally 20-30 trucks transport material each day. Though he clarified that today 70-90 trucks would be shipping material.

At 8:28 am Ms. Smith and I observed truck loading operations at the Ryerson Building (Building #1) when we witnessed fugitive dust from the truck loading operations cross the property boundary (Photo 5, 6, 7 and 8). We asked Mr. Langbehn to name the type of material that was being loaded into the trucks. Mr. Langbehn stated that Ferro silicate or Ferro manganese was being loaded into the trucks.

At 8:33 am we walked to the second barge and found unloading had not yet begun. We observed the 3rd pass of the water truck watering roadways at 8:35 am. At 8:35 am the barge unloading process began. We observed significant visible emissions off the pile of DRI when the bulldozers worked the piles. At 8:42 am the water truck began water the DRI within the barge. At 8:44 am the first unloading of the barge began. Mr. Miller began Method 9 observation at 8:45 am. We observed continuous watering of the DRI during unloading (Photo 9). The material appeared to be saturated from the watering truck's continuous watering. We observed the crane mixing the DRI with the water sprayed into the barge prior to unloading the material. Unloading resumed at 8:56 am.

Ms. Smith and I asked Mr. Langbehn to provide details on the size of the water truck. Mr. Langbehn stated that the water truck has a capacity of 2,400 gallons. The water truck stopped watering, and departed the barge unloading operations at 9:02 am. We observed one stockpile approximately 25 feet from the waterway and noted that the piles currently forming from the barge unloading operations were approximately 40 feet from the waterway. Ms. Smith and I walked closer toward the waterway and barge to observe operations more closely (Photo 10, 11, 12 and 13). At 9:12 am, Ms. Smith and I observed fugitive dust crossing the property boundary at the waterway during barge unloading operations. At 9:14 am, the water truck return to the barge unloading area. We witnessed fugitive dust crossing the property boundary again at the waterway during barge unloading operations at 9:15 am. Mr. Miller ceased the Method 9 observation at 9:15 am. We asked to return to the office briefly to use the restrooms. Mr. Langbehn escorted us to SHB's office.

We departed SHB's office at 9:38 am, and noted that the roadways were dry. We returned to the barge unloading operations at 9:43 am. We observed the water truck actively watering the DRI inside the barge. Mr. Miller began Method 9 readings at 9:44 am. Mr. Miller noted that barge unloading ceased between 9:47 am to 9:50 am.

Ms. Smith and I observed dust plumes from Building #7. We researched the wind speed at 9:50 am and recorded the wind speed to be SW12 G12 mph in the 60617 zip code. At 9:53 am, we observed the water truck reposition itself. We again observed Building #7 and noted that a plume of dust was visible about 8 seconds into loading each truck (Photo 14, 15).

The barge unloading stopped at 9:56 am, but resumed again at 9:58 am. At 10:00 am, the water truck departed the barge unloading area. Mr. Miller ceased the Method 9 observation at 10:00 am. At 10:01 am, the barge operator exited the crane to tighten the winch cable.

At 10:04 am, Mr. Miller began taking Method 9 readings from the roadways. Mr. Miller ceased the Method 9 readings at 10:12 am. At 10:15 am, we observed the water truck return to the barge.

We thanked Mr. Langbehn for his time and asked if any observations made today would be considered confidential business information (CBI). Mr. Langbehn stated that nothing observed today should be considered CBI.

We left the facility at 10:19 am.

Photos



Photo 1. IMG_0359 at 8:10 am: The pressure drop device used for the Super Sack loading operations.



Photo 2. IMG_0360 at 8:11 am: SHB's Super Sack loading area.

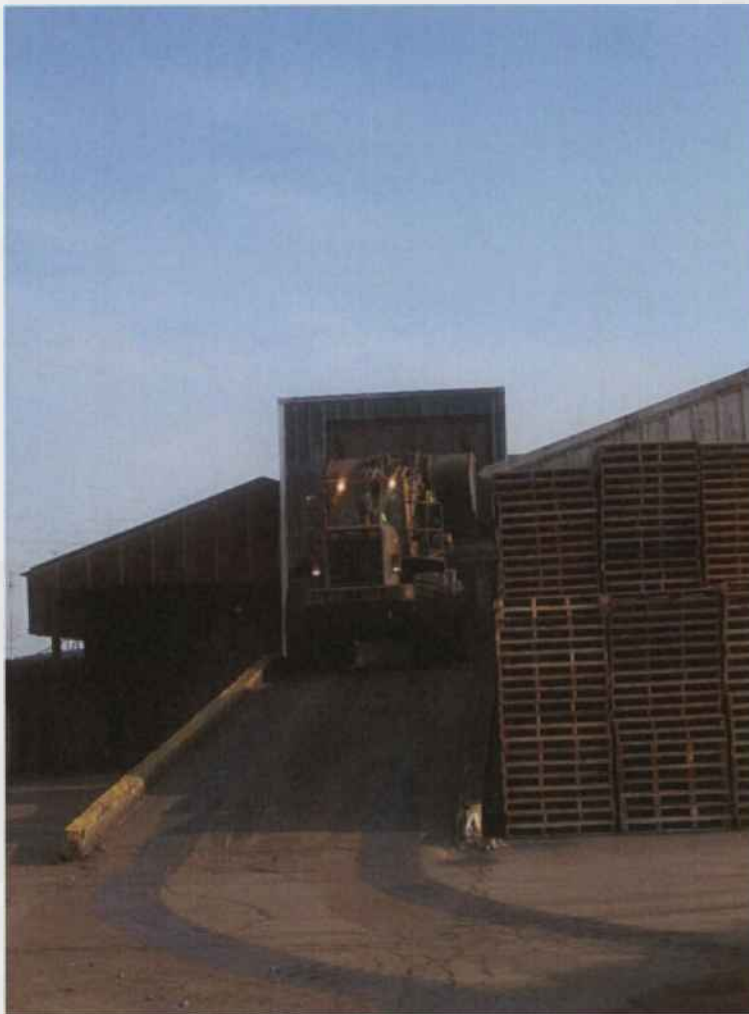


Photo 3. IMG_0362 at 8:17 am: A backhoe depositing material into a hopper which feeds into Super Sack. SHB uses a baghouse to control emissions while loading into the Super Sack.

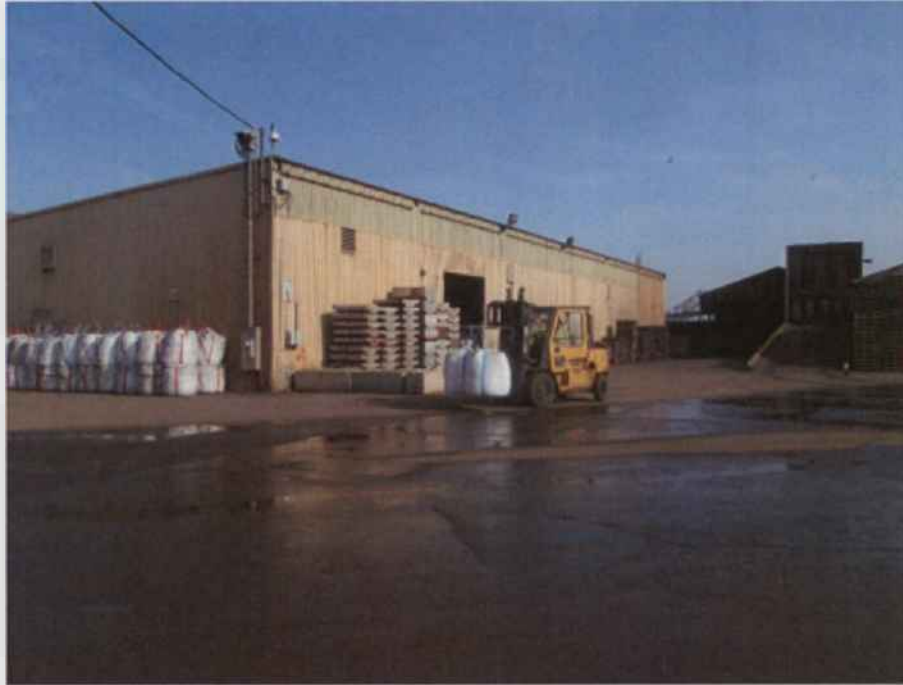


Photo 4. IMG_0363 at 8:20 am: A backhoe moving loaded Super Sacks after loading operations.



Photo 5. IMG_0364 at 8:27 am: Fugitive dust crossing the property boundary from Ryerson Building (Building #1).



Photo 6. IMG_0365 at 8:27 am: Fugitive dust crossing the property boundary from Ryerson Building (Building #1).



Photo 7. IMG_0366 at 8:27 am: Fugitive dust crossing the property boundary from Ryerson Building (Building #1).



Photo 8. IMG_0367 at 8:27 am: Fugitive dust crossing the property boundary from Ryerson Building (Building #1).



Photo 9. IMG_0369 at 8:46 am: SHB's water truck saturates the DRI during barge unloading.



Photo 10. IMG_0370 at 9:01 am: SHB's water truck continually waters into the barge during DRI unloading.



Photo 11. IMG_0371 at 9:09 am: DRI unloading.



Photo 12. IMG_0372 at 9:09 am: Looking for fugitive dust crossing the property boundary during DRI unloading.



Photo 13. IMG_0373 at 9:14 am: Persistent watering during DRI unloading.

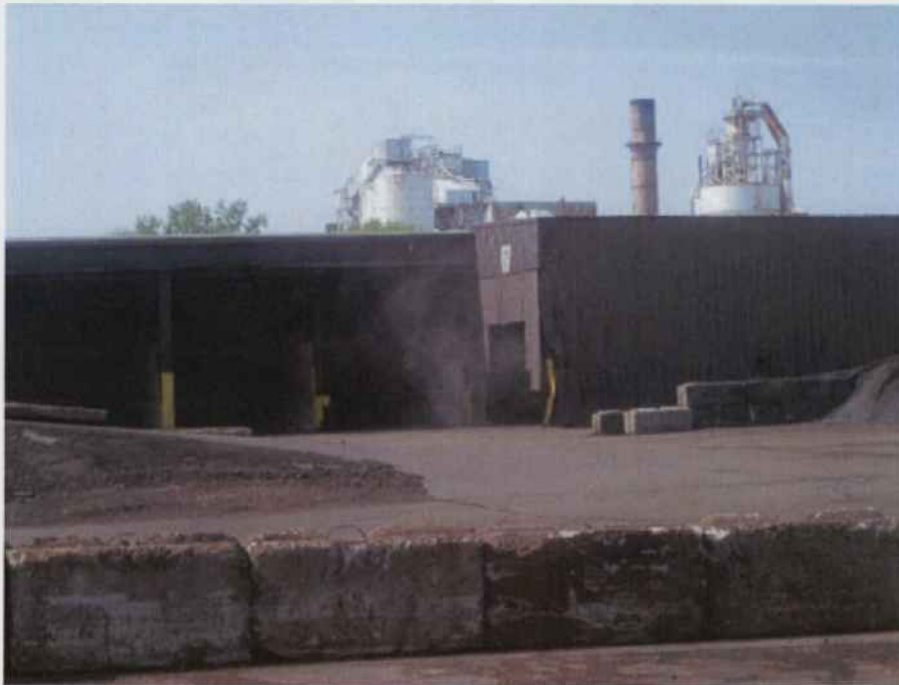


Photo 14. IMG_0375 at 9:45 am: Plumes of dust exiting Building #7 during truck loading operations.

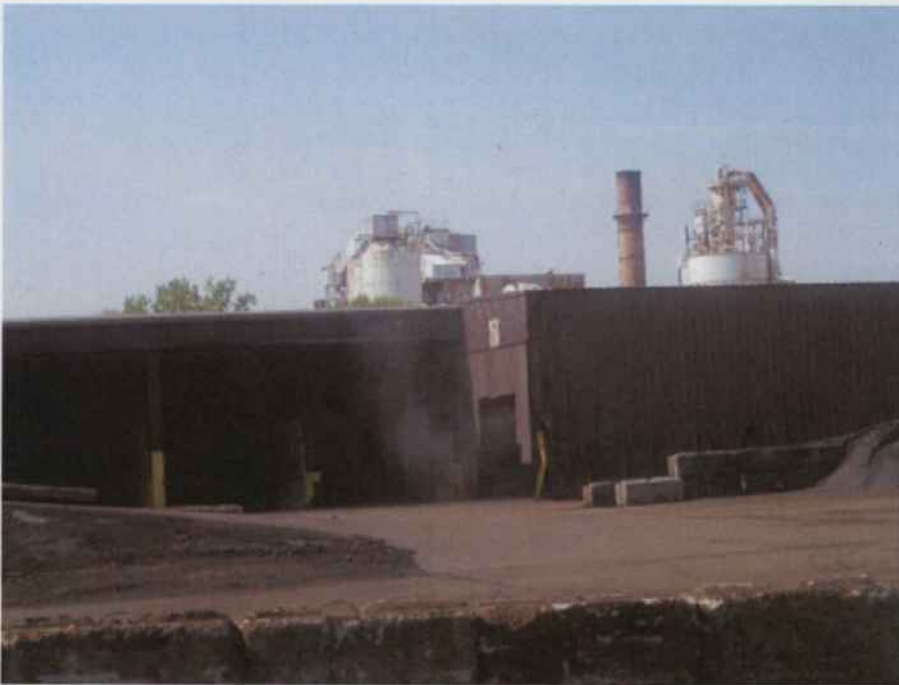
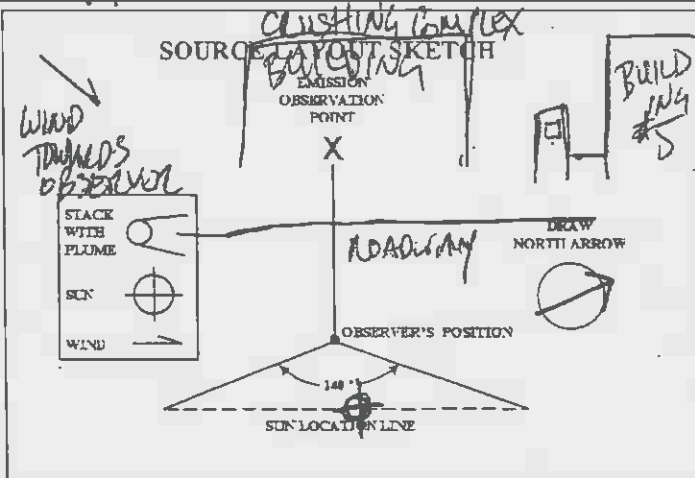


Photo 15. IMG_0376 at 9:45 am: Plumes of dust exiting Building #7 during truck loading operations.

VISIBLE EMISSION OBSERVATION FORM

Company Name S.H. BELL COMPANY		
Location 10218 SOUTH AVE "O"		
City CHICAGO	State IL	Zip 60617
Process Equipment ROADWAYS / PARKING AREAS	Operating Mode ACTIVE	
Control Equipment WATER TRUCK	Operating Mode OPERATING	
Describe Emission Point ROADWAY SURFACE USED BY TRUCKS AFTER THEY ARE LOADED WITH MATERIAL		
Height of Emission Point ROADWAY SURFACE	Height Relative to Observer Start - End	
Distance to Emission Point Start 70 ft End	Direction to Emission Point Start 90° End	
Vertical Angle to Observation Pt. Start End	Direction to Observation Point Start End	
Describe Emissions Start Low End		
Emission Color Start Bluish End -	If Water Droplet Plume (Circle) Attached Detached N/A	
Point In The Plume At Which Opacity Was Determined Start 4 ft above ground End -		
Describe Plume Background Start Small building End -		
Background Color Start light gray End white	Sky Condition Start light blue End white	
Wind Speed Start 0-15 mph End partial	Wind Direction Start SOW End	
Ambient Temp Start 65°F End partial	Wet Bulb Temp	RH Percent

Observation Date		Start Time		End Time	Comments
Min	Sec	0	15	30	
1	5	0	0		1st TRUCK SPANED WATER
2	0	0	0		2nd TRUCK AFTER 1st TRUCK
3	5	0	0		3rd TRUCK @ 8:55am
4	0	0	0		WATER TRUCK MASS TRUCK 2ND PASS @ 8:55am
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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Additional Information **ROADWAY ON EAST SIDE OF CRUSHING COMPLEX**

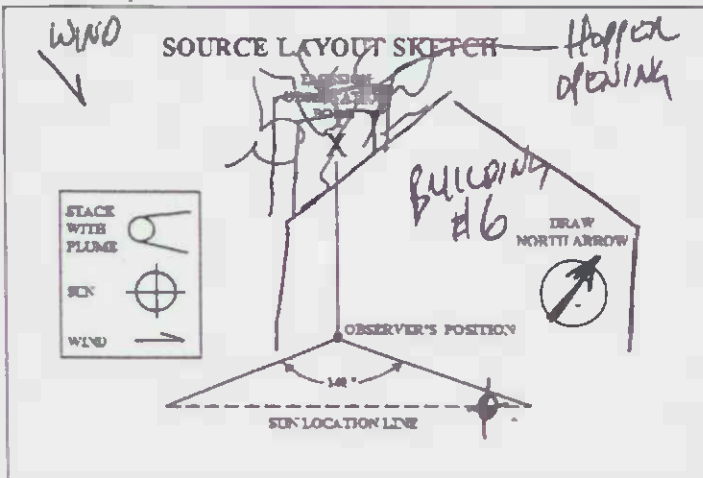
Observer's Name (Print) PATRICK MILLER	Date 5/20/14
Observer's Signature <i>Patrick Miller</i>	
Organization US EPA	
Certified by ILLINOIS EPA	Date 4/15/14

Continue on reverse side

VISIBLE EMISSION OBSERVATION FORM

Company Name S.H. BOU		
Location 10218 SOUTH AVE "0"		
City CHICAGO	State IL	Zip 60617
Process Equipment HOPPER FOR BUILDING #6		Operating Mode LOADING
Control Equipment BAGHOUSE		Operating Mode ON
Describe Emission Point OPENING OF HOPPER (75% FeSi material)		
Height of Emission Point 20 feet		Height Relative to Observer Start 20 ft End
Distance to Emission Point Start 150 ft End		Direction to Emission Point Start SW End
Vertical Angle to Observation Pt. Start End		Direction to Observation Point Start End
Describe Emissions Start FUGITIVE/leak End		
Emission Color Start Dark Gray End		If Water Droplet Plume (Circle) Attached Detached <input checked="" type="radio"/> N/A
Point in the Plume At Which Opacity Was Determined Start 4 ft from opening End -		
Describe Plume Background Start Blue Sky End -		
Background Color Start Blue End -		Sky Condition Start Light Cloud End -
Wind Speed Start 0-15 mph End -		Wind Direction Start SSW End SSW
Ambient Temp Start 105 F End -		Wet Bulb Temp - RH Percent -

Observation Date 5/20/14		Start Time 8:15 am		End Time 8:21 am	Comments
Min	Sec	0	15	30	
1	5	0	0	0	FIRST DUMP
2	0	0	0	0	HIGH VE BUT
3	0	0	0	0	AS HOPPER
4	0	0	0	0	FILLED
5	0	0	0	0	LOWER VE.
6	0	0	0	0	
7					
8					
9					
10					
11					
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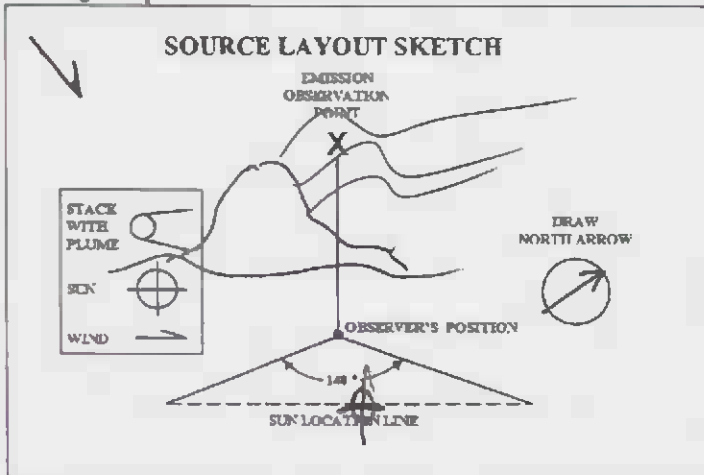
Observer's Name (Print) PATRICK MILLER	Date 5/20/14
Observer's Signature <i>Patrick Miller</i>	
Organization US EPA	
Certified by ILLINOIS EPA	Date 4/15/14
Continue on reverse side	

Additional Information

VISIBLE EMISSION OBSERVATION FORM

Company Name S.H. BELL COMPANY		
Location 10219 SOUTH AVE "D"		
City CHICAGO	State IL	Zip 60617
Process Equipment BARGE UNLOADING #4	Operating Mode ACTIVE	
Control Equipment WATERING TRUCK	Operating Mode ACTIVE	
Describe Emission Point FUGITIVES FROM UNLOADING OPERATIONS PILES		
Height of Emission Point GROUND LEVEL	Height Relative to Observer Start 4 ft. End	
Distance to Emission Point Start 70 ft. End	Direction to Emission Point Start 90° (Perpendicular) End	
Vertical Angle to Observation Pt. Start End	Direction to Observation Point Start End	
Describe Emissions Start FUGITIVES/LAZY End		
Emission Color Start Dark Grey End	If Water Droplet Plume (Circle) Attached Detached <input checked="" type="checkbox"/> N/A	
Point in The Plume At Which Opacity Was Determined Start 4 ft from pile End 4 ft from pile.		
Describe Plume Background Start MECHANICAL EQUIP End		
Background Color Start Yellow End	Sky Condition Start Clear End	
Wind Speed Start 0-15 mph End 5-20 mph	Wind Direction Start SSW End	
Ambient Temp Start 65 F End	Wet Bulb Temp	RH Percent

Observation Date 5/20/14		Start Time 8:45 AM		End Time 9:15 AM	Comments
Min	Sec	0	15	30	
1	5	0	5	0	
2	10	0	0	0	
3	5	10	0	0	
4	0	5	0	5	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	5	0	0	0	
9	0	0	0	0	
10	0	5	0	0	
11	0	0	5	0	
12	5	0	0	0	
13	0	5	0	0	
14	0	0	5	0	
15	0	0	0	0	
16	0	0	5	0	WATER TRUCK WENT TO FILL UP
17	0	0	0	5	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	5	0	
22	10	0	5	5	
23	0	0	0	0	
24	0	5	0	0	
25	0	0	0	0	
26	0	0	0	5	
27	0	0	0	0	
28	5	0	0	0	WATER TRUCK BACK
29	0	0	0	5	
30	0	0	0	5	



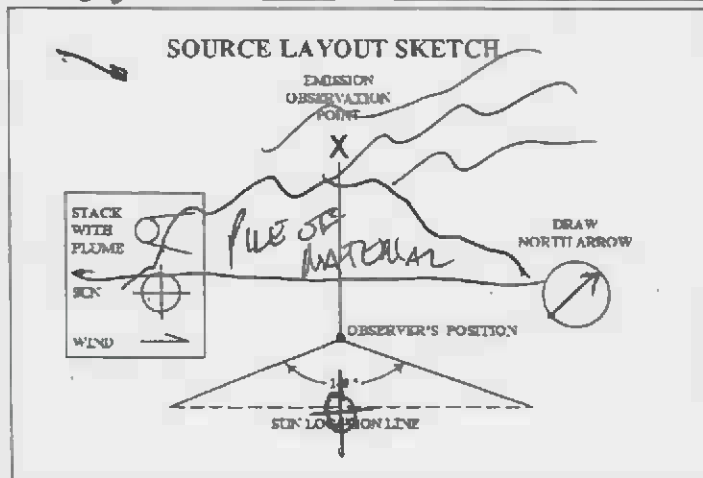
Additional Information **Water truck spraying material in charge before unloading**

Observer's Name (Print) Patrick Miller	Date 5/20/14
Observer's Signature <i>Patrick Miller</i>	Date 5/20/14
Organization US EPA	Date 7/15/14
Certified by ILLINOIS EPA	Date 7/15/14
Continue on reverse side	

VISIBLE EMISSION OBSERVATION FORM

Company Name S.H. BOU	
Location 10218 SOUTH AVE 40th	
City CHICAGO	State IL
Zip 60667	
Process Equipment BARGE UNLOADING / PILES	Operating Mode
Control Equipment WATER TRUCK	Operating Mode
Describe Emission Point PILE OF MATERIAL (DRI)	
Height of Emission Point 10 FT	Height Relative to Observer Start 4 FT End
Distance to Emission Point Start 50 FT End	Direction to Emission Point Start East End
Vertical Angle to Observation Pt. Start End	Direction to Observation Point Start End
Describe Emissions Start LACQ / WISPY End	
Emission Color Start Dark Grey End	If Water Droplet Plume (Circle) Attached Detached <input checked="" type="radio"/> NA
Point in the Plume at Which Opacity Was Determined Start 4 ft from source End	
Describe Plume Background Start sky / equipment End	
Background Color Start blue / yellow End	Sky Condition Start clear End
Wind Speed Start 0-5 mph End	Wind Direction Start SSW End
Ambient Temp Start 68 F End	Wet Bulb Temp RH Percent

Min	Observation Date 5/20/14				Start Time 9:44am	End Time 10:00am	Comments
	Sec	0	15	30			
1	10	0	6	0			
2	5	0	0	0			
3	0	0	0	10			
4	0	0	0	0) hauler/loader not working at all.	
5	0	0	0	0			
6	0	0	0	0			
7	0	0	0	0			
8	0	0	0	0		WATER TRUCK STOPPED	
9	0	0	0	0		WATER TRUCK TO REFILL	
10	0	0	0	0		WATER TRUCK DEPOSITED	
11	0	0	0	0			
12	0	0	0	0			
13	0	0	0	0			
14	0	0	0	0			
15	0	0	5	0			
16	0	0	5	0			
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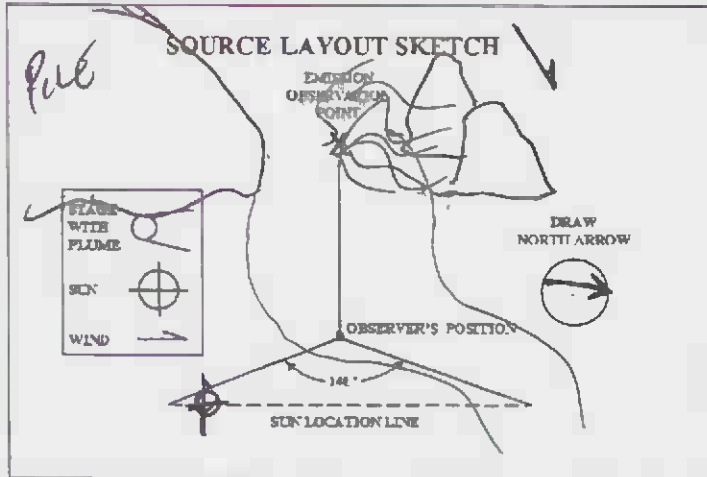
Additional Information

Observer's Name (Print) PATRICK MILLER	Date 5/20/14
Observer's Signature	Date 4/15/14
Organization US EPA	Date 4/15/14
Certified by ILLINOIS EPA	Date 4/15/14
Continue on reverse side	

VISIBLE EMISSION OBSERVATION FORM

Company Name <u>S.H. BELL</u>			
Location <u>10218 SOUTH AVE # 0</u>			
City <u>Chicago</u>	State <u>IL</u>	Zip <u>60617</u>	
Process Equipment <u>ROADWAYS/PARKING</u>		Operating Mode <u>ACTIVE</u>	
Control Equipment <u>WAITING TRUCK</u>		Operating Mode <u>N/D</u>	
Describe Emission Point <u>ROADWAY BETWEEN PILES</u> <u>WEST OF POOL ALLOWAYS #7</u>			
Height of Emission Point <u>4 feet off ground</u>	Height Relative to Observer Start <u>4 feet</u> End		
Distance to Emission Point Start <u>90 ft</u> End	Direction to Emission Point Start <u>SW</u> End		
Vertical Angle to Observer Pt. Start End	Direction to Observation Point Start End		
Describe Emission Start <u>LOW BRUISTLE</u> End <u>-</u>			
Emission Color Start <u>BROWN</u> End	If Water Droplet Plume (Circle) Attached <input type="checkbox"/> Detached <input checked="" type="checkbox"/> <u>N/A</u>		
Point in The Plume At Which Opacity Was Determined Start <u>4 feet off ground</u> End			
Describe Plume Background Start <u>DARK PILES OF MATERIAL</u> End			
Background Color Start <u>BLACK</u> End	Sky Condition Start <u>CLEAR</u> End <u>-</u>		
Wind Speed Start <u>0-2 mph</u> End	Wind Direction Start <u>SSW</u> End <u>-</u>		
Ambient Temp Start <u>68 F</u> End	Wet Bulb Temp	RH Percent	

Observation Date		Start Time		End Time		Comments
Min	Sec	0	15	30	45	
5/20/14		10	5	5	0	9th truck
		0	0	0	0	2nd
		10	5	5	0	3rd
		10	5	0	0	4th



Additional Information EPA reqs for fugitives from roadways (212.109 IL SIP)

Observer's Name (Print) <u>PATRICK MILLER</u>	
Observer's Signature <u>[Signature]</u>	Date <u>5/20/14</u>
Organization <u>US EPA</u>	
Certified by <u>ILLINOIS EPA</u>	Date <u>4/15/14</u>

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