



Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	03/24/2022	
Media Program:	Air	
Regulatory Program(s)	Louisiana SIP, NESHAP (40 CFR Part 63), NSPS (40 CFR Part 60)	
Company Name:	BWC Harvey LLC	
Facility Name:	BWC Harvey Terminals	
Facility Physical Location:	81805 Fourth Street	
(city, state, zip code)	Harvey, LA 70058	
Mailing address:	81805 Fourth Street	
(city, state, zip code)	Harvey, LA 70058	
County/Parish:	Jefferson Parish	
Facility Phone Number	(225) 331-4000	
Facility Contact:	Jessica Sisto	HSEQ Manager
	jsisto@bwcterminals.com	
FRS Number:	110000448766	
Identification/Permit Number:	LDEQ Agency Interest (AI) Facility ID 2119, Air Permit 1340-00005-12	
Media Identifier Number:	ICIS-Air LA0000002205100005	
NAICS:	493190 Other Warehousing and Storage	
SIC:	4226 Special Warehousing and Storage, Not Elsewhere Classified	
Personnel participating in inspection:		
Prince Nfodzo	EPA Region 6 ECDAP	Environmental Engineer
Aimee Boss	EPA Region 6 ECDAP	Physical Scientist
Brian Fontenot	LDEQ, New Orleans	Environmental Scientist
Jodi Holewka	LDEQ, New Orleans	Environmental Scientist
Jessica Sisto	BWC Harvey Terminal	HSEQ Manager
Jack Fernandez	BWC Harvey Terminal	Director of Operations
Blake Chatagnier	BWC Harvey Terminal	Terminal Manager
EPA Lead Inspector Signature/Date		05/09/2022
	Prince Nfodzo	Date
Branch Chief Signature/Date		05/09/2022
	Steve Thompson	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspectors Prince Nfodzo and Aimee Boss, and LDEQ inspectors Brian Fontenot and Jodi Holewka arrived at the BWC Harvey Storage and Transfer Terminal (“BWC Harvey”) at 8:30 am on March 24, 2022, for an unannounced inspection. We met with BWC Harvey representatives Jessica Sisto (HSEQ Manager), Blake Chatagnier (Terminal Manager), and Jack Fernandez (Director of Operations). I (Prince Nfodzo) presented my credentials to Jessica Sisto and informed them that this was an EPA inspection to determine compliance with the facility’s Air Permit and the Clean Air Act. The facility is the subject of several citizen complaints regarding strong asphalt odors. The scope of the inspection is a full compliance evaluation (FCE) under applicable provisions of the CAA, and includes evaluation of the compliance of the facility with its operating permit.

FACILITY DESCRIPTION

BWC Harvey is a bulk liquid storage and transfer facility located in Harvey, Louisiana. The facility is situated on the west bank of the Mississippi River in Jefferson Parish. The facility receives, and ships products by barge, vessels, rail cars, and trucks. Products handled by BWC Harvey include asphalt, slurry oil, pet tar, coal tar, low sulfur fuel, creosote, caustic soda, and other special branded products. The products are stored in above ground storage tanks until further distribution to end users. The facility’s current permit includes an affected source under 40 CFR 60 Subpart JJJJ - NSPS for Stationary Spark Ignition Internal Combustion Engines and 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines, and affected sources under 40 CFR 60 Subpart Dc - NSPS for Small Industrial-Commercial-Institutional Steam Generating Units.

The facility was previously operated as Chemtura Corporation – Gretna Facility (“Chemtura”). On December 17, 2009, Chemtura notified LDEQ that the facility had been shut down, decommissioned, demolished, and closed since 2008, and requested the closure of the site’s air permit. BWC Harvey LLC, formerly Blackwater Harvey LLC, purchased the site from Chemtura on July 11, 2013, and applied for its initial permit to operate the facility as a for-hire bulk liquid terminal on August 19, 2013.

Section II – OBSERVATIONS

Prior to making entry to the facility, EPA inspectors conducted fenceline and community surveillance on March 21, 2022, from 4:22 pm to 4:52 pm, March 23, 2022, from 2:35 pm to 3:30 pm, and March 24, 2022, from 7:50 am to 8:15 am. We did not observe any visible emissions, and did not observe any hydrocarbon emissions with a Forward Looking Infrared (FLIR) optical gas imaging (OGI) camera. We perceived an asphalt odor along Fourth Street, outside of BWC Harvey’s boundary, at 4.50 pm on March 21, 2022, but we could not identify the source of the odor.

A. Generators

BWC Harvey’s air permit includes one emergency generator which has not been constructed/installed. There is no indication that BWC Harvey intends to install and operate the generator (*see Area of Concern (AOC) #1*).

B. Process Heater and Boilers

BWC Harvey operates two (2) process heaters and two (2) boilers with no emission control equipment. However, BWC Harvey's permit includes only one process heater (*see AOC #2*). We did not observe any visible emissions. I viewed the exhaust vents with a FLIR OGI camera and did not observe any hydrocarbon emissions. BWC Harvey is meeting emission limit requirements by using sweet natural gas as fuel. I reviewed fuel records and verified that BWC meets the fuel and recordkeeping requirements. BWC Harvey has also maintained the heater and boilers per manufacturer's specifications.

C. Storage Tanks and Loading Operations

BWC Harvey's air permit includes 53 storage tanks. Specific Requirement (SR) 27 of the permit requires that products which are stored in the tanks must have a true vapor pressure not exceeding 0.75 pounds per square inch (psia). The storage tanks are equipped with temperature gauges, and BWC Harvey monitors the temperature of each tank's contents during each shift to ensure that maximum temperatures required to meet the vapor pressure limits are not exceeded. I reviewed the temperature monitoring records and noted that BWC Harvey maintained product temperatures below the design maximum. A sample of the temperature monitoring record (Shift Steam Report) is included as **Appendix 3**.

During the inspection, we observed loading of fuel oil from a marine vessel to Tanks 1003 and 5080. The temperature at the tanks at the time of the inspection was about 90 degrees Fahrenheit (°F) and 100°F, respectively. We did not perceive any unusual or disagreeable odors, and did not observe any visible emissions. I viewed the tanks and ancillary equipment with a FLIR OGI camera and did not observe any hydrocarbon emissions. I reviewed storage tank operation and maintenance records, and noted that BWC Harvey's permit included tanks that have been demolished, not constructed, or not in service (*see AOC #3*).

SR 28 and SR 31 of BWC Harvey's permit require that toxic air pollutants (TAPs) and volatile organic compounds (VOCs) emissions from the tanks shall not exceed 10.00 tons/year and 64.79 tons/year, respectively. I reviewed emissions records for calendar years 2019 to 2022 and noted that BWC Harvey did not exceed the annual TAP and VOC emission limits.

I reviewed records of the volumes and types of material loaded, and noted that BWC Harvey maintained records as required by SR 26. I also noted that records were maintained for contents and throughput of each storage vessel on a monthly basis in accordance with SR 25.

D. Other Observations

In response to the several complaints regarding odor in the neighboring community, BWC Harvey, under no obligation by any statutory requirement, implemented corrective measures to address the community's concerns. BWC Harvey installed: two (2) odor neutralization systems on its asphalt holding tanks in October and November 2020; a 2000-pound capacity activated carbon adsorption system on the creosote tank in April 2021; and a 1000-pound capacity activated carbon adsorption system on its truck loading rack in March 2021. Photographs of the 2000-pound activated carbon adsorption system, and one of the odor neutralization systems are included as **Photo No. 1** and **Photo No. 2**, respectively in

Appendix 1. BWC Harvey also engaged a third party to conduct an industrial hygiene assessment at the facility. The audit report, excluding Appendices, is included as **Appendix 4.**

E. Forward Looking Infrared (FLIR) Optical Gas Imaging Surveillance

I used a FLIR OGI camera (“the camera”) during the field inspection to look for the presence of hydrocarbon emissions. I used the camera to view specifically Tanks #s 16-2, 1003, 1204, 2505, 2507, 5052, 5055, 5057, and 5080 from ground level, and a broader view of all the tanks from the roof of Tank 5055. I used the camera to view loading of fuel oil from a ship to Tanks 1003 and 5080. I also used the camera to view process heater and boiler vents, compressors, and ancillary pipe works. I did not observe hydrocarbon emissions at any point during the field inspection.

Section III – AREAS OF CONCERN

1. BWC Harvey’s air permit 1340-00005-12 includes a provision for the construction and installation of one (1) emergency generator, represented as EQT 0047. However, this generator has not been installed. Since BWC has not shown any intent to construct/install the generator, EQT 0047 with its associated emission representations should be removed from the permit.
2. BWC Harvey operates two (2) process heaters, but only one (1) heater (represented as EQT 0057) is included in the permit. BWC Harvey is potentially operating the second heater without appropriate emission authorization.
3. BWC Harvey’s storage tank records show a total of 57 tanks, out of which five (5) have not been constructed or have been demolished, and two (2) which are out of service (i.e., constructed, but without associated lines to receive or transfer product). Tanks 26-1, 1207, and 2504 have not been constructed, and Tank 16-2 is not in service, but all three tanks are included in the permit. BWC Harvey should remove these tanks and associated emission representations from the permit since the facility has not shown the intent to construct and/or operate these tanks.

EPA Region 6 inspectors Prince Nfodzo and Aimee Boss conducted a closing conference for the inspection at BWC Harvey at 4:22 pm on March 24, 2022. During the closing conference, I presented preliminary findings of the inspection, and reviewed AOC #1, which was noted during the inspection. I informed the representatives of the review process that will follow the field inspection, and that the inspection report will be made public on EPA’s web site. Additionally, AOC #s 2 and 3 were determined after the conclusion of the inspection, and were not included in the closing conference debriefing to BWC Harvey. The sign-in sheets for the opening and closing conferences are included as **Appendix 2.** Since no hydrocarbon emissions were observed with the FLIR OGI camera, there was no video recorded during the inspection, or included with this report.

Section IV – FOLLOW UP

After the EPA inspection team exited the Facility on March 24, 2022, BWC Harvey uploaded all the information requested during the inspection to an EPA shared OneDrive folder by April 1, 2022. On April 8, 2022, I had a follow-up call with BWC Harvey representatives to discuss some of the records provided, and also requested additional information regarding emissions records and safety data sheets (SDS) for each product BWC Harvey handles. The additional information regarding emissions records and SDS were uploaded to the shared folder by April 18, 2022. Additional information to supplement what was requested on site also was uploaded to the shared folder on April 18, 2022.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 2 photos taken 3/24/2022

Appendix 2 – Opening and closing conference sign-in sheets

Appendix 3 – Shift Steam Report

Appendix 4 – Industrial Hygiene Audit Report

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: BWC Harvey Terminals		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo File Name: DSCN0774.JPG
Date of Photo: March 24, 2022
Time of Photo: 2:25 pm
Photographer: Aimee Boss
Description: 2000 lb Activated Carbon Adsorption System



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: BWC Harvey Terminals		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo File Name: DSCN0772.JPG
Date of Photo: March 24, 2022
Time of Photo: 2:34 pm
Photographer: Aimee Boss
Description: Odor Neutralization System

Appendix 2

Opening and closing conference sign-in sheets

Opening/Pre-Inspection Meeting

Commence opening/pre-inspection meeting 03/24/2022 Time: 8:36 am

Name	Title	Representing	Telephone No.
Prince Nfodzo	Environmental Engineer	EPA Region 6	(214) 665-7491
Aimee Boss	Physical Scientist	EPA Region 6	(214) 665-7397
Jessica Sisto	HSEQ Manager	BWC Terminals	(504) 340-3000
Jodi Holteux	Environmental Scientist	LDEQ	504-736-7748
BRIAN FONTENOT	SR. ENVIRONMENTAL SCIENTIST	LDEQ	337-262-5577
Blake Chatagnier	Terminal Manager	BWC Terminals	(504) 558-4021
JACK FERNANDEZ	DIRECTOR OF OPS	BWC TERMINAL	504-610-6054

Conclude opening/pre-inspection meeting 03/24/2022 Time: 9:15Initials / Date: PN / 3/24/22

Exit interview / Out-briefing Meeting

Commenced meeting March 24, 2022 Time: 4:22 pm

Name	Title	Representing	Telephone No.
Prince Nfodzo	Environmental Engineer	EPA Region 6	(214) 665-7491
Aimee Boss	Physical Scientist	EPA Region 6	(214) 665-7397
Jessica Sisto	HSEQ Manager	BWC Terminals	(504) 340-3000
JACK FERNANDEZ	DIRECTOR OF OPS	BWC TERMINALS	504-610-6054
Jodi Holcwick	Environmental Scientist	LDEQ	504 736 7748
Bryan Foxton	SR. ENVIRONMENTAL SCIENTIST	LDEQ	335-262-5577
Blake Chetagnier	Terminal Manager	BWC Terminals	504-558-4021

Conclude meeting March 24, 2022 Time: 4:40 pmInitials / Date: PN / _____

Appendix 3

Shift Steam Report

BW TERMINALS HARVEY DAILY SHIFT STEAM CHECK SHEET									
	Product Name	Time	Steam On or Steam Off	Tank Inventory Level	Current Temperature	Maximum Temperature per Customer	Tank Circulation or Sparging	Comments	Operator Initials
2501	XTOL 651	0700	Off			210			
		1500	Off						
		2300	Off	11-11-1/8 OUT	200		Off		A
2503	Liqrene D	0700	Off			210			
		1500	Off						
		2300	On	20-8-5/8 OUT	180		Off		A
1202	Morlife 5000	0700	Off			140			
		1500	Off						
		2300	Off	32-1-5/8 OUT	45		Off		A
1204	Morlife 5000	0700	Off			140			
		1500	Off						
		2300	Off	17-8-1/4 OUT	57		Off		A
1206	Morlife 5000	0700	Off			140			
		1500	Off						
		2300	Off	T/T	86		Off		A
5066	Pitch	0700	Off			210			
		1500	Off						
		2300	Off	6-3-3/8 OUT	190		Off		A
2507	Petroleum Tar	0700	Off			160			
		1500	Off						
		2300	Off	32-4-1/2 OUT	135		Off		A
2508	Coal Tar	0700	Off			160			
		1500	Off						
		2300	Off	46-1-15/16 OUT	79		Off		A
5067	Creosote	0700	Off			160			
		1500	Off						
		2300	Off	19-3-0 OUT	138		Off		A
1501	Clarified Oil	0700	Off			210			
		1500	Off						
		2300	Off	15-3-1/2 OUT	78		Off		A
2402	Clarified Oil	0700	Off			210			
		1500	Off						
		2300	Off	T/T	102		Off		A
2505	Slurry Oil	0700	Off			210			
		1500	Off						
		2300	Off	43-6-5/8 OUT	75		Off		A
2506	Slurry Oil	0700	Off			210			
		1500	Off						
		2300	Off	2-10-3/8 OUT	75		Off		A
2502	Asphalt	0700	Off			330			
		1500	Off						
		2300	On	23-2-3/8 OUT	325		Off		A
5053	Asphalt	0700	Off			330			
		1500	Off						
		2300	On	2-11-1/2 OUT	300		Off		A
5055	Asphalt	0700	Off			330			
		1500	Off						
		2300	On	9-1-0 OUT	325		Off		A
5057	Asphalt	0700	Off			330			
		1500	Off						
		2300	Off	9-9-3/4 out	250		Off		A
5058	Asphalt	0700	Off			330			
		1500	Off						
		2300	Off	32-6-3/4 OUT	155		Off		A
5068	Asphalt	0700	Off			330			
		1500	Off						
		2300	On	3-6-0 OUT	260		Off		A
5069	Asphalt	0700	Off			330			
		1500	Off						
		2300	Off	32-2-1/2 OUT	125		Off		A
5070	Asphalt	0700	Off			330			
		1500	Off						
		2300	Off	30-2-0 OUT	330		Off		A

5065	Membrane Caustic	0700	Off			120			
		1500	Off						
		2300	Off	11-5-1/4 OUT	78		Off		A
5075	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	6-8-1/4 OUT	69		Off		A
5076	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	28-8-1/8 OUT	70		Off		A
5077	Ultra Low Sulfur Diesel	0700	Off			120			
		1500	Off						
		2300	Off	38-0-1/4 OUT	61		Off		A
5078	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	3-1-7/8 OUT	82		Off		A
5079	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	32-7-1/8 OUT	62		Off		A
5080	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	10-5-3/4 OUT	87		Off		A
5081	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	25-7-1/8 OUT	100		Off		A
5082	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	37-7-7/8 OUT	100		Off		A
10002	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	9-6-5/16 OUT	93		Off		A
10003	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	4-11-15/16 OUT	90		Off		A
10004	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	38-1-3/4 OUT	80		Off		A
10005	Fuel Oil	0700	Off			120			
		1500	Off						
		2300	Off	45-5-0 OUT	55		Off		A

Appendix 4

Industrial Hygiene Audit Report



THE SCIENCE OF READYSM

BWC TERMINALS IH ASSESSMENT

Harvey, Louisiana

Project Date May 7, 13, and 25, 2021

Project #114368

Report Submitted on June 16, 2021

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1.0 SUMMARY

On May 7, 13, and 25, 2021, an industrial hygienist from CTEH®, LLC (CTEH) conducted an industrial hygiene assessment at the BWC Terminals facility in Harvey, Louisiana. As part of the assessment, the industrial hygienist collected both personal and area air samples for benzene, toluene, ethyl benzene, and xylenes (BTEX) and total hydrocarbons as hexane, asphalt fumes as benzene-soluble fraction with total dust, coal tar pitch, and petroleum distillates in the breathing zones of workers while they performed routine job tasks. The industrial hygienist also collected area air samples for volatile organic compounds (VOCs) via EPA TO-15 around the perimeter of the facility for a twelve-hour period.

Two types of personal air samples were collected during the assessment: 8-hour Time-Weighted Average (TWA) samples and 15-minute Short-Term Exposure Limit (STEL) samples. All TWA personal air sampling results were below the Occupational Safety and Health Administration (OSHA) Action Level (AL), OSHA Permissible Exposure Limit—Time-Weighted Average (PEL-TWA), and the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value—Time-Weighted Average (TLV-TWA) where applicable. Additionally, all STEL personal air sampling results were below the OSHA PEL-STEL, OSHA PEL-Ceiling, and the ACGIH TLV-STEL where applicable.

Results of the area air samples for asphalt fumes as benzene-soluble fraction with total dust, coal tar pitch, and petroleum distillates were below the occupational exposure values (OEVs) set by OSHA and the ACGIH for an 8-hour TWA were established except for one sample for total dust taken along the North fence line on 5/25/21. Results for the Minican™ evacuated canister samples for VOCs were below OSHA and ACGIH OEVs and the Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) where established.

2.0 BACKGROUND

BWC Terminals contacted CTEH and requested that an industrial hygienist perform an IH assessment, including both personal and area air sampling, at the BWC Terminals facility located in Harvey, Louisiana. The goal of this assessment was to evaluate potential employee and community exposures related to terminal operations. The terminal stores and ships petroleum products including asphalt, pitch, and slurry by means of tanker truck and rail car.

3.0 CTEH ACTIVITIES

On May 7, 13, and 25, 2021, a CTEH industrial hygienist conducted personal and area air sampling. During the assessment, 10 employees had air samples collected in their breathing zones. Additionally, area air samples were taken at four locations around the facility. Table 1 identifies the number of personal and area air samples collected during the assessment.

Table 1 Summary of Personal Air Samples and Noise Monitoring

Analyte(s)	Sample Type	Number Collected
BTEX and total hydrocarbons as hexane	TWA	4
BTEX and total hydrocarbons as hexane	STEL	2
Asphalt fumes as benzene-soluble fraction with total dust	TWA	4
Petroleum distillates	TWA	4
Coal tar pitch	TWA	4
Asphalt fumes as benzene-soluble fraction with total dust	Area	12
Petroleum distillates	Area	12
Coal tar pitch	Area	12
VOCs via EPA TO-15	Area	12
Total		66

3.1 Observations

During the industrial hygiene assessment, the CTEH industrial hygienist observed the work activities of the area operators. Tasks observed by the industrial hygienist included operator rounds, tank gauging, and truck loading. Two STEL samples were obtained for BTEX and total Hydrocarbons on two operators performing truck loading and tank gauging operations. These tasks were selected by site management. Historical weather data was obtained for each day of sampling to reference environmental conditions that may impact the sampling events. Wind direction, temperature, and humidity may dictate the concentrations of potential contaminants at each sample point. Table 2 provides a summary of tasks associated with each STEL sample.

Table 2 Summary of STEL Sample Activities

Name	Job Title	Task

3.1.1 Engineering Controls

Operators utilized a vapor recovery system located on the truck loading rack that recovered vapors emitted during the product loading process which controls the potential buildup of chemical vapors.

3.1.2 Personal Protective Equipment

Operators wore personal protective equipment including flame-resistant clothing, safety glasses, hard hats, ear plugs, and personal hydrogen sulfide monitors. Operators also utilized face shields for certain tasks with potential splash hazards.

3.1.3 Environmental Conditions

May 7, 2021

Time	Temperature	Dew Point	Humidity	Wind	Wind Speed	Wind Gust	Pressure	Precip.	Condition
12:53 AM	73 °F	56 °F	55 %	N	3 mph	0 mph	30.13 in	0.0 in	Fair
1:53 AM	65 °F	59 °F	81 %	CALM	0 mph	0 mph	30.12 in	0.0 in	Fair
2:53 AM	64 °F	59 °F	84 %	CALM	0 mph	0 mph	30.10 in	0.0 in	Fair
3:53 AM	63 °F	59 °F	87 %	W	3 mph	0 mph	30.10 in	0.0 in	Fair
4:53 AM	63 °F	59 °F	87 %	CALM	0 mph	0 mph	30.10 in	0.0 in	Fair
5:53 AM	63 °F	59 °F	87 %	CALM	0 mph	0 mph	30.11 in	0.0 in	Fair
6:53 AM	63 °F	59 °F	87 %	W	3 mph	0 mph	30.13 in	0.0 in	Fair
7:53 AM	71 °F	62 °F	73 %	WNW	3 mph	0 mph	30.16 in	0.0 in	Fair
8:53 AM	76 °F	57 °F	52 %	NNW	7 mph	0 mph	30.18 in	0.0 in	Fair
9:53 AM	76 °F	57 °F	52 %	NW	12 mph	0 mph	30.19 in	0.0 in	Fair
10:53 AM	78 °F	57 °F	48 %	NW	10 mph	0 mph	30.20 in	0.0 in	Fair
11:53 AM	81 °F	55 °F	41 %	VAR	6 mph	0 mph	30.18 in	0.0 in	Fair
12:53 PM	82 °F	53 °F	37 %	NNW	9 mph	0 mph	30.15 in	0.0 in	Fair
1:53 PM	83 °F	52 °F	34 %	NW	8 mph	0 mph	30.14 in	0.0 in	Fair
2:53 PM	85 °F	50 °F	30 %	NNW	10 mph	0 mph	30.12 in	0.0 in	Fair
3:53 PM	85 °F	51 °F	31 %	N	9 mph	0 mph	30.10 in	0.0 in	Fair
4:53 PM	85 °F	51 °F	31 %	NW	9 mph	0 mph	30.08 in	0.0 in	Fair
5:53 PM	84 °F	51 °F	32 %	NW	8 mph	0 mph	30.07 in	0.0 in	Fair
6:53 PM	82 °F	53 °F	37 %	NNW	7 mph	0 mph	30.07 in	0.0 in	Fair
7:46 PM	79 °F	58 °F	48 %	NNW	3 mph	0 mph	30.07 in	0.0 in	Fair
7:53 PM	79 °F	58 °F	48 %	NNW	3 mph	0 mph	30.07 in	0.0 in	Fair
8:53 PM	79 °F	57 °F	47 %	N	5 mph	0 mph	30.08 in	0.0 in	Fair
9:53 PM	76 °F	58 °F	54 %	NE	3 mph	0 mph	30.09 in	0.0 in	Fair
10:53 PM	77 °F	56 °F	48 %	ENE	5 mph	0 mph	30.08 in	0.0 in	Fair
11:53 PM	76 °F	56 °F	50 %	E	3 mph	0 mph	30.08 in	0.0 in	Fair

May 13, 2021

Time	Temperature	Dew Point	Humidity	Wind	Wind Speed	Wind Gust	Pressure	Precip.	Condition
12:53 AM	71 °F	62 °F	73 %	NE	12 mph	0 mph	30.15 in	0.0 in	Cloudy
1:53 AM	70 °F	62 °F	76 %	NE	9 mph	0 mph	30.13 in	0.0 in	Cloudy
2:53 AM	69 °F	62 °F	78 %	NE	7 mph	0 mph	30.12 in	0.0 in	Mostly Cloudy
3:53 AM	70 °F	62 °F	76 %	NE	10 mph	0 mph	30.13 in	0.0 in	Cloudy
4:53 AM	70 °F	61 °F	73 %	NE	9 mph	0 mph	30.13 in	0.0 in	Cloudy
5:53 AM	69 °F	61 °F	75 %	NNE	6 mph	0 mph	30.13 in	0.0 in	Mostly Cloudy
6:51 AM	70 °F	63 °F	78 %	NNE	10 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
6:53 AM	69 °F	62 °F	78 %	NE	9 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
7:05 AM	69 °F	62 °F	78 %	NE	10 mph	0 mph	30.16 in	0.0 in	Mostly Cloudy
7:53 AM	70 °F	62 °F	76 %	NE	10 mph	0 mph	30.17 in	0.0 in	Mostly Cloudy
8:00 AM	70 °F	62 °F	76 %	NE	10 mph	0 mph	30.17 in	0.0 in	Mostly Cloudy
8:53 AM	71 °F	61 °F	70 %	NE	9 mph	0 mph	30.18 in	0.0 in	Mostly Cloudy
9:53 AM	73 °F	61 °F	66 %	NNE	10 mph	0 mph	30.19 in	0.0 in	Partly Cloudy
10:53 AM	75 °F	61 °F	62 %	NE	9 mph	0 mph	30.20 in	0.0 in	Mostly Cloudy
11:53 AM	75 °F	61 °F	62 %	NNE	12 mph	0 mph	30.20 in	0.0 in	Partly Cloudy
12:53 PM	76 °F	60 °F	58 %	NNE	12 mph	21 mph	30.19 in	0.0 in	Partly Cloudy
1:53 PM	77 °F	58 °F	52 %	NE	13 mph	0 mph	30.18 in	0.0 in	Mostly Cloudy
2:53 PM	77 °F	59 °F	54 %	NE	10 mph	0 mph	30.17 in	0.0 in	Cloudy
3:53 PM	77 °F	58 °F	52 %	NNE	10 mph	0 mph	30.16 in	0.0 in	Mostly Cloudy
4:53 PM	77 °F	58 °F	52 %	NNE	12 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
5:53 PM	77 °F	58 °F	52 %	NNE	8 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
6:53 PM	76 °F	57 °F	52 %	VAR	7 mph	0 mph	30.14 in	0.0 in	Partly Cloudy
7:53 PM	75 °F	58 °F	55 %	NNE	5 mph	0 mph	30.17 in	0.0 in	Fair
8:53 PM	74 °F	58 °F	57 %	N	3 mph	0 mph	30.18 in	0.0 in	Fair
9:53 PM	74 °F	57 °F	55 %	NNE	5 mph	0 mph	30.19 in	0.0 in	Fair
10:53 PM	73 °F	57 °F	57 %	NE	6 mph	0 mph	30.21 in	0.0 in	Fair
11:53 PM	72 °F	57 °F	59 %	E	5 mph	0 mph	30.20 in	0.0 in	Fair

May 25, 2021

Time	Temperature	Dew Point	Humidity	Wind	Wind Speed	Wind Gust	Pressure	Precip.	Condition
12:53 AM	71 °F	62 °F	73 %	NE	12 mph	0 mph	30.15 in	0.0 in	Cloudy
1:53 AM	70 °F	62 °F	76 %	NE	9 mph	0 mph	30.13 in	0.0 in	Cloudy
2:53 AM	69 °F	62 °F	78 %	NE	7 mph	0 mph	30.12 in	0.0 in	Mostly Cloudy
3:53 AM	70 °F	62 °F	76 %	NE	10 mph	0 mph	30.13 in	0.0 in	Cloudy
4:53 AM	70 °F	61 °F	73 %	NE	9 mph	0 mph	30.13 in	0.0 in	Cloudy
5:53 AM	69 °F	61 °F	75 %	NNE	6 mph	0 mph	30.13 in	0.0 in	Mostly Cloudy
6:51 AM	70 °F	63 °F	78 %	NNE	10 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
6:53 AM	69 °F	62 °F	78 %	NE	9 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
7:05 AM	69 °F	62 °F	78 %	NE	10 mph	0 mph	30.16 in	0.0 in	Mostly Cloudy
7:53 AM	70 °F	62 °F	76 %	NE	10 mph	0 mph	30.17 in	0.0 in	Mostly Cloudy
8:00 AM	70 °F	62 °F	76 %	NE	10 mph	0 mph	30.17 in	0.0 in	Mostly Cloudy
8:53 AM	71 °F	61 °F	70 %	NE	9 mph	0 mph	30.18 in	0.0 in	Mostly Cloudy
9:53 AM	73 °F	61 °F	66 %	NNE	10 mph	0 mph	30.19 in	0.0 in	Partly Cloudy
10:53 AM	75 °F	61 °F	62 %	NE	9 mph	0 mph	30.20 in	0.0 in	Mostly Cloudy
11:53 AM	75 °F	61 °F	62 %	NNE	12 mph	0 mph	30.20 in	0.0 in	Partly Cloudy
12:53 PM	76 °F	60 °F	58 %	NNE	12 mph	21 mph	30.19 in	0.0 in	Partly Cloudy
1:53 PM	77 °F	58 °F	52 %	NE	13 mph	0 mph	30.18 in	0.0 in	Mostly Cloudy
2:53 PM	77 °F	59 °F	54 %	NE	10 mph	0 mph	30.17 in	0.0 in	Cloudy
3:53 PM	77 °F	58 °F	52 %	NNE	10 mph	0 mph	30.16 in	0.0 in	Mostly Cloudy
4:53 PM	77 °F	58 °F	52 %	NNE	12 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
5:53 PM	77 °F	58 °F	52 %	NNE	8 mph	0 mph	30.15 in	0.0 in	Mostly Cloudy
6:53 PM	76 °F	57 °F	52 %	VAR	7 mph	0 mph	30.14 in	0.0 in	Partly Cloudy
7:53 PM	75 °F	58 °F	55 %	NNE	5 mph	0 mph	30.17 in	0.0 in	Fair
8:53 PM	74 °F	58 °F	57 %	N	3 mph	0 mph	30.18 in	0.0 in	Fair
9:53 PM	74 °F	57 °F	55 %	NNE	5 mph	0 mph	30.19 in	0.0 in	Fair
10:53 PM	73 °F	57 °F	57 %	NE	6 mph	0 mph	30.21 in	0.0 in	Fair
11:53 PM	72 °F	57 °F	59 %	E	5 mph	0 mph	30.20 in	0.0 in	Fair

4.0 EXPOSURE STANDARDS AND GUIDELINES

OSHA has promulgated standards designed to protect the health and safety of workers from occupational exposure to air contaminants, including benzene (OSHA 29 CFR 1910.1000; 29 CFR 1910.1028;). Additionally, the ACGIH has developed guidelines to assist in the control of health hazards (ACGIH 2021a) (ACGIH 2021b). Although the ACGIH values are not enforceable, they are included for reference.

Results of personal samples collected during this assessment were compared to applicable occupational exposure values (OEVs) including the OSHA AL, OSHA PEL-TWA, OSHA PEL-STEL, OSHA PEL-Ceiling, ACGIH

TLV-TWA, and ACGIH TLV-STEL where established. Evacuated canister air samples for VOCs were compared to the OSHA PEL-TWA, ACGIH TLV-TWA, and ATSDR MRLs where established.

5.0 METHODS

5.1 Personal and Area Air Sampling

Personal and area air samples for BTEX and total hydrocarbons, EPA TO-15 analytes, and asphalt fumes as benzene-soluble fraction with total dust, coal tar pitch, and petroleum distillates were analyzed using the sampling methods outlined in Table 3.

Table 3 Summary of Air Sampling Methods

Method	Analyte	Sample Type ¹	Sampling Media	Flow Rate ²	LOQ ³
NIOSH 1501/1501M	BTEX and total hydrocarbons as hexane	Passive	525 assay badges	Passive	Varies
		Active	226-01 sorbent tubes	0.2 L/min	Varies
NIOSH 5042	Asphalt fumes as benzene-soluble fraction with total dust	Active	Pre-weighted PTFE Cassette	1-4	30
NIOSH 1550	Petroleum distillates	Active	226-01 sorbent tubes	0.01-0.2	50
OSHA 58	Coal tar pitch	Active	GFF Cassette	2.0	60
OSHA PV2120/EPA TO-15	VOCs	Active	Minican™ evacuated canister	NA	NA

¹TWA = Time-Weighted Average; STEL = Short-Term Exposure Limit

²L/min = liters per minute

³LOQ = Limit of Quantitation determined by the laboratory

µg = micrograms; L/min = liters per minute

Active samples for BTEX and total hydrocarbons as hexane, asphalt fumes as benzene-soluble fraction with total dust, petroleum distillates, and coal tar pitch were collected using sampling pumps attached to media specified in each respective sampling method. Before and after each use, the volumetric airflow rate for each pump was calibrated using a BIOS DryCal Defender primary flow meter. After connecting the sampling media to the flow meter, the pump was activated, the flow rate was allowed to stabilize, and three consecutive airflow measurements were taken. The average of these measurements was recorded as the flow rate. Each pump was calibrated in the flow rate range specified in the sampling method. The active air samples for VOCs via EPA TO-15 were conducted using evacuated canisters and an air intake regulator.

Both active and passive personal air samples were collected in the workers' breathing zones to best represent their exposure. The breathing zone is defined by OSHA in its Technical Manual as a hemisphere forward of the shoulders within a radius of approximately six to nine inches from the nose or mouth. Analytical air samples were obtained utilizing a sample collection tripod to collect air approximately four feet above the ground.

As a quality control measure, field blanks were also collected, and all air samples and field blanks were sent to Analytics Corporation and Pace Analytical Laboratory, which are an American Industrial Hygiene Association-accredited laboratory under a chain of custody.

6.0 RESULTS AND DISCUSSION

A summary of personal air sampling results compared to applicable OEVs is provided in Appendix A. Area air monitoring results and OEVs are provided in Appendix B, and evacuated canister VOC sampling results are provided in Appendix C. The laboratory reports are provided in Appendix D, and employee notification letters are provided in Appendix E.

6.1 Air Sampling Discussion

6.1.1 Personal Air Sampling Discussion

All personal air sampling results were below OSHA and ACGIH OEVs where established.

6.1.2 Area Air Sampling Discussion

Results of the area air samples for asphalt fumes as benzene benzene-soluble fraction with total dust, coal tar pitch, and petroleum distillates were below the occupational exposure values set by OSHA TLV-TWA, ACGIH TLV-TWA where applicable except for one total dust sample taken along the North fence line on 5/25/21 which was over the OSHA and ACGIH OEL. Detectable levels of asphalt fumes as benzene-soluble fraction were detected along the West, South, and East fence line samples on 5/7/21 and North fence line sample on 5/25/21 but were below the OEL established by the ACGIH. The sample along the North fence line on 5/25/21 was greater than $\frac{1}{2}$ the OEL established by the ACGIH for asphalt fumes as benzene-soluble fraction. Currently, there are no defined 24-hour OSHA or ACGIH OELs to compare the Minican™ evacuated canister samples to. Because of this, the Minican™ evacuated canister samples were compared to available 8-hour OELs set by OSHA and ACGIH. Results for the Minican™ evacuated canister samples for the EPA TO-15 analytes were below the OSHA and ACGIH 8-hour TWA and the ATSDR MRLs where applicable.

7.0 REPRESENTATIVENESS

The tasks performed on May 7, 13, and 25, 2021, are considered representative of normal activities and work practices associated with BWC Terminals based upon conversations with management and other employees.

8.0 CONCLUSION

Results of the personal and area air sampling conducted at BWC Terminals in Harvey, Louisiana, on May 7, 13, and 25, 2021, were below OEVs established by OSHA, ACGIH, and the ATSDR where established with the exception of one sample along the North Fence line on 5/25/21 for total dust.

9.0 RECOMMENDATIONS

The following recommendations are based on the sampling and monitoring conducted at BWC Terminals in Harvey, Louisiana.

- Notify workers of their individual air sampling results within 15 days of receipt of the final report.
- Routine area and personal monitoring for asphalt fumes as benzene-soluble fraction and total dust.
- The workplace may need to be re-evaluated if the following occur:
 - If the conditions in the facility change,
 - If new processes are added, and/or
 - If significant changes are made to existing processes.

10.0 REFERENCES

ACGIH (2021a) Documentation of Threshold Limit Values and Biological Exposure Indices. Cincinnati, Ohio: American Conference of Governmental Industrial Hygienists.

ACGIH (2021b) Guide to Occupational Exposure Values. Cincinnati, Ohio: American Conference of Governmental Industrial Hygienists.

Andrews, R. and O'Connor, P. F. (eds.) (2020) NIOSH Manual of Analytical methods (NMAM). 5th edn: NIOSH. Available at: https://www.cdc.gov/niosh/nmam/pdf/NMAM_5thEd_EBook-508-final.pdf

OSHA. Air contaminant--permissible exposure limits 29CFR1910.1000. Available at: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=999
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