



INSPECTION REPORT

Commonwealth of Pennsylvania
Department of Environmental Protection
Air Quality Program

Date(s) of Inspection: 8/22/23	TV <input type="checkbox"/> SM <input type="checkbox"/> NM <input type="checkbox"/>	PA <input type="checkbox"/> GP <input type="checkbox"/> MEGA <input checked="" type="checkbox"/>	Permit #(s): PA04-740A,B,C	Expiration Date:	Case #: 04-740	PF ID #: 775836
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Company Name: Shell Chemicals	Municipality: Potter Twp	County: Beaver
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Plant Name:	Physical Location: 300 Frankfort Rd.	Federal ID - Plant Code #: 46-1624986-1
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Responsible Official: William Watson	Mailing Address: 300 Frankfort Rd.
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Title: General Manager	Monaca PA 15001
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Phone #(s): 724 709 2852

Mark (X) All Inspection Types That Apply To This Inspection:

<input type="checkbox"/> Full Compliance Evaluation (FCE)	<input type="checkbox"/> Plan Approval Inspection	<input type="checkbox"/> File Review (FR)
<input type="checkbox"/> Operating Permit Inspection (PI)	<input type="checkbox"/> Initial Permit Inspection (IPI)	<input checked="" type="checkbox"/> Complaint Inspection (CI)
<input checked="" type="checkbox"/> Routine/Partial (RTPT)	<input type="checkbox"/> Follow-Up Inspection (Ref. Date: _____)	<input type="checkbox"/> Sample Collection (SC)
<input type="checkbox"/> Minor Source(s) Inspection (RFD)	<input checked="" type="checkbox"/> Stack Test Observation	<input type="checkbox"/> Multi-Media Inspection (MM)
<input type="checkbox"/> Other:	<input type="checkbox"/> Announced	

Annual Compliance Certification Received: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Date Received:
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AIMS Report Received: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Date Received:
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Mark (X) All Activities That Apply:

<input type="checkbox"/> File Review	<input type="checkbox"/> Pre-Inspection Briefing	<input type="checkbox"/> Exit Interview/Briefing
<input type="checkbox"/> Pre-Inspection Observations	<input type="checkbox"/> Check For New/Unreported Sources	<input type="checkbox"/> Sample(s) Collected
<input type="checkbox"/> Visible Emissions Observations	<input type="checkbox"/> Verify Operation of CEMS	<input type="checkbox"/> Other

Comments/Recommendations: Enforcement since last FCE Yes No (If yes, attach summary)

Today I performed a Routine Partial Inspection at Shell Chemicals facility in Potter Twp. I was accompanied by Chad Firment, PADEP Source Testing Section. Chad observed the method 18 stack test of Ethane Cracking Furnace #3 today. We met with Kim Kaal, Alan Binder and Daniel Gallo of Shell Chemicals. I was on site at 7:50 AM and departed at approx. 12:30 PM. I did not observe any visible, fugitive or malodor emissions today.

Compliance Status: <input checked="" type="checkbox"/> In <input type="checkbox"/> Out <input type="checkbox"/> Pending <input type="checkbox"/> Awaiting Co. Report	Needs a Follow-Up Inspection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Company Representative: Kimberly Kral	Title: Environmental Manager	Signature: <i>[Signature]</i>	Date: 8/22/23
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DEP Representative: Scott Beaudry	Title: AQS	Signature: <i>[Signature]</i>	Date/Time: 8/22/23
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This document is official notification that a representative of the Department of Environmental Protection, Air Quality Program, inspected the identified site. The findings of this inspection are shown above and on any attached pages, and may include violations uncovered during the inspection. Violations may also be discovered upon review of sample results or from any additional review of Department records. Notification will be forthcoming, if such violations are noted.

INSPECTION REPORT

Continued

ECU #3

Test Run #1 start time @ 9:55 Am
 Method 18 testing.

Alliance Technical Group is performing the testing. Three 60 minute test runs will be conducted. Chad and I observed Alliance personnel operate the stack test from the platform on top of the ECU furnace. The sample probes and sample train were on a platform on the ECU stack, approx. 100 feet about the platform on top of the ECU furnace.

ECU #3 was operating at 61.0 tpc/hr. Ethane feed rate during the stack test, according to data provided by Alan Binder. The furnace readed 61.0 tpc at 4 Am today.

I observed the C205A, C205B, and C205C High Pressure Flares from the platform on top of the ECU.

The platform is at a higher elevation than the Totally Enclosed Ground Flare (C205A + C205B).

I did not observe any visible, fugitive or malodor emissions. $O_2 = 4.6\%$, $CO_2 = 5.96\%$.

Run #2 began at 11:50 Am.

Chad raised two issues concerning the stack test. Chad questioned the flexible tubing used in the sample train. Alliance stated that the tubing was surgical grade tubing and not rubber tubing. Alliance will address this in their stack test report. Chad also raised a concern with the balance used. It is missing its legs, reducing its stability/level. Chad did not observe an issue with the measured weights in Run #1.

Chad stayed for Runs #2 and Run #3.

Company - plant name:

Shell Chemicals

Initials of representative interviewed:

Date:

8/22/23.

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Reviewed By _____

White - Site

Yellow - District Office

Pink - Regional Office

Shell Chemical Appalachia LLC, 04-00740

I contacted Shell Chemicals to inform them of my observations and to request the list of operating sources and control devices. Shell Chemicals provided a list of sources and control devices in operation at the time of my observations. Shell Chemicals also submitted records (attached) of an analysis of the gas composition for the material being routed to the flare.

Sources reported to be in operation during my site observation:

8/22/2023 7:50 AM to 12:30 PM Source and Controls Status

031 Ethane Cracking Furnace 1 - Operating (Normal/Cracking)
032 Ethane Cracking Furnace 2 – Operating (Hot Steam Standby)
033 Ethane Cracking Furnace 3 – Operating (Normal/Cracking)
034 Ethane Cracking Furnace 4 - Operating (Hot Steam Standby)
035 Ethane Cracking Furnace 5 – Not Operating (Pilots Only)
036 Ethane Cracking Furnace 6 - Not Operating (No Pilots)
037 Ethane Cracking Furnace 7 - Operating (Normal/Cracking)

101 Cogen 1 CT+ DB – Operating
102 Cogen 2 CT+ DB - Operating
103 Cogen 3 CT+ DB - Operating

104 Cogeneration Plant Cooling Tower - Operating
105 Diesel-Fired Emergency Generator Engines - Standby
106 Fire Pump Engines - Standby
107 Natural Gas Fired Emergency Generator Engines - Standby

201 Ethylene Manufacturing Line - Operating
202 Polyethylene Manufacturing Lines – PE1 operating, PE2 -shut down for planned maintenance, PE3 down
203 Process Cooling Tower - Operating
204 Low Pressure (LP) Header System - Operating LP Incinerator and Multipoint Ground Flare
205 High Pressure (HP) Header System - Operating HP Ground Flare A and B, HP Elevated Flare on Standby
206 Spent Caustic Vent Header System - Operating Spent Caustic Vent Incinerator

301 Polyethylene Pellet Material Storage/Handling/Loadout -Operating
302 Liquid Loadout (Recovered Oil) - Not Operating
303 Liquid Loadout (Pyrolysis Fuel Oil, Light Gasoline) – Not Operating
304 Liquid Loadout (C3+, Butene, Isopentane, Isobutane, C3+ Ref) – Operating for a portion of the inspection window
305 Liquid Loadout (Coke Residue/Tar) - Not Operating

401 Storage Tanks (Recovered Oil, Equalization Wastewater) - Operating
402 Storage Tank (Spent Caustic) - Operating
403 Storage Tanks (Light Gasoline) - Operating
404 Storage Tanks (Hexene) - Operating
405 Storage Tanks (Misc Pressurized/Refrigerated) - Operating
406 Storage Tanks (Diesel Fuel > 150 Gallons) - Operating
407 Storage Tanks (Pyrolysis Fuel Oil) - Operating
408 Storage Tanks (Diesel Fuel < 150 Gallons) - Operating
409 Methanol Storage Vessels and Associated Components -Operating

501 Equipment Components - Operating
502 Wastewater Treatment Plant - Operating
503 Plant Roadways - In Use

All Listed Controls Operating

Shell Chemical Appalachia LLC, 04-00740

PADEP Policy Information

DEP is now accepting permit and authorization applications, as well as other documents and correspondence, electronically through the OnBase Electronic Forms Upload tool. Please use the link below to view the webpage, get instructions, and submit documents:

<https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx>

Effective January 16, 2021, all air quality applications, Permits, Requests for Determinations and initial Asbestos Notifications will be subject to new and/or increased fees. The new fees and other PADEP Air Quality information can be found at: <https://www.dep.pa.gov/Business/Air/Pages/default.aspx>

As of July 29, 2021, the Source Testing Section has gone paperless. An individual Source Testing Section reviewer may request a hard copy from the facility or the consultant. Note that the section will continue to require electronic submissions of protocols and reports to the resource email account (ra-epstacktesting@pa.gov or by disk and snail mail when the file is over 35 MBs). Periodic Monitoring reports (generally three 20-minute test runs) shall only be submitted to the regional office.

As of November 10, 2021, there have been some changes to how the regional offices will accept electronic submission. OnBase submissions of protocols and reports will no longer be accepted for Source Testing.

SWRO: Any email submission to ra-epstacktesting@pa.gov should also be CC-ed to ra-epswstacktesting@pa.gov. Beyond that email cc, no further submission is necessary to DEP SWRO (i.e. no hard copy or disk needed for SWRO).

Shell Polymers HP Flare System GC Hourly Average Compositions*

Date and Time	Elemental Hydrogen % mol	Nitrogen % mol	Methane % mol	Ethane % mol	Acetylene % mol	Ethylene % mol	C3 % mol	C4 % mol	C4 Olefins % mol	C5 % mol	C6+ % mol	Total % mol
22-Aug-23 07:00:00	25.76	33.46	31.28	3.54	0.02	5.85	0.05	0.02	0.03	0.00	0.00	100
22-Aug-23 08:00:00	29.16	16.96	40.54	4.82	0.03	8.39	0.06	0.02	0.03	0.00	0.00	100
22-Aug-23 09:00:00	24.95	8.20	49.31	6.39	0.03	10.95	0.08	0.03	0.05	0.00	0.00	100.00
22-Aug-23 10:00:00	21.41	5.75	53.50	7.31	0.03	11.78	0.09	0.03	0.09	0.00	0.00	100.00
22-Aug-23 11:00:00	9.02	7.07	72.98	5.44	0.01	5.17	0.12	0.05	0.13	0.00	0.00	100.00
22-Aug-23 12:00:00	2.37	10.42	75.54	4.77	0.00	6.61	0.13	0.05	0.11	0.00	0.00	100.00

Shell Polymers LP System Thermal Oxidizer GC Hourly Average Compositions*

Date and Time	Elemental Hydrogen % mol	Nitrogen % mol	Methane % mol	Ethane % mol	Acetylene % mol	Ethylene % mol	C3 % mol	C4 % mol	C4 Olefins % mol	C5 % mol	C6+ % mol	Total % mol
22-Aug-23 07:00:00	0.55	78.53	16.75	0.86	0.00	1.92	0.03	0.02	0.80	0.54	0.00	100
22-Aug-23 08:00:00	0.57	78.99	16.20	0.77	0.00	2.01	0.03	0.02	0.84	0.55	0.01	100
22-Aug-23 09:00:00	0.66	79.08	15.40	0.79	0.00	2.44	0.03	0.03	0.95	0.61	0.01	100
22-Aug-23 10:00:00	0.52	80.52	14.54	0.74	0.00	2.11	0.02	0.02	1.05	0.47	0.02	100
22-Aug-23 11:00:00	0.67	77.91	16.42	0.82	0.00	2.50	0.03	0.03	0.97	0.63	0.01	100
22-Aug-23 12:00:00	0.60	78.64	16.33	0.81	0.00	2.13	0.03	0.02	0.86	0.57	0.02	100

Shell Polymers LP System Multipoint Ground Flare PE1/2 Episodic Vent Header*

Date and Time	Elemental Hydrogen % mol	Nitrogen % mol	Methane % mol	Ethane % mol	Acetylene % mol	Ethylene % mol	C3 % mol	C4 % mol	C4 Olefins % mol	C5 % mol	C6+ % mol	Total % mol
22-Aug-23 07:00:00	0.03	12.23	82.93	4.40	0.00	0.00	0.15	0.04	0.00	0.00	0.23	100
22-Aug-23 08:00:00	0.04	12.18	83.29	4.02	0.00	0.00	0.14	0.06	0.00	0.01	0.28	100
22-Aug-23 09:00:00	0.04	12.31	83.18	4.28	0.00	0.00	0.14	0.03	0.00	0.00	0.01	100
22-Aug-23 10:00:00	0.03	12.39	83.08	4.33	0.00	0.00	0.14	0.03	0.00	0.00	0.00	100
22-Aug-23 11:00:00	0.03	12.37	83.22	4.22	0.00	0.00	0.13	0.03	0.00	0.00	0.00	100
22-Aug-23 12:00:00	0.03	12.42	83.19	4.19	0.00	0.00	0.13	0.03	0.00	0.00	0.00	100

* All data still subject to final QC for purposes of emissions inventory calculations and submittals