


|   |   |  |   |   |   |
|---|---|--|---|---|---|
| 2700-FM-AQ0023 Rev. 1/2008<br>   |   | <b>INSPECTION REPORT</b>   |   | Commonwealth of Pennsylvania<br>Department of Environmental Protection<br>Air Quality Program |   |
| Date(s) of Inspection:<br><b>12/6/23</b>  | TV <input type="checkbox"/><br>SM <input type="checkbox"/><br>NM <input type="checkbox"/> | PA <input type="checkbox"/><br>GP <input type="checkbox"/><br>MEGA <input checked="" type="checkbox"/> | Permit #(s):<br><b>PA-04-00740A, B, C</b>     | Expiration Date:  | Case #:<br><b>04-00740</b>                        |
| Company Name:<br><b>Shell Chemical Appalachia LLC</b>   |   |  | Municipality:<br><b>Potter Township</b>       |   | PF ID #:<br><b>775836</b>                         |
| Plant Name:<br><b>SHELL CHEM APPALACHIA<br/>/PETROCHEMICALS COMPLEX</b>   |   |  | Physical Location:<br><b>Route 18</b>         |   | Federal ID — Plant Code #:<br><b>46-1624986-1</b> |
| Responsible Official:<br><b>William Watson</b>  |   |  | Mailing Address:<br><b>300 Frankfort Road</b> |   |   |
| Title:<br><b>General Manager</b>  |   |  | <b>Monaca, PA 15061-2210</b>                  |   |   |
| Phone #(s):<br><b>724-709-2825</b>  |   |  |   |   |   |
| <b>Mark (X) All Inspection Types That Apply To This Inspection:</b>   |   |  |   |   |   |
| <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 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 checked="" type="checkbox"/> N/A  |   |  | Date Received:                                |   |   |
| AIMS Report Received: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A   |   |  | Date Received:                                |   |   |
| <b>Mark (X) All Activities That Apply:</b>  |   |  |   |   |   |
| <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   |   |   |   |
| 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  |   |  |   |   |   |
| SIC: 2821 NAICS: 221112   |   |  |   |   |   |
| I inspected Monaca, Center Township (including the area by complaint #376461) and Potter Township this morning and did not observe any malodors.  |   |  |   |   |   |
| I observed the Shell Chemicals facility today from 9:25 AM to 10:30 AM. I was located at Gate #3 of the Shell Chemicals facility. I did not observe any visible, fugitive or malodor emissions today. I observed only steam from the Elevated Flare and Cooling Towers. The weather was partly sunny, dry and 36 degrees F.   |   |  |   |   |   |
| I inspected Midland, Industry, Vanport and Beaver late morning today and did not observe any malodors.  |   |  |   |   |   |
| I observed the Shell Chemicals facility today from 12:00 PM to 12:30 PM. I was located across the Ohio River by the Dock 6 building. I did not observe any visible, fugitive or malodor emissions today. I observed only steam from the Elevated Flare and Cooling Towers. The weather was overcast, dry and 38 degrees F.  |   |  |   |   |   |
| Company Representative:<br><b>MEMO TO FILE</b>  |   | Title:<br>-----  | Signature:<br>-----                           | Date:<br>-----  |   |
| DEP Representative:<br><b>Scott Beudway</b>   |   | Title:<br><b>Air Quality Specialist</b>  | Signature:<br><b>Scott Beudway/SB</b>         | Date/Time:<br><b>12/6/23</b>  |   |
| 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. |   |  |   |   |   |

## 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:

Note that the plant (all of ECU and all of PE) was down during the inspection windows.

12/6/2023 9:25 AM to 12:30 PM Source and Controls Status

031 Ethane Cracking Furnace 1 –Operating (Hot Steam Standby)

032 Ethane Cracking Furnace 2 –Not Operating (Pilot)

033 Ethane Cracking Furnace 3 –Operating(Hot Steam Standby)

034 Ethane Cracking Furnace 4 –Not Operating (Pilot)

035 Ethane Cracking Furnace 5 –Operating (Hot Steam Standby)

036 Ethane Cracking Furnace 6 –Not Operating (Pilot)

037 Ethane Cracking Furnace 7 –Not Operating (No Pilots)

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 - Not Operating

202 Polyethylene Manufacturing Lines – PE1 Not Operating, PE2 Not Operating, PE3 Not Operating

203 Process Cooling Tower - Operating

204 Low Pressure (LP) Header System - Operating Multipoint Ground Flare and LP Incinerator

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 – Not 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) -Not operating

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](mailto: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](mailto:ra-epstacktesting@pa.gov) should also be CC-ed to [ra-epswstacktesting@pa.gov](mailto: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<br>% mol | Nitrogen<br>% mol | Methane<br>% mol | Ethane<br>% mol | Acetylene<br>% mol | Ethylene<br>% mol | C3<br>% mol | C4<br>% mol | C4 Olefins<br>% mol | C5<br>% mol | C6+<br>% mol | Total<br>% mol |
|--------------------|-----------------------------|-------------------|------------------|-----------------|--------------------|-------------------|-------------|-------------|---------------------|-------------|--------------|----------------|
| 06-Dec-23 09:00:00 | 0.15                        | 14.91             | 77.91            | 5.65            | 0.00               | 1.02              | 0.26        | 0.06        | 0.00                | 0.00        | 0.04         | 100.00         |
| 06-Dec-23 10:00:00 | 0.12                        | 15.72             | 77.44            | 5.55            | 0.00               | 0.84              | 0.25        | 0.06        | 0.00                | 0.00        | 0.03         | 100.00         |
| 06-Dec-23 11:00:00 | 0.14                        | 18.10             | 75.25            | 5.23            | 0.00               | 0.96              | 0.23        | 0.05        | 0.00                | 0.00        | 0.03         | 100.00         |
| 06-Dec-23 12:00:00 | 0.15                        | 19.35             | 74.49            | 4.89            | 0.00               | 0.80              | 0.22        | 0.05        | 0.00                | 0.00        | 0.05         | 100.00         |

**Shell Polymers LP System Thermal Oxidizer GC Hourly Average Compositions\***

| Date and Time      | Elemental Hydrogen<br>% mol | Nitrogen<br>% mol | Methane<br>% mol | Ethane<br>% mol | Acetylene<br>% mol | Ethylene<br>% mol | C3<br>% mol | C4<br>% mol | C4 Olefins<br>% mol | C5<br>% mol | C6+<br>% mol | Total<br>% mol |
|--------------------|-----------------------------|-------------------|------------------|-----------------|--------------------|-------------------|-------------|-------------|---------------------|-------------|--------------|----------------|
| 06-Dec-23 09:00:00 | 0.03                        | 11.05             | 82.58            | 5.96            | 0.00               | 0.00              | 0.27        | 0.07        | 0.00                | 0.01        | 0.02         | 100.00         |
| 06-Dec-23 10:00:00 | 0.03                        | 10.91             | 82.88            | 5.81            | 0.00               | 0.00              | 0.26        | 0.07        | 0.00                | 0.02        | 0.01         | 100.00         |
| 06-Dec-23 11:00:00 | 0.03                        | 11.05             | 82.87            | 5.70            | 0.00               | 0.00              | 0.25        | 0.06        | 0.00                | 0.02        | 0.02         | 100.00         |
| 06-Dec-23 12:00:00 | 0.03                        | 11.39             | 82.98            | 5.27            | 0.00               | 0.00              | 0.24        | 0.06        | 0.00                | 0.02        | 0.01         | 100.00         |

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

| Date and Time      | Elemental Hydrogen<br>% mol | Nitrogen<br>% mol | Methane<br>% mol | Ethane<br>% mol | Acetylene<br>% mol | Ethylene<br>% mol | C3<br>% mol | C4<br>% mol | C4 Olefins<br>% mol | C5<br>% mol | C6+<br>% mol | Total<br>% mol |
|--------------------|-----------------------------|-------------------|------------------|-----------------|--------------------|-------------------|-------------|-------------|---------------------|-------------|--------------|----------------|
| 06-Dec-23 09:00:00 | 0.03                        | 22.73             | 71.88            | 5.06            | 0.00               | 0.00              | 0.24        | 0.05        | 0.00                | 0.01        | 0.01         | 100.00         |
| 06-Dec-23 10:00:00 | 0.03                        | 22.46             | 72.27            | 4.94            | 0.00               | 0.00              | 0.23        | 0.06        | 0.00                | 0.01        | 0.01         | 100.00         |
| 06-Dec-23 11:00:00 | 0.03                        | 22.26             | 72.60            | 4.83            | 0.00               | 0.00              | 0.22        | 0.05        | 0.00                | 0.01        | 0.01         | 100.00         |
| 06-Dec-23 12:00:00 | 0.03                        | 22.40             | 72.79            | 4.51            | 0.00               | 0.00              | 0.21        | 0.05        | 0.00                | 0.01        | 0.00         | 100.00         |

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