

M4780  
manila

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

M478068660

FACILITY: ROUSH INDUSTRIES		SRN / ID: M4780
LOCATION: 36630 COMMERCE, LIVONIA		DISTRICT: Detroit
CITY: LIVONIA		COUNTY: WAYNE
CONTACT: Vince Anderson , EHSS Manager. Facilities		ACTIVITY DATE: 08/17/2023
STAFF: Samuel Liveson	COMPLIANCE STATUS: Non Compliance	
SUBJECT: Scheduled inspection of a Title V source.		SOURCE CLASS: MAJOR
RESOLVED COMPLAINTS:		

**1.0. Introduction, Arrival, and Facility Overview**

On Thursday August 17, 2023, AQD staff Sam Liveson conducted an unannounced, scheduled inspection of Roush Industries, Inc. (Roush), located at 36630 Commerce Street in Livonia, Michigan.

The purpose of this inspection was to determine the facility’s compliance with the federal Clean Air Act; Part 55, Air Pollution Control, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; the Michigan Air Pollution Control Rules (Rules); and Renewable Operating Permit (ROP) No. MI-ROP-M4780-2023.

**1.1. Arrival and Safety Overview**

The inspection was unannounced. I arrived at the facility at about 9:30 AM. At the facility, I met with Mr. Vincent Anderson, EHSS Manager, Facilities; and Mr. Jeffrey Carter, Dynamometer Supervisor. I provided by state-issued identification and stated the purpose of my visit. We had a pre-inspection meeting prior to walking through the facility.

**1.2. General Facility Overview**

Roush specializes in engine testing and development services. Engine testing is accomplished using dynamometer test cell equipment.

**Engine Test Cells**

Buildings 1, 15, and 16 of Roush Industries are mainly comprised of dynamometers for engine testing. The Testing Services group of Roush conducts a whole range of engine tests depending upon customer requests from automakers and suppliers. Electric motor testing also occurs.

Engine test cells are permitted to burn gasoline and ethanol blends, diesel, natural gas and propane, methanol, and leaded fuel. From talking with staff and reviewing records, leaded fuel is no longer used.

**Roush Separate Stationary Sources M4780 and M3833**

For air quality purposes, the Roush Industries Livonia campus of buildings is considered two stationary sources, because the definition of a stationary source depends upon the source’s Standard Industrial Code (SIC) major groups and building dependencies with each other. The State Registration Number (SRN) of each source and its associated buildings are shown below.

Roush Industries Facility SRN:	M4780	M3833
Buildings:	1, 2, 3, 4, 6, 15, 16	7, 12, 13, 28, 87

Regarding hazardous air pollutants (HAPs), Roush Industries M4780 and M3833 are one source, because the definition of a HAP major source doesn’t differentiate sources based on their SIC major groups per 42 US Code 7412(a)(1). For this reason, MI-ROP-M4780-2023 Source-Wide Conditions limit the combined total of HAP emissions from both Roush Industries M4780 and M3833 to below major source thresholds.

This inspection report discusses stationary source M4780. During this inspection I visited buildings 1, 4, 6, 15, and 16.

**Changes since Previous Inspection**

Since the last air quality inspection in January of 2021, according to facility staff and from my walkthrough, there haven't been any remanufacturing or changes to the dynamometers. Absorption capacities of dynamometers have not changed.

According to staff, CNC machines from building 6 have been moved to Roush's Farmington location. These machines were exempt from obtaining a permit to install per R 285(2)(l)(vi)(B), for machining equipment which vents to the in-plant environment. AQD did not visit building 6 machining equipment during this inspection.

**1.3. Compliance Background**

Roush has no outstanding violation notices.

**2.0. Facility Walkthrough: Process Overview and Compliance Status**

**2.1 Source-Wide Conditions – MI-ROP-M4780-2023**

Below is a summary of each Source-Wide special condition from MI-ROP-M4780-2023, and an explanation of the facility's compliance status.

**SC I.1, I.2, VI.1, and VI.2: HAP emission limit of less than 9 tons per year (tpy) individual HAP and less than 22.5 tpy total HAPs. Calculate HAP emissions.**  
 COMPLIANCE. Roush provided individual and total HAP calculations for combined HAP source M4780 and M3833 for May 2022 through May 2023, including 12-month rolling values for April 2023 and May 2023. The facility's highest individual HAP and total HAP emissions are provided below.

Special Condition	Pollutant	Emission Limit	Maximum 12-Month Rolling Facility Emissions	Last Month of 12-Month Rolling Facility Maximum
I.1	Individual HAP	Less than 9 tpy	0.91 tpy	May 2023
I.2	Total HAPs	Less than 22.5 tpy	2.43 tpy	April 2023

**2.2. Building 1 - FG-BUILDING01 - MI-ROP-M4780-2023**

Building 1 houses twenty-two (22) uncontrolled test cells that were installed at various times during the 1980's. Test cells 14 and 15 are permitted under flexible group FG-B01TCell14&15. The 20 other test cells located in Building 1 appear to be exempt from obtaining a Permit to Install per Rule 285(2)(g) for internal combustion engines with a heat input less than 10 MMBtu/hour. As indicated in a list of dynamometers at building 1 from the January 2021 facility inspection, dynamometers in building 1 are eddy current dynamometers, with the exception of test cells 14 and 15, which are water brake engine dynamometers.

The facility permit for FG-BUILDING01 was issued January 21, 2022, and has since been rolled into the facility ROP.

**Boiler – Rule 282(2)(b)(i)**

Vince and I visited the boiler in building 1's mezzanine. The nameplate indicated a heat input of 462,000 Btu/hr. It uses natural gas. Staff explained it is used for hall heat. The boiler appears to be exempt from obtaining a permit to install under Rule 282(2)(b)(i) for service water heating equipment burning natural gas with a heat input capacity not more than 50,000,000 Btu per hour.

**FG-BUILDING01 Special Conditions and Compliance Status**

Below is a summary FG-BUILDING01 special conditions from MI-ROP-M4780-2023, and an explanation of the facility's compliance status.

<b>SC II.1: Gasoline/Ethanol/Ethanol Blends fuel use limit of 350,000 gallons per 12-month rolling time period.</b>
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COMPLIANCE. The facility provided AQD with monthly records of fuel use for the 12-month period ending July 2023. The 12-month total for that time period was 41,453 gallons gasoline/ethanol/ethanol blends.

**SC II.2: Diesel fuel use limit of 200,000 gallons per 12-month rolling time period.**

COMPLIANCE. The facility provided AQD with monthly records of fuel use for the 12-month period ending July 2023. The 12-month total for that time period was 51 gallons diesel.

**SC II.3: Natural gas/propane fuel use limit of 200,000 gallons per 12-month rolling time period.**

COMPLIANCE. Records indicate that natural gas and propane were not used from August 2022 through July 2023.

**SC II.4: Methanol fuel use limit of 1,000 gallons per 12-month rolling time period.**

COMPLIANCE. Records indicate that methanol was not used from August 2022 through July 2023.

**SC VI.1, 2: Record fuel usage for all fuels used in combustion sources on a monthly and 12-month rolling time-period basis.**

COMPLIANCE. The facility provided AQD with records of fuel use for the 12-month period ending July 2023. Building 1 fuel is tracked via the building's Veeder Root system. During the walkthrough, staff provided a printout from the Veeder Root system with the date and time (August 17, 2023, 11:43 AM) and an inventory of the gallons of fuel in each tank. Tank inventories are input into a spreadsheet daily for Building 1 fuel tracking.

**2.3. Building 1 Cells 14 and 15 – FG-B01TCell14&15 - MI-ROP-M4780-2023**

I visited test cells 14 and test cell 15. Neither was operating. These are water brake engine dynamometers. Each test cell is a room within Building 1 which houses the test cell dynamometer. The facility permit for FG-B01TCell14&15 was issued June 1, 2022, and has since been rolled into the facility ROP.

**FG-B01TCell14&15 Special Conditions and Compliance Status**

Below is a summary of each FG-B01TCell14&15 special condition from MI-ROP-M4780-2023, and an explanation of the facility's compliance status.

**SC I.1, I.2, I.3, I.4, VI.3, VI.4: Tons per year emissions limits for CO, 1,3-butadiene, benzene, and formaldehyde; keep monthly and previous 12-month emission calculation records.**

COMPLIANCE. The facility provided AQD with CO, 1,3-butadiene, benzene, and formaldehyde 12-month rolling emissions calculations for August 2022 through July 2023. Emission factors are provided in the facility records and in the facility ROP. Emissions limits were not exceeded. The table below provides the facility's emission limits and the maximum emissions that occurred.

Special Condition	Pollutant	Emission Limit	Maximum 12-Month Rolling Facility Emissions	Last Month of 12-Month Rolling Facility Maximum
I.1	CO	42.9 tpy	1.5 tpy	June 2023
I.2	1,3-butadiene	23.1 lb/yr	0.9 lb/yr	June 2023
I.3	Benzene	68.4 lb/yr	2.7 lb/yr	June 2023
I.4	Formaldehyde	84.2 lb/yr	1.7 lb/yr	June 2023

**SC II.1, II.2, II.3, VI.1, VI.2: Keep monthly and 12-month rolling fuel use records; gallons per year (gal/yr) fuel use limits for controlled and uncontrolled engines.**

COMPLIANCE. The facility provided AQD with monthly and 12-month rolling gasoline/E85/ethanol, LPG, and methanol usage records for August 2022 through July 2023. Fuel use limits were not

exceeded. The table below provides the facility’s fuel use limits and the maximum fuel usage that occurred.

Special Condition	Material	Fuel Use Limit	Maximum Facility Material Usage	Last Month of 12-Month Rolling Facility Maximum
II.1	Gasoline, ethanol, and blends	12,000 gal/yr	474 gal/yr	June 2023
II.2	Liquified propane gas (LPG)	3,000 gal/yr	5 gal/yr	Each month August 2022 to May 2023
II.3	Methanol	2,300 gal/yr	21 gal/yr	May 2023, June 2023, July 2023

**SC II.4: Combined gasoline, ethanol, and blends fuel use limit of 400 gallons per day.**

COMPLIANCE. Monthly records for August 2022 through July 2023 indicate the most gasoline/E85/ethanol used in a month was 99 gallons in May of 2023. Because this monthly usage is less than 400 gallons, fuel usage is below the daily limit.

**SC II.5: Liquified petroleum gas (LPG) fuel use limit of 80 gallons per day.**

COMPLIANCE. Monthly records for August 2022 through July 2023 indicate no LPG was used, so the most LPG used in a month was 0 gallons. Because this monthly usage is less than 80 gallons, fuel usage is below the daily limit.

**SC II.6: Methanol fuel use limit of 80 gallons per day.**

COMPLIANCE. Monthly records for August 2022 through July 2023 indicate the most methanol used in a month was 18 gallons in February 2023. Because this monthly usage is less than 80 gallons, fuel usage is below the daily limit.

**SC II.7: Burn only leaded or unleaded gasoline, ethanol, gasoline/ethanol blends, LPG or methanol.**

COMPLIANCE. Records indicate that the facility only burns gasoline, ethanol, gasoline/ethanol blends, LPG, and methanol.

**SC IV.1: Install and operate a device to measure the fuel usage for FG-B01TCell14&15.**

COMPLIANCE. To measure fuel usage, test cells 14 and 15 each have a totalizer meter. Facility staff provided an example daily dynamometer paper sheet in which staff record the totalizer meter start gallons, end gallons, and the gallons used.

**SC V.1, V.2, VII.5: Upon request, conduct a stack test to verify CO, 1,3-Butadiene, benzene, and/or formaldehyde emission rates from test cell 14 or 15.**

COMPLIANCE. AQD has not requested stack testing for test cells 14 or 15 at this time.

**SC VII.4: Notify AQD if the land use changes for property classified as industrial or as a public roadway.**

COMPLIANCE. Land use does not appear to have changed.

**SC VIII.1-3: Stack parameters; exhaust unobstructed vertically.**

NON-COMPLIANCE. Test cell 14 stacks appear to meet permit requirements. Test cell 15 has one stack listed in the facility permit; however I observed that two stacks are associated with test cell 15. A review of the permit file for Permit to Install 66-22 indicates that toxic air contaminant modeling occurred for the issuance of this permit, and it is likely that stack dimensions were used in the model when determining the facility’s permitted emission limits. Because test cell 15 has two stacks instead of the one permitted stack, AQD will issue a violation notice for this stack discrepancy. Stacks discharge unobstructed vertically.

**2.4. Building 15 (36630 Commerce Street) - FG-BLD15TCells– MI-ROP-M4780-2023**

Building 15 houses twelve (12) test cells; five are single ended and seven are double-ended test cells. Fuel storage tanks associated with building 15 are included in the ROP under FG-MACT6C.

During the inspection, I visited test cells N/O (EU-TCeIB15N/O) and K/L (EU-TCeIB15K/L). Because neither was operating at that time, I was able to walk into the test cell room. Each test cell was loaded with an engine. Each test cell is a double-ended test cell, meaning that two engines could be loaded onto the cells; however only one is run at a time. Test cell N/O was using compressed natural gas as fuel, while test cell K/L was using LPG as fuel for a 1065 EPA fuel certification test. The two engines I observed had a catalytic converter for control. Nameplates on each of these test cells provided an absorption capacity of 600 KW (approximately 800 HP).

**FG-BLD15TCells Compliance Status**

Below is a summary of each FG-BLD15TCells special condition from MI-ROP-M4780-2023, and an explanation of the facility’s compliance status.

**SC I.1, I.3, I.4, I.5, VI.2, VI.3, VI.5, VI.6: Tons per year emissions limits for NOx, CO, 1,3-butadiene, and lead; keep monthly and previous 12-month emission calculation records.**

COMPLIANCE. The facility provided AQD with NOx, CO, 1,3-butadiene, and lead monthly and 12-month rolling emissions calculations for August 2022 through July 2023. Emissions limits were not exceeded. The table below provides the facility’s emission limits and the maximum emissions that occurred.

Special Condition	Pollutant	Emission Limit	Maximum 12-Month Rolling Facility Emissions	Last Month of 12-Month Rolling Facility Maximum
I.1	NOx	3.71 tpy	1.07 tpy	July 2023
I.3	CO	83.3 tpy	24.7 tpy	July 2023
I.4	1,3-butadiene	0.054 tpy	0.0017 tpy	July 2023
I.5	Lead	0.132 tpy	0.0 tpy	NA

**SC I.2, VI.1, VI.4, Appendix 7: CO emission limit of 952.0 pounds per consecutive 8 hours; monitor daily fuel usage; prorate the 8-hour CO emission rate.**

COMPLIANCE. Daily CO emission records were provided for the month of July 2023. The highest daily CO emissions were 438 gallons on July 17, 2023.

**SC II.1, II.2, II.3, II.4, VI.1, VI.7, VI.8: Keep daily and monthly fuel use records for controlled and uncontrolled engines; gallons per day (gal/day) and gallons per year (gal/yr) fuel use limits for controlled and uncontrolled engines.**

COMPLIANCE. The facility provided AQD with daily controlled (with catalyst) and uncontrolled (without catalyst) fuel use records for the month of July 2023. The facility provided AQD with monthly and 12-month rolling controlled and uncontrolled fuel use records for August 2022 through July 2023. Fuel use limits were not exceeded. The table below provides the facility’s fuel use limits and the maximum fuel usage that occurred.

Special Condition	Material	Fuel Use Limit	Controlled/ Uncontrolled	Maximum Facility Material Usage	Day or Last Month of Max
II.1	Fuel	1,200 gal/day	Uncontrolled	531	July 10, 2023
II.2	Fuel	3,815 gal/day	Controlled	27	July 14, 2023
II.3	Fuel	70,000 gal/yr	Uncontrolled	18,519	July 2023

II.4	Fuel	166,000 gal/yr	Controlled	7,193	July 2023
<p><b>SC II.5, III.1, VI.1, VI.9, VI.10: Leaded fuel use limit of 30,000 gallons per 12-month rolling time period; keep monthly leaded fuel use records; keep records of lead content in leaded fuel; don't use leaded fuel in any of FG-Bld15TCells that are controlled by catalytic converters.</b></p>					
<p>COMPLIANCE. Race fuel usage was provided for August 2022 through July 2023. No race fuel was used during this time period. No lead was emitted during this time period.</p>					
<p><b>SC III.2: Within 180 days of ROP issuance, submit a malfunction abatement plan (MAP) for the catalytic converters.</b></p>					
<p>COMPLIANCE. The ROP was issued July 10, 2023, so the MAP is due January 6, 2024. As of the inspection, the facility had not submitted the MAP.</p>					
<p><b>V.1-4, VII.5: Within 180 days of ROP issuance, stack test for NOx, CO, and 1,3-Butadiene; submit a test plan no less than 60 days prior to testing.</b></p>					
<p>COMPLIANCE. The ROP was issued July 10, 2023, so stack testing is due January 6, 2024. As of the inspection, the facility had not submitted a stack test plan.</p>					
<p><b>SC VII.4: Notify AQD if the land use changes for property classified as industrial or as a public roadway.</b></p>					
<p>COMPLIANCE. Land use does not appear to have changed.</p>					
<p><b>SC VIII.1-12: Stack parameters; exhaust unobstructed vertically.</b></p>					
<p>COMPLIANCE. I observed stack A from ground level. It appeared to exhaust unobstructed vertically. I observed that test cell N/O had two exhausts for two stacks, while test cell K/L appeared to have one exhaust point. This is consistent with the stacks in the ROP.</p>					

**2.5. Building 16 (36580 Commerce Street) - FG-BLD16TCells– MI-ROP-M4780-2023**

Building 16 houses six (6) test cells; one (1) of the test cells is double-ended. Five (5) of the test cells are controlled with catalytic converters. The test cells are covered under PTI No. 101-00A, issued on December 20, 2002. In the ROP, the test cells in Building 16 are included in the flexible group identified as FG-Bld16TCells.

During the inspection, I visited test cells C3 and A1. These are controlled, single-ended test cells. Neither was operating during the inspection. Jeff Carter showed me the catalytic converter controls in place in the exhaust piping of both dynamometers. Cells appear to have piping for two engine exhausts, each with a catalytic converter. This allows testing of V6 and V8 engines, where both sides of the engine exhaust, compared with a 4-cylinder engine, where there is only one exhaust. From outside the test cells, I observed that these two exhaust pipes merge together to exhaust from one vertical unobstructed stack.

Test cells C3 and A1 each had two nameplates: an original nameplate from GE, and a nameplate from Dyno One, when the dynos were repaired and remanufactured. On test cell A1, the original GE nameplate indicates an absorption capacity of 250 HP, and the Dyno One nameplate indicates a current absorption capacity of 300 HP. On test cell C3, the GE and Dyno One nameplates each indicate an absorption capacity of 300 HP. Permit to Install 101-00 provides a description of EUTCeIIA-1 and EUTCeIIC-3 each as “300 hp Dynamometer Engine Test Cell...” so test cells appear to be permitted with a 300 HP absorption capacity.

We visited a Cintas aqueous-based parts washer in Building 16. It does not appear to exhaust to ambient air. Mr. Anderson provided the safety datasheet (SDS) for the washing solution. According to the SDS, the solution is 90-100% water, 1-3% sodium citrate (which does not appear to be a volatile organic compound), and 1-3% surfactant blend. The parts washer appears to be exempt from obtaining a PTI per Rule 281(2)(k) for aqueous based parts washers. Aqueous based parts washer means a tank containing liquid with a VOC content less than 5% by weight, per Rule 101(q).

**FG-BLD16TCells Compliance Status**

Below is a summary of each FG-BLD16TCells special condition from MI-ROP-M4780-2023, and an explanation of the facility's compliance status.

**SC I.1, I.3, I.4, VI.2, VI.3, VI.5: Tons per year emissions limits for NOx, CO and 1,3-butadiene; keep monthly and previous 12-month emission calculation records.**

COMPLIANCE. The facility provided AQD with NOx, CO, and 1,3-butadiene emissions calculations for August 2022 through July 2023. Emissions limits were not exceeded. The table below provides the facility's emission limits and the maximum emissions that occurred.

Special Condition	Pollutant	Emission Limit	Maximum 12-Month Rolling Facility Emissions	Last Month of 12-Month Rolling Facility Maximum
I.1	NOx	6.0 tpy	1.33 tpy	August 2022
I.3	CO	65.3 tpy	12.33 tpy	August 2022
I.4	1,3-butadiene	0.423 tpy	0.0024 tpy	August 2022

**SC I.2, VI.4, Appendix 7: CO emission limit of 1,510 pounds per consecutive 8 hours; monitor daily fuel usage; prorate the 8-hour CO emission rate.**

COMPLIANCE. Daily CO emission records were provided for the month of July 2023. The highest daily CO emissions were 6 pounds CO per 8-hours on July 12, 2023.

**SC II.1, II.2, II.3, VI.1, VI. 6, VI.7: Keep daily and monthly fuel use records; gallons per day (gal/day) and gallons per year (gal/yr) fuel use limits.**

COMPLIANCE. The facility provided AQD with daily controlled (with catalyst) and uncontrolled (without catalyst) fuel use records for the month of July 2023. The facility provided AQD with monthly and 12-month rolling controlled and uncontrolled fuel use records for August 2022 through July 2023. Fuel use limits were not exceeded. The table below provides the facility's fuel use limits and the maximum fuel usage that occurred.

Special Condition	Material	Fuel Use Limit	Controlled/ Uncontrolled	Maximum Facility Material Usage	Day or Last Month of Max
II.1	Fuel	20,000 gal/yr	Uncontrolled	1500 gal/yr	Months of August 2022 through March 2023
II.2	Fuel	3,748 gal/day	All	13 gal/day	July 12, 2023
II.3	Fuel	160,000 gal/yr	All	35,575 gal/yr	August 2022

**SC III.1: Within 180 days of ROP issuance, submit a MAP for the catalytic converters.**

COMPLIANCE. The ROP was issued July 10, 2023, so the MAP is due January 6, 2024. As of the inspection, the facility had not submitted the MAP.

**SC IV.1: Equip and maintain catalytic converters on all dynamometers except EU-TCeII16F6/G7.**

COMPLIANCE. During the inspection, I walked into test cells A1 and C3. I observed the dynamometers and a catalytic converter in each exhaust piping from each of these dynamometers.

**V.1-3, VII.5: Within 180 days of ROP issuance, stack test for NOx, CO, and 1,3-Butadiene; submit a test plan no less than 60 days prior to testing.**

COMPLIANCE. The ROP was issued July 10, 2023, so stack testing is due January 6, 2024. As of the inspection, the facility had not submitted a stack test plan.

**SC VII.4: Notify AQD if the land use changes for property classified as industrial or as a public roadway.**

COMPLIANCE. Land use does not appear to have changed.

**SC VIII.1-6: Stack parameters; exhaust unobstructed vertically.**

COMPLIANCE. I observed stacks from ground level. Stack E5 was leaning over. Vince explained that the stack fell over during a rainstorm in July. According to Vince, nothing has been running in the cell while the stack is leaned over, and the facility was in the process of getting it fixed. On October 12, 2023, Vince let me know the stack is fixed, and provided an image of the vertical stack. Because the issue was resolved timely, AQD does not plan to issue a violation notice for the damaged stack.

**2.5. Gasoline Storage Tanks – 40 CFR Part 63 Subpart CCCCC**

We visited the main underground storage tank farm. Fuel tanks supply the dynamometers at the facility. Fuel storage tanks appear to be exempt from obtaining a PTI per Rule 284(2)(g)(iii) for storage and handling equipment for gasoline, gasoline blends, diesel fuel, and natural gas exclusively serving dynamometer facilities. Storage of propane appears to be exempt from obtaining a PTI per Rule 284(2)(b) for storage of propane in a vessel with a capacity less than 40,000 gallons. Fuel tanks are subject to federal standard 40 CFR Part 63 Subpart CCCCC - National Emission Standard for Hazardous Air Pollutants (NESHAP) for Gasoline Dispensing Facilities. The AQD is not delegated the regulatory authority for this area source NESHAP.

The main facility tank farm (EU-GASTANK4, 5, 6, 7, 10, 11, 12) is located at Building 1. These tanks provide fuel to Building 1 and Building 16. Roush provided a diagram of tanks at the facility. EU-GASTANK9 services buildings 15 and 16. EU-GASTANK8 is a 10,000 gallon tank divided into three sections that services building 15. EU-GASTANK3 is a 2,000 gallon above-ground storage tank which services engine test cells R and S specifically at building 15.

Tank throughput for each tank was provided for August 2022 through July 2023. Jeff opened the outer lids on several underground storage tanks to indicate that fill pipes appear to have a gasketed seal, as well as vapor recovery. Jeff explained that fuel flows into the inner fill pipe, and vapor flows through the outer annular ring of the fill pipes.

**2.6. Building 4 (11953 Market Street) – Rule 285**

Building 4 has engine test cell and electric motor vehicle testing, according to the facility’s synthetic minor HAP application from 2021. I visited the noise and vibration powertrain dynamometer located here, known as Test Cell C. It was not operating. It appears to have one exhaust to one stack. I was unable to view the nameplate because it has foam on the dynamometer for noise purposes. According to the facility potential to emit provided in October of 2022, the dynamometer can hold engines up to 600 HP, with heat inputs of 4.4 MMBtu/hr for gasoline, and 3.8 MMBtu/hr for diesel calculated by multiplying HP by 2545 btu/hr-hp divided by the engine efficiency. The test cell appears to be exempt from obtaining a Permit to Install per Rule 285(2)(g) for internal combustion engines with a heat input less than 10 MMBtu/hour.

The several other test cell rooms in this building have been repurposed. Test Cell B does electric testing. I observe that electric gyroscope testing was occurring. Other cell rooms were used for storage at this time. I observed a dynamometer disconnected in storage with lines cut.

The building 4 underground storage tank is being decommissioned. Vince explained the storage tank is planned to be removed, and soil sampling will occur.

I departed offsite at 3:30 PM.

**3.0. Conclusion**

Based on the AQD inspection and records review, Roush will receive a violation notice for the two stacks on test cell 15 in building 1, per FG-B01TCell14&15 Special Condition VIII.3. Otherwise, the facility appears to be in compliance with the federal Clean Air Act, Michigan NREPA, the Michigan Air Pollution Control Rules, and facility ROP No. MI-ROP-M4780-2023.

NAME 

DATE 10/30/23

SUPERVISOR 