

EMISSIONS TEST REPORT

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for

**OXIDES OF NITROGEN (NO_x), CARBON MONOXIDE
(CO), AND NON-METHANE ORGANIC COMPOUNDS
(NMOC)**

Z-330 - UNIT 4

DTE-GAS

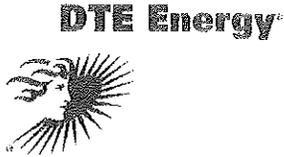
**BELLE RIVER MILLS COMPRESSOR STATION
East China, Michigan**

June 16 & July 19, 2016

Prepared By
Environmental Management & Resources
Environmental Field Services Group
DTE Corporate Services, LLC
7940 Livernois H-136
Detroit, MI 48210

DTE Energy®





EXECUTIVE SUMMARY

DTE Energy's Environmental Management and Resources (EM&R) Field Services Group performed emissions testing at the DTE Gas Belle River Mills Compressor Station (SRN:B6478), located in East China, Michigan. The fieldwork was performed on June 16 and July 19, 2016, to satisfy requirements of the Michigan Department of Environmental Quality (MDEQ) Renewable Operating Permit (ROP) No. B6478-2016 (draft) and 40CFR Part 60 Subpart JJJJ. Emissions tests were performed on Z-330 Engine 4 for oxides of nitrogen (NO_x), carbon monoxide (CO), and non-methane organic compounds (NMOC).

The results of the emissions testing are highlighted below:

**Emissions Testing Summary – Unit 4
Belle River Mills Compressor Station
East China, MI
June 16 & July 19, 2016**

	Oxides of Nitrogen (g/hp-hr)	Carbon Monoxide (g/hp-hr)	Non-Methane Organic Compounds (g/hp-hr)
Unit 4	0.8	2.5	0.6
Permit Limit	3.0	3.0	1.0



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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RENEWABLE OPERATING PERMIT
REPORT CERTIFICATION

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Authorized by 1994 P.A. 451, as amended. Failure to provide this information may result in civil and/or criminal penalties.

Reports submitted pursuant to R 336.1213 (Rule 213), subrules (3)(c) and/or (4)(c), of Michigan's Renewable Operating (RO) Permit program must be certified by a responsible official. Additional information regarding the reports and documentation listed below must be kept on file for at least 5 years, as described in General Condition No. 22 in the RO Permit and be made available to the Department of Environmental Quality, Air Quality Division upon request.

Source Name DTE Gas Company County St. Clair

Source Address 5440 Puttygut Road City China Township

AQD Source ID (SRN) B6478 RO Permit No. MI-ROP-B6478-2016 RO Permit Section No. _____

Please check the appropriate box(es):

Annual Compliance Certification (General Condition No. 28 and No. 29 of the RO Permit)

Reporting period (provide inclusive dates): From _____ To _____

1. During the entire reporting period, this source was in compliance with ALL terms and conditions contained in the RO Permit, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the RO Permit.

2. During the entire reporting period this source was in compliance with all terms and conditions contained in the RO Permit, each term and condition of which is identified and included by this reference, EXCEPT for the deviations identified on the enclosed deviation report(s). The method used to determine compliance for each term and condition is the method specified in the RO Permit, unless otherwise indicated and described on the enclosed deviation report(s).

Semi-Annual (or More Frequent) Report Certification (General Condition No. 23 of the RO Permit)

Reporting period (provide inclusive dates): From _____ To _____

1. During the entire reporting period, ALL monitoring and associated recordkeeping requirements in the RO Permit were met and no deviations from these requirements or any other terms or conditions occurred.

2. During the entire reporting period, all monitoring and associated recordkeeping requirements in the RO Permit were met and no deviations from these requirements or any other terms or conditions occurred, EXCEPT for the deviations identified on the enclosed deviation report(s).

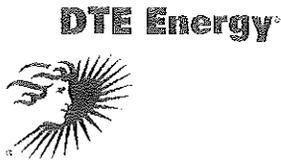
Other Report Certification

Reporting period (provide inclusive dates): From 7/19/16 To 7/19/17

Additional monitoring reports or other applicable documents required by the RO Permit are attached as described:
ROP Emissions Test Report, EU017 (#4 Z-330) NOx, CO, and NMOC

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this report and the supporting enclosures are true, accurate and complete.

<u>Thomas Anderson</u>	<u>Manager - T&SO</u>	<u>(313) 256-6476</u>
Name of Responsible Official (print or type)	Title	Phone Number
<u>Thomas Anderson</u>		<u>8/10/16</u>
Signature of Responsible Official		Date



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1.0 INTRODUCTION

DTE Energy's Environmental Management and Resources (EM&R) Field Services Group performed emissions testing at the DTE Gas Belle River Mills Compressor Station (SRN:B6478), located in East China, Michigan. The fieldwork was performed on June 16 and July 19, 2016, to satisfy requirements of the Michigan Department of Environmental Quality (MDEQ) Renewable Operating Permit (ROP) No. B6478-2016(draft) and 40CFR Part 60 Subpart JJJ. Emissions tests were performed on Z-330 Engine 4 for oxides of nitrogen (NO_x), carbon monoxide (CO), and non-methane organic compounds (NMOC).

Testing was performed pursuant to Title 40, *Code of Federal Regulations*, Part 60, Appendix A (40 CFR §60 App. A), Methods 3A, 7E, 10, 25A and ASTM 6348.

The fieldwork was performed in accordance with EPA Reference Methods and EM&R's Intent to Test¹, which was approved by the Michigan Department of Environmental Quality (MDEQ)². The following EM&R personnel participated in the testing program: Mr. Mark Grigereit, Principal Engineer, Mr. Thom Snyder, Senior Environmental Technician and Mr. Fred Meinecke, Senior Environmental Technician. Mr. Grigereit was the project leader.

Ms. Susan King, DTE-Gas, provided on-site support of the testing. Mr. Tom Gasloli, MDEQ, reviewed the Test Plan. Mr. Robert Elmouchi, MDEQ, observed portions of the testing.

2.0 SOURCE DESCRIPTION

The Belle River Mills Compressor Station located at 5440 Puttygut Road, East China, Michigan, employs the use of two (#4 and #5) natural gas-fired Cooper Z-330 2-stroke lean burn 10,000 Horse Power reciprocating engines (derated to 9,000 Hp). The Z-330 compressor engines generate line pressure assisting the transmission of natural gas into and out of the gas storage field as well as to and from the pipeline transmission system in south east Michigan.

The emissions from both Z-330 Engine exhaust directly into the atmosphere through individual exhaust stacks. Engine 4 was operated at their maximum load during the testing. The composition of the emissions from the engine depends on both the speed of the engine

¹ MDEQ, Test Plan, Submitted December 7, 2016. (Attached-Appendix A)

² MDEQ, Acceptance Letter, January 20, 2016. (Attached-Appendix A)



and the torque delivered to the compressor. Ambient atmospheric conditions, as it affects the density of air, may limit the speed and torque at which the engine can effectively operate.

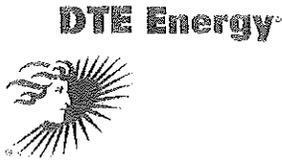
Engine 5 was out of service at the time that the emissions testing was performed and was not tested.

A schematic representation of the engine exhaust and sampling location is presented in Figure 1.

3.0 SAMPLING AND ANALYTICAL PROCEDURES

DTE Energy obtained emissions measurements in accordance with procedures specified in the USEPA *Standards of Performance for New Stationary Sources*. The sampling and analytical methods used in the testing program are indicated in the table below

Sampling Method	Parameter	Analysis
USEPA Method 3A	Oxygen & Carbon Dioxide	Instrumental Analyzer Method
USEPA Method 4	Moisture Content	Field data analysis and reduction
USEPA Method 7E	Oxides of Nitrogen	Chemiluminescent Instrumental Analyzer Method
USEPA Method 10	Carbon Monoxide	NDIR Instrumental Analyzer Method
USEPA Method 18	Methane	GC/FID
USEPA Method 25A	Total Hydrocarbons	FID
USEPA ASTM 6348	Gaseous Organic Compounds (Methane)	FTIR Analytical Method



3.1 OXYGEN AND CARBON DIOXIDE (USEPA METHOD 3A)

3.1.1 Sampling Method

Oxygen (O₂) and Carbon Dioxide (CO₂) emissions were evaluated using USEPA Method 3A, "Gas Analysis for Carbon Dioxide, Oxygen, Excess Air, and Dry Molecular Weight (Instrumental Analyzer Method)". The analyzers utilize paramagnetic sensors. Testing was performed simultaneously with the gaseous emissions testing.

The EPA Method 3A sampling system (Figure 2) consisted of the following:

- (1) Single-point sampling probe (traversed across the exhaust stack)
- (2) Heated PTFE sampling line
- (3) MAK[®] gas conditioner with particulate filter
- (4) Flexible unheated PTFE sampling line
- (5) Servomax 1400 O₂/CO₂ gas analyzer
- (6) Appropriate USEPA Protocol 1 calibration gases
- (7) Data Acquisition System

3.1.2 Sampling Train Calibration

The O₂ and CO₂ analyzers were calibrated according to procedures outlined in USEPA Methods 3A and 7E. Zero, span, and mid-range calibration gases were introduced directly into the analyzer to verify the instruments linearity. A zero and mid-range span gas for each diluent was then introduced through the entire sampling system to determine sampling system bias for each analyzer at the completion of each test.

3.1.3 Quality Control and Assurance

All sampling and analytical equipment was calibrated according to the guidelines referenced in Methods 3A and 7E. Calibration gases were EPA Protocol 1 gases and the concentrations were within the acceptable ranges (40-60% mid-range and span) specified in Method 7E. Calibration gas certification sheets are located in Appendix C.

3.1.4 Data Reduction

Data collected during the emissions testing was recorded at 10-second intervals and averaged in 1-minute increments. The O₂/CO₂ emissions were recorded in percent (%). The 1-minute readings collected during the testing are located in Appendix B.



3.2 OXIDES OF NITROGEN AND CARBON MONOXIDE (USEPA METHODS 7E AND 10)

3.2.1 Sampling Method

Oxides of nitrogen (NO_x) emissions were evaluated using USEPA Method 7E, "Determination of Oxides of Nitrogen Emissions from Stationary Sources". The NO_x analyzer utilizes a Chemiluminescent detector. Carbon monoxide (CO) emissions were evaluated using USEPA Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources". The CO analyzer utilizes an NDIR detector. Triplicate 60-minute tests were performed on each engine exhaust.

The EPA Methods 7E and 10 sampling system (Figure 2) consisted of the following:

- (1) Stainless-steel sample probe (traversed across the exhaust stack)
- (2) Heated PTFE sampling line
- (3) MAK[®] gas conditioner with particulate filter
- (4) Flexible unheated PTFE sampling line
- (5) TECO 42i Chemiluminescent NO/NO_x gas analyzer, and TECO 48i NDIR CO gas analyzer
- (6) Appropriate USEPA Protocol 1 calibration gases
- (7) Data Acquisition System.

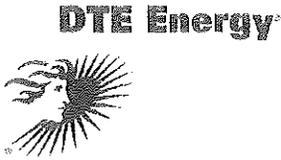
3.2.2 Sampling Train Calibration

The NO_x / CO sampling trains were calibrated according to procedures outlined in USEPA Method 7E and 10. Zero, span, and mid-range calibration gases were introduced directly into each analyzer to verify the instruments linearity. A zero and mid-range span gas for each pollutant was then introduced through the entire sampling system to determine sampling system bias for each analyzer at the completion of each test.

3.2.3 Quality Control and Assurance

All sampling and analytical equipment was calibrated according to the guidelines referenced in Methods 7E and 10. Calibration gases were EPA Protocol 1 gases and the concentrations were within the acceptable ranges (40-60% mid-range and span) specified in Method 7E. Calibration gas certification sheets are located in Appendix C.

DTE performed a NO_x converter efficiency test by directly challenging the NO_x analyzer with a nitrogen dioxide (NO₂) calibration gas of 48.11 ppm. Results from the converter efficiency test demonstrated that the analyzer met the requirements of Method 7E (Eq-1). Equation-1 shows the converter efficiency test performed for Unit 4.



Eq. 1
$$Eff_{NO_2} = \frac{C_{Dir}}{C_v} = \frac{44.6}{48.1} = 91.1\%$$

3.2.4 Data Reduction

Data collected during the emissions testing was recorded at 10-second intervals and averaged in 1-minute increments. The NO_x and CO emissions were recorded in grams per Brake Horsepower Hour (g/BHp-Hr) as required by the Method. The 1-minute readings collected are located in Appendix B.

Emissions calculations, based on calculations located in USEPA Methods 7E, 10, and 19, are located in Appendix F. The NO_x and CO emissions data collected during the testing was calculated as parts per million corrected to 15% Oxygen on a dry basis (ppm @ 15% O₂ dry).

3.3 METHANE (USEPA METHOD 18)

3.3.1 Sampling Method

During the July 19 testing, methane (CH₄) emissions were evaluated using USEPA Method 18, "Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (Tedlar™ Bag Sampling)". This testing involved the collection of exhaust gas in a Tedlar™ bag, which is then analyzed at an off-site laboratory by gas chromatography (GC). Triplicate samples were collected simultaneously with the Total Hydrocarbon (Method 25A) sampling. The vacuum pump flowrate was set to allow for a constant rate, integrated sample, collected for the duration of each test run.

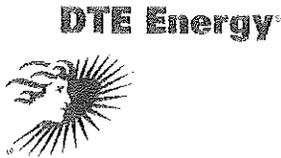
The EPA Method 18 sampling system followed the procedures specified in Section 8.2.1, Integrated Bag Sampling & Analysis.

The EPA Method 18 sampling system (Figure 3) consisted of the following:

- (1) Stainless Steel Probe
- (2) PTFE™ sampling line
- (2) Sampling lung with 10-liter Tedlar™ bag
- (3) Vacuum pump with regulator.

3.3.2 Sample Analysis

The Tedlar bag samples were labeled with the test number, test location and test date. The samples were shipped overnight via Federal Express to the laboratory on



the day of testing. Methane analysis was performed on the following day. Analysis, performed by Enthalpy Analytical Laboratory, Durham, NC followed the guidelines of EPA Method 18, including triplicate analysis and a spike recovery study. Analytical results of the Method 18 samples are located in Appendix D.

3.3.3 Data Reduction

Results from the methane sampling were used to determine the non-methane organic compound concentration from the source. Total hydrocarbon emissions (as determined by Method 25A) and methane emissions (as determined by Method 18) were calculated as grams per Brake Horsepower Hour (g/BHp-Hr). The methane emissions were then subtracted from the total hydrocarbon emissions to determine the non-methane organic compound emissions (NMOC).

3.4 METHANE, ETHANE & CARBON DIOXIDE (ASTM 6348, Tedlar Bag Sampling)

3.4.1 Sampling Method

During the June 16 testing, methane, ethane and carbon dioxide emissions were evaluated using a modified ASTM 6348, "Measurement of Vapor Phase Organic Emissions By Extractive Fourier Transform Infrared (FTIR)". DTE Energy collected integrated exhaust gas samples which were analyzed utilizing an FTIR. DTE collected exhaust gas in a Tedlar™ bag, which was then analyzed at an off-site laboratory. Samples were collected simultaneously with the Total Hydrocarbon (Method 25A) sampling. The vacuum pump flowrate was set to allow for a constant rate, integrated sample, collected for the duration of each test run.

The sampling system followed the procedures specified in Method 18 Section 8.2.1, Integrated Bag Sampling & Analysis.

The sampling system (Figure 3) consisted of the following:

- (3) Stainless Steel Probe
- (4) PTFE sampling line
- (2) Sampling lung with 10-liter Tedlar™ bag
- (3) Vacuum pump with regulator.

3.4.2 Sampling Train Calibration

The FTIR was calibrated according to procedures outlined in ASTM Method 6348. Nitrogen, methane, and ethylene gas standards were injected to confirm concentrations.



3.4.3 Data Reduction

Results from the methane and ethane sampling were used to determine the non-methane/ethane organic compound concentration from the source. Total hydrocarbon emissions (as determined by Method 25A) and methane emissions (as determined by ASTM Method) were calculated as grams per Brake Horsepower Hour (g/BHp-Hr). The methane/ethane emissions were then subtracted from the total hydrocarbon emissions to determine the non-methane/ethane organic compound emissions (NMEOC).

3.5 TOTAL HYDROCARBON COMPOUNDS (USEPA METHOD 25A)

3.5.1 Sampling Method

Total hydrocarbon compound (THC) emissions were evaluated using USEPA Method 25A, "Determination of Total Hydrocarbon Emissions from Stationary Sources (Instrumental Analyzer Method)". The THC analyzer utilizes a flame ionization detector (FID). The FID measures total hydrocarbon compounds (including Methane). Triplicate 60-minute tests were performed on the engine exhaust.

The Method 25A sampling system (Figure 4) consisted of the following:

- (1) Single-point sampling probe (placed in the center of the stack)
- (2) Heated PTFE sampling line
- (3) JUM 109A[®] Total Hydrocarbon gas analyzer
- (4) Appropriate USEPA Protocol 1 calibration gasses
- (5) Data Acquisition System

3.5.2 Sampling Train Calibration

In accordance with USEPA Method 25A, a 4-point (zero, low, mid, and high) calibration check was performed on the THC analyzer. The analyzer was calibrated with propane in the 0-1,000 ppm range. Calibration drift checks were performed at the completion of each run.

3.5.3 Quality Control and Assurance

The THC sampling equipment was calibrated with propane (C₃H₈) according to the guidelines referenced in Methods 25A. Calibration gases were EPA Protocol 1 gases and the concentrations were within the acceptable ranges (25-35% low range, 45-55% mid-range and 80-100% of span). Calibration gas certification sheets are located in Appendix C.



3.5.4 Data Reduction

Data collected during the emissions testing was recorded at 10-second intervals and averaged in 1-minute increments. The THC emissions were recorded in parts per million (ppm) as propane (C₃H₈). The 1-minute readings collected are located in Appendix B.

The NMOC emissions were reported in grams per Brake Horsepower Hour (g/BHp-Hr) as required by the Method. The 1-minute readings collected are located in Appendix B. Emissions calculations, based on equations located in USEPA Methods 25A and 19 are located in Appendix E.

3.6 METHANE, ETHANE & CARBON DIOXIDE (ASTM 6348, Tedlar Bag Sampling)

3.6.1 Sampling Method

During the June 16 testtesting, methane, ethane and carbon dioxide emissions were evaluated using a modified ASTM 6348, "Measurement of Vapor Phase Organic Emissions By Extractive Fourier Transform Infrared (FTIR)". DTE Energy collected integrated exhaust gas samples which were analyzed utilizing an FTIR. DTE collected exhaust gas in a Tedlar™ bag, which was then analyzed at an off-site laboratory. Samples were collected simultaneously with the Total Hydrocarbon (Method 25A) sampling. The vacuum pump flowrate was set to allow for a constant rate, integrated sample, collected for the duration of each test run.

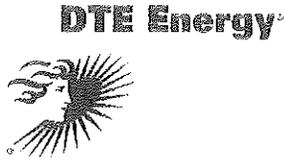
The sampling system followed the procedures specified in Method 18 Section 8.2.1, Integrated Bag Sampling & Analysis.

The sampling system (Figure 3) consisted of the following:

- (5) Stainless Steel Probe
- (6) PTFE sampling line
- (2) Sampling lung with 10-liter Tedlar™ bag
- (3) Vacuum pump with regulator.

3.6.2 Sampling Train Calibration

The FTIR was calibrated according to procedures outlined in ASTM Method 6348. Nitrogen, methane, and ethylene gas standards were injected to confirm concentrations.



3.6.3 Data Reduction

Results from the sampling were used to determine the non-methane organic compound concentration from the source. Methane and ethane emissions were subtracted from total organic compound emissions (as determined by Method 25A).

3.7 MOISTURE (FTIR)

3.7.1 Sampling Method

During the July 19 test, moisture content in the exhaust was evaluated using ASTM D6348, "Measurement of Vapor Phase Organic Emissions by Extractive Fourier Transform Infrared (FTIR)".

4.0 OPERATING PARAMETERS

The test program included the collection of generator load (kW), engine speed (RPM), inlet manifold air pressure (psi), fuel upper heating value (BTU), fuel flow (scfm) and generator operating hours (kW-hour).

Operational data is located in Appendix F.

5.0 DISCUSSION OF RESULTS

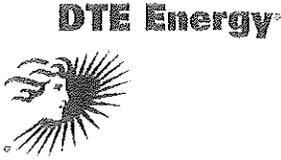
On June 16, DTE Energy completed emissions testing on the #4 Z-330. Testing was performed to satisfy the Unit's permit requirements. NO_x and CO were tested according to USEPA Methods 7E and 10. Emission rates were calibrated utilizing O₂ which was measured utilizing USEPA Method 3A. Both pollutants and the diluent were measured dry. VOC was measured wet utilizing an FID. Methane, ethane, and CO₂ were measured wet as well, utilizing an FTIR and samples collected in Tedlar bags. Results of the NO_x and CO emissions testing demonstrated compliance with permit requirements. Results from the Non-methane/ethane organic compound testing demonstrated compliance during two of three test runs. Run 1 was significantly higher than Runs 2 & 3. The average emissions from the three runs were 1.1 g/B-Hp which is above the emission limit of 1.0 g/B-Hp.

Because the discrepancy of the data, DTE Energy scheduled a retest of Unit 4.

On July 19, DTE Energy completed a retest of the Non Methane emissions from Unit 4. The retest demonstrated an average emission rate of 0.6 g/B-Hp.



Table Nos. 1 and 2 present the emission testing results from Unit 4 while operating at greater than 90% of full load conditions. The NO_x, CO, and NMOC emissions are presented in parts per million corrected to 15% Oxygen on a dry basis (ppm@ 15%O₂ dry). Additional test data presented for each test includes the engine load in percentage (%), kilowatts generated (kW), and the air/fuel ratio. Unit 4 are in compliance with NO_x, CO, and NMOC emission limits as stated in Michigan Renewable Operating Permit No. MI-ROP-P0262-2012a and 40 CFR60.4244 Subpart JJJ.



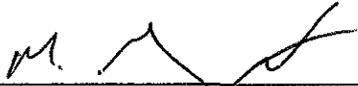
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6.0 CERTIFICATION STATEMENT

"I certify that I believe the information provided in this document is true, accurate, and complete. Results of testing are based on the good faith application of sound professional judgment, using techniques, factors, or standards approved by the Local, State, or Federal Governing body, or generally accepted in the trade."



Mark R. Grigereit, QSTI

This report prepared by: 

Mr. Mark R. Grigereit, QSTI
Principal Engineer, Environmental Field Services
Environmental Management and Resources
DTE Energy Corporate Services, LLC

This report reviewed by: 

Mr. Thom Snyder, QSTI
Sr. Environmental Technician, Environmental Field Services
Environmental Management and Resources
DTE Energy Corporate Services, LLC



TABLE NO. 1
NO_x, CO, and NMEOC EMISSION TESTING RESULTS
Engine 4 Z330 - Belle River Mills Compressor Station
June 16, 2016

Test	Test Date	Test Time	Load (%)	Brake-Hp	Heat Input (MMBtu/hr)	NO _x Emissions ⁽¹⁾		CO Emissions ⁽¹⁾		NMEOC Emissions ⁽¹⁾			
						(ppm _{dry})	(gram/BHp-Hr) ⁽²⁾	(ppm _{dry})	(gram/BHp-Hr) ⁽²⁾	Total VOC as Propane (ppm _{dry})	Methane (ppm _{dry})	Ethane (ppm _{dry})	NMEOC (gram/BHp-Hr) ⁽²⁾
1	6/16/16	8:45-9:45	81	8,198	67.6	52.6	0.9	254.7	2.6	606.0	1,290	60.1	2.4
2		10:02-11:02	82	8,224	67.4	51.9	0.8	247.5	2.4	603.8	1,421	54.6	0.7
3		11:17-12:17	<u>81</u>	<u>8,170</u>	<u>67.6</u>	<u>49.4</u>	<u>0.8</u>	<u>247.0</u>	<u>2.5</u>	<u>615.8</u>	<u>1,468</u>	<u>67.1</u>	<u>0.4</u>
		Average:	81	8,197	67.5	51.3	0.8	249.7	2.5	608.5	1,393	60.6	1.1

ND = Non Detect

(1) Emissions were corrected for analyzer drift per USEPA Method 7E

(2) ROP Permit Limit:

NO_x - 3.0 gram/BHp-Hr

CO - 3.0 gram/BHp-Hr

NMEOC - 1.0 gram/BHp-Hr

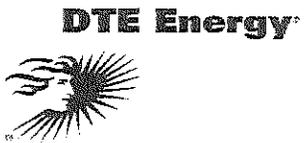


TABLE NO. 2
NMOC EMISSION TESTING RESULTS
Engine 4 Z330 - Belle River Mills Compressor Station
July 19, 2016

Test	Test Date	Test Time	Load (%)	Brake-Hp	Heat Input (MMBtu/hr)	NMOC Emissions ⁽¹⁾		
						Total VOC as Propane (ppm _{dry})	Methane (ppm _{dry})	NMOC (gram/BHp-Hr) ⁽²⁾
1	7/19/16	10:25-11:25	81	8,180	63.6	353.3	879	0.5
2		11:42-12:42	81	8,157	63.6	367.3	939	0.4
3		12:58-13:58	<u>81</u>	<u>8,174</u>	<u>63.8</u>	<u>371.3</u>	<u>818</u>	<u>1.1</u>
		Average:	<i>81</i>	<i>8,170</i>	<i>63.7</i>	<i>364.0</i>	<i>879</i>	<i>0.6</i>

ND = Non Detect

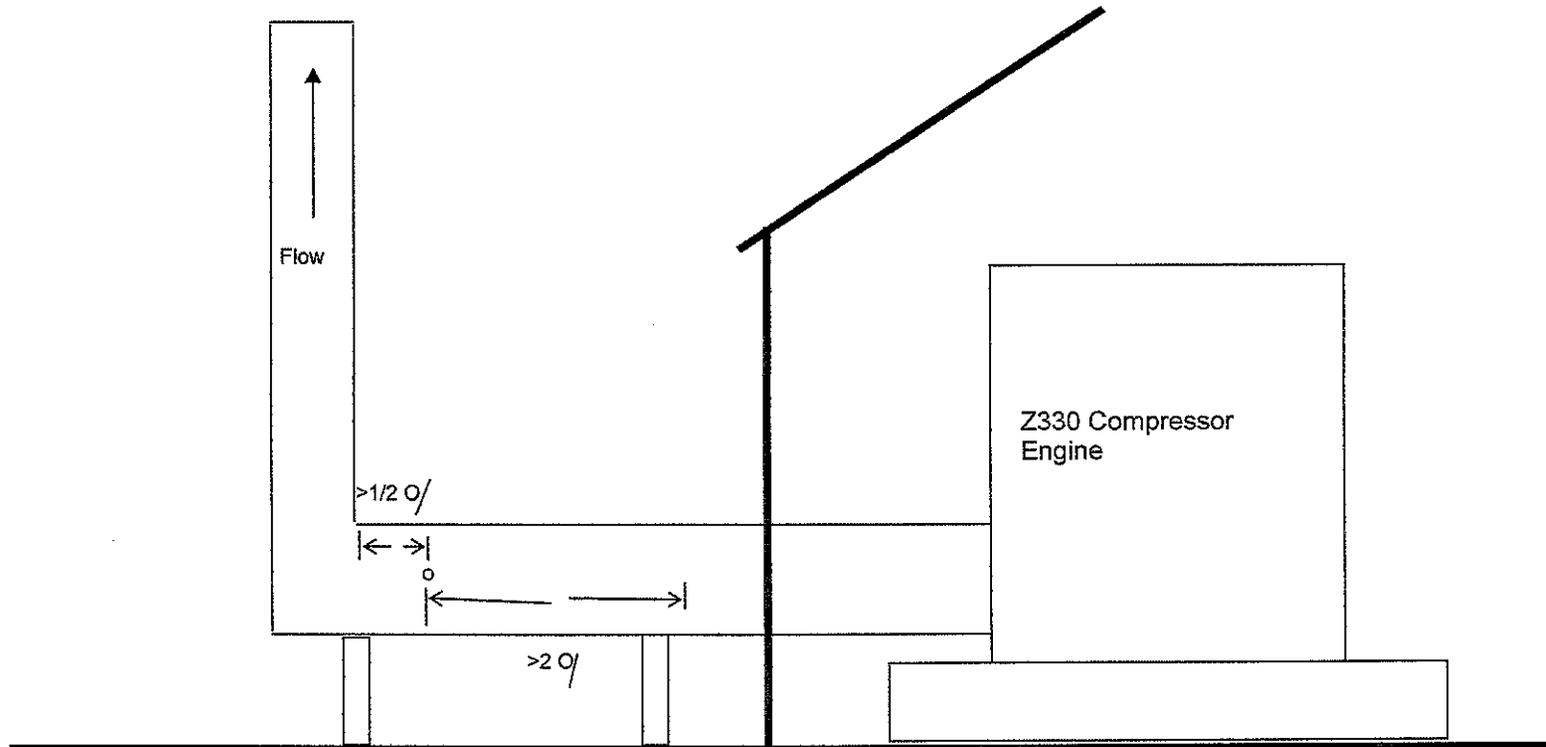
(1) Emissions were corrected for analyzer drift per USEPA Method 7E

(2) ROP Permit Limit:

NMOC - 1.0 gram/BHp-Hr



Figure 1 – Sampling Locations
Z330 Engines 4
Belle River Mills Compressor Station
June 16 & July 19, 2016





**Figure 2 – EPA Method 3A, 7E and 10
Z330 Engine 4
Belle River Mills Compressor Station
June 16 & July 19, 2016**

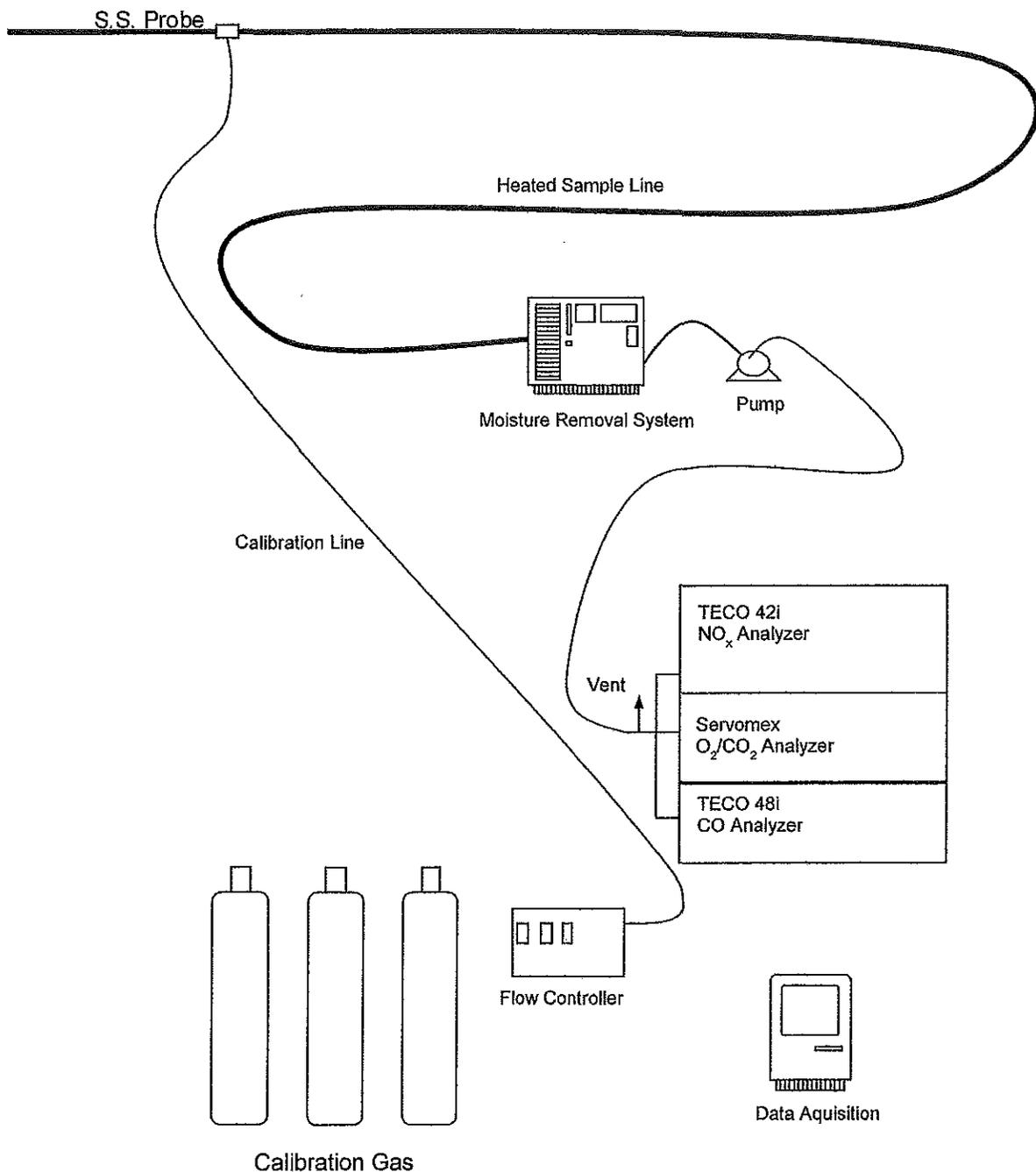
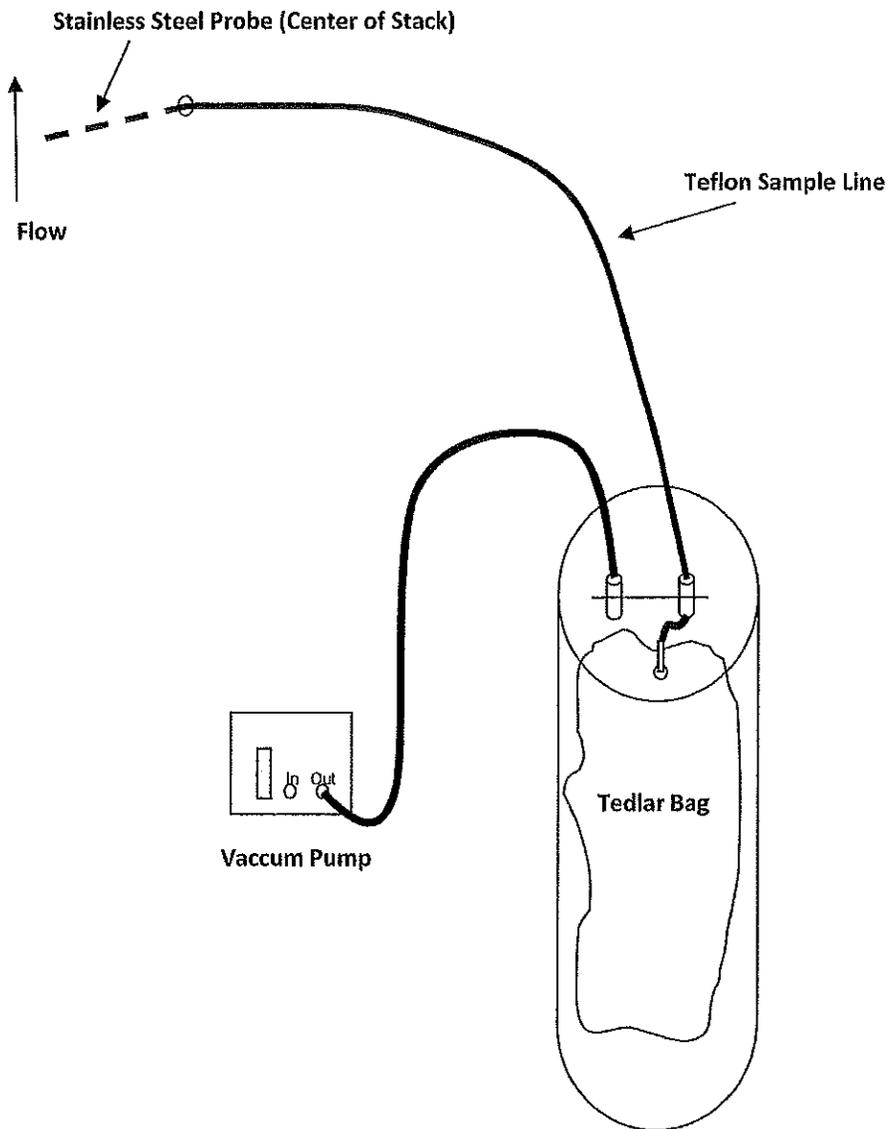




Figure 3 – UEPA Method 18 & ASTM Sample Collection
Z330 Engine 4
Belle River Mills Compressor Station
June 16 & July 19, 2016





**Figure 4 – USEPA Method 25A Sampling Train
Z330 Engines 4
Belle River Mills Compressor Station
June 16 & July 19, 2016**

