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COMPLIANCE TEST REPORT

for

QUARTERLY HYDROGEN CHLORIDE (HCL) EMISSIONS

EU-BOILER7-SC (Unit 7)

SRN: B2796

1st Quarter 2019

St. Clair Power Plant
East China, Michigan

March 7, 2019

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

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EXECUTIVE SUMMARY

DTE Energy's Environmental Management and Resources (EM&R) Field Services Group performed the 2nd Quarter – 2019 Hydrogen Chloride (HCl) emissions test on the exhaust of EU-BOILER7-SC at the St. Clair Power Plant, located in East China, Michigan. The testing was required by the 40 CFR Part 63, Subpart UUUUU (Mercury and Air Toxics Standards - MATS) to document quarterly HCl stack emissions. The testing was conducted on March 7, 2019.

A summary of the emission test results is shown below:

Emissions Testing Summary
St. Clair Power Plant
EU-BOILER7-SC

Source	Date	Load (GMW)	HCl (lbs/MmBtu)(1)
EU-BOILER7-SC	3-7-19	304.1	0.0002

(1) MATS Limit 0.002 lbs/MMBtu

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1.0 INTRODUCTION

DTE Energy's Environmental Management and Resources (EM&R) Field Services Group performed the 2nd Quarter – 2019 Hydrogen Chloride (HCl) emissions test on the exhaust of EU-BOILER7-SC at the St. Clair Power Plant, located in East China, Michigan. The testing was required by the 40 CFR Part 63, Subpart UUUUU (Mercury and Air Toxics Standards - MATS) to document quarterly HCl stack emissions. The testing was conducted on March 7, 2019.

Testing was performed pursuant to USEPA Method 26A (Modified).

The fieldwork was performed in accordance with EPA Reference Methods and DTE Energy Intent to Test[1]. Emissions testing was performed utilizing Method 26A (modified as a single point sample) due equipment availability limitations which did not allow for FTIR analysis. The following DTE Energy personnel participated in the testing program: Mr. Mark Grigereit, Principal Engineer, Mr. Thomas Snyder, Environmental Specialist and Mr. Fred Meinecke, Senior Environmental Technician. Mr. Snyder was the project leader. Mr. Rommy Sleiman, Environmental Engineer at the plant provided process coordination for the testing program.

2.0 SOURCE DESCRIPTION

The St Clair Power Plant (SCPP) located at 4901 Pointe Drive in East China, Michigan, employs the use of five (5) coal-fired boilers (Units 1-3, 6, and 7). Units 1-3 each have Babcock and Wilcox boilers capable of producing 1,070,000 pounds per hour of steam. Unit 1 is equipped with a General Electric turbine generator nominally rated capability of 167 megawatts (MW). Units 2 and 3 have Allis Chalmers turbine generators each with a nominally rated capability of 170 MW. Full load capability for Units 1-3, while firing coal only, are 135 MW and 150 MW while over-firing with oil.

Units 6 and 7 have Combustion Engineering boilers capable of producing 2,100,000 and 3,580,000 pounds of steam per hour respectively. The turbine generators on each unit were manufactured by Westinghouse and have a nominally rated capability of 325 and 500 megawatts respectively. Full load capability for Units 6 and 7 while firing coal only is approximately 315 MW and 470 MW respectively.

The air pollution control equipment on Units 1-3 consists of Wheelebrator Frye electrostatic precipitators on each unit that have design collection efficiencies of 99.6%. Each exhaust stack is 599 feet tall with an internal diameter of 13.3 feet. The air

[1] MDEQ, Test Plan, Submitted October 23, 2017. (Attached-Appendix A)

pollution control equipment on Unit 6 consists of Research Corporation electrostatic precipitators that have design collection efficiencies of 99.6%. The exhaust stack is 425 feet tall with an internal diameter of 19.0 feet. The air pollution control equipment on EU-BOILER7-SC consists of an American Standard electrostatic precipitator that has design collection efficiency of 99.6%. The exhaust stack is 600 feet tall with an internal diameter of 16.0 feet

Each boiler is equipped with a Dry Sorbent Injection (DSI) and Activated Carbon Injection (ACI) air quality control system. The DSI system is used to control acid gas, PM, PM10, PM2.5, and NOx emissions from each unit. Trona is received at the plant where inline mills further refine the Trona. The ACI system is used to control Mercury emissions from each unit.

Testing was performed on EU-BOILER7-SC while operating at normal load conditions, per Subpart UUUUU.

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* or listed as an approved "*Other Test Method*". The sampling and analytical methods used in the testing program are indicated in the table below:

Sampling Method	Parameter	Analysis
USEPA Method 3A	Oxygen & CO_2	Instrumental Analyzer Method
USEPA Method 4	Moisture Content	Field data analysis and reduction
USEPA Method 26a	Hydrogen Chloride	Ion Chromatography
USEPA Method 19	Emission Rate Calculations	Stoichiometric Calculations

3.1 OXYGEN AND CARBON DIOXIDE (USEPA Method 3A)

3.1.1 Sampling Method

Stack gas oxygen (O_2) and carbon dioxide (CO_2) emissions were evaluated using USEPA Method 3A, "Gas Analysis for Carbon Dioxide, Oxygen, Excess Air, and Dry Molecular Weight (Instrumental Analyzer Method)". The O_2 / CO_2 analyzers utilize paramagnetic sensors.

3.1.2 O_2 / CO_2 Sampling Train

The Method 3A sampling system consisted of continuously collecting a gas sample from the exhaust of the Method 5 sampling system. The samples were drawn through a PTFE line into a Servomex™ O_2/CO_2 gas analyzer.

3.1.3 Sampling Train Calibration

The O_2 / CO_2 analyzer was calibrated per procedures outlined in USEPA Method 7E. Zero, span, and mid-range calibration gases were introduced directly into the analyzer to verify the instruments linearity. The O_2/CO_2 concentrations are recorded on the field data sheets.

3.2 MOISTURE DETERMINATION (USEPA Method 4)

3.2.1 Sampling Method

Determination of the moisture content of the exhaust gas was performed using the method described in USEPA Method 4, "Determination of Moisture Content in Stack Gases". The exhaust gas condensate was collected in glass impingers and the percentage of moisture was derived from calculations outlined in USEPA Method 4.

3.3 HYDROGEN CHLORIDE (USEPA Method 26A)

3.3.1 HCl Sampling Method

USEPA Method 26A, "Determination of Hydrogen Halide and Halogen Emissions" (Method 26A) was used to measure the Hydrochloric Acid (HCl) emissions (see Figure 2 for a schematic of the sampling train). Method 26A uses impingers containing 0.1N H_2SO_4 to capture the HCl. Triplicate, 60-minute test runs were conducted. The Method 26A sampling was performed as a single point sample per Method 26 procedures.

The Method 26A stack sampling system (Figure 2) consisted of the following:

(1) Heated glass-lined probe (Maintained >250 °F)

(2) Heated 3" glass filter holder with a PTFE filter (maintained at a temperature of >250 °F)
(3) Set of impingers for the collection HCl and condensate for moisture determination (Impingers containing 0.1N H_2SO_4)
(4) Length of sample line
(5) Environmental Supply® control case equipped with a pump, dry gas meter, and calibrated orifice.

All sampling was conducted at a single point per Method 26.

After completion of each run, a leak test was conducted. All the impingers were measured for moisture gain. Impingers 1, 2 and 3 were rinsed with water and their contents and associated rinses were collected in a pre-cleaned sample container. The containers were labeled with the test number, test location, test date, and the level of liquid marked on the outside of the container. Immediately after recovery, the sample containers were placed in a cooler for storage.

Collected field blanks consisted of a 0.1N H_2SO_4 solution blank. 200ml of 0.1N H_2SO_4 was collected and diluted with DI water, from the same bottle used in sample recovery, to the liquid level of the three test runs. The blank was collected and analyzed following the same procedures used to recover and analyze the field samples.

Analysis of the Method 26A samples and blanks were conducted by Maxxaam Analytics. All analysis followed the procedures listed in USEPA Method 26A. A complete laboratory report is in Appendix E.

Field data sheets for the Method 26A sampling are in Appendix B.

3.3.2 Quality Control and Assurance

All sampling and analytical equipment was calibrated per the guidelines referenced in EPA Method 5 and 26A.

3.3.3 Data Reduction

The HCl emissions data collected during the testing were calculated and reported as parts per million (ppm) and pounds per million Btu (lb/MMBtu).

Analysis of the Method 26A samples and blanks were conducted by Maxxaam Analytics. All analysis followed the procedures listed in USEPA Method 26A. A complete laboratory report is in Appendix E.

Field data sheets for the Method 26A sampling are in Appendix B.

4.0 OPERATING PARAMETERS

The test program included the collection of boiler load and stack emissions CEMs data during each test run. Parameters recorded included gross Megawatts (GMW) and CEMs data (SO_2, NO_x, CO_2, and opacity). Additionally, dry sorbent injection rates (DSI) and activated carbon injection rates (ACI), in pounds per hour (lb/hr), are reported. Operational Data collected during the testing is presented in Appendix C.

During each day of emissions sampling, a representative coal sample was collected from the unit and analyzed for ultimate and proximate analysis, including % Sulfur, % Ash, and heat content. The results of the coal analysis were used to calculate an Fc value for each day of testing and used in the lb/MMBtu calculations. Results of the fuel analysis can be referred to in Appendix E.

5.0 DISCUSSION OF RESULTS

Table 1 presents the HCl emission testing results from EU-BOILER7-SC. HCl emissions are presented in parts per million on a wet basis (ppm_w) and pounds per million BTU (lbs/MMBtu). The EU-BOILER7-SC HCl emissions during the testing demonstrated an average concentration for HCl of 0.17 ppm. The average EU-BOILER7-SC HCl emissions were below the Subpart UUUUU limit of 0.002 lb/MMBtu.

The auxiliary test data presented in the results table for each test includes the unit load in gross megawatts (GMW), DSI injection rate (lb/hr), ACI injection rate (lb/hr), and CO_2 concentration ($\%_{wet}$).

A HCl audit sample was provided by ERA and analyzed by Maxxam. Results of the audit sample fall within the acceptable limits. Results from the audit sample can be referred to in Appendix E.

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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."

Mr. Thomas Snyder, QSTI

This report prepared by:

Mr. Thomas Snyder, QSTI
Environmental Specialist, Field Services Group
Environmental Management and Resources
DTE Energy Corporate Services, LLC

This report reviewed by:

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

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RESULTS TABLE

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TABLE NO. 1
HYDROGEN CHLORIDE EMISSIONS TESTING RESULTS
St.Clair Power Plant - EU-BOILER7-SC (Unit 7)
March 7, 2019

Test	Test Date	Test Time (DAHS Time)	Unit Load (GMW)	DSI Injection Rate (lb/hr)	ACI Injection Rate (lb/hr)	CO_2 Concentration (%)	HCl Concentration (ppmv)	HCl Emissions (lbs/MMBtu)[1]
HCl-1	**7-Mar-19**	7:43-8:43	304.0	0	67	13.3	0.18	0.0002
HCl-2		8:56-9:56	304.1	0	66	13.3	0.20	0.0003
HCl-3		10:09-11:09	304.2	0	65	13.6	0.13	0.0002
	Average:		***304.1***	***0***	***66***	***13.4***	***0.17***	***0.0002***

(1) MATS Limit = 0.002 lb/MMBtu

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FIGURES

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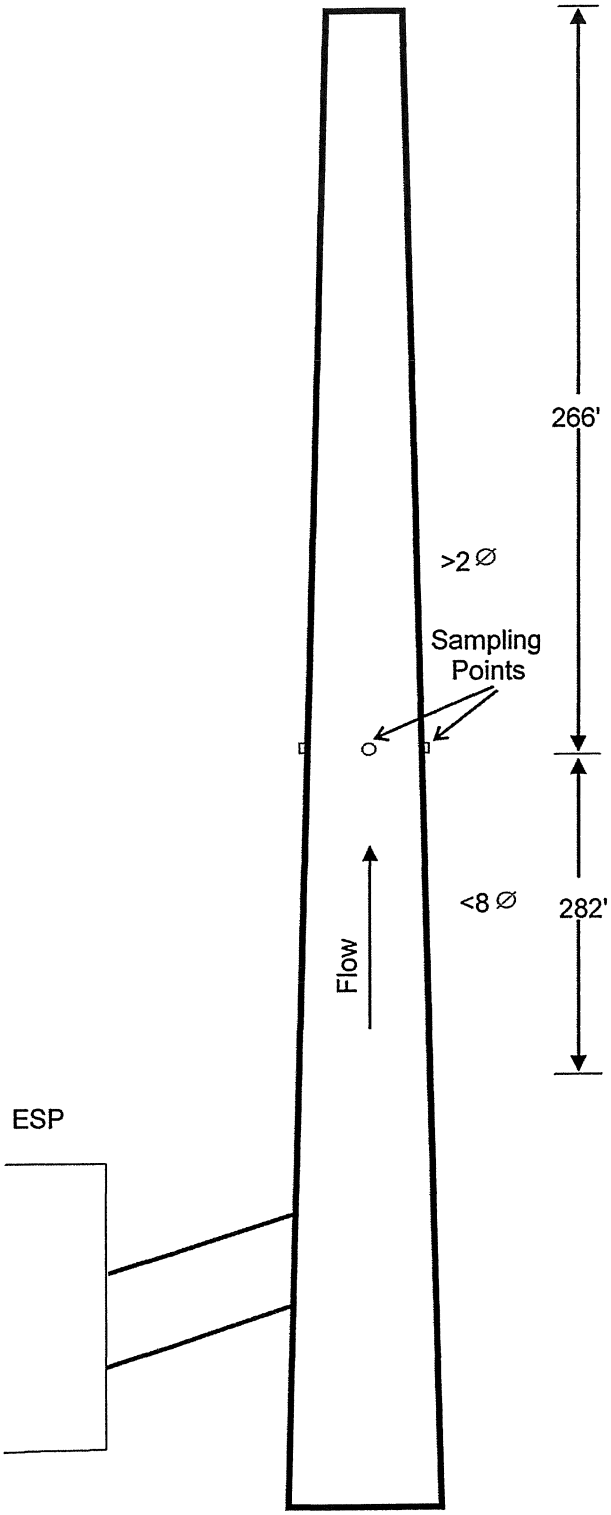
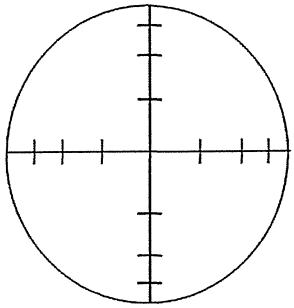
Figure 1 – Sampling Location
St.Clair Power Plant – EU-BOILER7-SC (Unit 7)
April 17, 2019



Stack Diameter 192"



Velocity Measurement Points

Points	Distance From Inner Wall
1	8.4
2	28.0
3	56.8

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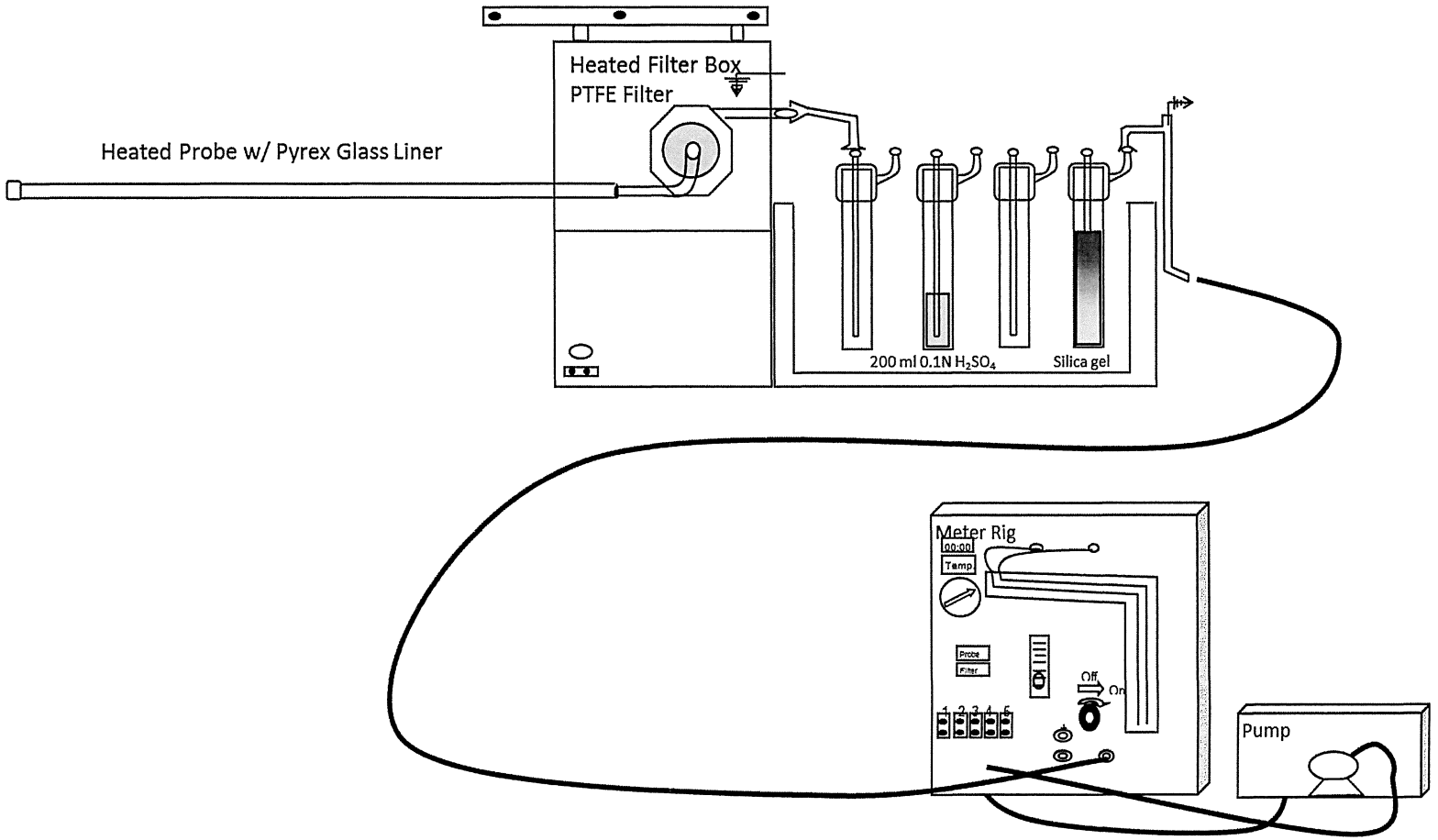
Figure 2 – USEPA Method 26A (Modified)
St.Clair Power Plant
April 17, 2019



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APPENDIX A

TEST PLAN and ACCEPTANCE LETTER

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

C. HEIDI GRETHER
DIRECTOR

January 13, 2017

Mr. Thomas Snyder
DTE Energy
6100 West Warren Avenue
Room H136
Detroit, Michigan 48210

Dear Mr. Snyder:

SUBJECT: St. Clair Power Plant, Quarterly Hydrogen Chloride Emission Testing; SRN: B2796

The Michigan Department of Environmental Quality (MDEQ), Air Quality Division, has reviewed the protocol for hydrogen chloride testing on Boilers 1-4, 6 & 7 at the St. Clair Power Plant. This testing is required to be performed quarterly by 40CFR Part 63 Subpart UUUUU.

The boilers will be tested for hydrogen chloride in accordance with ASTM D6348 or single point non-isokinetic Method 26A. Carbon dioxide will be tested in accordance with 40CFR Part 60, Appendix A, Method 3A, or by using an FTIR in accordance with Methods 3A and Alt-004. Emissions will be reported as pounds per million Btu (lb/MMBtu) using Method 19.

A minimum of once per year each unit will be tested at maximum load while firing a blend with a minimum of 30% eastern coal. The remaining quarterly testing may be performed with the boiler at normal operating load. The following process data will be recorded during testing:

- Boiler MW, DSI and ACI rate
- Type of coal or coal blend fired
- Continuous emission monitor and continuous opacity monitor data
- Analysis of the daily fuel sample and F-factor calculation

The test report will include:

- the initial and system nitrogen purge, ethylene transfer standard, hydrogen chloride direct injection and dynamic spikes, and run data and averages
- FTIR data validation report
- all pre-test and post-test meter box calibration, pitot tube calibration, and field data sheets
- the gas analyzer calibration error, system bias, zero and calibration drift data, run data and run averages, all in tabular format
- all laboratory data including quality control audits
- the process data listed above

All aborted or failed runs must be included in the report.

A complete copy of the test report should be sent to:

Mr. Francis Lim
Department of Environmental Quality
Air Quality Division
27700 Donald Court
Warren, Michigan 48092-2793

Ms. Karen Kajiya-Mills
Department of Environmental Quality
Air Quality Division
Constitution Hall, 2nd Floor South
PO Box 30260
Lansing, MI 48909-7760

This protocol is approved for the testing on Boiler 1-3 scheduled for the week of January 9, 2017, and for all subsequent quarterly hydrogen chloride testing on the boilers at the St. Clair Power Plant. Please provide notification of testing by email to Mr. Francis Lim of the Southeast Michigan District Office, LIMF@michigan.gov, and Ms. Karen Kajiya-Mills of the Technical Programs Unit, kajiya-millsk@michigan.gov, 7-14 days prior to each test. If you have any questions regarding this letter, please contact me by telephone or e-mail at gaslolit@michigan.gov.

Sincerely,

Tom Gasloli
Technical Programs Unit
Field Operations Section
Air Quality Division
517-284-6778

cc: Mr. Joseph Neruda, DTE Energy
Ms. Joyce Zhu, MDEQ
Mr. Francis Lim, MDEQ

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January 5, 2017

Ms. Karen Kajiya-Mills
Toxics & Compliance Support Section
Michigan Department of Environmental Quality
Air Quality Division
Constitution Hall, 525 W. Allegan St.
Lansing, MI 48933

Subject: **Test Plan for MATS quarterly hydrogen chloride (HCl) compliance emissions testing of the Boilers 1-4, 6 & 7 at the DTE Electric, St. Clair Power Plant (SRN: B2796) in East China, Michigan.**

Dear Ms. Kajiya-Mills:

DTE Energy's Environmental Management & Resources (EM&R) Field Services Group is pleased to provide the following Test Plan for Mercury and Air Toxics Standard (MATS) (40 CFR Part 63, Subpart UUUUU) quarterly HCl compliance emissions testing of six coal-fired boilers (Units 1-4, 6 & 7) located at the St. Clair Power Plant, in East China, Michigan. The purpose of this document is to provide the required testing information and to notify the Michigan Department of Environmental Quality (MDEQ) of the upcoming testing.

The Unit 1 HCl testing is tentatively scheduled for January 10, 2017 pending MDEQ approval of the Test Plan. Going forward we request that this letter serve as the Test Plan for the all quarterly HCl testing. We intend to notify the MDEQ, via email, 7-14 days prior to all quarterly HCl emissions testing on each unit at St. Clair Power Plant.

Mr. Thomas Snyder, Environmental Specialist, Field Services Group, prepared this Test Plan. What follows is an item-by-item description of the information required by the MDEQ for testing approval. If you have any questions please contact me at (313) 897-0899 or snydertj@dteenergy.com.

Sincerely,

Thomas Snyder, QSTI
DTE Energy, EM&R

Cc: Mr. Joe Neruda, EM&R-SCPP
Mr. Tom Gasloli, MDEQ
Mr. Mark Grigereit, EM&R

MATS Quarterly HCl Test Plan – St. Clair Power Plant

1a. ***Names, titles, and telephone numbers for the personnel directly involved with this study are listed in the following table:***

Name and Title	Company	Telephone
Mr. Thomas Snyder Environmental Specialist, (DTE Energy – EM&R)	DTE Energy Corporate Services, LLC 6100 West Warren, H136 Detroit, MI 48210	(313) 897-0899
Mr. Joe Neruda Environmental Specialist, (DTE Energy SCPP – EM&R)	DTE Energy - SCPP 4505 King Road East China Twp., MI 48054	(810) 326-6356

1b. ***Type of industrial process or combustion facility:***
The St Clair Power Plant (SCPP) located at 4901 Pointe Drive in East China Township, Michigan, employs the use of six (6) coal-fired boilers (Units 1-4, 6, and 7). Units 1-4 each have Babcock and Wilcox boilers capable of producing 1,070,000 pounds per hour of steam. Units 1 and 4 are equipped with General Electric turbine generators each with a nominally rated capability of 167 megawatts (MW). Units 2 and 3 have Allis Chalmers turbine generators each with a nominally rated capability of 170 MW. Units 6 and 7 have Combustion Engineering boilers capable of producing 2,100,000 and 3,580,000 pounds of steam per hour respectively. The turbine generators on each unit were manufactured by Westinghouse and have a nominally rated capability of 325 and 500 megawatts respectively.

1c. ***Type and quantity of raw and finished materials used in the process:***
The St. Clair Power Plant produces electricity used throughout SE Michigan.

1d. ***Description of any cyclical or batch operations which would tend to produce variable emissions with time:***
The boilers at SCPP operate as base loaded units.

1e. ***Basic operating parameters used to regulate the process:***
The operating parameters used to regulate the process are the same for any coal-fired boiler. In addition, opacity, NO_x, SO_2 and Mercury emissions are used to regulate the process. Operating parameters will be documented in the control room during each test.

1f. ***Rated capacity of the process and process rate during the testing:***
Full load conditions for Units 1-4 on coal would be 135 MW per unit. Full load conditions for Unit 6 would be 325 MW. Full load conditions for Unit 7 would be 500 MW. Quarterly testing for hydrogen chloride (HCl) will be performed at normal operating load and will be representative of site specific normal operating conditions.

2a. ***Type of control device associated with the process:***

The air pollution control equipment on Units 1-4 consists of Wheelebrator Frye electrostatic precipitators on each unit that have design collection efficiencies of 99.6%. Each exhaust stack is 599 feet tall with an internal diameter of 13.3 feet. The air pollution control equipment on Unit 6 consists of Research Corporation electrostatic precipitators that have design collection efficiencies of 99.6%. The exhaust stack is 425 feet tall with an internal diameter of 19.0 feet. The air pollution control equipment on Unit 7 consists of an American Standard electrostatic precipitator that has design collection efficiency of 99.6%. The exhaust stack is 600 feet tall with an internal diameter of 16.0 feet.

Each boiler is equipped with a Dry Sorbent Injection (DSI) and Activated Carbon Injection (ACI) air quality control system. The DSI system is used to control acid gas, PM, PM10, PM2.5, and NOx emissions from each unit. Trona is received at the plant where inline mills further refine the Trona. The ACI system is used to control Mercury emissions from each unit.

2b. ***Operating parameters of the control device:***

Process operating data, including control room readings, precipitator readings, and DSI/ACI operating data, are collected continuously during normal operations of the control equipment.

2c. ***Rated capacity and efficiency of the control device:***

The air pollution control equipment on Units 1-4 consists of Wheelebrator Frye electrostatic precipitators on each unit that have design collection efficiencies of 99.6%. The air pollution control equipment on Unit 6 consists of Research Corporation electrostatic precipitators that have design collection efficiencies of 99.6%. The air pollution control equipment on Unit 7 consists of an American Standard electrostatic precipitator that has design collection efficiency of 99.6%.

The DSI/ACI system capacity for Units 1-4 is 6,000 lb/hr DSI and 240 lb/hr ACI. The capacity for Units U6 & 7 is 12,000 lb/hr DSI and 480 lb/hr ACI. The efficiency of the DSI/ACI system is dependent on generating units' operating conditions and can vary day-to-day.

3. ***Applicable permit number and emission limits for the process to be tested:***

The St. Clair Power Plant's HCl emissions are limited by 40 CFR Part 63 Subpart UUUUU. The HCl emission limit as stated in the regulation is 0.002 lb/MMBtu or 0.02 lb/MWh.

4. ***Identify all pollutants to be measured:***

The exhaust gas concentration of HCl (ppm), and CO_2 (%) will be measured.

5. ***Description of the sampling train(s) to be used, including schematic diagrams if appropriate:***

HCl testing will be performed on each Units' exhaust stack via triplicate 60-minute test runs. Testing for HCl will be conducted utilizing ASTM D6348.

6. ***Detailed sampling and analysis procedures, including the applicable standard methods referenced:***

Sampling and analysis methods will include the following:

Sampling & Analytical Methods

Parameter	Method	Analytical Method
Hydrogen Chloride (HCl), Carbon Dioxide (CO_2) & Moisture Content	ASTM D6348	FTIR (Fourier transform infrared) spectroscopy
Emission Rate Calculations	USPEA Method 19	Stoichiometric Calculations

ASTM D6348, ***"DETERMINATION OF GASEOUS COMPOUNDS BY EXTRACTIVE DIRECT INTERFACE FOURIER TRANSFORM INFRARED (FTIR) SPECTROSCOPY"***, will be used to measure exhaust gas HCl and CO_2 concentrations, and exhaust gas moisture content.

When using ASTM 6348 to quantify the CO_2 concentrations in the exhaust gas, the analyzer calibration error, bias, system response time, and drift checks required In USEPA Method 3A will be followed. The CO_2 calibration gases will be NIST traceable calibration gases.

USEPA Method 19 will be used to convert the HCl concentrations to lb/mmBtu. HCl and CO2 measurements will be made on a consistent wet basis.

8. ***Dimensioned sketches showing all sampling ports in relation to the upstream and downstream disturbances or obstructions of gas flow:***
All sampling will be conducted at the test locations at each Units exhaust stack. (See Figures 1-3).

9. ***Estimated flue gas conditions such as temperature, moisture and velocity:***
The estimated flue gas temperature, gas moisture and velocity for each exhaust stack are approximately 250-280°F, 5-8% and 60-75 ft/sec. (Units 1-4 and 6) and 125 ft/sec (Unit 7), respectively. The known analytical interferents to HCl in the source effluent are water vapor and carbon dioxide. Moisture content (%) and CO_2 (%) will be measured with the FTIR.

10. ***Projected process operating conditions during which the tests will be run:***
Testing will be performed at normal operating load and will be representative of site specific normal operating conditions.

11. ***Description of any process or control equipment data to be collected during the testing:***
Process data collected during the testing will include control room readings and precipitator readings. Daily samples of the coal being burned will be collected and analyzed for each test day.

12. ***Description of any monitoring data to be collected during the test period (i.e. – continuous emission monitoring data):***
Monitoring data collected during the testing will include the CEMs data (SO_2, NO_x, CO_2, Load and Opacity).

13. ***Chain of Custody procedures:***
Standard chain of custody procedures will be followed for all testing and sample collection.

14. ***Field quality assurance/quality control procedures (eg – field blanks, sample storage and transport methods):***
The sampling team will prepare and calibrate field-sampling equipment and perform quality assurance/quality control (QA/QC) consistent with the employed USEPA and ASTM methodology.

15. ***Laboratory quality assurance/quality control procedures utilized as part of the testing:***
Calibrations for USEPA Method 3A and ASTM D6348 will follow protocol stated in the methods and will utilize appropriate calibration gases.

16. ***Names and titles of personnel who will be performing the testing:***
The testing will be performed by DTE Energy's Field Services Group.

ASTM D6348

Mr. Thomas Snyder, Environmental Specialist, QSTI
Mr. Mark Grigereit, Principal Engineer, QSTI
Mr. Fred Meinecke, Senior Technician
Ms. Tanecia Wilson, Environmental Technician

FTIR data validation

Prism Analytical Technologies, Inc. (PATI)
2625 Denison Drive
Mt. Pleasant, MI 48858

Phone 989.772.5088

The emission test report will include the items found on pages 3 and 4 of the MDEQ/Air Quality Division's Format for Submittal of Source Emission Test Plans and Reports. Included in the report will be a site description with the reason for testing, source descriptions, a summary of results, our sampling and analytical procedures, and test results and discussion.

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Figure 1 – Sampling Location
St.Clair Power Plant – Units 1-4
2017

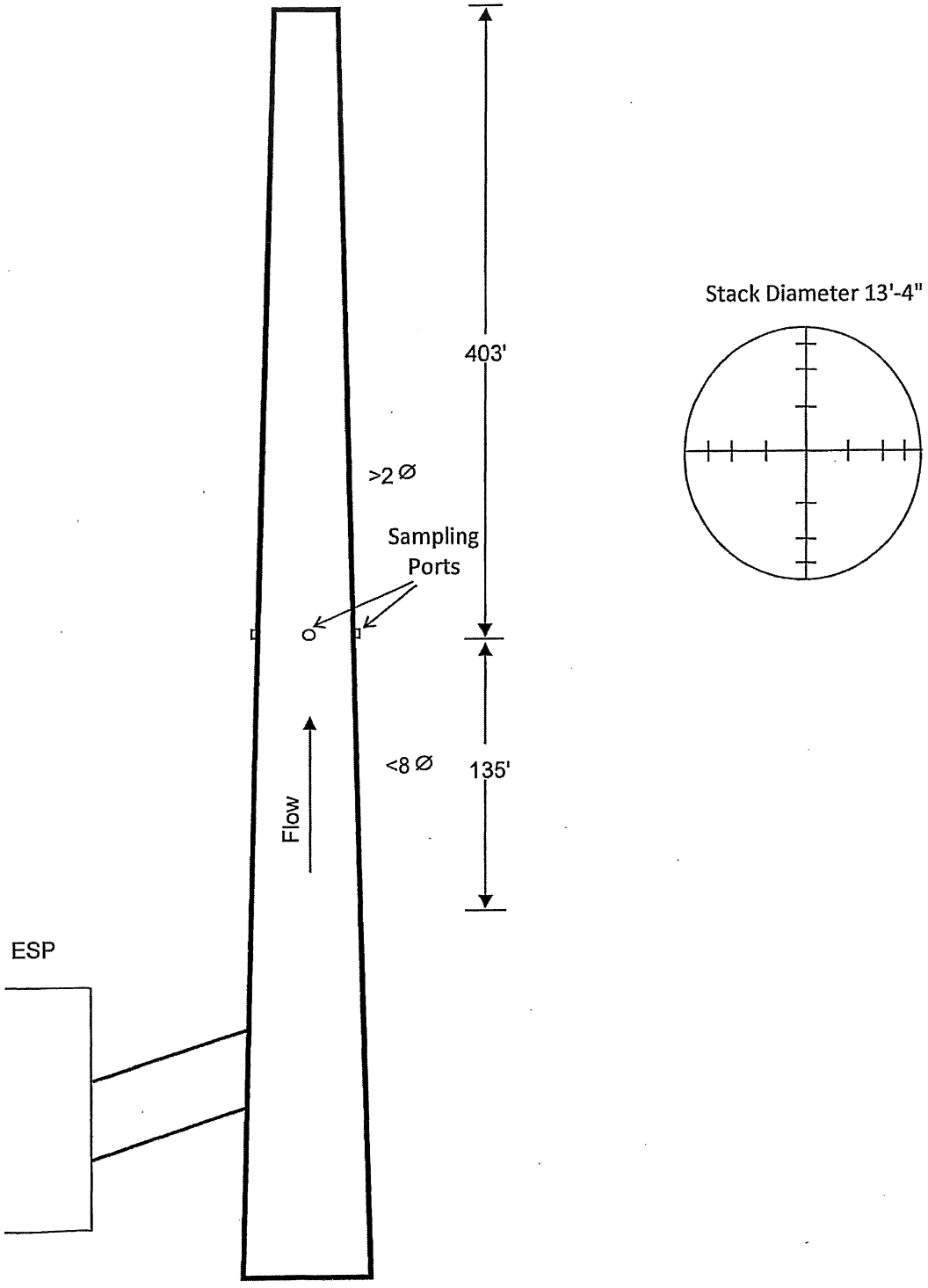

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Figure 2 – Sampling Location
St.Clair Power Plant – Unit 6
2017

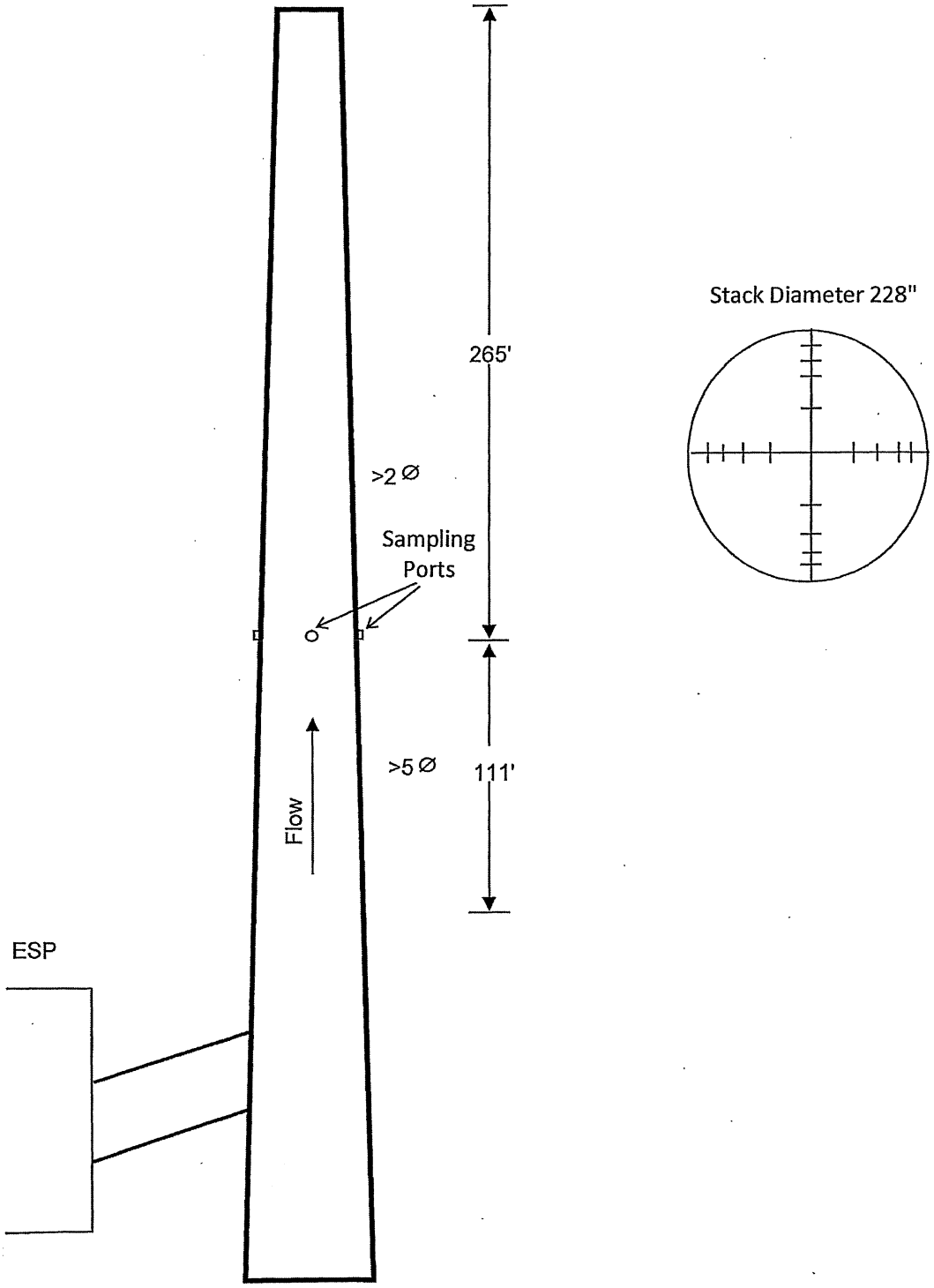

Figure 3 – Sampling Location
St.Clair Power Plant – Unit 7
2017

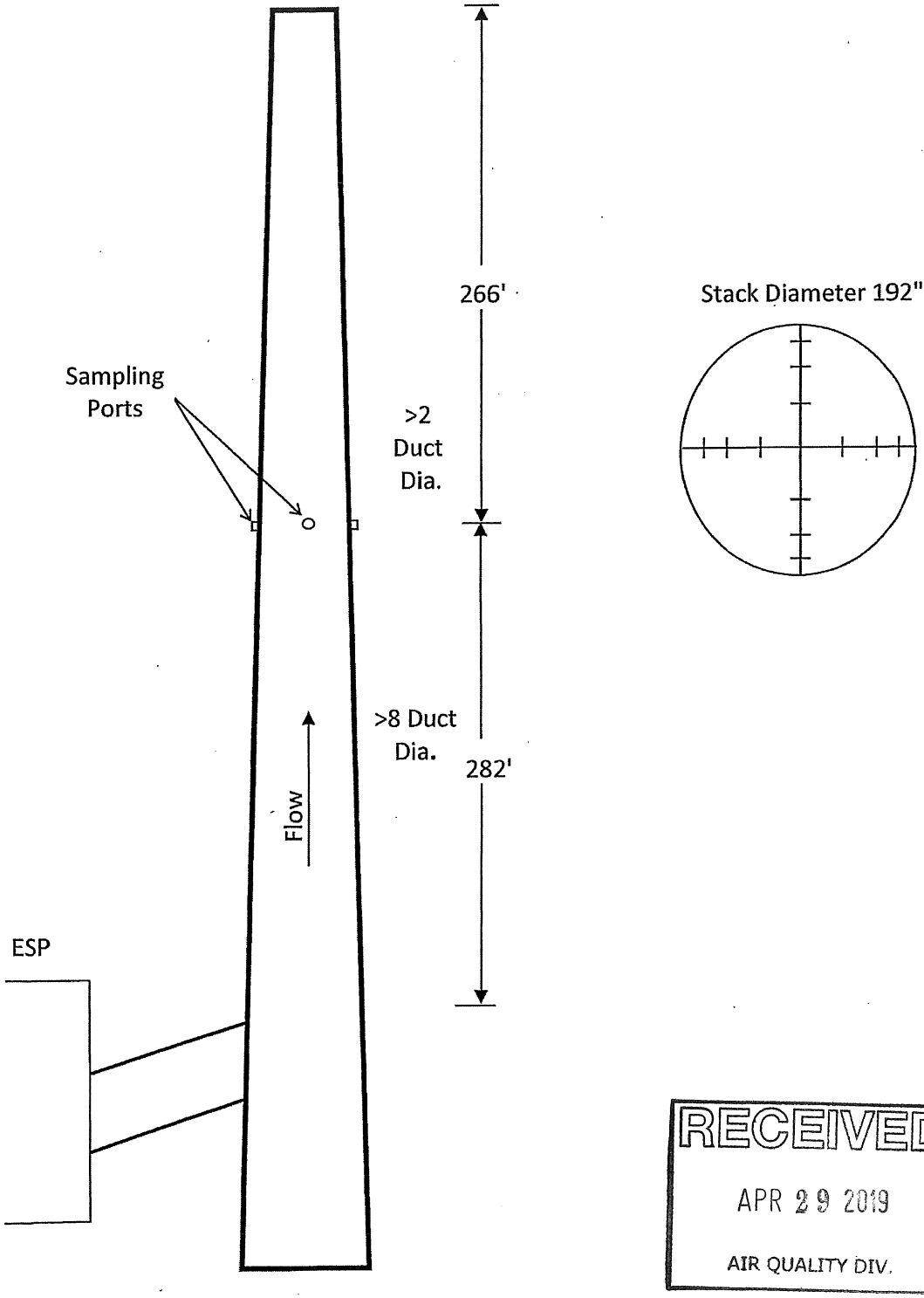

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Figure 4 – ASTM D6348
St.Clair Power Plant
March, 2016