COMPLIANCE TEST REPORT

for

QUARTERLY HYDROGEN CHLORIDE (HCL) EMISSIONS

EU-BOILER3-SC (Unit 3)

SRN: B2796

1st Quarter 2022

St. Clair Power Plant
East China, Michigan

January 24, 2022

Prepared By:
Environmental Management & Safety
Ecology, Monitoring, & Remediation
DTE Corporate Services, LLC
7940 Livernois G4-S
Detroit, MI 48210

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EXECUTIVE SUMMARY

DTE Energy's Environmental Management and Safety (EM&S) Ecology, Monitoring, & Remediation group performed the 1st Quarter – 2022 Hydrogen Chloride (HCl) emissions test on the exhaust of EU-BOILER3-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. Testing was conducted on January 24, 2022.

A summary of the emission test results is shown below:

Emissions Testing Summary
St. Clair Power Plant
EU-BOILER3-SC

Source	Date	Load (GMW)	HCl (lbs/MmBtu)[1]
EU-BOILER3-SC	1-24-22	127.7	0.0004

(1) MATS Limit 0.0020 lbs/MMBtu

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1.0 INTRODUCTION

DTE Energy's Environmental Management and Safety (EM&S) Ecology, Monitoring, & Remediation group performed the 1st Quarter – 2022 Hydrogen Chloride (HCl) emissions test on the exhaust of EU-BOILER3-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. Testing was conducted on January 24, 2022.

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], which was approved in a letter by Mr. Tom Gasloli from the Michigan Department of Environment, Great Lakes, and Energy (EGLE), dated January 13, 2017[2] Emissions testing was performed utilizing Method 26A (modified as a single point sample). The following DTE Energy personnel participated in the testing program: Mr. Thomas Snyder, Senior Environmental Specialist, and Mr. Fred Meinecke, Environmental Specialist. Mr. Snyder was the project leader. Mr. Dominic Vendittelli, 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 four (4) coal-fired boilers (Units 2-3, 6, and 7). Units 2 and 3 each have Babcock and Wilcox boilers capable of producing 1,070,000 pounds per hour of steam. Units 2 and 3 have Allis Chalmers turbine generators each with a nominally rated capability of 170 MW. Full load capability for Units 2-3, 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 2 and 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 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

[1] EGLE, Test Plan, Submitted October 2, 2020. (Attached-Appendix A)

[2] EGLE, Approval Letter, dated November 10, 2020. (Attached-Appendix A)

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, PM_{10}, $PM_{2.5}$, 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-BOILER3-SC while operating at maximum normal operating load and representative of site specific normal operating conditions per 40 CFR part 63.10007.

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 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 MOISTURE DETERMINATION (USEPA Method 4)

3.1.1 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 as a component of the Method 26A sampling train and the percentage of moisture was derived from calculations outlined in USEPA Method 4.

3.2 HYDROGEN CHLORIDE (USEPA Method 26A)

3.2.1 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 >248 °F)
(2) Heated 3" glass filter holder with a PTFE filter (maintained at a temperature of >248 °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 and DI water 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 Enthalpy Analytical, LLC. 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.

3.2.2 Quality Control and Assurance

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

3.2.3 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). CO_2 data from the Unit CEMS was used in conjunction with Method 19 to calculate emissions in lb/MMbtu for comparison to the emission limits.

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-BOILER3-SC. HCl emissions are presented in parts per million on a wet basis (ppm_w) and pounds per million BTU (lbs/MMBtu). The EU-BOILER3-SC HCl emissions during testing demonstrated an average concentration of 0.18 ppm and emission rate of 0.0004 lb/MMbtu. This is below the Subpart UUUUU limit of 0.0020 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 ($\%_{wet}$).

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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
Sr. Environmental Specialist, Ecology, Monitoring, & Remediation
Environmental Management and Safety
DTE Energy Corporate Services, LLC

This report reviewed by: Mark Grigereit

Mr. Mark Grigereit, QSTI
Principal Engineer, Ecology, Monitoring, & Remediation
Environmental Management and Safety
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-BOILER3-SC (Unit 3)
January 24, 2022

Test	Test Date	Test 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	**24-Jan-22**	10:04-11:04	126.6	0	107	8.7	0.18	0.0004
HCl-2		11:21-12:21	128.1	0	107	8.8	0.18	0.0004
HCl-3		12:31-13:31	128.4	0	107	8.8	0.18	0.0004
	Average:		***127.7***	***0***	***107***	***8.7***	***0.18***	***0.0004***

(1) MATS Limit = 0.0020 lb/MMBtu

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FIGURES

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Figure 1 – Sampling Location
St.Clair Power Plant – EU-BOILER3-SC
January 24, 2022

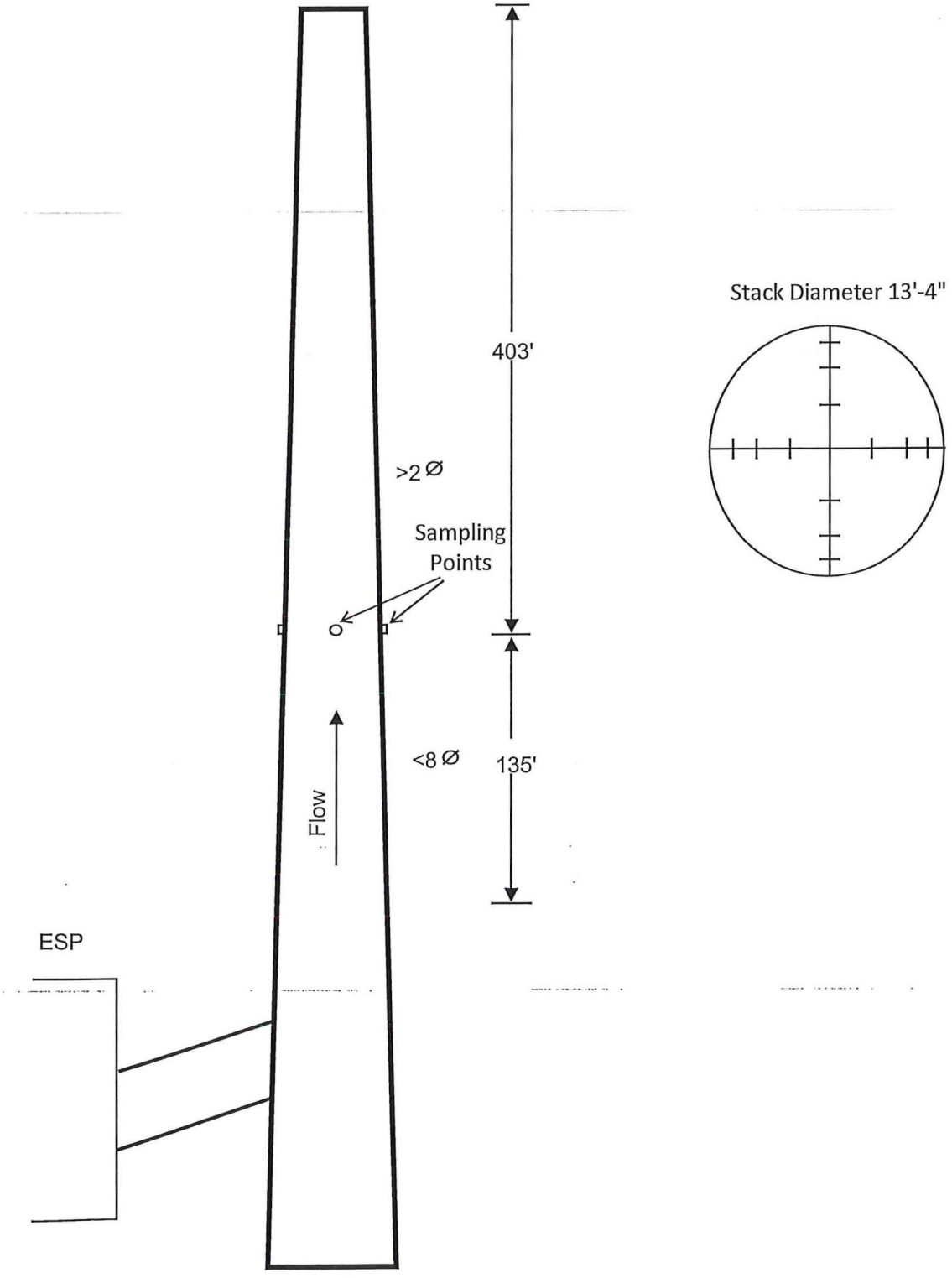

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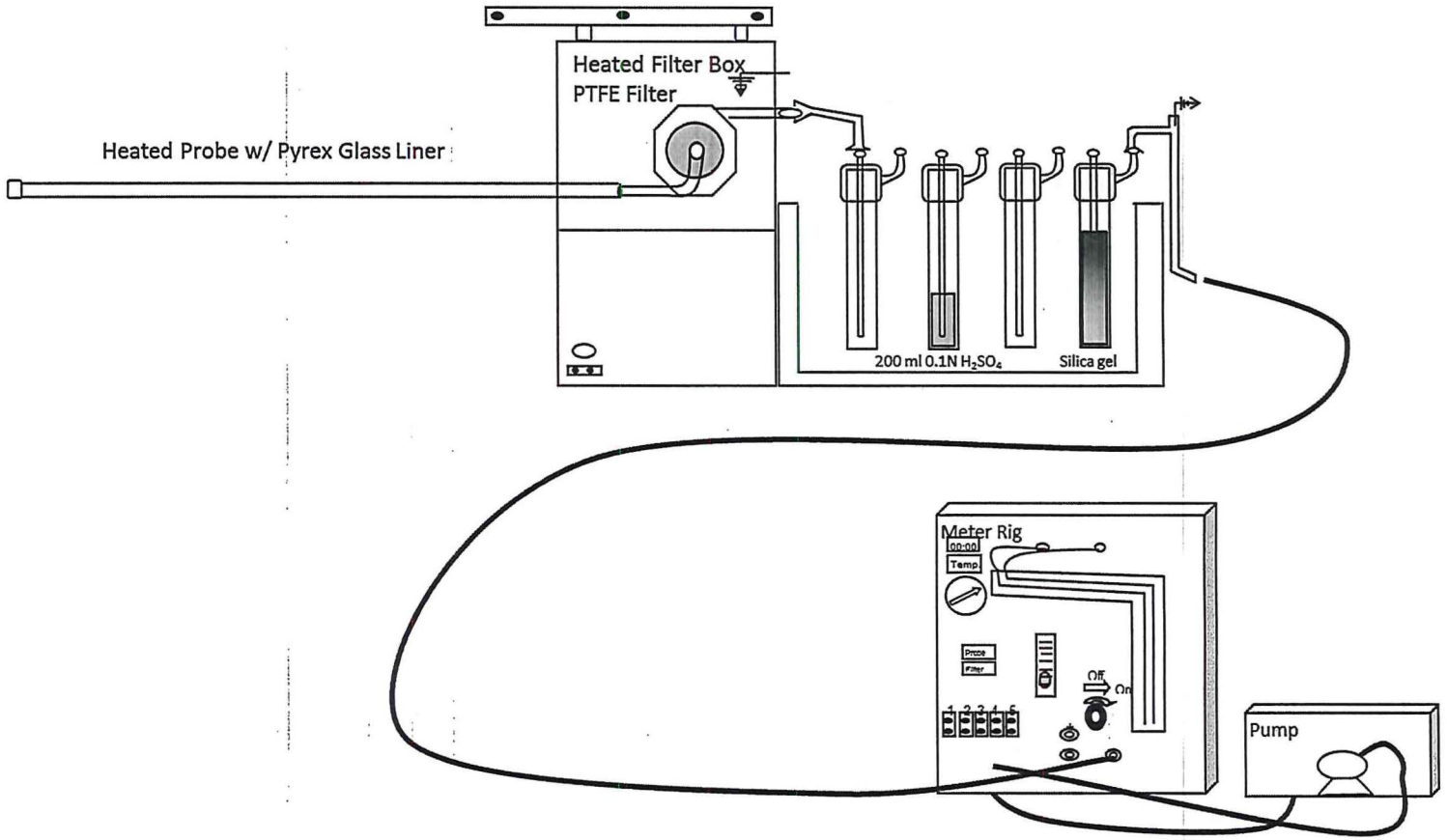
Figure 2 – USEPA Method 26A (Modified)
St.Clair Power Plant – EU-BOILER2-SC
January 24, 2022



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APPENDIX A

TEST PLAN and ACCEPTANCE LETTER

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
DETROIT DISTRICT OFFICE

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

November 10, 2020

Mr. Jason Logan
DTE Energy
7940 Livernois Avenue, G4-S
Detroit, Michigan 48210

Dear Mr. Logan:

SUBJECT: Plan for DTE Quarterly Hydrogen Chloride Emissions Testing

The Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) has completed the quality assurance review of the test plans for the hydrogen chloride (HCl) emissions testing at DTE Belle River Power Plant (BRPP; B2796), St Clair Power Plant (SCPP; B2796), River Rouge Power Plant (RRPP; B2810), and Trenton Channel Power Plant (TCPP; B2811), received on October 2, 2020. This testing is required by 40 CFR Part 63 Subpart UUUUU. All sampling will be performed according to the United States Environmental Protection Agency (USEPA) methods found at epa.gov/emc or ASTM. All requirements and specifications of the methods apply and any modification to a method must be approved by the AQD. Facility information, tentative test dates for the first quarter of 2021, and AQD district staff contact information is as follows:

Facility	Permit (MI-ROP-)	Unit	Test date Q1 2021	AQD district staff contact information
BRPP	B2796-2015c	Unit 1	February 23, 2021	Mr. Bob Elmouchi Warren District Office 586-854-3244 elmouchir@michigan.gov
		Unit 2	January 12, 2021	
SCPP	B2796-2015c	Unit 2	February 9, 2021	Mr. Bob Elmouchi Warren District Office 586-854-3244 elmouchir@michigan.gov
		Unit 3	February 1, 2021	
		Unit 6	March 18, 2021	
		Unit 7	March 23, 2021	
RRPP	B2810-2012b	Unit 3	March 30, 2021	Ms. Nazaret Sandoval Detroit District Office 313-418-5446 sandovalc@michigan.gov
TCPP	199600204	Unit 9A	January 26, 2021	Mr. Jonathan Lamb Detroit District Office 313-348-2527 lambj1@michigan.gov

This letter will serve as the approval for subsequent HCl testing at these facilities for the 2021 calendar year, unless there is a change in the test methods or testing company.

Process
Testing will be performed while each unit is operated according to standard procedure and at maximum, routine operating load. During each test run, the following information will be recorded:

- Boiler load
- The type and ratio of the coal fired
- Continuous emission monitor (CEM) and continuous opacity monitor (COM) data
- Control data

If you have questions regarding process, please contact the AQD district staff contact identified above.

Emission Measurement
Testing for HCl emissions will be conducted in accordance with United States Environmental Protection Agency (USEPA) reference methods 1, 2, 3A, 4, and 19, and ASTM D6348. USEPA reference methods 26 or 26A may be used in place of ASTM D6348.

Analyzers used for testing will be calibrated with Protocol 1 gases. The concentration of the calibration gases will meet the requirements of the method. The span of the analyzers will be selected so that the concentration of the sample is within the calibrated range of the analyzer. The calibration error, bias, response time, and analyzer drift will be determined and reported. If a dilution system is used to generate calibration gases, then the report will contain the record of the annual calibration and the field evaluation of the equipment.

The FTIR direct response, system response time, analyte spike, and run data will be determined and reported. The FTIR field test spectra, including sample interferograms, shall be stored in their original and backup format and be made available to the AQD upon request.

If you have any questions about the test procedures, please contact me at 313-418-0895 or angellottir1@michigan.gov.

Report
The final report will follow the AQD's "Format for Submittal of Source Emission Test Plans and Reports." The AQD requests that the results are presented in tables. The report will include the operational data, the measurement record, the calibration record and quality assurance checks of the equipment used for this test, all laboratory data, including any quality control audits, the daily fuel proximate and ultimate analysis, and all handwritten field data sheets generated during the testing. Documentation of the pretest and posttest single beam spectrum, and validation of the quantification algorithm will be included. All aborted or failed runs must be included in the report.

Please submit a complete copy of each report to:

Ms. Karen Kajiya-Mills
EGLE-AQD
Technical Programs Unit
Constitution Hall, 2nd Floor South
525 West Allegan Street
Lansing, Michigan 48933

Please submit a complete copy of the BRPP and SCPP reports to:

Ms. Joyce Zhu
EGLE-AQD
Warren District Office
27700 Donald Court
Warren, MI 48092-2793

Please submit a complete copy of RRPP and TCPP reports to:

Mr. Jeff Korniski
EGLE-AQD
Detroit District Office
Cadillac Place
3058 West Grand Boulevard, Suite 2-300
Detroit, Michigan 48202

Test date notification will be provided at least seven days prior to the test. Please notify the district staff contact and me of test dates or if there is a change in schedule.

Sincerely,

Regina Angellotti

Regina Angellotti
Air Quality Division

cc: Mr. Thomas Snyder, DTE
Mr. Jason Roggenbuck, DTE
Mr. Dominic Vendittelli, DTE
Ms. Tanecia Wilson, DTE
Mr. Austin Sash, DTE
Ms. Karen Kajiya-Mills, EGLE
Ms. Joyce Zhu, EGLE
Mr. Jeff Korniski, EGLE
Mr. Bob Elmouchi, EGLE
Ms. Nazaret Sandoval, EGLE
Mr. Jonathan Lamb, EGLE

October 2, 2020

DTE

Attn: Compliance Tracker, ECA-18J
Air Enforcement and Compliance Assurance Branch
U.S. Environmental Protection Agency - Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

Subject: **Test Plan for MATS quarterly hydrogen chloride (HCl) compliance emissions testing of the EU-BOILERS-SC (Boilers 2-3, 6 & 7) at the DTE Electric, St. Clair Power Plant (SRN: B2796) in East China, Michigan.**

To whom it may concern,

DTE Energy's Environmental Management & Safety (EM&S) 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 four coal-fired boilers (Units 2-3, 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 United States Environmental Protection Agency (EPA) and Michigan Department of Environment, Great Lakes, & Energy (EGLE) of the upcoming testing. The 1st quarter of 2021 HCl testing is tentatively scheduled for the following days:

Unit 2 - February 9th, 2021
Unit 3 - February 2nd, 2021
Unit 6 – March 18th, 2021
Unit 7 – March 23rd, 2021

Going forward we request that this letter serve as the Test Plan for all 2021 quarterly HCl testing. We intend to notify the EGLE a minimum of 7 days prior to all quarterly HCl emissions testing on each unit at St. Clair Power Plant.

What follows is an item-by-item description of the information required by the EGLE for testing approval. If you have any questions, please contact Mr. Thomas via email at Thomas.Snyder@dteenergy.com.

Sincerely,
DTE ENERGY CORPORATE SERVICES, LLC

Jason Logan, QSTI
Environmental Specialist, Environmental Field Services
Environmental Management & Safety (EM&S)
DTE Energy Corporate Services, LLC

Cc: Mr. Dominic Venditteli, DTE EM&S
Ms. Karen Kajiya-Mills, EGLE

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&S)	DTE Energy Corporate Services, LLC 6100 West Warren, G4-S Detroit, MI 48210	(313) 897-0899
Mr. Dominic Vendittelli Environmental Engineer (DTE Energy SCPP – EM&S)	DTE Energy Corporate Services, LLC - SCPP 4505 King Road East China Township, MI 48054	(810) 326-6218

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 four (4) coal-fired boilers (Units 2-3, 6, and 7). Units 2-3 each have Babcock and Wilcox boilers capable of producing 1,070,000 pounds per hour of steam with a nominally rated electrical generation 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 St. Clair Power Plant 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 and will be documented in the control room during each test. In addition, opacity, stack gas flow, CO_2, NO_x, SO_2 and Mercury emissions are continuously monitored and/or used to regulate the process.

1f. ***Rated capacity of the process and process rate during the testing:***
Full load conditions for Units 2-3 on coal is 135 MW per unit. Full load conditions for Unit 6 is 325 MW. Full load conditions for Unit 7 is 500 MW. Quarterly testing for hydrogen chloride (HCl) will be performed at maximum normal operating load and will be representative of site specific normal operating conditions according to 40 CFR part 63.10007.

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

The air pollution control equipment on Units 2-3 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 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 2-3 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 2-3 is 6,000 lb/hr DSI and 240 lb/hr ACI. The capacity for Units 6 & 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 an FTIR analyzer with ASTM method D6348. In the event that FTIR analysis is unavailable or unfeasible, USEPA Method 26A modified as a single point sample per Method 26 procedures, will be used.

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)	ASTM D6348	FTIR (Fourier transform infrared) spectroscopy
Emission Rate Calculations	USEPA 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.

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.

7. ***The number and length of sampling runs which will constitute a complete test:***
The HCl testing will consist of triplicate 60-minute sampling runs.

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 2-3 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 according to 40 CFR part 63.10007.

11. ***Description of any process or control equipment data to be collected during the testing:***
Process data collected during the testing will include boiler load, dry sorbent injection rates, and continuous emissions monitor data. Daily samples of the coal being burned will be collected and

analyzed for % sulfur, % ash, and heat content. If a coal sample is unavailable on the day of a test, the Fc value of 1,800, found in USEPA Method 19 table 19-2, will be used in emissions calculations.

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. The FTIR data will be validated to ensure accuracy.

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. Fred Meinecke, Senior Technician
Mr. Jason Logan, Environmental Specialist, QSTI
Mr. Mark Westerberg, Senior Environmental Specialist, QSTI

FTIR data validation

Montrose
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 EGLE/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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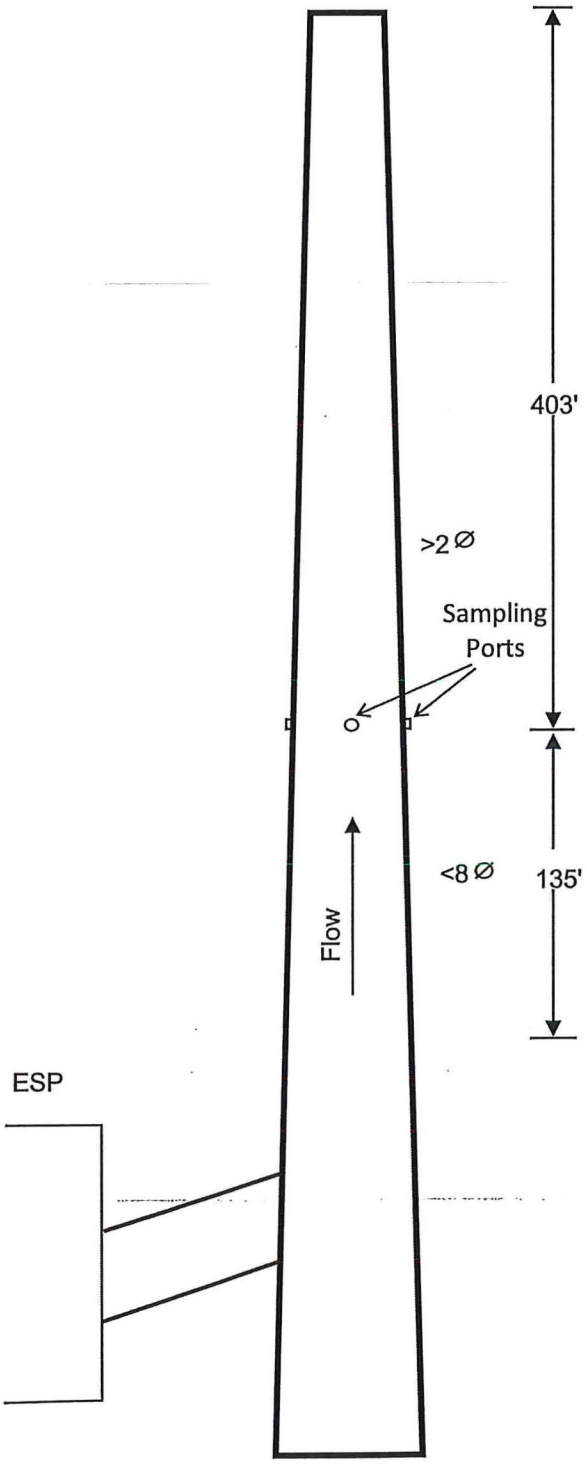
Figure 1 – Sampling Location
St.Clair Power Plant – EU-BOILERS 1-3



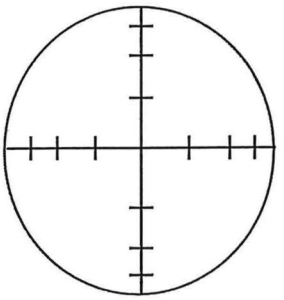


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Figure 2 – Sampling Location
St.Clair Power Plant – EU-BOILER6-SC

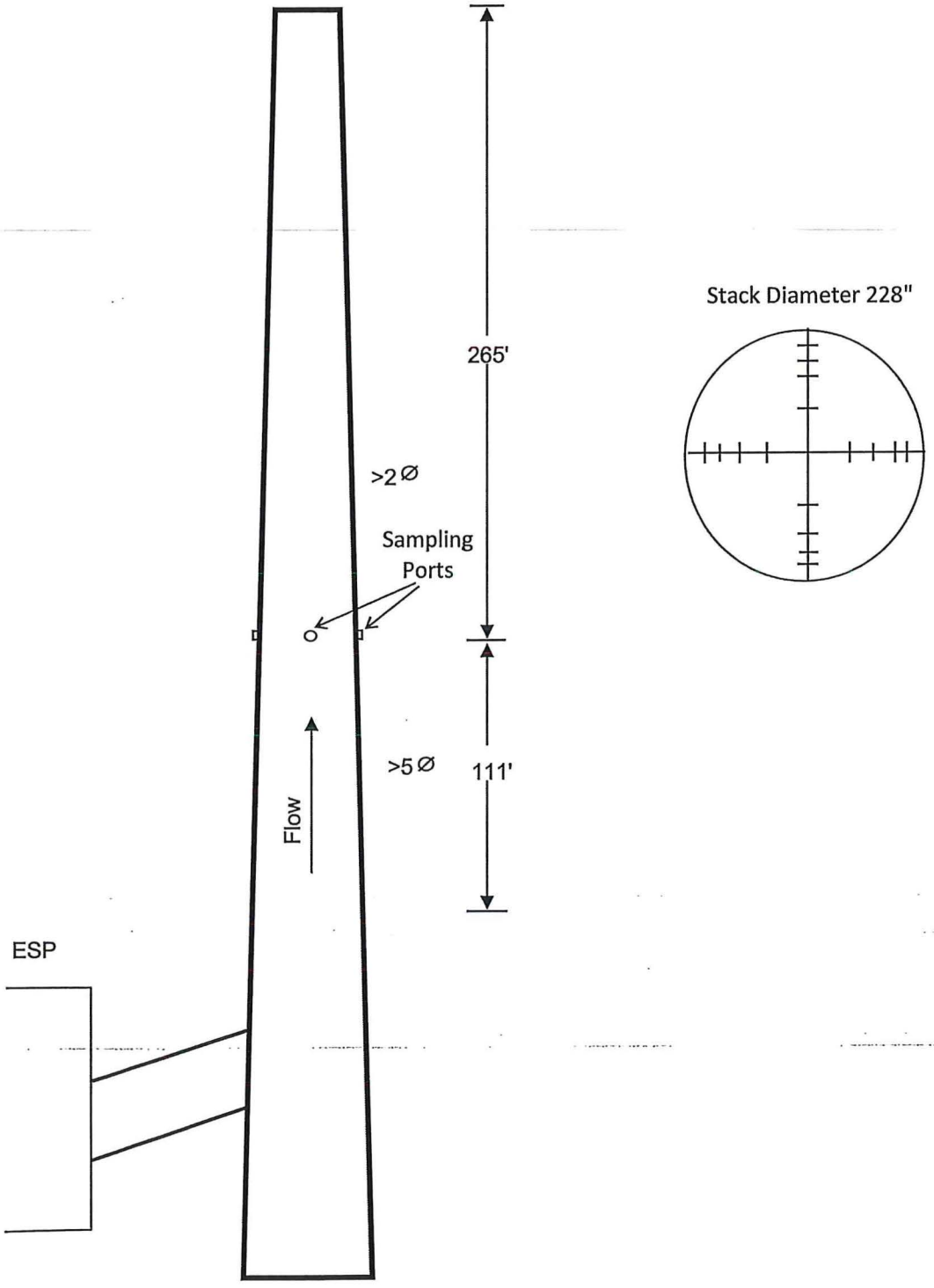

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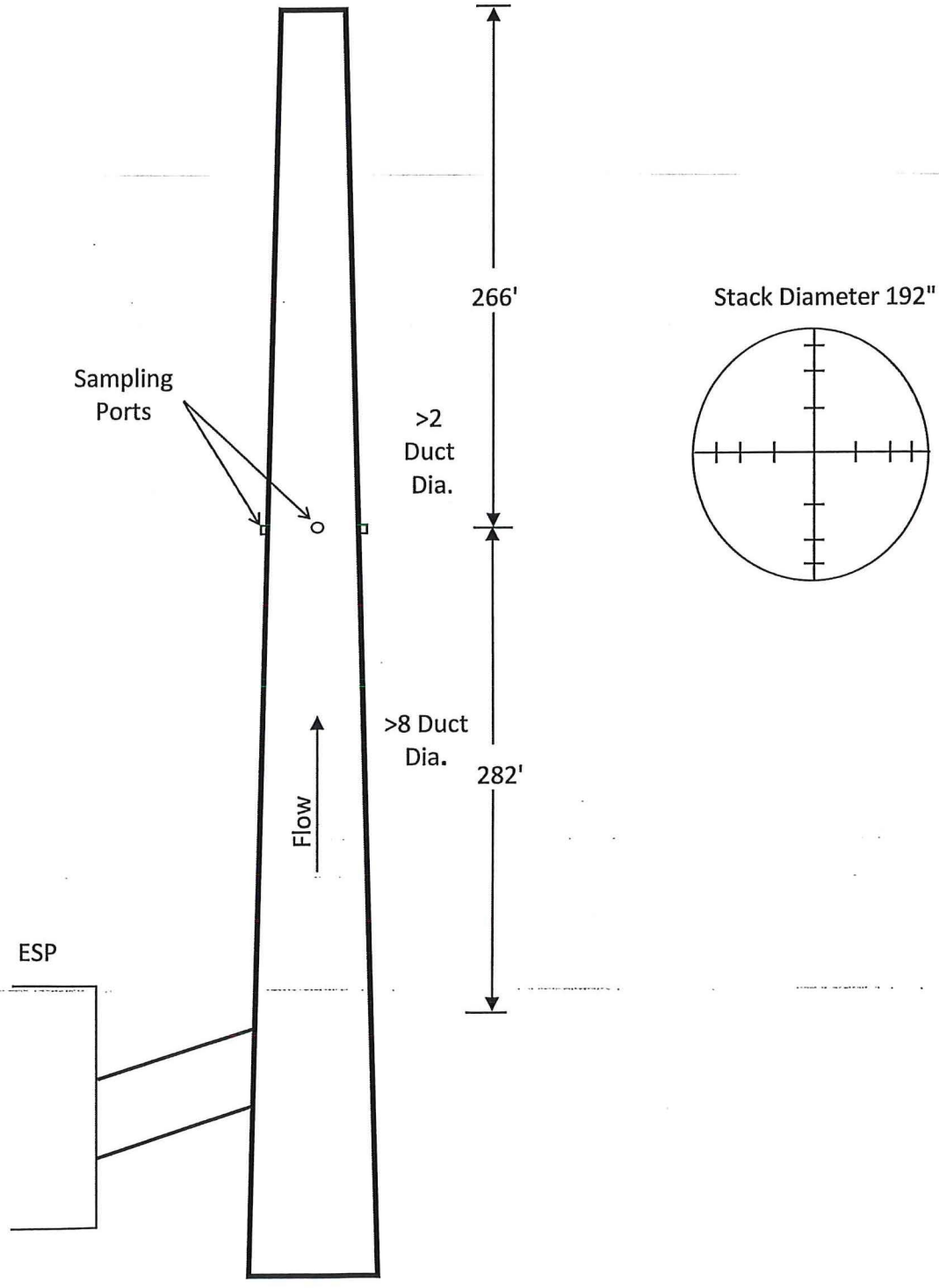
Figure 3 – Sampling Location
St.Clair Power Plant – EU-BOILER7-SC



DTE

Figure 4 – ASTM D6348
St.Clair Power Plant