

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

FCE Summary Report

Facility : PINE TREE ACRES, INC.	SRN : N5984
Location : 36600 29 MILE RD.	District : Warren
	County : MACOMB
City : LENOX State: MI Zip Code : 48048	Compliance Status : Non Compliance
Source Class : MAJOR	Staff : Robert Joseph
FCE Begin Date : 6/19/2020	FCE Completion Date : 9/29/2022
Comments : Summary of landfill	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
09/15/2022	On-site Inspection	Non Compliance	Scheduled inspection of landfill
09/12/2022	ROP Monthly	Compliance	SUMPTER ENERGY ASSOCIATES - Section 2 September 5, 2022 Monthly Sulfur Content (SO2) for FGICENGINES2 (Engines 8 and 9): H2S concentration: 327 (ppmv); Permit Limit: 600 (ppm). Max. SO2 emission rate August 2022: 3.11 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 13.0 tons.
08/04/2022	ROP Monthly	Compliance	SUMPTER ENERGY ASSOCIATES - Section 2 August 1, 2022 Monthly Sulfur Content (SO2) for FGICENGINES2 (Engines 8 and 9): H2S concentration: 291 (ppmv); Permit Limit: 600 (ppm). Max. SO2 emission rate July 2022: 2.94 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 12.8 tons.

Activity Date	Activity Type	Compliance Status	Comments
07/28/2022	ROP Semi 1 Cert	Compliance	Semi-Annual Deviation Report. Time period January 1, 2022 - June 30, 2022. No deviations to report.
07/21/2022	ROP Other	Compliance	Initial notification of like-engine replacement for EU-ENGINE #6 (CAT Model 3516) per Rule 285(2)(a)(vi). No other changes are expected to occur regarding emissions. It is expected to occur the week of August 8, 2022. Original engine -Serial No. 4EK01551 -Manufacture build date: 08-08-1997 -Horsepower rating: 1,138 -Electrical output rating: 800 kW gross electrical output -Heat input rating: 860 MMBtu/hr Replacement Engine: -Serial No. 3RC00663 -Manufacture build date: 09-14-1992 -Horsepower rating: 1,138 -Electrical output rating: 800 kW gross electrical output -Heat input rating: 860 MMBtu/hr
07/11/2022	ROP Monthly	Compliance	SUMPTER ENERGY ASSOCIATES - Section 2 July 4, 2022 Monthly Sulfur Content (SO ₂) for FGICENGINES2 (Engines 8 and 9): H ₂ S concentration: 239 (ppmv); Permit Limit: 600 (ppm). Max. SO ₂ emission rate June 2022: 2.75 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 12.2 tons.

Activity Date	Activity Type	Compliance Status	Comments
06/06/2022	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>June 6, 2022 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 277 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate May 2022: 3.03 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 12.2 tons.</p>
05/31/2022	MAERS	Compliance	MAERS Report Submission and certification.
05/31/2022	MAERS	Compliance	<p>MAERS certification form from Sumpter Energy (N5984) Section 2 at Pine Tree Acres. Submittal also details the MAERS calculations.</p> <p>ENGINES 1-7:</p> <ul style="list-style-type: none"> -Total kWh from facility data: 43,575,454 kWh at 57,526 hrs. -Average LFG heat value 471.8 Btu/scf -Calculated Btu/kWh: 11,384 -Calculated total LFG throughput: 1,051,493,000 scf <p>ENGINE 8 and ENGINE 9</p> <ul style="list-style-type: none"> -Total kWh from facility data: 11,619,560 kWh at 7,582 hrs. (Engine 8) -Total kWh from facility data: 11,495,900 kWh at 7,947 hrs. (Engine 9) -Average LFG heat value 439.1 Btu/scf -Calculated Btu/kWh: 9,297 -Calculated total LFG throughput: 489,386,572 scf
05/26/2022	ROP Annual Cert	Compliance	See Pine Tree Acres Semi-annual reports for 2021 dated 09/14/21 for period 01/01/21 - 06/30/21 and 03/16/22 for period 07/01/21 - 12/31/21.

Activity Date	Activity Type	Compliance Status	Comments
05/25/2022	ROP SEMI 2 CERT	Compliance	<p>Pine Tree Acres Semi-annual Deviation Report. Time period July 1, 2021 - December 31, 2021.</p> <p>EUACTIVECOLLECTIONS: There were 8 well exceedances for temperature or pressure limitations. The facility states there were no deviations due to the addition of new gas wells and other GCCS expansions such as pumps, vacuum laterals, and well tuning efforts. The facility installed 7 new horizontal wells along with associated header and lateral piping.</p> <p>FGFLARES: The facility states there were 2 instances when the flare data was not recorded every 15 minutes. The events both occurred in August 2021 due to power outages lasting each for 1.5 days.</p> <p>EUTREATMENTSYS and FGFLARES: Facility indicates there were 5 instances when the systems were all simultaneously down with 4 instances under 1 hour and 1 instance for 15 hrs. All due to power outages.</p> <p>EU-LANDFILL: There were no instances when the entire collection system was not in operation in excess of five (5) days. There were (13) locations that initially exceeded 500 ppm during the 3rd quarter scan. There were (16) locations that exceeded 500 ppm during the 4th quarter scan. Facility states all locations were successfully remediated on re-monitoring.</p> <p>FG-ENGINES: The flow to 8 engines was 688,715 MCF with a heating value 514 BTU/SCF based on a 50.8% methane concentration. There were no known issues with fuel flow meters.</p>

05/17/2022	Stack Test	Compliance	<p>NSPS Stack Test Report for the verification of Carbon Monoxide, Nitrogen Oxides, and Volatile Organic Compound Emissions from two (8) CAT G3520C RICE ENGINES - EUICENGINE1 through EUICENGINE8.</p> <p>Engine 1: (#GZJ00463), (71,636 hrs) Generator Output: 1625 kW. Engine Output: 2269 bhp. Fuel Use: 580 ft3. Air-to-fuel-ratio: 7.1. LFG CH4 Content: 49.8%. Exhaust gas temperature: 939 F Exhaust gas flow: 4,669 scfm CO emission rate: 12.8 lb/hr (Permit Limit 16.3), 2.55 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.73 lb/hr (Permit Limit 3.0), 0.35 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.87 lb/hr (Permit Limit 1.0), 0.17 g/bhp-hr (Permit Limit 1.0)</p> <p>Engine 2: (#GZJ00462), (69,827 hrs) Generator Output: 1629 kW. Engine Output: 2269 bhp. Fuel Use: 612 ft3 Air-to-fuel-ratio: 7.1 LFG CH4 content: 48.6% Exhaust gas temperature: 933 F Exhaust gas flow: 4,793 scfm CO emission rate: 15.2 lb/hr (Permit Limit 16.3), 3.03 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.82 lb/hr (Permit Limit 3.0), 0.36 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.86 lb/hr (Permit Limit 1.0), 0.17 g/bhp-hr (Permit Limit 1.0).</p> <p>Engine 3: (#GZJ00465), (67,286 hrs) Generator Output: 1632 kW. Engine Output: 2262 bhp. Fuel Use: 602 ft3 Air-to-fuel-ratio: 6.8 LFG CH4 Content: 48.0%. Exhaust gas temperature: 933 F Exhaust gas flow: 4,958 scfm CO emission rate: 14.2 lb/hr (Permit Limit 16.3), 2.83 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 2.01 lb/hr (Permit Limit 3.0), 0.40 g/bhp-hr (Permit Limit 0.6).</p>
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05/17/2022	Stack Test	Compliance	<p>VOC emission rate: 0.75 lb/hr (Permit Limit 1.0), 0.15 g/bhp-hr (Permit Limit 1.0)</p> <p>Engine 4: (#GZJ00464), (70,230 hrs) Generator Output: 1628 kW. Engine Output: 2265 bhp. Fuel Use: 634 ft3 Air-to-fuel-ratio: 6.5 LFG CH4 Content: 47.4% Exhaust gas temperature: 931 F Exhaust gas flow: 4,632 scfm CO emission rate: 15.5 lb/hr (Permit Limit 16.3), 3.09 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.66 lb/hr (Permit Limit 3.0), 0.33 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.79 lb/hr (Permit Limit 1.0), 0.16 g/bhp-hr (Permit Limit 1.0)</p> <p>Engine 5: (#GZJ00456), (67,639 hrs) Generator Output: 1631 kW. Engine Output: 2262 bhp. Fuel Use: 583 ft3 Air-to-fuel-ratio: 6.8 LFG CH4 Content: 49.8% Exhaust gas temperature: 972 F Exhaust gas flow: 4,819 scfm CO emission rate: 11.5 lb/hr (Permit Limit 16.3), 2.30 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 2.10 lb/hr (Permit Limit 3.0), 0.42 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.50 lb/hr (Permit Limit 1.0), 0.10 g/bhp-hr (Permit Limit 1.0)</p> <p>Engine 6: (#GZJ00466), (70,357 hrs) Generator Output: 1634 kW. Engine Output: 2261 bhp. Fuel Use: 610 ft3 Air-to-fuel-ratio: 6.8 LFG CH4 Content: 48.8%. Exhaust gas temperature: 950 F Exhaust gas flow: 5,142 scfm CO emission rate: 13.4 lb/hr (Permit Limit 16.3), 2.66 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.80 lb/hr (Permit Limit 3.0), 0.36 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.82 lb/hr (Permit Limit 1.0), 0.16 g/bhp-hr (Permit Limit 1.0).</p>
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05/17/2022	Stack Test	Compliance	<p>Engine 7: (#GZJ00467), (70,138 hrs) Generator Output: 1630 kW. Engine Output: 2264 bhp. Fuel Use: 637 ft³ Air-to-fuel-ratio: 6.8 LFG CH₄ Content: 47.4%, Exhaust gas temperature: 965 F Exhaust gas flow: 5,146 scfm CO emission rate: 15.7 lb/hr (Permit Limit 16.3), 3.12 g/bhp-hr (Permit Limit 3.3). NO_x emission rate: 1.66 lb/hr (Permit Limit 3.0), 0.33 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.93 lb/hr (Permit Limit 1.0), 0.19 g/bhp-hr (Permit Limit 1.0).</p> <p>Engine 8: (#GZJ00457), (68,762 hrs) Generator Output: 1629 kW. Engine Output: 2260 bhp. Fuel Use: 628 ft³ Air-to-fuel-ratio: 6.3 LFG CH₄ Content: 46.7%. Exhaust gas temperature: 982 F Exhaust gas flow: 4,752 scfm CO emission rate: 14.5 lb/hr (Permit Limit 16.3), 2.89 g/bhp-hr (Permit Limit 3.3). NO_x emission rate: 2.36 lb/hr (Permit Limit 3.0), 0.47 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.57 lb/hr (Permit Limit 1.0), 0.11 g/bhp-hr (Permit Limit 1.0)</p>
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Activity Date	Activity Type	Compliance Status	Comments
05/17/2022	ROP Other	Compliance	<p>Initial notification of like-engine replacement for EU-ENGINE #1 (CAT Model 3516) per Rule 285(2)(a)(vi). No other changes are expected to occur regarding emissions. It is expected to occur the week of May 30, 2022, however, an email was received stating the replaced engine began operating on June 17.</p> <p>Original engine</p> <ul style="list-style-type: none"> -Serial No. 3RC00663 -Manufacture build date: 09-14-1992 -Horsepower rating: 1,138 -Electrical output rating: 800 kW gross electrical output -Heat input rating: 860 MMBtu/hr <p>Replacement Engine:</p> <ul style="list-style-type: none"> -Serial No. 4EK01498 -Manufacture build date: 09-10-1997 -Horsepower rating: 1,138 -Electrical output rating: 800 kW gross electrical output -Heat input rating: 860 MMBtu/hr
05/04/2022	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>May 4, 2022 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 297 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate April 2022: 3.32 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.8 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
04/08/2022	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>April 4, 2022 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 271 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate March 2022: 2.72 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.3 tons.</p>
03/09/2022	ROP SEMI 2 CERT	Compliance	<p>Sumpter Energy semi-annual deviation report for time period July 1, 2021 - December 31, 2021. Attachment also includes semi-annual deviation report for January 1, 2021 - June 30, 2021. No deviations reported.</p>
03/09/2022	ROP Other	Compliance	<p>REVISED notification of like-engine replacement for EU-ENGINE (CAT Model 3516) per Rule 285(2)(a)(vi). No other changes are expected to occur regarding emissions. It is now expected to occur the week of February 21, 2022. See received report dated 01/12/2022 for engine replacement information.</p>
03/07/2022	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>March 7, 2022 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 283 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate February 2022: 2.31 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.0 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
03/02/2022	Stack Test	Compliance	<p>NSPS Stack Test Report for the verification of Carbon Monoxide, Nitrogen Oxides, and Volatile Organic Compound Emissions from two (2) CAT G3520C IC Engines - EUCENGINE8 and EUCENGINE9.</p> <p>Testing is to comply with 40 CFR 60 Subpart JJJJ. *Sulfur Dioxide was tested.</p> <p>Average engine operating conditions during the test periods:</p> <p>EUCENGINE 8: (Serial # GZJ00189)</p> <p>-Generator Output: 1,520 - 1,565 kW -Engine Output: 2.038 Hp -Fuel Use: 558 - 568 scfm -Fuel Heating Value: 1,040 Btu/scf -LFG Methane Content: 52.9 - 54.5% -Engine Hours: 93,749</p> <p>-CO Emission Rate 9.2 (lb/hr), Permit Limit 16.3 (lb/hr) -NOx Emission Rate 1.3 (lb/hr), Permit Limit 3.0 (lb/hr) -VOC Emission Rate 0.14 (g/bhp-hr), Permit Limit 1.0 (g/bhp-hr) -SO2 Emission Rate 1.1 (lb/hr), Permit Limit 7.5 (lb/hr)</p> <p>EUCENGINE 9: (Serial # GzJ00609)</p> <p>-Generator Output: 1,533 - 1,562 kW -Engine Output: 2,219 Hp -Fuel Use: 568 - 587 scfm -Fuel Heating Value: 1,040 Btu/scf -LFG Methane Content: 45.5 - 53.5% -Engine Hours: 52,836</p> <p>EUCENGINE 9:</p> <p>-CO Emission Rate 8.6 (lb/hr), Permit Limit 16.3 (lb/hr) -NOx Emission Rate 1.5 (lb/hr), Permit Limit 3.0 (lb/hr) -VOC Emission Rate 0.12 (g/bhp-hr), Permit Limit 1.0 (g/bhp-hr) -SO2 Emission Rate 1.1 (lb/hr), Permit Limit 7.5 (lb/hr)</p>

Activity Date	Activity Type	Compliance Status	Comments
03/01/2022	ROP Other	Compliance	REVISED notification of like-engine replacement for EU-ENGINE (CAT Model 3516) per Rule 285(2)(a)(vi). No other changes are expected to occur regarding emissions. It is now expected to occur the week of February 14, 2022. See received report dated 01/12/2022 for engine replacement information.
02/24/2022	ROP Annual Cert	Compliance	<p>40 CFR Part 63 Subpart ZZZZ Annual Compliance Report. 40 CFR 63.6650(g)(1)-(g)(3).</p> <p>Total LGF use (engines 1 -9): 1,540,879,572 scf Avg. fuel heating value : 505.7 Btu/scf Total heat input for LFG: 788,586 MMBtu Total other fuels used: N/A Total heat input for other fuels: N/A Amount of heat input provided by LFG: 100%</p> <p>Facility indicates there were no deviations of the operating limits, and no problems suspected with the fuel meters.</p>
02/17/2022	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>February 7, 2022 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 173 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate January 2022: 2.73 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.1 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
02/03/2022	ROP Other	Compliance	<p>Initial notification of like-engine replacement for EU-ENGINE #5 (CAT Model 3516) per Rule 285(2)(a)(vi). No other changes are expected to occur regarding emissions. It is expected to occur the week of February 7, 2022.</p> <p>Original engine</p> <ul style="list-style-type: none"> -Serial No. 4EK02485 -Manufacture build date: 05-05-1999 -Horsepower rating: 1,138 -Electrical output rating: 800 kW gross electrical output -Heat input rating: 860 MMBtu/hr <p>Replacement Engine:</p> <ul style="list-style-type: none"> -Serial No. 4EK00605 -Manufacture build date: 09-12-1995 -Horsepower rating: 1,138 -Electrical output rating: 800 kW gross electrical output -Heat input rating: 860 MMBtu/hr
01/13/2022	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>January 3, 2022 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 281 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate December 2021: 2.75 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.8 tons.</p>
12/06/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>December 6, 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 317 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate November 2021: 2.36 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.5 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
11/09/2021	Complaint Investigation	Unknown	Complaint investigation
11/05/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>November 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 212 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate October 2021: 2.31 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.5 tons.</p> <p>NOTE: Engines were not operating at the time the test sample was obtained. Facility was instructed to obtain samples going forward while engines are operating.</p>
10/25/2021	ROP Semi 1 Cert	Compliance	<p>Pine Tree Acres: Startup, Shutdown, and Malfunction (SSM) Semi-Annual Report. January 1, 2021 - June 30, 2021.</p> <p>Start-up events: (58) gas collection and control system events occurred. All were consistent with the SSM plan.</p> <p>Shutdown events: (0) gas collection and control system events occurred.</p> <p>Malfunction events: (0) gas collection and control system events occurred.</p> <p>There were no plan revisions.</p>

Activity Date	Activity Type	Compliance Status	Comments
10/21/2021	ROP Other	Compliance	<p>Rule 336.1285(a)(vi) - replacement of engine 9.</p> <p>Original Engine - Serial Engine: GZJ00423 Manufacture Build Date: 11/24/2009 Horsepower Rating: 2,233 bhp Electrical Output Rating: 1.6 MW Gross Electrical Output Heat Input Rating: 18.0 MMBtu/Hr</p> <p>Replacement Engine - Serial Engine: GZJ00609 Manufacture Build Date: 03/23/2012 Horsepower Rating: 2,233 bhp Electrical Output Rating: 1.6 MW Gross Electrical Output Heat Input Rating: 18.0 MMBtu/Hr</p>

Activity Date	Activity Type	Compliance Status	Comments
10/13/2021	ROP Semi 1 Cert	Compliance	<p>Semi-Annual Deviation Report. Time period January 1, 2021 - June 30, 2021.</p> <p>EUALGCS: There were 7 well exceedances for temperature or pressure. The exceedances were resolved under 60-days either through decreasing/increasing vacuum. No enhanced monitoring was conducted during this reporting period. The wellfield was expanded with the construction of 35 extraction wells.</p> <p>FGOPENFLARES: No exceedances this reporting period.</p> <p>EUTREATMENTSYS and FGOPENFLARES: PTA that they were not simultaneously down for more than 1 hour due to power outages.</p> <p>FGENGINES: There were no known issues with fuel flow meters.</p> <p>EU-LANDFILL: There were (6) locations that initially exceeded 500 ppm during the 1st quarter scan. There were (10) locations that exceeded 500 ppm during the 2nd quarter. Facility states all locations were successfully remediated on re-monitoring.</p> <p>FG-ENGINES: The flow to 8 engines was 624,664 MCF with a heating value 495 BTU/SCF based on a 48.9% methane concentration.</p>
10/13/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>October 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 251 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate September 2021: 2.53 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.6 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
09/13/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>September 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 269 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate August 2021: 2.60 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.7 tons.</p>
08/10/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>August 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 146 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate July 2021: 1.81 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.4 tons.</p>
07/27/2021	Other		Landfill SEM5000
07/02/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>July 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 246 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate June 2021: 2.36 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.9 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
06/08/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>June 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 231 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate May 2021: 1.71 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 10.8 tons.</p>
05/26/2021	MAERS	Compliance	Sumpter Energy MAERS Report Certification Submission
05/26/2021	MAERS	Compliance	PTA MAERS Certification form received March 16, 2021.
05/07/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>May 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 246 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate April 2021: 2.60 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.3 tons.</p>
04/23/2021	ROP Other	Compliance	<p>Pine Tree Acres Startup, Shutdown, and Malfunction (SSM) Semi-Annual Report. July 1, 2020 - December 31, 2020.</p> <p>Start-up events: (39) gas collection and control system events occurred. All were consistent with the SSM plan.</p> <p>Shutdown events: (0) gas collection and control system events occurred.</p> <p>Malfunction events: (0) gas collection and control system events occurred.</p> <p>There were no plan revisions.</p>
04/22/2021	ROP Annual Cert	Compliance	See Pine Tree Acres Semi-annual reports for 2020 dated 09/16/20 for period 01/01/20 - 06/30/20 and 03/16/21 for period 07/01/20 - 12/31/20.

Activity Date	Activity Type	Compliance Status	Comments
04/21/2021	NESHAP (Part 61)	Compliance	<p>Pine Tree Acres NSPS XXX Annual Report for period 01/01/20 - 09/30/20 and NESHAP AAAA 10/01/20 - 12/31/20. The facility chose to opt-in to Subpart AAAA and chose the operational, monitoring, and compliance conditions of Subpart AAAA over Subpart XXX.</p> <p>The report further summarizes gas well collection and control system information provided in the facility's semi-annual reports (see 09/16/20 for period 01/01/20 - 06/30/20 and 03/16/21 for 07/01/20 - 12/31/20).</p>

04/20/2021	ROP SEMI 2 CERT	Compliance	<p>Pine Tree Acres Semi-annual Deviation Report. Time period July 1, 2020 - September 31, 2020 are applicable to Subparts WWW and XXX. Period October 1, 2020 - December 31, 2020 is applicable only to Subpart AAAA (NESHAP) since chose to opt-in early thus no longer being subject to Subpart WWW. In addition, the facility chose the operational, monitoring, and compliance provisions of Subpart AAAA (NESHAP) over Subpart XXX (NSPS).</p> <p>EUALGCS: There were 54 well exceedances for temperature, pressure, oxygen. The facility opted in early to the NESHAP Subpart AAAA on October 1, 2020, this eliminating the oxygen wellhead concentration and raised the gas well temperature to 145 F from 131 F. The facility also requested an HOV for some wells and decommissioned some wells also during this time period.</p> <p>The facility added (31) new vertical wells and 27 horizontal wells along with associated header and lateral conveyance piping.</p> <p>FGOPENFLARES: No exceedances this reporting period.</p> <p>EUTREATMENTSYS and FGOPENFLARES: PTA indicates there were no instances when the systems were simultaneously down for more than 1 hour.</p> <p>FGENGINES: There were no known issues with fuel flow meters.</p> <p>EU-LANDFILL: There were no instances when the entire collection system was not in operation in excess of five (5) days. There were (3) locations that initially exceeded 500 ppm during the 3rd quarter scan. There were (3) locations that exceeded 500 ppm during the 4th quarter scan. Facility states all locations were successfully remediated on re-monitoring.</p> <p>FG-ENGINES: The flow to 8</p>
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04/20/2021	ROP SEMI 2 CERT	Compliance	engines was 566,761 MCF with a heating value 510 BTU/SCF based on a 50.5% methane concentration. No problems with fuel errors.
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04/20/2021	Stack Test	Compliance	<p>NSPS Stack Test Report for the verification of Carbon Monoxide, Nitrogen Oxides, and Volatile Organic Compound Emissions from two (8) CAT G3520C RICE ENGINES - EUICENGINE1 through EUICENGINE8.</p> <p>Engine 1: (#GZJ00463), (71,636 hrs) Generator Output: 1621 kW. Engine Output: 2265 bhp. Fuel Use: 640 ft3 Inlet Pressure: 49.5 psi Air-to-fuel-ratio: 6.6 LFG CH4 Content: 47.8%, CO emission rate: 11.6 lb/hr (Permit Limit 16.3), 2.32 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.26 lb/hr (Permit Limit 3.0), 0.25 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.61 lb/hr (Permit Limit 1.0), 0.12 g/bhp-hr (Permit Limit 1.0)</p> <p>Engine 2: (#GZJ00462), (69,827 hrs) Generator Output: 1624 kW. Engine Output: 2269 bhp. Fuel Use: 621 ft3 Inlet Pressure: 48.6 psi Air-to-fuel-ratio: 7.2 LFG CH4 Content: 47.7.0%, CO emission rate: 13.5 lb/hr (Permit Limit 16.3), 2.70 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.38 lb/hr (Permit Limit 3.0), 0.28 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.78 lb/hr (Permit Limit 1.0), 0.16 g/bhp-hr (Permit Limit 1.0).</p> <p>Engine 3: (#GZJ00465), (67,286 hrs) Generator Output: 1620 kW. Engine Output: 2262 bhp. Fuel Use: 600 ft3 Inlet Pressure: 47.2 psi Air-to-fuel-ratio: 7.0 LFG CH4 Content: 47.7%, CO emission rate: 12.1 lb/hr (Permit Limit 16.3), 2.43 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.68 lb/hr (Permit Limit 3.0), 0.34 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.62 lb/hr (Permit Limit 1.0), 0.12 g/bhp-hr (Permit Limit 1.0)</p>
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04/20/2021	Stack Test	Compliance	<p>Engine 4: (#GZJ00464), (70,230 hrs) Generator Output: 1621 kW. Engine Output: 2265 bhp. Fuel Use: 605 ft³ Inlet Pressure: 47.4 psi Air-to-fuel-ratio: 6.8 LFG CH₄ Content: 48.1%, CO emission rate: 12.7 lb/hr (Permit Limit 16.3), 2.54 g/bhp-hr (Permit Limit 3.3). NO_x emission rate: 1.92 lb/hr (Permit Limit 3.0), 0.38 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.59 lb/hr (Permit Limit 1.0), 0.12 g/bhp-hr (Permit Limit 1.0)</p> <p>Engine 5: (#GZJ00456), (67,639 hrs) Generator Output: 1619 kW. Engine Output: 2262 bhp. Fuel Use: 618 ft³ Inlet Pressure: 45.4 psi Air-to-fuel-ratio: 6.4 LFG CH₄ Content: 46.6%, CO emission rate: 10.5 lb/hr (Permit Limit 16.3), 2.10 g/bhp-hr (Permit Limit 3.3). NO_x emission rate: 1.70 lb/hr (Permit Limit 3.0), 0.34 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.44 lb/hr (Permit Limit 1.0), 0.09 g/bhp-hr (Permit Limit 1.0)</p> <p>Engine 6: (#GZJ00466), (70,357 hrs) Generator Output: 1619 kW. Engine Output: 2261 bhp. Fuel Use: 631 ft³ Inlet Pressure: 48.4 psi Air-to-fuel-ratio: 6.8 LFG CH₄ Content: 46.7%, CO emission rate: 11.3 lb/hr (Permit Limit 16.3), 2.26 g/bhp-hr (Permit Limit 3.3). NO_x emission rate: 1.38 lb/hr (Permit Limit 3.0), 0.28 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.74 lb/hr (Permit Limit 1.0), 0.15 g/bhp-hr (Permit Limit 1.0).</p> <p>Engine 7: (#GZJ00467), (70,138 hrs) Generator Output: 1621 kW. Engine Output: 2264 bhp. Fuel Use: 620 ft³ Inlet Pressure: 48.8 psi</p>
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04/20/2021	Stack Test	Compliance	<p>Air-to-fuel-ratio: 6.8 LFG CH4 Content: 47.6%, CO emission rate: 13.8 lb/hr (Permit Limit 16.3), 2.76 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.68 lb/hr (Permit Limit 3.0), 0.34 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.65 lb/hr (Permit Limit 1.0), 0.13 g/bhp-hr (Permit Limit 1.0).</p> <p>Engine 8: (#GZJ00457), (68,762 hrs) Generator Output: 1618 kW. Engine Output: 2260 bhp. Fuel Use: 597 ft3 Inlet Pressure: 45.9 psi Air-to-fuel-ratio: 6.7 LFG CH4 Content: 47.9%, CO emission rate: 11.4 lb/hr (Permit Limit 16.3), 2.29 g/bhp-hr (Permit Limit 3.3). NOx emission rate: 1.83 lb/hr (Permit Limit 3.0), 0.37 g/bhp-hr (Permit Limit 0.6). VOC emission rate: 0.48 lb/hr (Permit Limit 1.0), 0.10 g/bhp-hr (Permit Limit 1.0).</p>
04/12/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>April 2021 Monthly Sulfur Content (SO2) for FGICENGINES2 (Engines 8 and 9):</p> <p>H2S concentration: 266 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO2 emission rate March 2021: 2.40 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.2 tons.</p>
03/05/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>March 2021 Monthly Sulfur Content (SO2) for FGICENGINES2 (Engines 8 and 9):</p> <p>H2S concentration: 211 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO2 emission rate February 2021: 1.73 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.1 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
02/12/2021	Stack Test	Compliance	<p>NSPS Stack Test Report for the verification of Carbon Monoxide, Nitrogen Oxides, and Volatile Organic Compound Emissions from two (2) CAT G3520C IC Engines - EUCENGINE8 and EUCENGINE9.</p> <p>Average engine operating conditions during the test periods:</p> <p>EUCENGINE 8:</p> <p>Generator Output: 1,563 kW Engine Output: 2,190 bHp Fuel Use: 584 scfm LFG Methane Content: 50.4% Air-to-Fuel Ratio: 8.4 Engine Hours: 86,199</p> <p>EUCENGINE 8:</p> <p>CO Emission Rate 10.7 (lb/hr), Permit Limit 16.3 (lb/hr) NOx Emission Rate 0.91 (lb/hr), Permit Limit 3.0 (lb/hr) VOC Emission Rate 0.13 (g/bhp-hr), Permit Limit 1.0 (g/bhp-hr)</p> <p>EUCENGINE 9:</p> <p>Generator Output: 1,583 kW Engine Output: 2,219 bHp Fuel Use: 580 scfm LFG Methane Content: 50.8% Air-to-Fuel Ratio: 8.3 Engine Hours: 46,610</p> <p>EUCENGINE 9:</p> <p>CO Emission Rate 9.9 (lb/hr), Permit Limit 16.3 (lb/hr) NOx Emission Rate 0.72 (lb/hr), Permit Limit 3.0 (lb/hr) VOC Emission Rate 0.13 (g/bhp-hr), Permit Limit 1.0 (g/bhp-hr)</p>

Activity Date	Activity Type	Compliance Status	Comments
02/12/2021	ROP Annual Cert	Compliance	<p>40 CFR Part 63 Subpart ZZZZ Annual Compliance Report.</p> <p>Total heat input: 849,527MMBtu Landfill Gas Phase I of (7) CAT G3616 RICE Generator sets: 1,114,584,000 ft3 Landfill Gas Phase II of (2) CAT G3620 RICE Generator sets: 527,900, 369 ft3</p> <p>No deviations from the operating limits.</p>
02/11/2021	ROP SEMI 2 CERT	Compliance	<p>Semi-Annual Deviation Report July 1, 2020 - December 31, 2020. The facility is reporting that all associated recordkeeping requirements in the ROP were met and no deviations from these requirements or any other terms or conditions occurred.</p>
02/11/2021	ROP Annual Cert	Compliance	<p>ROP Annual Certification Time Period January 1, 2020 - December 31, 2020.</p> <p>Combines both semi-annual reports from January 1, 2020 - June 30, 2020 and July 1, 2020 - Dec. 31, 2020.</p>
02/11/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>February 2021 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 149 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate January 2021: 1.81 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 11.5 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
01/14/2021	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>January 2021 Monthly Sulfur Content (SO2) for FGICENGINES2 (Engines 8 and 9):</p> <p>H2S concentration: 173 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO2 emission rate December 2020: 2.53 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 12.2 tons.</p>
12/11/2020	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>December 2020 Monthly Sulfur Content (SO2) for FGICENGINES2 (Engines 8 and 9):</p> <p>H2S concentration: 250 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO2 emission rate November 2020: 2.38 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 12.2 tons.</p>
11/05/2020	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>November 2020 Monthly Sulfur Content (SO2) for FGICENGINES2 (Engines 8 and 9):</p> <p>H2S concentration: 235 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO2 emission rate October 2020: 2.40 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 12.4 tons.</p>

Activity Date	Activity Type	Compliance Status	Comments
10/26/2020	ROP Semi 1 Cert	Compliance	<p>Semi-annual Deviation Report. Time period January 1, 2020 - June 30, 2020.</p> <p>EUALGCS: There were 110 well exceedances for temperature, pressure, oxygen. 31 wells could not be resolved within 15 calendar days. Facility expanded the gas collection by adding 25 new horizontal wells, 1 vertical well along with associated header and lateral conveyance piping. Facility also upgraded well pumps and the pump station #17. The facility also requested an HOV for some wells, or decommissioning some of these wells. The system was never down for more than 5 days.</p> <p>FGOPENFLARES: No exceedances this reporting period.</p> <p>EUTREATMENTSYS and FGOPENFLARES: PTA notes 2 times when the systems were simultaneously down for more than 1 hour due to power outages.</p> <p>FGENGINES: There were no known issues with fuel flow meters.</p> <p>EU-LANDFILL: There were (3) locations that initially exceeded 500 ppm during the 1st quarter scan. There were (8) locations that exceeded 500 ppm during the 2nd quarter. Facility states all locations were successfully remediated on re-monitoring.</p> <p>FG-ENGINES: The flow to 8 engines was 800,091 MCF with a heating value 507 BTU/SCF based on a 50.1% methane concentration. No problems with fuel errors.</p>

Activity Date	Activity Type	Compliance Status	Comments
10/23/2020	ROP Semi 1 Cert	Compliance	<p>Pine Tree Acres: Startup, Shutdown, and Malfunction (SSM) Semi-Annual Report. January 1, 2020 - June 30, 2020.</p> <p>Start-up events: (63) gas collection and control system events occurred. All were consistent with the SSM plan.</p> <p>Shutdown events: (0) gas collection and control system events occurred.</p> <p>Malfunction events: (0) gas collection and control system events occurred.</p> <p>There were no plan revisions.</p>
10/06/2020	ROP Monthly	Compliance	<p>SUMPTER ENERGY ASSOCIATES - Section 2</p> <p>October 2020 Monthly Sulfur Content (SO₂) for FGICENGINES2 (Engines 8 and 9):</p> <p>H₂S concentration: 226 (ppmv); Permit Limit: 600 (ppm).</p> <p>Max. SO₂ emission rate September 2020: 2.54 (lb/hr); Permit Limit: 7.5 (lb/hr). 12-month rolling total = 12.7 tons.</p>
10/05/2020	ROP R215 Notification	Compliance	<p>Permit change notification plan to comply with the new standards of 40 CFR Part 63, Subpart AAAA (MACT). Facility submitted notification to opt-in early to Subpart AAAA thus replacing the Subpart WWW provisions. The facility's ROP will be modified to incorporate the Subpart AAAA requirements and the Subpart WWW requirements removed.</p>
09/15/2020	NSPS (Part 60)	Compliance	<p>Gas wells 593, 595, 677 HOV for temperature.</p>
08/10/2020	NSPS (Part 60)	Compliance	<p>Wells HC 585 and HV 614. HOV Temperature (145 F).</p>
08/06/2020	NSPS (Part 60)	Compliance	<p>Wells HC 578, 579, 581. HOV Temperature (145 F). Extension from 04/24/20 request.</p>

07/14/2020	Stack Test	Non Compliance	<p>ROP 5-year renewal test for Flare 6.</p> <p>Test Dates were May 14 and June 18, 2020. The May 14 test resulted in a failed CO emission test. In addition PM was not tested that day due the malfunctioning of the testers probe (melting). All other pollutants were tested that day. The facility then retested on June 18 and in addition to performing the PM testing, the facility retested CO as well as the other pollutants again. See results below.</p> <p>Results for EU-FLARE 6:</p> <p>May 14, 2020: Opacity = 0% (Permit Limit = 20% for 6-min average). CO emission rate = 1.37 lb/MMBtu (Permit Limit = 0.2) NOx emission rate = 0.05 lb/Btu (Permit Limit = 0.06). VOC emission rate = 6.18 ppmvd (Permit Limit = 20 ppmvd as hexane at 3% oxygen). SO2 emission rate = 7.92 lb/hr (Permit Limit = 16.1). PM emission rate = Not tested (Permit Limit = 2.9). PM10 emission rate = Not tested (Permit Limit = 2.9). Combustion zone temperature: 1,505 F Fuel flowrate: 3,756 ft3/min LFG methane content: 50.2% LFG Lower heating value: 457 Btu/ft3 Exhaust temperature: 1,498 F</p> <p>June 18, 2020: Opacity = 0% (Permit Limit = 20% for 6-min average). CO emission rate = 0.05 lb/MMBtu (Permit Limit = 0.2) NOx emission rate = 0.05 lb/Btu (Permit Limit = 0.06). VOC emission rate = 0.33 ppmvd (Permit Limit = 20 ppmvd as hexane at 3% oxygen). SO2 emission rate = 4.24 lb/hr (Permit Limit = 16.1). PM emission rate = 2.26 lb/hr (Permit Limit = 2.9). PM10 emission rate = 2.26 lb/hr (Permit Limit = 2.9). Combustion zone temperature: 1,601 F</p>
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07/14/2020	Stack Test	Non Compliance	Fuel flowrate: 2,620 ft3/min LFG methane content: 49.0% LFG Lower heating value: 446 Btu/ft3 Exhaust temperature: 1,550 F
07/02/2020	NSPS (Part 60)	Non Compliance	Decommissioning of HC 425 and 426. Facility knowingly operated HC 425 since December 6, 2019, with an excess oxygen concentration (> 5%) without EGLE-AQD approval thus violating Subpart WWW. This facility requested to decommission this well on June 5, 2020. VN to be issued to facility.
07/02/2020	NSPS (Part 60)	Non Compliance	HOV temperature extension for HC 549, 580, 583, 584, and EW 591. All except for HC 549 are HOV extensions from an HOV approval from 03/27/20 which expired 06/30/20. HC 549 HOV expired on 03/31/20 yet the facility continued to operate the well until this new request was received. VN to be issued to facility.

Name: Robert Joseph

Date: 09-29-22

Supervisor: Joyce 