

Michigan Department of Environmental Quality
Air Quality Division

State Registration Number

N5831

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number

MI-ROP-N5831-2014b

**Breitburn Operating, LP – Wilderness CO2 CPF
and
Linn Operating, LLC – Hayes 29 CPF**

SRN: N5831

Located at

10875 Geronimo Trail, Gaylord, Otsego County, Michigan 49735

Permit Number: MI-ROP-N5831-2014b

Staff Report Date: June 2, 2014

Amended Dates: March 4, 2015, June 5, 2017

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) requires that the Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

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JUNE 2, 2014 - STAFF REPORT

ROP Number

MI-ROP-N5831-2014

Purpose

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with a ROP pursuant to Title V of the federal Clean Air Act of 1990 and Michigan's Administrative Rules for air pollution control pursuant to Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source's applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft permit terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft permit pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

General Information:

Stationary Source Mailing Address:	Breitburn Operating, LP - Wilderness CO2 CPF 10875 Geronimo Trail Gaylord, Michigan 49735 and Linn Operating, Inc. - Hayes 29 CPF 10875 Geronimo Trail Gaylord, Michigan 49735
Source Registration Number (SRN):	N5831
North American Industry Classification System (NAICS) Code:	21111
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201300002
Responsible Official:	Brian Dorr, Northern Division Manager Breitburn Operating, LP 989-732-0020 and Ryan Martin Engineering Manager/Operations Manager Linn Operating, Inc. 281-840-4108
AQD Contact:	Caryn Owens, Environmental Quality Analyst 231-876-4414
Date Permit Application Received:	January 11, 2013 from Breitburn Operating, LP – Wilderness CO2 CPF

	and January 29, 2014 from Linn Operating, Inc. – Hayes 29 CPF
Date Application Was Administratively Complete:	January 14, 2013 for Breitburn Operating, LP – Wilderness CO2 CPF and February 6, 2014 for Linn Operating, Inc. – Hayes 29 CPF
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	June 2, 2014
Deadline for Public Comment:	July 2, 2014

Source Description

This stationary source is a Central Production Facility (CPF) that processes natural gas from production wells. The CPF collects natural gas from the production wells, removes water, brine, and oil condensate; then compresses the treated natural gas and sends it to a pipeline. A separate process at the same location removes carbon dioxide (CO₂) prior to shipment to the pipeline. The CO₂ removal process uses two of the seven regulated reciprocating internal combustion engines. The source consists of seven reciprocating internal combustion engines, two which are rich burn engines controlled by 3-way catalytic converters to reduce NO_x, CO, and VOC emissions. Four of the engines are lean burn engines with oxidation catalysts to control CO and formaldehyde emissions. One engine is a low emission engine with no control. Additionally, the source contains a glycol dehydrator which removes water along with trace hydrocarbons from the gas stream. The water and hydrocarbons are controlled by a condenser. Exempt equipment at the source include: process heaters; heater treaters; and four 400 barrel of oil and sweet condensate/brine tanks.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System in the 2012 submittal.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	92.2
Lead (Pb)	0
Nitrogen Oxides (NO _x)	109.0
Particulate Matter (PM)	1.0
Sulfur Dioxide (SO ₂)	0.1
Volatile Organic Compounds (VOCs)	21.7
Individual Hazardous Air Pollutants (HAPs) **	
Total Hazardous Air Pollutants (HAPs)	

**As listed pursuant to Section 112(b) of the federal Clean Air Act.

In addition to the pollutants listed above that have been reported in MAERS, the potential to emit of Greenhouse Gases in tons per year of CO₂e is less than 100,000 tons. CO₂e is a calculation of the combined global warming potentials of six Greenhouse Gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride).

See Parts C and D in the draft ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

The stationary source is located in Otsego County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because the potential to emit nitrogen oxides and carbon monoxide exceeds 100 tons per year.

The stationary source is considered to be a "synthetic minor" source in regards to HAP emissions because the stationary source accepted a legally enforceable permit condition limiting the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, to less than 10 tons per year and the potential to emit of all HAPs combined to less than 25 tons per year.

The stationary source is considered a "synthetic minor" source in regards to the Prevention of Significant Deterioration regulations of Title 40 CFR, Part 52.21 because the stationary source accepted legally enforceable permit conditions limiting the potential to emit of carbon monoxide and nitrogen oxides to less than 250 tons per year.

EUGLYCOLDEHYDRATOR at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Oil and Natural Gas Production Facilities (Area Source) promulgated in 40 CFR, Part 63, Subparts A and HH.

EUENGINES 1, 2, 3, 4, 5, 6, and H29 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) (Area Source) promulgated in 40 CFR, Part 63, Subparts A and ZZZZ (RICE Area Source MACT). The ROP contains special conditions provided by Breitburn Operating, LP in Section 1 and Linn Operating, Inc. in Section 2 for applicable requirements from 40 CFR, Part 63, Subparts A and ZZZZ. The AQD is not delegated the regulatory authority for this area source MACT; therefore, the special conditions for the RICE Area Source MACT contained in FGRURALSIRICEMACT in Section 1 and EUMACTZZZZ in Section 2 were not reviewed by the AQD.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

EUENGINE5 and EUENGINE6 (included in FGWAUKENGINES), at the stationary source, are subject to the federal Compliance Assurance Monitoring (CAM) rule under 40 CFR, Part 64. These emission units have control devices and potential pre-control emissions of nitrogen oxide and carbon monoxide greater than the major source threshold level. The stationary source uses catalytic converters to control emissions, from EUENGINES 5 and EUENGINE6, below the major source threshold level. The stationary source monitors the inlet and outlet temperatures of the catalytic converters on a daily basis

and the differential pressures on a monthly basis to ensure the catalytic converters are operating properly.

Please refer to Parts B, C and D in Sections 1 and 2 in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

Source-wide Permit to Install (PTI)

Rule 214a requires the issuance of a Source-wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists the individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-N5831-2008a are identified in Appendix 6 of the ROP.

PTI Number			
86-05			

Streamlined/Subsumed Requirements

This permit does not include any streamlined/subsumed requirements pursuant to Rules 213(2) and 213(6).

Non-applicable Requirements

Part E of both sections in the draft ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the draft ROP pursuant to Rule 213(6)(a)(ii).

Processes in Application Not Identified in Draft ROP

The following table lists processes that were included in the ROP application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
EUHEATERS	Eleven misc. natural gas fired process heaters, each having a max heat ranging between 0.5-1.5 MMBTU/hr	R 336.1212(4)(b)	R 336.1282(b)(i)
EUTANKS	Storage of sweet crude or sweet condensate in 4 vessels each less than 40,000 gallons	R 336.1212(4)(c)	R 336.284(e)
EUMETHANOLTANK	One 300 gallon methanol tank	R 336.1212(4)(c)	R 336.1284(n)

Draft ROP Terms/Conditions Not Agreed to by Applicant

This permit does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements as of the effective date of this ROP.

Action taken by the DEQ

The AQD proposes to approve this permit. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the U.S. Environmental Protection Agency (USEPA) is allowed up to 45 days to review the draft permit and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Ms. Janis Ransom, Cadillac District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

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JULY 2, 2014 - STAFF REPORT ADDENDUM

MI-ROP-N5831-2014

Purpose

A Staff Report dated June 2, 2014, was developed in order to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by R 336.1214(1). The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30-day public comment period as described in R 336.1214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

General Information

Responsible Officials:	Brian Dorr, Northern Division Manager Breitburn Operating, LP – Wilderness CO2 CPF 989-732-0020 and Ryan Martin, Engineering Manager/Operations Manager Linn Operating, Inc. – Hayes 29 CFP 281-840-4108
AQD Contact:	Caryn Owens, Environmental Quality Analyst 231-876-4414

Summary of Pertinent Comments

No pertinent comments were received during the 30-day public comment period.

Changes to the June 2, 2014 Draft ROP

No changes were made to the draft ROP.

Michigan Department of Environmental Quality
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RENEWABLE OPERATING PERMIT

**MARCH 4, 2015 - STAFF REPORT FOR RULE
216(2) MINOR MODIFICATION**

ROP Number

MI-ROP-N5831-2014a

Purpose

On August 4, 2014, the Department of Environmental Quality, Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-N5831-2014 to Breitburn Operating, LP – Wilderness CO2 CPF and Linn Operating, Inc. – Hayes 29 CPF pursuant to R 336.1214. Once issued, a company is required to submit an application for changes to the ROP as described in R 336.1216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to R 336.1216(2).

General Information

Responsible Official:	Brian Dorr, Regional Operations VP
AQD Contact:	Kirsten S. Clemens, P.E., Environmental Engineer 269-567-3548
Application Number:	201500014
Date Application For Minor Modification Was Submitted:	January 28, 2015

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to R 336.1216(2).

Description of Changes to the ROP

On February 23, 2015, the facility revised minor modification application No. 201500014 to consider the engine “shut-in” and would test the engine within 90 days of bringing it back online. EUENGINE5 was shut down and placed in stand-by mode effective November 10, 2014.

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

Action Taken by the DEQ

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-N5831-2014a, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the U.S. Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.

Michigan Department of Environmental Quality
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RENEWABLE OPERATING PERMIT

ROP Number

N5831

**APRIL 21, 2015 - STAFF REPORT ADDENDUM FOR
RULE 216(2) MINOR MODIFICATION**

MI-ROP-N5831-2014a

Purpose

A Staff Report dated March 4, 2015, was developed in order to set forth the applicable requirements and factual basis for the proposed Minor Modification to the Renewable Operating Permit's (ROP) terms and conditions as required by R 336.1216(2)(c). The purpose of this Staff Report Addendum is to summarize any significant comments received on the proposed ROP modification during the U.S. Environmental Protection Agency's (USEPA) 45-day comment period as described in R 336.1216(2)(c). In addition, this addendum describes any changes to the proposed ROP Minor Modification resulting from these pertinent comments.

General Information

Responsible Official:	Brian Dorr, Regional Operations VP
AQD Contact:	Kirsten S. Clemens, P.E., Environmental Engineer 269-567-3548

Summary of Pertinent Comments

No pertinent comments were received during the USEPA's 45-day comment period.

Changes to the March 4, 2015 Proposed ROP Minor Modification

No changes were made to the proposed ROP Minor Modification.

Michigan Department of Environmental Quality
Air Quality Division

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RENEWABLE OPERATING PERMIT

ROP Number
MI-ROP-N5831-2014b

**JUNE 5, 2017 - STAFF REPORT ADDENDUM FOR
RULE 216(1)(a)(i)-(iv) ADMINISTRATIVE AMENDMENT**

Purpose

On April 21, 2015, the Department of Environmental Quality (DEQ), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-N5831-2014a to Breitburn Operating, LP – Wilderness CO2 CPF and Linn Operating, Inc. – Hayes 29 CPF pursuant to R 336.1214. Once issued, a company is required to submit an application for changes to the ROP as described in R 336.1216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to R 336.1216(1)(a)(i-iv).

General Information

Responsible Official:	Ryan Martin, Engineering Manager/Operations Manager 281-840-4108
AQD Contact:	Caryn Owens, Environmental Quality Analyst 231-876-4414
Application Number:	201700069
Date Application For Administrative Amendment Was Submitted:	May 15, 2017

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for an Administrative Amendment pursuant to R 336.1216(1)(a)(i).

Description of Changes to the ROP

This Administrative Amendmnet was to change the name from Linn Operating, Inc. to Linn Operating, LLC in Section 2 of the ROP. The name change took place February 28, 2017.

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Administrative Amendment to the ROP.

Action Taken by the DEQ

The AQD approved an Administrative Amendment to ROP No. MI-ROP-N5831-2014b, as requested by the stationary source. The delegated decision maker for the AQD is the District Supervisor.