

State Registration Number  
B4885

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-B4885-2017b

**Tilden Mining Company L.C.**

SRN: B4885

Located at

1 Tilden, Ishpeming, Marquette, Michigan 49849

Permit Number: MI-ROP-B4885-2017b

Staff Report Date: June 29, 2015

Amended Dates: June 25, 2018  
April 9, 2020

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 Environment, Great Lakes, and Energy (EGLE), 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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Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number

B4885

**RENEWABLE OPERATING PERMIT**

**JUNE 29, 2015 - STAFF REPORT**

ROP Number

MI-ROP-B4885-2017

**Purpose**

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an 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 Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP 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:	Tilden Mining Company L.C. P. O. Box 2000 Ishpeming, Michigan 49849
Source Registration Number (SRN):	B4885
North American Industry Classification System (NAICS) Code:	212210
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201200192
Responsible Official:	James M. Kochevar, VP & General Manager 906-475-3400
AQD Contact:	Ed Lancaster, Senior Environmental Quality Analyst 906-250-5124
Date Application Received:	December 26, 2012
Date Application Was Administratively Complete:	December 26, 2012
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	June 29, 2015
Deadline for Public Comment:	July 29, 2015

## Source Description

Cliffs Natural Resources Inc. (Cliffs) owns two existing iron ore mines, Empire Iron Mining Partnership (Empire) and Tilden Mining Company LLC (Tilden) and associated ore processing equipment, located in Marquette County near the town of Ishpeming. From a regulatory perspective, Tilden and Empire are considered to be one stationary source per Prevention of Significant Deterioration (PSD) regulations. Tilden and Empire currently have separate Title V permits. Empire's Title V permit (MI-ROP-B1827-2015) was issued on June 4, 2015. Both facilities operate an open-pit iron ore mine and various material handling, crushing, milling, concentrating, ore drying, pellet manufacturing, cooling, and handling equipment controlled by wet scrubbers and baghouse dust collectors. Tilden processes both hematite and magnetite ores. The Tilden facility operates two 460 million BTU per hour heat input grate-kiln indurating furnaces controlled by electrostatic precipitators. Tilden 1 was built in 1974 and Tilden 2 was built in 1978. The facility has three boilers ranging from 225 to 240 million BTU per hour each, fired by natural gas and used oil fuel and a general permit to install for natural gas/propane fired boilers with maximum rated heat input of 100 MMBtu per hour, each controlled by low-NO<sub>x</sub> burners. In 2016, Tilden purchased from Empire the property and buildings housing EU-BOILER6 and EU-BOILER7. On August 1, 2016, a minor modification was submitted to transfer these emission units from Empire to Tilden.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2015**.

### TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	546
Lead (Pb)	0.3
Nitrogen Oxides (NO <sub>x</sub> )	6097
Particulate Matter (PM-10)	296
Particulate Matter (PM-2.5)	5.9
Sulfur Dioxide (SO <sub>2</sub> )	1412
Volatile Organic Compounds (VOCs)	114

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2015 by AQD:

Individual Hazardous Air Pollutants (HAPs) **	Pounds per Year
Arsenic	0.31
Benzene	3.28
Beryllium	0.02
Cadmium	1.72
Chromium	2.19
Cobalt	0.13
Formaldehyde	117.23
Hexane	2813.4
Manganese	0.59
Mercury	0.41
Naphthalene	0.95
Nickel	3.28
Selenium	0.04
Toluene	5.31
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>2948.86</b>

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

See Parts C and D in the 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 Marquette 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 all criteria pollutants, except lead, exceeds 100 tons per year, and the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is equal to or more than 10 tons per year and/or the potential to emit of all HAPs combined is equal to or more than 25 tons per year.

No emissions units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations.

EUOREDRIYER1, EUOREDRIYER2, EUKILN1, EUKILN2, EUBOILERS1-2, and EUBOILER3 went through Toxics Review under Rules 224/225, for when the units are firing used oil.

Three emission units at the facility were listed in Michigan's SIP as being subject to BART: EUOREDRIYER1, EUKILN1, and FGBOILERS1-2. The AQD approved the company's BART modified proposal, and issued Permit to Install Nos. 148-12 and 148-12A to incorporate the limits and compliance methods into a federally enforceable permit as detailed below.

EUOREDRIYER1 is controlled with a cyclone pre-cleaner and a wet scrubber. The permit requires sampling and analyses of the sulfur content of the used oil and keeping monthly records. The sulfur content shall not exceed 1.5% by weight, calculated on the basis of 18,000 Btu per pound.

EUKILN1 is controlled with electrostatic precipitators. The permittee installed a Continuous Emission Rate Monitoring System (CERMS) to show compliance with the NO<sub>x</sub> emission limit. The permit requires the CERMS to monitor and record the NO<sub>x</sub> emissions and flow on a continuous basis and calculate a 30-day rolling average. To monitor PM emissions, scheduled stack testing will be performed. To monitor sulfur dioxide emissions, records of the sulfur content of the coal will be obtained. Used fuel oil will be sampled and analyzed and monthly records will be kept along with the gallons of used oil burned each month. The sulfur content shall not exceed 1.5% by weight, calculated on the basis of 18,000 Btu per pound.

FGBOILERS1-2 are fired with natural gas and used fuel oil; there are no emission controls associated with this equipment. The permit requires sampling and analyses of the sulfur content of the used oil and keeping monthly records. The sulfur content shall not exceed 1.5% by weight, calculated on the basis of 18,000 Btu per pound.

On April 12, 2016, USEPA published in the Federal Register a revision to the Federal implementation plan (FIP) addressing the requirement for best available retrofit technology (BART) for Tilden, with an effective date of May 12, 2016.

EUKILN 1 and EUKILN2 are subject to Rule 801. Tilden submitted, and AQD approved, a NOx Control Plan detailing the options chosen for nitrogen oxide reduction during the ozone season. These options include burning coal, instead of natural gas, for a net NOx reduction of about 25%, and scheduling repairs during the ozone season, when possible.

FGBOILERS and FGBOILERS6-7 at the stationary source are subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc.

FGBOILERS1-2 at the stationary source are not subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc, because they were installed in 1974, prior to the promulgation date of June 9, 1989.

FGBOILERS1-2, EUBOILER3, and FGBOILERS6-7 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD.

FGDUSTCOLLECTORS, EUOREDRIYER1, EUOREDRIYER2, EUKILN1, and EUKILN2 are subject to the National Emission Standard for Hazardous Air Pollutants: Taconite Iron Ore Processing promulgated in 40 CFR Part 63, Subparts A and RRRRR.

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."

The emission limitation or standard for particulate matter from EUOREDRIYER1, at the stationary source is subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. This emission unit has control devices (cyclone pre-cleaner and a wet scrubber) and potential pre-control emissions of particulate matter greater than the major source threshold level. The wet scrubber is equipped with a Continuous Parameter Monitoring System (CPMS) to monitor the pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers.

The emission limitation or standard for particulate matter from EUOREDRIYER2, at the stationary source is subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. This emission unit has control devices (two (2) cyclone pre-cleaners and two (2) wet scrubbers) and potential pre-control emissions of particulate matter greater than the major source threshold level. The wet scrubbers are equipped with CPMS to monitor the pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers.

The emission limitations or standards for particulate matter from FGDUSTCOLLECTORS, at the stationary source are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. These emission units have control devices (wet scrubbers) and potential pre-control emissions of particulate matter greater than the major source threshold level. The wet scrubbers are equipped with CPMS to monitor the pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers.

The emission limitation or standard for particulate matter from EUKILN1, at the stationary source are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. This emission unit has a control device (electrostatic precipitator (ESP)) and potential pre-control emissions of particulate matter greater than the major source threshold level. A Continuous Opacity Monitoring (COM) was chosen as a preferred method of monitoring as this system is already required in the facility's operating permit and opacity is an indication of good operation and maintenance of the ESP.

The emission limitation or standard for particulate matter from EUKILN2, at the stationary source are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. This emission unit has a control device (ESP) and potential pre-control emissions of particulate matter greater than the major source threshold level. A COM was chosen as a preferred method of monitoring as this system is already required in the facility's operating permit and opacity is an indication of good operation and maintenance of the ESP.

The emission limitation or standard for particulate matter from EUOREDRIYER1, EUOREDRIYER2, EUKILN1, EUKILN2, and FGDUSTCOLLECTORS at the stationary source are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64, but monitoring included in the National Emission Standard for Hazardous Air Pollutants: Taconite Iron Ore Processing promulgated in 40 CFR Part 63, Subparts A and RRRRR is considered to be presumptively acceptable monitoring for particulate matter and is included in the ROP in FGTACTIONEMACT.

<b>Emission Unit ID</b>	<b>Pollutant/ Emission Limit</b>	<b>UAR(s)</b>	<b>Control Equipment</b>	<b>Monitoring</b>	<b>Presumptively Acceptable Monitoring?</b>
EUOREDRIYER1	PM 0.10 lbs/1,000 lbs exhaust gas, calculated on a dry gas basis	R 336.1331	Cyclone pre-cleaner and wet scrubber	CPMS to monitor pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers	No
EUOREDRIYER1	PM 0.052 gr/dscf	40 CFR 63.9590(a), 40 CFR 63.9621(a & c), 40 CFR Part 63, Subpart RRRRR, Table 1(6)	Cyclone pre-cleaner and wet scrubber	CPMS to monitor pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers	Yes
EUOREDRIYER2	PM 0.10 lbs/1,000 lbs exhaust gas, calculated on a dry gas basis	R 336.1331	Cyclone pre-cleaner (2) and wet scrubber (2)	CPMS to monitor pressure drop and water flow, which are indicators of good operation and	No

Emission Unit ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring	Presumptively Acceptable Monitoring?
				maintenance of the wet scrubbers	
EUOREDRIYER2	PM 0.052 gr/dscf	40 CFR 63.9590(a), 40 CFR 63.9621(a & c), 40 CFR Part 63, Subpart RRRRR, Table 1(6)	Cyclone pre-cleaner (2) and wet scrubber (2)	CPMS to monitor pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers	Yes
FGDUSTCOLLECTORS	PM 0.10 lbs/1,000 lbs exhaust gas, calculated on a dry gas basis	R 336.1331	Wet scrubber	CPMS to monitor pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers	No
FGDUSTCOLLECTORS	PM 0.008 gr/dscf	40 CFR 63.9590(a), 40 CFR 63.9621(a & b), 40 CFR Part 63, Subpart RRRRR, Table 1(1)	Wet scrubber	CPMS to monitor pressure drop and water flow, which are indicators of good operation and maintenance of the wet scrubbers	Yes
EUKILN1	PM 0.065 lbs/1,000 lbs exhaust gas, calculated on a dry gas basis	R 336.1331	ESP	COM, opacity is an indication of good operation and maintenance of the ESP	No

<b>Emission Unit ID</b>	<b>Pollutant/ Emission Limit</b>	<b>UAR(s)</b>	<b>Control Equipment</b>	<b>Monitoring</b>	<b>Presumptively Acceptable Monitoring?</b>
EUKILN1	PM 0.03 gr/dscf	40 CFR 63.9590(a), 40 CFR 63.9621(a & c), 40 CFR Part 63, Subpart RRRRR, Table 1(4)	ESP	COM	Yes
EUKILN2	PM 0.065 lbs/1,000 lbs exhaust gas, calculated on a dry gas basis	R 336.1331	ESP	COM, opacity is an indication of good operation and maintenance of the ESP	No
EUKILN2	PM 0.03 gr/dscf	40 CFR 63.9590(a), 40 CFR 63.9621(a & c), 40 CFR Part 63, Subpart RRRRR, Table 1(4)	ESP	COM, opacity is an indication of good operation and maintenance of the ESP	Yes

Please refer to Parts B, C and D 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 all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-B4885-2008a are identified in Appendix 6 of the ROP.

<b>PTI Number</b>			
70-02	511-87C	279-86	278-86
616-82	731-80	485-80	520-77
347-76	390-75	382-75	354-75
275-72	272-72		

**Streamlined/Subsumed Requirements**

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

**Non-applicable Requirements**

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the 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.

<b>PTI Exempt Emission Unit ID</b>	<b>Description of PTI Exempt Emission Unit</b>	<b>Rule 212(4) Citation</b>	<b>PTI Exemption Rule Citation</b>
EUNGHEATERS	Thirty-five (35) natural gas fired space heaters with rated heat input capacities of 60,000 to 5 MMBtu/hour	Rule 214(4)(b)	Rule 282(2)(b)(i)
EUPROPANEHEATERS	Thirty-eight (38) LP fired space heaters with rated heat input capacities of 30,000 to 5 MMBtus/hour	Rule 214(4)(b)	Rule 282(2)(b)(i)
EUHTR.GAS.D2RN	North Rupp Heater T2 Dryer	Rule 214(4)(b)	Rule 282(2)(b)(i)
EUHTR.GAS.D2RS	South Rupp Heater T2 Dryer	Rule 214(4)(b)	Rule 282(2)(b)(i)
EUEMERGENCYGENS	Eleven (11) diesel fired emergency generators with rated heat input capacity of less than 20 MMBtu/hour	Rule 214(4)(d)	Rule 282(b)(ii)
EUGEN.BOOST.PH	Propane generator for the tailings line booster pumphouse	Rule 214(4)(d)	Rule 282(b)(i)
EUPITBOILER	Pit service building boiler 6.84 MMBtu/hour, fired with No. 2 fuel oil	Rule 214(4)(b)	Rule 282(2)(b)(ii)
EUPROPANETANKS	Fourteen (14) 1,000 gallon LP storage tanks	Rule 214(4)(c)	Rule 284(2)(b)
EUGASOLINEDISP	Gasoline dispensing facility, equipped with Rule 703 submerged fill tube	Rule 214(4)(c)	Rule 284(2)(g)(i)

**Draft ROP Terms/Conditions Not Agreed to by Applicant**

The following table lists terms and/or conditions of the draft ROP that the AQD and the applicant did not agree upon and outlines the applicant's objections pursuant to Rule 214(2). The terms and conditions that the AQD believes are necessary to comply with the requirements of Rule 213 shall be incorporated into the ROP.

Emission Unit/ Flexible Group ID	Permit Term(s) and/or Condition(s) in Dispute	Applicant's Objection
EUOREDRYER1 EUOREDRYER2 EUKILN1 EUKILN2	I.1-4 and VI.2 I.1-4 and VI.2-3 I.1-4 and VI.3-4 I.1-4 and VI.3-4	Applicant claims limits have been superseded by the Taconite MACT. AQD response: The emission limits for arsenic, cadmium and chromium were established in order to comply with the screening levels (established in the Air Toxics Rules) when firing used oil. Therefore the rules are applicable and necessary to determine compliance. The emission limit for lead, when firing used oil, was established to allow Tilden from being subject to the Prevention of Significant Deterioration (PSD) regulations at the time of permit review. The underlying applicable requirement will be changed to "40 CFR 52.21(d).
EUOREDRYER1 EUKILN1 FGBOILERS1-2	II.1 I.7-8 and VI.6-7 II.1	Applicant suggests reference to UAR Rule 336.1971 be removed, because USEPA did not approve Michigan's BART regulations. AQD response: The language proposed in the draft ROP was taken from Tilden's PTI No. 148-12 to incorporate BART limits and compliance methods into a federally enforceable permit. The permittee is correct in stating the EPA has not approved Michigan's BART rules, however, the rule is still applicable and is state enforceable only.
FGBOILERS	I.1, II.1, V.1, VI.1 and 3	Applicant asserts R 336.1205(1)(a) is not part of the approved Michigan SIP and should therefore be foot noted as "state-enforceable only".  AQD response: The condition comes from a General PTI and is federally enforceable per R 336.1201(2)(b) which states: "The department may issue a permit to install for any of the following reasons: (b) to establish limits on potential to emit. The limits shall comply with the provisions of R 336.1205(1)(a)."
FGTACONITEMACT	VI.5-13  IX.1	Applicant states Conditions 1-3 already require monitoring to be done and suggest Conditions 5-13 are redundant. Applicant requests high level citation be removed.

### **Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements at the time of issuance of the ROP except for requirements listed in Appendix 2. The table in Appendix 2 contains a Schedule of Compliance developed pursuant to Rule 119(a)(i). The applicant must adhere to this schedule and provide the required certified progress reports at least semiannually or in accordance with the schedule in the table. A Schedule of Compliance for any applicable requirement that the source is not in compliance with at the time of ROP issuance is supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.

### **Action taken by the MDEQ, AQD**

The AQD proposes to approve this ROP. 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 USEPA is allowed up to 45 days to review the draft ROP 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 Janis Ransom, Acting Upper Peninsula District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP 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.

Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number

**RENEWABLE OPERATING PERMIT**

ROP Number

B4885

**DECEMBER 10, 2015 - STAFF REPORT  
ADDENDUM**

MI-ROP-B4885-2017

**Purpose**

A Staff Report dated June 29, 2015, 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 Number 2 ROP from the company. In addition, this addendum describes any changes to the Draft Number 2 ROP resulting from these pertinent comments.

**General Information**

Responsible Official:	James M. Kochevar, VP & General Manager 906-475-3400
AQD Contact:	Ed Lancaster, Senior Environmental Quality Analyst 906-250-5124

**Summary of Pertinent Comments**

AQD received comments from Tilden Mining Company and the U.S. Environmental Protection Agency - Region V Air Permits Section during the 30-day public comment period. The comments, and AQD's response to the comments, are detailed below.

**Comments received from Tilden Mining Company:**

**Comment #1: EU OREDRYER1 – I. Emission Limits (p.16)**

Permittee proposes to remove the emission limits in Conditions 1 - 4, as they claim the conditions have been superseded by the Taconite MACT and are no longer applicable.

**AQD response:**

The emission limits for arsenic, cadmium and chromium were established in order to comply with the screening levels (established in the Air Toxics Rules) when firing used oil. Therefore the rules are applicable and necessary to determine compliance.

The emission limit for lead, when firing used oil, was established to allow Tilden from being subject to the Prevention of Significant Deterioration (PSD) regulations at the time of permit review. The underlying applicable requirement will be changed to "40 CFR 52.21(d).

**Comment #2: EU OREDRYER1 – II. Material Limits (p.16)**

Permittee requests references to Rule 336.1971 be removed.

**AQD response:**

The language proposed in the draft ROP was taken from Tilden's PTI No. 148-12 to incorporate BART limits and compliance methods into a federally enforceable permit. The permittee is correct in stating the EPA has not approved Michigan's BART rules, however, the rule is still applicable and is state enforceable only.

**Comment #3: EU OREDRYER1 – VI. Monitoring/Recordkeeping (p.17)**

Permittee proposes to change the wording of condition 2 to omit references to arsenic, cadmium, chromium and lead content, and to remove Condition 3 and the reference to Appendix 7.

AQD response:  
See response to Comment #1.

Comment #4: EU OREDRYER1 – V. Testing/Sampling (p.17)  
Permittee requests the Testing/Sampling section be modified.

AQD response:  
The Testing/Sampling condition was changed to match the condition in FG-TACONITE MACT table, condition V.3.

Comment #5: EU OREDRYER2 – I. Emission Limits (p.19)  
Permittee proposes to remove the emission limits in Conditions 1 - 4, as they claim the conditions have been superseded by the Taconite MACT and are no longer applicable.

AQD response:  
See response to Comment #1.

Comment #6: EU OREDRYER2 – V. Testing/Sampling (p.20)  
Permittee requests the Testing/Sampling section be modified to match FG-TACONITE MACT.

AQD response:  
The Testing/Sampling condition was changed to match the condition in FG-TACONITE MACT table, condition V.3.

Comment #7: EU OREDRYER2 – VI. Monitoring/Recordkeeping (p.20)  
Same as comment #3 above.

AQD response:  
See response to Comment #1.

Comment #8: EUKILN1 – I. Emission Limits (p.22)  
See Comment #1 above, regarding conditions 1 - 4; in addition, Tilden request Conditions 7 and 8 be removed or qualified.

AQD response:  
See response to Comment #1 for conditions 1 - 4.  
For Condition Nos. 7 and 8, R 336.1971 will add footnote "1" that conditions are "state only enforceable."

Comment #9: EUKILN1 – IV. Design/Equipment Parameters (p.23)  
Permittee proposes to remove condition #1 or qualify it by footnoting the BART requirements do not become effective until approved by U.S. EPA.

AQD response:  
Footnote will be changed to denote "state enforceable only".

Comment #10: EUKILN1 – V. Testing/Sampling (p.23)  
Permittee requests the Testing/Sampling section be modified to match FG-TACONITE MACT.

AQD response:  
The Testing/Sampling condition will be changed to match the condition in FG-TACONITE MACT table, condition V.4.

Comment #11: EUKILN1 – VI. Monitoring/Recordkeeping (p.23)

See Comment #3 regarding condition nos. 3 and 4, and Comment #2 regarding condition nos. 6 and 7.

AQD response:

See responses to Comments #1 for condition VI.3.

For conditions VI.6 and 7, the footnote will be changed to "state enforceable only".

Comment #12: EUKILN2 – I. Emission Limits (p.25)

See Comment #1 for condition nos. 1 - 4.

AQD response:

See response to Comment #1.

Comment #13: EUKILN2 – V. Testing/Sampling (p.26)

See Comment #10 regarding the need to make the Testing/Sampling requirements consistent with the FG-TACONITE MACT Testing/Sampling provisions.

AQD response:

The Testing/Sampling condition will be changed to match the condition in FG-TACONITE MACT table, condition V.4.

Comment #14: EU-KILN2 – VI. Monitoring/Recordkeeping (p.26)

See Comment #3 regarding removal of the monitoring/recordkeeping requirements applicable arsenic, cadmium, chromium and lead from Conditions 3 and 4.

AQD response:

See response to Comment #1.

Comment #s15, 16, 17 and 18: FG Boilers - (pgs. 34-35)

Permittee asserts R 336.1205(1)(a) is not part of the approved Michigan SIP and should therefore be foot noted as "state-enforceable only".

AQD response:

The condition comes from a General PTI and is federally enforceable per R336.1201(2)(b) which states:

"The department may issue a permit to install for any of the following reasons: (b) to establish limits on potential to emit. The limits shall comply with the provisions of R 336.1205(1)(a)."

Comment #19: FG Taconite MACT – I. Emission Limits (pp.37-38)

Permittee requests changes to clarify the requirements for EUKILN1, EUKILN2, EUOREDRIYER1 and EUOREDRIYER2, and to correct typographical errors.

AQD response:

AQD will make suggested changes.

Comment #20: FG Taconite MACT – V. Testing/Sampling (pp.40)

Permittee requests references to Mich. R. 336.1213(3) and 336.2001 be removed from Condition1.

AQD response:

No changes made; R 336.1213(3) states in part:

The renewable operating permit shall contain terms and conditions necessary to ensure that sufficient testing, monitoring, recordkeeping, reporting, and compliance evaluation activities will be

conducted to determine the status of compliance of the stationary source with the emission limitations and standards contained in the renewable operating permit.

and Rule 336.2001(3) and (4) state:

(3) For a performance test required by subrule (1) of this rule, the owner or operator shall submit a site-specific test plan not less than 30 days before a performance test for approval of the department. The plan will include test program summary, test schedule, and the quality assurance measures to be applied.

(4) Not less than 7 days before performance tests are conducted, the owner of a source of air contaminant, or his or her authorized agent, shall notify the department, in writing, of the time and place of the performance tests and who shall conduct them. A representative of the department shall have the opportunity to witness these tests.

These Rules are included for all testing requirements regardless if the conditions are based on state or federal requirements.

Comment #21: FG Taconite MACT – IX. Other Requirements (p.44)

Permittee requests the language referring to the Taconite MACT be removed as it is redundant to include a general requirement to comply with the standard.

AQD response:

AQD disagrees, although every attempt has been made to include every requirement in the Taconite MACT that applies to the Tilden Mine, this condition ensures that all applicable requirements are accounted for.

Comment #22: FG Boilers 1-2 – II. Material Limit (p.46)

Permittee requests references to Rule 336.1971 be removed.

AQD response:

See response to Comment #1.

Comment #23: Appendix 3. Monitoring Requirements (p.48)

Permittee requests references to Rule 336.1971 be removed.

AQD response:

Footnote will be changed to "1", "state enforceable only".

**U.S. EPA Region V Staff made the following comments:**

1) Clarify in the Staff Report whether or not the Empire mine and Tilden Mining Company are considered to be a single major stationary source for both Prevention of Significant Deterioration (PSD) and Title V permitting requirements.

AQD's response: From a regulatory perspective, the Empire and Tilden operations are considered a single stationary source.

2) Staff Report fails to include a list of all the PTIs that have been previously incorporated into the ROP.

AQD's response: All previous PTIs for Tilden Mining have been added to the Staff Report. The recently renewed ROP Staff Report for Empire Iron Mining (MI-ROP-B1827-2015) includes the PTIs that were incorporated into previous Empire ROPs.

3) Staff report fails to include emissions data for all criteria pollutants.

AQD response: PM-10 and PM-2.5 emissions data added.

4) Consider whether any units may be subject to the Taconite MACT and Part 64 and discuss applicability.

AQD response: EUOREDRIYER1, EUOREDRIYER2, EUKILN1, EUKILN2, and FGDUSTCOLLECTORS at the stationary source are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64, and the National Emission Standard for Hazardous Air Pollutants: Taconite Iron Ore Processing promulgated in 40 CFR Part 63, Subparts A and RRRRR, for particulate matter emissions. The EUs have PM emissions limits with both New Source Review (NSR) and TACONITE MACT applicable requirements.

5 and 6) Discuss how/when the details of the Boiler MACT (5D) will be incorporated into the ROP for EUBOILER3 and FGBOILERS1-2.

AQD response: The details for the Boiler MACT (5D) have been incorporated into each applicable emission unit table.

### **Changes to the June 29, 2015 Draft ROP**

The following changes were made to the draft ROP.

#### **Emission Unit Summary Table**

Added EUBOILER6 and EUBOILER7

#### **EUOREDRIYER1**

**SC I.4** Changed UAR to 40 CFR 52.21(d);

**SC II.1** Added UAR 40 CFR 52.1183(k)(2);

**SC V.1** Decreased particulate matter stack testing requirement to once during five year permit term and once every five years thereafter;

**SC VI.4-7** Added CAM language;

**SC VII.4-8** Added CAM and standard testing language; and

**SC IX.1** Added "The permittee shall comply with the applicable requirements of 40 CFR Part 52 APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS, Subpart X—Michigan, Section 52.1183 Visibility Protection. **(40 CFR 52.1183(k))**"

#### **EUOREDRIYER2**

**SC VI.4-7** Added CAM language;

**SC VII.4-8** Added CAM and standard testing language

#### **EUKILN1**

**SC I.8** Added SO<sub>2</sub> emission limit;

**SC I.10 and 11** Added 720-hour rolling average NO<sub>x</sub> emission limits;

**SC II.2** Added UAR 40 CFR 52.1183(k)(3) for sulfur content of coal;

**SC IV.1** Added UAR 40 CFR 52.1183(k)(1)(ii) for NO<sub>x</sub> CEMS;

**SC IV.2** Added condition: The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a CEMS to monitor and record the SO<sub>2</sub> emissions and flow from EUKILN1 on a continuous basis.<sup>3</sup> **(40 CFR 52.1183(k)(3))**

**SC VI.1** Changed language: The permittee shall demonstrate compliance with the particulate matter emission limit specified in SCs I.5 and 6 for EUKILN1 by testing at owner's expense, in accordance with the requirements in 40 CFR 63.9621(a). Testing will be conducted at least twice

during the five-year permit term and twice every five year term thereafter.<sup>2</sup> **(R 336.1213(3), R 336.2001(3) and (4), 40 CFR 63.9621(c), 63.9630(b) and 63.9634(c)(2))**

**SC VI.8** Added condition: The permittee shall utilize COM-recorded opacity as an indicator of the proper operation of the electrostatic precipitator. The indicator range of opacity defining proper function of the ESP is (opacity). Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. The COM shall be calibrated in accordance with 40 CFR Part 60, Subpart A. **(40 CFR 64.6(c)(1)(i and ii))**

**SC VI.9** Added condition: The permittee shall continuously monitor and record, in a satisfactory manner, the SO<sub>2</sub> emissions from EUKILN1. The permittee shall operate the CEMS data for determining compliance with SC I.8.<sup>3</sup> **(40 CFR 52.1183(k)(3))**

**SC VII.5-9** Added following conditions:

5. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**

6. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

7. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing.<sup>2</sup> **(R 336.12001(3))**

8. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date.<sup>2</sup> **(R 336.2001(4))**

9. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test.<sup>2</sup> **(R 336.2001(5))**

**SC IX.2** Changed condition to: The permittee shall comply with the applicable requirements of 40 CFR Part 52 APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS, Subpart X—Michigan, Section 52.1183 Visibility Protection. **(40 CFR 52.1183(k))**

## **EUKILN2**

**SC VI.6** Added CAM language: The permittee shall utilize COM-recorded opacity as an indicator of the proper operation of the electrostatic precipitator. The indicator range of opacity defining proper function of the ESP is (opacity). Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. The COM shall be calibrated in accordance with 40 CFR Part 60, Subpart A. **(40 CFR 64.6(c)(1)(i and ii))**

**SC VII.5-9** Added CAM and standard stack testing language:

5. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**

6. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
7. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing.<sup>2</sup> **(R 336.12001(3))**
8. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date.<sup>2</sup> **(R 336.2001(4))**
9. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test.<sup>2</sup> **(R 336.2001(5))**

### **EUBOILER3**

#### **SC III.2-4 Added:**

2. The permittee must operate and maintain EUBOILER3 in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include but is not limited to, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.7500(a)(3))**
3. The permittee may obtain approval from the Administrator to use an alternative to the work practice standards. **(40 CFR 63.7500(b))**
4. The permittee shall complete a tune-up of EUBOILER3 every five (5) years (61 months) for boiler/process heaters utilizing an oxygen trim system and greater than 10 million Btu per hour. **(40 CFR 63.7540(a)(10), 63.7515(d))**

#### **SC VI.4-5 Added:**

4. The permittee must keep a copy of each notification and report submittal to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that the permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.7555(a)(1))**
5. The permittee must keep each record on site, or they must be accessible from on-site (for example, through a computer network), for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee can keep the records off site for the remaining three (3) years. **(40 CFR 63.7560(a), (b), and (c))**

#### **SC VII.4-5 Added:**

4. The permittee shall submit boiler tune-up reports to the AQD upon request. **(40 CFR 63.7540(a)(10))**
5. The permittee must submit boiler tune-up compliance reports. Compliance reports must be postmarked or submitted by March 15<sup>th</sup> of the year following the tune-up and must cover the period starting from January 1 and ending December 31. Compliance reports must be

submitted using the Compliance and Emission Data Reporting Interface (CEDRI) which is accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>) If the reporting form is not available in CEDRI at the time the compliance report is due, a hardcopy of the compliance report shall be submitted to the state and EPA Region 5. At the discretion of the Administrator, the permittee must submit these reports in the format specified by the Administrator. **(40 CFR 63.7550(b), 63.10(a)(5), and 63.7550(h)(3))**

### **Flexible Group Summary Table**

Added FGBOILERS6-7 Kewaunee Boilers 6 and 7 are located at the Pit Service Building. Each boiler is rated at 19.46 million BTU per hour. The boilers are capable of burning natural gas, No. 2 fuel oil and/or used oil fuel. These emission units were originally permitted to Empire Mine Partnership. **(Permits to Install Nos. 436-97, 219-04)**

### **FGDUSTCOLLECTORS**

#### **SC VI.1-5** Added CAM language:

1. The permittee shall continuously measure pressure drop and scrubber liquid flow rate, using a Continuous Parameter Monitoring System (CPMS), and record every 15 minutes for a 24-hour average as an indicator of proper operation of the scrubber. **(40 CFR 64.6(c)(1)(i and ii))**
2. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of EUOREDRYER1 and its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**
3. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 64.7(c))**
4. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
5. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

#### **SC VII.4-8** Added CAM and standard stack testing language:

4. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report

shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**

5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
6. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing.<sup>2</sup> **(R 336.12001(3))**
7. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date.<sup>2</sup> **(R 336.2001(4))**
8. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test.<sup>2</sup> **(R 336.2001(5))**

## **FGBOILERS**

### **SC VII.5-7** Added standard testing language

5. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing.<sup>2</sup> **(R 336.12001(3))**
6. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date.<sup>2</sup> **(R 336.2001(4))**
7. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test.<sup>2</sup> **(R 336.2001(5))**

## **FGTACONITEMACT**

### **SC V.5-7** Moved these conditions to SC VII.7-9

## **FGBOILERS1-2**

**SC II.2** Added: The fuel sulfur content limit of no greater than 1.20% sulfur content by weight shall apply to fuel combusted in FGBOILERS1-2.<sup>2</sup> **(40 CFR 52.1183(k)(2))**

### **SC III.2-4** Added:

2. The permittee must operate and maintain FGBOILERS1-2 in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include but is not limited to, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.<sup>2</sup> **(40 CFR 63.7500(a)(3))**

3. The permittee may obtain approval from the Administrator to use an alternative to the work practice standards.<sup>2</sup> **(40 CFR 63.7500(b))**
4. The permittee shall complete a tune-up of EUBOILER3 every five (5) years (61 months) for boiler/process heaters utilizing an oxygen trim system and greater than 10 million Btu per hour.<sup>2</sup> **(40 CFR 63.7540(a)(10), 63.7515(d))**

**SC VI.4-5 Added:**

4. The permittee must keep a copy of each notification and report submittal to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that the permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).<sup>2</sup> **(40 CFR 63.7555(a)(1))**
5. The permittee must keep each record on site, or they must be accessible from on-site (for example, through a computer network), for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee can keep the records off site for the remaining three (3) years.<sup>2</sup> **(40 CFR 63.7560(a), (b), and (c))**

**SC VII.4-5 Added:**

4. The permittee shall submit boiler tune-up reports to the AQD upon request.<sup>2</sup> **(40 CFR 63.7540(a)(10))**
5. The permittee must submit boiler tune-up compliance reports. Compliance reports must be postmarked or submitted by March 15<sup>th</sup> of the year following the tune-up and must cover the period starting from January 1 and ending December 31. Compliance reports must be submitted using the Compliance and Emission Data Reporting Interface (CEDRI) which is accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). If the reporting form is not available in CEDRI at the time the compliance report is due, a hardcopy of the compliance report shall be submitted to the state and EPA Region 5. At the discretion of the Administrator, the permittee must submit these reports in the format specified by the Administrator.<sup>2</sup> **(40 CFR 63.7550(b), 63.10(a)(5), and 63.7550(h)(3))**

**FGBOILERS6-7** Added table

**Appendix 3 NOx Monitoring**

Conditions 1-4, 6 and 9 were removed as the compliance dates had passed.

State Registration Number

**RENEWABLE OPERATING PERMIT**

ROP Number

B4885

**MARCH 20, 2017 - STAFF REPORT ADDENDUM**

MI-ROP-B4885-2017

**Purpose**

A Staff Report dated June 29, 2015, 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 Number 2 ROP from the company. In addition, this addendum describes any changes to the Draft Number 2 ROP resulting from these pertinent comments.

**General Information**

Responsible Official:	James M. Kochevar, VP & General Manager 906-475-3400
AQD Contact:	Ed Lancaster, Senior Environmental Quality Analyst 906-250-5124

**Summary of Pertinent Comments**

The company requested the changes below.

- Tilden is allowed to process two types of ore: Magnetite and Hematite. FGTAONITEMACT has separate particulate matter emission limits for indurating furnaces (EUKILN1 and 2) depending on the type of ore being processed. Tilden rarely processes magnetite ore and requested clarification of testing requirements if magnetite ore has not been processed in the five year permit term.
- Remove two conditions In FGTAONITEMACT (III.6 and IX.6) which refer to conditions that are no longer relevant, i.e., compliance dates have passed.
- BART SIP Applicability vs FIP

**Changes to the April 3, 2017 Draft Number 2 ROP**

EUOREDRIYER1

Page 16, Material Limit(s) II.1 was removed as II.2 is an equivalent requirement.

EUKILN1

The following conditions were subsumed.

Page 24, Emission Limit(s) I.9, 2,270 pounds per hour of NO<sub>x</sub>, based on a 30-day rolling average was removed and subsumed by I.10, 2.8 lbs/MMBtu, based on a 720-hour rolling average when burning natural gas. The nitrogen oxides emission limit determined through 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart X-Michigan, Section 52.1183 Visibility Protection is more stringent than the NSR review.

Page 25, Monitoring/Recordkeeping VI.6, The permittee shall calculate the 30day rolling average NO<sub>x</sub> emissions, and shall submit these calculations with the semiannual reports was removed and subsumed by VI.7, The permittee shall continuously monitor and record, the NO<sub>x</sub> emissions and flow. The permittee shall operate the CEMS to meet the timelines, requirements and reporting detailed in Appendix

3 and shall use the CEMS data for determining compliance with SC I.9 and 10, which is more stringent than the NSR review.

#### FGTACONITEMACT

1. The following conditions were deleted as the compliance dates had passed.
  - a. Page 44: Process/Operational Restriction(s) III.6, and
  - b. Page 49, Other Requirements IX.6.
2. Page 45, Testing/Sampling V.4 was changed to: The permittee shall demonstrate compliance with the particulate matter emission limit, when processing magnetite, specified in SC I.4 for EUKILN1 and EUKILN2 by testing at owner's expense, in accordance with the requirements in 40 CFR 63.9621(a). Testing will be conducted at least twice during the five-year permit term and twice every five year term thereafter. If magnetite is not processed during the five year permit term, testing will not be required. **(40 CFR 63.9621(a), 40 CFR 63.9630(a), 40 CFR 63.9630 (b), 40 CFR 63.9640)** and
3. V.5 was added: The permittee shall demonstrate compliance with the particulate matter emission limit, when processing hematite, specified in SC I.5 for EUKILN1 and EUKILN2 by testing at owner's expense, in accordance with the requirements in 40 CFR 63.9621(a). Testing will be conducted at least twice during the five-year permit term and twice every five year term thereafter. **(40 CFR 63.9621(a), 40 CFR 63.9630(a), 40 CFR 63.9630 (b), 40 CFR 63.9640)**

#### FGBOILERS1-2

Page 50, Material Limit(s) II.1 was removed as II.2 is an equivalent requirement.

Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number

**RENEWABLE OPERATING PERMIT**

ROP Number

B4885

**MAY 19, 2017 - STAFF REPORT ADDENDUM**

MI-ROP-B4885-2017

**Purpose**

A Staff Report dated June 29, 2015, 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 Number 2 ROP resulting from these pertinent comments.

**General Information**

Responsible Official:	James M. Kochevar, VP & General Manager 906-475-3400
AQD Contact:	Ed Lancaster, Upper Peninsula District Supervisor 906-250-5124

**Summary of Pertinent Comments**

On May 3, 2017, AQD received one letter with comments related to the Draft Number 2 ROP. The comments and AQD's response follow:

**Comment**

Request for an independent lab to conduct annual sampling and analysis for arsenic (As), cadmium (Cd), chromium (Cr), lead (Pb), sulfur (S), and halogens on the used fuel oil combusted in EUOREDRIYER1, EUOREDRIYER2, EUKILN1, EUKILN2, and EUBOILER3.

**AQD Response**

The AQD has the ability and authority to collect and analyze used oil samples from Tilden Mine's oil tank, for independent analysis, at any time. In Appendix 4 of the Draft ROP, under "Used Oil Analysis", Tilden is required to obtain a representative sample of the used oil on a monthly basis. Currently, Tilden has not burned used oil in any of the listed emission units since 2011.

**Comment**

Request to change the testing language in FGBOILERS for NOx emission testing from "may be required" to "will be required".

**AQD Response**

Tilden is required to meet all of the conditions identified in FGBOILERS. To this end, the AQD has included other parameters/restrictions in the permit to ensure FGBOILERS will operate in compliance with the NOx emission limit. Namely, the company is only allowed to burn propane or natural gas (Special Condition (SC) II.1); the fuel use is restricted to less than 1400 million standard cubic feet per 12-month rolling time period (SC II.2); a device to monitor fuel use must be installed, calibrated and maintained (SC VI.1); and

low-NOx burners must be installed as pollution control equipment (SC VI.3). Please note, to date, Tilden has not installed any emission units under FGBOILERS.

**Comment**

Request, in FGTACONITEMACT, the frequency of particulate matter (PM) testing for the Ore Crushing and Handling, Finished Pellet Handling and EUOREDRIERS1-2 be increased to annually from once every 5 years.

**AQD Response**

The AQD agrees it is appropriate to require more frequent testing in those situations where there have been compliance issues. Testing results at Tilden Mine for PM indicates compliance with the permit emission limits. The testing conditions, in SC V, require: "Testing will be conducted *at least once* during the five-year permit term and once every five years thereafter." is appropriate based on previous testing results.

**Changes to the April 3, 2017 Draft Number 2 ROP**

No changes were made to the draft ROP.

Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number  
B4885

**RENEWABLE OPERATING PERMIT**  
**JUNE 25, 2018 - STAFF REPORT FOR RULE**  
**216(2) MINOR MODIFICATION**

ROP Number  
MI-ROP-B4885-2017a

**Purpose**

On July 10, 2017, the Department of Environmental Quality, Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B4885-2017 to Tilden Mining Company L.C. 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:	James M. Kochevar, VP & General Manager 906-475-3400
AQD Contact:	Caryn E. Owens, Environmental Engineer 231-878-6688
Application Number:	201800064
Date Application for Minor Modification was Submitted:	May 10, 2018

**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**

Minor Modification Number 201800064 was to incorporate PTI 202-16 into the ROP, which was to install a 300MMBtu/hr natural gas boiler with low NOx burners (EU-BOILER4). EUBOILER2 has been permanently dismantled and removed from the facility. EUBOILER2 references have been removed from the ROP, and FGBOILERS1-2, has been changed to an Emission Unit Table (EUBOILER1) instead of a Flexible Group Table.

**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-B4885-2017, 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.

State Registration Number  
B4885

**RENEWABLE OPERATING PERMIT**

ROP Number  
MI-ROP-B4885-2017b

**APRIL 9, 2020 - STAFF REPORT FOR  
RULE 216(1)(a)(i)-(iv) ADMINISTRATIVE  
AMENDMENT**

**Purpose**

On August 14, 2018, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B4885-2017a to Tilden Mining Company L.C. pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(1)(a)(i-iv).

**General Information**

Responsible Official:	James M. Kochevar, VP & General Manager 906-475-3400
AQD Contact:	Caryn E. Owens, Environmental Engineer 231-878-6688
Application Number:	202000036
Date Application for Administrative Amendment was Submitted:	February 28, 2020

**Regulatory Analysis**

The AQD has determined that the change requested by the stationary source meets the qualifications for an Administrative Amendment pursuant to Rule 216(1)(a)(i).

**Description of Changes to the ROP**

Administrative Amendment Application No. 202000036 was to correct a typographical error in the date of Administratively Complete ROP Renewal Application on the cover page of the ROP. The date indicated that the Administratively Complete ROP Renewal Application is due between January 10, 2020 and January 10, 2021, but the corrected dates were changed to have an Administratively Complete ROP Renewal Application due between January 10, 2021 and January 10, 2022.

**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 EGLE**

The AQD approved an Administrative Amendment to ROP No. MI-ROP-B4885-2017a, as requested by the stationary source. The delegated decision maker for the AQD is the District Supervisor.