PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO_x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUMINEVENT	Three mine vents (SV-001 West Mine Exhaust Vent, SV-002, East Mine Exhaust Vent, SV-003 Portal Mine Exhaust Vent) to exhaust emissions produced by underground mine heaters (propane, natural gas), drilling, blasting, continuous mining, excavation, travel, rock breaker, and transfer activities. Water sprays will be used at the mine face, travel areas, and conveyor transfer points to control particulate emissions underground. Note SV-003 is the mine portal entry, not a stack.	TBD	FGMINEVENT
EUMINEHTRPROP	Propane heater to heat incoming mine air during colder months. The heater will be located in the air intake building. Emissions will exhaust through the three mine vents in EUMINEVENT. The propane heater will be replaced by a natural gas heater.	TBD	FGMINEVENT
EUMINEHTRNG	Natural gas heater to heat incoming mine air during colder months. The heater will be located in the air intake building. Emissions will exhaust through the three mine vents in EUMINEVENT. The natural gas heater will replace the propane heater.	TBD	FGMINEVENT
EUOREHANDLING	Fugitive emissions from ore conveying activities. Ore conveyed from underground will be transferred to the crushed ore transfer conveyor, which discharges onto a bidirectional/reversible conveyor which in turn feeds ore to the bins. Ore that is not directed to the Ore Bins/Reclaim Area will be transferred to the Ore Stockpile. Within the Ore Bins/Reclaim Area, ore will be transferred to the ore bins, to ore feeders at the base of the ore bins, and to the SAG Mill conveyor for transfer to the Process Plant. Ore will also be managed and handled within the Ore Stockpile, including using a front end loader (FEL). Ore will be conveyed within the SAG Mill through multiple transfer points. Emissions will be controlled through use of a belt conveyor enclosure, enclosure of transfer points, and work practices.	TBD	NA
EUCONCENTRATE	Concentrate handling operations inside the concentrate building including a storage pile, transfer of concentrate to a loadout hopper using a FEL, and conveying concentrate to haul trucks.	TBD	NA
EUREAGENTMIX	Indoor reagent mixing area for mixing wet and dry reagents in reagent mixing tanks.	TBD	NA

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUSTOCKPILE	Fugitive emissions from the outdoor ore stockpile.	TBD	FGFUGITIVES
EUTDF	Fugitive emissions from the tailings disposal facility.	TBD	FGFUGITIVES
EUHAULROADS	Fugitive emissions from vehicle traffic on the facility roadways, including front end loaders and concentrate haul trucks.	TBD	FGFUGITIVES
EUCONGENERATOR	725 kW Caterpillar XQ800 diesel generator (or equivalent) subject to NSPS IIII and NESHAP ZZZZ to provide power during initial construction (SV-004).	TBD	NA
EUNGGENERATOR1	2000 kW Caterpillar model G3520 natural gas-fired reciprocating internal combustion engine equipped with a SCR system for controlling NO_2 emissions and an Oxidation Catalyst for reducing emissions of CO (SV-005). Located adjacent to the Process Plant.	TBD	FGGENS
EUNGGENERATOR2	2000 kW Caterpillar model G3520 natural gas-fired reciprocating internal combustion engine equipped with a SCR system for controlling NO_2 emissions and an Oxidation Catalyst for reducing emissions of CO (SV-006). Located adjacent to the Process Plant.	TBD	FGGENS
EUNGGENERATOR3	2000 kW Caterpillar model G3520 natural gas-fired reciprocating internal combustion engine equipped with a SCR system for controlling NO_2 emissions and an Oxidation Catalyst for reducing emissions of CO (SV-007). Located near the mine portal.	TBD	FGGENS
EUFIREPUMP	Clarke 175 HP (131 kW) (or equivalent) diesel fire pump engine (SV-008).	TBD	NA
EULIMESILO	Lime storage silo equipped with a bin vent filter (SV-009).	TBD	NA
EUSPACEHTRS	Propane fired heaters to provide heat for facility buildings and service water heating, approximately 4.2 MMBTU/hr.	TBD	NA
EULAB	On-site assay lab	TBD	FGMISC
EUPROPTANK	30,000 gallon or less pressurized propane storage tank.	TBD	FGMISC
EUDIESEL	Two 3,000 gallon or less diesel fuel storage tanks	TBD	FGMISC
EUFUELING	Vehicle fuel dispensing station	TBD	FGMISC
EUSHOP	Maintenance activities in the maintenance shop	TBD	FGMISC
EUMIBC	Methyl isobutyl carbinol (MIBC) storage and handling	TBD	FGMISC
EUWWT	Sewage treatment system	TBD	FGMISC

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EUOREHANDLING
EMISSION UNIT CONDITIONS

DESCRIPTION

Fugitive emissions from ore conveying activities. Ore conveyed from underground will be transferred to the crushed ore transfer conveyor, which discharges onto a bidirectional/reversible conveyor which in turn feeds ore to the bins. Ore that is not directed to the Ore Bins/Reclaim Area will be transferred to the Ore Stockpile. Within the Ore Bins/Reclaim Area, ore will be transferred to the ore bins, to ore feeders at the base of the ore bins, and to the SAG Mill conveyor for transfer to the Process Plant. Ore will also be managed and handled within the Ore Stockpile, including using a FEL. Ore will be conveyed within the SAG Mill through multiple transfer points. Emissions will be controlled through use of a belt conveyor enclosure, enclosure of transfer points, and work practices.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Belt conveyor enclosure, enclosure of transfer points, and work practices

I. EMISSION LIMIT(S)

1. Visible emissions from EUOREHANDLING shall not exceed a six-minute average of 10 percent opacity. **(R 336.1301, R 336.1331, 40 CFR 60 Subpart LL)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUOREHANDLING unless each belt conveyor and each conveyor transfer point at the surface is enclosed. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 60 days after achieving the maximum production rate, but not later than 180 days after initial start-up of EUOREHANDLING, the permittee shall evaluate visible emissions from EUOREHANDLING, as required by federal Standards of Performance for New Stationary Sources, at owner's expense, in accordance 40 CFR Part 60 Subparts A and LL. Visible emission observation procedures must have prior approval by the AQD Technical Programs Unit and District Office. The permittee must submit a complete report of opacity observations to the AQD Technical Programs Unit and District Office within 60 days following the last date of the evaluation. **(R 336.1301, 40 CFR Part 60 Subparts A & LL)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, records of any visible emissions observed from EUOREHANDLING and any actions taken to reduce visible emissions. **(R 336.1301)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EUCONCENTRATE
EMISSION UNIT CONDITIONS

DESCRIPTION

Concentrate handling operations inside the concentrate building including a storage pile, transfer of concentrate to a loadout hopper using a FEL, and conveying concentrate to haul trucks.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

1. Visible emissions from EUCONCENTRATE shall not exceed a six-minute average of 10 percent opacity. **(R 336.1301, 40 CFR 60 Subpart LL)**

II. MATERIAL LIMIT(S)

1. The permittee shall maintain the moisture content of the concentrate at approximately 7% or higher. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not load concentrate into trucks unless the doors of the concentrate building are closed. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

2. The permittee shall wash the truck wheels of each truck, after the truck is filled with concentrate, before the truck leaves the concentrate building. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUCONCENTRATE unless the conveyor discharge point is located within an enclosed building. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 60 days after achieving the maximum production rate, but not later than 180 days after initial start-up of EUCONCENTRATE, the permittee shall evaluate visible emissions from EUCONCENTRATE, as required by federal Standards of Performance for New Stationary Sources, at owner's expense, in accordance 40 CFR Part 60 Subparts A and LL. Visible emission observation procedures must have prior approval by the AQD Technical Programs Unit and District Office. The permittee must submit a complete report of opacity observations to the AQD Technical Programs Unit and District Office within 60 days following the last date of the evaluation. **(R 336.1301, 40 CFR Part 60 Subparts A & LL)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, a weekly record of the moisture content of the concentrate loaded into trucks in EUCONCENTRATE. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) and (d))**

2. The permittee shall keep, in a satisfactory manner, records of any visible emissions observed from EUCONCENTRATE and any actions taken to reduce visible emissions. **(R 336.1301)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EUREAGENTMIX
EMISSION UNIT CONDITIONS

DESCRIPTION

Indoor reagent mixing area for mixing wet and dry reagents in reagent mixing tanks.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall conduct all reagent mixing operations inside an enclosed building. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702(a), 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each reagent. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EUCONGENERATOR
EMISSION UNIT CONDITIONS

DESCRIPTION

725 kW Caterpillar XQ800 diesel generator (or equivalent) subject to NSPS IIII and NESHAP ZZZZ to provide power during initial construction.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_x	3.5 g/kW-hr[A]	Hourly	EUCONGENERATOR	SC VI.2	Table 7 of 40 CFR 1039.102, 40 CFR 60.4201(a)
2. NO_x	5.6 pph	Hourly	EUCONGENERATOR	SC V.3, VI.2	R 336.1205(3), 40 CFR 52.21 (c) & (d)
3. CO	0.15 g/kW-hr[A]	Hourly	EUCONGENERATOR	SC VI.2	Table 7 of 40 CFR 1039.102, 40 CFR 60.4201(a)
4. CO	0.2 pph	Hourly	EUCONGENERATOR	SC V.3, VI.2	R 336.1205(3), 40 CFR 52.21 (c) & (d)
5. PM	0.1 g/kW-hr[A]	Hourly	EUCONGENERATOR	SC VI.2	Table 7 of 40 CFR 1039.102, 40 CFR 60.4201(a)
6. PM10	0.16 pph	Hourly	EUCONGENERATOR	SC V.3, VI.2	R 336.1205(3), 40 CFR 52.21 (c) & (d)
7. PM2.5	0.16 pph	Hourly	EUCONGENERATOR	SC V.3, VI.2	R 336.1205(3), 40 CFR 52.21 (c) & (d)
8. NMHC	0.40 g/kW-hr[A]	Hourly	EUCONGENERATOR	SC VI.2	Table 7 of 40 CFR 1039.102, 40 CFR 60.4201(a)

[A]These emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 1039.101(e), for the NSPS.

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel in EUCONGENERATOR with the maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(3), 40 CFR 60.4207, 40 CFR 80.510(b))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate and maintain EUCONGENERATOR such that it meets the emission limits in SC I.1, I.3, I.5, and I.8 over the entire life of the engine. **(40 CFR 60.4206, 40 CFR 60.4211)**

2. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of EUCONGENERATOR:
   a) Operate and maintain the certified engine according to the manufacturer's emission-related written instructions.
   b) Change only those emission related settings that are permitted by the manufacturer.
   c) Meet the requirements as specified in 40 CFR 89, 94, and/or 1068, as it applies to EUCONGENERATOR.

   If the permittee does not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be regulated as a non-certified engine. **(40 CFR 60.4211(a))**

3. If the permittee purchased a non-certified engine or if a certified engine has been operated or maintained in a non-certified manner, the permittee shall keep a maintenance plan for each engine of EUCONGENERATOR and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum rated power output of EUCONGENERATOR shall not exceed 972 HP shaft horsepower (725 kW), as certified by the equipment manufacturer. **(R 336.1205(3), R 336.1225, R 336.1702(a), 40 CFR 60.4202, 40 CFR 60.4205, 40 CFR 89.112(a))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct an initial performance test for EUCONGENERATOR within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4205 unless the engine has been certified by the manufacturer and the permittee maintains the engine as required by 40 CFR Part 60 Subpart IIII. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. Subsequent performance testing shall be conducted every 8,760 hours of engine operation or 3 years, whichever comes first. **(40 CFR 60.4211, 40 CFR 60.4212, 40 CFR Part 60 Subpart IIII)**

2. If EUCONGENERATOR is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
   a) Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
   b) If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.
   c) Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.

   No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(40 CFR 60.4211(g)(3), 40 CFR 60.4212)**

3. Upon the request of the AQD District Supervisor, the permittee shall verify NO_x, CO, PM, PM10, and/or PM2.5 emission rates from EUCONGENERATOR by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M
NO_x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1224, R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1225, 40 CFR 52.21 (c) & (d), 40 CFR Part 60 Subpart IIII)**

2. The permittee shall keep, in a satisfactory manner, records of testing required in SC V.1 or manufacturer certification documentation indicating that EUCONGENERATOR meets the applicable requirements contained in the federal Standards of Performance for New Stationary Sources, 40 CFR Part 60 Subpart IIII. If EUCONGENERATOR becomes uncertified, then the permittee must also keep records of a maintenance plan and maintenance activities. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

3. The permittee shall monitor and record the total hours of operation for EUCONGENERATOR, on a monthly and 12-month rolling time period basis, in a manner acceptable to the District Supervisor, Air Quality Division. **(R 336.1205(3), R 336.1225)**

4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUCONGENERATOR, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (3), 40 CFR 60.4207(b), 40 CFR 1090.305)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUCONGENERATOR. **(R 336.1201(7)(a))**

2. The permittee shall submit a notification specifying whether EUCONGENERATOR will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(40 CFR Part 60, Subpart IIII)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-004	6	14.8	R 2336.1225 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to EUCONGENERATOR. **(40 CFR Part 60 Subparts A & IIII)**

2. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines, as they apply to EUCONGENERATOR upon startup. **(40 CFR 63.6595(a)(2), 40 CFR, Part 63, Subparts A and ZZZZ)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EUFIREPUMP
EMISSION UNIT CONDITIONS

DESCRIPTION

Clarke 175 HP (131 kW) (or equivalent) diesel fire pump engine (SV-008).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_x + NMHC	4.0 g/kW-hr[A]	Hourly	EUFIREPUMP	SC VI.2	40 CFR 60.4205(c), 40 CFR 60.4211(c), Table 4 of 40 CFR Part 60, Subpart IIII
2. NO_x	2.66 lb/hr	Hourly	EUFIREPUMP	SC V.3, VI.2	R 336.1205(3), 40 CFR 52.21(c) & (d)
3. CO	3.5 g/kW-hr[A]	Hourly	EUFIREPUMP	SC VI.2	40 CFR 60.4205(c), 40 CFR 60.4211(c), Table 4 of 40 CFR Part 60, Subpart IIII
4. CO	1.0 lb/hr	Hourly	EUFIREPUMP	SC V.3, VI.2	R 336.1205(3), 40 CFR 52.21(d)
5. PM	0.20 g/kW-hr[A]	Hourly	EUFIREPUMP	SC VI.2	R 336.1205(3), 40 CFR 60.4205, 40 CFR 60.4211(c), Table 4 of 40 CFR Part 60, Subpart IIII
6. PM10	0.06 pph	Hourly	EUFIREPUMP	SC V.3, VI.2	R 336.1205(3), 40 CFR 52.21(c) & (d)
7. PM2.5	0.06 pph	Hourly	EUFIREPUMP	SC V.3, VI.2	R 336.1205(3) 40 CFR 52.21(c) & (d)

[A]These emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 60.4212(c), for the NSPS.

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel, in EUFIREPUMP with the maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(3), 40 CFR 60.4207, 40 CFR 80.510(b))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUFIREPUMP for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. These hours include the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1205(3), 40 CFR 52.21(c) & (d))**

2. The permittee may operate EUFIREPUMP for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. EUFIREPUMP may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f))**

3. The permittee shall operate and maintain EUFIREPUMP such that it meets the emission limits in SC I.1, I.3, and I.5 over the entire life of the engine. **(40 CFR 60.4206, 40 CFR 60.4211)**

4. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of EUFIREPUMP:
   a) Operate and maintain the certified engine according to the manufacturer's emission-related written instructions.
   b) Change only those emission related settings that are permitted by the manufacturer.
   c) Meet the requirements as specified in 40 CFR 89, 94, and/or 1068, as it applies to EUFIREPUMP.

   If the permittee does not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be regulated as a non-certified engine. **(40 CFR 60.4211(a))**

5 If the permittee purchased a non-certified engine or if a certified engine has been operated or maintained in a non-certified manner, the permittee shall keep a maintenance plan for each engine of EUFIREPUMP and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain EUFIREPUMP with a non-resettable hours meter to track the operating hours. **(R 336.1205(3), 40 CFR 52.21(c) & (d))**

2. The maximum rated power output of EUFIREPUMP shall not exceed 175 HP (131 kW), as certified by the equipment manufacturer. **(R 336.1205(3), R 336.1225, 40 CFR 60.4205(b) & (c), 40 CFR 60.4202(a)(2), 40 CFR Part 60, Subpart IIII Table 4)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct an initial performance test for EUFIREPUMP within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4205 unless the engine has been certified by the manufacturer and the permittee maintains the engine as required by 40 CFR Part 60 Subpart IIII. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. Subsequent performance testing shall be conducted every 8,760 hours of engine operation or 3 years, whichever comes first. **(40 CFR 60.4211, 40 CFR 60.4212, 40 CFR Part 60 Subpart IIII)**

2. If EUFIREPUMP is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
   a) Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
   b) If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.
   c) Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.

   No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(40 CFR 60.4211(g)(3), 40 CFR 60.4212)**

3. Upon the request of the AQD District Supervisor, the permittee shall verify NO_x, CO, PM, PM10, and/or the PM2.5 emission rates from EUFIREPUMP by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M
NO_x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

   An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1224, R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), 40 CFR 52.21 (c) & (d), 40 CFR Part 60 Subpart IIII)**

2. The permittee shall keep, in a satisfactory manner, records of testing required in SC V.1 or manufacturer certification documentation indicating that EUFIREPUMP meets the applicable requirements contained in the federal Standards of Performance for New Stationary Sources, 40 CFR Part 60 Subpart IIII. If EUFIREPUMP becomes uncertified, then the permittee must also keep records of a maintenance plan and maintenance activities. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

3. The permittee shall monitor and record the total hours of operation for EUFIREPUMP, on a monthly and 12-month rolling time period basis, in a manner acceptable to the District Supervisor, Air Quality Division. **(R 336.1205(1)(a) & (3), R 336.1225)**

4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUFIREPUMP, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (3), 40 CFR 60.4207(b), 40 CFR 1090.305)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent, pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUFIREPUMP. **(R 336.1201(7)(a))**

2. The permittee shall submit a notification specifying whether EUFIREPUMP will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(40 CFR Part 60 Subpart IIII)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-008	6	14.8	R 336.1225, 40 CFR 52.21(c) & (c)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to EUFIREPUMP. **(40 CFR Part 60 Subparts A & IIII, 40 CFR 63.6590(c)(1))**

2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63 Subpart A and Subpart ZZZZ, as they apply to EUFIREPUMP. **(40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EULIMESILO
EMISSION UNIT CONDITIONS

DESCRIPTION

Lime storage silo equipped with a bin vent filter (SV-009).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Bin vent filter

I. EMISSION LIMIT(S)

1. Visible emissions from EULIMESILO shall not exceed a six-minute average of 5 percent opacity. **(R 336.1301, R 336.1331)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EULIMESILO unless the bin vent filter is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(3), 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor EULIMESILO to verify compliance with the opacity limit by taking visible emission readings a minimum of once per month when the silo is being filled. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. If a certified reader observes visible emissions that exceed the opacity limit or if a non-certified reader observes visible emissions above normal, the permittee shall take corrective action as described in the MAP and document the corrective action taken. **(R 336.1301, R 336.1911)**

2. The permittee shall keep, in a satisfactory manner, records of all visible emission readings for EULIMESILO. At a minimum, records shall include the date, time, name of observer/reader, whether the reader is certified, status of visible emissions, and any corrective action taken. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1301)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-009	8	15.1	40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EUSPACEHTRS
EMISSION UNIT CONDITIONS

DESCRIPTION

Propane fired heaters to provide heat for facility buildings and service water heating, approximately 4.2 MMBTU/hr.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall burn only propane in EUSPACEHTRS. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGMINEVENT	Three mine vents (SV-001 West Mine Exhaust Vent, SV-002, East Mine Exhaust Vent, SV-003 Portal Mine Exhaust Vent) to exhaust emissions produced by underground mine heaters (propane, natural gas), drilling, blasting, continuous mining, excavation, travel, rock breaker, and transfer activities. Note SV-003 is the mine portal entry, not a stack.	EUMINEVENT, EUMINEHTRPROP, EUMINEHTRNG
FGFUGITIVES	Fugitive emissions from vehicle traffic on the facility roads, the outdoor ore stockpile, and the tailings disposal facility.	EUHAULROADS, EUSTOCKPILE, EUTDF
FGGENS	Three natural gas fired generators subject to NSPS JJJJ.	EUGENERATOR1, EUGENERATOR2, EUGENERATOR3
FGMISC	Miscellaneous activities that generate minimal emissions.	EULAB, EUPROPTANK, EUDIESEL, EUFUELING, EUSHOP, EUMIBC, EUWWT

FGMINEVENT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Three mine vents (SV-001 West Mine Exhaust Vent, SV-002, East Mine Exhaust Vent, SV-003 Portal Mine Exhaust Vent) to exhaust emissions produced by underground mine heaters (propane, natural gas), drilling, blasting, continuous mining, excavation, travel, rock breaker, and transfer activities. Note SV-003 is the mine portal entry, not a stack.

Emission Unit: EUMINEVENT, EUMINEHTRPROP, EUMINEHTRNG

POLLUTION CONTROL EQUIPMENT

Dust suppression systems, such as water sprays

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	22.29 tpy	12-month rolling time period as determined at the end of each calendar month	EUMINEVENT	SC VI.2	R 336.1205(3)
2. PM10	7.34 tpy	12-month rolling time period as determined at the end of each calendar month	EUMINEVENT	SC VI.2	R 336.1205(3)
3. PM2.5	2.4 tpy	12-month rolling time period as determined at the end of each calendar month	EUMINEVENT	SC VI.2	R 336.1205(3)
4. PM	4.12 pph	Hourly	Emissions exhausted through SV-001 (West Mine Vent)	SC V.1	R 336.1224, R 336.1225, R 336.1331
5. PM10	1.68 pph	Hourly	Emissions exhausted through SV-001 (West Mine Vent)	SC V.1	40 CFR 52.21 (c) & (d)
6. PM2.5	0.276 pph	Hourly	Emissions exhausted through SV-001 (West Mine Vent)	SC V.1	40 CFR 52.21 (c) & (d)
7. PM	4.25 pph	Hourly	Emissions exhausted through SV-002 (East Mine Vent)	SC V.2	R 336.1224, R 336.1225, R 336.1331
8. PM10	1.73 pph	Hourly	Emissions exhausted through SV-002 (East Mine Vent)	SC V.2	40 CFR 52.21 (c) & (d)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
9. PM2.5	0.285 pph	Hourly	Emissions exhausted through SV-002 (East Mine Vent)	SC V.2	40 CFR 52.21 (c) & (d)

13. Visible emissions from each EUMINEVENT exhaust stack shall not exceed a six-minute average of 7 percent opacity. **(R 336.1301, R 336.1331, 40 CFR 60 Subpart LL)**

II. MATERIAL LIMIT(S)

1. The permittee shall burn only propane and natural gas in the EUMINEVENT heaters. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

2. The permittee shall not burn more than 5.17 million gallons of propane in the EUMINEVENT heaters per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3))**

3. The permittee shall not burn more than 429 million standard cubic feet of natural gas in the EUMINEVENT heaters per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not burn natural gas and propane simultaneously in the EUMINEVENT heaters. **(R 336.1225, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUMINEVENT unless the dust suppression systems, including water sprays, in the mine are installed, maintained, and operated in a satisfactory manner as described in the program for continuous fugitive emissions control required by FGFACILITY Special Condition No. III.2. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

2. The total heat input of the EUMINEVENT propane heaters shall not exceed 54 MMBTU/hr. **(R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

3. The total heat input of the EUMINEVENT natural gas heaters shall not exceed 50 MMBTU/hr. **(R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of directing exhaust through SV-001, the permittee shall verify PM, PM10, and PM2.5 emission rates from EUMINEVENT exhausted through SV-001 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the

test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. Within 180 days after commencement of directing exhaust through SV-002, the permittee shall verify PM, PM10, and PM2.5 emission rates from EUMINEVENT exhausted through SV-002 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1331, 40 CFR 52.21(c) and (d))**

2. The permittee shall keep, in a satisfactory manner, calculation records of the monthly and 12-month rolling time period PM, PM10, and PM2.5 emission rates for EUMINEVENT using a method approved by the District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1331, 40 CFR 52.21(c) and (d))**

3. The permittee shall keep, in a satisfactory manner, a record of the start-up and shutdown date for each EUMINEVENT exhaust stack. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) and (d))**

4. The permittee shall keep, in a satisfactory manner, records of any visible emissions observed from EUMINEVENT and any actions taken to reduce visible emissions. **(R 336.1301)**

5. The permittee shall keep, in a satisfactory manner, separate records of the gallons of propane and standard cubic feet of natural gas used in the EUMINEVENT heaters for each month and 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3))**

VII. REPORTING

1. Within 30 days after the start-up of each mine vent, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. **(R 336.1201(7)(a))**

2. Within 30 days after the start-up of the propane heater, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. **(R 336.1201(7)(a))**

3. Within 30 days after the start-up of the natural gas heater, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-001	157	29.5	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV-002	197	29.5	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGFUGITIVES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Fugitive emissions from vehicle traffic on the facility roads, the outdoor ore stockpile, and the tailings disposal facility.

Emission Unit: EUHAULROADS, EUSTOCKPILE, EUTDF

POLLUTION CONTROL EQUIPMENT

Water truck to control dust on haul roads

I. EMISSION LIMIT(S)

1. Visible emissions from all wheel loaders and all truck traffic shall not exceed 10 percent opacity. Compliance shall be demonstrated using Test Method 9D as defined in Section 324.5525(j) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c) & (d), 40 CFR 60 Subpart LL)**

2. Visible emissions from the outdoor ore stockpile shall not exceed 10 percent opacity. Compliance shall be demonstrated using Test Method 9D as defined in Section 324.5525(j) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c) & (d), 40 CFR 60 Subpart LL)**

3. Visible emissions from the tailings disposal facility shall not exceed 10 percent opacity. Compliance shall be demonstrated using Test Method 9D as defined in Section 324.5525(j) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c) & (d), 40 CFR 60 Subpart LL)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not exceed a maximum payload equivalent of 3,774 53-ton concentrate trucks entering and leaving the facility for each 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

2. The permittee shall not exceed a maximum payload equivalent of 10,220 53-ton water transport trucks entering and leaving the facility for each 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

3. The permittee shall implement the dust control measures for EUSTOCKPILE as specified in the Nuisance Minimization Plan for Fugitive specified in Appendix A, or an alternate plan approved by the AQD District Supervisor. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not discharge ore to EUSTOCKPILE unless the conveyor discharge chute is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

2. The permittee shall minimize the drop heights of the front end loader bucket used at EUSTOCKPILE. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

2. The permittee shall keep a daily record of the type, size (weight) and number of concentrate transport trucks entering and leaving the facility. Each month, in a manner acceptable to the AQD District Supervisor, the permittee shall calculate the payload equivalent number of 53-ton concentrate transport trucks entering and leaving the facility based on that month's daily records. The permittee shall keep all records and calculations on file at the facility and make them available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

3. The permittee shall keep a daily record of the type, size (weight) and number of water transport trucks entering and leaving the facility. Each month, in a manner acceptable to the AQD District Supervisor, the permittee shall calculate the payload equivalent number of 53-ton water transport trucks entering and leaving the facility based on that month's daily records. The permittee shall keep all records and calculations on file at the facility and make them available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

4. The permittee shall keep, in a satisfactory manner, records of any visible emissions observed from EUHAULROADS, EUSTOCKPILE, and EUTDF and any actions taken to reduce visible emissions. **(R 336.1301)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGGENS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Three natural gas-fired reciprocating internal combustion engines subject to NSPS JJJJ.

Emission Unit: EUGENERATOR1, EUGENERATOR2, EUGENERATOR3

POLLUTION CONTROL EQUIPMENT

SCR system for controlling NO_x emissions and an Oxidation Catalyst for reducing emissions of CO. The SCR system includes a urea storage tank.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_x	1.2 pph	Hourly	Each engine in FGGENS	SC V.2	R 336.1205(3), 40 FCR 52.21(c) & (d)
2. NO_x	1.0 g/bHP-hr, or 82 ppmvd at 15% O_2[A]	Hourly	Each engine in FGGENS	SC V.1	40 CFR 60.4231(e), 40 CFR 60.4233(e), Table 1 to 40 CFR 60 Subpart JJJJ
3. CO	1.67 pph	Hourly	Each engine in FGGENS	SC V.2	R 336.1205(3), 40 FCR 52.21(d)
4. CO	2.0 g/bHP-hr, or 270 ppmvd at 15%O_2[A]	Hourly	Each engine in FGGENS	SC V.1	40 CFR 60.4231(e), 40 CFR 60.4233(e), Table 1 to 40 CFR 60 Subpart JJJJ
5. VOC (including formaldehyde)	1.67 pph	Hourly	Each engine in FGGENS	SC V.2	R 336.1205(3), R 336.1702(a), 40 FCR 52.21(c) & (d)
6. VOC	0.7 g/bHP-hr, or 60 ppmvd at 15% O_2[A,B]	Hourly	Each engine in FGGENS	SC V.1	40 CFR 60.4231(e), 40 CFR 60.4233(e), Table 1 to 40 CFR 60 Subpart JJJJ
7. PM10	0.33 pph	Hourly	Each engine in FGGENS	SC V.2	R 336.1205(3), 40 FCR 52.21(c) & (d)
8. PM2.5	0.33 pph	Hourly	Each engine in FGGENS	SC V.2	R 336.1205(3), 40 FCR 52.21(c) & (d)

[A] Owners and operators may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15% O_2.

[B] For the purposes of 40 CFR Part 60 Subpart JJJJ, emissions of formaldehyde should not be included when calculating volatile organic compounds.

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas in each engine in FGGENS. **(R 336.1205(3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c)(& (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The nameplate capacity of each engine in FGGENS shall not exceed 2,667 bHP. **(R 336.1205(3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

2. The permittee shall not operate each engine in FGGENES unless each respective SCR and oxidation catalyst are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for each unit in FGGENS as required by FGFACILITY SC III.1. **(R 336.1205(3), R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct an initial performance test for each engine in FGGENS within one year after startup to demonstrate compliance with the NO_x, CO, and VOC emission limits in 40 CFR 60.4233(e) unless the engine has been certified by the manufacturer and the permittee maintains the engine as required by 40 CFR Part 60 Subpart JJJJ. The permittee shall conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter, to demonstrate compliance. The performance tests shall be conducted according to 40 CFR 60.4244, and the hourly emission rates shall be determined by the average of the acceptable three test runs. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 60.4243(b), 40 CFR 60.4244, 40 CFR Part 60 Subpart JJJJ)**

2. Upon the request of the AQD District Supervisor, the permittee shall verify NO_x, CO, VOC, PM10, and/or PM2.5 emission rates from any or all engines in FGGENS by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM10 / PM2.5	40 CFR Part 51, Appendix M
NO_x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A
VOC	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.1225, R 336.1702, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

2. The permittee shall keep, in a satisfactory manner maintenance records documenting that each unit in FGGENS meets the applicable emission limitations contained in the federal Standards of Performance for

New Stationary Sources 40 CFR Part 60, Subpart JJJJ. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4245)**

3. The permittee shall keep, in a satisfactory manner, records of the amount of natural gas fuel combusted in each unit in FGGENS on a monthly basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21(c) & (d))**

4. The permittee shall keep records of the following information for each unit in FGGENS:
   a) All notifications submitted to comply with 40 CFR Part 60 Subpart JJJJ and all documentation supporting any notification.
   b) Maintenance conducted on each unit in FGGENS.
   c) If a unit(s) in FGGENS is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that each unit in FGGENS meets the emission standards in 40 CFR 60.4233(e).

   The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4243(b)(1), 40 CFR 60.4245(a))**

5. The permittee shall continuously (at least once every 15 minutes) monitor each oxidation catalyst inlet temperature at all times that the associated engine is operating except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. The permittee shall keep this monitoring data on file and make it available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

6. The permittee shall continuously (at least once every 15 minutes) monitor operating parameters of each SCR in accordance with an approved MAP as required by FGFACILITY SC III.1, at all times that the associated engine is operating except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. The permittee shall keep this monitoring data on file and make it available to the Department upon request. **(R 336.1205(3), R 336.1225, 40 CFR 52.21(c) & (d))**

7. The permittee shall keep the following records:
   a) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or of the air pollution control and monitoring equipment.
   b) Records of performance tests and performance evaluations as required in SC V.1 and V.2.
   c) Records of all required maintenance performed on the air pollution control and monitoring equipment.
   d) Records of actions taken during periods of malfunction to minimize emissions as required by FGFACILITY SC III.1, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

   The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of each engine in FGGENS. **(R 336.1201(7)(a))**

2. The permittee must submit an initial notification to the AQD District Supervisor within 30 days of commencement of construction as required in 40 CFR 60.7(a)(1), for each unit in FGGENS that has not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231. The notification must include the following information:
   a) Name and address of the owner or operator;

b) The address of the affected source;
c) The engine make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
d) The engine emission control equipment; and
e) Fuel used in the engine.

(40 CFR 60.4245(c))

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-005	15	14.8	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV-006	15	14.8	R 336.1225, 40 CFR 52.21(c) & (d)
3. SV-007	15	14.8	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subpart A and Subpart JJJJ, as they apply to each engine in FGGENS. **(40 CFR Part 60 Subparts A and JJJJ)**

2. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to each engine in FGGENS. **(40 CFR Part 63 Subparts A and ZZZZ)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGMISC
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Small miscellaneous emission sources

Emission Unit: EULAB, EUPROPTANK, EUDIESEL, EUFUELING, EUSHOP, EUMIBC, EUWWTP

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall only use diesel in EUDIESEL and EUFUELING. **(R 336.1205(3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The storage capacity of EUPROPTANK shall not exceed 30,000 gallons. **(R 336.1205(3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period material use records for FGMISC, including propane usage and diesel fuel usage. **(R 336.1205(3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGFACILITY CONDITIONS

DESCRIPTION

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

POLLUTION CONTROL EQUIPMENT

Belt conveyor enclosure, enclosure of transfer points, work practices, bin vent filter, dust suppression systems such as water sprays, water truck to control dust on haul roads, SCR system for controlling NO_2 emissions and an Oxidation Catalyst for reducing emissions of CO

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. CO	85.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3), 40 CFR 52.21(d)

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than 2,973 tons of emulsion per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3), 40 CFR 52.21(d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate the facility unless a malfunction abatement plan (MAP) as described in Rule 911(2), for all air pollution control equipment, has been submitted within 365 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
   a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**

2. The permittee shall not operate the facility unless the nuisance minimization plan for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, all material handling operations, and the underground mine specified in Appendix A, or an alternate plan approved by the AQD District Supervisor, has been implemented and is maintained. If at any time the plan fails to address or

inadequately addresses fugitive dust emissions, the permittee shall amend the plan within 45 days. The permittee shall also amend the plan within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit any amendments to the plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the amended plan shall be considered approved. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

3. The permittee shall operate all plant roadways, parking lots, and truck staging areas routinely traveled by concentrate haul trucks and delivery trucks in accordance with the program for continuous fugitive emissions control specified in Appendix A, or an alternate plan approved by the AQD District Supervisor. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1301, R 336.1371, R 336.1372, 40 CFR 52.21(c) & (d))**

4. The permittee shall keep records of preventative maintenance, repairs, and corrective actions taken as specified by the MAP. **(R 336.1301, R 336.1331, R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), 40 CFR 52.21(d))**

2. The permittee shall keep, in a satisfactory manner, calculation records of the monthly and 12-month rolling time period CO emission rates for FGFACILITY using a method approved by the District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3))**

3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of emulsion used. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21(d))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of underground blasting. **(R 336.1201(7)(a))**

2. The permittee shall provide written notification of construction and operation to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(40 CFR 60.7)**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and LL, as they apply to FGFACILITY. **(40 CFR Part 60 Subparts A & LL)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX A Nuisance Minimization Plan for Fugitive Dust

Foth

Fugitive Dust Control Plan

HIGHLAND
Copper Company Inc.

Copperwood Resources Inc.
Gogebic County, Michigan

August 2023

Project I.D.: 23H001

Solving our clients' toughest science and engineering challenges.

Fugitive Dust Control Plan

Project ID: 23H001

Prepared for
Copperwood Resources Inc.
Gogebic County, Michigan

Prepared by
Foth Infrastructure & Environment, LLC

August 2023

2121 Innovation Court • De Pere, WI 54115 • (920) 497-2500
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Fugitive Dust Control Plan

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Figure

(Figure located after Figures tab)

Figure 1-1 Mining Area Plan

Appendices

Appendix A On-Site Haul Road Watering Documentation Form

List of Abbreviations, Acronyms, and Symbols

CRI	Copperwood Resources Inc.
Foth	Foth Infrastructure & Environment, LLC
NAICS	North American Industry Classification System
Project	Copperwood Project
PTI	Permit to Install Application
SAG	Semi-Autogenous Grinding
TDF	Tailings Disposal Facility

1. Introduction

This Fugitive Dust Control Plan has been prepared by Foth Infrastructure & Environment, LLC (Foth) on behalf of Copperwood Resources Inc. (CRI) as part of the 2023 Air Permit to Install Application (PTI) for the proposed mining and ore processing operations. The Copperwood Project (Project) site is located in Ironwood and Wakefield Townships, Gogebic County, Michigan, approximately 10 miles north of Wakefield, Michigan. Figure 1-1 shows the mining area plan, including locations of potential fugitive dust sources. This plan addresses information on best management practices and controls to minimize fugitive dust from the sources at this facility.

Pursuant to R336.1371 of Part 3, Emission Limitations and Prohibitions – Particulate Matter, a Fugitive Dust Control Plan may be required for any fugitive dust source involved in processing, storing, transporting, and conveying bulk materials such as metal ores. The Project will mine and process a copper bearing ore body. The facility will operate under North American Industry Classification System (NAICS) Code 212234. The major requirements for dust control under this regulation are the following:

- A written Fugitive Dust Control Program.
- Maintenance of records consistent with activities to be implemented under the program.
- Identification of control technologies and methods that will be implemented as part of the program. Control methods must be selected for activities listed in R 336.1372.

Ore will be excavated underground through use of drill, blast, continuous mining, and mechanized room and pillar methods. Once fragmented, ore will be transported to belt conveyors for transport to the main mine conveyor. The main transfer belt conveyor will bring ore to the surface. At surface, the ore will be routed to either the Bins/Reclaim Area or the Ore Stockpile. Milling and processing will be completed in the Process Plant. The Process Plant will produce the saleable concentrate and generate a tailings slurry that will be pumped to the Tailing Disposal Facility (TDF). Haul and delivery traffic supports the operations. All roads at the facility will be unpaved.

Emissions from these operations are characterized and quantified in the air permit application. For fugitive sources, control measures will be followed to reduce dust generation during these activities. Potential sources of fugitive dust include:

- Underground mining operations.
- Outdoor material management, feed conveyors, and conveyor transfer points.
- Wind erosion from material storage:
  - Ore stockpiles
  - TDF
  - Topsoil stockpile
- Vehicle traffic.

2. Underground Mining Operations

Underground mining activities generating dust emissions include drilling, blasting, continuous mining, ore transfer, feed hoppers and rolls/rock breakers, and conveyor transfer from the ore management areas to the surface. A portion of the underground dust generated will settle, however, airborne dust will be carried out of the mine in the ventilation. The mine will be ventilated by drawing in air through a mine ventilation intake, located northwest of the mine site. Exhaust exits through three ventilation raises labeled on Figure 1-1: the Mine Vent Exhaust; West, Mine Vent Exhaust; East, and Portal Exhaust Vent. Control of fugitive dust emissions from these processes will be implemented as mine development advances into full production.

Fugitive emission controls in the underground mine will be a combination of dust suppression and prevention activity. Fresh water will be used for dust control in the active mining and haulage areas. Water sprays will be used to dampen dust generated from transfer points or activities.

Work procedures will be developed as mine construction advances to production that will address specific fugitive emission control activities required for the different mining job tasks.

3. Surface Material Storage and Handling

3.1 Outdoor Transfer Tower, Feed Conveyors and Transfer Points

Particulate fugitive emissions will be generated by movement of ore to various surface locations on the site. These fugitive emission sources include the following ore transfer emission sources:

- Ore transfer from underground mine to the surface.
- Ore transfer to the Ore Bins/Reclaim Area and Ore Stockpile.
- Ore transfer points at the Semi-Autogenous Grinding (SAG) Mill (Process Plant) prior to the material becoming a slurry.

Throughout the ore transfer systems, emissions will be controlled through use of belt conveyors with enclosures at the transfer points.

3.2 Ore Stockpile

Ore transferred to the Ore Stockpile will discharge material through an enclosed chute to the stockpile. Fugitive emissions may occur during management and handling of ore, including movement from the discharge conveyor drop point, moving ore from the stockpile into transfer hoppers using a front-end loader and due to wind erosion.

Particulate emissions will be controlled through enclosure of the discharge chute, and through work practices such as minimizing drop heights of the front-end loader bucket. In addition, the particle size distribution for material in the stockpile shows the silt content to be a low value of 2%, which should aid in minimizing particulate emissions.

3.3 Tailings Disposal Facility

The TDF footprint will cover approximately 316 acres (over the approximately 12-year life of mine). This footprint includes the tailings area and the embankments. A decant pond will cover the majority of the top tailings surface (approximately 230 acres). Of the "beach" area not covered by the pond, approximately 75% remain wet beach area and approximately 25% will become exposed dry tailings. The dry beach area has been addressed for potential fugitive dust generation.

Tailings slurry will be pumped to the TDF and distributed through a tailings distribution system. The slurry will be approximately 50% solids. Once deposited, drying will take place over time in unsubmerged areas. This material will form a crust that acts to reduce fugitive dust emissions. The formation of a crust layer in combination with deposition of the material in a wet state are anticipated to significantly reduce the fugitive dust potential. The preferred method of tailings emission control will be to keep as much of the tailings deposit submerged in the operational water pond of the impoundment as practical. During the winter months, snow cover and freezing conditions will naturally dampen dust generation. If additional dust control is necessary, either water spraying or chemical sealants may be applied to beach areas that are not moist.

3.4 Topsoil Storage Area

Any long-term topsoil storage area accumulated during site construction will have vegetative covers established to control erosion from precipitation and wind-blown fugitive dust emissions. Temporary control measures will include water or dust suppressant application until vegetation is established. Once vegetation is established, minimal fugitive dust is expected from topsoil storage. This helps maintain slope stability, structural integrity, and erosion control as well as dust emissions.

Figure

4. Unpaved Haul Roads

Haul roads at the facility will include the main access road from the front gate to the Process Plant, the explosives storage area, and the Water Truck Offload Area; and haulage roads at the Ore Stockpile. Location of the access roads and Ore Stockpile are shown on Figure 1-1. All haul roads will be unpaved.

A front-end loader will be utilized at the Ore Stockpile. A concentrate product truck will transport product along the access road within the facility from the concentrate loadout area at the Process Plant to the main gate. A haulage truck may also transport water for use in the process to the offload area on the west side of the TDF. In addition, water trucks and various other service vehicles will transport reagents and supplies to the Process Plant. Other service vehicles will include fuel and reagent transport trucks and trucks hauling emulsion products to the explosives magazine.

4.1 Dust Suppression Techniques

During drier and warmer times of the year and when freezing conditions are not occurring, the access road will be watered periodically throughout the day to maintain it in a relatively wet condition. As needed, an on-site water truck will be used to distribute water evenly across roadway segments to maintain surfaces in a moist state during traffic periods. The watering program will be in effect along the access road segments shown on Figure 1-1 (HR-02, HR-03, HR-04, and HR-05).

During winter months and colder times of the year (October to April), roadways may be under snow cover. However, it is not uncommon for "freeze-dry" conditions to occur. Freeze-drying occurs when no snow cover is present, and a very thin layer becomes desiccated. In low temperatures, it is not practical to use water to prevent freeze-drying. Approved chemical dust suppressants may be applied to unpaved roadways on an as-needed basis.

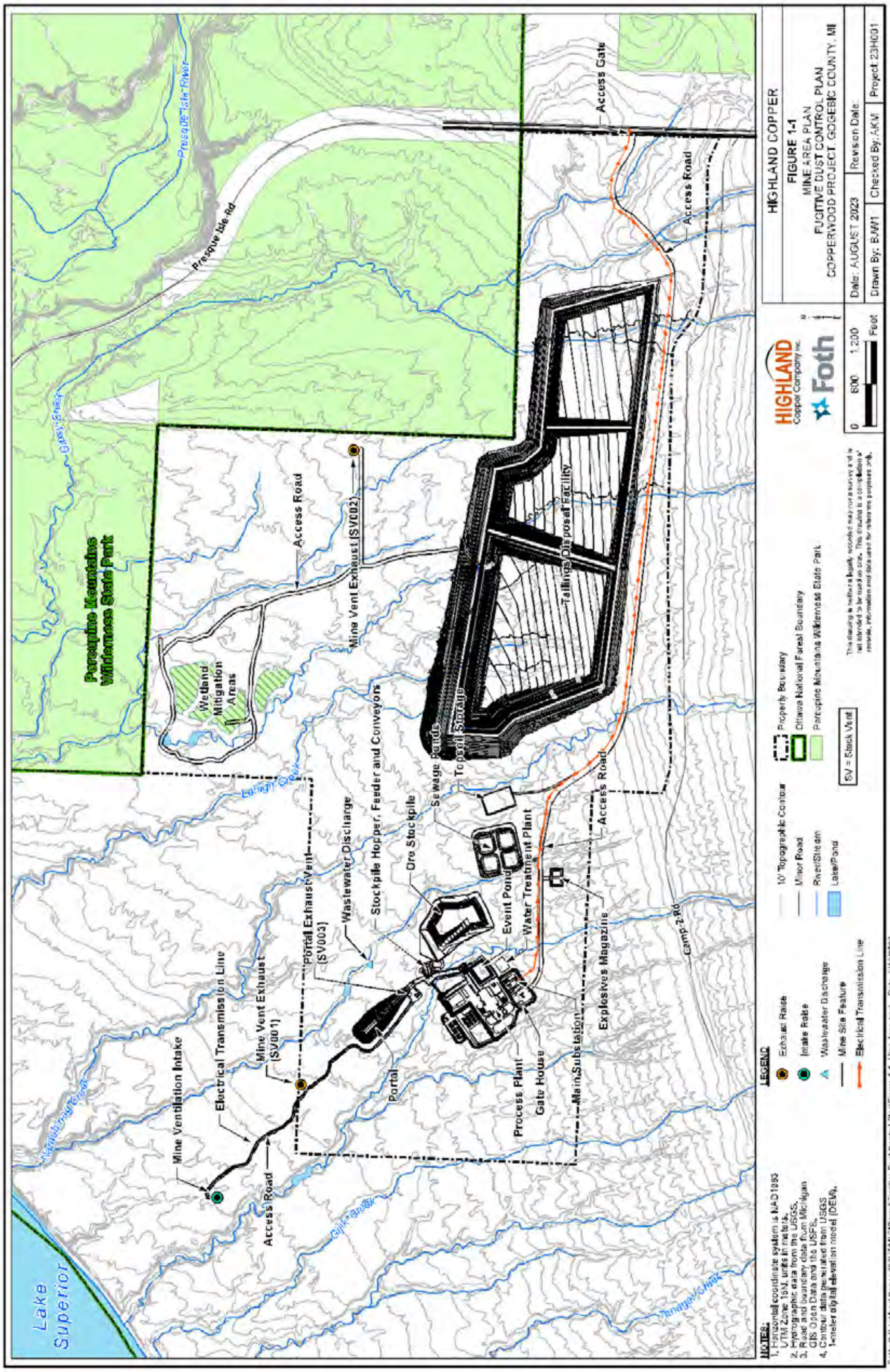
In addition to watering and use of chemical dust suppressants, unpaved haul roads will be dressed with coarse aggregate materials to maintain lower silt content and the fugitive dust potential of the roadway surfaces. As roadway aggregate materials are worn down, they will be replaced with new coarse aggregate materials. The facility will also establish a speed limit of 15 miles per hour for on-site roads. This low speed will reduce the potential for dust generation from unpaved roadway surfaces.

4.2 Haul Road Segments

Documentation of dust suppression activities for haul roads will be done using a form similar to the On-Site Haul Road Watering Documentation Form in Appendix A. The form will be used by field supervision to assess the effectiveness of roadway dust suppression techniques and document corrective actions. The form will be completed daily during operations. For ease in identifying potential problem areas, roadways within the facility have been assigned roadway segment identification numbers, marked on the Watering Documentation Forms. Identification numbers will be as follows:

Haul Road Segment Description	Identification Number
Main Gate to Fuel Storage, Reagent Area, Concentrate Load Out Dock	Segment 1
Access Road to Water Truck Offload Area	Segment 2
Ore Stockpile Haulage Route	Segment 3
Access Road to Explosives Magazine	Segment 4

Records of the haul road dust suppression program will be maintained over the life of the mine operations. The form or a similar-type form provided in Appendix A will be completed daily to document the status of water used for dust suppression on identified haul road segments. Information on chemical dust suppressants used can also be added to the form.


Lake Superior
Porcupine Mountains Wilderness State Park
Presque Isle Rd
Presque Isle River
Wetland Mitigation Areas
Access Road
Mine Vent Exhaust (SV002)
Tailings Disposal Facility
Topsoil Storage
Sewage Ponds
Access Gate
Mine Ventilation Intake
Electrical Transmission Line
Mine Vent Exhaust (SV001)
Portal Exhaust Vent (SV003)
Wastewater Discharge
Stockpile Hopper, Feeder and Conveyors
Ore Stockpile
Event Pond
Water Treatment Plant
Explosives Magazine
Main Substation
Portal
Process Plant
Gate House
Camp 2 Rd
LEGEND
Exhaust Raise
Intake Raise
Wastewater Discharge
Mine Site Feature
Electrical Transmission Line
10' Topographic Contour
Minor Road
River/Stream
Lake/Pond
Property Boundary
Ottawa National Forest Boundary
Porcupine Mountains Wilderness State Park
SV = Stack Vent
HIGHLAND COPPER
FIGURE 1-1
MINE AREA PLAN
FUGITIVE DUST CONTROL PLAN
COPPERWOOD PROJECT, GOGEBIC COUNTY, MI
Date: AUGUST 2023
Revision Date:
Drawn By: BAW1
Checked By: AKV
Project: 23H001

Appendix A

On-Site Haul Road Watering Documentation Form

On-Site Haul Road Watering Documentation Form
Segment Haul Truck Routes

Date: _____ Name of Inspector: _____

1. Weather conditions: _____

2. Was watering applied to haul roads on this day? Yes ___ No ___

2. If yes, what was the watering schedule?

First Shift _____

Second Shift _____

3. What was the approximate volume of water used?

Segment 1 – Process Plant to Main Gate	Gallons	_____
Segment 2 – Access Road to Water Truck Offload Area	Gallons	_____
Segment 3 – Ore Stockpile Haulage Route	Gallons	_____
Segment 4 – Main Gate to Explosives Magazine	Gallons	_____

4. If water was not used, identify the reason:

Precipitation

Snow Pack or Freezing Conditions

No traffic during the entire period

5. Identify Chemical Dust Suppressants Used and Segment Numbers:

Comments:_____

This form has a minimum of information to be documented. It may be re-formatted and enhanced in the course of operations.