

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

March 19, 2015

PERMIT TO INSTALL
539-97F

ISSUED TO
Environmental Geo-Technologies, LLC

LOCATED AT
28470 Citrin Drive
Romulus, Michigan

IN THE COUNTY OF
Wayne

STATE REGISTRATION NUMBER
M4796

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: February 20, 2015	
DATE PERMIT TO INSTALL APPROVED: March 19, 2015	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
CO ₂ e	Carbon Dioxide Equivalent	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	kW	Kilowatt
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO _x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	PM with aerodynamic diameter ≤10 microns
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	PM with aerodynamic diameter ≤ 2.5 microns
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonably Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO ₂	Sulfur Dioxide
SCR	Selective Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TAC	Toxic Air Contaminant	µg	Microgram
TEQ	Toxicity Equivalence Quotient	VOC	Volatile Organic Compound
VE	Visible Emissions	yr	Year

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

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 Environmental Quality, 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 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 R 336.1219 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 R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(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 R 336.1301, 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 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 R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

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 (Process Equipment & Control Devices)	Flexible Group ID
EU RT-1	Storage tank, acidic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-2	Storage tank, acidic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-3	Storage tank, acidic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-4	Storage tank, acidic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-5	Storage tank, basic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-6	Storage tank, basic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-7	Storage tank, basic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-8	Storage tank, basic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-9	Storage tank, brine. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU RT-10	Storage tank, incompatibles. Emissions exhausted to SVINCOMPATIBLES.	FGTANKS, FGFACILITY
EU PST-1	Primary settling, incompatibles. Emissions exhausted to SVINCOMPATIBLES.	FGTANKS, FGFACILITY
EU PST-2	Primary settling, acidic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU PST-3	Primary settling, acidic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU PST-4	Primary settling, acidic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU PST-5	Primary settling, basic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU PST-6	Primary settling, basic. Emissions exhausted to SVCOMPATIBLES.	FGTANKS, FGFACILITY
EU SST-1	Secondary storage tank	FGFACILITY
EU ST-1	Sludge storage tank 1	FGFACILITY
EU ST-2	Sludge storage tank 2	FGFACILITY
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 336.1290.		

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
FGTANKS	Tanks and process vessels for treating wastewater that may be regulated as hazardous waste.	EU RT-1, EU RT-2, EU RT-3, EU RT-4, EU RT-5, EU RT-6, EU RT-7, EU RT-8, EU RT-9, EU RT-10, EU PST-1, EU PST-2, EU PST-3, EU PST-4, EU PST-5, EU PST-6
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.	NA

The following conditions apply to: FGTANKS

DESCRIPTION: Tanks and process vessels for treating wastewater that may be regulated as hazardous waste.

Emission Units: EU RT-1, EU RT-2, EU RT-3, EU RT-4, EU RT-5, EU RT-6, EU RT-7, EU RT-8, EU RT-9, EU RT-10, EU PST-1, EU PST-2, EU PST-3, EU PST-4, EU PST-5, EU PST-6

POLLUTION CONTROL EQUIPMENT: A carbon adsorber for each vent to atmosphere.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	4.3 lb/hr ¹	Test protocol	FGTANKS	SC V.1	R 336.1225
2. VOC	9.4 tons/yr	12-month rolling*	FGTANKS	SC VI.2	R 336.1702(a)

* 12-month rolling time period as determined at the end of each calendar month

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any tank in FGTANKS unless its respective conservation vent and nitrogen blanket system are installed, maintained, and operated in a satisfactory manner. (R 336.1224, R 336.1225, R 336.1702(a), R 336.1910)

2. The permittee shall not operate any tank in FGTANKS unless that tank's emissions are exhausted through an activated carbon adsorber system that is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1702(a), R 336.1910)**
3. The permittee shall equip and maintain each of the carbon adsorption systems for FGTANKS with a saturation indicator capable of detecting breakthrough of the carbon. The permittee shall change the spent carbon in the carbon adsorption units within 48 hours of indication that the carbon bed is 70 percent expended, unless exhaust tests indicate a lower saturation level. **(R 336. 1910)**

V. TESTING/SAMPLING

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

1. Upon request by the AQD District Supervisor, the permittee shall verify VOC emission rates from FGTANKS by testing at owner's expense, in accordance with Department requirements. No less than 45 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan 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. **(R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

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 and records in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702(a))**
2. The permittee shall maintain the following written records for FGTANKS, and shall make them available to the Department upon request. **(R 336.1702(a))**
 - a. For each calendar month, a record of the monthly VOC emission rate and the VOC emission rate for the 12-month rolling time period ending that month.
 - b. For each calendar month, a record of the calculations used to determine the VOC emission rate.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

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. SVCOMPATIBLES	6	38	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
2. SVINCOMPATIBLES	3	38	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply Source-Wide to: FGFACILITY

POLLUTION CONTROL EQUIPMENT: None for the facility as a whole. All pollution control equipment is listed with the emission units and flexible groups that include the equipment.

I. EMISSION LIMITS

1. Visible emissions from any roadway, parking lot, or storage pile, including any material handling activity at a storage pile, shall not exceed a six-minute average of 5 percent opacity. **(R 336.1301)**

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Material received	400,000 gallons per day	Calendar day	FGFACILITY	SC VI.2	R 336.1225, R 336.1702(a), R 336.1901
2. VOC content of material received	0.2 percent by weight	Monthly average	FGFACILITY	SC VII.1	R 336.1225, R 336.1702(a)

* Rolling 12-month time period as determined at the end of each calendar month.

3. The permittee shall not accept a shipment if the shipment's content of any compound listed below exceeds 10.0 percent by weight.¹ **(R 336.1225)**

Compound	Chemical Abstracts Service Registry Number	Underlying Applicable Requirement
a. Carbon tetrachloride	56-23-5	R 336.1225(3)(b)
b. Chloroform	67-66-3	R 336.1225(2)
c. 1,2-Dichloroethane	107-06-2	R 336.1225(2)
d. 2,4-Dinitrotoluene	121-14-2	R 336.1225(2)
e. Hexachlorobenzene	118-74-1	R 336.1225(3)(b)
f. Hexachloro-1,3-butadiene	87-68-3	R 336.1225(2)
g. Trichlorethylene	79-01-6	R 336.1225(2)

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FGFACILITY unless the fugitive dust control plan for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix A has been implemented and is maintained. **(R 336.1371, Act 451 324.5524)**
2. The permittee shall only accept or process waste streams based on the codes listed in the Part 111 operating license.¹ **(R 336.1225)**

IV. DESIGN/EQUIPMENT PARAMETERS

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 and records in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702(a))**
2. The permittee shall monitor and record, in a satisfactory manner, the amount of material received on a daily basis. The permittee shall compile the records on a monthly basis and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**
3. For each shipment of waste received, the permittee shall monitor and record, in a satisfactory manner, data to demonstrate that the shipment's content of each compound listed in SC II.3 does not exceed the limit in SC II.3. The permittee shall compile the records on a monthly basis and make them available to the Department upon request.¹ **(R 336.1225)**
4. The permittee shall maintain a written log for maintenance and replacement of the spent carbon in all the carbon adsorber units at FGFACILITY, and make the log available to the Department upon request. The written log shall indicate the following information. **(R 336.1225, R 336.1702(a))**
 - a. The date and time that each carbon adsorber system is monitored for carbon breakthrough and the analytical results of the carbon test canister, if indicating a lower saturation level
 - b. Date when the spent carbon is replaced
5. The permittee shall keep records of implementation of requirements specified in the fugitive dust control program in Appendix A. The permittee shall keep the records on file and make them available to the Department upon request. **(R 336.1371, MCL 324.5524)**

VII. REPORTING

1. The permittee shall submit all of the following records for VOC-containing material received at FGFACILITY to the AQD District Supervisor in an acceptable format within 30 days following the end of the calendar quarter in which the records were collected. **(R 336.1225, R 336.1702(a))**
 - a. For each shipment received, the date received
 - b. For each shipment received, the quantity received
 - c. For each shipment received, the weight percent of VOC
 - d. For each calendar month, the average VOC content of material received that month, in percent by weight
 - e. For each calendar month for FGTANKS, the monthly VOC emission rate and the VOC emission rate for the 12-month rolling time period ending that month.
2. The permittee shall notify the Pollution Emergency Alerting System (PEAS) at 1-800-292-4706 immediately upon the release of cyanide gas from FGFACILITY.¹ **(R336.1901)**
3. The permittee shall notify the Department if a change in land use occurs for property classified as industrial or as a public roadway, where this classification was relied upon to demonstrate compliance with Rule 225(1). The permittee shall submit the notification to the AQD District Supervisor, within 30 days of the actual land use change. Within 60 days of the land use change, the permittee shall submit to the AQD District Supervisor a plan for complying with the requirements of Rule 225(1). The plan shall require compliance with Rule 225(1) no later than one year after the due date of the plan submittal.¹ **(R 336.1225(4))**

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

APPENDIX A

Fugitive Dust Control Plan
Permit to Install No. 539-97E

RDD Operations, LLC
28470 Citrin Drive
Romulus, Michigan

- a) Paved Roads, Paved Lot, and Open Areas
 - i) Speed control – 10 mph (POST SIGNS)
 - ii) Wet sweeping, vacuum sweeping, or water flushing, as needed

- b) Miscellaneous
 - i) Spilled Material – Daily cleaning
 - ii) Track Out – Clean daily
 - iii) Maintain tight truck bodies so that leakages within the body will be eliminated and future leakages prevented
 - iv) The facility will keep a written log of the frequency and type of fugitive dust control treatment implemented, where appropriate. Log entries will be made on the days that active measures are implemented.