Facility Name: **Research Oil Company**
Application Number: **13-3473**
Date: **June 30, 1999**

GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCES

The proposed source(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed source(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of Ohio Administrative Code (OAC) Rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as

an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

PUBLIC DISCLOSURE

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC Rule 3745-49-03.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

BEST AVAILABLE TECHNOLOGY

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be filed no later than thirty days after commencement

of operation.

SOURCE OPERATION AFTER COMPLETION OF CONSTRUCTION

This facility is permitted to operate each source described by this permit to install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws and regulations.

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements

AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Research Oil Company** located in **Cuyahoga** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source Number	Source Identification Description	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P023	A process for grinding and mixing organic wastes to produce pumpable fuel products.	The BAT determination is an organic emission capture efficiency of 90 percent by weight and organic emissions destruction efficiency of 90 percent by weight.*	3745-31-05 3745-21-07 (G)(2) 3745-15-07	1.71 pounds OC/hour 40.0 pounds OC/day 2.05 TPY OC **

* And the organic emission thermal destruction equipment shall maintain a minimum combustion temperature, maximum volatile organic material content of 30 percent by weight in the organic waste materials, maximum vapor pressure of 0.7 pound per square inch (psia) and maximum vapor molecular weight of 130 grams per gram mole. The minimum combustion temperature in Hot Oil Heater, H-201 is 1,100 degrees Fahrenheit and in Hot Oil Heater, H-501 is 1,200 degrees Fahrenheit.

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements

** The emissions unit identified in this permit shall not cause a public nuisance in violation of OAC rule 3745-15-07.

Facility Name: **Research Oil Company**
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SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons/Year
OC	2.05

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Cleveland Air Pollution Control, 1925 St. Clair Avenue, Cleveland, OH 44114.**

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering

practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Cleveland Air Pollution Control, 1925 St. Clair Avenue, Cleveland, OH 44114.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

A. Applicable Emission Limitation and/or Control Requirements

1. The OC emission limitations for emissions unit P023 are identified in the Air Emission Summary Section of this Permit to Install (PTI). The limitations are based on Synthetic Minor Determination.

B. Operational Restriction

1. The fire box of either Hot Oil Heater H-201 or Hot Oil Heater H-501 is deemed the thermal incinerator for the destruction of organic emissions.

2. The thermal incinerator shall maintain a minimum temperature of 1,100 degrees Fahrenheit in the combustion chamber of Hot Oil Heater H-201 and 1,200 degrees Fahrenheit in Hot Oil Heater H-501. The minimum combustion temperature is based on the minimum destruction efficiency of 90 percent by weight of OC emissions.

3. The operational restriction for this emissions unit is a maximum allowable volume throughput of 1,200,000 gallons of organic waste materials per year. To ensure enforceability during the first 12 calendar months of

operation following the issuance of this permit, the permittee shall not exceed the gallon throughput levels specified in the following table

Month	P023 organic waste material processed, gallons
1	100,000
1-2	200,000
1-3	300,000
1-4	400,000
1-5	500,000
1-6	600,000
1-7	700,000
1-8	800,000
1-9	900,000
1-10	1,000,000
1-11	1,100,000
1-12	1,200,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual organic waste materials throughput limitations shall be based upon rolling, 12-month summations of the organic waste materials.

C. Monitoring and Recordkeeping Requirements

1. The permittee shall maintain daily, monthly and continuous records of the following information:

   a. the total throughput, in gallons, of organic waste materials for each emissions unit and for each month;

   b. during the first 12 calendar months of operation following the issuance of this permit, the cumulative total throughput, in gallons, of organic waste materials for each calendar month;

   c. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summations of the total organic waste materials, in gallons;

   d. the permittee shall install, operate and maintain a continuous non-resettable elapsed time meter which measures the hours of the fan/blower operation transporting vapor and fume to the thermal incinerator when any emissions unit is in operation. The

measurement unit shall be in 0.1 of an hour. The monitoring devices shall be capable of accurately measuring the elapsed time of the fan/blower operation. The elapsed time meter shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee;

e. the permittee shall install, operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when any emissions unit is in operation. Measurement units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the combustion temperature. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee;

f. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when any emissions unit is in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance; and,

g. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

D. <u>Reporting Requirements</u>

1. The permittee shall submit quarterly written reports which identify all deviations (excursions), exceedances and non-compliance periods of time of the following unless specified otherwise below:

   a. the rolling, 12-month limitations on the throughput of organic waste materials;

   b. for the first 12 calendar months of operation following the issuance of this permit, the maximum allowable cumulative throughput limits;

   c. the permittee shall submit quarterly deviation (excursion) reports

which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated this emissions unit was in compliance, the probable cause of such deviations (excursions), and any corrective actions or preventive measures which have been or will be taken;

d. if no deviations (excursions) occurred during a calendar quarter, the permittee shall submit written quarterly report, which states that no deviations (excursions) occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations (excursions) resulting from malfunctions reported in accordance with OAC rule 3745-15-06.);

e. the permittee shall submit written quarterly summaries which include a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions units were in operation. These summaries shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters; and,

f. the permittee shall submit written annual reports of the total throughput, in gallons, for the organic waste materials and other materials processed during the calendar year for this emissions unit. These written annual reports shall be submitted by February 15 of each year.

E. <u>Testing Requirements and Compliance Method Determinations</u>

1. The following test method(s) shall be employed to demonstrate compliance with the following limits:

a. <u>Emission Limitation</u>

1.71 lbs OC/hour and 40.0 lbs OC/day; a minimum capture efficiency of 90 percent by weight and a minimum control efficiency of 90 percent by weight.

The following test methods shall be employed to determine the overall control efficiency of the emission control equipment (i.e., the percent of reduction in mass emissions between the inlet and the outlet of the emission control equipment) serving this emissions unit: OAC rule 3745-21-10 (C), 40 CFR 60, Appendix A, Methods 1 through 4, 25, 25A or 25B, and 40 CFR 51, Appendix M, Method 204 through 204F. If reference methods 18, 25, and/or 25A will be used and the emission control device is an incinerator, the test procedure shall follow the requirements of the June 14, 1993 letter from U.S. EPA, Region V, Air Enforcement Branch to Ohio Environmental Protection Agency.

The overall control efficiency of the emission control equipment serving this emissions unit shall be demonstrated based upon the results of the capture efficiency and control efficiency tests specified above. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the U.S. EPA's Guidelines for Determining Capture Efficiency" dated January 9, 1995. (The Ohio EPA will consider request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) The control efficiency shall be determined in accordance with the test methods and procedures specified above and OAC rule 3745-21-10. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

b. <u>Emission Limitation</u>

2.05 TPY OC

Calculation of the monthly and rolling 12-month emissions using records of restricted amount of material processed and emission factors using the equations as follows:

OC emissions:

(lbs OC/1000 gallon emission factor) X (material processed, gallons/month) X (1 ton/2000 lbs) = tons/month, OC

$$\sum_{j=1} Ej \leq 2.05 \text{ tons OC emissions per rolling 12-month period}$$

where:
E = tons/month, OC emissions

c. Applicable Compliance Method(s)

The permittee shall conduct, or have conducted OC emission testing for this emissions unit to demonstrate compliance with the minimum capture efficiency and the minimum control efficiency requirements in accordance with the following requirements:

The test shall be conducted while this emissions unit is venting OC emissions to the thermal incinerator. This emissions unit shall be operated at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central Office.