

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 National Drive
Little Rock, Arkansas 72209

PERMIT
FOR THE CONSTRUCTION AND/OR OPERATION
OF A SOLID WASTE DISPOSAL
FACILITY

Permit No. 251-C

EFFECTIVE DATE 10/10/89

Mr. C.T. Boones
Ethyl Corporation
P.O. Box 729
Magnolia, AR 72753

Location: SW1/4, SE1/4, Section 7
T-10N, R-10E, Columbia Co.
Engineer: Jack L. Helms, P.E.
Magnolia, AR

This permit is your authority to construct and/or operate the Solid Waste Disposal Facility set forth in your application dated 1/1/89. This permit is issued pursuant to the provisions of the Arkansas Solid Waste Management Act (Act 237 of 1971; Sec. 82-2701 et seq., Ark. Stats.), hereinafter called the "Act", the Arkansas Solid Waste Management Code, hereinafter called the "Code", and all other applicable rules and regulations of the Department of Pollution Control and Ecology, hereinafter called "Department", and the following terms and conditions:

1. The disposal facility shall be constructed, maintained, and operated in accordance with the final plans and specifications as approved by the Department and in compliance with all applicable provisions of the Act, the Code, and all other applicable rules and regulations.
2. This permit shall automatically terminate unless construction of the disposal facility has been commenced within 180 day(s) of the date hereof and completed with all reasonable diligence. The Department shall be notified in writing when the disposal facility has been completed in order that it may be inspected.
3. The disposal facility shall be operated by qualified personnel and maintained in good operating condition at all times.
4. This permit may be revoked or modified whenever, in the opinion of the Department, the facilities are no longer in compliance with the Act, the Code, and applicable rules and regulations. This permit shall not relieve the permittee, its agents or employees, from compliance with all provisions of the Act and the Code.
5. Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the disposal facility.
6. This permit is issued in reliance upon the statements and representations made in the application and the plans and specifications and the Department has no responsibility for the adequacy or proper functioning of the disposal facility.

PLEASE SEE ATTACHED SHEET FOR ADDITIONAL CONDITIONS.

Approved:

DEPARTMENT OF POLLUTION CONTROL & ECOLOGY

By Randall Martin
Director

10/10/89

ADDITIONAL PERMIT CONDITIONS
ETHYL CORP.

7. Consulting firms specializing in soil mechanics and quality assurance will conduct soil testings (including internal natural materials layers) and monitor the quality control plan throughout construction.
8. One foot of the foundation subbase (not including the lower clay liner) shall be scarified, mixed and recompactd in six inch lifts at optimum moisture content to within 95% of standard proctor density. Any soils found to be weak or compressible shall be removed and not used as subbase foundation material. Any soil used in the construction of the structure shall have a compressive strength which extends the load bearing requirement with a safety factor of three.
9. All solids placed in the inactive area of the landfill will be covered with a synthetic membrane of a minimum of 20 mil thickness. The "Active Area" is defined as the portion of the facility receiving material on a daily basis for staging prior to placement in the Inactive Area; and the "Inactive Areas" will be those areas which are being brought to final contour with material moved from active areas. The total area classified as an "Active Area" cannot exceed more than 25% of the total facility area at any time, and no material may be staged in an Active Area for more than 120 days.

At the conclusion of one hundred eighty (180) days ADPC&E will review this Condition, and may issue a Revised Condition if it finds that operating conditions are not adequately protective of the environment. Any such Revised Condition shall be a final decision of the Director which is immediately appealable and immediately applicable. Ethyl shall cease utilizing the facility until such time as the Revised Condition is satisfied, subject to any Stay Order which may be issued in the event Ethyl chooses to appeal the Revised Condition.

The permittee shall close the facility in stages in accordance with plans approved by ADPC&E. A Staged Closure Plan shall be submitted for ADPC&E review and approval within thirty (30) days after commencing operations under this permit.

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The closure stages shall be based upon a percentage of utilization of the total facility area; i.e. upon reaching final contour of 25% of the total facility area, that area will be closed in accordance with the approved Staged Closure Plan. ADPC&E will be notified a minimum of sixty (60) days before undertaking any closure activity.

In the Annual Report, Ethyl shall present a schematic depicting the Active Area, the Inactive Area, the Closed Area, and the relative percentages that each area bears to the total facility area.

Solids which may benefit from additional drying may be spread on the floor of the vault during the low rainfall months of July - October. The area used for drying will not be considered as active or inactive area. Records of moisture content will be kept in accordance with the Facility Sampling Plan and the results will be included in the Annual Report.

10. The depth of the solids placed in the storage vault shall not exceed elevation 317 at high center with 4% slope to the sides.
11. Thirty (30) days prior to utilizing the facility, Ethyl shall submit a "Groundwater Monitoring Well Installation Report", prepared by an individual with expertise in groundwater hydrology, which shall address the installation of the existing six (6) monitoring wells, and the suitability of such wells to adequately detect a release of leachate from the facility. The report should address the following aspects of the site:
 - Site stratigraphy based upon boring logs
 - Potentiometric surface of uppermost saturated zone
 - Thickness of the uppermost saturated zone
 - Direction of groundwater flow
 - Hydraulic gradient of the uppermost saturated zone
 - Recommended monitor well locations and screened intervals
 - Proposed well construction details
 - Well development procedures

In the event ADPC&E finds that the existing six (6) groundwater monitoring wells are not adequate, it may issue a Revised Condition. Any such Revised Condition shall be a final decision of the Director which is immediately appealable and immediately applicable. In the event ADPC&E issues a revised Condition, Ethyl shall not utilize the facility (or Ethyl shall cease utilizing the facility) until such time as the Revised Condition is satisfied, subject to any Stay Order which may be issued in the event Ethyl chooses to appeal the Revised Condition.

12. In addition an aquifer test in one up hydraulic gradient well and one down hydraulic gradient well shall be conducted using methodology appropriate for the aquifer. The following aquifer information shall be included in a report to be submitted prior to receiving waste at the facility:
 - Hydraulic conductivity of screened interval
 - Transmissivity
 - Storage coefficient
 - Hydraulic gradient
 - Groundwater flow direction
13. In Order to establish the background condition of the groundwater, Ethyl shall analyze the initial groundwater samples for the following constituents: Chloride, Calcium, Iron Manganese, Total Phosphates, Nitrates, Sulfate, Sodium, Chemical Oxygen Demand, Total Dissolved Solids, Total Organic Carbon, pH, Total Organic Halogens, and the Volatile Organic Constituents listed in Appendix I of 40 CFR 258.54 of Solid Waste Facility Criteria, Proposed Rule (List "A"). Ethyl shall analyze subsequent groundwater samples for the following constituents, once per quarter: pH, Conductivity, Chlorides, Bromides, Total Organic Carbon, Total Organic Halogen, and 1, 2 dibromethane (EDB) (List "B").

14. Thirty (30) days prior to utilizing the facility Ethyl shall present a "Groundwater Monitoring Quality Assurance and Quality Control Plan." This plan shall address sample collection, preservation and analyses techniques, the methodology which will be utilized to confirm the validity of sample results, and other elements of a groundwater sampling and analysis plan necessary to assure valid sample retrieval and analysis. This plan is subject to approval by the Department.
15. The methodology which will be used to determine when, and under what circumstances the list of monitoring parameters must be expanded to List A (or reduced back to List B) or when other steps of the groundwater contingency plan must be engaged.
16. A Groundwater Contamination Contingency Plan shall be developed for Department approval thirty (30) days prior to utilizing the facility. This plan must include a logical sequence of steps to be followed, in the case of detection of groundwater contamination, leading to the initiation of remedial action.
17. A composite sample, representative of each solid waste stream which will be placed in the vault during the next reporting year, shall be characterized by the appropriate RCRA hazardous waste characteristics tests methods (40 CFR Part 261 Subpart C) to determine whether the waste streams exhibit any of the RCRA hazardous waste characteristics. Ethyl shall include in the Annual Report the results of the waste characterization, the specific chemicals present in the wastes, and the approximate quantities of each waste stream placed in the fill during the previous reporting year.
18. The total amount of financial assurance required is \$10,350.00. Acceptable mechanisms for financial assurance include a surety bond or a collateral bond (supported by a letter of credit, securities, or cash). The instruments used must be in the exact form set forth in Appendix B of the Code and must be filed with the Department before the permit can become effective. The purpose of the financial assurance is to ensure an environmentally-sound closure of the site upon completion of the landfilling operation.

19. This permit is issued for the disposal of waste solids with chemical characteristics as detailed in the application information. Any change in loading that could cause the waste characteristics to change will be considered significant and require application for permit modification.
20. Waste must not be allowed to accumulate in such a way that the primary drainage system is rendered inoperative. In the event standing water is observed, the drainage system shall be inspected and investigated; and any corrections or modifications required to render the drainage system operable shall be undertaken. In the event the drainage system cannot be repaired within five (5) days, ADPC&E shall be notified.
21. Waste disposal operations at this site shall not commence until an initial permit application fee in the amount of \$693.00 is received and acknowledged by the Department. This fee shall be submitted in accordance with Section 10 of Regulation No. 9: Permit Fees. Failure to pay annual permit fees when due may result in revocation of this permit.
22. As an adjunct to the additional conditions listed above, the permittee is reminded that the provisions of Condition No. 1 of this permit shall also be satisfied in the construction, operation, maintenance and closure of the landfill.
23. This permit shall expire when the approximate 6.9 acre disposal area described in the final engineering plans has been filled to design capacity and is closed out in accordance with the provisions of the Arkansas Solid Waste Management Code. Additional long-term monitoring may be required.
24. Ethyl shall file an Annual Report with the Chief of the ADPC&E Solid Waste Division to satisfy its reporting obligations under this permit which shall include the information specified in the above Conditions. The Annual Report shall be filed on or before October 1 of each year. The first Annual Report shall cover operations commencing on the initiation of operations under this permit and ending on June 30, and each subsequent Annual Report shall cover the twelve month period commencing on July 1 and ending on June 30.