

Permit No. 4007-WR-3
AFIN No. 14-00011

**AUTHORIZATION FOR A NO-DISCHARGE WATER PERMIT UNDER
THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*):

Albemarle Corporation

is authorized to operate the surface impoundments associated with the West Brinefield System located as follows: on Highway 371 4.3 miles west of Magnolia in Columbia County, Arkansas. The facility is located at the following coordinates:

Latitude: 33° 15' 51" North Longitude: 93° 18' 50" West

Operation shall be in accordance with all conditions set forth in this permit.

Effective Date: January 1, 2014

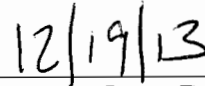
Expiration Date: December 31, 2018



Ryan Benefield, P.E.

Deputy Director

Arkansas Department of Environmental Quality



Issue Date

Part I
SPECIFIC CONDITIONS

1. This permit covers the holding facilities, emergency containment facilities, pipelines and tanks (surface impoundments) known as the West Brinefield System. This system is located in Section 17, Township 18 South and Range 20 West, in Columbia County, Arkansas.
2. The West Brinefield System will receive feed brine from underground geological formations via Arkansas Oil and Gas Commission (AOGC)-permitted brine production wells, tail brine, and operational brine spill material from both the West Brine Pretreatment and Management System (ADEQ permit no. 0690-WR-4) and South Brinefield System (ADEQ permit no. 2189-WR-7). The recovered tail brine and any operational brine spills at the West Plant Facility are then injected into AOGC-permitted Class V Underground Injection Control (UIC) wells. The West Brinefield System may receive tail brine from the South Brinefield System if needed to maintain optimum operations. These systems handle waste fluids disposed of in Class V UIC nonhazardous waste disposal wells. No additional, secondary, or unpermitted waste streams are to be routed to the tail brine system for storage or disposal.
3. The West Brinefield System operation shall be managed in accordance with the February 22, 2012 permit application and as specified in the October 8 and November 5, 2012 addenda approved by the Department. If the permit application and addenda are inconsistent with this permit, the brine management and disposal system shall be managed in accordance with the terms of the permit and the application shall be revised to conform to the permit conditions. The Department has no responsibility for the adequacy or proper functioning of the treatment system.
4. The brine wells in this disposal system are regulated by the Arkansas Oil and Gas Commission under Class V bromine related underground injection control well permits. Upon changes in the system, such as additions or deletions of Class V UIC wells, or pipelines, a new map shall be provided to the Department indicating the locations of the wells and pipelines and a permit modification will be required.
5. Records must be kept of the volumes of feed brine, tail brine, and operational brine spill material disposed in the West Brinefield System. Also included shall be records of any repairs conducted on the pipelines, any discharge occurrences, and other system modifications. These records must be maintained on site and must be made available to the Department upon request.
6. This is a No-Discharge Permit. Waste shall not be discharged from this operation to waters of the State or onto the land in any manner that may result in runoff to waters of the State. Operators must check the containment system daily to ensure there is no discharge of fluids to the ground surface or waters of the state. **This permit does not authorize the operator to inject.** Notification of any discharge shall be reported in accordance with Condition 13, Part II of this permit.
7. Around the above ground storage tank there shall be maintained an impermeable containment berm (firewall) capable of holding 1.5 times the capacity of the tank. No drains, valves, siphon hoses, or gates should be installed that would allow the uncontrolled discharge of fluids, included collected stormwater, contained within the firewall.

8. The containment berm (firewall) should be kept free of excess vegetation that might compromise containment capabilities or cause leakage from the containment berm. Stormwater runoff commingling with waste will be collected in a sump that pumps back into the system and/or by vacuum trucks that collect the runoff and haul it to a permitted non-hazardous UIC well for disposal.
9. All above ground transmission pipelines must be kept free from excessive vegetation along their entire length such that it may be visually inspected by the operator and the Department.
10. By-passing of the disposal system is prohibited and may result in revocation of this permit and/or other appropriate enforcement action by the Department. If either surge, storage, and/or treatment capacity of the West and South Brinefield Systems is exceeded or if disposal into the Class V UIC wells is restricted or at capacity, the Permittee shall curtail plant activities to allow the proper operation of the West Brinefield System and to avert the need to by-pass. The Permittee shall notify the Department within 24 hours when such a situation exists.
11. The permittee shall submit a detailed closure plan to the Department within sixty (60) days of the closure of the West Brinefield System in order to allow the Department sufficient review time.

Part II
STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Arkansas Water and Air Pollution Control Act, (Ark. Code Ann. § 8-4-101 *et seq.*) and is grounds for civil and administrative enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act, (Ark. Code Ann. § 8-4-101 *et seq.*) provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars (\$25,000) or both for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to a civil penalty not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

- a. This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:
 - i. Violation of any terms or conditions of this permit;
 - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
 - iii. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
 - iv. Failure of the permittee to comply with the provisions of Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation No. 9 (Permit fees).
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*).

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act and Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

6. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

9. Permit Fees

The permittee shall comply with all applicable permit fee requirements for no-discharge permits as described in APC&EC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees (including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) shall be grounds for the Director to initiate action to revoke this permit.

10. Proper Operation and Maintenance

- a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- b. The permittee shall provide an adequate and trained operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

11. Duty to Mitigate

The permittee shall take all reasonable steps to prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the environment, or the water receiving the discharge.

12. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State.

13. Reporting of Violations and Unauthorized Discharges

- a. Any violations to this permit must be reported to the Enforcement Branch of the Department immediately (within 24 hours). Any leaks or seeps shall be reported to the Department and appropriately corrected. Any discharge from the fluids storage system such as an overflow, a broken pipe, etc., shall be immediately reported to the Department.
- b. The operator shall visually monitor and report immediately (within 24 hours) to the Enforcement Branch any unauthorized discharge from any facility caused by dike or structural failure, equipment breakdown, human error, etc., and shall follow up with a written report within five (5) days of such occurrence. The written report shall contain the following:
 - i. A description of the permit violation and its cause;
 - ii. The period of the violation, including exact times and dates;
 - iii. If the violation has not been corrected, the anticipated time expected to correct the violation; and
 - iv. Steps taken or planned to reduce, eliminate, and prevent the recurrence of the violation.
- c. Reports shall be submitted to the Enforcement Branch at the following address:

Arkansas Department of Environmental Quality
Water Division, Enforcement Branch
5301 Northshore Dr.
North Little Rock, Arkansas 72118
Fax (501) 682-0910

Or

Water-permit-application@adeq.state.ar.us

14. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act, (Ark. Code Ann. § 8-4-101 *et seq.*) provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty

of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars (\$10,000) or by both such fine and imprisonment.

15. Laboratory Analysis

All laboratory analyses submitted to the Department shall be completed by a laboratory certified by the Department under (Ark. Code Ann. § 8-2-201 *et seq.*) Analyses for the permittee's internal quality control or process control do not need to be performed by an ADEQ certified laboratory.

16. Retention of Records

The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

17. Monitoring Record Contents

Records and monitoring information shall include:

- A. The date, exact place, time, and methods of sampling or measurements, and preservatives used, if any;
- B. The individuals(s) who performed the sampling or measurements;
- C. The date(s) the analyses were performed;
- D. The individual(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The measurements and results of such analyses.

18. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit,
- D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance any substances or parameters at any location.

19. Planned Changes

The permittee shall give notice within 180 days and provide plans and specification (if applicable) to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. In no case are any new connections,

increased flows, removal of substances, or significant changes in the system permitted that cause violation of the operational limitations specified herein.

20. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

21. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

22. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying; revoking and reissuing or terminating this permit; or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

23. Duty to reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Conditions of this permit will continue in effect past the expiration date pending issuance of a new permit, if:

- A. The permittee has submitted a timely and complete application; and
- B. The Director, through no fault of the permittee, does not issue a new permit prior to the expiration date of the previous permit.

24. Signatory Requirements

- a. All applications, reports or information submitted to the Director shall be signed and certified. All permit applications shall be signed as follows:

- i. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - a. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - b. The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including: having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - ii. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
 - iii. For a municipality, State, Federal, or other public agency; by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - a. The chief executive officer of the agency, or
 - b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- b. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- i. The authorization is made in writing by a person described above.
 - ii. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - iii. The written authorization is submitted to the Director.
- c. Any person signing a document under this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false

information, including the possibility of fine and imprisonment for knowing violations.”

25. Availability of Reports

Except for data determined to be confidential under APC&EC Regulation 6, all reports prepared in accordance with the terms of this permit shall be available for public

inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

26. Penalties for Falsification of Reports

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act, (Ark. Code Ann. § 8-4-101 *et seq.*)

27. Applicable Federal, State, or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable Federal, State, or local statute, ordinance policy, or regulation.

Part III
DEFINITIONS

“**Act**” means the Arkansas Water and Air Pollution Control Act (A.C.A. § 8-4-101 *et seq.*) as amended.

“**AOGC**” means the Arkansas Oil and Gas Commission.

“**APCEC**” means the Arkansas Pollution Control and Ecology Commission.

“**Applicable water quality standards**” means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303 (a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under Regulation No. 2, as amended, (regulation establishing water quality standards for surface waters of the State of Arkansas).

“**BDS**” means brine disposal system.

“**Brine**” means water containing more dissolved inorganic salt than typical seawater and/or water containing salts in solution, such as sodium, calcium or bromides.

“**Department**” means the Arkansas Department of Environmental Quality (ADEQ).

“**Director**” means the Director of the Arkansas Department of Environmental Quality.

“**RCRA**” means the federal Resource Conservation and Recovery Act of 1976.

“**Severe property damage**” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.

“**Tail brine**” means the residual brine left after the debromination process.

“**UIC**” means Underground Injection Control.

STATEMENT OF BASIS

This Statement of Basis is for information and justification of the permit limits only and is not enforceable. This permit decision is for renewal and modification of a no-discharge operation under permit number 2189-WR-7 and AFIN number 14-00028.

1. Permitting Authority

Arkansas Department of Environmental Quality
Water Division, Permits Branch
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. Applicant

Albemarle Corporation
2270 Highway 79 South
P. O. Box 729
Magnolia, AR 71754-0729

3. Facility Location

The facility is located as follows: From Highway 371 at Jackson Street in Magnolia, 4.3 miles west of Magnolia in Columbia County, Arkansas. The facility is located at the following coordinates:

Latitude: 33° 15' 51" North Longitude: 93° 18' 50" West

4. Permit Activity

Previous Permit No.: 4007-WR-2
Effective Date: September 1, 2007
Expiration Date: August 31, 2012

The permittee submitted a permit renewal application on 2/22/2012 with additional information received 10/8/2012 and 11/5/2012. The current water no-discharge permit is issued for a 5-year term. This permit has modifications consisting of the addition of tail brine from the South Brinefield Injection System (permit no. 2189-WR-4). The West Brinefield Injection System was previously covered under permit no. 4007-WR-2.

Permit 4007-WR-2 was issued 8/30/2007, effective 9/1/2007, with an expiration date of 8/31/12.

Permit 4007-WR-1 was issued 5/8/2001, effective 5/8/2001, with an expiration date of 5/8/2006.

Permit 4007-W was originally issued 6/4/1991, effective 7/4/1991 with no expiration date.

Legal Order Review:

There are currently no active Consent Administrative Orders (CAOs) or Notice of Violations (NOVs) for this facility.

Site Visit/Inspection:

The most recent inspection was performed on 7/18/2012. The facility was determined to be in compliance.

5. Basis of Changes from the Previously Issued Permit

- A. Conditions have been reworded from the previously issued permit without making substantive changes to the conditions.

Justification: These changes were made to make the permit easier to understand. Changes included in this item do not create a substantive change in the permit. This item includes all changes from the previous permit unless listed below. The conditions have been included in this permit based on generally accepted scientific knowledge, engineering practices and the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*).

- B. Revised condition No. 13 of the previous permit listing the source of tail brine to include the brine, tail brine, and brine recovered from spills from the South Plant Brinefield Injection System (permit no. 2189-WR-7) to the system if needed to maintain optimum operations.

Justification: Permittee requested change.

6. Applicant Activity

Under the standard industrial classification (SIC) code 4619 or North American Industry Classification System (NAICS) code 486990, the applicant activities are the operation of a chemical production plant. This permit is for the operation of the storage impoundments and transmission pipelines associated with the brine disposal system.

7. Facility Description

The feed brine is pumped from the production well system into two feed brine holding tanks with a capacity of 60,000 gallons (MS-1) and 200,000 gallons (MS-2) each. After the Plant removes the bromide, it returns the tail brine to the two holding tanks. Treated recovered ground water/brine from the Brine Pretreatment and Management System covered under ADEQ permit 0690-WR-4 may also be added to the system, if needed. Tail brine is pumped into the UIC Class V brine disposal wells regulated by Arkansas Oil and Gas Commission. All brine lines and holding facilities are considered to be part of the West Brinefield System covered by this permit. The containment system is monitored daily by system operators.

Stormwater/rainwater collected in the secondary containment is pumped back into the system. Draining of uncontaminated collected stormwater from within the firewall (not mixed with EPA-defined non-exempt RCRA waste) is not allowed.

8. Storage Volume

The secondary containment for the tanks is an 8 inch thick compacted clay liner with a berm that is 5.5 feet tall, with a total capacity of 891,092 gallons, which is more than 1.5 times the size of the largest tank.

9. Solids Removal

As part of the proper operation of the disposal system and in order to maintain operation of the disposal wells, solid material accumulated in the brine management and disposal system shall be removed as necessary to maintain the design volumes. The solids will be tested and disposed of in a permitted facility.

10. Basis for Permit Conditions

The Arkansas Department of Environmental Quality has made a determination to issue a permit for the no-discharge facility as described in the application and waste management plan. Permit requirements and conditions are based on regulations pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*).

A. Part I—Specific Conditions

Conditions in Part I of the permit are established to ensure proper operation of the system and to prevent discharge to waters of the State.

Condition 7 for secondary containment of 1.5 times the largest tank volume is derived to prevent a discharge in the event of a tank failure and is authorized by Ark. Code Ann. § 8-4-203 (a). The requirement is also consistent with Arkansas Oil and Gas Commission Rule B-26: General Lease Operating Requirements, e) Containment Dikes or Other Containment Structures, 2) which states that “Required containment dikes or other approved structures shall be designed to have a capacity of at least 1.5 times the largest tank the containment dike or approved structure surrounds.”

B. Part II—Standard Conditions

Standard Conditions have been included in this permit based on generally accepted scientific knowledge, engineering practices, and the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*).

C. Part III—Definitions

All definitions in Part III of the permit are self-explanatory.

11. Sources

The following Sources were used to draft the permit:

- a. APC&EC Regulation 1, Regulation for the Prevention of Pollution by Salt Water and Other Oil Field Wastes Produced by Wells in All Fields or Pools.
- b. APC&EC Regulation No. 8, Administrative Procedures.
- c. APC&EC Regulation No. 9, Fee Regulation.
- d. Arkansas Water and Air Pollution Control Act. (Ark. Code Ann. § 8-4-101 *et seq.*)
- e. Integrated Water Quality and Assessment Report (305(b) Report).
- f. AOGC Rule B-26, General Lease Operating Requirements.
- g. ADEQ permit no. 0690-WR-4.
- h. ADEQ permit no. 2189-WR-7.
- i. Email from Gary Looney, Assistant Director, Arkansas Oil and Gas Commission, dated 4/20/2011.
- j. Application for permit no. 4007-WR-3 received 2/22/2012.
- k. Site visit conducted 8/9/2012.
- l. Inspection conducted 7/18/2012.
- m. Site plan received 10/8/2012.
- n. Additional information received 11/5/2012 concerning storm water disposal and leak detection/prevention.