

# ADEQ

ARKANSAS  
Department of Environmental Quality

CERTIFIED MAIL 7002 0860 0007 6829 6074  
RETURN RECEIPT REQUESTED

February 27, 2006

C. T. Bounds, R.E.M.  
Albemarle Corporation  
P. O. Box 729  
Magnolia, AR 71754-0729

**RE: AFIN: 14-00011; Permit Tracking No. 0690-WR-3  
Brine Management and Pretreatment System, Albemarle West Plant  
Section 18 - Township 17S - Range 21W, Columbia County**

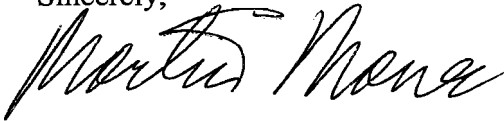
Dear Ted:

The enclosed permit is your authority to operate and maintain the West Plant Brine Management and Pretreatment System as set forth in your permit modification request dated January 18, 2005.

After considering the facts and requirements of the Arkansas Water and Air Pollution Control Act (A. C. A. § 8-4-101 et seq.) and implementing regulations, it has been determined that the Permit 690-WR-3 be issued and effective on the date specified in this permit.

If you have any questions, please contact Laura Stuart at the ADEQ Little Rock office at (501)682-0642.

Sincerely,



Martin Maner, P. E.  
Chief, Water Division

cc: Joslyn Burleson, Program Coordinator  
Jim Purvis, Permit Fees  
John Lamb, District Inspector  
File



# PERMIT

ISSUED BY

STATE OF ARKANSAS  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
8001 NATIONAL DRIVE, P.O. BOX 8913  
LITTLE ROCK, ARKANSAS 72219-8913



AFIN No.: 14-00011  
Permit No.: 690-WR-3

Effective Date: February 24, 2006  
Expiration Date: February 23, 2011

To: Albemarle Corporation  
P.O. Box 729  
Magnolia, AR 71754

This Permit 690-WR-3 is your authority to operate and maintain the West Plant brine management and pretreatment system, as set forth in the modification request dated January 18, 2005 to modify permit 690-WR-2. This permit modification is issued subject to provisions of the Arkansas Water and Air Pollution Control Act (A.C.A. Sec. 8-4-101 et seq.) and the following terms and conditions:

1. The brine management and pretreatment system, shall be constructed or modified in accordance with the final plans and specifications approved by the Department.
2. The brine management and pretreatment system, shall be operated by qualified personnel and maintained in good operating condition at all times.
3. No extension, modification, or revision of the brine management and pretreatment system, may be made without modification of this permit or notification to the Department.
4. This permit may be revoked or modified whenever it is necessary, in the opinion of the Department, to prevent or abate pollution of any waters of the State.
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 pretreatment and management system.
6. This permit is issued in reliance upon the statements and representations made in the initial application, the applications for modification, and the plans and specifications. The Department has no responsibility for the adequacy or proper functioning of the brine pretreatment and management system.
7. This is a No Discharge permit. No brine shall be discharged from the system to the waters of the State. The permittee shall immediately notify the Department if there is any discharge to the surface or ground waters of the State.
8. The permittee shall comply with all applicable permit fee requirements for state permits as described in ADEQ Regulation No. 9. Failure to promptly remit all required fees shall be grounds for the Director to initiate enforcement action to terminate this permit under the provisions of Regulation No. 8.
9. See additional permit conditions 10 - 21 attached.

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

By:

*Martin Maner*

Martin Maner, P. E., Chief, Water Division

*2-24-06*

Date

10. This system is known as the West Plant brine management and pretreatment system located in Section 18, Township 17 South and Range 21 West, Columbia County, Arkansas.
11. The West Plant brine management and pretreatment system receives tail brine generated from the plant tail brine system and treated steam stripper effluent. The steam stripper accepts water from the ground water recovery system (french drain system). Recovered brine spills and brine contaminated storm water are included in the tail brine system. These are the only brine effluent streams authorized for treatment and/or disposal at this time. The Department must be notified upon any changes.
12. The Permittee shall collect and analyze representative samples of the various aspects of the brine effluent streams and shall submit the results of this analysis to the Department in a mid year report due September 1 of that year and an end of year report due March 1 of the following year.
13. The location, sampling frequency, reporting and detection limits are listed in the table below:

Location	Parameter	Detection Limit (N/A or Not Detect)	Sample Type and Sampling Frequency	Reporting Frequency
L1 steam stripper inlet - Feed to stripper	EDB DBCP EDC BCE	N/A	Grab Quarterly	Semi-Annual
L5 steam stripper outlet - Discharge to tail brine	EDB DBCP EDC BCE	<0.005 mg/l <0.005 mg/l <0.005 mg/l <0.005 mg/l  or laboratory detection limit, whichever is less	Grab Quarterly	Semi-Annual
Tail Brine Management System (Sample prior to introduction into the injection system pipeline)	BNA (1) VOA (2) Metals (3) pH	Determined by Method  2.0 -12.5	Grab Semi-Annual	Semi-Annual
(1) EPA Method 8270C (2) EPA Method 8260B (3) EPA Method 6010B				

14. Continuous monitoring devices of the flow into and out of the steam stripper shall be in place at all times. The steam stripper accepts water from the ground water recovery system (french drain system). The permittee shall provide monthly average and annual flow rates and volume for the L1 and L5 locations of the system in the semi-annual reports.
15. The ADEQ may notify the Permittee in order to split the semi-annual analysis of the tail brine system as necessary.
16. The Permittee is authorized to dispose of the brine management and pretreatment system brine effluent streams into the Class V Tail Brine Wells in accordance with Arkansas Oil and Gas Commission (AOGC) rules, regulations or permits.
17. By-passing of the brine pretreatment and management system is prohibited and will result in revocation of this permit and/or other appropriate enforcement action by the Department. Discharge of the ground water recovery system or steam stripper effluent to another permitted disposal operation does not constitute a by-pass. If either surge, storage and/or treatment capacity of the brine management and pretreatment system is exceeded or if disposal into the Class V Tail Brine Wells is restricted or at capacity, the Permittee shall curtail plant activities to allow the proper operation of the brine management and pretreatment system and to avert the need to by-pass. The Permittee shall notify the Department within 24 hours when such a situation exists.
18. If any noncompliance situation in the brine management and pretreatment system should occur, the Permittee shall cease operation of the brine management and pretreatment system and/or take appropriate corrective actions to minimize the period of noncompliance. This also includes the detection parameters listed in the table of condition no. 13. The Permittee shall report all noncompliance situations to the Department within 24 hours of the time the Permittee becomes aware of the situation. A written description of the noncompliance incident shall be sent to the Department within seven (7) days of the time the Permittee becomes aware of the noncompliance.
19. Operation of the ground water recovery system shall continue and ground water monitoring associated with the recovery system shall continue quarterly or in accordance with an otherwise determined schedule per agreement with the Consent Administrative Order (CAO) LIS 02-061.
20. Any sludge and/or solids generated during operation of the brine management and pretreatment system shall be disposed in a manner approved by the Department.
21. This Permit 690-WR-3 is for a term of five years. Any application to extend this permit must be received at the Department at least 120 days prior to the expiration date.