

ARKANSAS OIL AND GAS COMMISSION
2215 WEST HILLSBORO
P. O. BOX 1472
EL DORADO, ARKANSAS 71731-1472

ORDER REFERENCE NO. 35-91

APRIL 23, 1991

RE: CONSIDERATION OF ADOPTION OF PROPOSED RULE RELATIVE TO CLASS V
(BROMINE RELATED) INJECTION WELLS

The Arkansas Oil and Gas Commission by its own motion, proposed adoption of additional implementing rules, regulations and Orders applicable to Class V (bromine related) injection wells as previously mandated by the Environmental Protection Agency, including but not limited to construction requirements for new and/or newly converted and existing injection wells utilized for the disposal of debrominated effluents and related liquids.

Responsive to the solicitation of comments at the hearing held on April 23, 1991, no comments, oral or written, were received in response to the notice given as required by law and by the rules and regulations of the Commission.

Commission exhibits one through four, being the affidavit, legal notices published in the Arkansas Democrat, El Dorado News Times and the Daily Banner News respectively, were introduced and made a part of the record without objection; whereas, Mr. William E. Wright, Director, informed the Commission that it was the recommendation of the staff, with the support of EPA and industry, that the proposed Class V (bromine related) rules be adopted.

IT IS THEREFORE HEREBY ORDERED that the Commission approve the recommendation of staff and hereby adopts the following rule applicable to Class V (bromine related) wells:

- 1) All injection must be through tubing and packer with packer set within one hundred (100) feet of the top of the Smackover Formation, unless, otherwise approved by the director of the Arkansas Oil and Gas Commission.
- 2) Surface casing must be set two hundred and fifty (250) feet below the lower most USDW.
- 3) Production casing (long string) will be cemented from the top of the injection zone back to the top of the ground.
- 4) All wells will be required to pass an annulus pressure test once every five (5) years. Wells that cannot be tested in this manner will have a radioactive tracer survey run annually.

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- 5) Injection pressure is not to exceed .5 psi per foot of depth to the top of the injection zone.
- 6) Only debrinated brine will be authorized for injection into these wells.
- 7) The setting of surface and production casing shall be witnessed by a representative of the Arkansas Oil and Gas Commission.
- 8) All wells that fail to pass a mechanical integrity test, must be repaired or plugged and abandoned within ninety (90) days of the failure date. Well is to be shut-in immediately after failure and will remain shut-in until well passes a mechanical integrity test or is plugged and abandoned.
- 9) All wells will be required to maintain a positive annulus pressure (amount determined by the Commission.) The annulus pressure is to be monitored by a pressure chart. These charts are to be changed weekly and copies filed with the AOGC monthly. Any change in pressure will be explained in writing with any unsatisfactory explanation resulting in the well being tested for mechanical integrity.
- 10) On all wells which will be converted from productive status to injection status, the operator will be required to run a cement bond log from the top of the injection zone to the top of the ground. These wells will also be constructed in such a manner as to have surface casing set at least two hundred and fifty (250) feet below the lower most USDW (ie wells that are completed with one size casing down to a certain point and a smaller size hung inside the larger size down to TD. Wells of this type will have the smaller size pipe run from surface down to the top of the existing string and cement circulated back to the top of the ground. The larger size casing will be considered surface casing, smaller size will be considered production casing.) Production casing with cement to the top of the ground, tubing and packer set within one hundred (100) feet of the top of the Smackover Formation unless otherwise approved by the Director of the Arkansas Oil and Gas Commission.
- 11) A cement bond log will be required on all wells converted from producing status to injection status and on any newly drilled wells that fail to circulate cement back to the top of the ground. All cement bond logs will be witnessed by an AOGC representative.
- 12) On any newly drilled well that fails to circulate cement back to the top of the ground, top of cement will be determined by a cement bond log. In the event that the top of the cement is not above the Sparta Sand, the operator will be required to bring the top of the cement above the Sparta Sand.

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- 13) All water injection will be into the Smackover Formation, with the possibility of injection into other zones at a later date if approved by EPA.
- 14) An annual assessment fee of \$100.00 per well will be due July 1 of each year for the upcoming year.
- 15) Any time an injection well is worked over, the operator will notify the AOGC prior to the work over beginning and a mechanical integrity test will be run on the well after the work over is completed if the packer has been unseated.
- 16) On all newly drilled wells, the operator will be required to drill into the top of the Smackover Formation prior to setting longstring. This is done so that when the well is logged you will be able to identify the top of the Smackover Formation and verify that the water will be injected into the Smackover Formation.
- 17) The application for a permit to dispose of salt water by subsurface injection will be the same as required for class II wells.
- 18) All rules and regulations of the Arkansas Oil and Gas Commission shall be applicable.

IT IS SO ORDERED on this the 23rd day of April, 1991, to be effective immediately.

ARKANSAS OIL AND GAS COMMISSION

By: William E. Wright
William E. Wright, Director of
Production and Conservation

IT IS SO ORDERED:

E. Boyd Alderson, Chairman
James O. Staggs, Vice Chairman
Ned R. Price
Spence A. Leamons
J. David Reynolds, III
Kent Dollar
Phillip Norvell
Robert C. Nolan
Chris Weiser