

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF:

THE PETITION OF TERRA ENERGY LTD. FOR AN)
ORDER FROM THE SUPERVISOR APPROVING A)
SECONDARY RECOVERY OPERATION AND PLAN) ORDER NO. (A) 10-3-90
OF UNITIZATION FOR RECOVERY OF OIL, GAS,)
AND RELATED HYDROCARBONS FROM THE)
SALINA AND NIAGARA GROUPS IN BAGLEY)
TOWNSHIP, OTSEGO COUNTY, MICHIGAN.)

AMENDED OPINION AND ORDER

at a session of the Department of Environmental Quality held
at Lansing, Michigan, Harold R. Fitch, Assistant Supervisor
of Wells, Presiding

On February 9, 2015, Terra Energy Ltd. (Terra) and Core Energy, LCC (Core), filed a Motion for Approval to Change Operations to CO2 EOR requesting relief from Order No. (A) 10-3-90, effective July 30, 1990. Order No. (A) 10-3-90 (i) created the Bagley Salina-Niagaran 11-14-23 Unit in accordance with Petitioner Terra's Plan of Unitization which was incorporated by reference; (ii) allowed the Unit to be operated as an exception to Special Order No. 1-73; (iii) authorized conversion of the MBM 1-22 well to a brine injection well and authorized only the injection of produced brine; and (iv) made the Plan of Unitization effective on August 1, 1990.

The Motion requests Order No. (A) 10-3-90 be amended to allow for the injection of CO2 instead of produced brine. Terra is the Unit Operator named in the Order, holds the drilling permits, and holds a working interest in the Unit. Core is a working interest owner in the Unit. Core and Terra have a contractual arrangement to jointly convert the Unit Operations to enhanced oil recovery operations by injection of carbon dioxide (CO2 EOR). Terra will remain the Unit Operator and hold the drilling permits until CO2 injection begins, at which time these functions will be transferred to Core.

Terra and Core propose to convert three oil wells to CO2 injection wells (Wrebel 4-14A, PN 39866; MBM Inc. 1-22, PN 30536; and Daughters of Friel 2-11, PN 38240). Reservoir pressure will be monitored at the other remaining wells until such time as the field is ready to produce. At such time a decision will be made regarding which wells to utilize for production. Wells will be designed so they can alternate between producers and injectors. No changes in the Unit boundaries or in the tract factors are proposed.

At the request of the Assistant Supervisor of Wells, Terra and Core served the Motion on all royalty interest, overriding royalty interest, and working interest owners within the Unit. These parties were given 30 days to file any written objections to the Motion. No objections were received.

DETERMINATION AND ORDER

NOW, THEREFORE, IT IS ORDERED THAT:

Paragraph 7 of the Determination and Order section of the original Opinion and Order No. (A) 10-3-90, effective July 30, 1990, is hereby amended to provide as follows:

7. Enhanced recovery operations shall be accomplished by the injection of carbon dioxide into the reservoir. Other substances may only be injected with written approval from the Supervisor.

All other provisions of the original Opinion and Order No. (A) 10-3-90, effective July 30, 1990, are reaffirmed.

DATED: April 23, 2015



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