



P.O. Box 552  
Midland, Texas 79702  
Telephone 915/682-1626

Marathon

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May 24, 1991

Mr. Armando Lopez, Chief  
Branch of Field Minerals  
U. S. Department of Interior  
Bureau of Land Management  
Roswell District Office  
1717 W. Second  
Roswell, New Mexico 88201

Re: Application for Designation by BLM of the Unit Area for the Proposed  
Waterflood Unit to be known as the Tamano (BSSC) Unit  
All of Section 11, and the SE/4 and the  
S/2NE/4 of Section 10, T-18-S, R-31-E,  
Eddy County, New Mexico

Dear Mr. Lopez:

By this letter Marathon Oil Company formally requests preliminary approval of its proposed Tamano (BSSC) Unit, a secondary recovery unit to be located on the above described lands in Eddy County, New Mexico, and the designation of the lands proposed to be included within the Unit as properly subject to operations under a unit plan. Enclosed you will find two copies of the Unit Agreement for the Tamano (BSSC) Unit which are unsigned, but which have been approved as to form by over ninety percent (90%) of the Working Interest Owners in the Unit. On page 14 of the Unit Agreement you will find the formula by which production will be allocated to the various tracts contained within the Unit. This formula as been approved by over ninety-nine percent (99%) of the Working Interest Owners in the Unit. Attached to the Unit Agreement are Exhibit "A", a plat of the proposed Unit, and Exhibit "B", a schedule showing the oil and gas leases covering each Tract within the Unit, and the ownership of royalty and working interest within each Tract and the Tract decimal for each tract as calculated according to the allocation formula. Please note that all of the lands included within the unit are subject to federal oil and gas leases.

You will also find enclosed two copies of a waterflood feasibility study prepared by Marathon Oil Company and describing in detail why Marathon believes that Unit operations are necessary and feasible. Along with the feasibility study are two copies of a separate engineering analysis describing why, in Marathon's opinion, the proposed Unit allocation formula, which incorporates a factor based on

current well rate, is a fair formula which reasonably reflects the anticipated contribution of each tract to ultimate unit production.

Your office has previously been provided with the following additional data with regard to the wells within the proposed Unit and the reservoir as a whole:

1. Horner plots for the Marathon operated Stetco "10" Federal No. 1 and 3 wells, Johnson "B" Federal No. 4, 5, 6, 7, 8, 9, and 10 wells, and the Shugart "B" No. B-1 and B-2 wells.
2. Production history for all wells in the field.
3. Reservoir pressure information on a well by well basis.
4. Cumulative oil, gas and water on a well by well basis.
5. With regard to the Reservoir as a whole:
  - Oil formation volume factor
  - Gas formation volume factor
  - Water saturation
  - Water compressibility
  - Rock compressibility
  - Reservoir temperature
  - Bubble point pressure
  - API gravity
  - Gas specific gravity
6. Results of two drillstem tests from the Johnson "B" Federal No. 4 well.
7. Core analysis on the Johnson "B" Federal No. 4 and 5, and the Shugart "B" No. 1 and 2 (only wells cored in the field).

Once you have had a chance to review this application if there is anything else you need prior to making your decision on initial designation of the Unit, please let me know as soon as possible. I thank you for your work to date on this project and I hope that we will have smooth sailing from here on out.

Sincerely,

*Thomas C. Lowry / py*

Thomas C. Lowry  
Attorney

xc: D. D. Taimuty  
D. J. Loran  
T. B. Robertson

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