WATERFLOOD JUSTIFICATION

A. Initial Review of Waterflood Potential

-The McDonald State A/C 1 lease offsets four active Seven Rivers, Queen Waterflood projects.

-The Seven Rivers, Queen formation underlying the McDonald State A/C 1 lease is geologically similar to the Seven Rivers, Queen found in the offset waterflood projects.

-Primary recovery from wells in the waterflood area is approximately 2,115,000 BO or 10% of original-oil-in-place (OOIP). This primary recovery percentage is similar to offset waterflood projects.

-OOIP was calculated volumetrically using the following parameters:

Porosity	12%	(Core data, log data)
Water saturation	35%	(Core data, log data)
Formation volume factor	1.2 RB/STB	(South Eunice eng. reports)
Acre-feet	42,000 ac.ft	(geologic mapping)

B. Estimation of Waterflood Reserves

-Delineated the project area. Approximately 420 acres will be affected by waterflooding.

-Estimated primary recovery in the project area to be 1,130,000 BO or 8.3% of OOIP.

-OOIP was calculated volumetrically using the parameters discussed above, with the exception of acre-feet. 27,000 ac.ft was used for the project area.

-Recoverable reserves of 1,442,000 BO were calculated for the project area. This total was based on the estimated ultimate secondary to primary ratios in offset waterfloods, and the drilling of three (3) wells at previously undrilled locations.

-Estimated ultimate secondary to primary ratios in offset waterfloods on 80 acre five-spots are as follows:

Marathon SE7RQU	1.0
Arco SE7RQU	1.0
Conoco SE7RQU	.9

C. Optimization of Waterflood

-To improve recovery from the lower Queen and decrease time to peak response, 40 acre five-spot waterflood patterns will be used in the project area.

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-The three waterflood units to the south were initially developed on 80 acre five-spot waterflood patterns. Marathon and Arco have drilled infill wells, Conoco has not. Considering the infill wells; the estimated ultimate secondary to primary ratios are now:

Marathon SE7RQU	1.3
Arco SE7RQU	1.3

-Infill drilling has not been instituted field wide on either the Arco or Marathon leases.

-The infill wells have not been enclosed by injection wells.

-Based on the increased recovery from infill drilling in offset units, ultimate recovery from waterflooding can be increased to at least 1.3 times primary recovery by the use of 40 acre five-spot patterns.

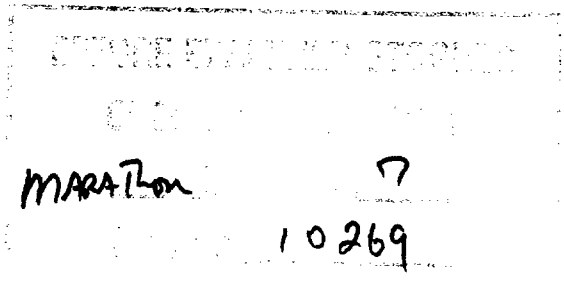
D. Project Inplementation

-Drill and complete 12 water injection wells.

-Drill and complete 6 production wells.

-Re-enter and complete McDonald State A/C 1 Well Nos. 4 and 8.

-Reactivate McDonald State A/C 1 Well No. 10 and Maxwell State Well No. 1.



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