STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

November 13, 1990

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Mr. Thomas Kellahin
Kellahin, Kellahin & Aubrey
Attorneys at Law
Post Office Box 2265
Santa Fe, New Mexico

Re: CASE NO. 10115
ORDER NO. R-9354

Applicant:

Marathon Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

Florene Davidson

FLORENE DAVIDSON
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

KELLAHIN, KELLAHIN AND AUBREY
ATTORNEYS AT LAW
EL PATIO BUILDING
117 NORTH GUADALUPE
POST OFFICE BOX 2265
SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN
KAREN AUBREY

CANDACE HAMANN CALLAHAN

JASON KELLAHIN
OF COUNSEL

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

June 3, 1991

RECEIVED
JUN 0' 1991
OIL CONSERVATION DIVISION

Mr. William J. LeMay
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

HAND DELIVERED

Case 10342

Re: Application of Marathon Oil Company for Statutory Unitization of the Tamano (BSSC) Unit, Eddy County, New Mexico

Re: Application of Marathon Oil Company for Approval of a Pressure Maintenance Project Including Increase Surface Injection Pressure, Eddy County, New Mexico

Dear Mr. LeMay:

On Behalf of Marathon Oil Company, we request that the two referenced applications which deal with the Second Bone Springs Carbonate portion of the Tamano Bone Springs Pool be set for hearing at the next available Examiner's docket now scheduled for June 27, 1991.

Very truly yours,

W. Thomas Kellahin

WTK/ept
Enclosures

cc: Thomas C. Lowry, Esq.
ltrt603.092

Marathon Oil Company

Mid-Continent Region
Production United States

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

July 2, 1991

State of New Mexico Energy and Minerals Department
Oil Conservation Commission
State Land Office Building
310 Old Santa Fe Trail
Santa Fe, New Mexico 87504
Attention: M. E. Stogner

RE: Tamano (BSSC) Unit
Marathon Oil Company Exhibit No. 2
Case No. 10341
Log Headings for Type Log

Dear Mr. Stogner,

Per your report, copies of the log headings for the Johnson "B" Federal Well No. 4 (Marathon Oil Company) are attached. These headings apply to Figure 3 of the above referenced exhibit.

If you have any additional questions or comments, do not hesitate to contact me at (915) 687-8264.

Respectfully,

Daniel D. Taimuty

D. D. Taimuty
Reservoir Engineer
Mid-Continent Region

DDT/200.274/sk

Western Atlas International

DUAL INDUCTION FOCUSED LOG GAMMA RAY

FILE NO.

API NO. 30-015-25825

COMPANY MARATHON OIL COMPANY

WELL JOHNSON "B" FEDERAL NO. 4

FIELD NORTH SHUGART

COUNTY EDDY STATE NEW MEXICO

LOCATION:
1980' FSL & 1980' FWL
SEC 11 TWP 18-S RGE 31-E

OTHER SERVICES
BHC-AL/GR/CAL
ZDL/CN/GR/CAL

PERMANENT DATUM GROUND LEVEL ELEV. 3736
LOGGING MEASURED FROM K.B. 15.7 FT. ABOVE P.D.
DRILLING MEASURED FROM KELLY BUSHING

ELEVATIONS
KB 3751.7
DF 3750.7
GL 3736

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT, BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASURMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

DATE	DEC 17, 1987			
RUN	1			
SERVICE ORDER	154224			
DEPTH-DRILLER	9520			
DEPTH-LOGGER	9522			
BOTTOM LOGGED INTERVAL	9520			
TOP LOGGED INTERVAL				
CASING - DRILLER	8 5/8" @ 2728		@	@
CASING - LOGGER	2726			
BIT SIZE	7 7/8"			
TYPE FLUID IN HOLE	CAUSTIC POLYPAC			
DENSITY / VISCOSITY	9.2	35		
PH / FLUID LOSS	9	22		
SOURCE OF SAMPLE	MUD PIT			
RM AT MEAS. TEMP.	1.58 @ 85		@	@
RMF AT MEAS. TEMP.	1.18 @ 85		@	@
RMC AT MEAS. TEMP.	1.98 @ 85		@	@
SOURCE OF RMF / RMC	MEAS.	MEAS.		
RM AT BHT	1.07 @ 126		@	@
TIME SINCE CIRCULATION	17 HRS			
MAX. REC. TEMP. DEG. F	126			
EQUIP. NO. / LOC.	HL 6433	HOBBS		
RECORDED BY	CURTIS - ROQUEMORE			
WITNESSED BY	HARTER-TURMELLE-HOPKINS			

FOLD HERE

REMARKS RUN 1

COMPANY: MARATHON OIL COMPANY

WELL NAME: JOHNSON "B" FEDERAL NO. 4

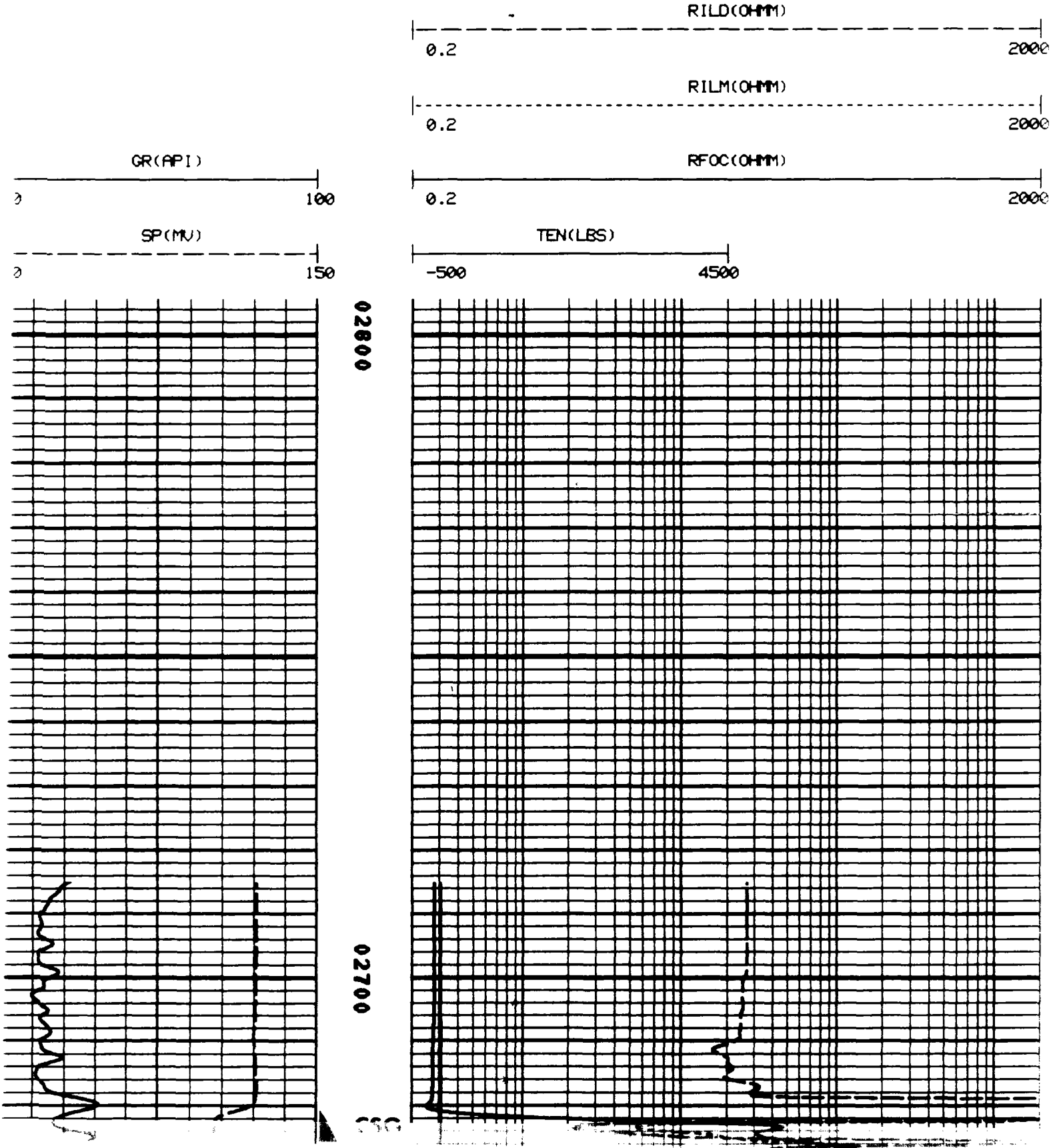
SERVICE: J 211S FILE: 7 DATE: 12/18/87 TIME: 07:13:46

REVISION: FSYSAL REV D008 VER 2

RUN: 1

TRIP: 1

MODE: RECORD



Western Atlas International
A Litton/Dresser Company
Atlas Wireline Services

COMPENSATED **Z-DENSILOG** COMPENSATED **NEUTRON**

GAMMA RAY

FILE NO.

API NO.
30-015-25825

COMPANY MARATHON OIL COMPANY
WELL JOHNSON "B" FEDERAL NO. 4
FIELD NORTH SHUGART
COUNTY EDDY STATE NEW MEXICO

LOCATION:
1980' FSL & 1980' FWL
SEC 11 TWP 18-S RGE 31-E

OTHER SERVICES
BHC-AC/GR/CAL
DIFL/GR

PERMANENT DATUM GROUND LEVEL ELEV. 3736
LOGGING MEASURED FROM K.B. 15.7 FT. ABOVE P.D.
DRILLING MEASURED FROM KELLY BUSHING

ELEVATIONS
KB 3751.7
DF 3750.7
GL 3736

DATE	DEC 18, 1987	
RUN	1	
SERVICE ORDER	154224	
DEPTH-DRILLER	9520	
DEPTH-LOGGER	9522	
BOTTOM LOGGED INTERVAL	9519	
TOP LOGGED INTERVAL	2700	
CASING - DRILLER	8 5/8" @ 2728	@
CASING - LOGGER	2726	
BIT SIZE	7 7/8"	
TYPE FLUID IN HOLE	CAUSTIC POLYPAC	
DENSITY / VISCOSITY	9.2 | 35	
PH / FLUID LOSS	9 | 22	
SOURCE OF SAMPLE	MUD PIT	
RM AT MEAS. TEMP.	1.58 @ 85	@
RMF AT MEAS. TEMP.	1.18 @ 85	@
RMC AT MEAS. TEMP.	1.98 @ 85	@
SOURCE OF RMF / RMC	MEAS. | MEAS.	
RM AT BHT	1.07 @ 126	@
TIME SINCE CIRCULATION	21 HRS	
MAX. REC. TEMP. DEG. F	126	
EQUIP. NO. / LOC.	HL 6433 | HOBBS	
RECORDED BY	CURTIS - ROQUEMORE	
WITNESSED BY	HARTER-TURMELLE-HOPKINS	

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT, BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASURMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

FOLD HERE

REMARKS RUN (1)

DISPLAY SCALE CHANGES

*** NONE ***

COMPANY: MARATHON OIL COMPANY

WELL NAME: JOHNSON B FEDERAL NO. 4

SERVICE: DZ287A FILE: 2

REVISION: FSYSZD REV D008 VER 2

DATE: 12/18/87

RUN: 1

TRIP: 1

TIME: 10:54:49

MODE: RECORD

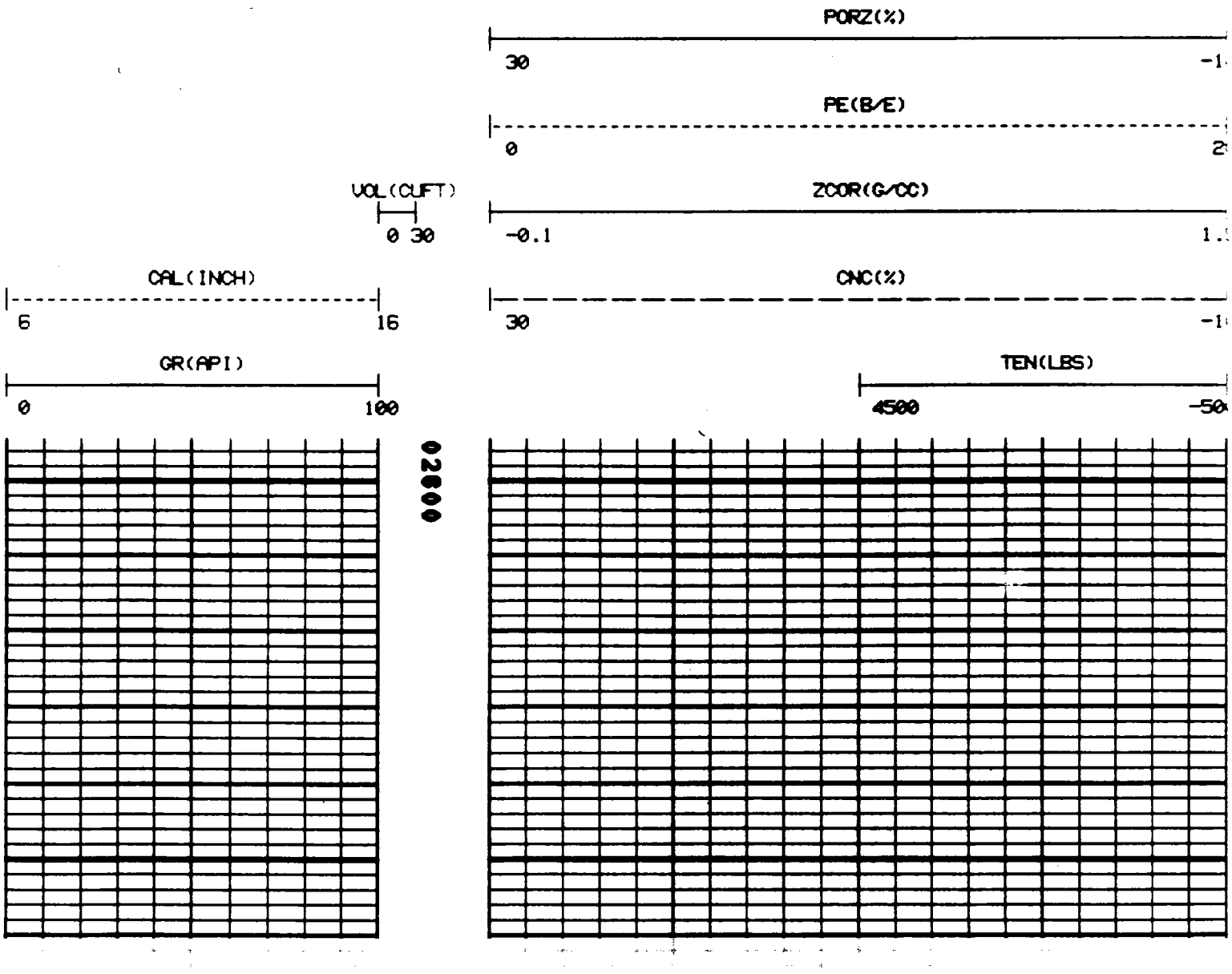
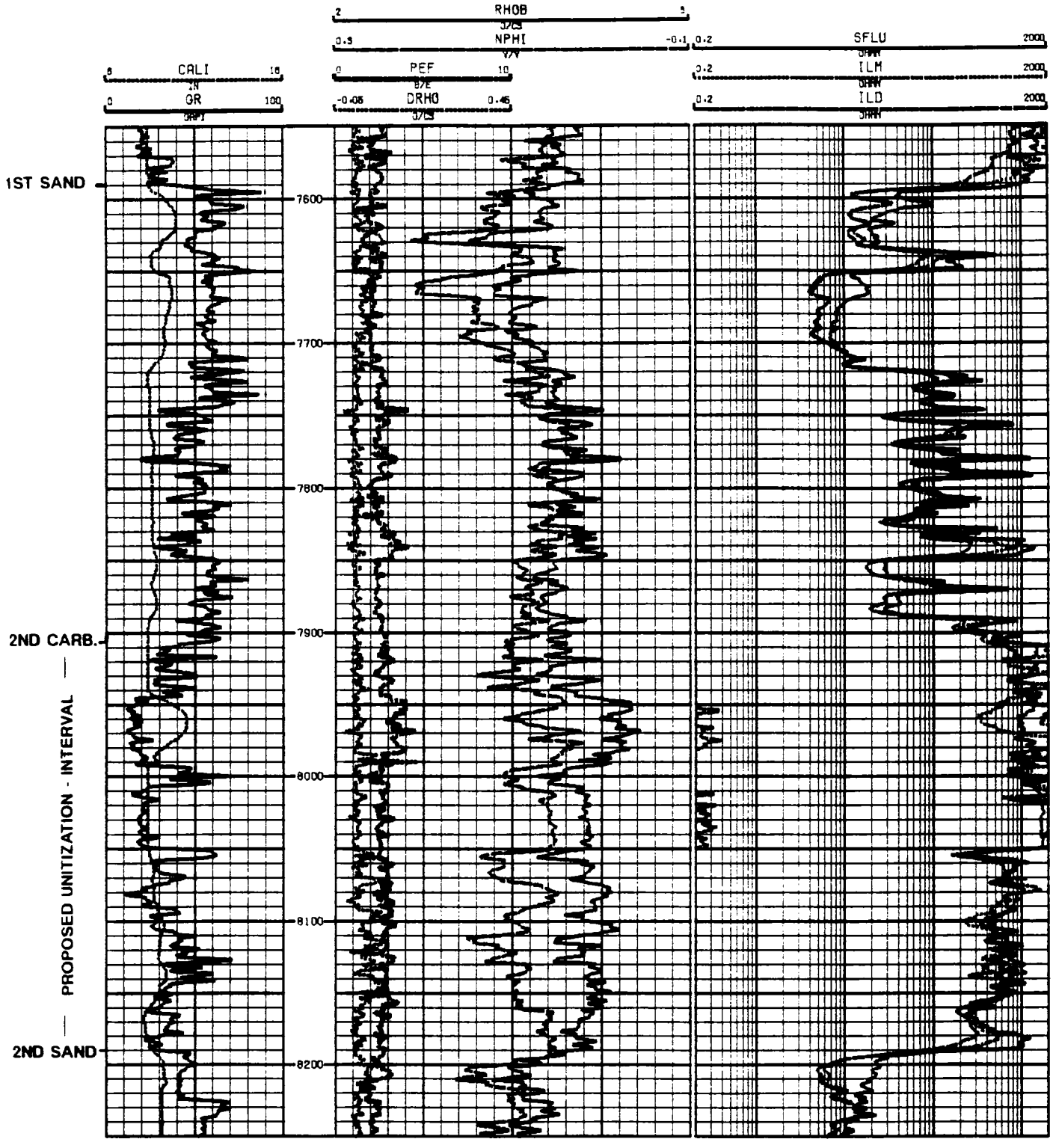


FIGURE 3



K.B. 3752'
G.L. 3736'

MARATHON OIL COMPANY
MID-CONTINENT REGION

0
50
100
FEET

TAMANO (BSSC) UNIT

EDDY COUNTY, NEW MEXICO

TYPE LOG
JOHNSON "B" FEDERAL #4

1-91

P.01

TRANSACTION REPORT

JUL-17-91 WED 18:04

DATE	START	RECEIVER	TX TIME	PAGES	NOTE
JUL-17	18:02	19822047	1'42"	3	OK

FAX TRANSMITTAL SHEET
OIL CONSERVATION DIVISION - FAX NO. (505) 827-5741

TO: W. Thomas Kellahin	FR: Michael E. Stogner
PAGES w/cover: 3	DATE: July 17, 1991

If there are any problems with this transmission, please call (505) 827-5806.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

July 17, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Memorandum

TO: W. Thomas Kellahin, Counsel for Marathon Oil Company in Case No. 10342

FROM: MICHAEL E. STOGNER, Engineer

SUBJECT: Rough Draft Order in Case No. 10342 supplied by Counsel dated July 17, 1991.

Mr. Kellahin,

Referencing page 3 of your proposed order, the topic of the increased surface injection pressure as covered in Paragraphs (10) and (11) do not adequately state the reasons why Marathon is seeking the 2300 psi limit nor does it adequately describe the expected results Marathon hopes to obtain by increasing the injection pressure past the 0.2 OCD limit. Could you please expound in detail these points. Thank you for your assistance.

M. Stogner

(8) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape into other formations or onto the surface from injection, production or plugged and abandoned wells.

(9) The applicant's testimony indicates that all wells have been adequately plugged which are located within one-half mile of any proposed injector.

(10) In support of its request for a surface pressure limitation of 2300 psi, which is in excess of the 0.2 psi per foot of depth Division guideline, applicant has provided step-rate tests, frachite logs, after frac tracer surveys and injectivity profiles (Exhibits 4-A through 4-F) which demonstrate that the resulting fractures will remain confined to the injection interval provided that the surface injection pressure does not exceed 3,000 psi.

(11) Applicant's request for a surface injection pressure of 2,300 psi is approximately 700 psi below the surface pressure required to propagate fractures outside of the injection interval and should be approved.

(12) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(13) Injection into each well should be accomplished through internally coated tubing installed in a packer set at approximately 150 feet above the uppermost perforation; the casing-tubing annulus in each well should be filled with an inert fluid; and a pressure gauge or approved leak-detection device should be attached to the annulus in order to determine leaks in the casing, tubing or packer.

KELLAHIN, KELLAHIN AND AUBREY
ATTORNEYS AT LAW
EL PATIO BUILDING
117 NORTH GUADALUPE
POST OFFICE BOX 2265
SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN
KAREN AUBREY

JASON KELLAHIN
OF COUNSEL

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

July 17, 1991

Mr. Michael E. Stogner
Oil Conservation Division
State Land Office
Santa Fe, New Mexico 87504

HAND DELIVERED

Re: NMOCD Case Nos. 10341 and 10342
Statutory Unitization and
Pressure Maintenance Project
Tamano (BSSC) Unit
Marathon Oil Company

Dear Mr. Stogner:

On behalf of Marathon Oil Company, please find enclosed a proposed order for your consideration in each of the referenced cases. Also, to aid you, I have enclosed a diskette which includes the draft orders.

Please call me if you have any questions.

Very truly yours,

W. Thomas Kellahin

WTK/tic
Enclosures

cc: Thomas C. Lowry, Esq.
Marathon Oil Company
Post Office Box 552
Midland, Texas 79702

889/ltrt717.092

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 10342
ORDER NO. R-

APPLICATION OF MARATHON OIL COMPANY
FOR A PRESSURE MAINTENANCE PROJECT
EDDY COUNTY, NEW MEXICO

MARATHON OIL COMPANY'S PROPOSED
ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 27, 1991, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this ____ day of July, 1991, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) At the time of the hearing, this case was consolidated with Division Case No. 10341 for the purpose of testimony.

(3) The applicant, Marathon Oil Company, seeks authority to institute a pressure maintenance project in its proposed Tamano (BSSC) Unit Area (Division Case No. 10341), Eddy County, New Mexico, by the injection of water into the Second Bone Springs Carbonate being a portion of the Tamano Bone Springs Pool, through certain wells as listed in Exhibit "A", attached hereto and made a part hereof, to be existing oil wells converted to injection wells.

(4) It is proposed that the pressure maintenance project area coincide with the boundary of the Tamano (BSSC) Unit Area in Eddy County, New Mexico as further described below, which was the subject of Division Case No. 10341 and was heard in conjunction with this case:

T18S, R31E
Section 10: S/2NE/4 and SE/4
Section 11: All

(5) A pressure maintenance project consisting of a peripheral waterflood plan for injectors around the outer limits of production for the Second Bone Springs Carbonate will afford the greatest opportunity for the economic recovery of oil.

(6) While certain proposed injectors are located on forty-acre tracts contiguous with the outer boundary of the unit, no lease line injection agreements are warranted because the adjoining non-unit tracts have been shown to be non-productive in the Second Bone Springs Carbonate portion of the Tamano Bone Springs Pool.

(7) The proposed pressure maintenance project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(8) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape into other formations or onto the surface from injection, production or plugged and abandoned wells.

(9) The applicant's testimony indicates that all wells have been adequately plugged which are located within one-half mile of any proposed injector.

(10) In support of its request for a surface pressure limitation of 2300 psi, which is in excess of the 0.2 psi per foot of depth Division guideline, applicant has provided step-rate tests, frachite logs, after frac tracer surveys and injectivity profiles (Exhibits 4-A through 4-F) which demonstrate that the resulting fractures will remain confined to the injection interval provided that the surface injection pressure does not exceed 3,000 psi.

(11) Applicant's request for a surface injection pressure of 2,300 psi is approximately 700 psi below the surface pressure required to propagate fractures outside of the injection interval and should be approved.

(12) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(13) Injection into each well should be accomplished through internally coated tubing installed in a packer set at approximately 150 feet above the uppermost perforation; the casing-tubing annulus in each well should be filled with an inert fluid; and a pressure gauge or approved leak-detection device should be attached to the annulus in order to determine leaks in the casing, tubing or packer.

(14) The injection wells or pressurization system for each well should be so equipped as to limit surface injection pressure at the wellhead to no more than 2300 psi.

(15) Prior to commencing injection operations, the casing in each of the subject wells should be pressure-tested throughout the interval, from the surface down to the proposed packer-setting depth, to assure integrity of such casing.

(16) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such high pressure will not result in migration of the injected waters from the unitized formations.

(17) The operator should give advance notice to the supervisor of the Artesia District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

(18) The subject application should be approved and the project should be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

(19) Approval of this application will be in the best interests of conservation, prevent the waste of hydrocarbons and protect correlative rights of both owners within the project and outside the project.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Marathon Oil Company, is hereby authorized to institute a pressure maintenance project on its proposed Tamano (BSSC) Unit Area (Division Case No. 10341), Eddy County, New Mexico, by the injection of water into the Second Bone Springs Carbonate portion of the

Tamano Bone Springs Pool through wells listed in Exhibit "A", attached hereto and made a part hereof, which will be converted from producing oil wells to injection wells.

(2) The pressure maintenance project, hereby designated the Tamano (BSSC) Pressure Maintenance Project, shall be comprised of the following described area in Eddy County, New Mexico:

T18S, R31E
Section 10: S/2NE/4 and SE/4
Section 11: All

(3) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing wells, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(4) Injection into each well described in Exhibit "A" shall be accomplished through internally coated tubing installed in a packer set at approximately 150 feet above the uppermost perforation.

(5) The casing-tubing annulus in each well shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak-detection device in order to determine leakage in the casing, tubing or packer.

(6) Prior to commencing injection operations, the casing in each of the subject wells shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's Artesia District Office.

(7) Each injection well or pressurization system for each well shall be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 2300 psi.

(8) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Second Bone Springs Carbonate portion of the Tamano Bone Springs Pool.

(9) The operator shall notify the supervisor of the Artesia District Office of the Division in advance of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

(10) The operator shall immediately notify the supervisor of the Division's Artesia District Office of the failure of the tubing, casing or packer, in any of said injection wells or the leakage of water from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(11) Said waterflood project shall be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

(12) Monthly progress reports shall be submitted to the Division in accordance with Rules 706 and 1115.

(13) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE in Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

889/ordt711a.092

EXHIBIT "A"

INJECTION WELL	LOCATION
Stetco "10" Federal #3	1980' FSL & 1650' FEL (J) Sec. 10, T18S, R31E
Johnson "B" Federal A/C 1 #10	990' FNL & 450' FWL (D) Sec. 11, T18S, R31E
Marathon-Shugart "B" #1	660' FWL & 470' FSL (M) Sec. 11, T18S, R31E
Hudson "11" Federal #4	2310' FNL & 2310' FEL (G) Sec. 11, T18S, R31E
A. J. "11" Federal #1	560' FSL & 990' FEL (P) Sec. 11, T18S, R31E

KELLAHIN, KELLAHIN AND AUBREY
ATTORNEYS AT LAW
EL PATIO BUILDING
117 NORTH GUADALUPE
POST OFFICE BOX 2265
SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

W. THOMAS KELLAHIN
KAREN AUBREY

JASON KELLAHIN
OF COUNSEL

FAX COVER SHEET

DATE: July 19, 1991

TIME: 11:00 AM

TO: Mike Stogner

OF: Oil Conservation Division

FAX # (505) 827-5741

RE: Marathon Tamano (BSSC) unit

cc: via telcopy
Tom Lowry, Esq.
Marathon Oil Company

NUMBER OF PAGES: 3
(including cover)

FROM: W. Thomas Kellahin

OF: Kellahin, Kellahin, & Aubrey

FAX # (505) 982-2047

SPECIAL INSTRUCTIONS:

__ Confidential

__ Urgent

X Please Reply

X FYI

MESSAGE:

KELLAHIN, KELLAHIN AND AUBREY
ATTORNEYS AT LAW
EL PATIO BUILDING
117 NORTH GUADALUPE
POST OFFICE BOX 2265
SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN
KAREN AUBREY

JASON KELLAHIN
OF COUNSEL

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

July 19, 1991

Michael E. Stogner
Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

VIA TELECOPY
(505) 827-5741

Re: Marathon Oil Company
Tamano (BSSC) Unit
Pressure Maintenance
NMOCD Case 10260

Dear Mike:

I appreciated receiving yesterday your very quick response to my draft order. I know you have a lot to do and am delighted you had time to review our order.

In reply to your request for additional findings on the pressure increase, I have for your consideration the following suggested new findings to replace Findings (10) and (11):

( ) Current Division guidelines of 0.2 psi/foot of depth would set a surface pressure limitation of approximately 1,600 psi for the subject injection wells in this project.

( ) Applicant seeks a surface pressure limitation increase to 2300 psi based upon step-rate tests, fracture logs, after-frac tracer surveys and injectivity profiles (Exhibits 4-A through 4-F) which demonstrate that the resulting fractures will remain confined to the injection interval provided that the surface injection pressure does not exceed 3,000 psi.

( ) At the 1,600 psi surface pressure limitation, Applicant estimates it can inject approximately 2,000 barrels per day of water per injection well, while reservoir modeling of the project indicates an estimated injection rate of 4,500 barrels day per injection well can be obtained if the surface injection pressure of 2300 psi is authorized.

ILLEGIBLE

( ) The increase in surface injection pressure as requested by the applicant will afford it an opportunity to inject water at a faster rate without damage to the reservoir thus substantially reducing the time it will take to achieve "fill-up."

( ) The acceleration of response time for the pressure maintenance project which can be attained with the approval of an increased surface injection pressure limitation will allow for the timely recovery of more oil thereby preventing waste."

Best regards,

W. Thomas Kellahin

via telecopy:
Thomas D. Lowry, Esq.
Marathon Oil Company

ILLEGIBLE

KELLAHIN, KELLAHIN AND AUBREY
ATTORNEYS AT LAW
EL PATIO BUILDING
117 NORTH GUADALUPE
POST OFFICE BOX 2265
SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

W. THOMAS KELLAHIN
KAREN AUBREY

JASON KELLAHIN
OF COUNSEL

July 19, 1991

Mr. Michael E. Stogner
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

VIA TELECOPY
(505) 827-5741

Re: Marathon Oil Company
Tamano (BSSC) Unit
Pressure ~~Maintenance~~
NMOCD Case ~~10350~~ 10342

Dear Mike:

I appreciated receiving yesterday your very quick response to my draft order. I know you have a lot to do and am delighted you had time to review our order.

In reply to your request for additional findings on the pressure increase, I have for your consideration the following suggested new findings to replace Findings (10) and (11):

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( ) Applicant seeks a surface pressure limitation increase to 2300 psi based upon step-rate tests, frachite logs, after-frac tracer surveys and injectivity profiles (Exhibits 4-A through 4-F) which demonstrate that the resulting fractures will remain confined to the injection interval provided that the surface injection pressure does not exceed 3,000 psi.

( ) At the 1,600 psi surface pressure limitation, Applicant estimates it can inject approximately 2,000 barrels per day of water per injection well, while reservoir modeling of the project indicates an estimated injection rate of 3,500 barrels day per injection well can be attained if the surface injection pressure of 2300 psi is authorized.

( ) The increase in surface injection pressure as requested by the applicant will afford it an opportunity to inject water at a faster rate without damage to the reservoir thus substantially reducing the time it will take to achieve "fill-up."

( ) The acceleration of response time for the pressure maintenance project which can be attained with the approval of an increased surface injection pressure limitation will allow for the timely recovery of more oil thereby preventing waste."

Best regards,

W. Thomas Kellahin

cc: via telecopy:
Thomas C. Lowry, Esq.
Marathon Oil Company

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

July 31, 1991

KELLAHIN, KELLAHIN & AUBREY
Attorneys at Law
P. O. Drawer 2265
Santa Fe, New Mexico 87504

RE: CASE NO. 10342
ORDER NO. R-9555

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

Florene Davidson

Florene Davidson
OC Staff Specialist

FD/sl

cc: BLM - Carlsbad