



**Marathon
Oil Company**

P.O. Box 552
Midland, TX 79702-0552
Telephone 915/682-1626

54-865

August 18, 1992

~~Mr. Michael E. Stogner~~

Energy, Minerals and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

John J...
I didn't see any problem
with this so we approved
it on 12/1/92

RE: Request for Permit to Downhole Commingle
Warn State A/C 2 No. 9
Section 6, T-18-S, R-35-E
Abo Reef/Drinkard
Lea County, New Mexico

Dec
at the end
approved

Dear Mr. Stogner,

Marathon Oil Company respectfully requests Administration Approval for Downhole Commingling of Production from the Abo Reef and the Drinkard Pools in the subject well. The above referenced well is currently producing from the Abo Reef formation and it is estimated to have a BHP of 300 psi using fluid level measurements. The well has a cumulative production of 389 MBO.

A drill stem test conducted in 1962 recorded a final shut-in pressure of 710 psi for the Drinkard zone in the Texaco State of New Mexico "R" (NCT-4) No.2 well. This corresponding zone in the Warn State A/C 2 No. 9 is below 450 psi due to depletion of the Drinkard reservoir by offset operators. This is evident by the Texaco State of New Mexico "R" (NCT-4) Well Nos. 1 and 2 which produced from January, 1962 to 1965. Based on the historic performance in the area as demonstrated by these wells, we believe crossflow between the two zones will not occur. These wells are currently uneconomic in the Drinkard due to depletion indicating a significant reduction in BHP.

All ownership (WI, Royalty, and ORRI) in the wellbore is the same. As required, additional information is attached and all offset operators are being notified by copy of this application. In summary, Marathon feels that as a prudent operator, we can effectively downhole commingle the Abo Reef and Drinkard; and maximize production by doing so. We look forward to your approval of this application.

Sincerely,

A handwritten signature in dark ink, appearing to read 'S. P. Guidry'.

Steven P. Guidry
Production Superintendent

ATTACHMENT NO. 1

REQUEST FOR COMMINGLE PERMIT

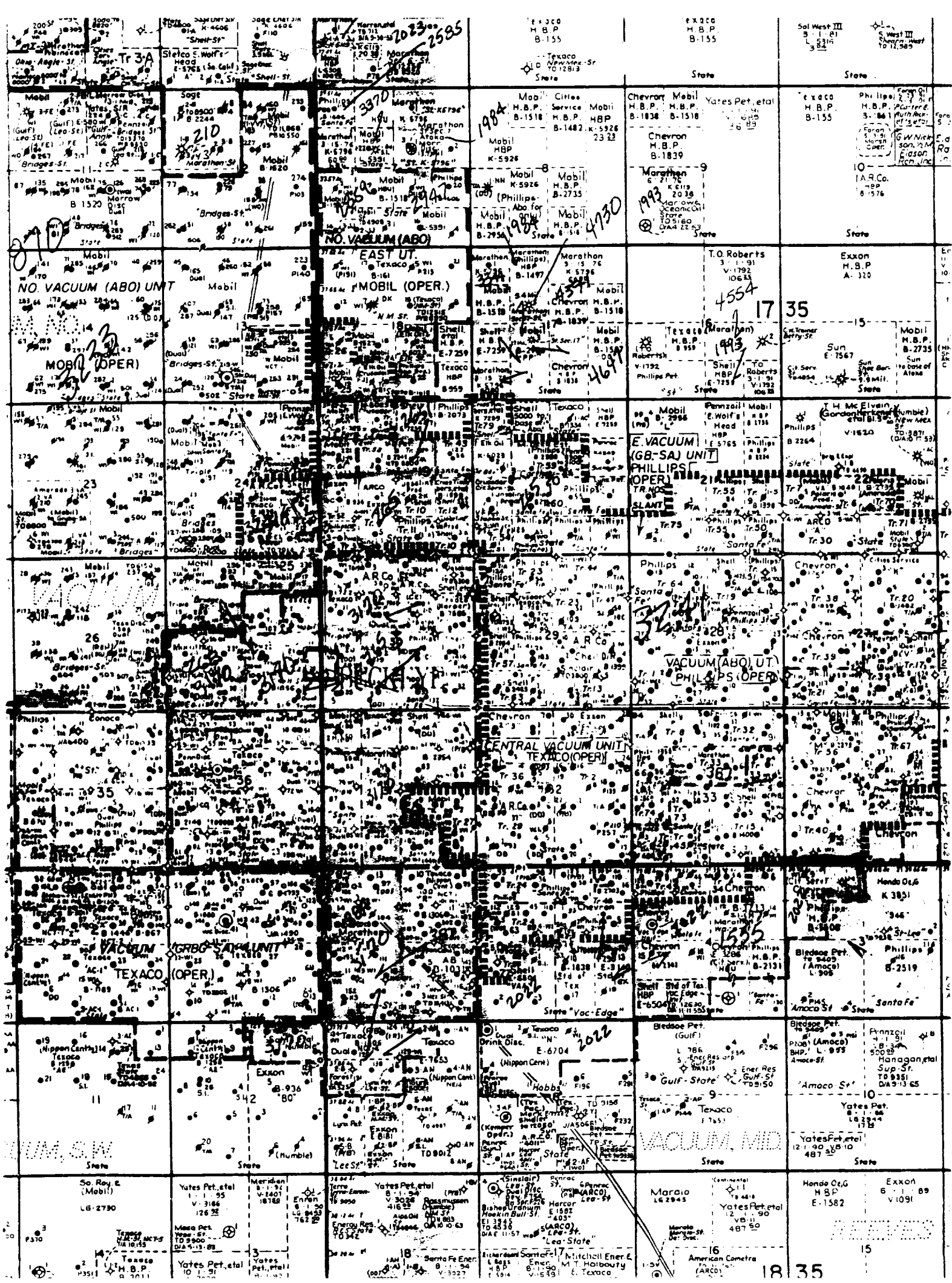
WARN STATE A/C 2 NO. 9
ABO REEF, DRINKARD FORMATIONS
LEA COUNTY, NEW MEXICO

Reference: Section C-2 Rule 303

- A. Marathon Oil Company
P. O. Box 552
Midland, Texas 797902
- B. Warn State A/C 2 No. 9
Unit M, 913' FWL and 330' FSL
Section 6, T-18-S, R-35-E
Lea County, New Mexico (See Attachment No. 2 Form C-103)
- C. Plat of area can be seen on Attachments 3A and 3B.
- D. Form C-116 for Abo Reef Completion (Attachment 5).
- E. Well was spudded 4/22/62. Perforated from 8,541'-8,606' and treated w/1,500 gals acid; well flowed 337 BOPD. 6/71 - perforated 8,636'-8,702' and treated w/2,000 gal acid. Perforated 8,423'-8,524' and treated with 5,000 gal acid. (8/85) Treated perforations with 4,000 gals 15% NEFE acid. (11/90) Acidized 8,636'-8,683', 8,541'-8,608', and 8,423'-8,524' w/15% HCL (Attachments 6). Attachment 7 identifies offset decline in the Drinkard Pool.
- F. Bottomhole pressure for the Abo Reef was estimated from recent pressure tests. Bottomhole pressure for the Drinkard estimated from 1962 offset DST and taking into account depletion due to offset production.
- Abo Reef - 300 psi
Drinkard - 350-500 psi
- G. Fluid data from referenced well as well as offset has been analyzed and no incompatibilities exist.
- H. Analysis of the produced fluid indicates no reduction in value from commingling.
- I. Estimated production assuming 57% contribution for the Drinkard based on offset initial production history.

<u>ZONE</u>	<u>OIL</u> <u>(BOPD)</u>	<u>OIL</u> <u>(%)</u>	<u>GAS</u> <u>(MCFGPD)</u>	<u>GAS</u> <u>(%)</u>	<u>WATER</u> <u>(BWPD)</u>
Drinkard (Estimated)	17	57	5	13	0
ABO Reef	13	43	35	87	9

- J. By copy of this letter via certified mail, we are notifying all offset operators of the proposed commingling.



Submit 2 copies to Appropriate District Office.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

ATTACHMENT NO. 5
State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-116
Revised 1/1/89

GAS - OIL RATIO TEST

Operator	Marathon Oil Company		Pod	ABO Reef		County	Lea									
Address	P. O. Box 552, Midland, Texas 79702		TYPE OF TEST - (X)	Scheduled ☐	Completion ☐	Special ☒										
LEASE NAME	WELL NO.	LOCATION U S T R		DATE OF TEST	SIZE	CHOKES	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBL'S GRAV. OK OIL BBL'S		GAS M.C.F.	GAS - OIL RATIO CU/FT/BBL			
Warn State A/C 2	9	M	6	18	35	7/15/92	P	---	20	14	24	10	38	13	45	3,462

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

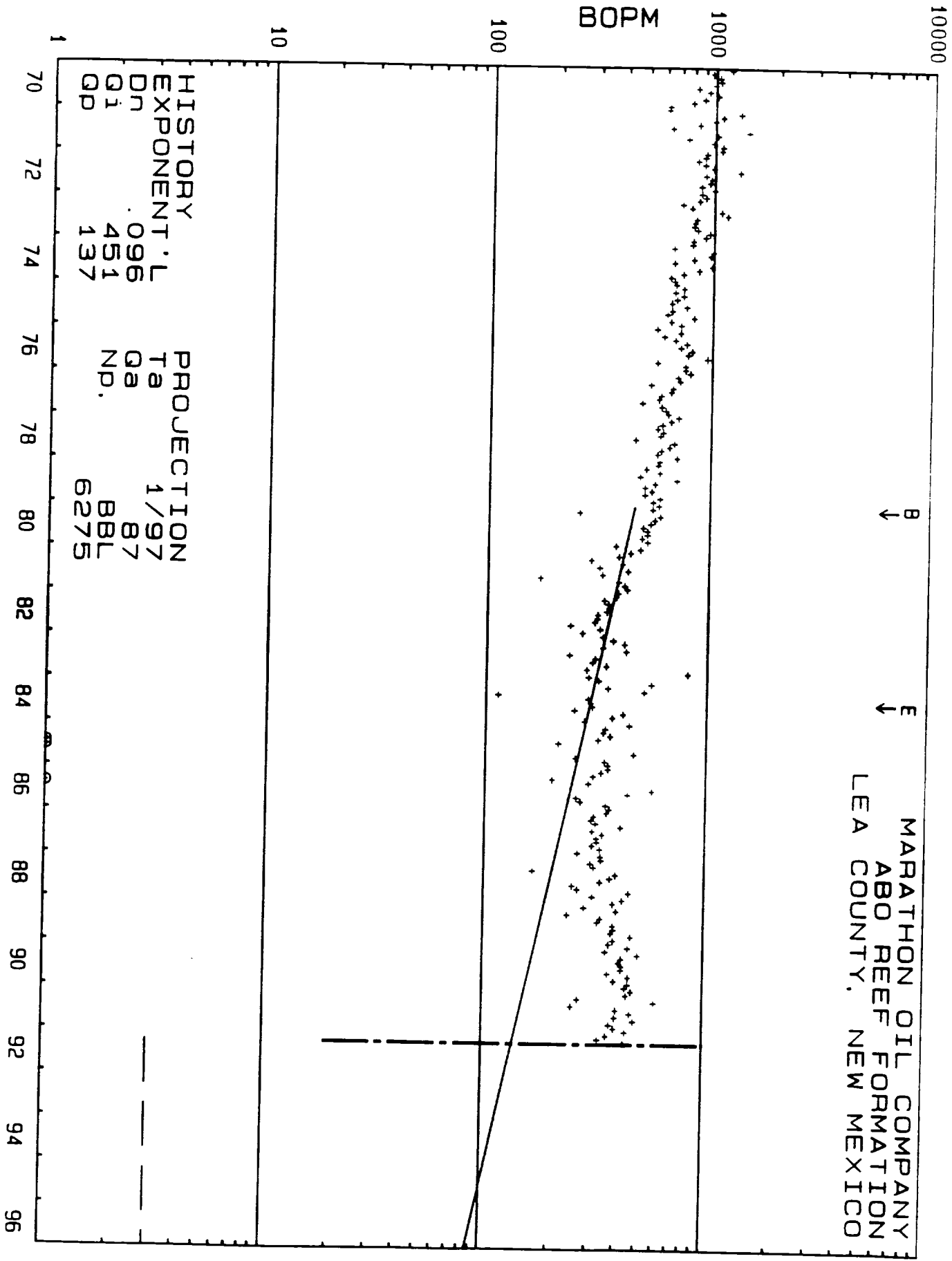
Signature

Printed name and title

Date

Telephone No.

WAHNN SIAIE A/C 2 NU. 3



ATTACHMENT NO. 7 NEW MEXICO STATE H NC14 NU.2

VACUUM DRINKARD FIELD
 DRINKARD FORMATION
 LEA COUNTY, NEW MEXICO

