



**Marathon
Oil Company**

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

October 5, 1989

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

CERTIFIED MAIL & RETURN
RECEIPT REQUESTED

Attention: Division Director

Re: Request for Unorthodox Well Location
North Indian Basin Unit Well #8
330' FSL & 1650' FWL Section 9,
T-21-S, R-23-E, N.M.P.M.,
Our Indian Basin Field
Eddy County, New Mexico

Gentlemen:

Marathon Oil Company hereby request administrative approval to drill a 7,700' Upper Penn test at an unorthodox location of 330' FSL & 1650' FWL of Section 9, T-21-S, R-23-E, N.M.P.M., Eddy County, New Mexico. Geological conditions dictate the selection of this unorthodox well location.

A geological brief, a Top Upper Penn structure map, a stratigraphic cross section and a plat showing the ownership of all leases offsetting this location are enclosed for your review. All offset operators have been notified by mail as evidenced by the enclosed certificate of mailing forms.

Marathon appreciates your consideration of the above and please contact this office at the captioned address as to any questions you may have concerning this matter.

Very truly yours,

MARATHON OIL COMPANY

Steve Daniels
Landman

SMD:mmc'
Encls.

Dwyer X-A



TO: R. J. Bruner
OFFICE: Midland, TX

DATE: September 25, 1989
FROM: E. D. Carlson EDC
OFFICE: Midland, TX

RE: Unorthodox Location Application
North Indian Basin Unit Well No. 8
330' FSL & 1650' FWL; Section 9, 21s, 23e
Indian Basin Field, Eddy County, NM

COMMENT ON GEOLOGY: The subject reservoir is a Pennsylvanian
----- dolomite. The reservoir rock has
been correlated to other carbonates
of "Cisco" age; however, it is usually
described simply as "Upper Pennn."

The gas accumulation is trapped by
a combination structural/stratigraphic
mechanism. To the west, a sealing
fault, having a throw greater than
reservoir thickness, bounds the
accumulation. The reservoir dips
eastward to a gas/water contact that
has been encroaching westward unevenly
since production began. To the north
and south, the reservoir is bounded
by transitions to a tight limestone
facies that has been tested as non-
productive. The change from lime
to productive dolomite to lime again
in a north-to-south direction is thought
to be a result of diagenesis assoc-
iated with Neogene meteoric water movement
along the fault to the west.

COMMENT ON WELL LOCATION: The uncertainty of the exact
----- location of the facies transition
between tight lime and productive
dolomite has resulted in several
dry holes along the northwestern
margin of the field. In 1989,
a recent test in the SE corner
of Section 8, immediately west of
the proposed location, penetrated
only tight lime. Because of
the stratigraphic uncertainty,
Marathon is requesting a location
further south than the orthodox
location, yet far enough west
to be updip of the encroaching
gas/water contact.

XC: C. T. Kent
T. A. Deines

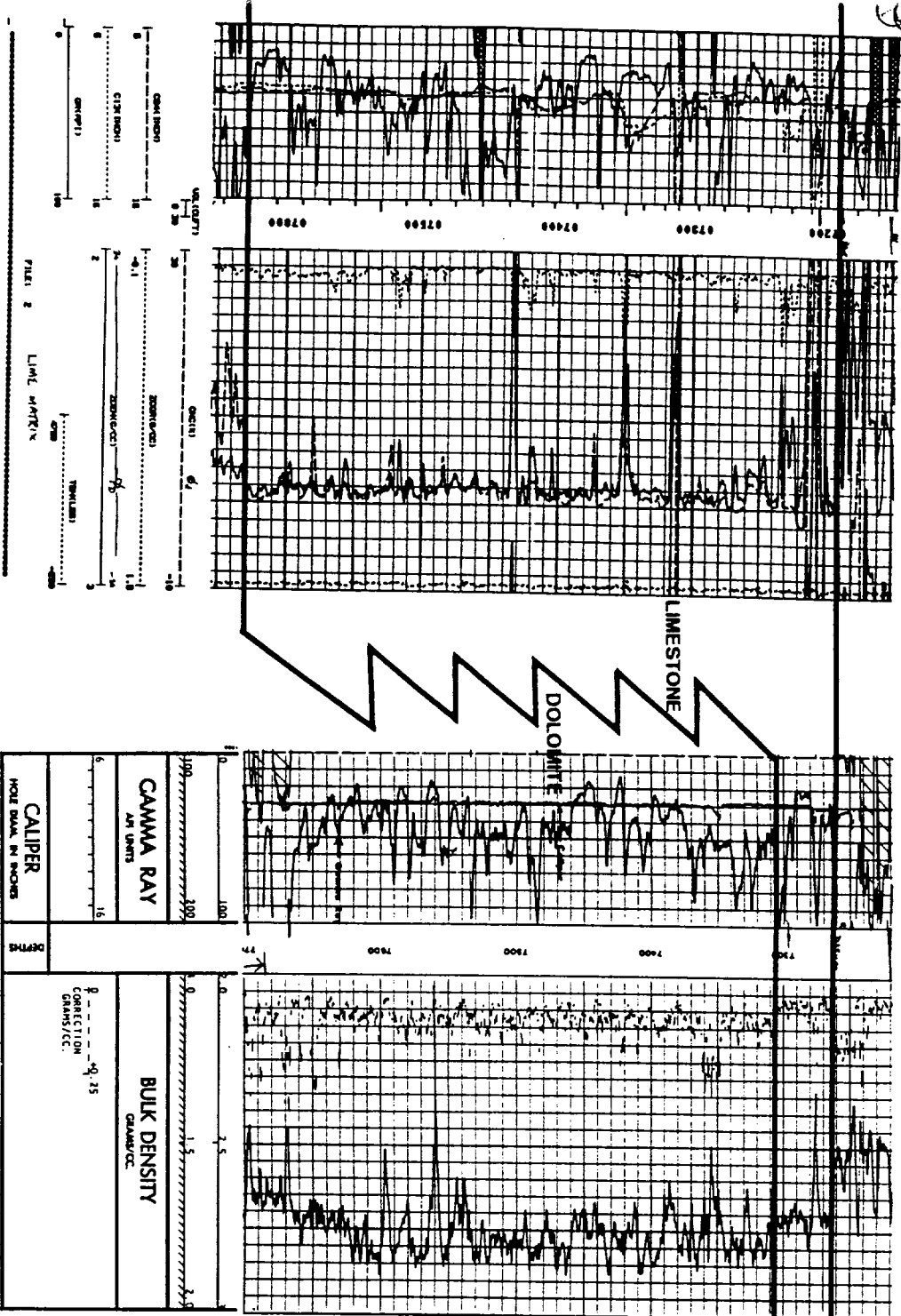


IW

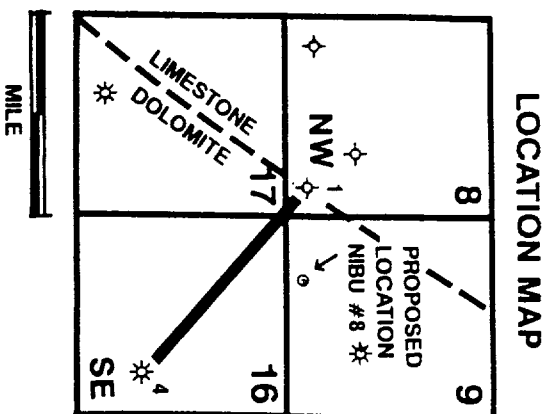
SANTA FE EXPL.
INDIAN BASIN #1
SEC. 8 T-21-S, R-23-E
K.B. 4003
T.D. 9356

MARATHON
INDIAN BASIN #4
SEC. 16 T-21-S, R-23-E
K.B. 3955
T.D. 7820

SE



DATUM: T/UPPER PENN
TIGHT
LIMESTONE
DOLOMITE
RESERVOIR



SCALE:

100' NO HORIZONTAL SCALE



MARATHON OIL COMPANY
IND-CONTINENT REGION

INDIAN BASIN FIELD

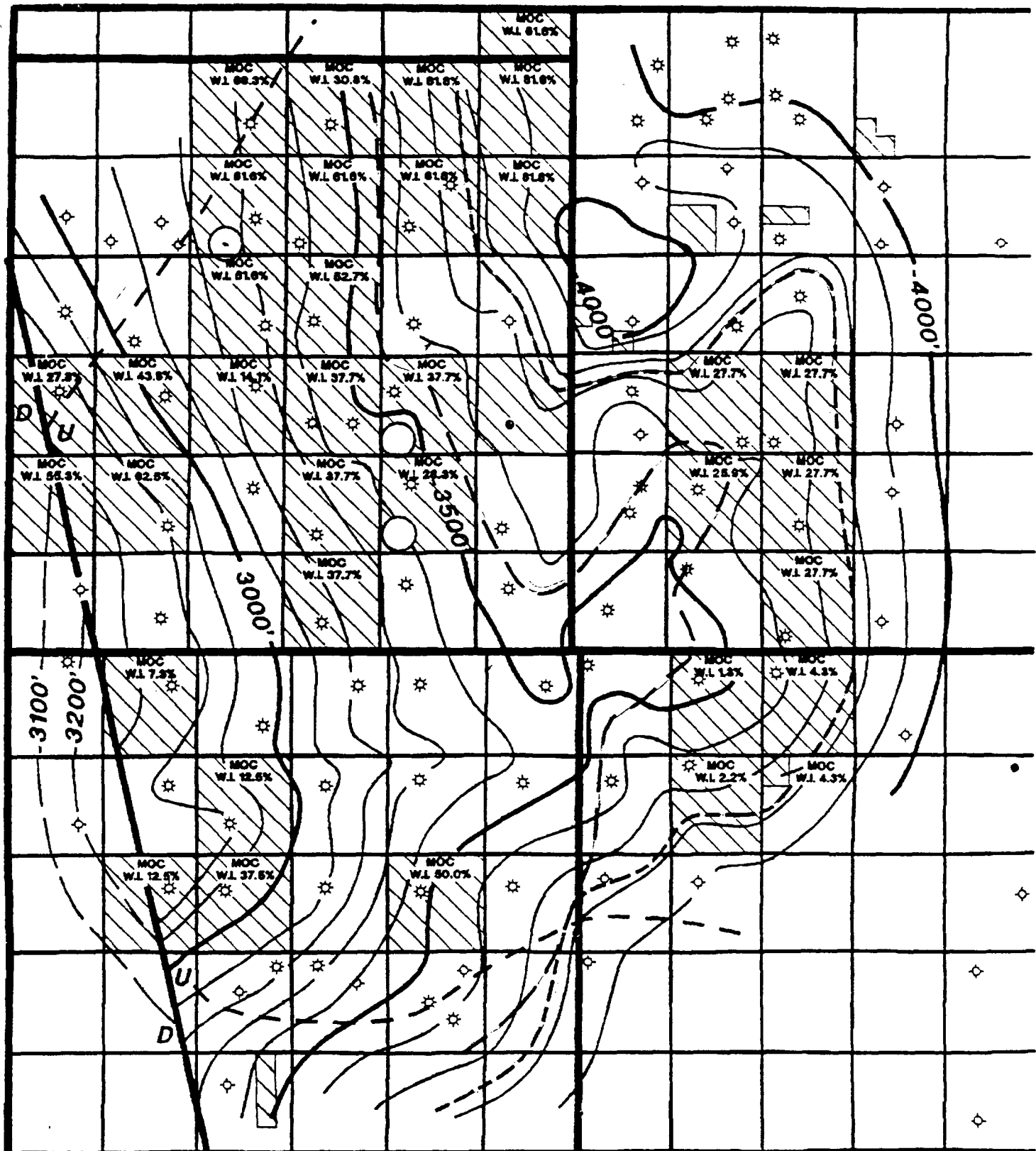
STRATIGRAPHIC
CROSS-SECTION NW-SE
DATUM: T/UPPER PENN

E.D. CARLSON

SEPT 1989

R-23-E

R-24-E

T
21
ST
22
S

- ORIGINAL GAS/WATER CONTACT
 ——— CURRENT GAS/WATER CONTACT
 - - - - - LIMIT OF DOLOMITIZATION

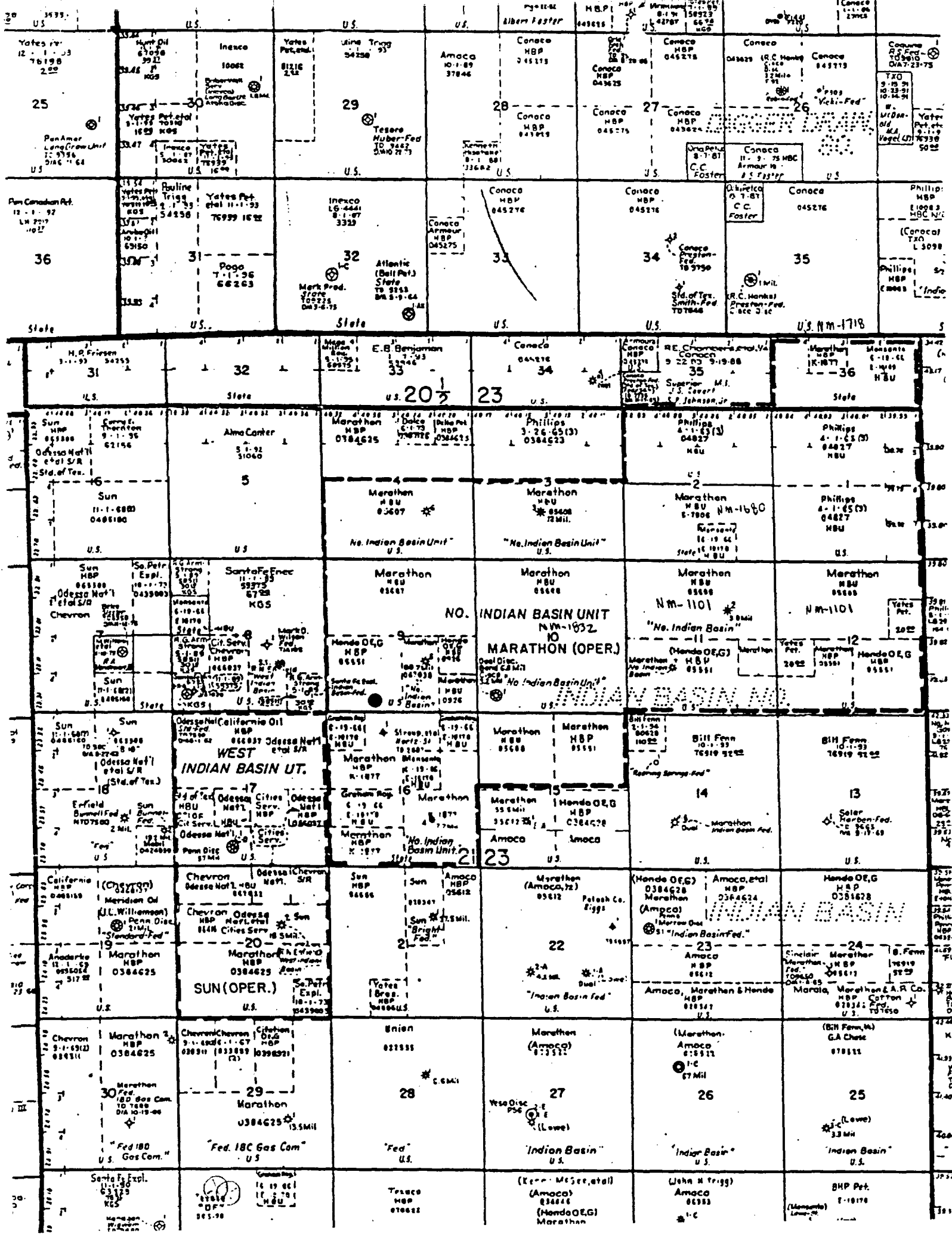


MARATHON OIL COMPANY
 EDDY-COUNTY REGION

INDIAN BASIN FIELD
 EDDY COUNTY, NEW MEXICO

TOP UPPER PENN
 STRUCTURE MAP

C.I. 100'
 E.D. CARLSON



OFFSETTING OPERATORS

Santa Fe Energy Company
P. O. Box 1136
Roswell, New Mexico 88202-1136
Attention: Mr. William A. McAlpine, Jr.

OXY-USA, Inc.
P. O. Box 300
Tulsa, Oklahoma 74101-0300

Armstrong Energy Corporation
P. O. Box 1973
Roswell, New Mexico 88201-1973

ORYX Energy Company
P. O. Box 2880
Dallas, Texas 75221-2880

BHP Petroleum Company, Inc.
6 Desta Drive, Suite 3200
Midland, Texas 79705

J. Hiram Moore Trust
310 West Wall, Suite 404
Midland, Texas 79701

Alma J. Canter
2304 Maxwell
Midland, Texas 79701

