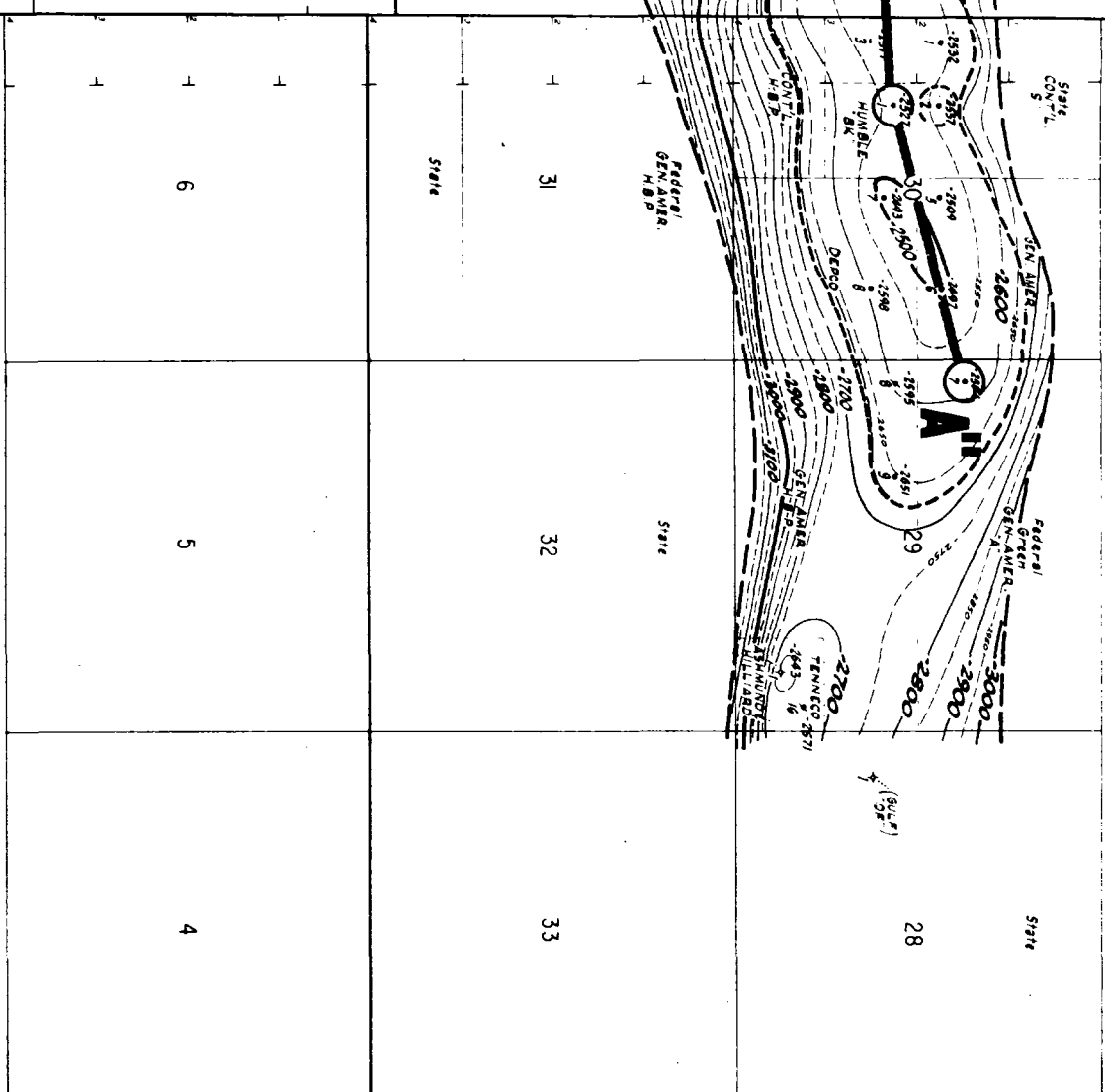
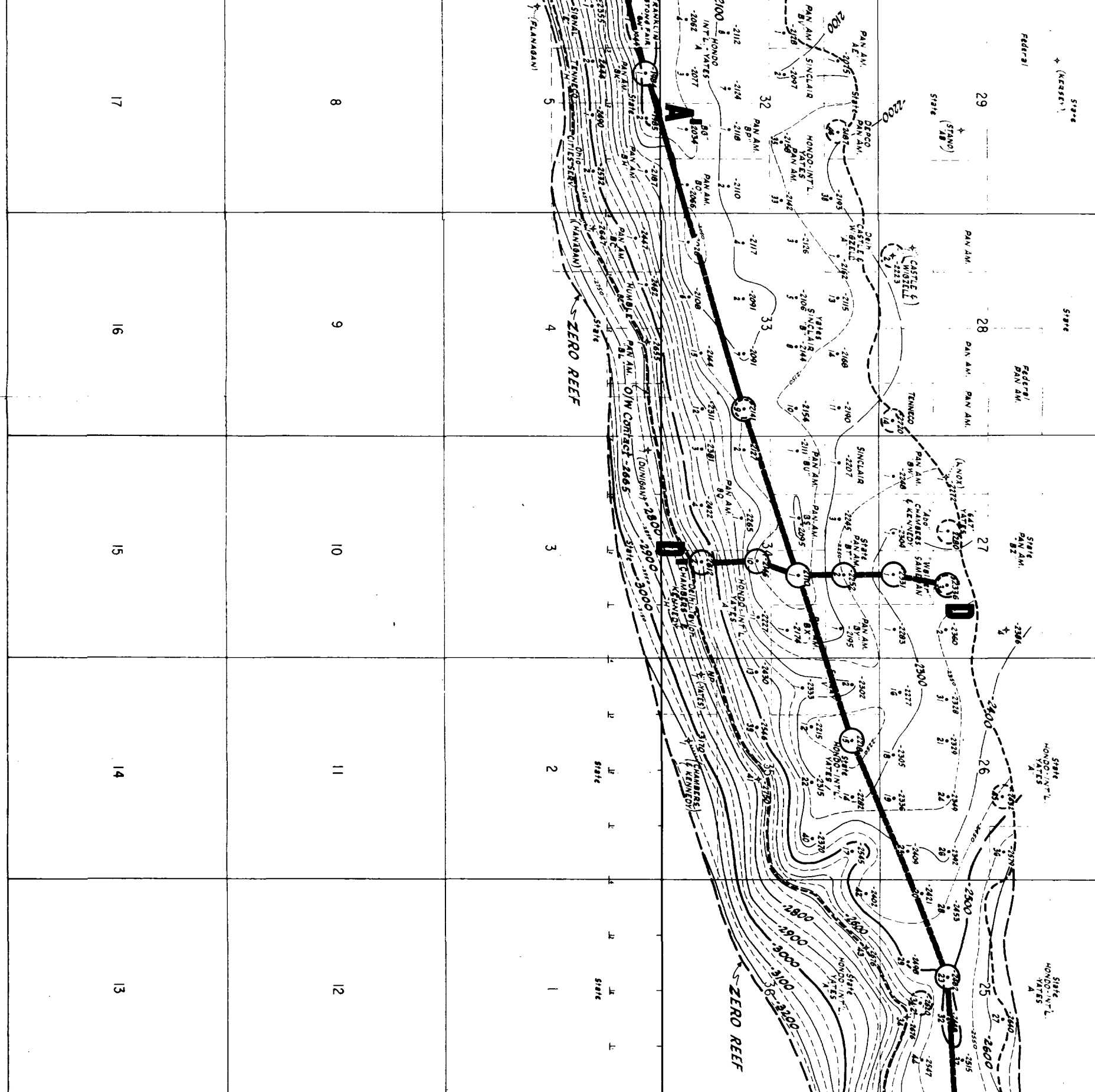
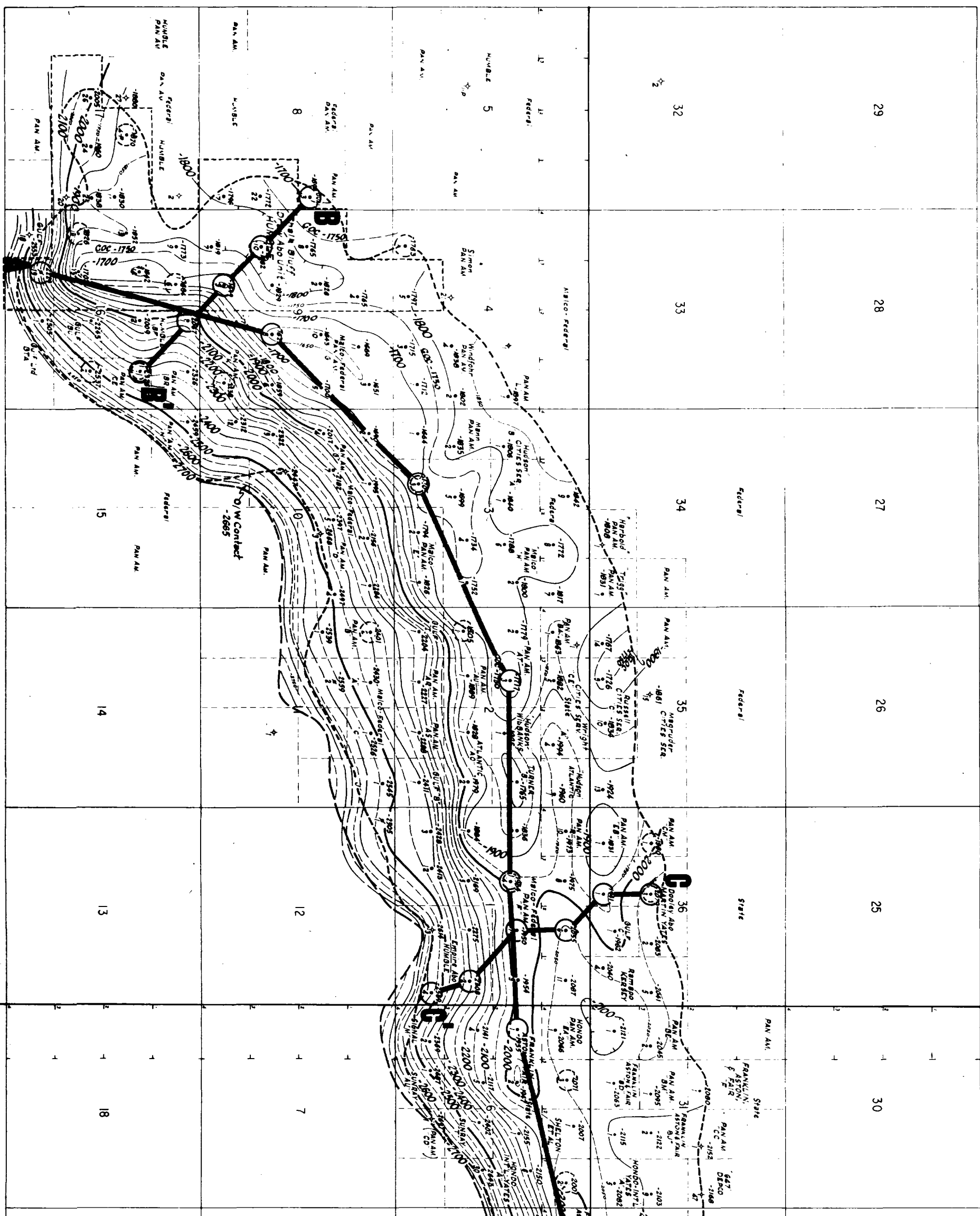
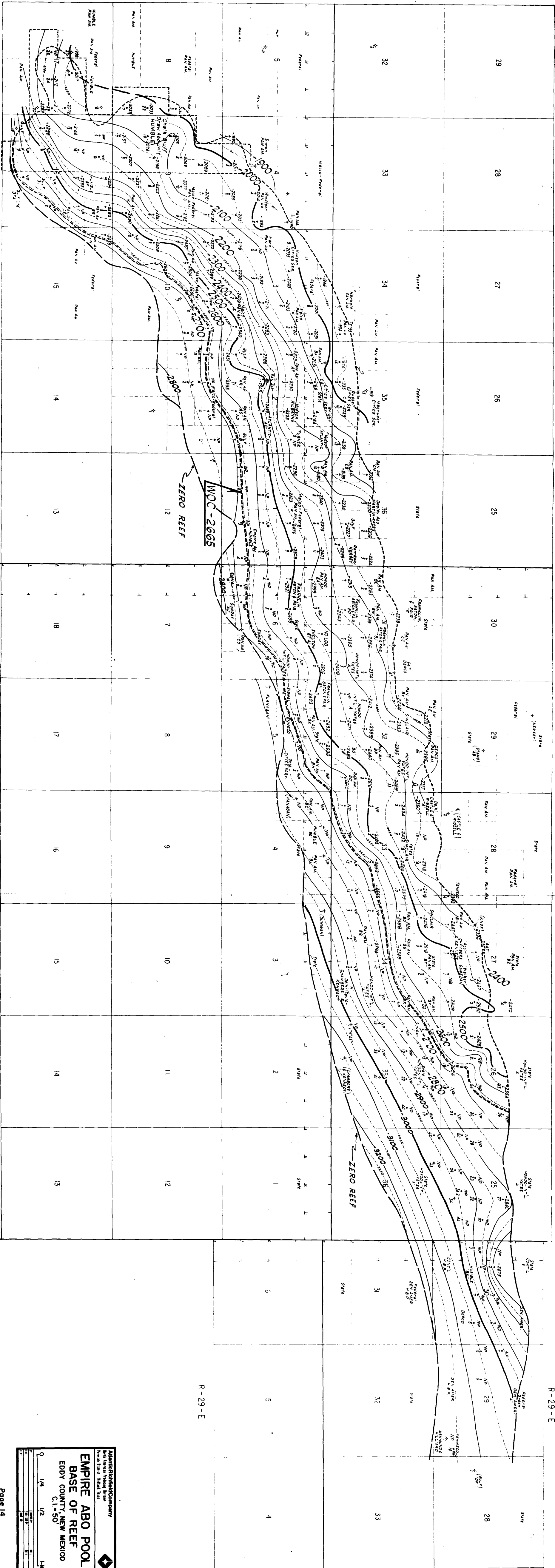




R - 27 - E

R - 28 - E

R - 29 - E



Atlantic Richfield Company

North America Production Division

Permian Basin Region, Midland, Texas

EMPIRE ABO POOL

BASE OF REEF

EDDY COUNTY, NEW MEXICO

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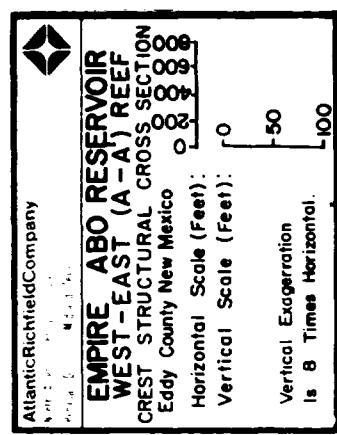
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PAN AMERICAN PETROLEUM CORP
STATE "BK" NO.1
SEC 5-18S-28E
EL.3670



B

PAN AMERICAN PETROLEUM CORP.
CHALK BLUFF DRAW UNIT NO.3
SEC. 8-185-27E

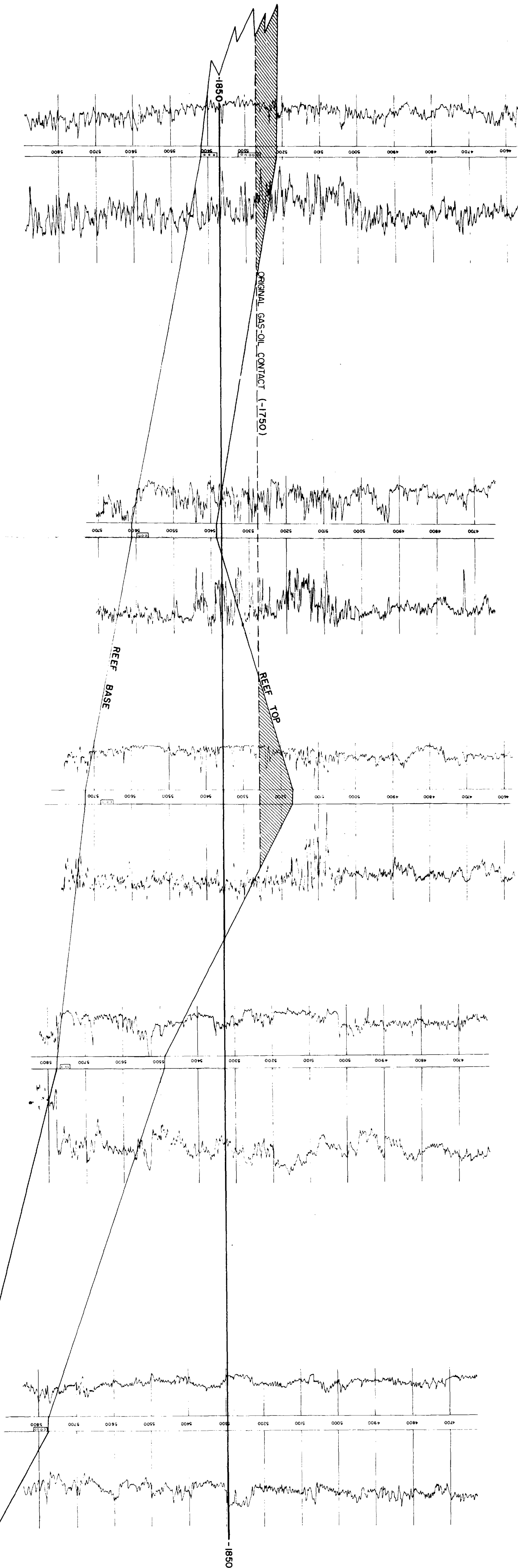
HUMBLE O&R CO.
ABO CHALK BLUFF DRAW UNIT NO.10
SEC. 9-185-27E

HUMBLE O&R CO.
ABO CHALK BLUFF DRAW UNIT NO.3
SEC. 9-185-27E

HUMBLE O&R CO.
STATE O&R NO.1
SEC. 16-185-27E

PAN AMERICAN PETROLEUM CORP.
STATE O&R NO.1
SEC. 16-185-27E

B



Atlantic Richfield Company
Geological Department
Houston, Texas 77002
Phone 713-865-1000
Telex 152000 ARCO
FAX 713-865-1000

EMPIRE ABO RESERVOIR
BACK REEF (B) TO FORE REEF (B)
STRUCTURAL CROSS SECTION
Eddy County New Mexico
Horizontal Scale (feet) : 0 100 200
Vertical Scale (feet) : 0 50 100
Vertical Exaggeration
is 2.0 Times Horizontal

C

MARTIN YATES III
DOOLEY-ST/ABO/NO.3
SEC. 36-17S-27E

MARTIN YATES III
DOOLEY-ST/ABO/NO.1
SEC. 36-17S-27E

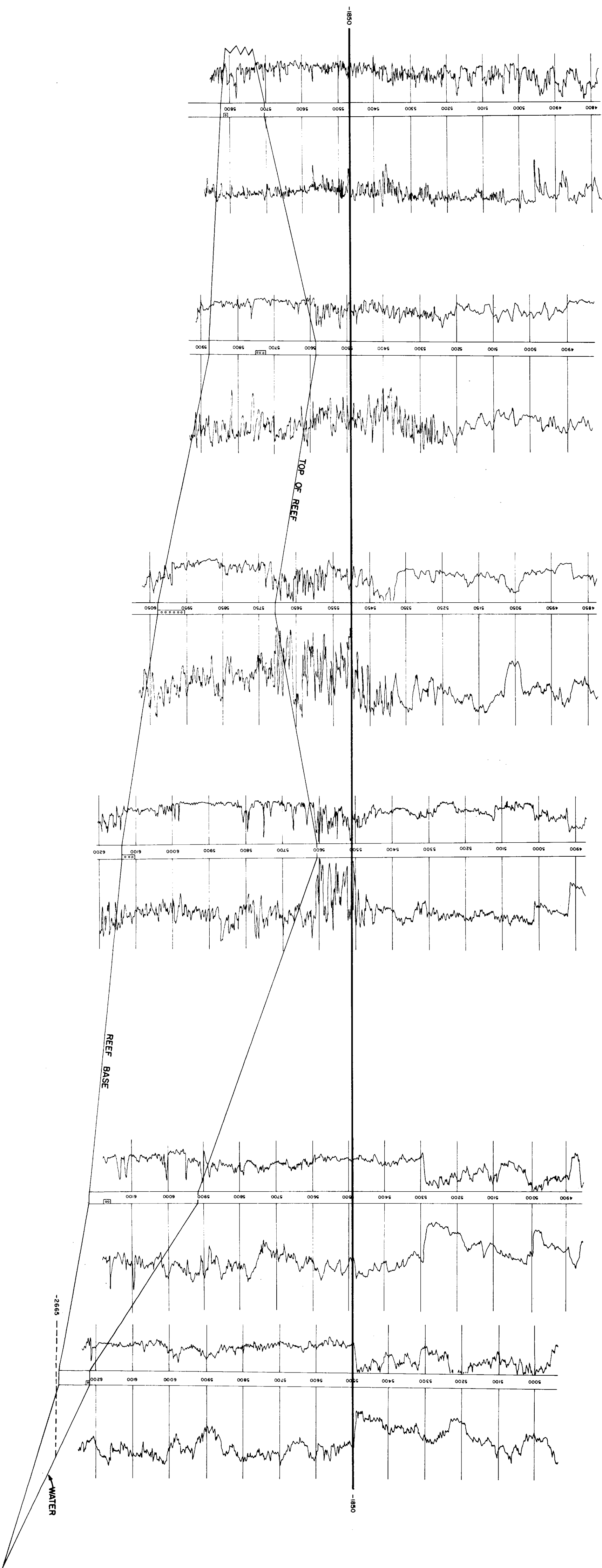
PAN AMERICAN PETROLEUM CORP.
U.S.A.-MILCO F/NO.6
SEC. 1-18S-27E

PAN AMERICAN PETROLEUM CORP.
U.S.A.-MILCO F/NO.7
SEC. 1-18S-27E

HUMBLE O & R CO.
EMPIRE-ABO/FED/NO.2
SEC. 1-18S-27E

HUMBLE O & R CO.
EMPIRE-ABO/FED/NO.4
SEC. 1-18S-27E

C'



Atlantic Richfield Company
Well: Empire-ABO/FED/NO.2
Field: Eddy County New Mexico
Section: 36-17S-27E
Scale: 1 inch = 100 feet
Vertical Exaggeration: 2.0 Times Horizontal

EMPIRE-ABO RESERVOIR
BACK REEF (C) TO FORE REEF (C)
STRUCTURAL CROSS SECTION

Vertical Scale (feet): 0 to 100
Horizontal Scale (feet): 0 to 100

D
PAN AMERICAN PETROLEUM CORP
STATE "B2" NO. 3
SEC. 27-17S-28E

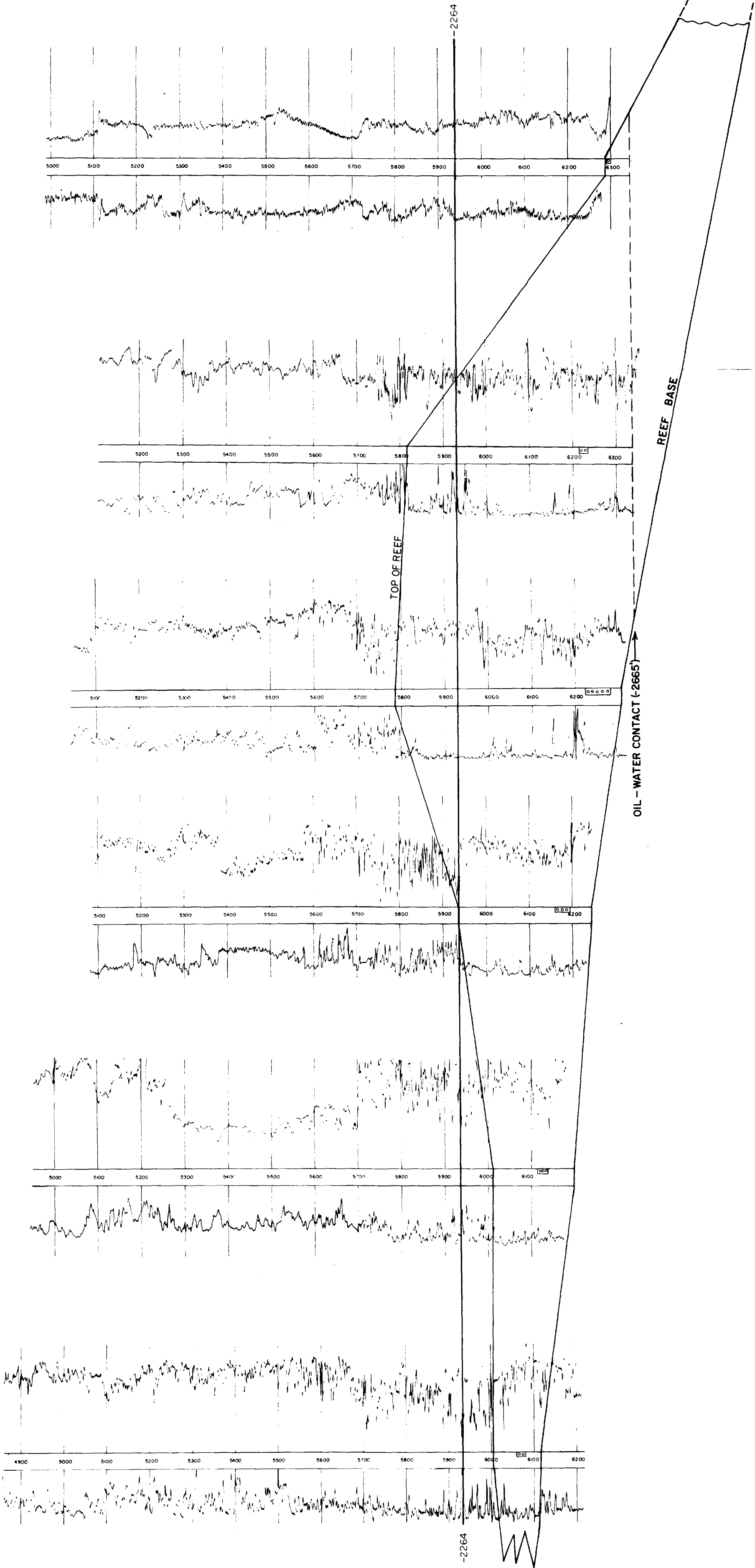
SAMEDAN OIL CORP
WALKER-ST NO. 1
SEC. 27-17S-28E

PAN AMERICAN PETROLEUM CORP.
STATE "B1" NO. 2
SEC. 34-17S-28E

PAN AMERICAN PETROLEUM CORP
STATE "B1" NO. 1
SEC. 34-17S-28E

HONDO-INTERNATIONAL - YATES
STATE "A" NO. 10
SEC. 34-17S-28E

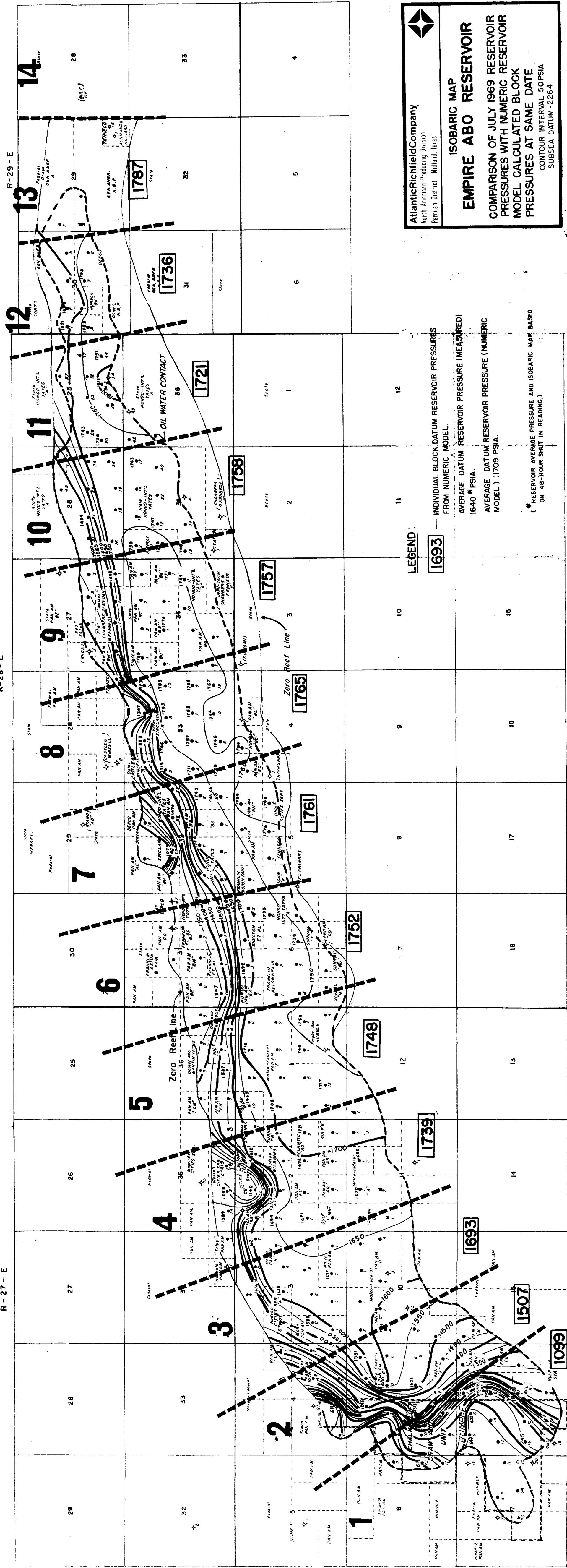
D'
CHAMBERS & KENNEDY
DELHI-TAYLOR ST NO. 2
SEC. 34-17S-28E



R-27-E

R-28-E

R-29-E





Atlantic Richfield Company
North American Producing Division
Permian District Midland, Texas

ISOBARIC MAP

EMPIRE ABO RESERVOIR

COMPARISON OF JULY 1969 RESERVOIR PRESSURES WITH NUMERIC RESERVOIR MODEL CALCULATED BLOCK PRESSURES AT SAME DATE

CONTOUR INTERVAL 50 PSIA
SUBSEA DATUM-2264

LEGEND:

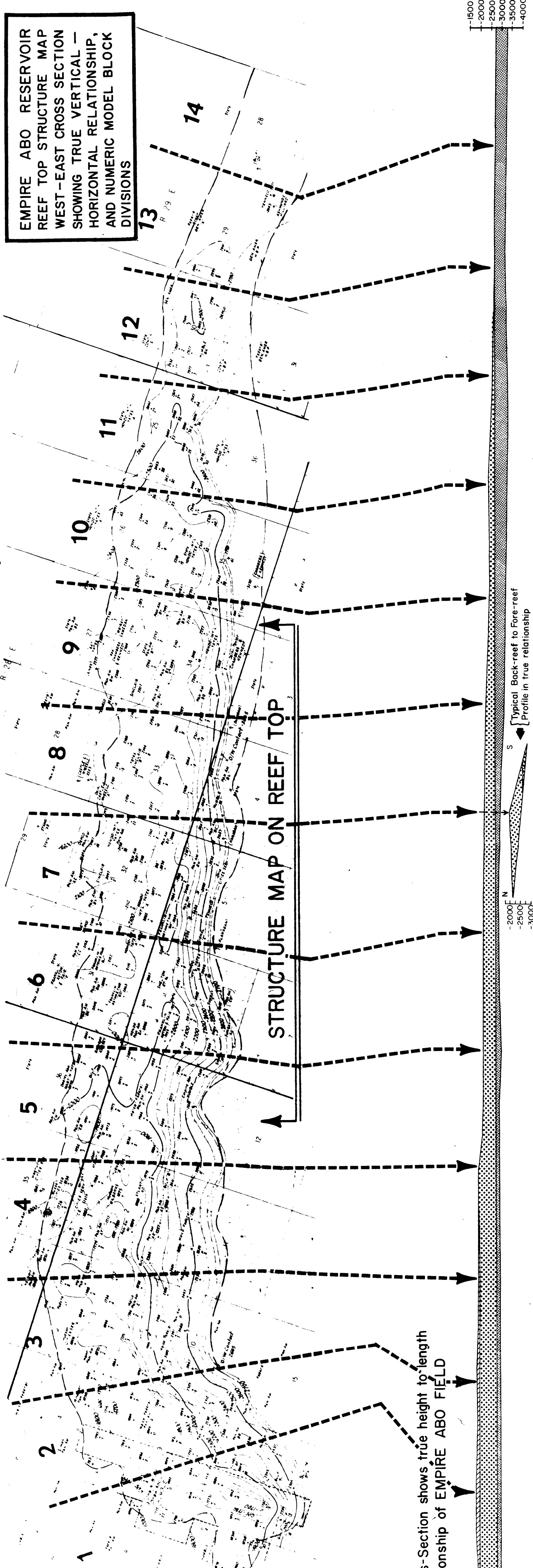
1693 — INDIVIDUAL BLOCK DATUM RESERVOIR PRESSURES FROM NUMERIC MODEL.

AVERAGE DATUM RESERVOIR PRESSURE (MEASURED) 1640 * PSIA.

AVERAGE DATUM RESERVOIR PRESSURE (NUMERIC MODEL) : 1709 PSIA.

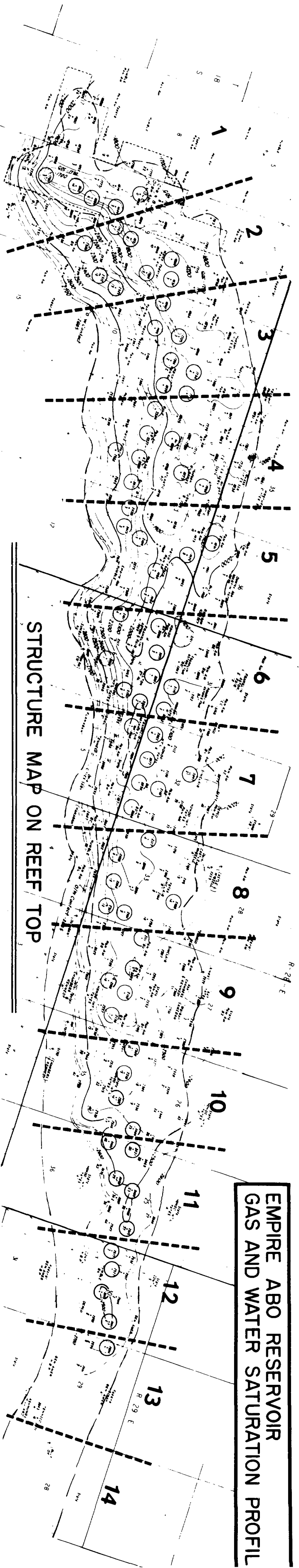
* RESERVOIR AVERAGE PRESSURE AND ISOBARIC MAP BASED ON 48-HOUR SHUT IN READING.)

EMPIRE ABO RESERVOIR
REEF TOP STRUCTURE MAP
WEST-EAST CROSS SECTION —
SHOWING TRUE VERTICAL —
HORIZONTAL RELATIONSHIP,
AND NUMERIC MODEL BLOCK
DIVISIONS



Section shows true height to length
relationship of EMPIRE ABO FIELD

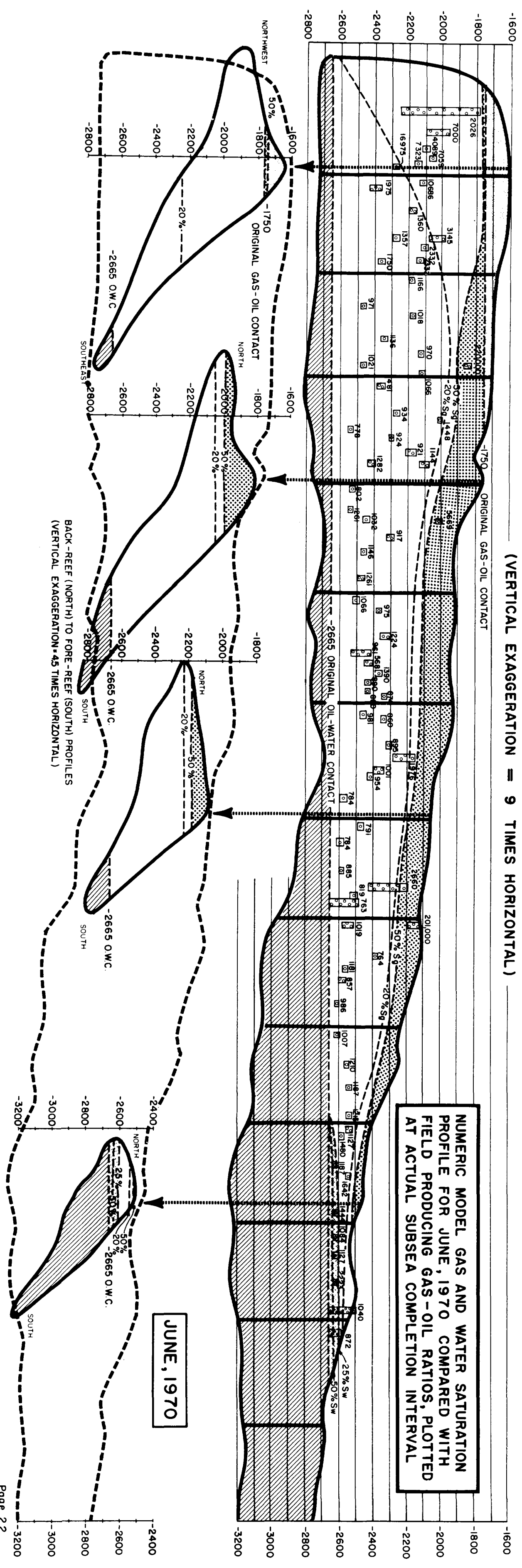
Typical Back-reef to Fore-reef
Profile in true relationship

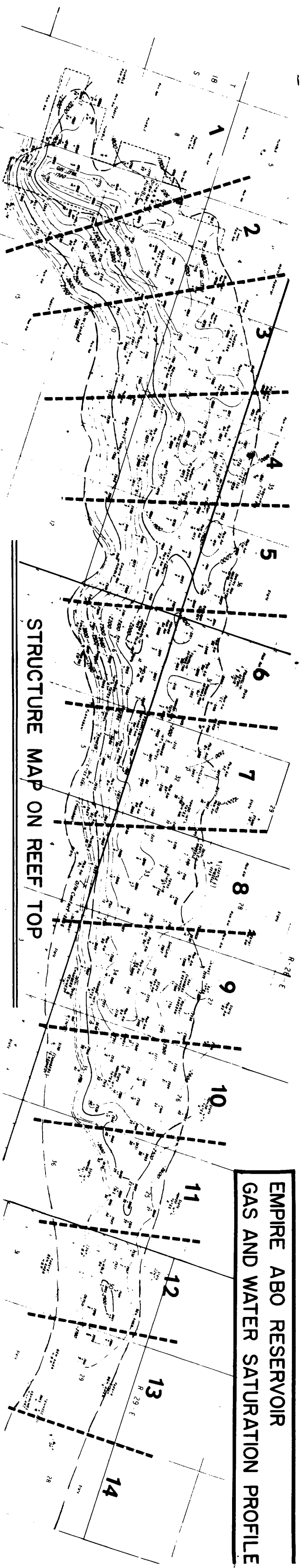


**EMPIRE ABO RESERVOIR
GAS AND WATER SATURATION PROFIL**

STRUCTURE MAP ON REEF TOP

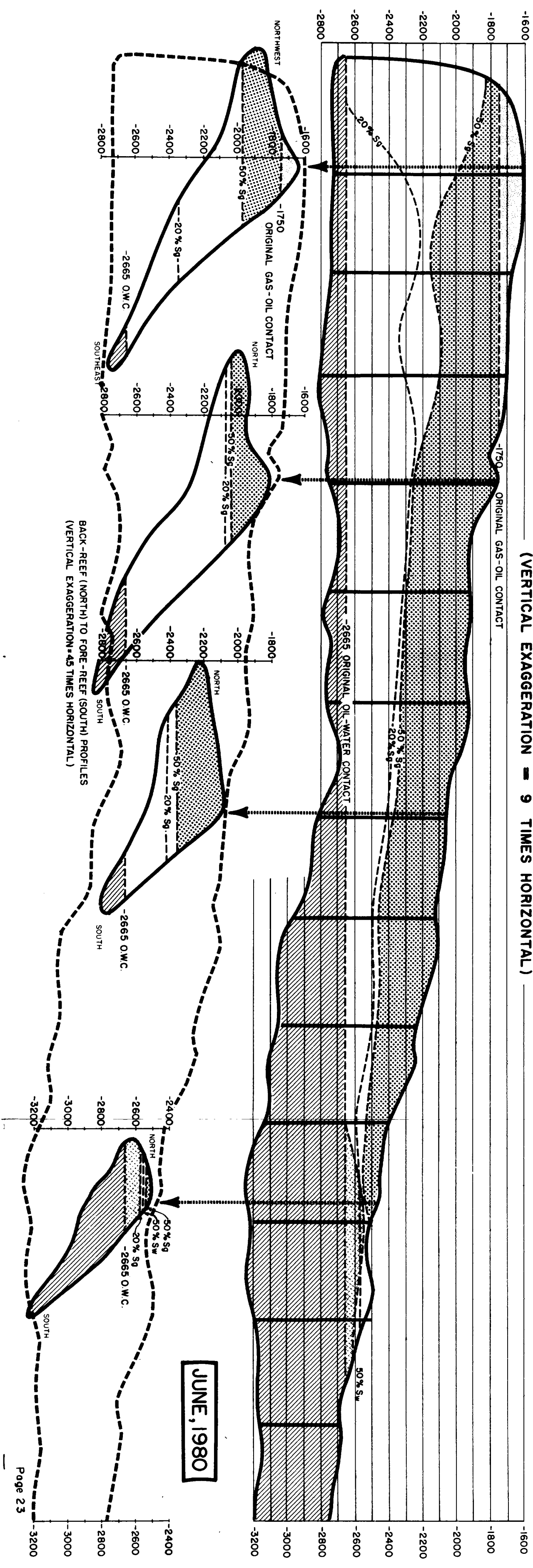
**WEST-TO-EAST FRONT ELEVATION OF REEF
(VERTICAL EXAGGERATION = 9 TIMES HORIZONTAL)**



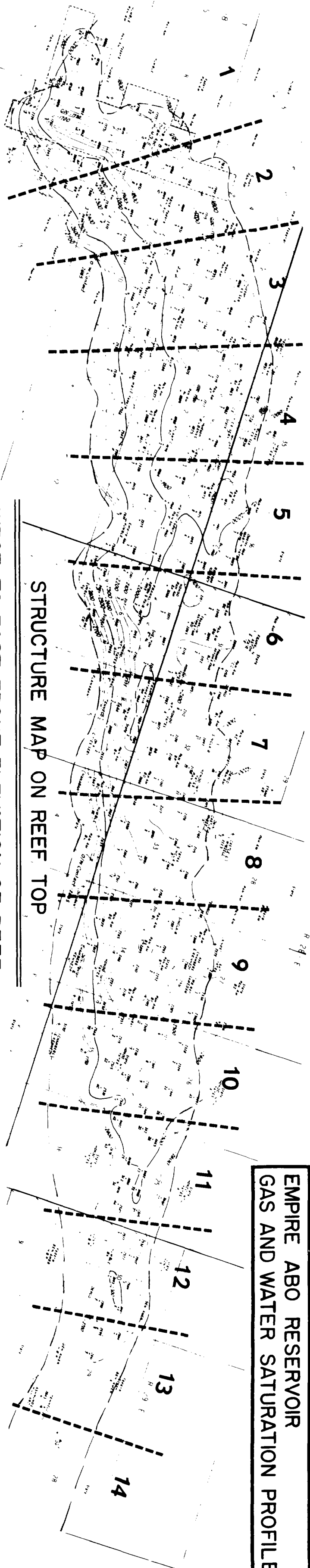


EMPIRE ABO RESERVOIR
GAS AND WATER SATURATION PROFILE

WEST-TO-EAST FRONT ELEVATION OF REEF
(VERTICAL EXAGGERATION = 9 TIMES HORIZONTAL)



EMPIRE ABO RESERVOIR
GAS AND WATER SATURATION PROFILE



STRUCTURE MAP ON REEF TOP

WEST-TO-EAST FRONT ELEVATION OF REEF
(VERTICAL EXAGGERATION = 9 TIMES HORIZONTAL)

