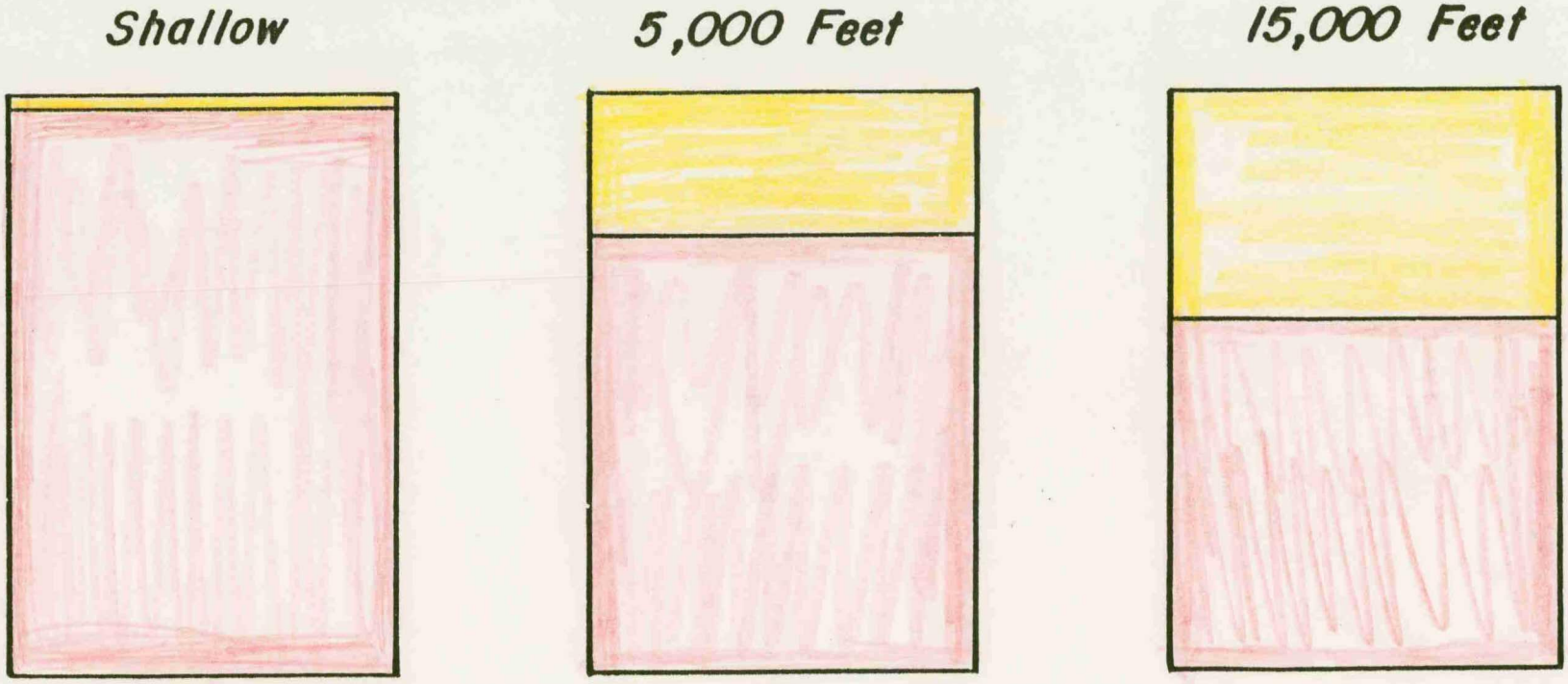
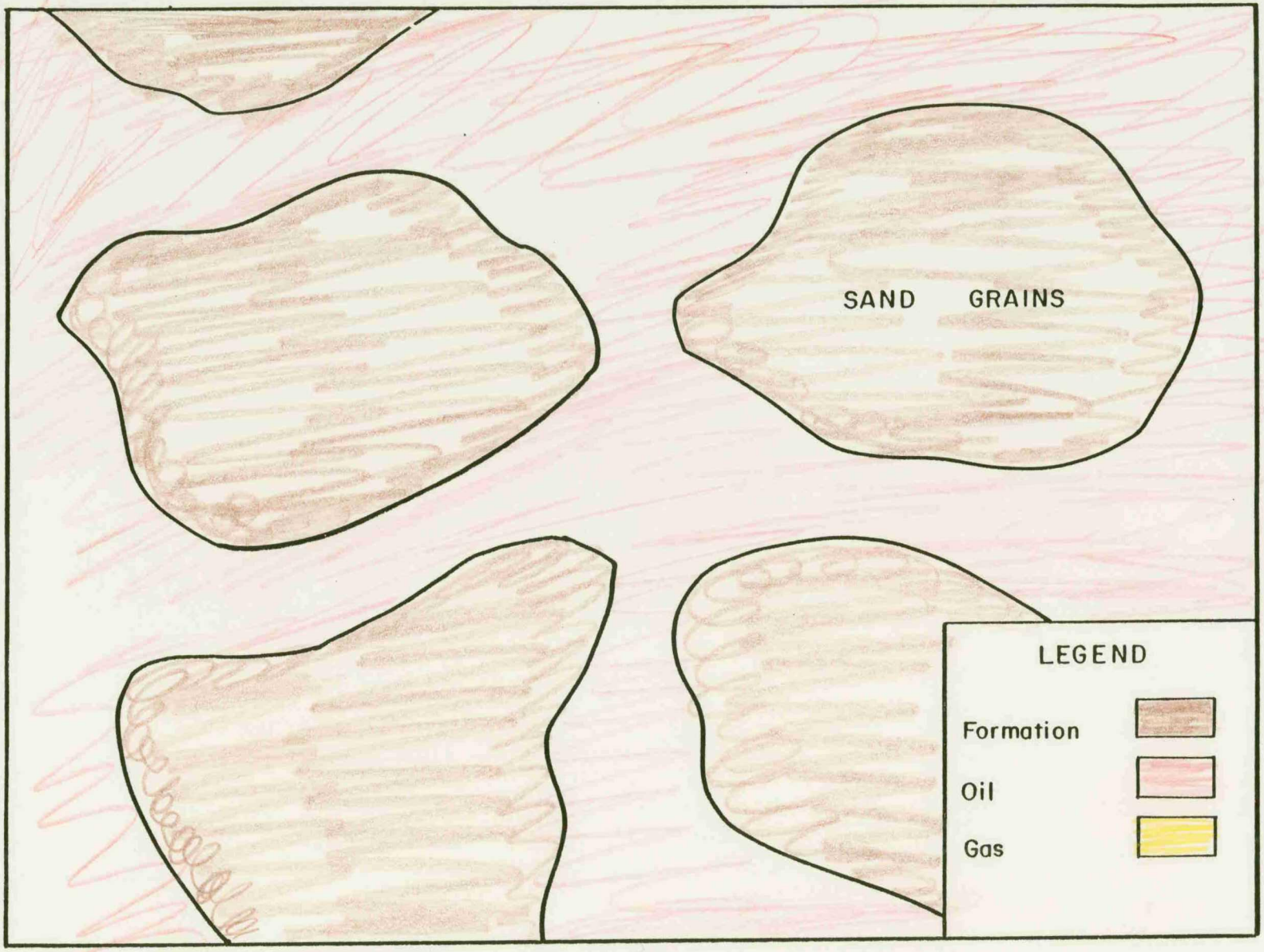
RESERVOIR OIL NORMALLY HAS A SIGNIFICANT AMOUNT OF GAS DISSOLVED IN IT



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 8950 Exhibit No. 2
Submitted by BENSON-MONTIN-GREER
Hearing Date AUGUST 21, 1986

RELATIVE PERMEABILITY EXAMPLE — SANDSTONE RESERVOIR

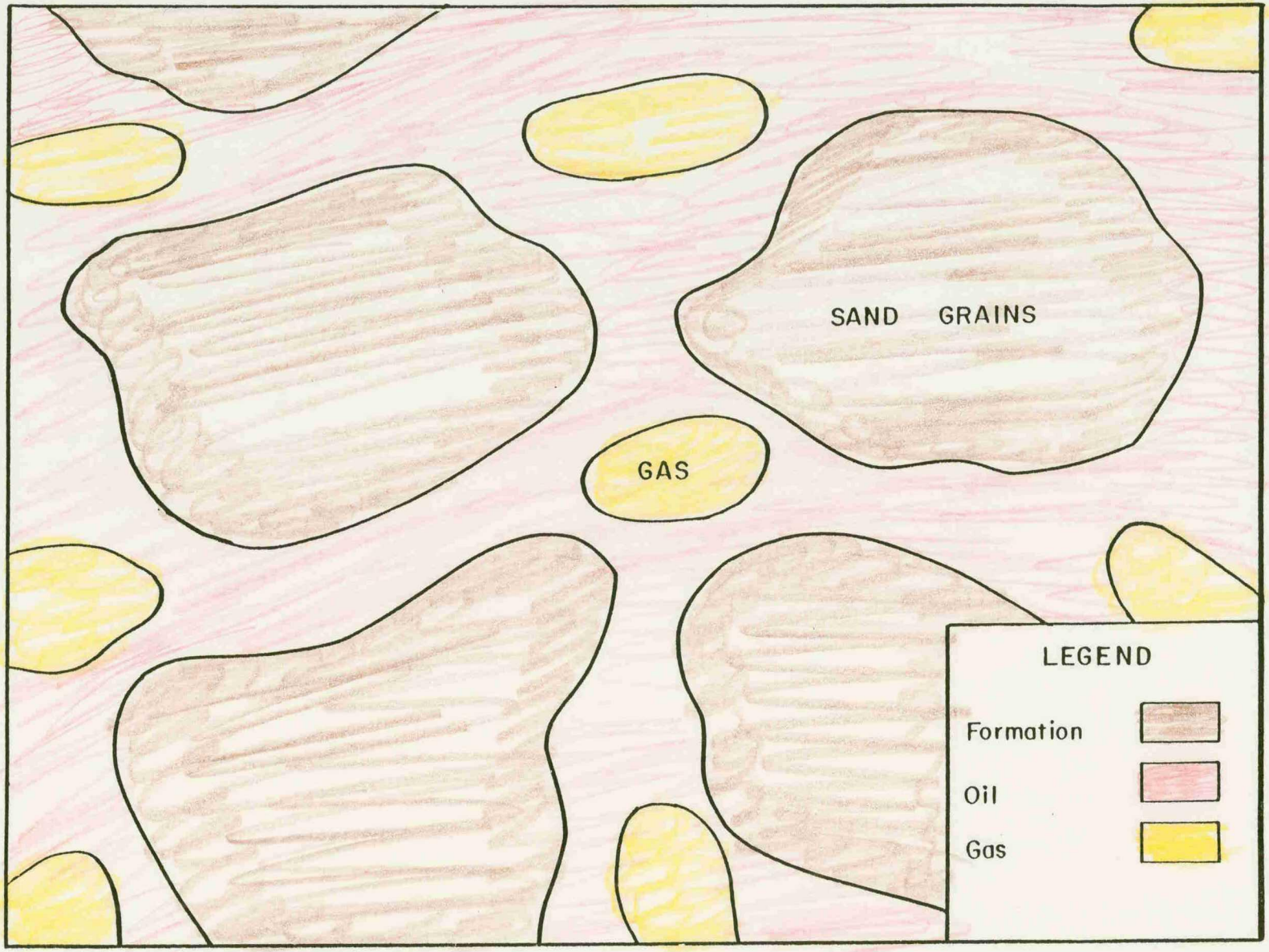
(Not To Scale) PHASE ONE



11/83 cs

RELATIVE PERMEABILITY EXAMPLE — SANDSTONE RESERVOIR

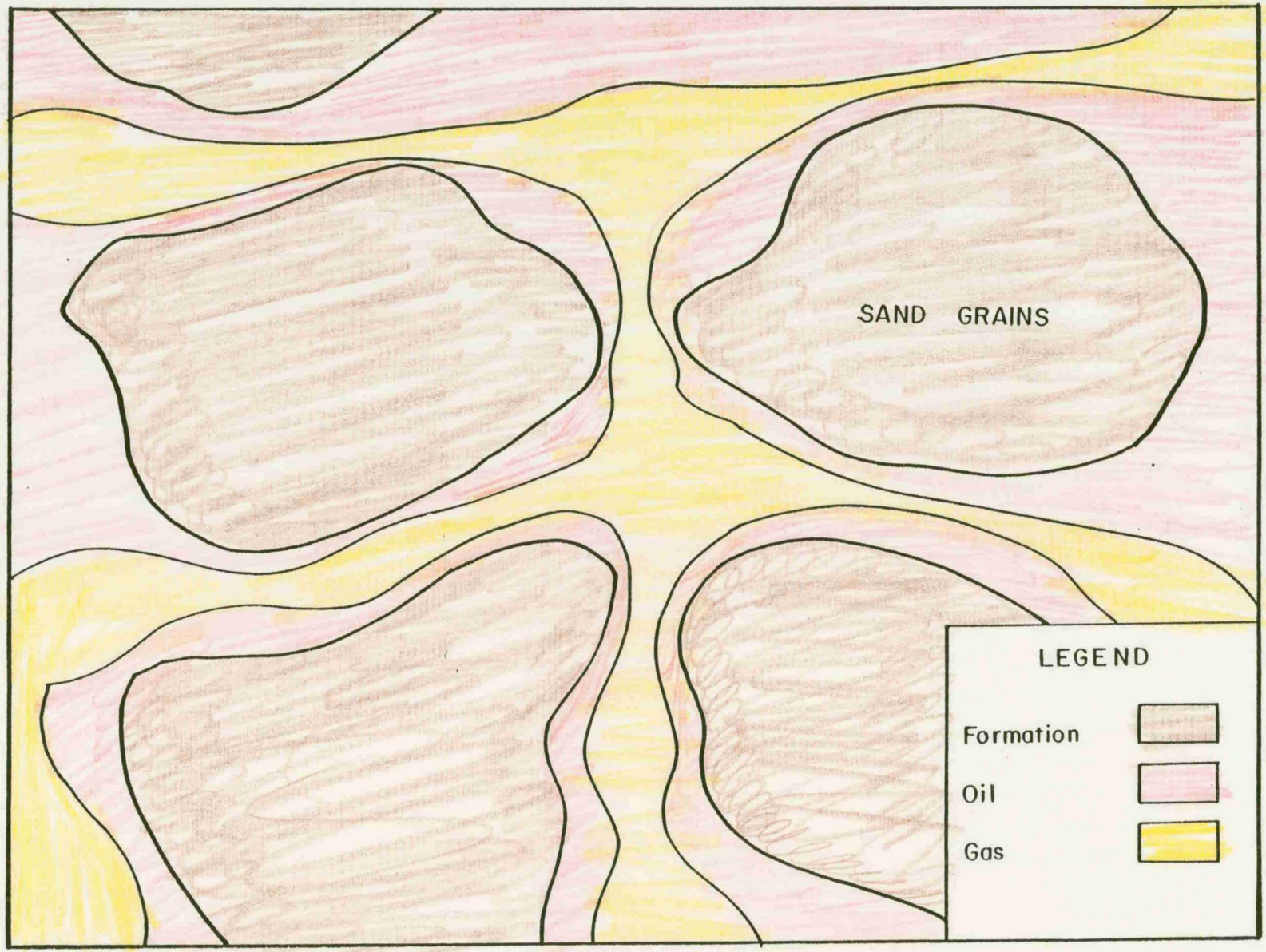
(Not To Scale) PHASE *TWO*

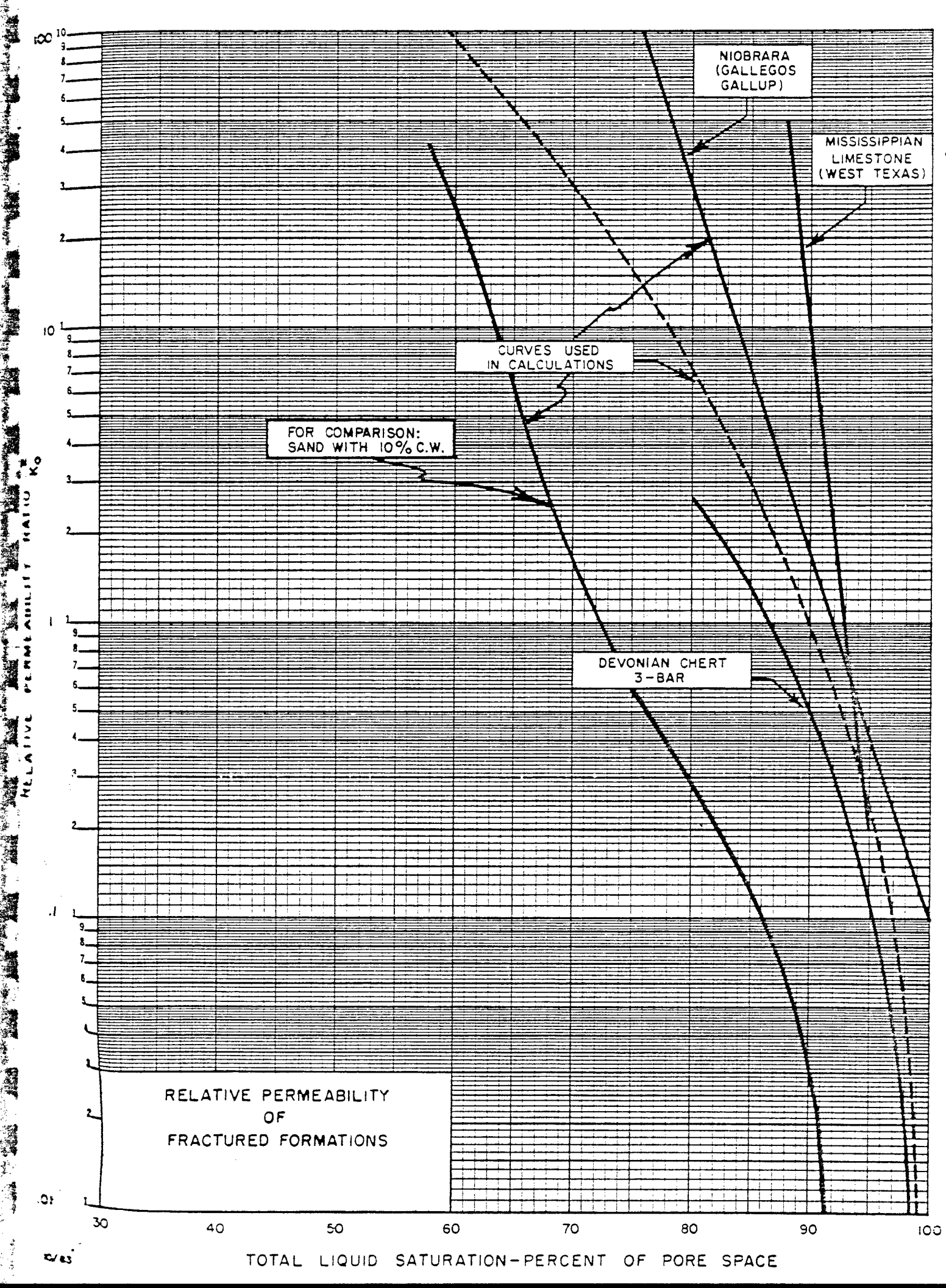


11/83 cs

RELATIVE PERMEABILITY EXAMPLE — SANDSTONE RESERVOIR

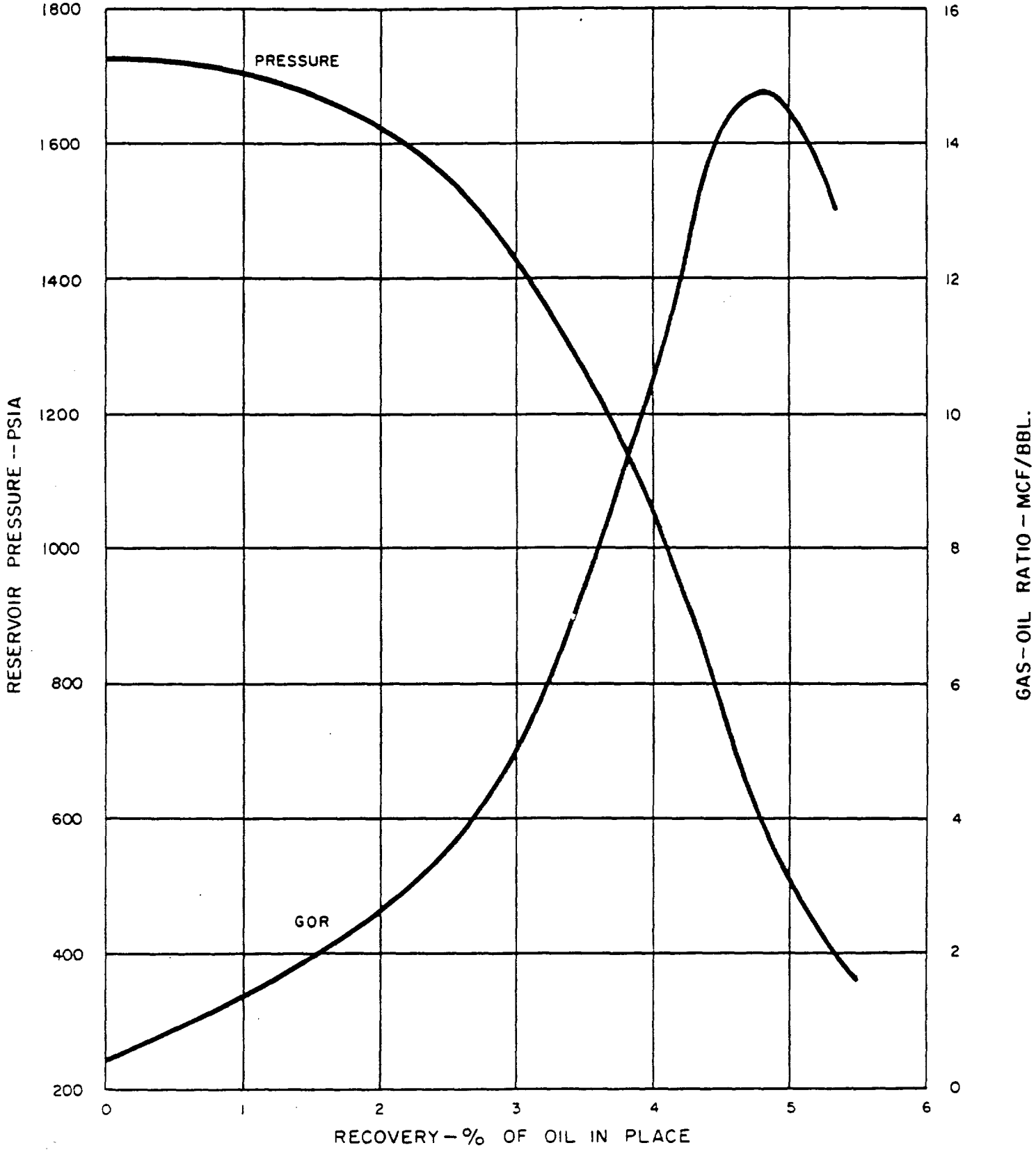
(Not To Scale) PHASE *THREE*




NIOBRARA
(GALLEGOS
GALLUP)
MISSISSIPPIAN
LIMESTONE
(WEST TEXAS)
CURVES USED
IN CALCULATIONS
FOR COMPARISON:
SAND WITH 10% C.W.
DEVONIAN CHERT
3-BAR
RELATIVE PERMEABILITY
OF
FRACTURED FORMATIONS
RELATIVE PERMEABILITY RATIO $\frac{K_w}{K_o}$
100
10
1
.1
.01
30
40
50
60
70
80
90
100
TOTAL LIQUID SATURATION-PERCENT OF PORE SPACE

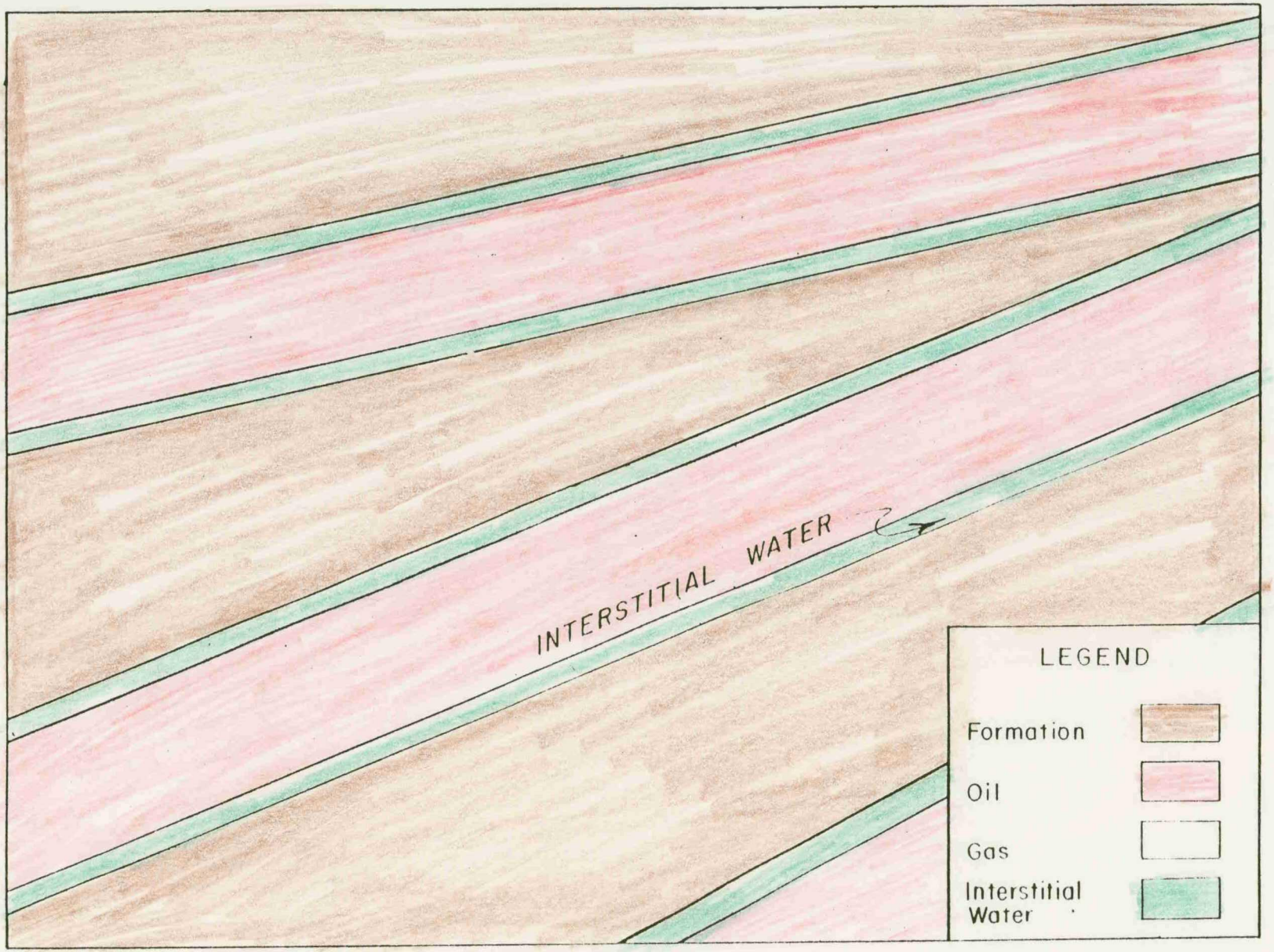
SOLUTION GAS DRIVE
PRODUCTION HISTORY

FOR A FRACTURED RESERVOIR
WITH PVT DATA
SIMILAR TO GAVILAN



RELATIVE PERMEABILITY EXAMPLE
FRACTURED RESERVOIR — NO MATRIX POROSITY

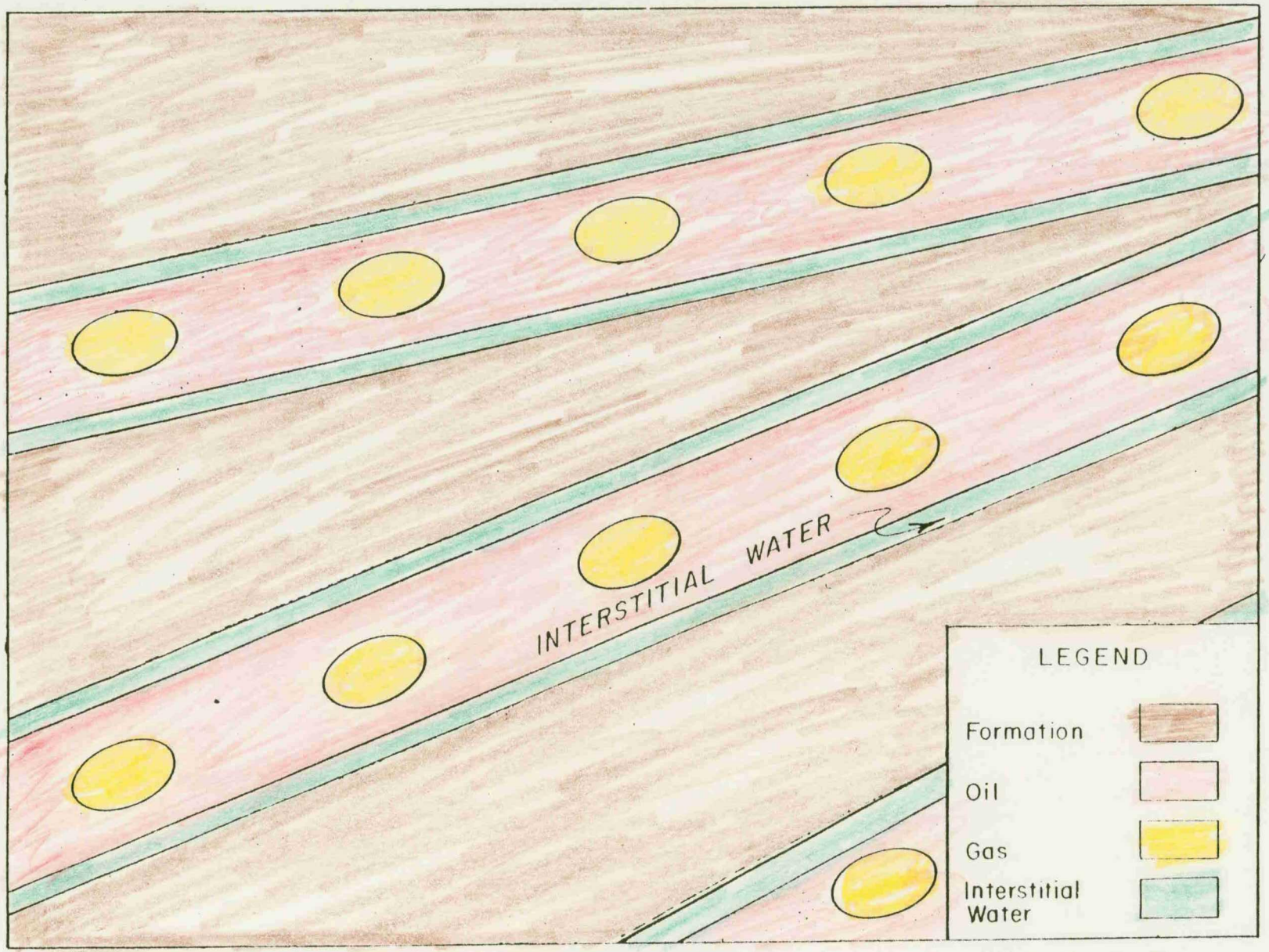
PHASE *ONE*



(Not To Scale)

RELATIVE PERMEABILITY EXAMPLE
FRACTURED RESERVOIR — NO MATRIX POROSITY

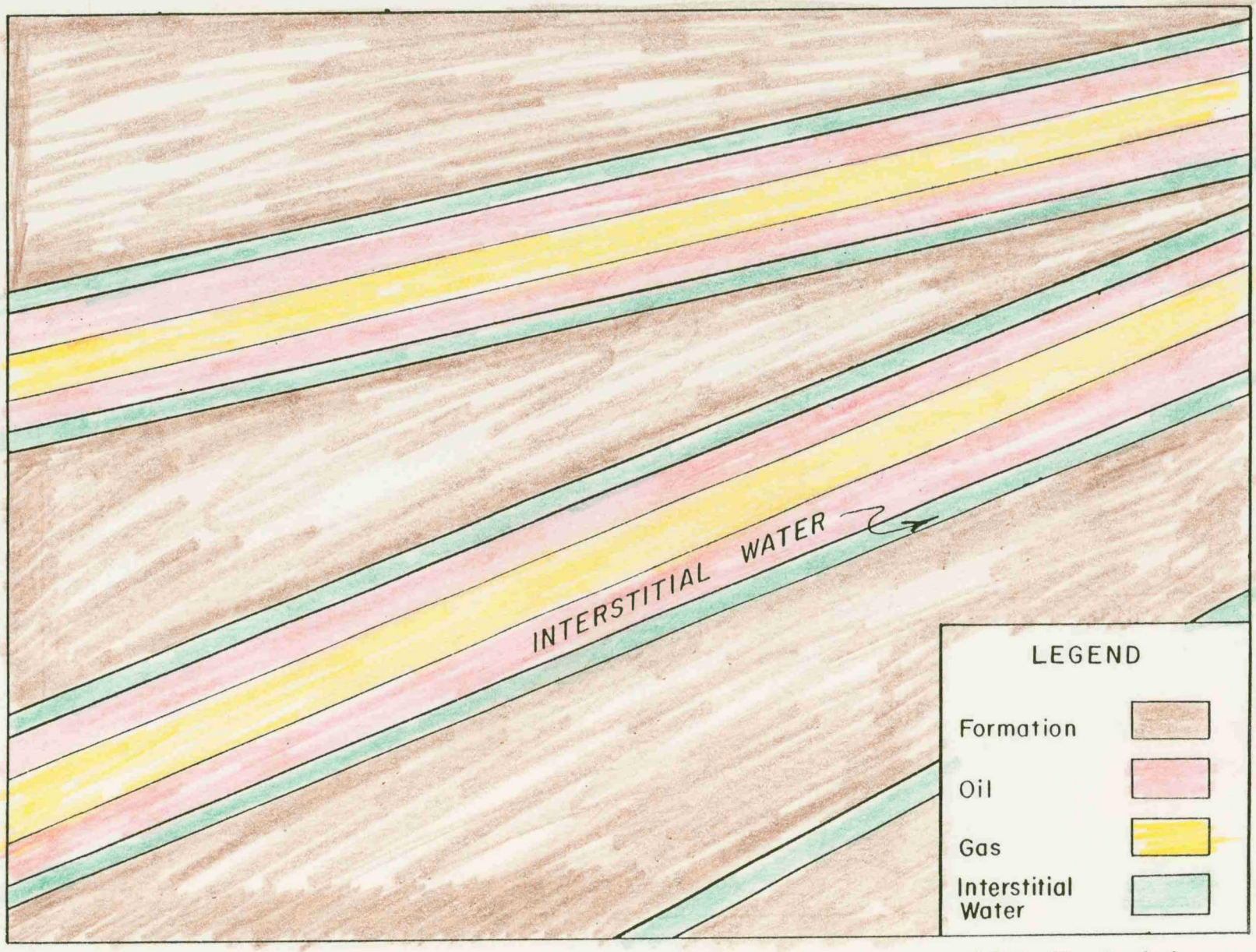
PHASE *TWO*



(Not To Scale)

RELATIVE PERMEABILITY EXAMPLE
FRACTURED RESERVOIR — NO MATRIX POROSITY

PHASE *THREE*

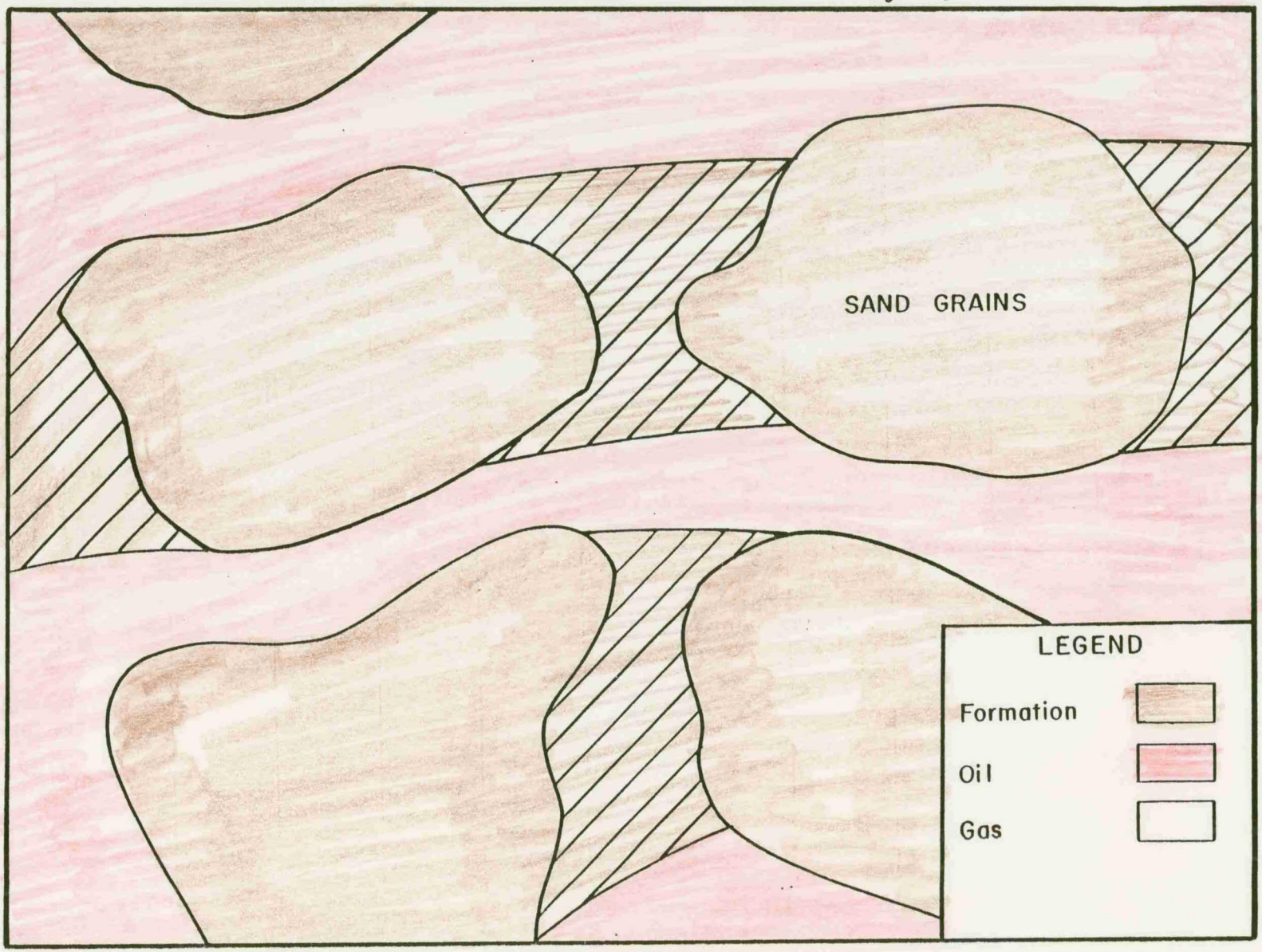


(Not To Scale)

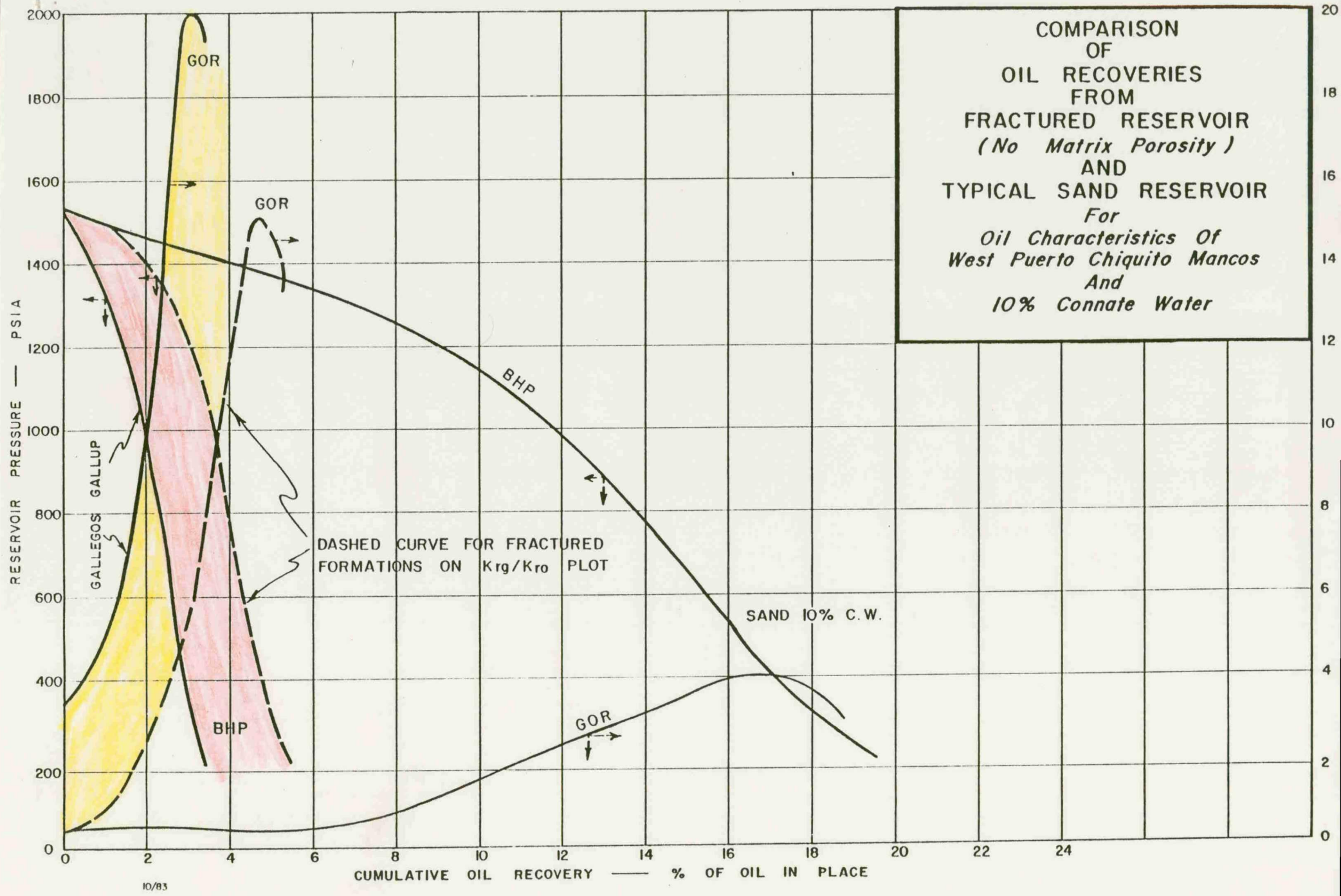
10/83 cs

RELATIVE PERMEABILITY EXAMPLE — SANDSTONE RESERVOIR

"CEMENTING" OF SAND GRAINS CAN AFFECT K_g / K_o



(Not To Scale)


COMPARISON
OF
OIL RECOVERIES
FROM
FRACTURED RESERVOIR
(No Matrix Porosity)
AND
TYPICAL SAND RESERVOIR
For
Oil Characteristics Of
West Puerto Chiquito Mancos
And
10% Connate Water
RESERVOIR PRESSURE — PSIA
CUMULATIVE OIL RECOVERY — % OF OIL IN PLACE
GOR
GOR
BHP
BHP
GOR
GALLEGOS GALLUP
DASHED CURVE FOR FRACTURED
FORMATIONS ON Krg/Kro PLOT
SAND 10% C.W.
10/83