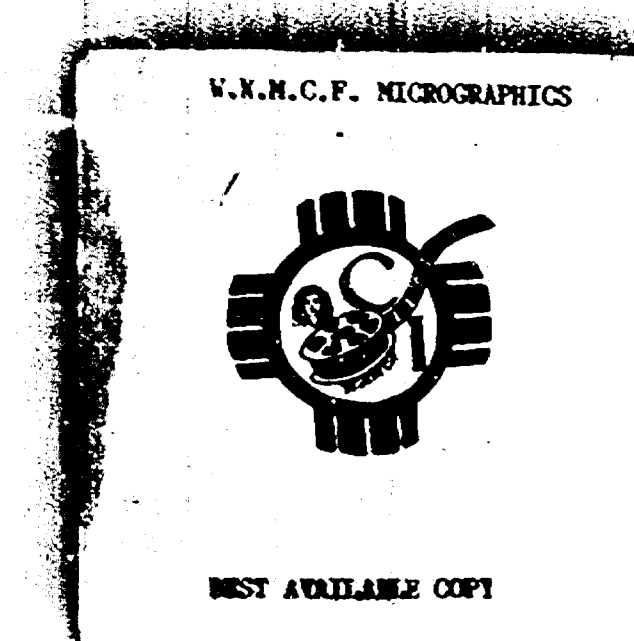


Case No.

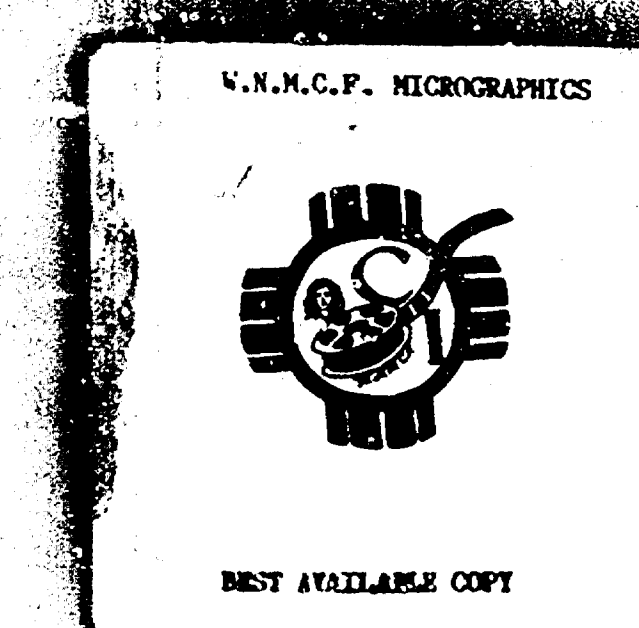
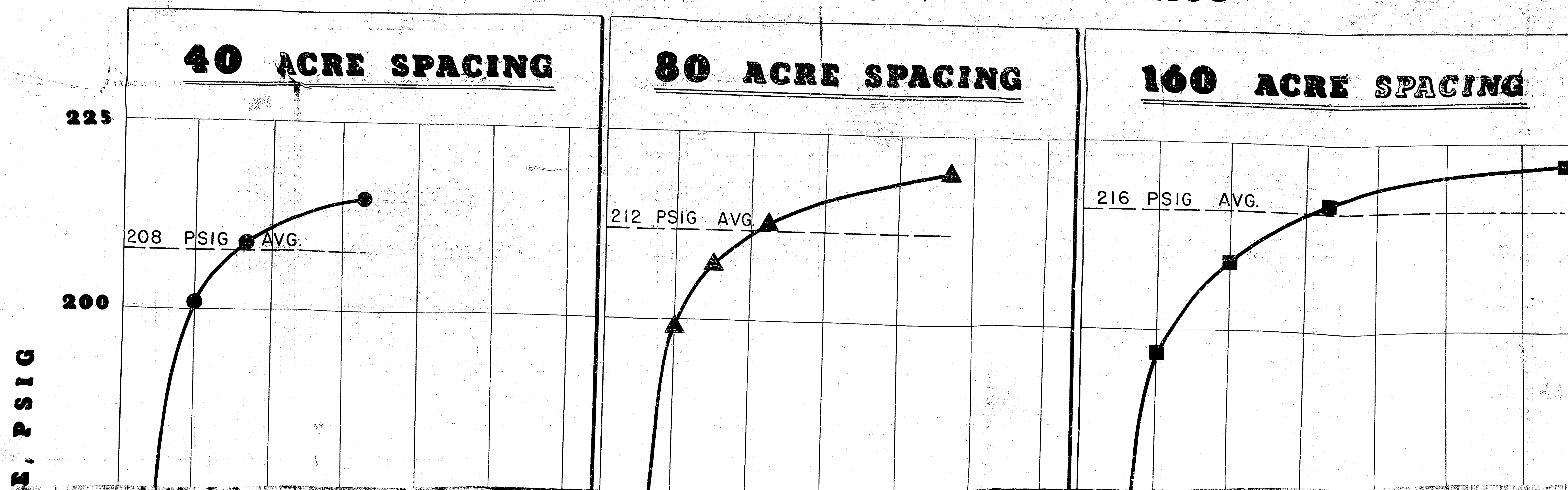
2068

Large Exhibits



HUMBLE EXHIBIT VI

RESERVOIR PRESSURE AT ABANDONMENT
CHA CHA GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO



RESERVOIR PRESSURE

175

150

125

100

200 400 600 800 1000 1200

200 400 600 800 1000 1200

200 400 600 800 1000 1200

DISTANCE FROM WELL, FEET

BASIC EQUATION

$$Q_w = \frac{7.08 K h (P - P_w)}{\beta \mu \left[\ln \frac{r}{r_w} - \frac{r^2}{2 r_e^2} \right]}$$

Q_w = FLOW RATE, STOCK TANK BPD

K = OIL PERMEABILITY, DARGIES

h = AVERAGE NET PAY, FEET

P = PRESSURE @ r , PSIG

P_w = PRESSURE @ r_w , PSIG

β = FORMATION VOLUME FACTOR

μ = OIL VISCOSITY, CP

r_w = WELL BORE RADIUS, FEET

r = RADIUS OF INVESTIGATION, FT.

r_e = RADIUS OF DRAINAGE, FEET

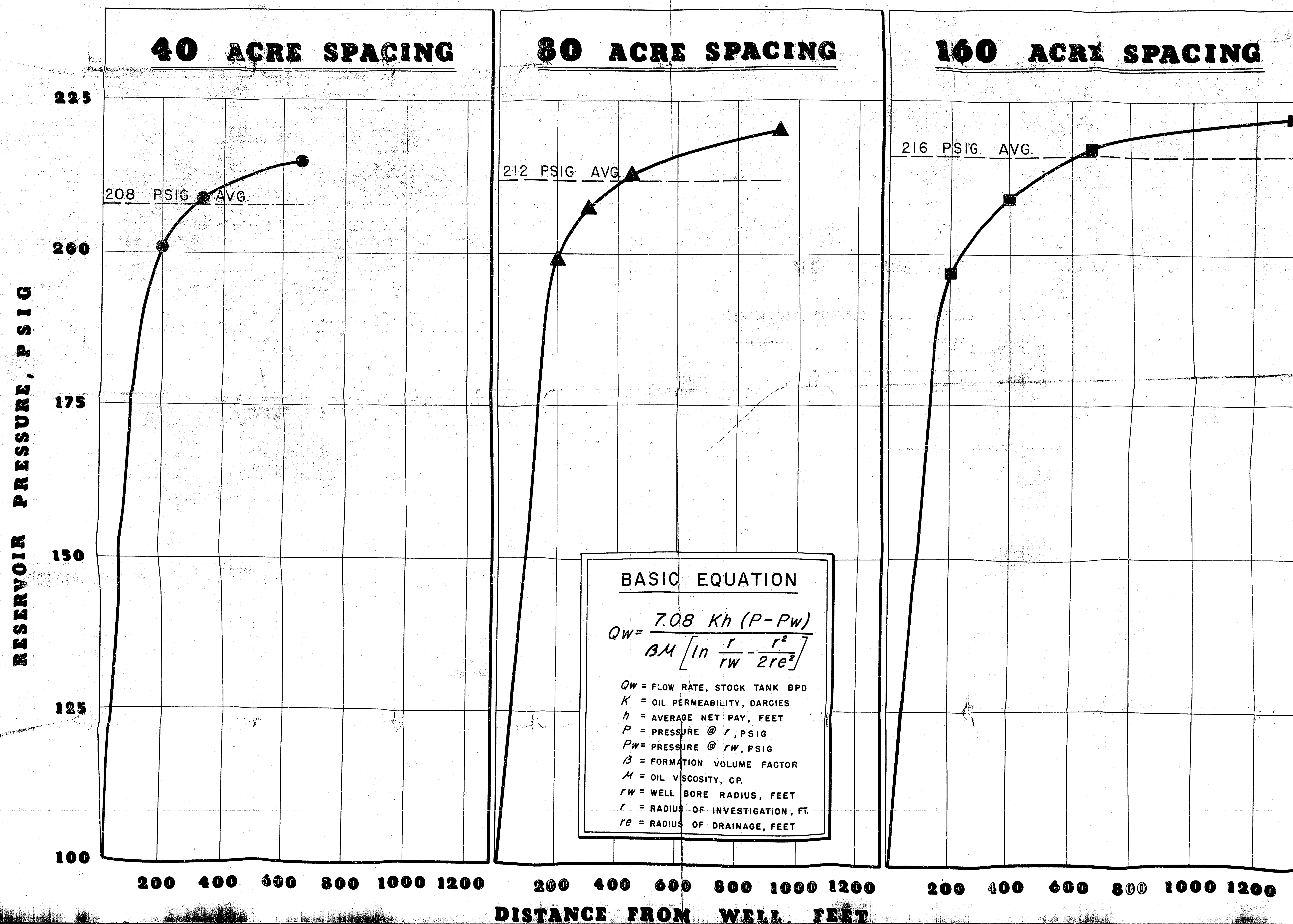
V.I.R.C.P. MICROGRAPHS



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HUMBLE EXHIBIT VI

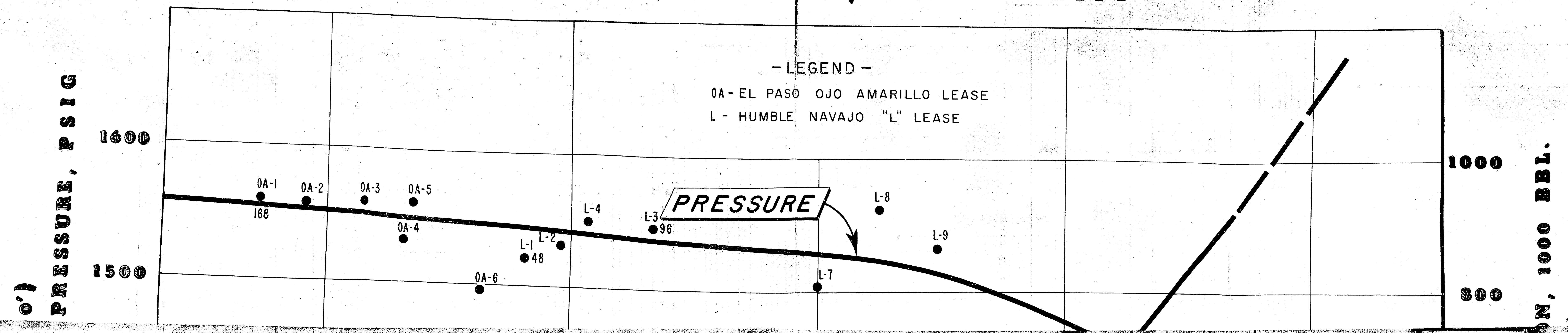
RESERVOIR PRESSURE AT ABANDONMENT CHA CHA GALLUP FIELD SAN JUAN COUNTY, NEW MEXICO

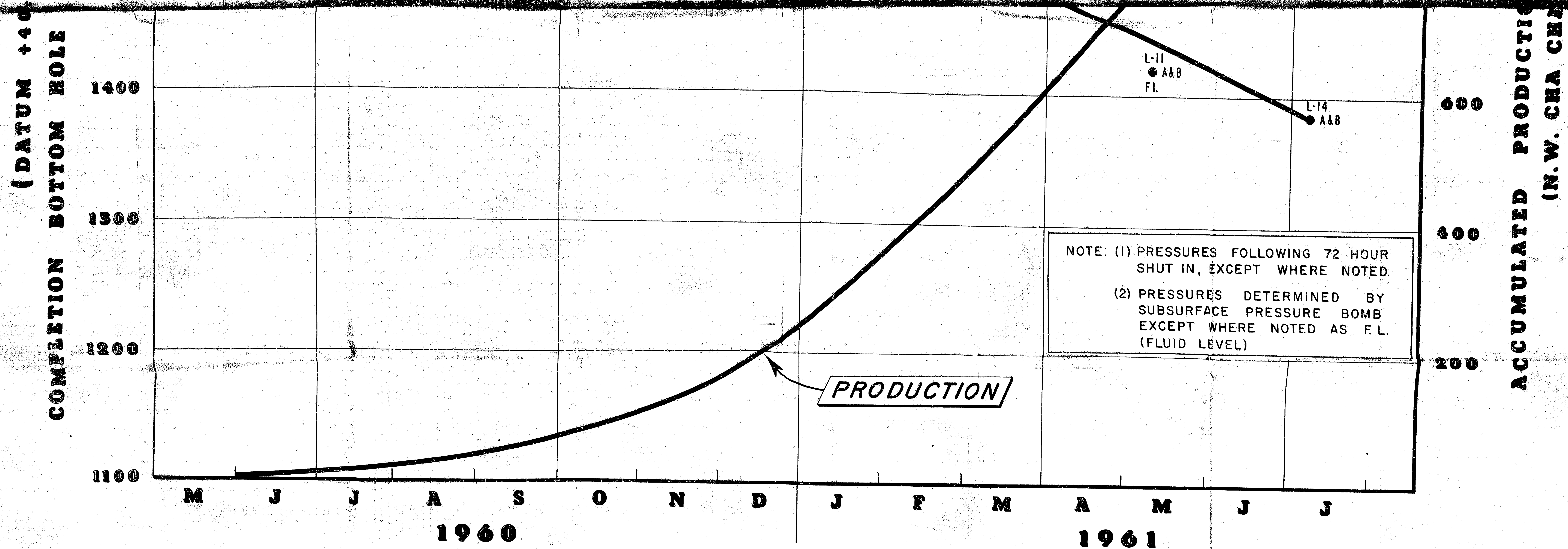


HUMBLE EXHIBIT V

COMPLETION BOTTOM HOLE PRESSURES vs. TIME ACCUMULATED OIL PRODUCTION vs. TIME

CHA CHA GALLUP FIELD SAN JUAN COUNTY, NEW MEXICO





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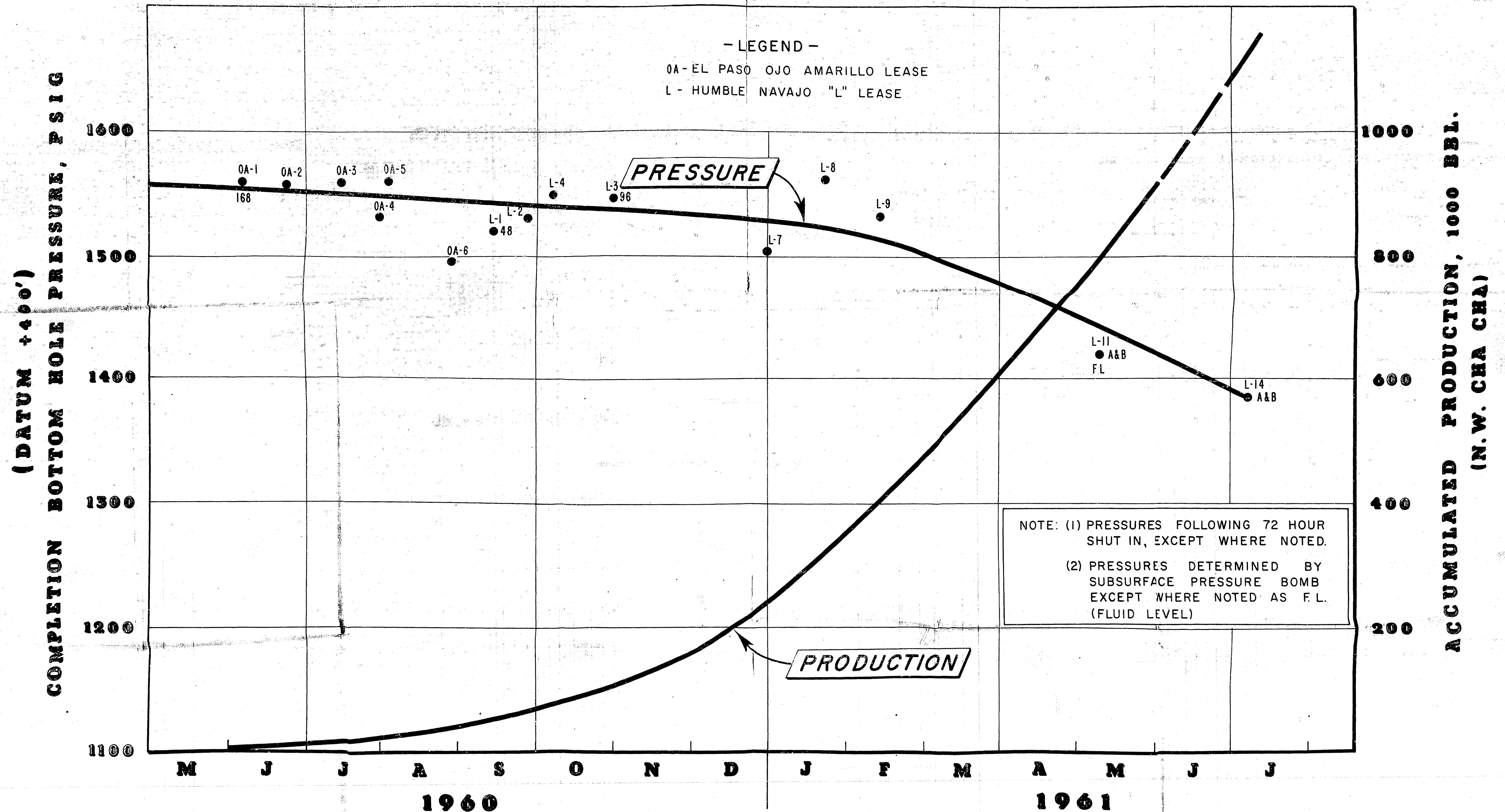
HUMBLE EXHIBIT V

COMPLETION BOTTOM HOLE PRESSURES vs. TIME

ACCUMULATED OIL PRODUCTION vs. TIME

CHA CHA GALLUP FIELD

SAN JUAN COUNTY, NEW MEXICO



HUMBLE EXHIBIT IV

PRESSURE INTERFERENCE DATA

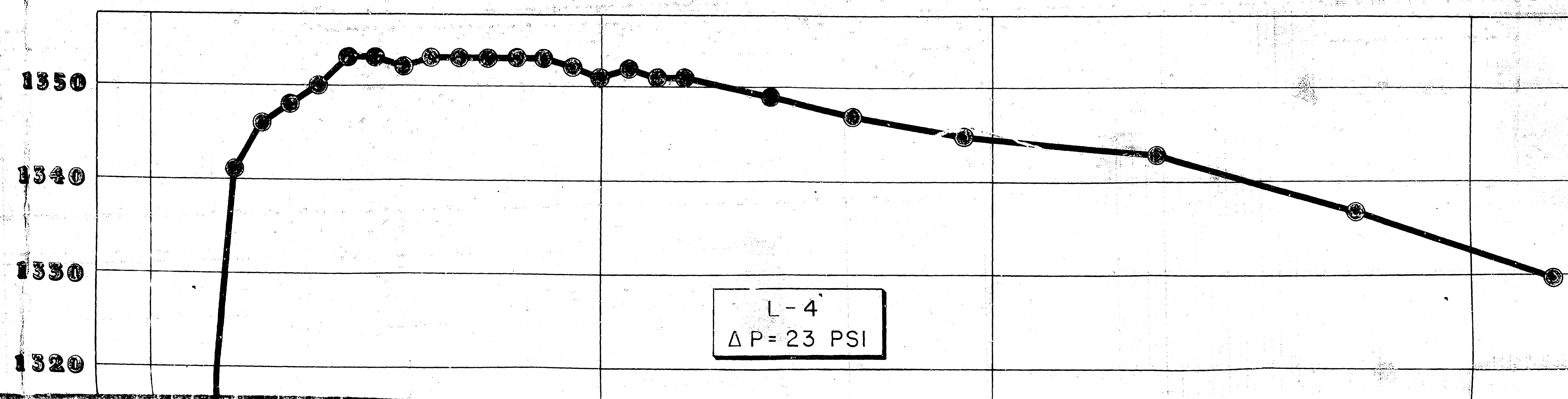
NAVAJO "L" LEASE

CHA CHA GALLUP FIELD

SAN JUAN COUNTY, NEW MEXICO

JUNE 16 - AUG. 4, 1961

"NO. 4 STATIC BHP
- 5400' (+523')



LEGEND

•1	▲3	•14
26		25
▲2	•4	▲6
		•13
•11	▲7	•5
35		36
	•12	•10
		•9

Navajo "L"

R 14 W

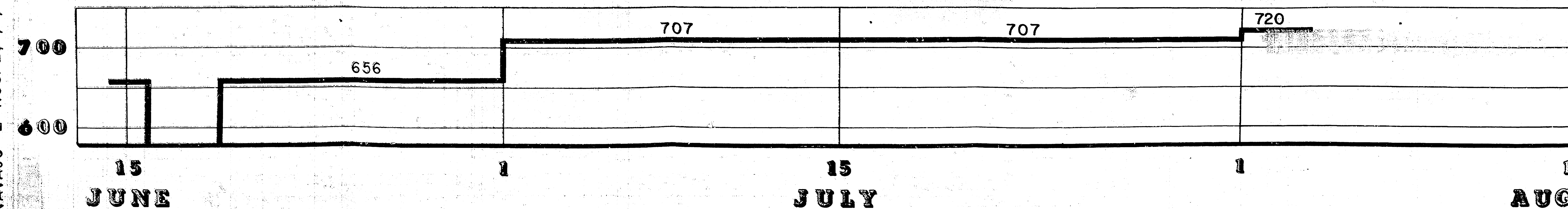
- OBSERVATION WELL - SHUT IN
- ▲ OBSERVATION WELL - PRODUCING
- OTHER PRODUCING WELLS



BEST AVAILABLE COPY

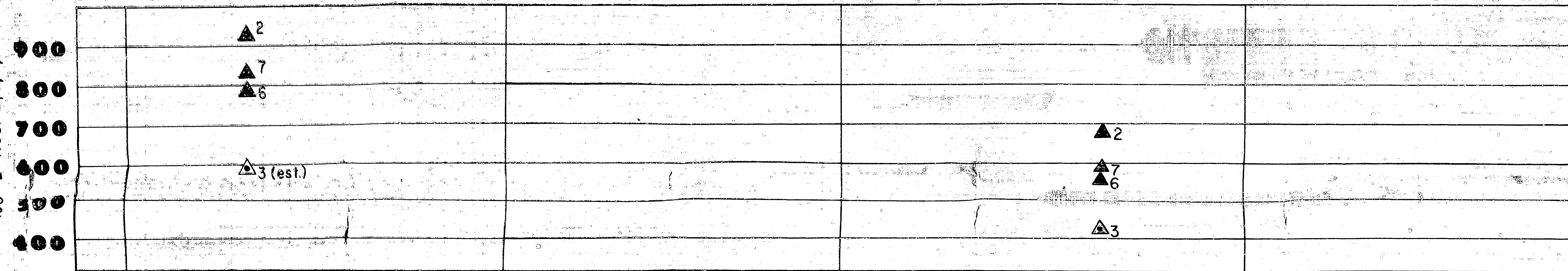
**AVG. MONTHLY
OIL PROD., EPD**

NAVAJO "L" NOS. 2,3,6,8,7

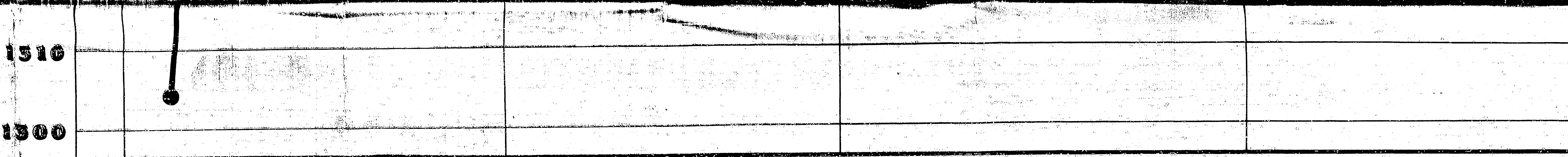


**FLOWING BHP
PSIG (+323')**

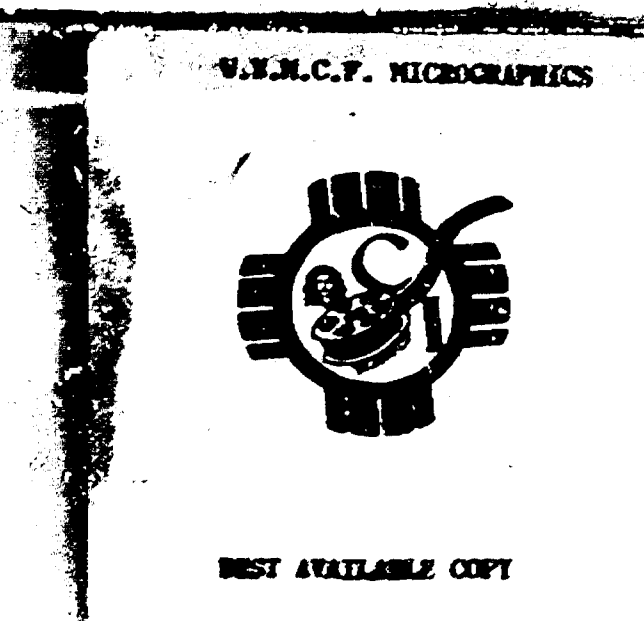
NAVAJO "L" NOS. 2,3,6,8,7



**NAVAJO "L"
PSIG**



Case 2069-



HUMBLE EXHIBIT IV

PRESSURE INTERFERENCE DATA

NAVAJO "L" LEASE

CHA CHA GALLUP FIELD

SAN JUAN COUNTY, NEW MEXICO

JUNE 16 - AUG. 4, 1961

LEGEND

•1	▲3	•14
26		25
▲2	•4	▲6
•11	▲7	•5
35		36
	•12	•10
		•9

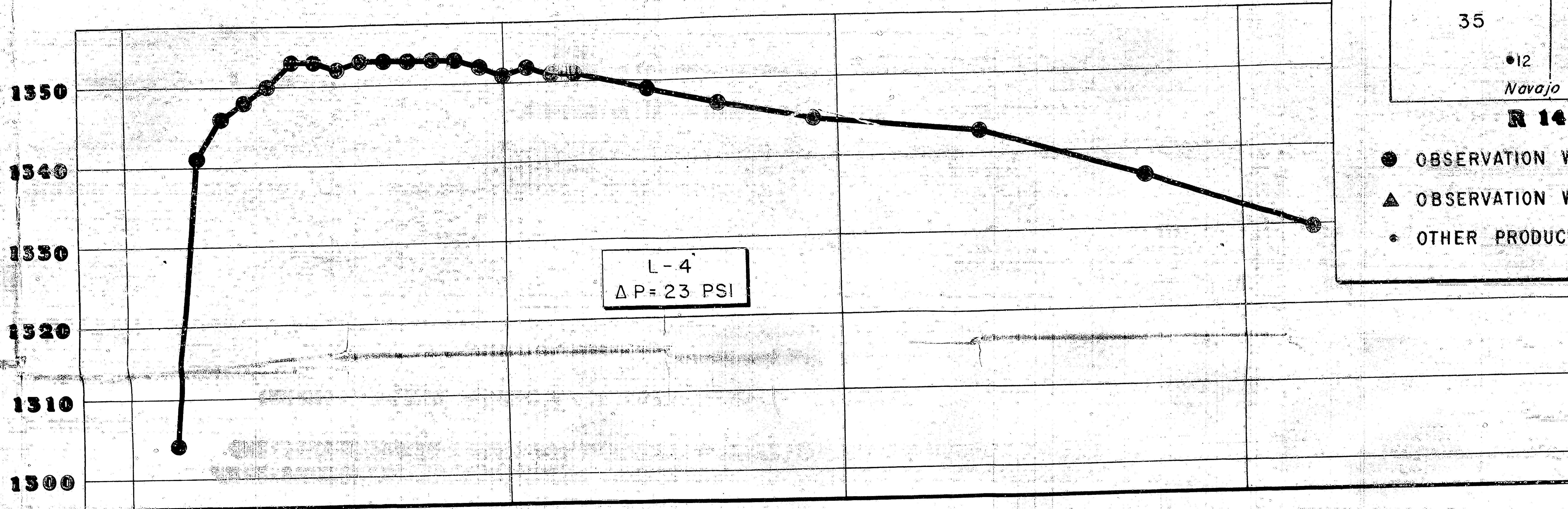
T
29
N

R 14 W

- OBSERVATION WELL - SHUT IN
- ▲ OBSERVATION WELL - PRODUCING
- OTHER PRODUCING WELLS

NAVAJO "L" NO. 4 STATIC BHP

PSIG - 5400' (+523)

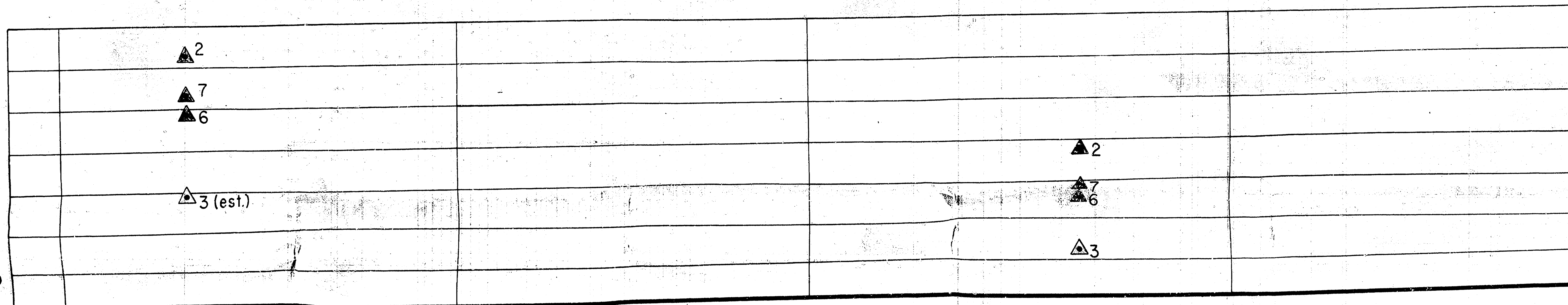


FLOWING BHP

PSIG (+523)

NAVAJO "L" NOS. 2, 3, 6, 7

900
800
700
600
500
400

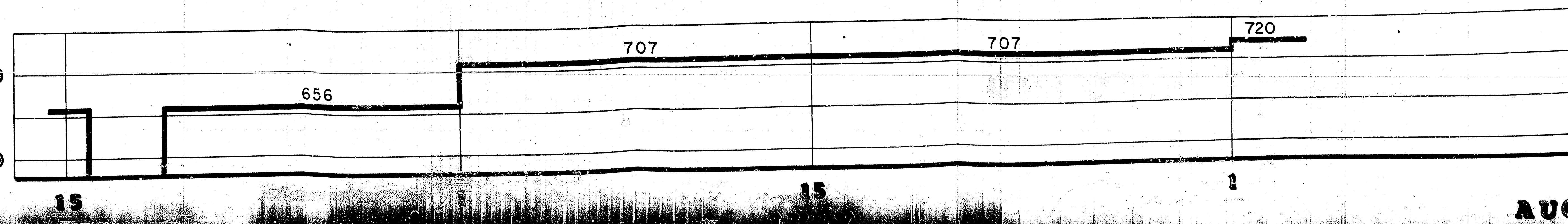


VG. MONTHLY

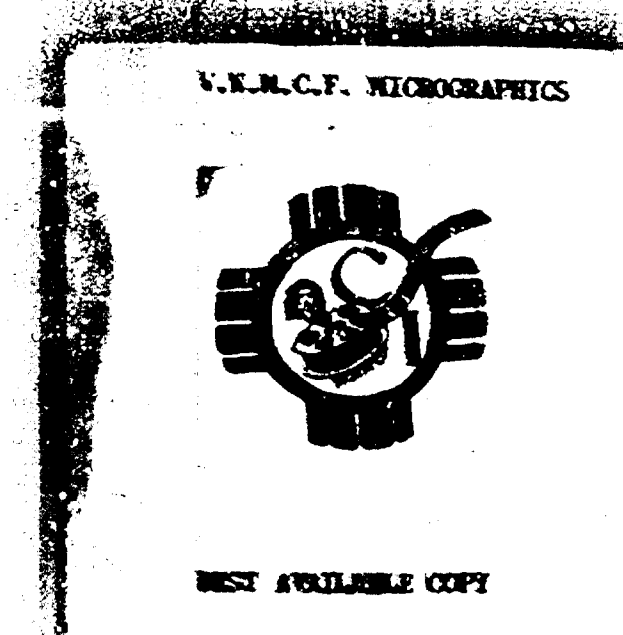
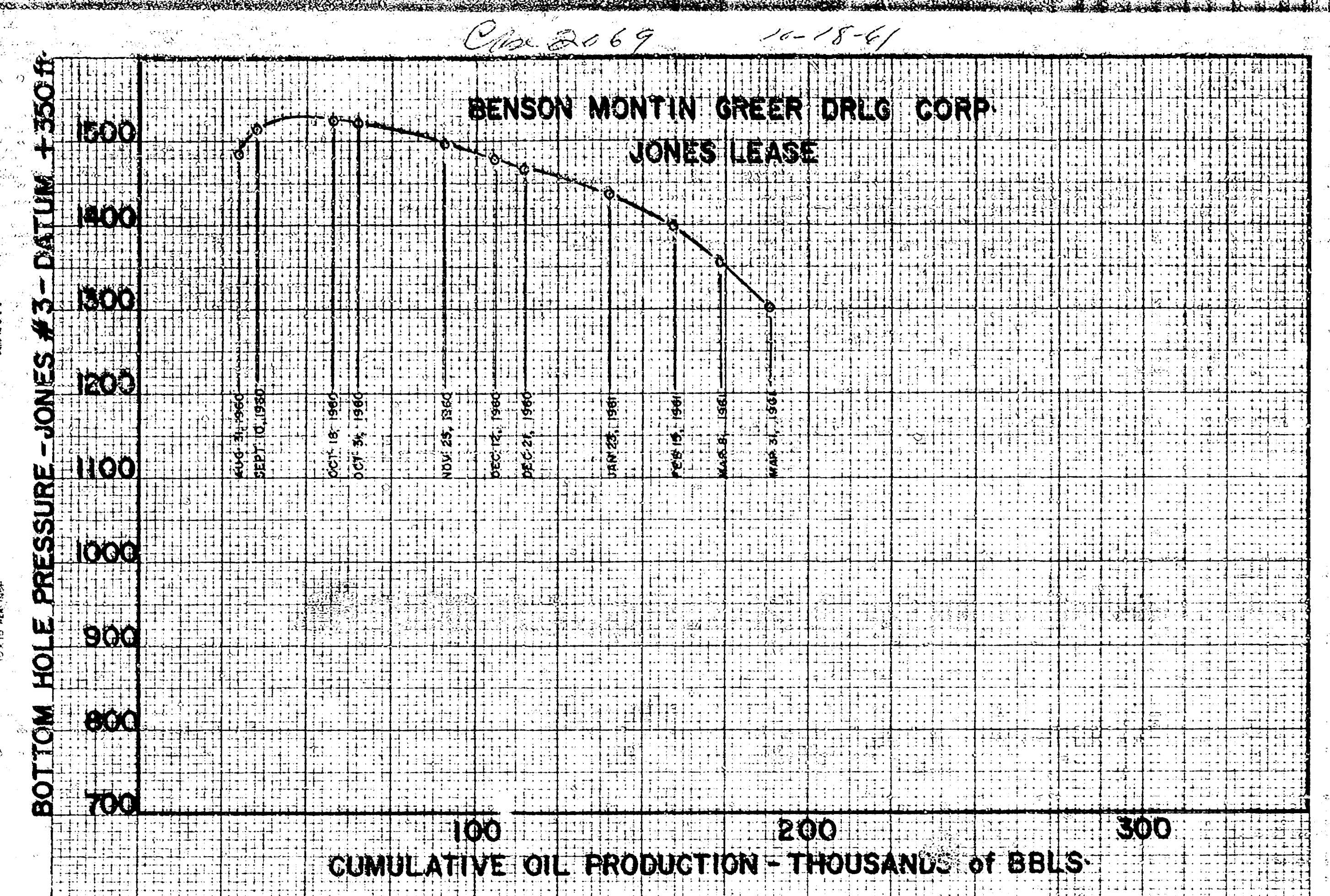
L PROD. BPD

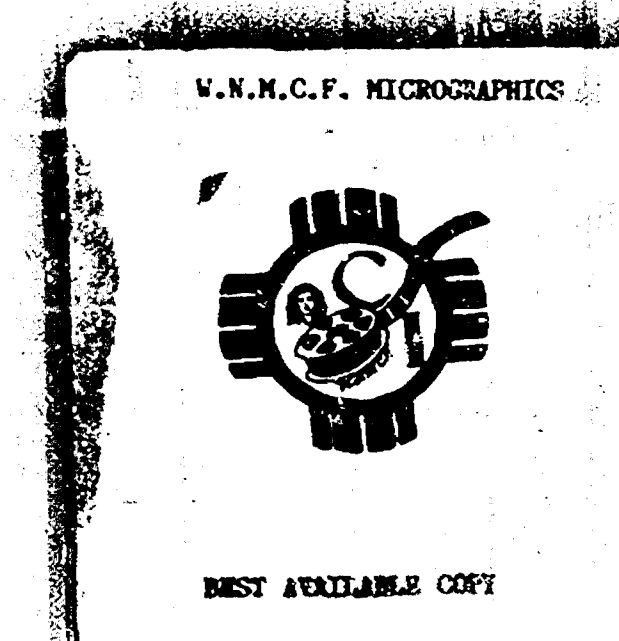
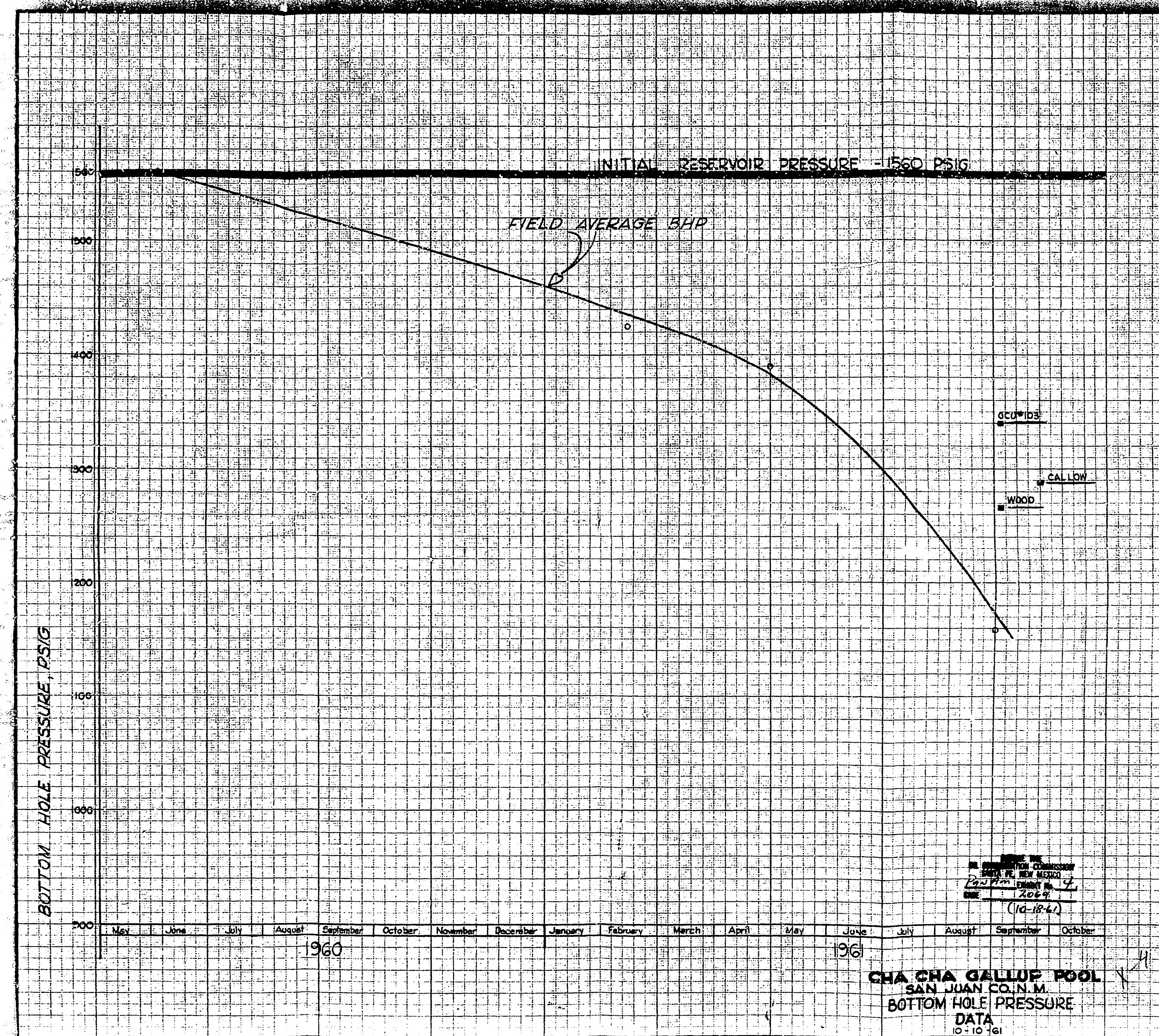
NO "L" NOS. 2, 3, 6, 7

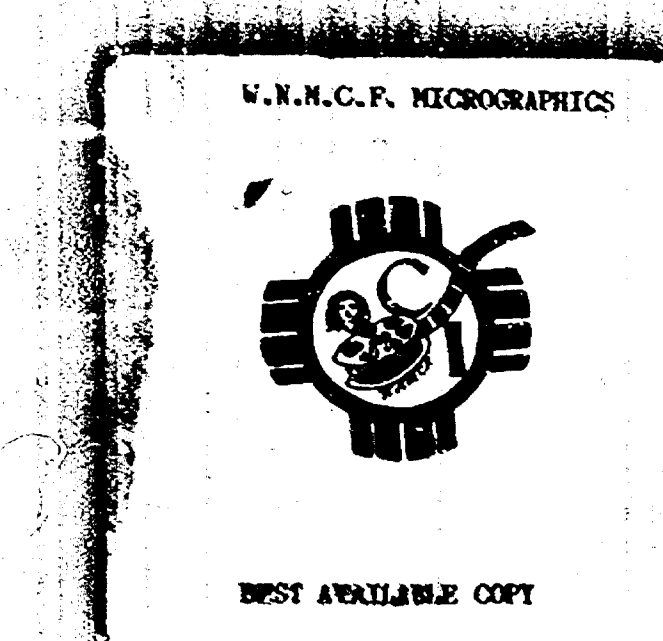
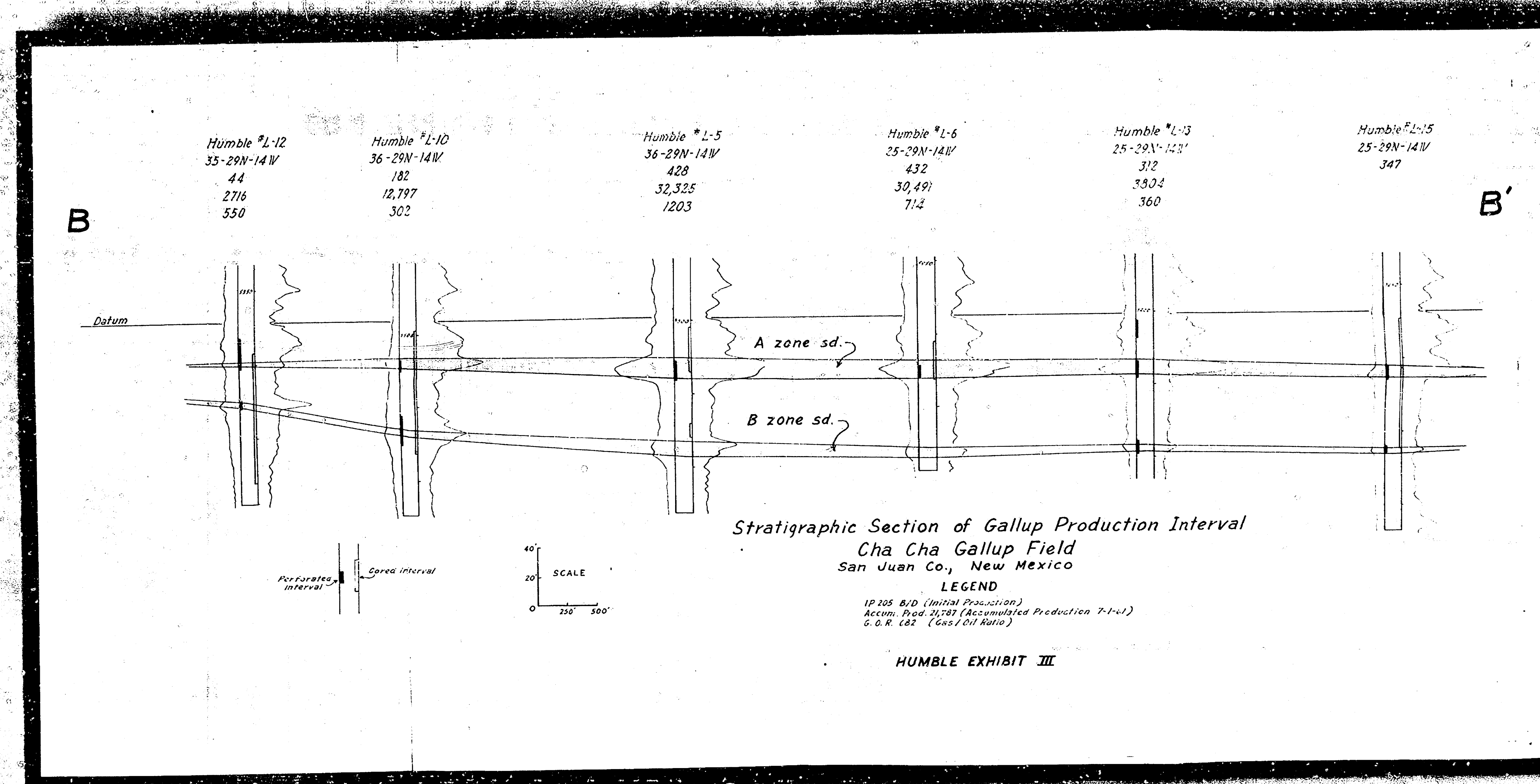
700
600



15
AUGUST







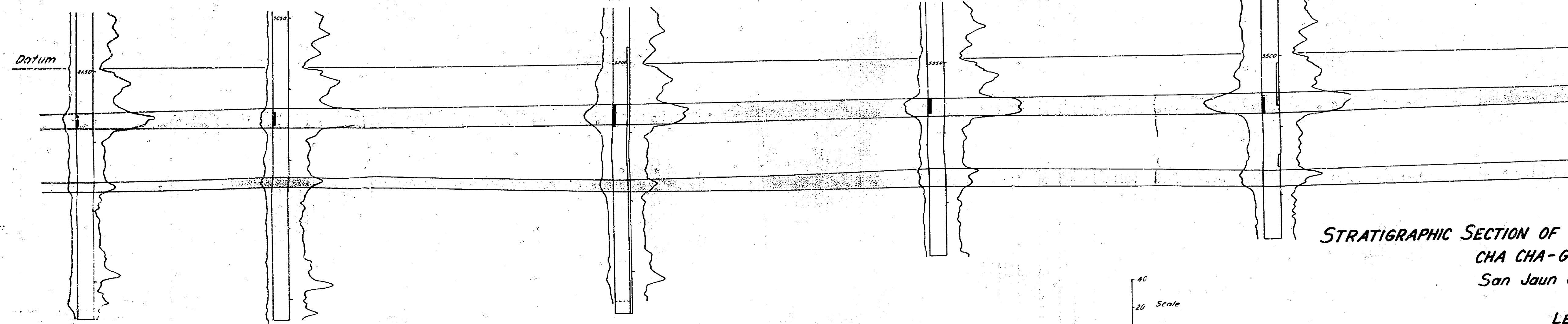
Pan Amer. #G-1
20 - 29N - 14W
136
41,874
2093

Pan Amer. #E-3
21 - 29N - 14W
164
25,568
351

El Paso #2
27 - 29N - 14W
231
50,519
2330

Humble #L-2
26 - 29N - 14W
258
39,371
1910

Humble #L-5
36 - 29N - 14W
428
32,325
1203



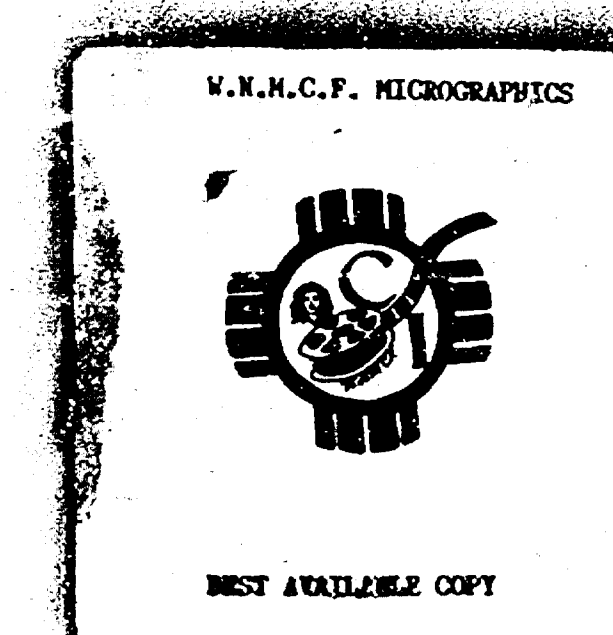
STRATIGRAPHIC SECTION OF G
CHA CHA-GAL
San Juan Co

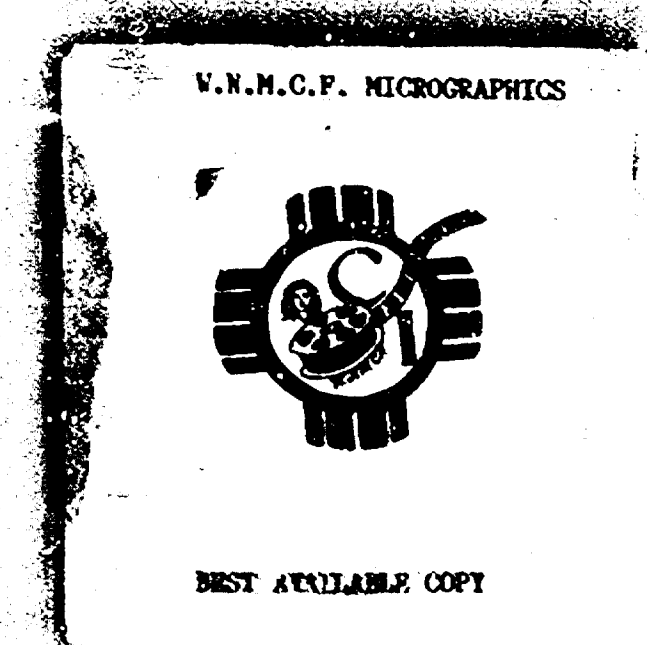
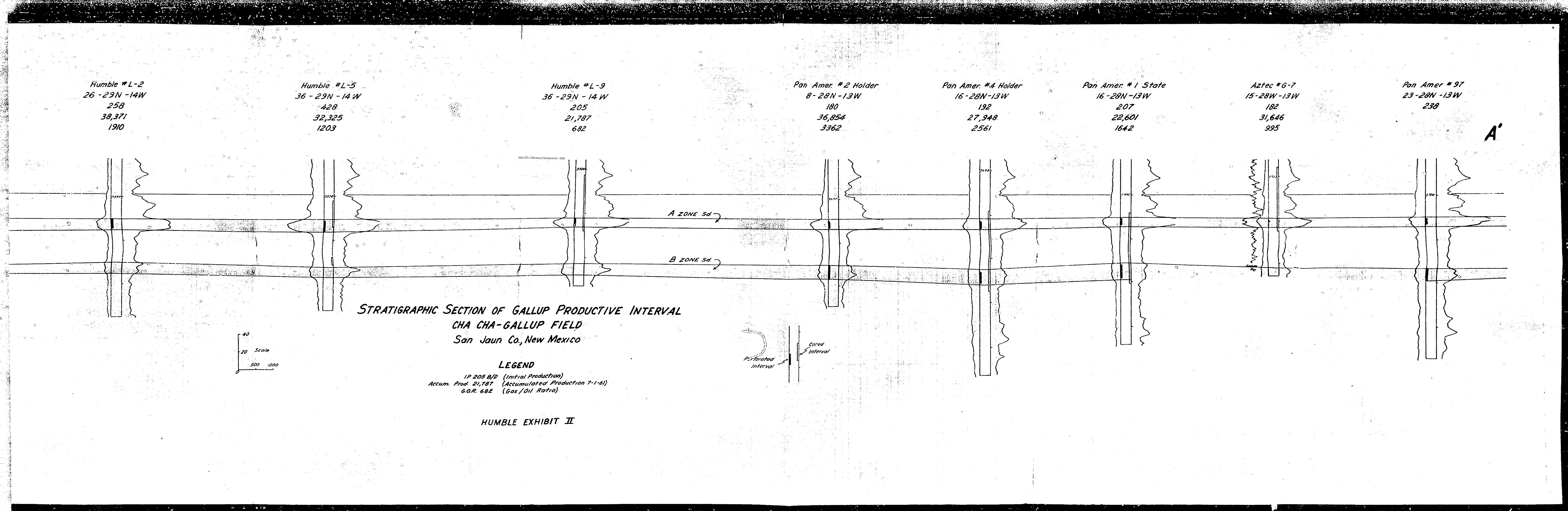
40
20 Scale
100 1000

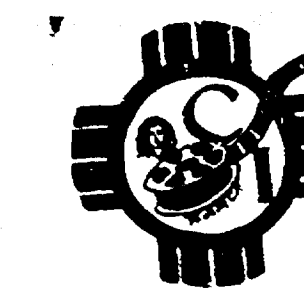
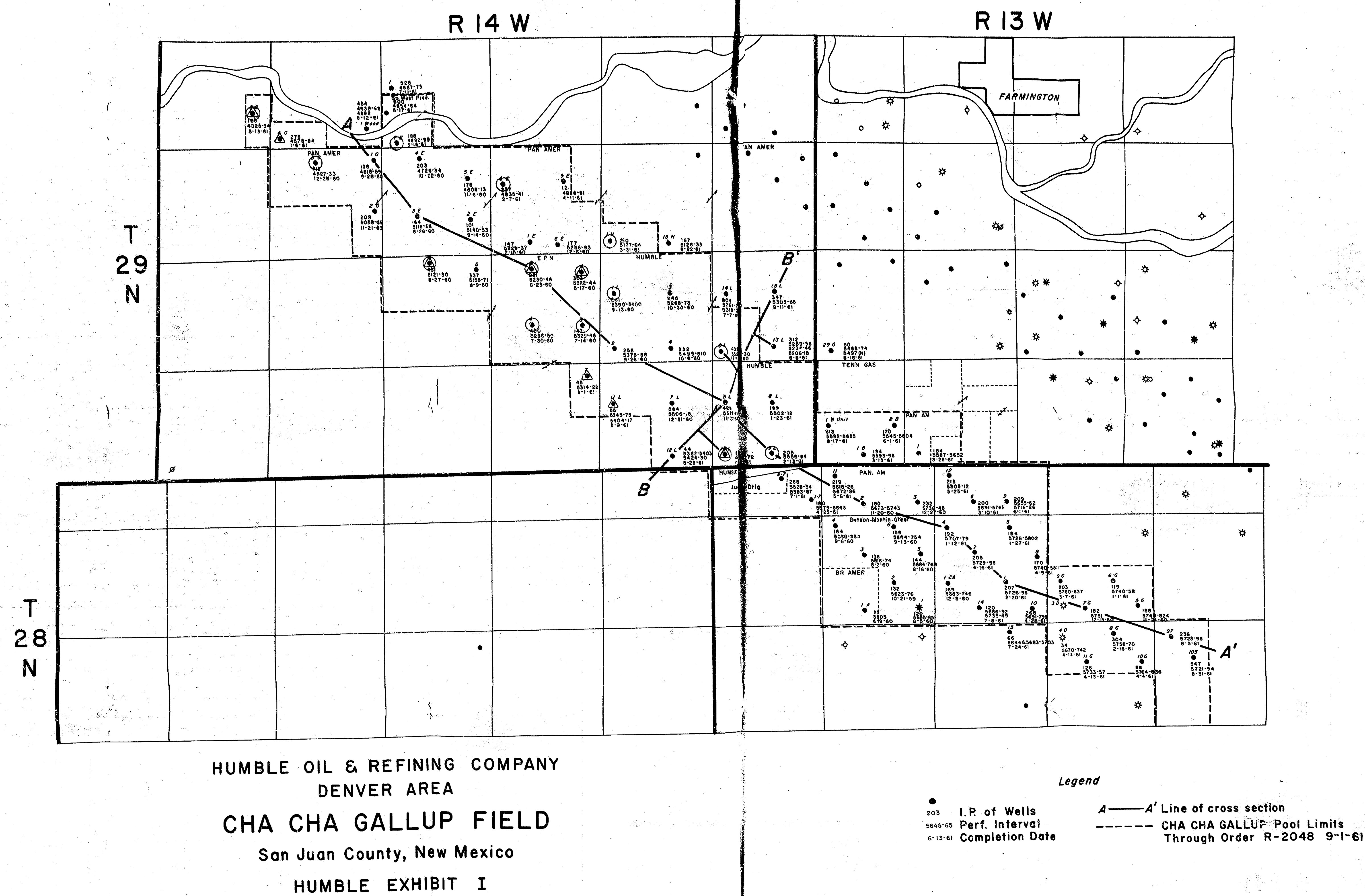
LEGE

IP 205 B/D (1000)
Accum. Prod. 21,781 (Accu.)
G.R. 686 (G.R.)

HUMBLE







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