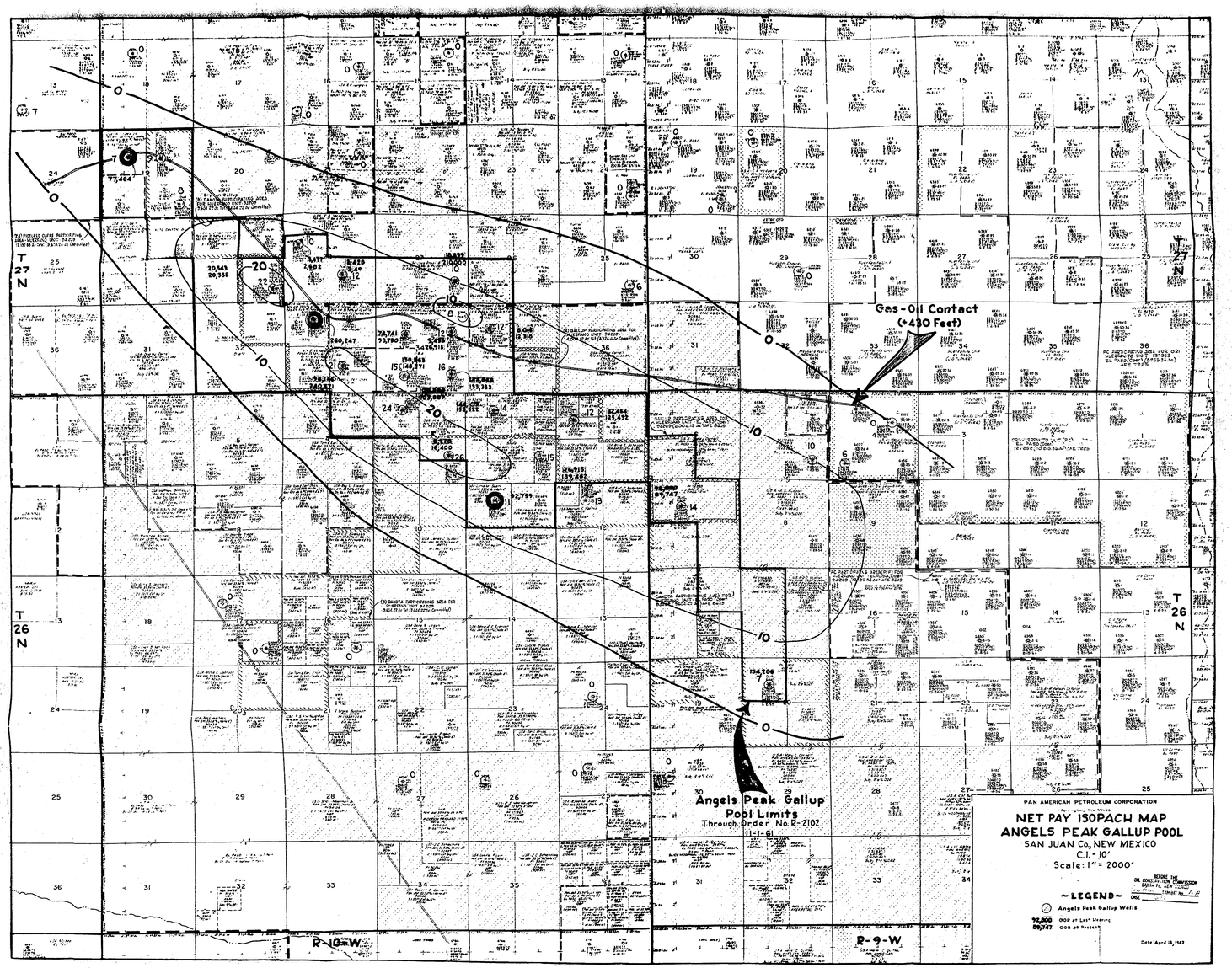
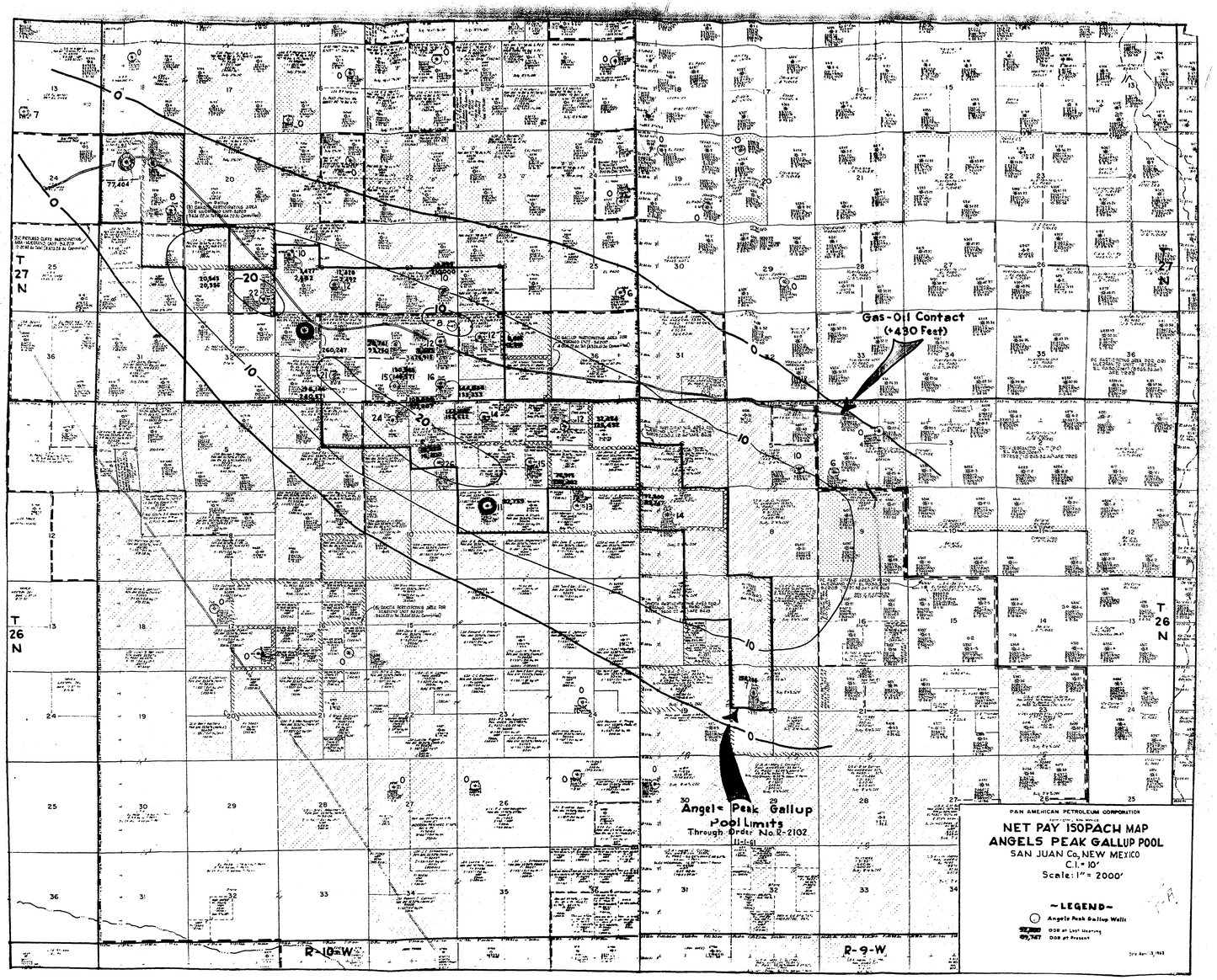
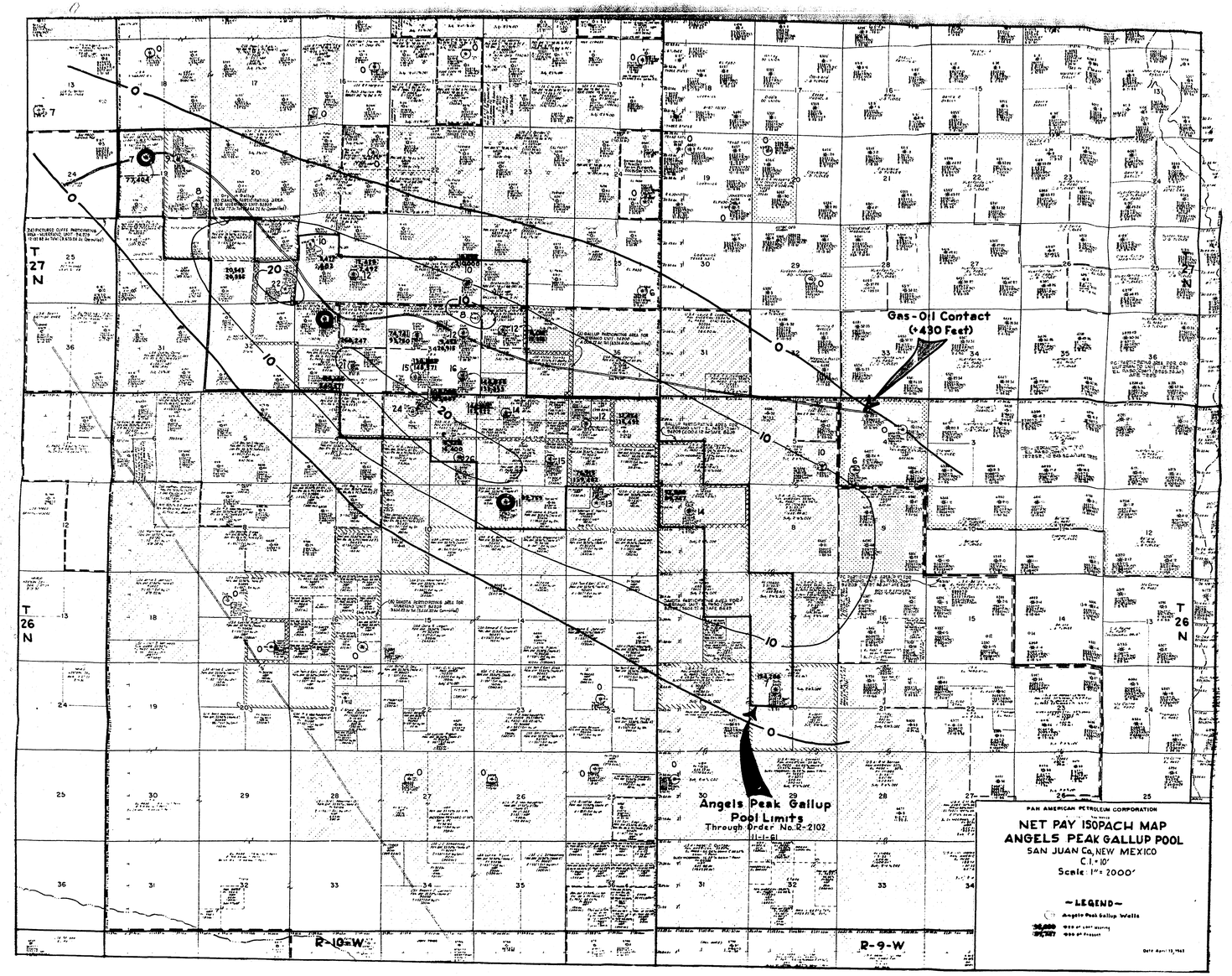
Case No.

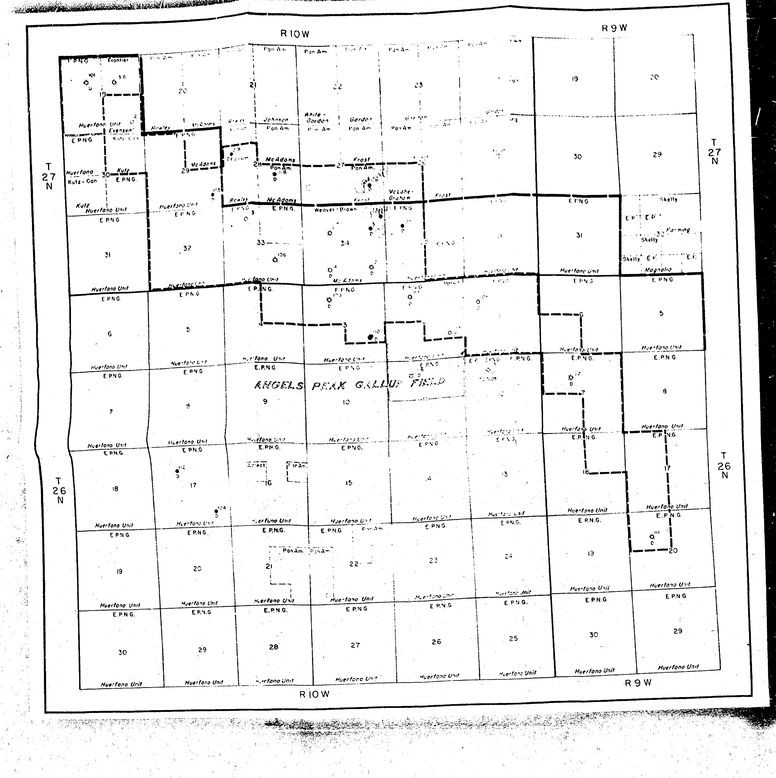
1641

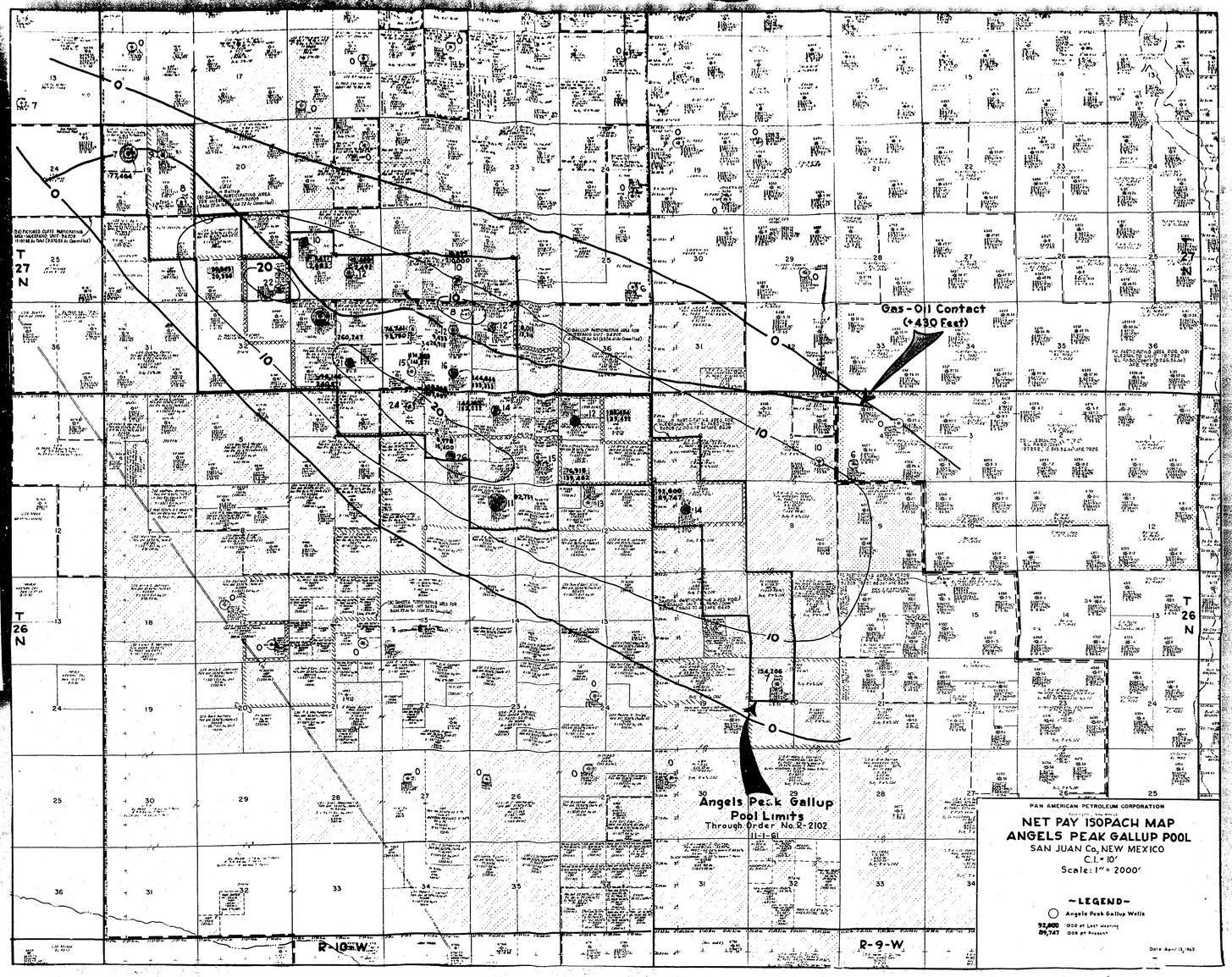
Large Exhibits

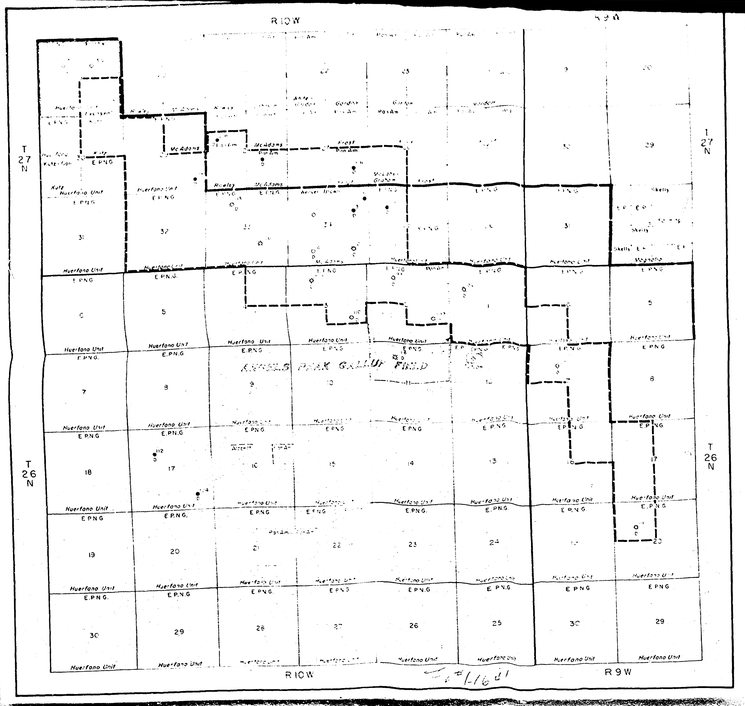


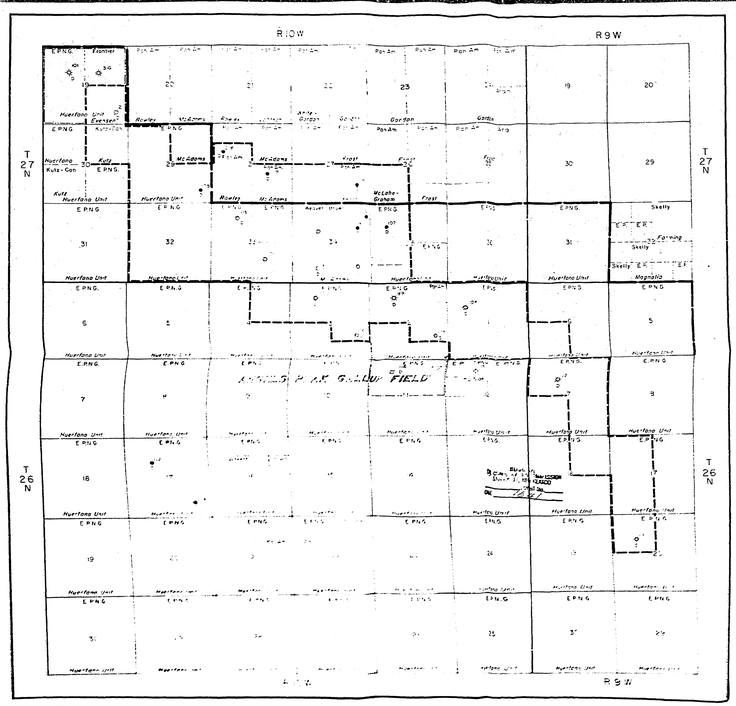

Gas-Oil Contact
(+430 Feet)
Angels Peak Gallup
Pool Limits
Through Order No. R-2102
11-1-61
T 27 N
T 26 N
R-10-W
R-9-W
PAN AMERICAN PETROLEUM CORPORATION
NET PAY ISOPACH MAP
ANGELS PEAK GALLUP POOL
SAN JUAN Co, NEW MEXICO
C.I. = 10'
Scale: 1" = 2000'
~LEGEND~
Angels Peak Gallup Wells
OOR at Last Hearing
OOR at Present

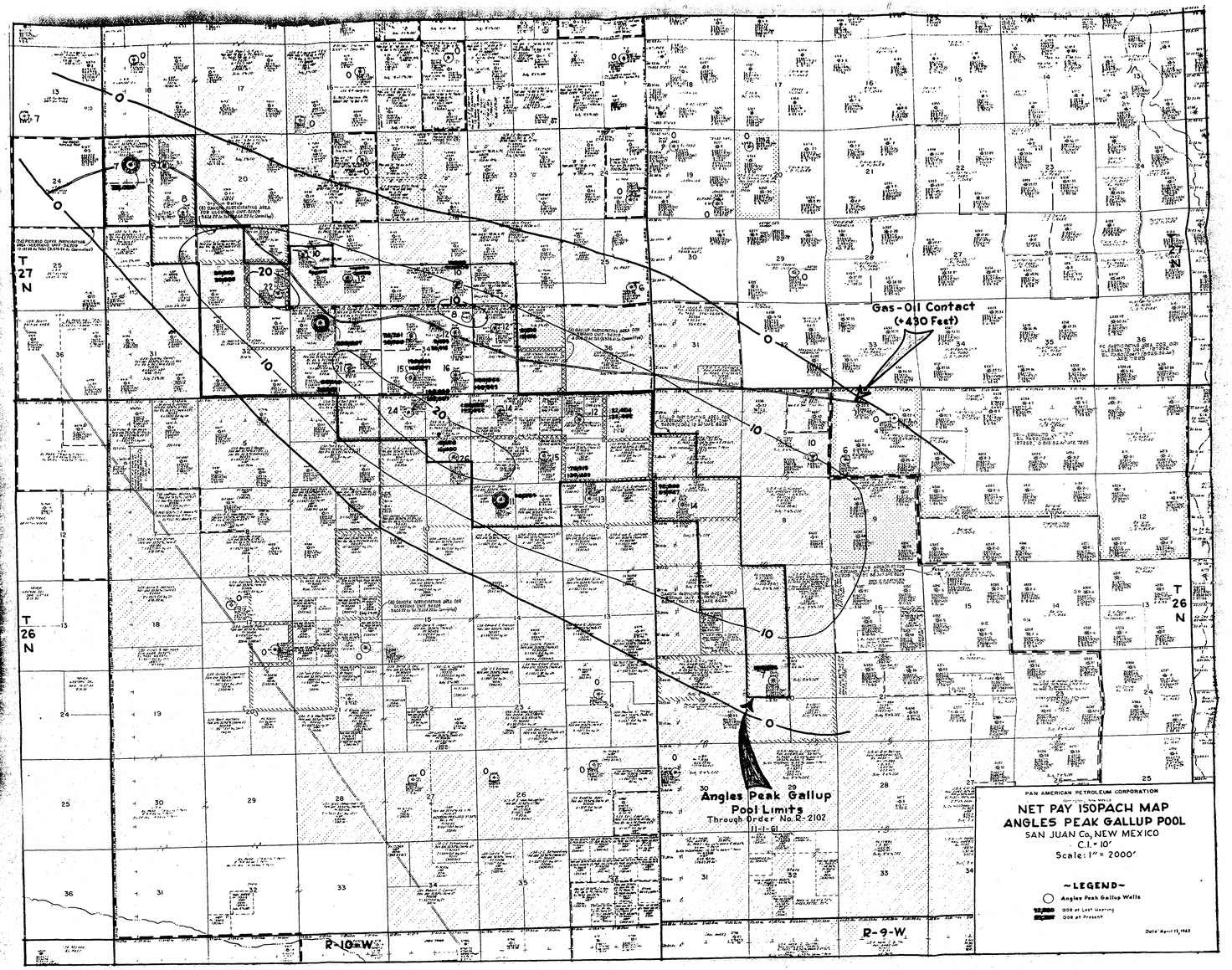

Gas - Oil Contact
(+430 Feet)
Angels Peak Gallup
Pool Limits
Through Order No. R-2102
11-1-61
T 27 N
T 26 N
R-10-W
R-9-W
PAN AMERICAN PETROLEUM CORPORATION
NET PAY ISOPACH MAP
ANGELS PEAK GALLUP POOL
SAN JUAN Co, NEW MEXICO
C.I. = 10'
Scale 1" = 2000'
~LEGEND~
Angels Peak Gallup Wells
Date April 13, 1962

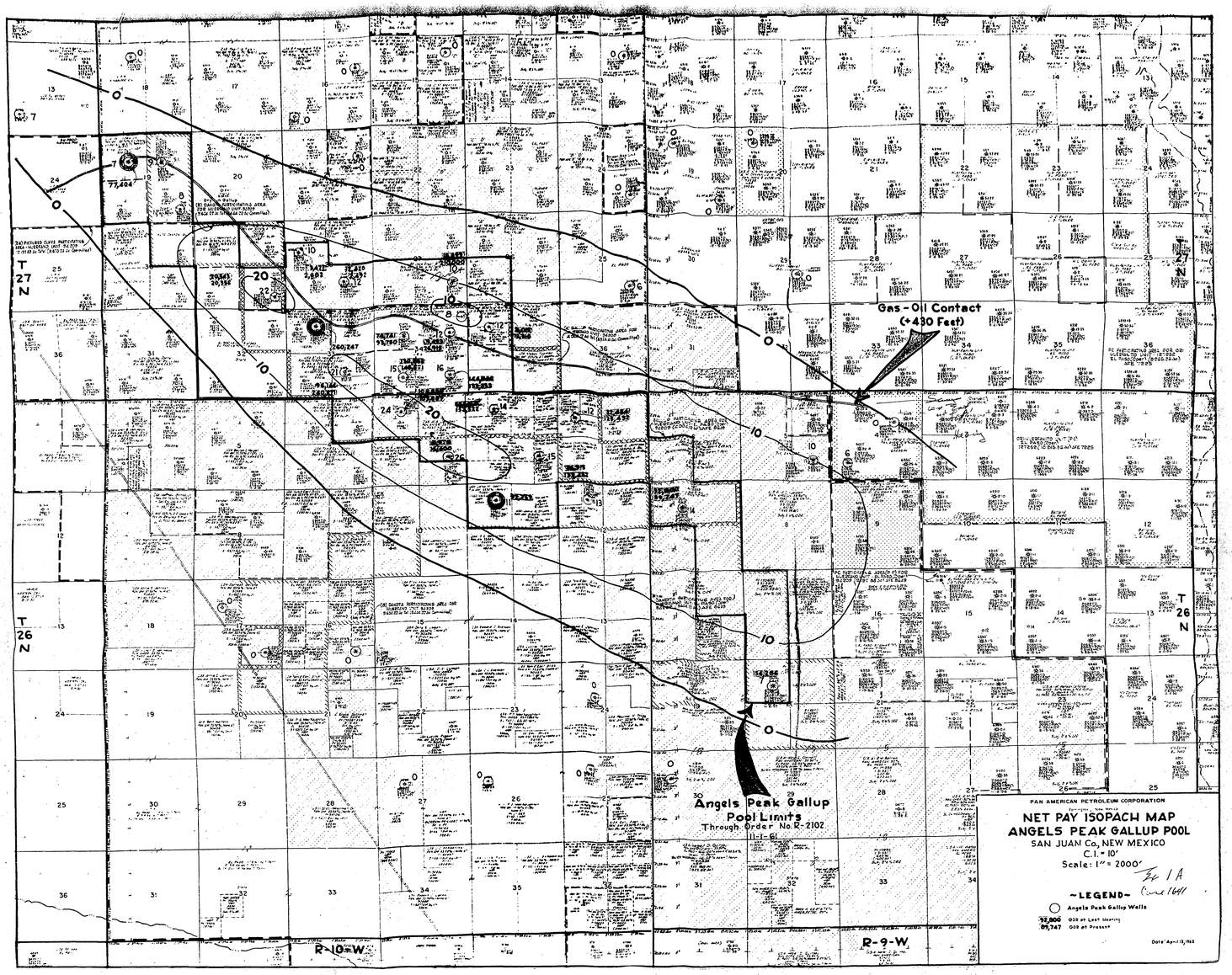

R10W
R9W
T 27 N
T 26 N
ANGELS PEAK GALLUP FIELD


Gas - Oil Contact
(+430 Feet)
Angels Peak Gallup
Pool Limits
Through Order No. R-2102
11-1-61
R-10-W
R-9-W
T 27 N
T 26 N
PAN AMERICAN PETROLEUM CORPORATION
NET PAY ISOPACH MAP
ANGELS PEAK GALLUP POOL
SAN JUAN Co, NEW MEXICO
C.I. = 10'
Scale: 1" = 2000'
~LEGEND~
Angels Peak Gallup Wells
92,800 OOB at Last Hearing
89,747 OOB at Present
Date: April 13, 1962


R10W
R9W
T 27 N
T 26 N
ANGELS PEAK GALLUP FIELD
Huerfano Unit
EPNG


R10W
R9W
T 27 N
T 26 N
ANGELS PEAK GALLUP FIELD
Huerfano Unit
EPNG


Gas-Oil Contact
(+430 Feet)
Angles Peak Gallup
Pool Limits
Through Order No. R-2102
11-1-61
R-10-W.
R-9-W.
T 27 N
T 26 N
PAN AMERICAN PETROLEUM CORPORATION
NET PAY ISOPACH MAP
ANGLES PEAK GALLUP POOL
SAN JUAN Co., NEW MEXICO
C.I. = 10'
Scale: 1" = 2000'
~LEGEND~
Angles Peak Gallup Wells
GOR at Last Hearing
GOR at Present
Date: April 13, 1962



PAN AMERICAN PETROLEUM CORPORATION

Farmington, New Mexico

NET PAY ISOPACH MAP
ANGELS PEAK GALLUP POOL

SAN JUAN Co., NEW MEXICO

C.I. = 10'

Scale: 1" = 2000'

Ex 1A

Case 1641

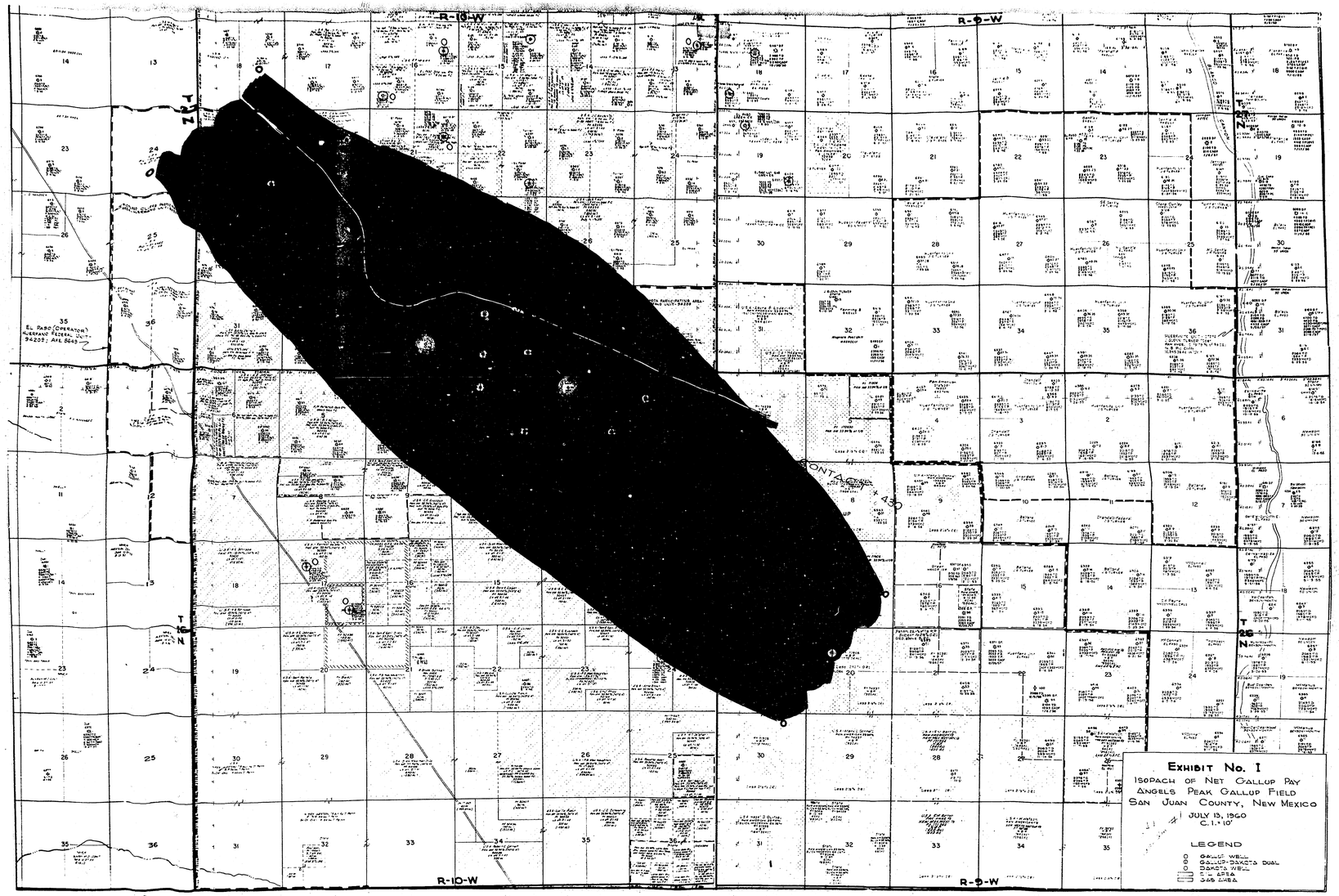
~LEGEND~

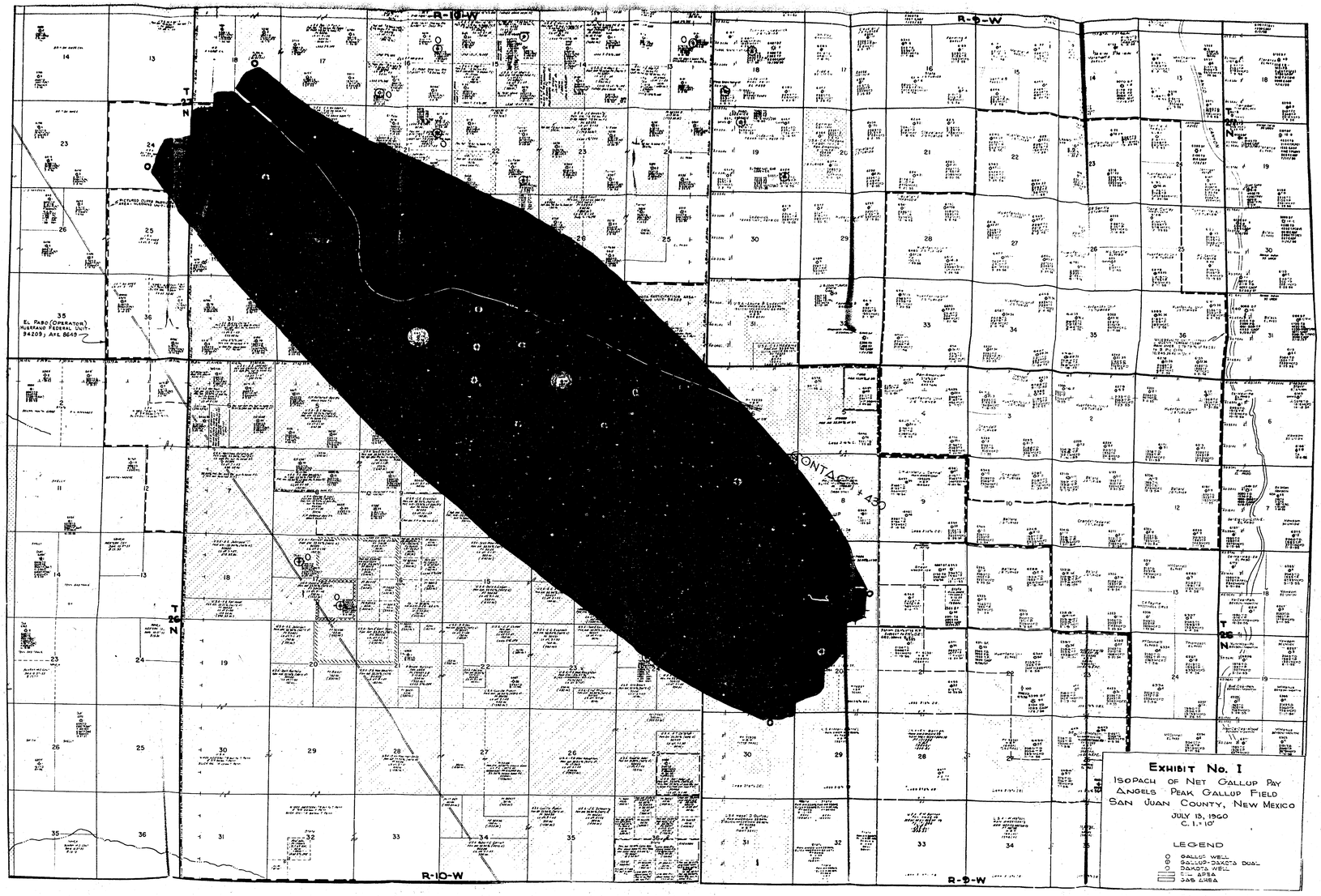
○ Angels Peak Gallup Wells

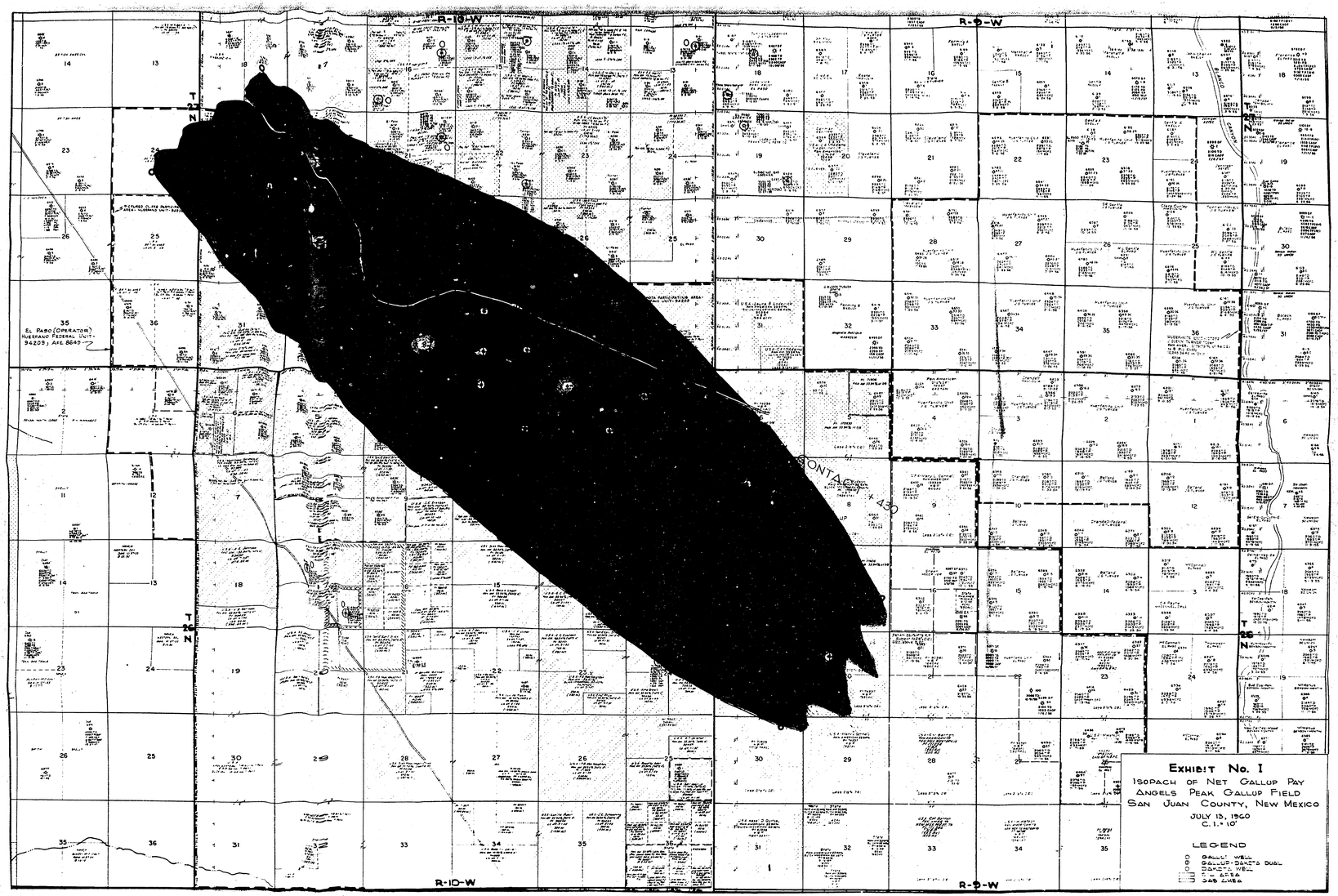
32,800 GOR at Last Hearing

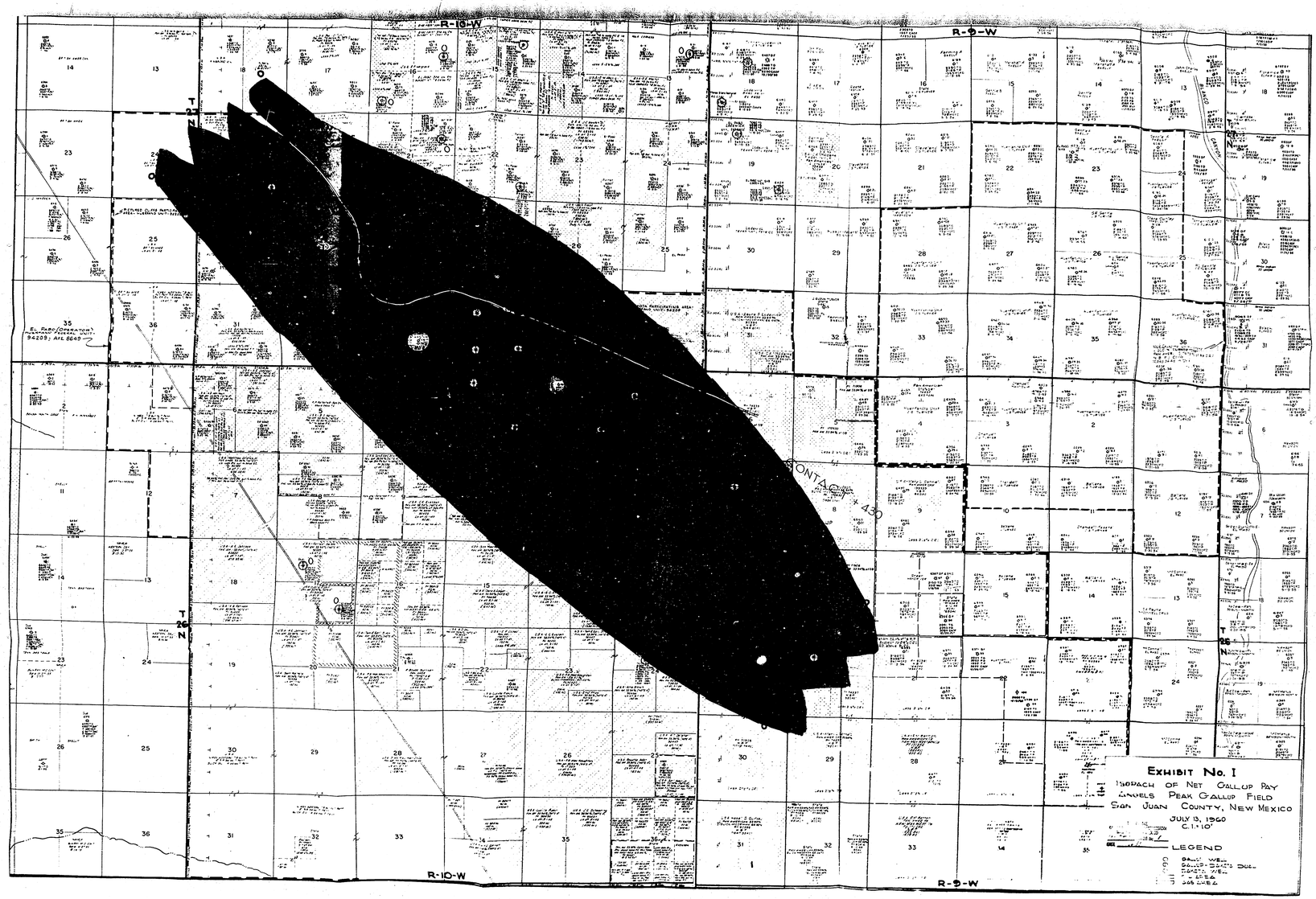
69,747 GOR at Present

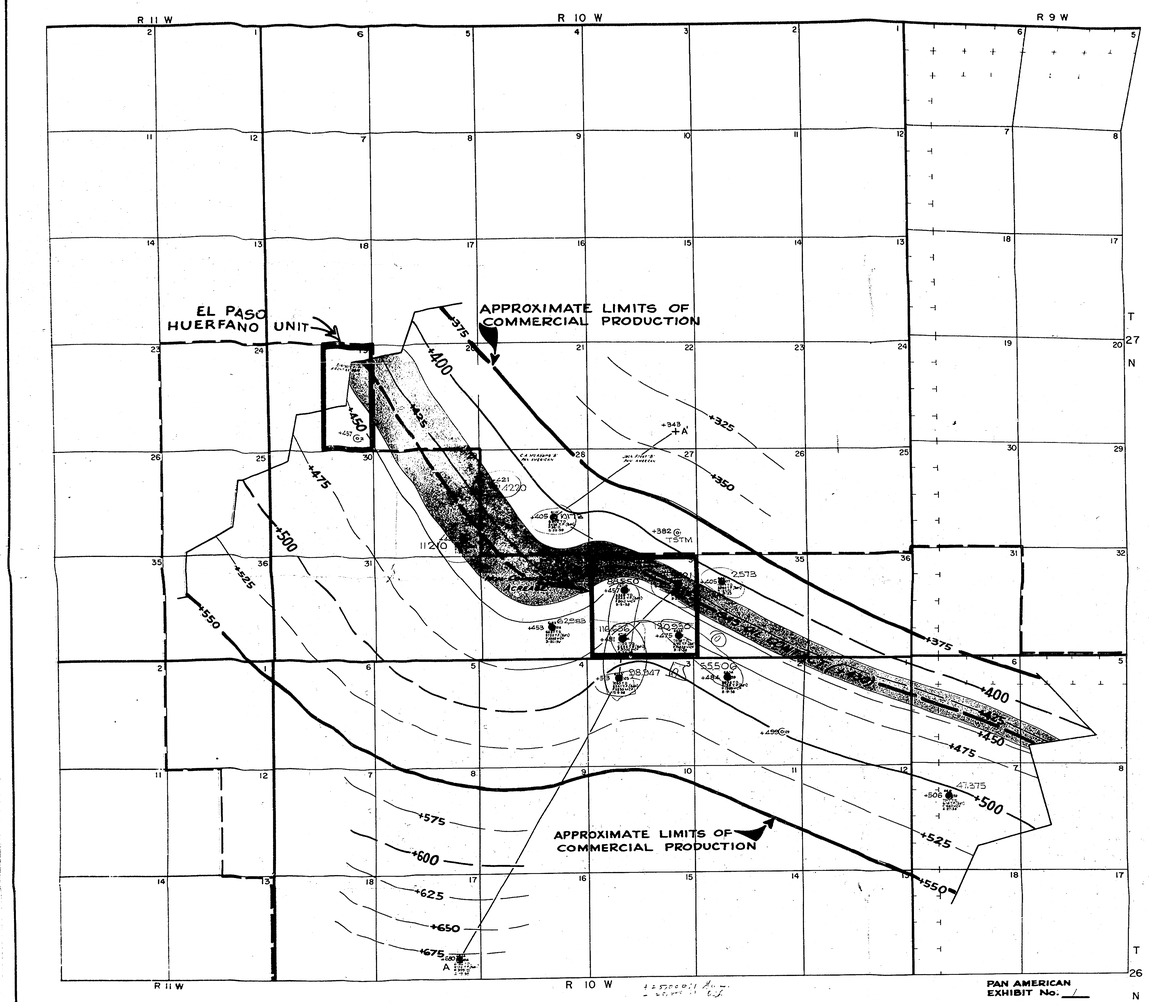
Date: April 13, 1962


R-10-W
R-9-W
T 27 N
T 26 N
T 25 N
CONTACT
35
EL PASO (OPERATOR)
NUEVAMO FEDERAL UNIT
94203 - APL 5683
EXHIBIT No. 1
ISOPACH OF NET GALLUP PAY
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
JULY 15, 1960
C.I. = 10'
LEGEND
GALLUP WELL
GALLUP-DAKOTA DUAL
DAKOTA WELL
U. PARA
GAS AREA

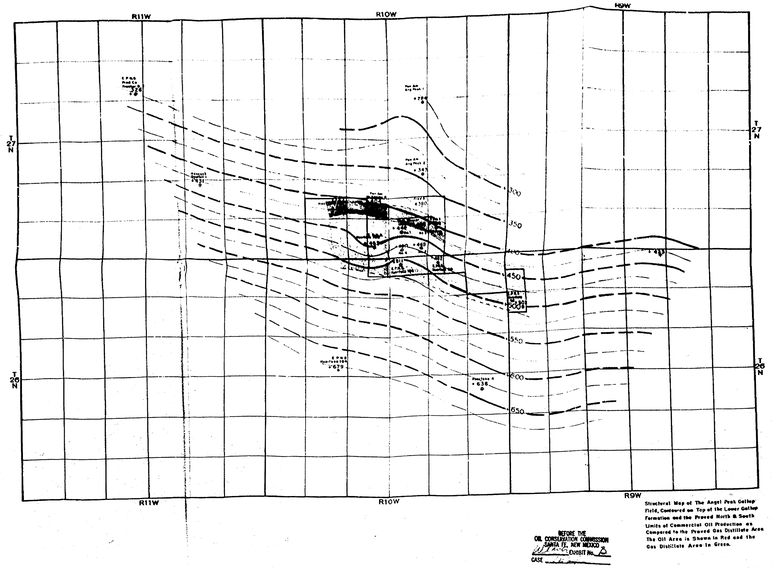

R-10-W
R-9-W
T 26 N
T 25 N
35
EL PASO (OPERATOR)
NUEVAD FEDERAL UNIT-
94209, APR 8649
CONTACT +430
EXHIBIT No. 1
ISOPACH OF NET GALLUP PAY
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
JULY 15, 1960
C. I. 10'
LEGEND
GALLUP WELL
GALLUP-DAKOTA DUAL
DAKOTA WELL
APPROX. LIMIT OF GAS AREA


R-10-W
R-9-W
T 27 N
T 26 N
R-10-W
R-9-W
35
EL PASO (OPERATOR)
HUBBARD FEDERAL UNIT-
94209, AFE 8649
CONTACT
EXHIBIT No. 1
ISOPACH OF NET GALLUP PAY
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
JULY 15, 1960
C. I. = 10'
LEGEND
GALLUP WELL
GALLUP-DAKOTA DUAL
DAKOTA WELL
C. I. AREA
SAND LINES


R-10-W
R-9-W
T 27 N
T 26 N
T 25 N
EL PASO (OPERATOR) FEDERAL UNIT 94209; APL 8645
CONTACT +430
R-10-W
R-9-W
EXHIBIT No. 1
ISOPACH OF NET GALLUP PAY
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
JULY 15, 1960
C.I.=10'
LEGEND

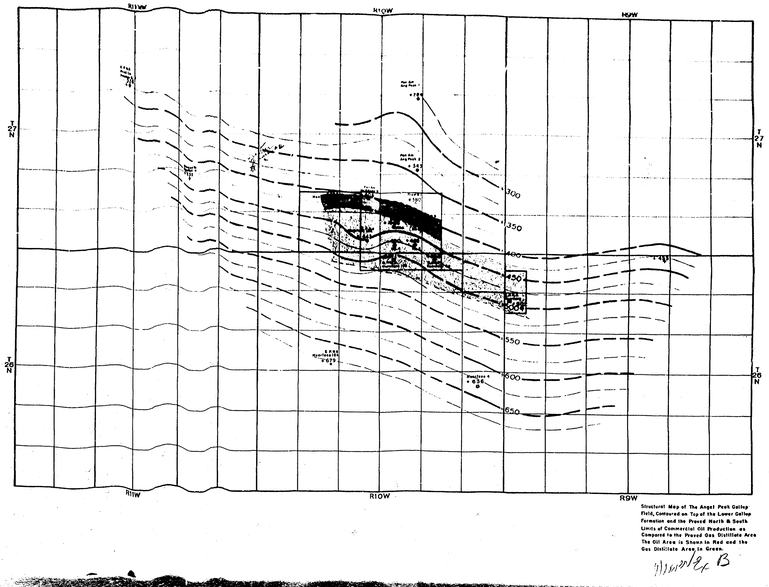

R 11 W
R 10 W
R 9 W
T 27 N
T 26 N
EL PASO HUERFANO UNIT
APPROXIMATE LIMITS OF COMMERCIAL PRODUCTION
APPROXIMATE LIMITS OF COMMERCIAL PRODUCTION
+375
+400
+425
+450
+325
+350
+475
+500
+225
+550
+575
+600
+625
+650
+675
+525
+943 A'
+382 G TSTM
+405 G
+455
+428 G
+409 G
+496 GSTM
+505 GSTM
+484 GSTM
+470 GSTM
+473 GSTM
+455 GSTM
+485 GSTM
+480 GSTM
+485 GSTM
+485 GSTM
+485

Structural Map of The Angel Peak Gallup Field, Contoured on Top of the Lower Gallup Formation and the Proved North & South Limits of Commercial Oil Production are Compared to the Proved Gas Distillate Area. The Oil Area is Shown in Red and the Gas Distillate Area in Green.



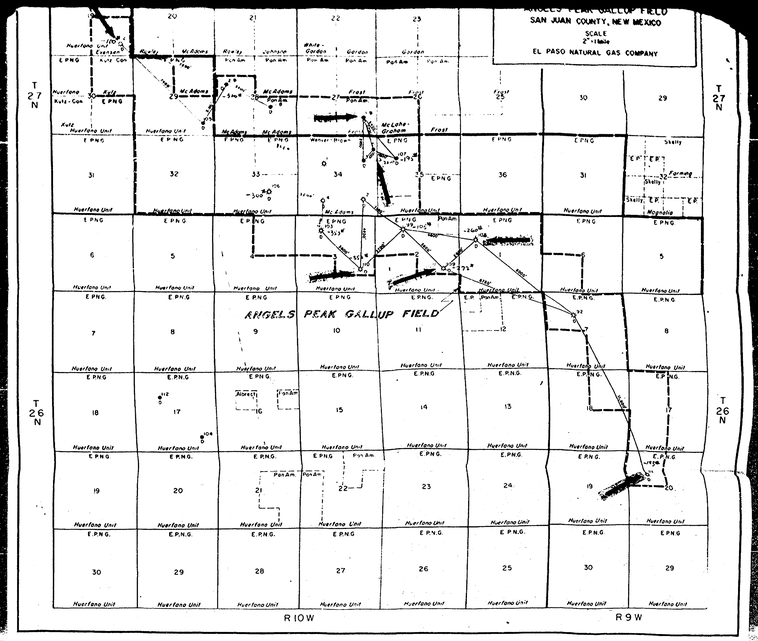
Structural Map of The Angel Peak Gallup Field, Contoured on Top of the Lower Gallup Formation and the Pictured Cliffs Formation and the Proved North & South Limits of Commercial Oil Production, As Compared to the Proved Gas Distillate Area The Oil Area is Shown in Red and the Gas Distillate Area in Green.

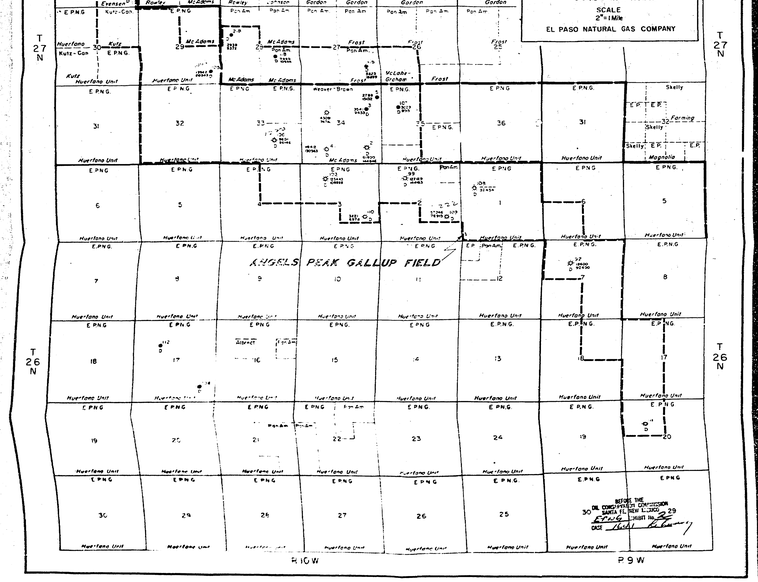
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
CASE Exhibit No. 3



Structural Map of The Angel Peak Gallup Field, Contoured on Top of the Lower Gallup Formation and the Pictured Cliffs Formation and the Proved North & South Limits of Commercial Oil Production, As Compared to the Proved Gas Distillate Area The Oil Area is Shown in Red and the Gas Distillate Area in Green.

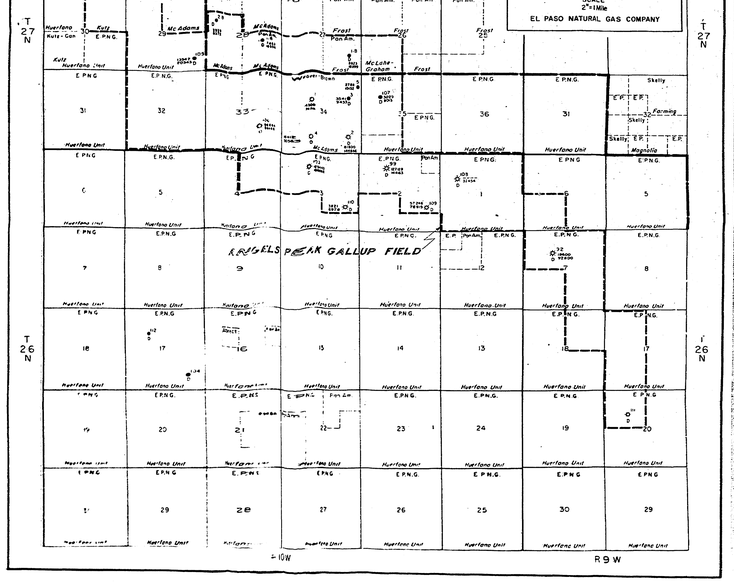
Witness Exhibit B



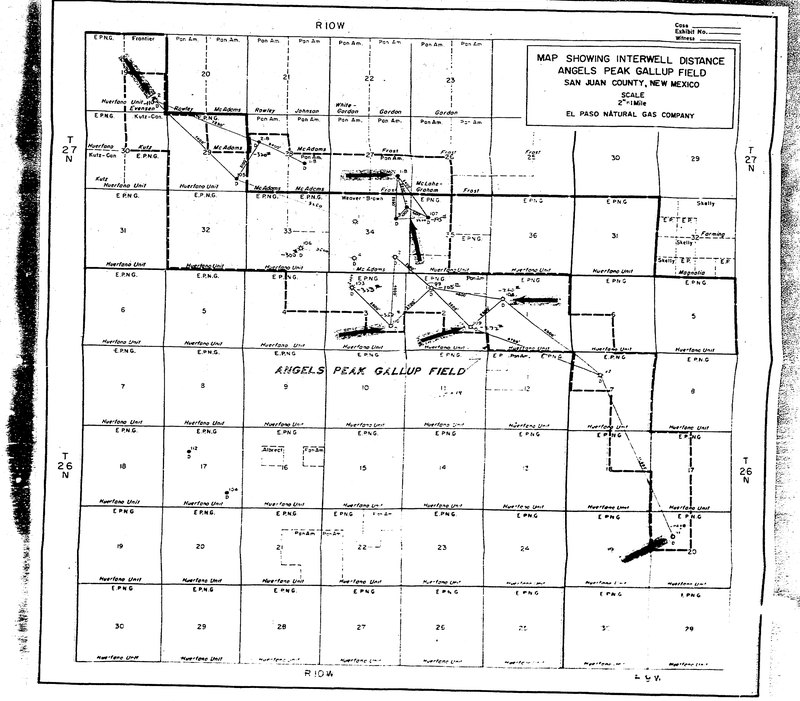


Case Exhibit No. Witness

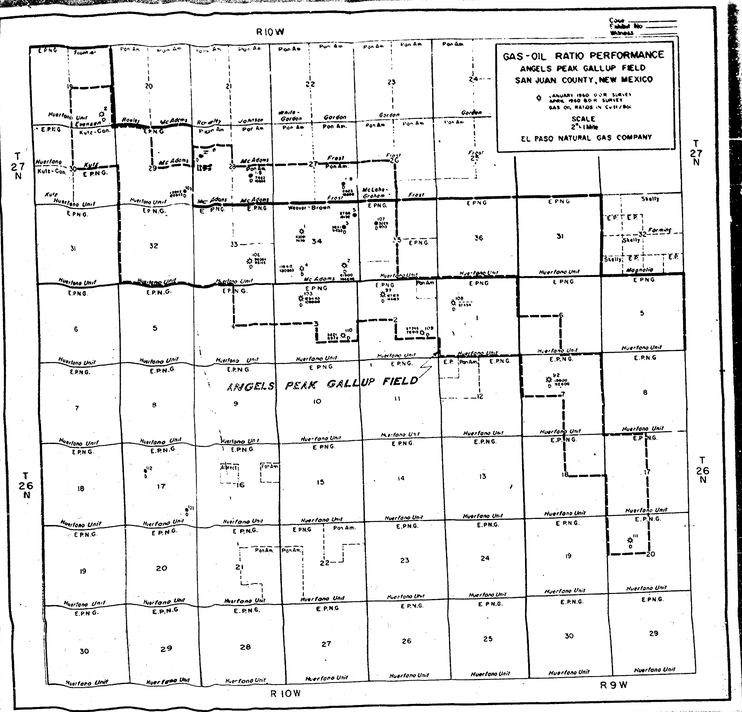
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
CASE Exhibit No. 2

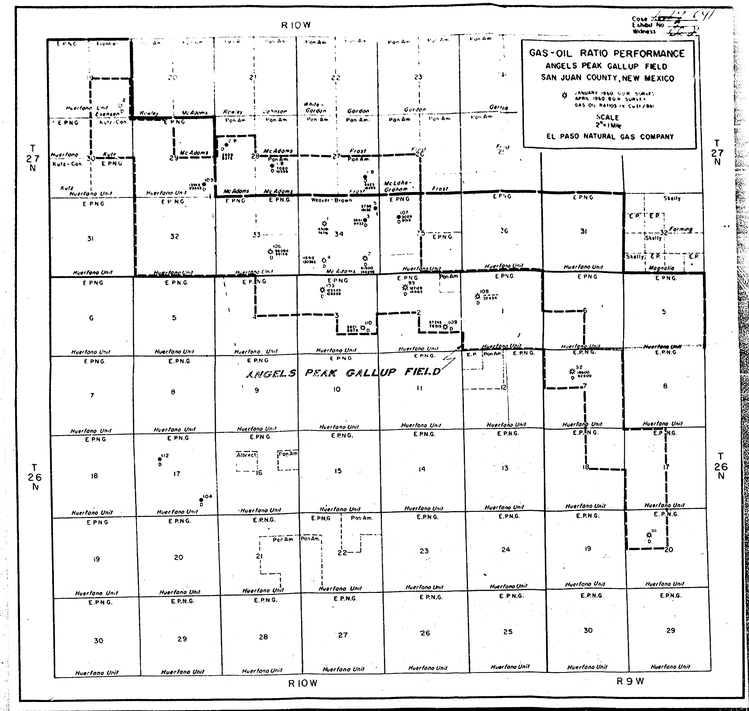


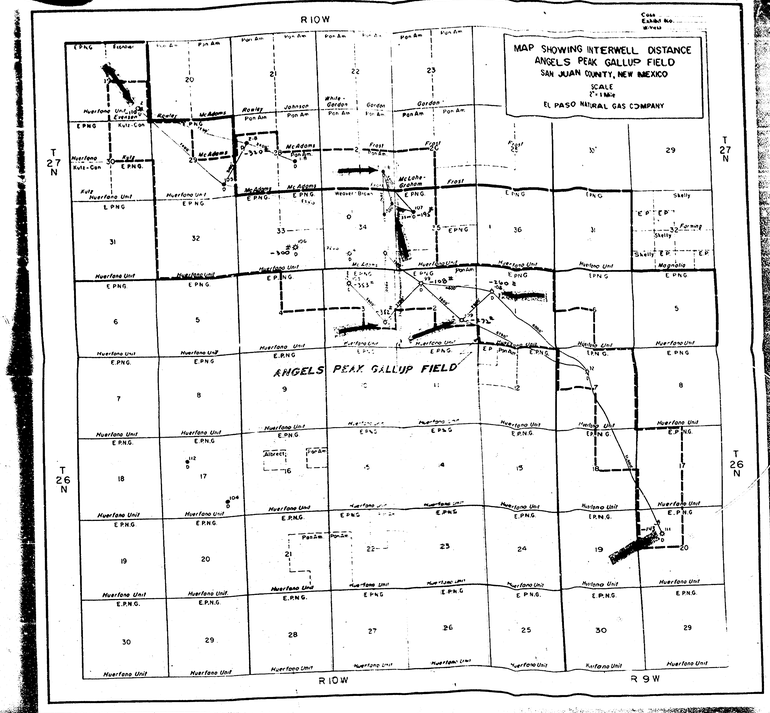
Case 1671 Exhibit No. Witness

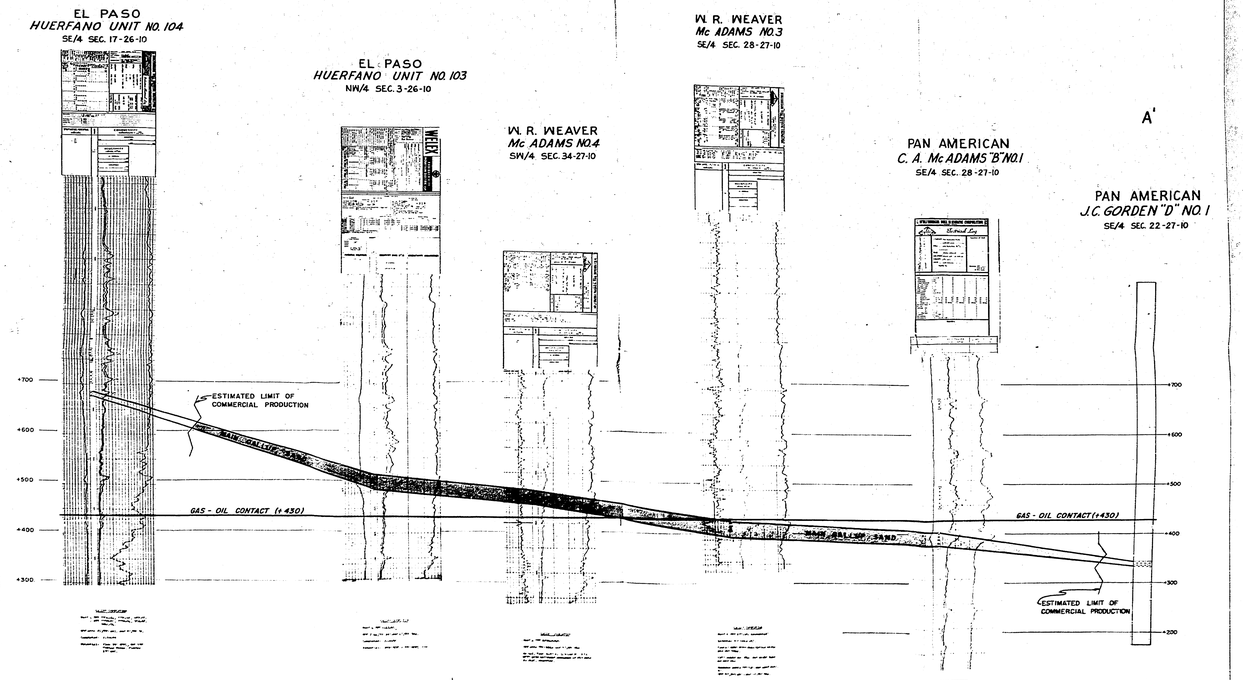


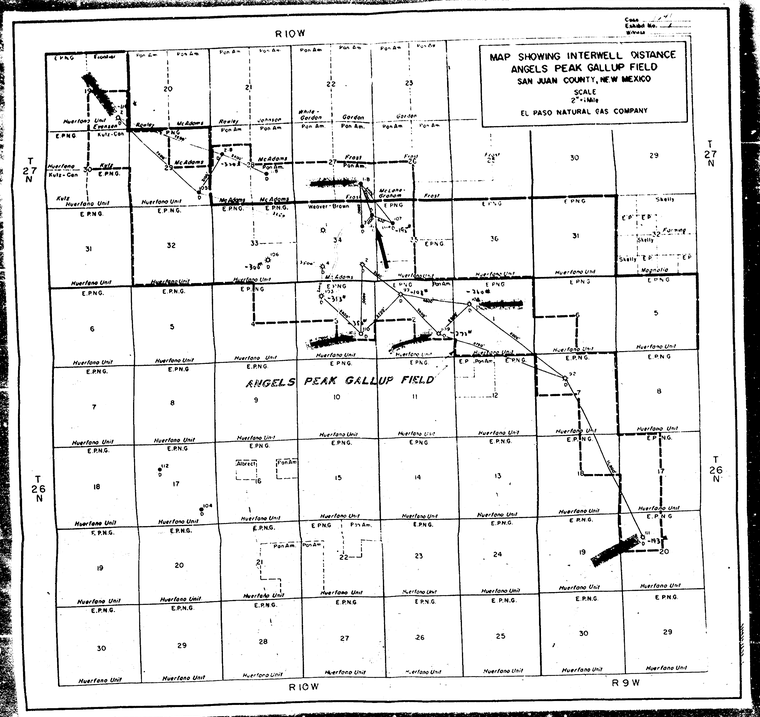
Case Exhibit No. Witness

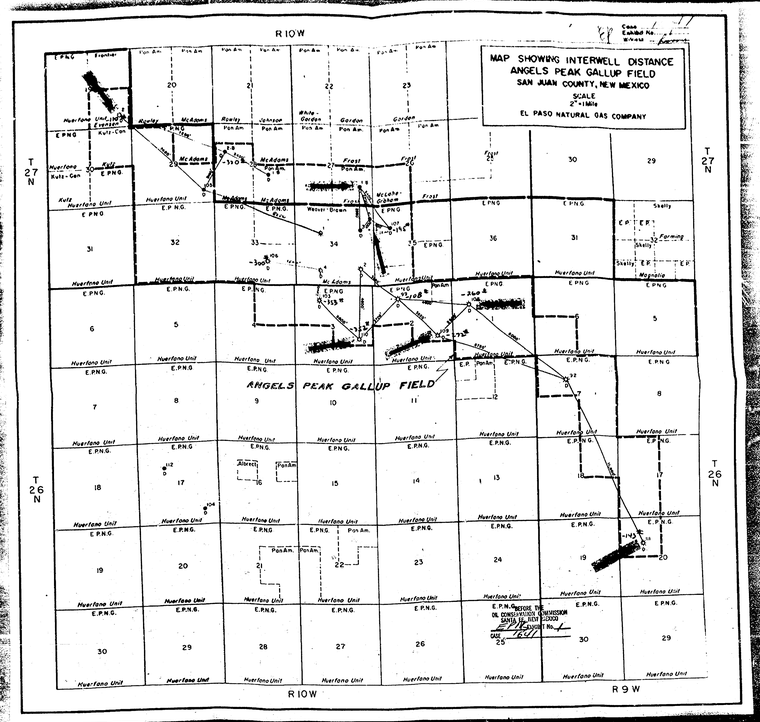

GAS-OIL RATIO PERFORMANCE
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
JANUARY 1960 GOR Surveys
APRIL 1960 BOP Surveys
GAS OIL RATIOS in Cubic/Bbl
SCALE
2"=1 Mile
EL PASO NATURAL GAS COMPANY
ANGELS PEAK GALLUP FIELD
R10W
R9W
T 27 N
T 26 N

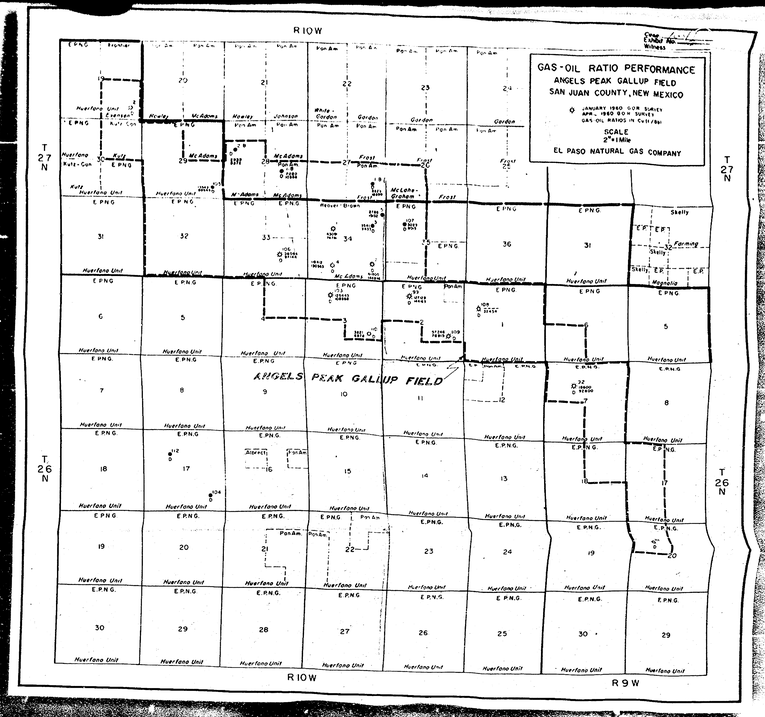

GAS-OIL RATIO PERFORMANCE
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
JANUARY 1960 GOR Surveys
APRIL 1960 BOP Surveys
GAS OIL RATIOS in Cubic/Bbl
SCALE
2"=1 Mile
EL PASO NATURAL GAS COMPANY
ANGELS PEAK GALLUP FIELD
R10W
R9W
T 27 N
T 26 N

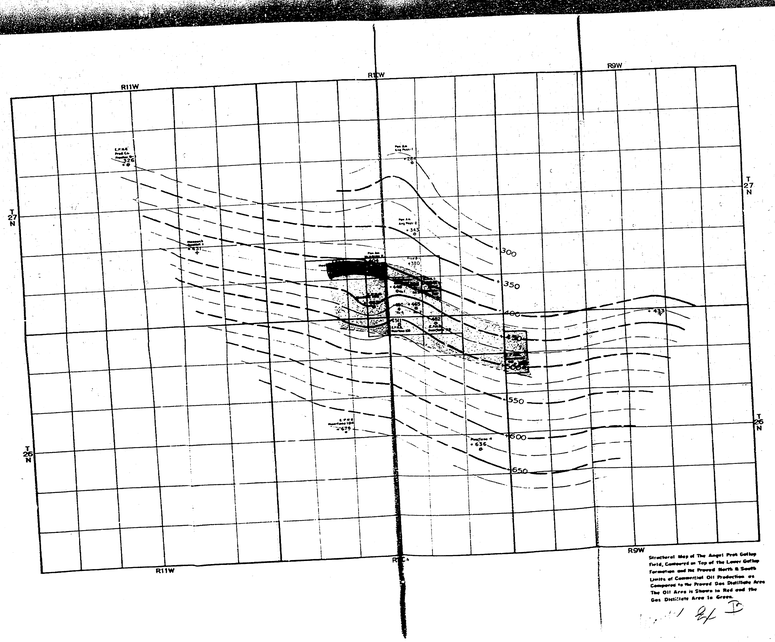

MAP SHOWING INTERWELL DISTANCE
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
SCALE
1"=1 Mile
EL PASO NATURAL GAS COMPANY
ANGELS PEAK GALLUP FIELD
R10W
R9W
T 27 N
T 26 N

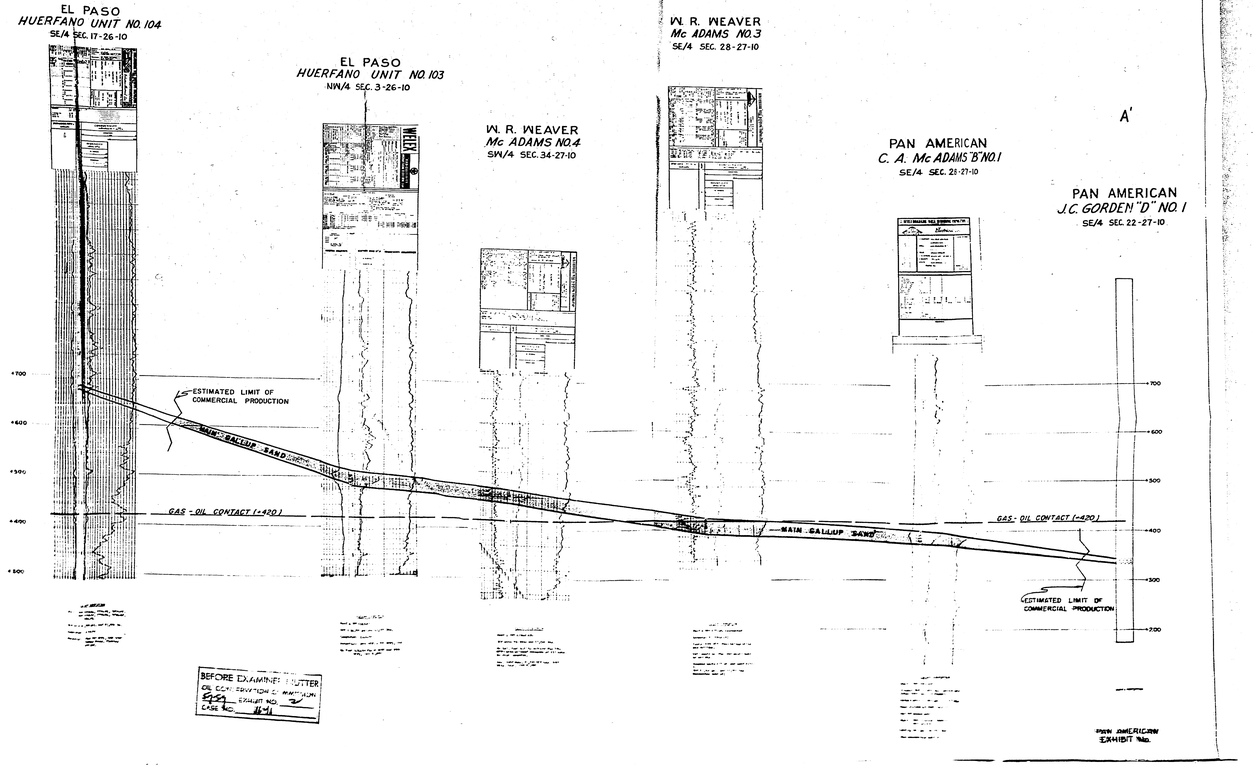

CROSS SECTION A-A'
ANGELS PEAK GALLUP FLD.
A
A'
EL PASO
HUERFANO UNIT NO. 104
SE/4 SEC. 17-26-10
EL PASO
HUERFANO UNIT NO. 103
NW/4 SEC. 3-26-10
W. R. WEAVER
Mc ADAMS NO.4
SW/4 SEC. 34-27-10
W. R. WEAVER
Mc ADAMS NO.3
SE/4 SEC. 28-27-10
PAN AMERICAN
C. A. Mc ADAMS "B" NO.1
SE/4 SEC. 28-27-10
PAN AMERICAN
J.C. GORDEN "D" NO. 1
SE/4 SEC. 22-27-10
+700
+600
+500
+400
+300
+200
ESTIMATED LIMIT OF COMMERCIAL PRODUCTION
GAS - OIL CONTACT (+430)
GAS - OIL CONTACT (+430)
ESTIMATED LIMIT OF COMMERCIAL PRODUCTION
PAN AMERICAN EXHIBIT NO. 1

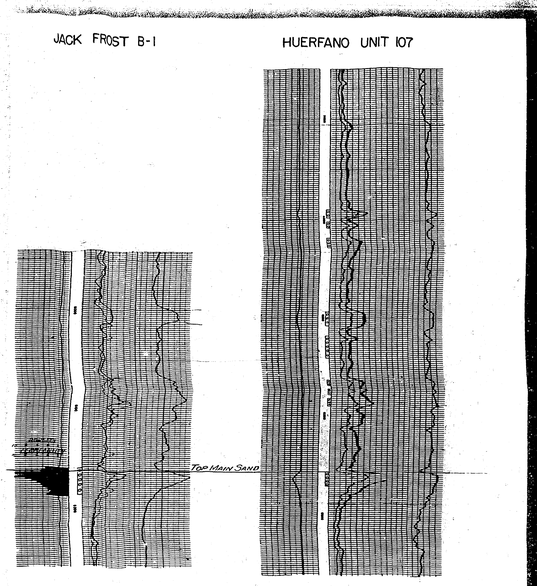

MAP SHOWING INTERWELL DISTANCE
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
SCALE
2"=1Mile
EL PASO NATURAL GAS COMPANY
ANGELS PEAK GALLUP FIELD
R10W
R9W
T 27 N
T 26 N


MAP SHOWING INTERWELL DISTANCE
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
SCALE
2"=1Mile
EL PASO NATURAL GAS COMPANY
ANGELS PEAK GALLUP FIELD
R10W
R9W
T 27 N
T 26 N

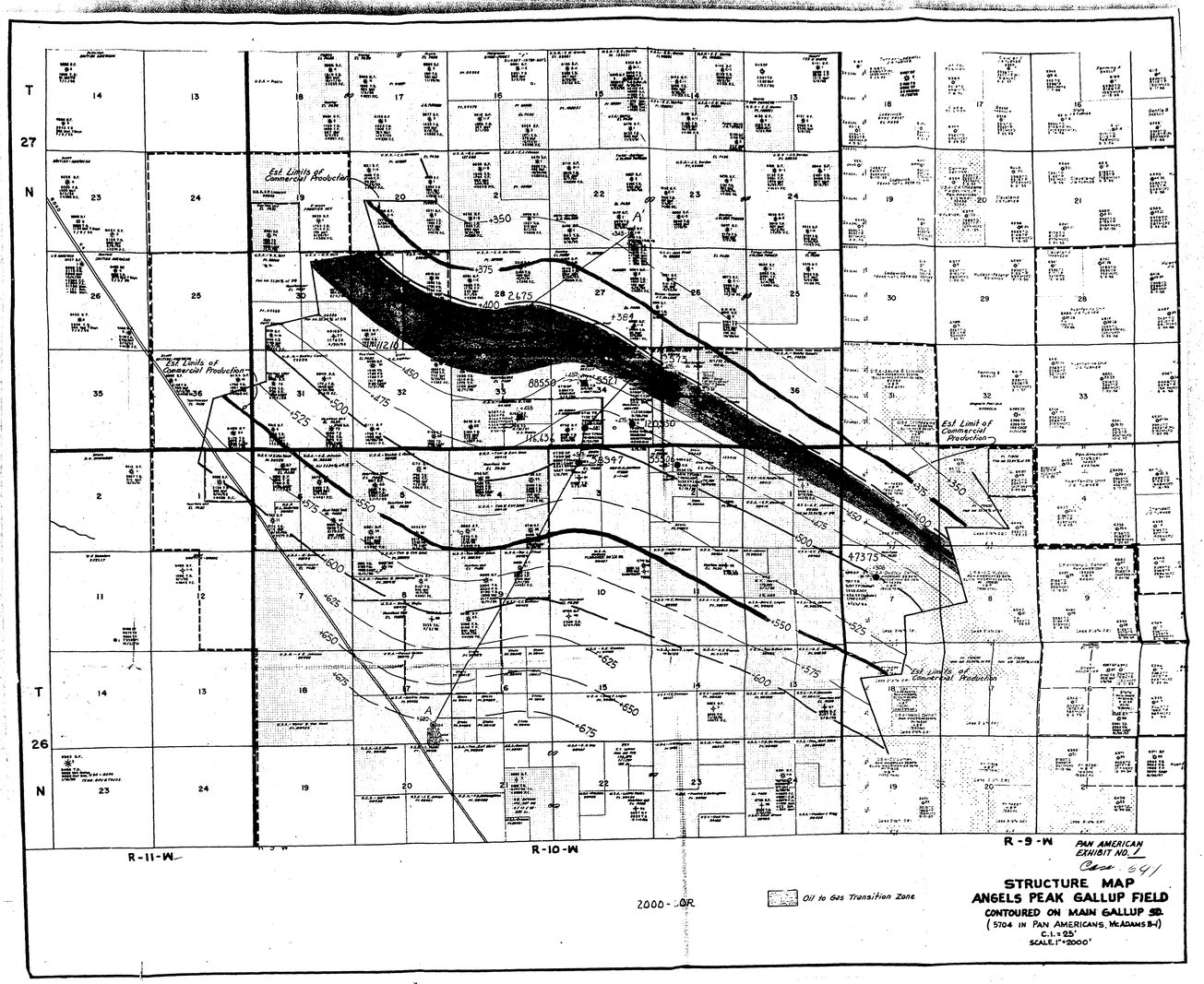

GAS-OIL RATIO PERFORMANCE
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
SCALE
2"=1Mile
EL PASO NATURAL GAS COMPANY
ANGELS PEAK GALLUP FIELD
R10W
R9W
T 27 N
T 26 N


R11W
R10W
R9W
T 27 N
T 26 N
-300
-350
-400
-450
-500
-550
-600
-650
Structural Map of The Angel Peak Gallup Field, Contoured on Top of the Lower Gallup Formation and Its Proved North & South Limits of Commercial Oil Production as Compared to the Proved Gas Distillate Area
The Oil Area is Shown in Red and the Gas Distillate Area in Green.


CROSS SECTION A-A'
ANGELS PEAK GALLUP FLD.
A
A'
EL PASO
HUERFANO UNIT NO. 104
SE/4 SEC. 17-26-10
EL PASO
HUERFANO UNIT NO. 103
NW/4 SEC. 3-26-10
W. R. WEAVER
Mc ADAMS NO. 4
SW/4 SEC. 34-27-10
W. R. WEAVER
Mc ADAMS NO. 3
SE/4 SEC. 28-27-10
PAN AMERICAN
C. A. Mc ADAMS 'B' NO. 1
SE/4 SEC. 21-27-10
PAN AMERICAN
J.C. GORDEN "D" NO. 1
SE/4 SEC. 22-27-10
ESTIMATED LIMIT OF COMMERCIAL PRODUCTION
MAIN GALLUP SAND
GAS - OIL CONTACT (-420)
+700
+600
+500
+400
+300
+200
BEFORE EXAMINER HUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 1121
PAN AMERICAN
EXHIBIT No.

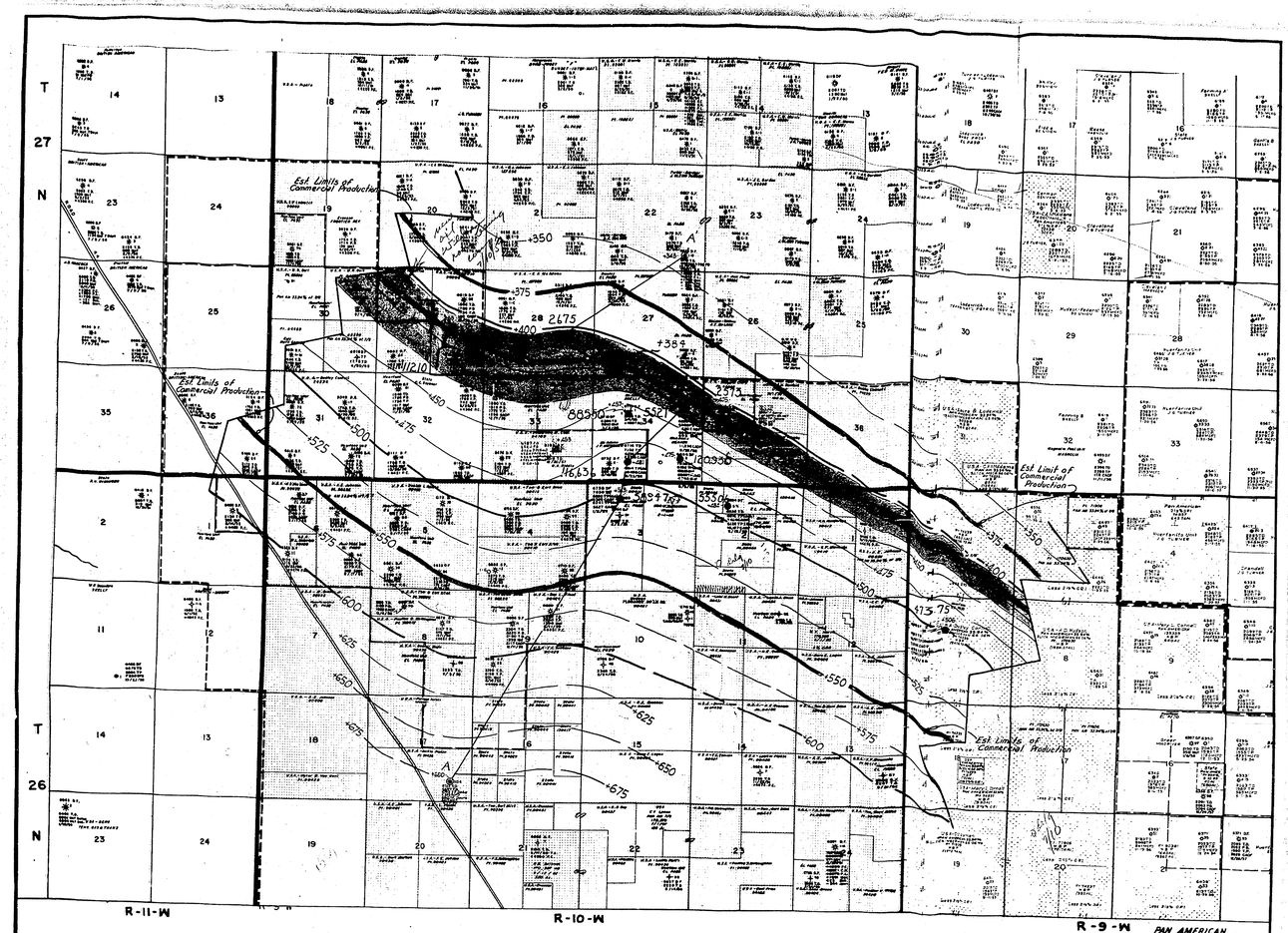


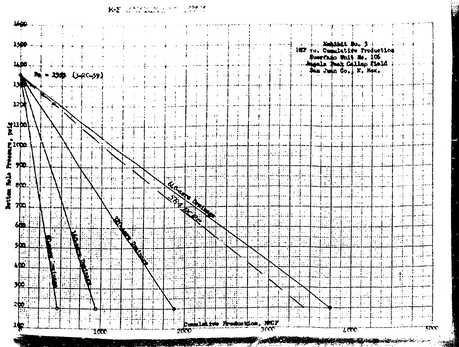
154

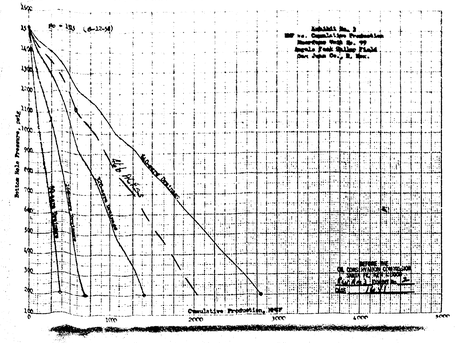


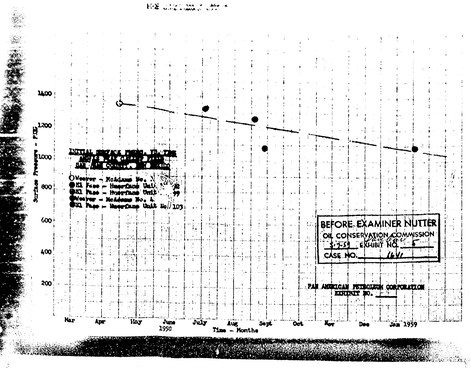
PAN AMERICAN
EXHIBIT NO. 1
Case 541

STRUCTURE MAP
ANGELS PEAK GALLUP FIELD
CONTOURED ON MAIN GALLUP SD.
(5704 IN PAN AMERICANS, McADAMS B-1)
C.I. = 25'
SCALE 1" = 2000'


T 27 N
T 26 N
R-11-W
R-10-W
R-9-W
Est. Limits of Commercial Production
Est. Limit of Commercial Production
Est. Limits of Commercial Production
Est. Limits of Commercial Production
A
A'
+350
+375
+400
+425
+450
+475
+500
+525
+550
+575
+600
+625
+650
+675
2675
2575
2525
2475
2425
2375
2325
2275
2225
2175
2125
2075
2025
1975
1925
1875
1825
1775
1725
1675
1625
1575
1525
1475
1425
1375
1325
1275
1225
1175
1125
1075
1025
975
925
875
825
775
725
675
625
575
525
475
425
375
325
275
225
175
125
75
25
80350
80350
116,63
35350
2000- GOR
Oil to Gas Transition Zone
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 1631
PAN AMERICAN
EXHIBIT NO.
STRUCTURE MAP
ANGELS PEAK GALLUP FIELD
CONTOURED ON MAIN GALLUP SD.
(5704 IN PAN AMERICANS, McADAMS 81)
C.I. = 25'
SCALE 1" = 2000'







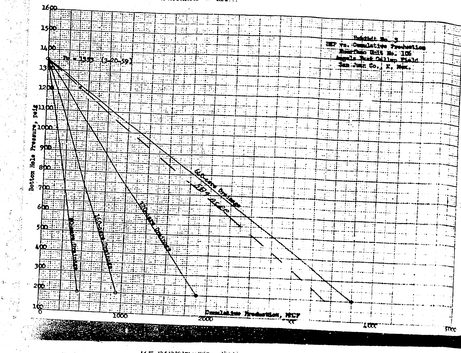
GAS-OIL RATIO TEST
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

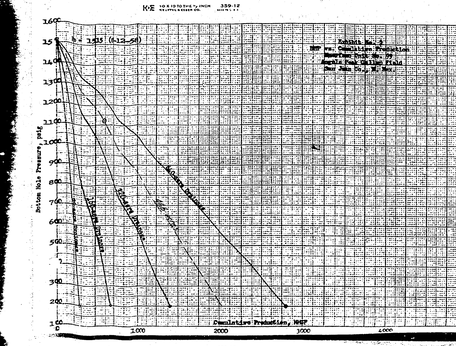
Operator Lease & Well	Test Date	Oil Prod. BOPD	GOR Cu. Ft./Bbl
W. R. Weaver			
McAdams No. 1	3-26-59	23	85,550
McAdams No. 2	3-28-59	28	120,990
McAdams No. 3	3-26-59	104	5,221
McAdams No. 4	3-28-59	28	116,636
El Paso Natural Gas			
Huerfano Unit No. 99	3-26-59	43	55,956
Huerfano Unit No. 103	3-15-59	23	98,947
Huerfano Unit No. 105	3-28-59	87	11,210
Huerfano Unit No. 107	3-29-59	290	2,573
Huerfano Unit No. 92	4-11-59	6	47,375
Pan American Petroleum Corp. McAdams "B" No. 1	3-8-59	43	2,675

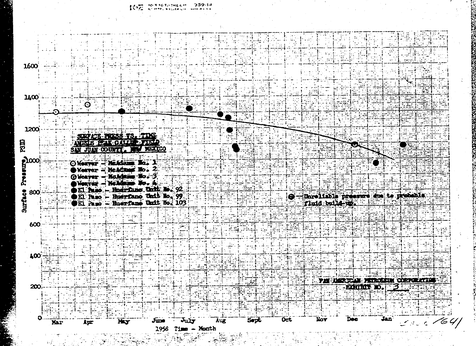
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXH. EXHIBIT NO. 7
CASE NO. 1641

SURFACE PRESSURE DATA
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

Operator Lease & Well	Date of Press. Meas.	Shut-In Time - Days	Initial Shut-In Pressure (PSIG)	Distance To Nearest Producing Well - Ft.	Pressure Drop Down PSIG	Minimum Drainage Area Acres
W. R. Weaver						
McAdams No. 1	Apr. 29,1958	7	1356	—	—	—
El Paso Natural Gas Co.						
Huerfano Unit 92	July 3,1958	7	1325	15,500	31	17,300
Huerfano Unit 99	Aug.19, 1958	7	1269	3,250	87	810
W. R. Weaver						
McAdams No. 4	Aug.27, 1958	7	1081	2,550	275	480
El Paso Natural Gas Co.						
Huerfano Unit 103	Jan.17, 1959	9	1088	1,900	268	260

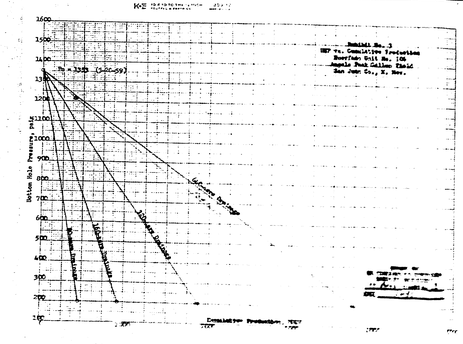


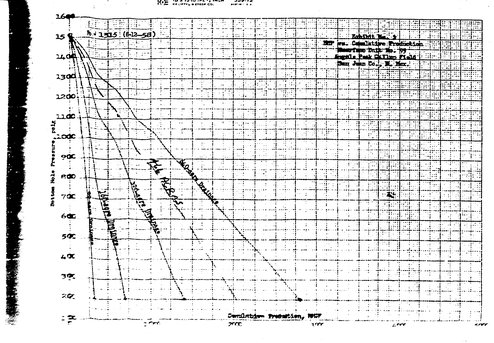


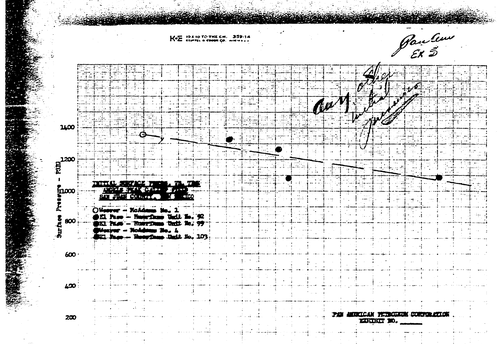


SURFACE PRESSURE DATA
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

Operator Lease & Well	Date of Press. Meas.	Shut-In Time - Days	Initial Shut-In Pressure (PSIG)	Distance To Nearest Producing Well - Ft.	Pressure Drop Down PSIG	Minimum Drainage Area Acres
W. R. Weaver						
McAdams No. 1	Apr. 29,1958	7	1356	—	—	—
El Paso Natural Gas Co.						
Huerfano Unit 92	July 3,1958	7	1325	15,500	31	17,300
Huerfano Unit 99	Aug. 19,1958	7	1269	3,250	87	810
W. R. Weaver						
McAdams No. 4	Aug. 27,1958	7	1081	2,550	275	480
El Paso Natural Gas Co.						
Huerfano Unit 103	Jan. 17,1959	9	1088	1,900	268	260







SURFACE PRESSURE DATA
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

Operator Lease & Well	Shut-In Surface Press. PSIG	Shut-In Time - Days	Date of Gradient Pressure	Type Test	Date of First Prod. (GOR/Oil)	Cum. Prod. To Test Date/MCF (GOR/Bbl)
W. R. Weaver						
McAdams No. 1	1310		March, 1958	Comp. on 10MCF Final Log?	Apr. 1958	?
	1746	?	Apr. 29, 1958	Bell Test		1,476
	1090	"	Dec. 31, 1958	Bell Test		140,474
McAdams No. 2	1334		Dec. 1958	Comp. on 10MCF Final Log?	May, 1958	?
	1197	"	Aug. 31, 1958	Bell Test		1,414,000
	1091	"	Dec. 31, 1958	Bell Test		140,787
McAdams No. 3	----	"	Dec. 31, 1958	Bell Test		
McAdams No. 4	1081	"	Aug. 27, 1958	Pres. Increase	Aug. 1958	?
	1048	"	Nov. 30, 1958	Bell Test	Sept. 1958	?
	970	"	Dec. 31, 1958	Bell Test		78,420
El Paso Natural Gas Co. Huerfano Unit W.	1325	"	Jan. 17, 1959	Pres. Increase		
	1269		Aug. 1958	Comp. on 10MCF Final Log?		
Huerfano Unit 99	1269		Aug. 19, 1958	Comp. on 10MCF Final Log?	Aug. 1958	?
Huerfano Unit 103	1088	"	Jan. 17, 1959	Comp. on 10MCF Final Log?	Jan. 1959	?

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXH. EXHIBIT NO. 8
CASE NO. 1641

SURFACE PRESSURE DATA
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

Operator Lease & Well	Date of Press. Meas.	Shut-In Time - Days	Initial Shut-In Pressure (PSIG)	Distance To Nearest Producing Well - Ft.	Pressure Drop Down PSIG	Minimum Drainage Area Acres
W. R. Weaver						
McAdams No. 1	Apr. 29,1958	7	1356	—	—	—
El Paso Natural Gas Co.						
Huerfano Unit 92	July 3, 1958	7	1325	15,500	31	17,300
Huerfano Unit 99	Aug. 19,1958	7	1269	3,250	87	810
W. R. Weaver						
McAdams No. 4	Aug. 27,1958	7	1081	2,550	275	480
El Paso Natural Gas Co.						
Huerfano Unit 103	Jan. 17,1959	9	1088	1,900	268	260

GAS-OIL RATIO TEST
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

Operator Lease & Well	Test Date	Oil Prod. BOPD	GOR Cu. Ft./Bbl.
W. R. Weaver McAdams No. 1	3-28-59	23	88,590
McAdams No. 2	3-28-59	28	130,990
McAdams No. 3	3-28-59	104	5,221
McAdams No. 4	3-28-59	28	116,636
El Paso Natural Gas Huerfano Unit No. 99	3-26-59	43	55,906
Huerfano Unit No. 103	3-13-59	23	98,947
Huerfano Unit No. 105	3-28-59	87	11,210
Huerfano Unit No. 107	3-29-59	290	2,572
Huerfano Unit No. 92	4-11-59	8	47,375
Pan American Petroleum Corp. McAdams "B" No. 1	3-8-59	43	2,675

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am. EXHIBIT NO. 3-A
CASE 1641

GAS-OIL RATIO TEST
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

Operator Lease & Well	Test Date	Oil Prod. BOPD	GOR Cu. Ft./Bbl.
W. R. Weaver McAdams No. 1	3-28-59	23	88,550
McAdams No. 2	3-28-59	28	130,930
McAdams No. 3	3-28-59	104	5,221
McAdams No. 4	3-28-59	28	116,636
El Paso Natural Gas Huerfano Unit No. 99	3-26-59	43	55,906
Huerfano Unit No. 103	3-13-59	23	98,947
Huerfano Unit No. 105	3-28-59	87	11,210
Huerfano Unit No. 106	4-30-59	59	62,983
Huerfano Unit No. 107	3-29-59	290	2,573
Huerfano Unit No. 92	4-11-59	8	47,375
Pan American Petroleum Corp. McAdams "B" No. 1	6-30-59	28	10,173
McAdams "B" No. 2	7-5-59	112	4,220

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am. EXHIBIT NO. 3-A
CASE 1641

INITIAL BOTTOM HOLE PRESSURE DATA
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

Operator Lease & Well	Date of Prod. Meas.	Shut-In Time - Days	Initial BHP-PSIG (Datum +4500)	Distance To Nearest Producing Well - Ft.	Pressure Draw Down PSIG	Minimum Drainage Area-Acres	Pressure Draw Down % of Orig Pressure
W. R. Weaver McAdams No. 1	Apr. 29,1958	7	1620	Original Reservoir Pressure			
El Paso Natural Gas Co. Huerfano Unit 99	Aug. 19,1958	7	1512	3,100	108	693	6.7
W. R. Weaver McAdams No. 4	Aug. 27,1958	7	1290	2,450	330	433	20.4
McAdams No. 3	Sept. 3,1958	7	1450	2,600	170	488	11.5
El Paso Natural Gas Co. Huerfano Unit No. 103	Jan. 17,1959	9	1305	1,980	325	283	20.0
	Mar. 4, 1959	42	1270*	1,980	350	283	21.6
Huerfano Unit No. 92	Jan. 22,1959	7	1585	35,500	35	17,300	2.6
Huerfano Unit No. 106	Mar. 20,1959	7	1320	3,350	300	909	16.5
Huerfano Unit No. 107	Mar. 25,1959	33	1125*	2,175	195	321	12.0
Pan American McAdams "B" No. 2	June 26,1959	3	1300*	3,300	320	693	19.8

* BHP measured with BHP Bomb.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am. EXHIBIT NO. 3-A
CASE 1641

A

CROSS SECTION A-A'
ANGELS PEAK GALLUP FLD.

EL PASO
HUERFANO UNIT NO. 104
SE/4 SEC. 17-26-10

EL PASO
HUERFANO UNIT NO. 103
NW/4 SEC. 3-26-10

W. R. WEAVER
Mc ADAMS NO.4
SW/4 SEC. 34-27-10

W. R. WEAVER
Mc ADAMS NO.3
SE/4 SEC. 28-27-10

PAN AMERICAN
C. A. Mc ADAMS 'B' NO.1
SE/4 SEC. 28-27-10

A'

PAN AMERICAN
J.C. GORDEN "D" NO. 1
SE/4 SEC. 22-27-10

+700
+600
+500
+400
+300

ESTIMATED LIMIT OF COMMERCIAL PRODUCTION

GAS - OIL CONTACT (-420)

GALLUP SAND

+700
+600
+500
+400
+300
+200

ESTIMATED LIMIT OF COMMERCIAL PRODUCTION

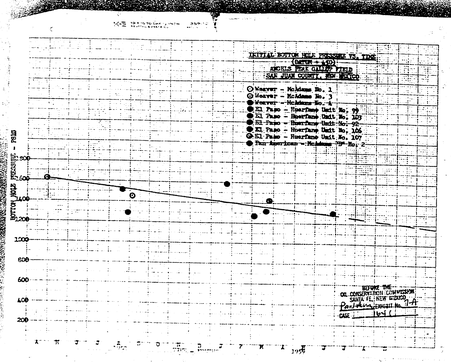
PAN AMERICAN
EXHIBIT No. 2

PRESSURE DATA
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

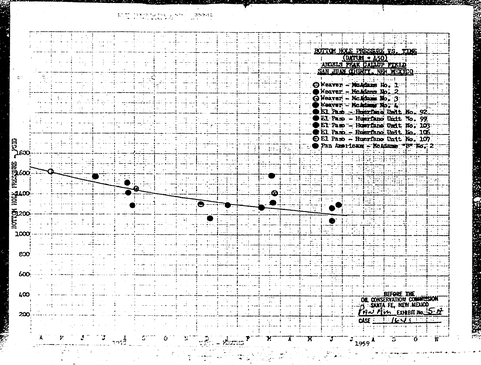
Operator Lease & Well	Shut-In Surface Pressure PSIG(Dead Wt. Meas.)	Shut-In Flow-Days	Date Pressure Measured	Date of First Prod. (MCFD)	Cum. to Test Date - MCF (MCFD)	Calculated BHP - PSIG (Datum +4500)	Bomb Meas. BHP - PSIG (Datum +4500)
W. R. Weaver McAdams No. 1	1356	7	4-29-58	April, 1958	1)186	1620	
	1090	7	12-6-58		350,703	1300	
McAdams No. 2	1187	7	8-20-58	May, 1958	169,847	1410	
	1094	7	12-6-58		354,771	1273	
	1066	7	6-15-59		522,700	1068	
McAdams No. 3	1218	7	9-3-58	Nov., 1958	0		
	757	7	10-23-58		0		1450
							Non-representative Surf. Press.
McAdams No. 4	1041	7	8-27-58	Sept.,1958	0		1290
	775	7	12-22-58		475,200		1162
	956	7	6-15-59		765,200		1140
El Paso Natural Gas Co. Huerfano Unit No. 92	1325	7	7-3-58	April,1959	0		1575
	1333	7	3-20-59		0		1585
Huerfano Unit No. 99	1269	7	8-19-58	Feb., 1959	0		1512
Huerfano Unit No. 103	1081	9	1-19-59	March,1959	0		1295
	1066	42	3-4-59		0		1275
Huerfano Unit No. 106	1123	7	3-20-59	April,1959	0		1330
Huerfano Unit No. 107	1182	33	3-25-59	April,1959	0	1410	1425
Pan American McAdams "B" No. 2		3	6-26-59	April,1959	0	1410	1300

Note: May and June, 1959, Production estimated to be equal to Allowable.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am. EXHIBIT NO. 3-A
CASE 1641



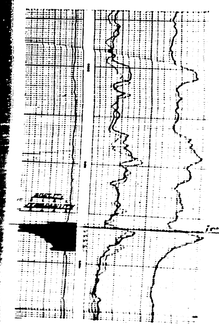
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am. EXHIBIT NO. 3-A
CASE 1641

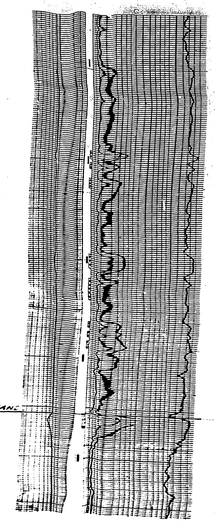


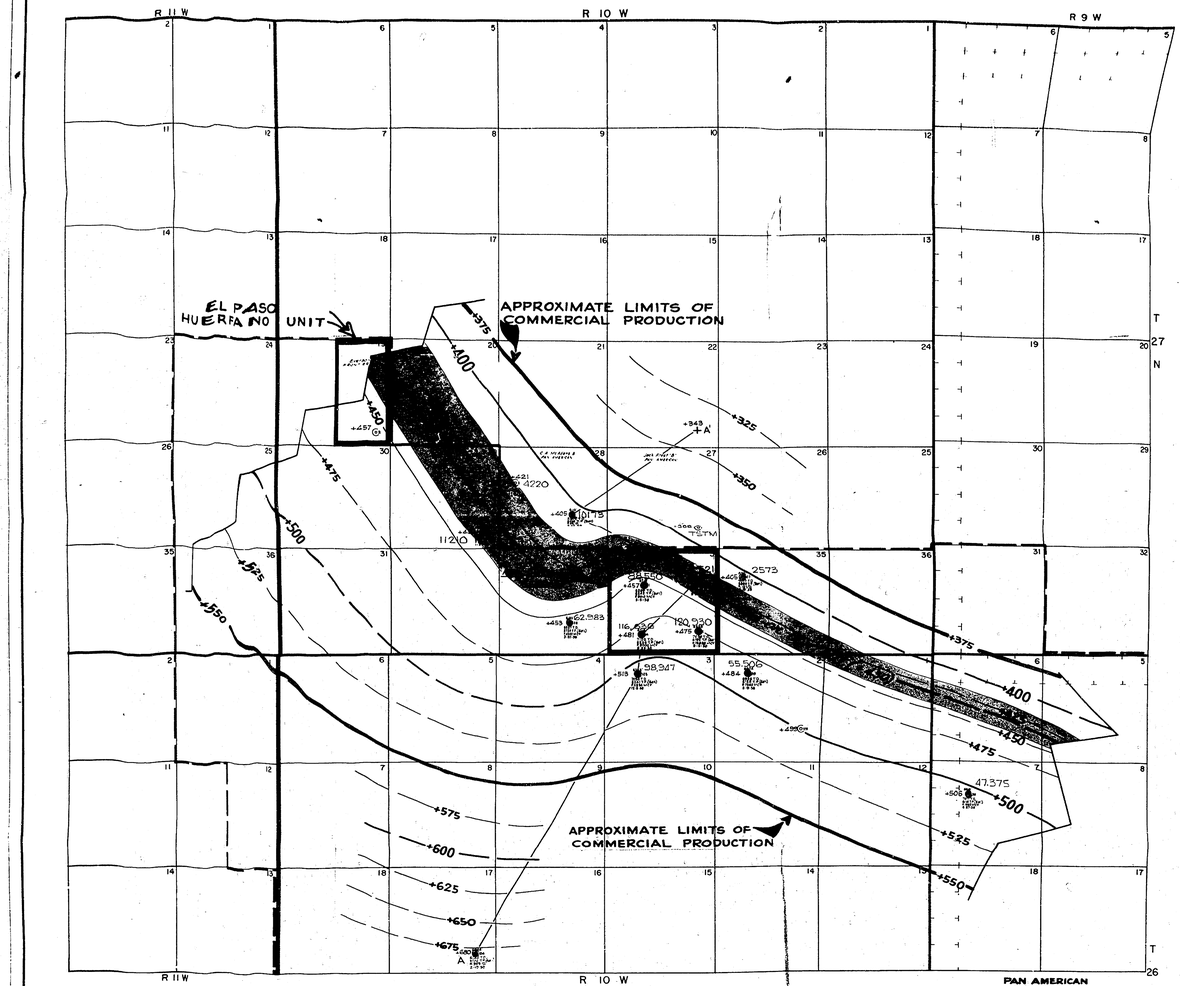
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am. EXHIBIT NO. 3-A
CASE 1641

JACK FROST B-1

HUERFANO UNIT 107







LEGEND

- Oil to Gas Transition Zone
- Oil Wells
- Gas Wells
- Drilling Well
- Structure Control Point

5521 GOR

STRUCTURE MAP
ANGELS PEAK GALLUP FLD.

CONTOURED ON MAIN GALLUP SAND
(5704' IN PAN AMERICANS, McADAMS B-1)
C.I. = 25'
SCALE 1"=2000'

CROSS SECTION A-A'
ANGELS PEAK GALLUP FLD.

A

EL PASO
HUERFANO UNIT NO. 104
SE/4 SEC. 17-26-10

EL PASO
HUERFANO UNIT NO. 103
NW/4 SEC. 3-26-10

W. R. WEAVER
Mc ADAMS NO. 4
SW/4 SEC. 34-27-10

W. R. WEAVER
Mc ADAMS NO. 3
SE/4 SEC. 28-27-10

PAN AMERICAN
C. A. Mc ADAMS "B" NO. 1
SE/4 SEC. 28-27-10

A'

PAN AMERICAN
J.C. GORDEN "D" NO. 1
SE/4 SEC. 22-27-10

+700
+600
+500
+400
+300
+200

ESTIMATED LIMIT OF COMMERCIAL PRODUCTION

GAS - OIL CONTACT (+430)

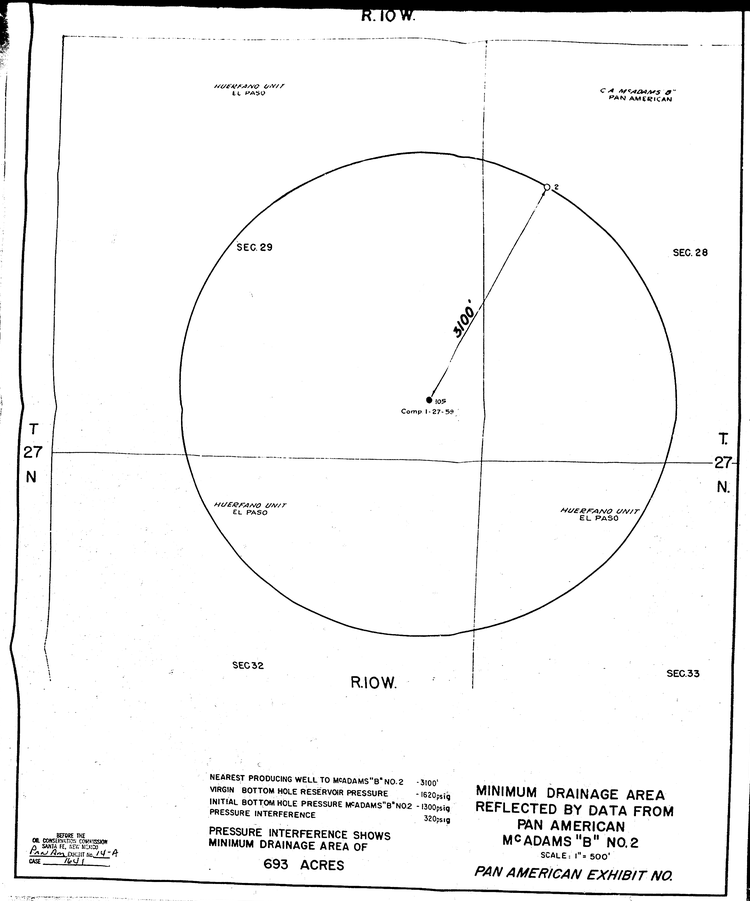
MAIN GALLUP SAND

Datum 28 - Gallup

ESTIMATED LIMIT OF COMMERCIAL PRODUCTION

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1641

PAN AMERICAN
EXHIBIT No. 2

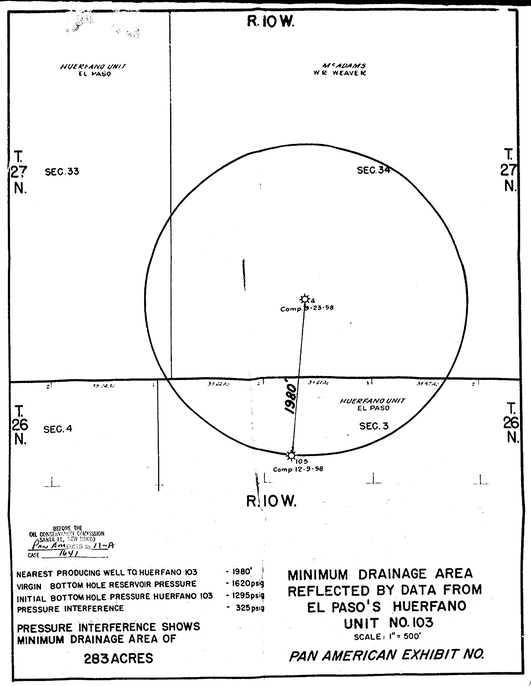


NEAREST PRODUCING WELL TO McADAMS "B" NO. 2 - 3100'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620 psig
INITIAL BOTTOM HOLE PRESSURE McADAMS "B" NO. 2 - 1300 psig
PRESSURE INTERFERENCE - 320 psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
693 ACRES

MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM PAN AMERICAN McADAMS "B" NO. 2
SCALE: 1" = 500'
PAN AMERICAN EXHIBIT NO.

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Pan Am. EXHIBIT No. 14-A
CASE 1611

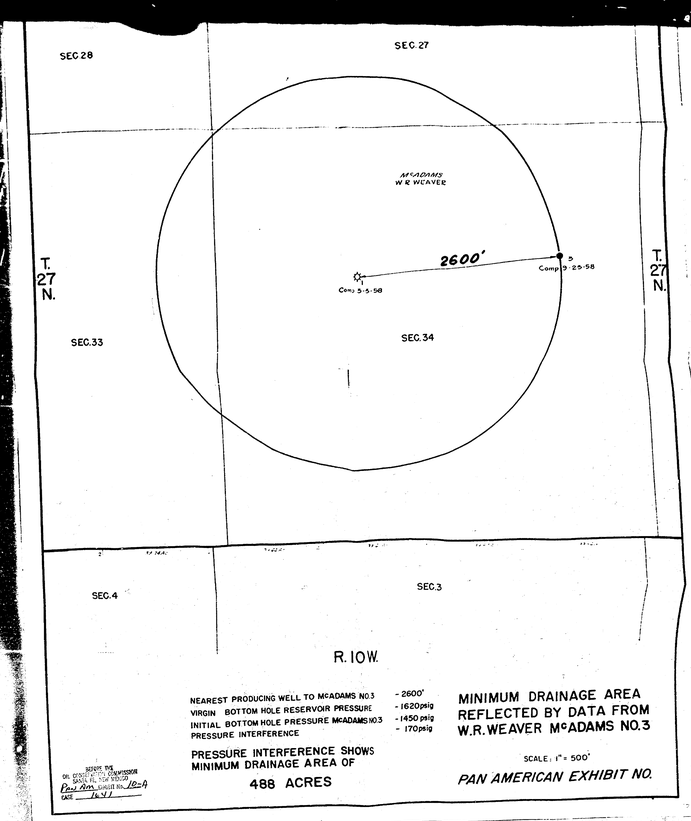


NEAREST PRODUCING WELL TO HUERFANO 103 - 1980'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620 psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO 103 - 1295 psig
PRESSURE INTERFERENCE - 325 psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
283 ACRES

MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM EL PASO'S HUERFANO UNIT NO. 103
SCALE: 1" = 500'
PAN AMERICAN EXHIBIT NO.

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Pan Am. EXHIBIT No. 11-A
CASE 1611

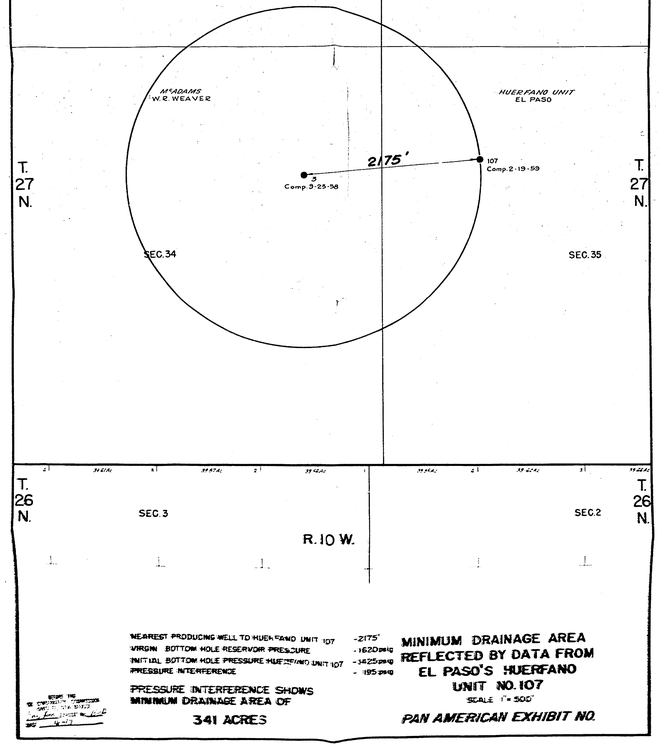


NEAREST PRODUCING WELL TO McADAMS NO. 3 - 2600'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620 psig
INITIAL BOTTOM HOLE PRESSURE McADAMS NO. 3 - 1450 psig
PRESSURE INTERFERENCE - 170 psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
488 ACRES

MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM W.R. WEAVER McADAMS NO. 3
SCALE: 1" = 500'
PAN AMERICAN EXHIBIT NO.

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Pan Am. EXHIBIT No. 12-A
CASE 1611

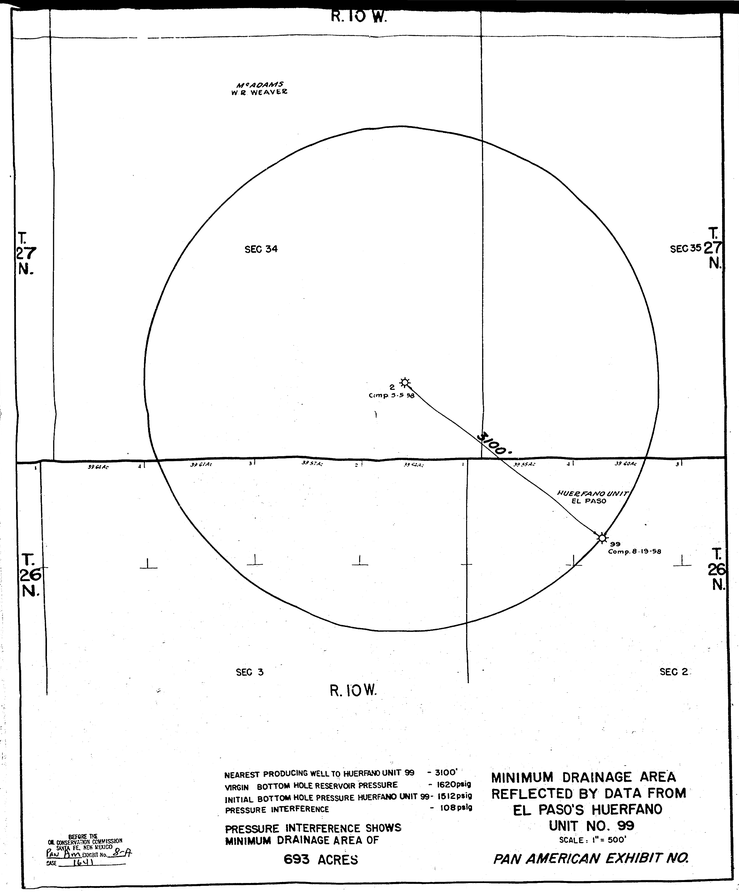


NEAREST PRODUCING WELL TO HUERFANO UNIT 107 - 2175'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620 psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO UNIT 107 - 1425 psig
PRESSURE INTERFERENCE - 195 psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
341 ACRES

MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM EL PASO'S HUERFANO UNIT NO. 107
SCALE: 1" = 500'
PAN AMERICAN EXHIBIT NO.

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Pan Am. EXHIBIT No. 13-A
CASE 1611



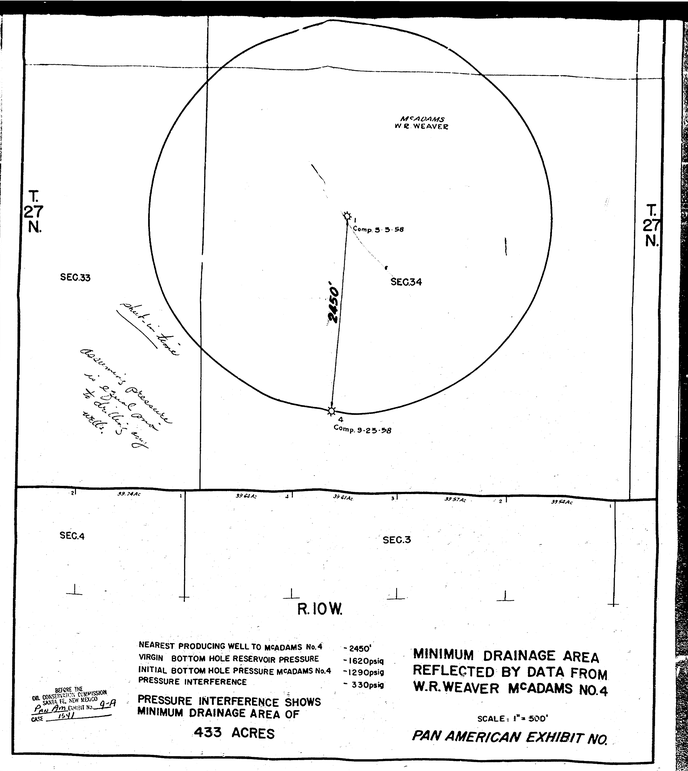
NEAREST PRODUCING WELL TO HUERFANO UNIT 99 - 3100'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO UNIT 99 - 1512psig
PRESSURE INTERFERENCE - 108psig

PRESSURE INTERFERENCE SHOWS
MINIMUM DRAINAGE AREA OF
693 ACRES

MINIMUM DRAINAGE AREA
REFLECTED BY DATA FROM
EL PASO'S HUERFANO
UNIT NO. 99
SCALE: 1" = 500'

PAN AMERICAN EXHIBIT NO.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am EXHIBIT NO. 9-A
CASE 1541



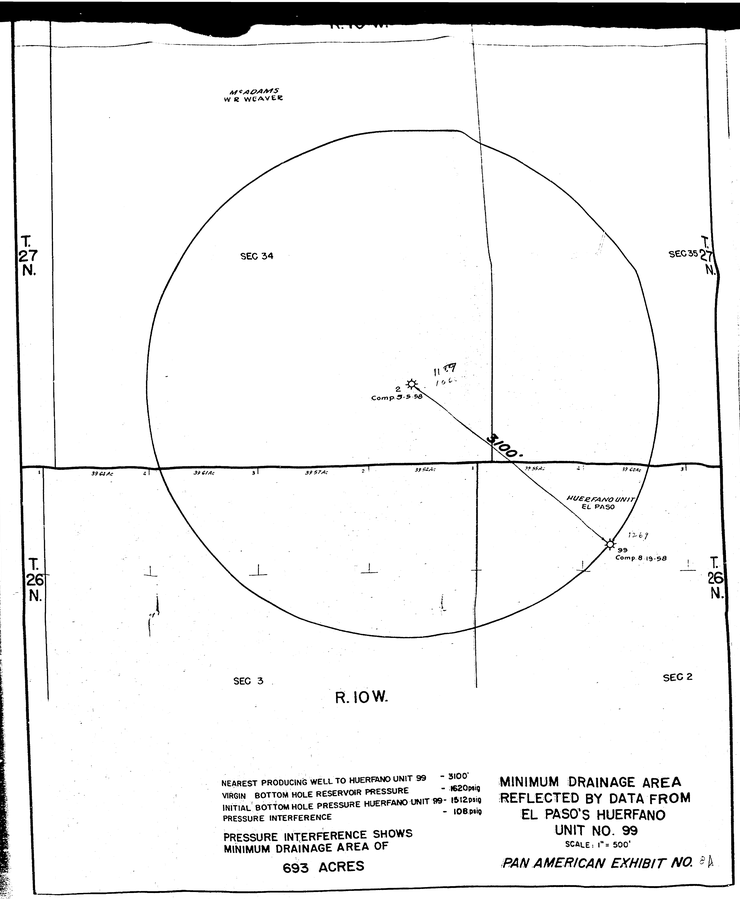
NEAREST PRODUCING WELL TO McADAMS No. 4 - 2450'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE McADAMS No.4 - 1290psig
PRESSURE INTERFERENCE - 330psig

PRESSURE INTERFERENCE SHOWS
MINIMUM DRAINAGE AREA OF
433 ACRES

MINIMUM DRAINAGE AREA
REFLECTED BY DATA FROM
W.R. WEAVER McADAMS NO.4
SCALE: 1" = 500'

PAN AMERICAN EXHIBIT NO.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pan Am EXHIBIT NO. 9-A
CASE 1541

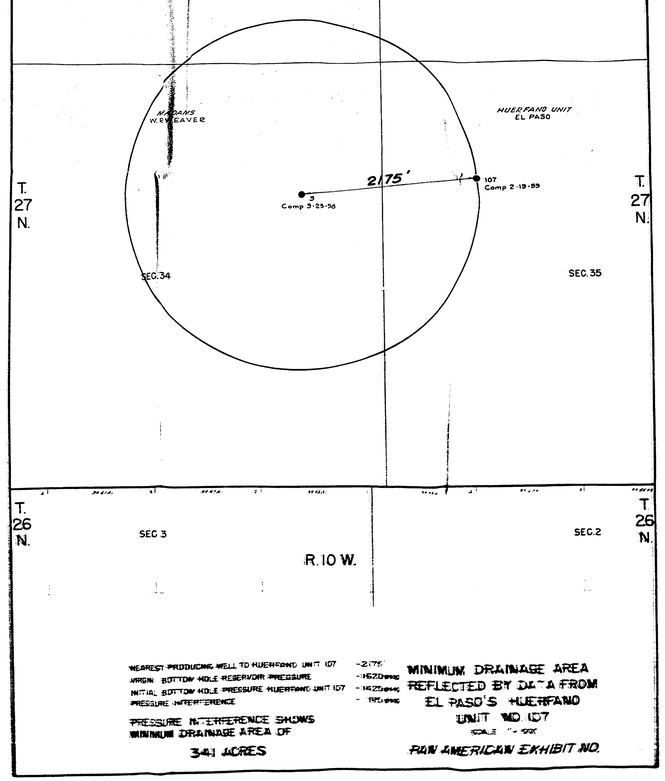


NEAREST PRODUCING WELL TO HUERFANO UNIT 99 - 3100'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO UNIT 99 - 1512psig
PRESSURE INTERFERENCE - 108psig

PRESSURE INTERFERENCE SHOWS
MINIMUM DRAINAGE AREA OF
693 ACRES

MINIMUM DRAINAGE AREA
REFLECTED BY DATA FROM
EL PASO'S HUERFANO
UNIT NO. 99
SCALE: 1" = 500'

PAN AMERICAN EXHIBIT NO. 9-A

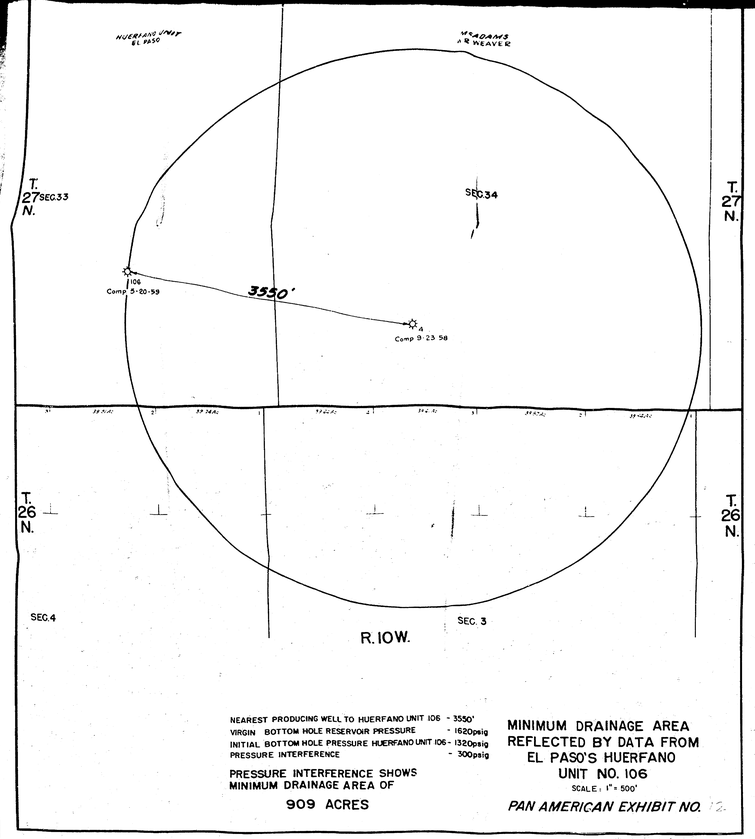


NEAREST PRODUCING WELL TO HUERFANO UNIT 107 - 2175'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO UNIT 107 - 1425psig
PRESSURE INTERFERENCE - 195psig

PRESSURE INTERFERENCE SHOWS
MINIMUM DRAINAGE AREA OF
341 ACRES

MINIMUM DRAINAGE AREA
REFLECTED BY DATA FROM
EL PASO'S HUERFANO
UNIT NO. 107
SCALE 1" = 500'

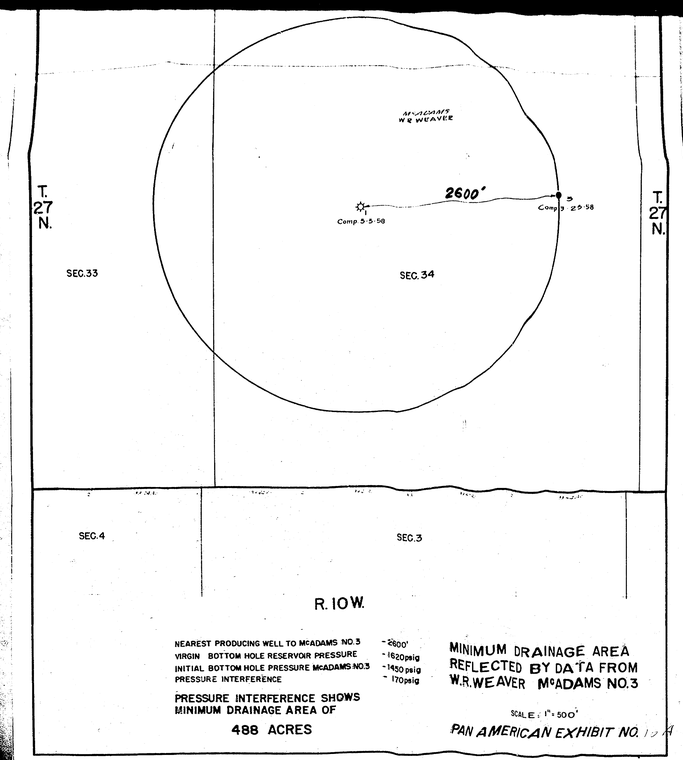
PAN AMERICAN EXHIBIT NO.



NEAREST PRODUCING WELL TO HUERFANO UNIT 106 - 3550'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO UNIT 106 - 1320psig
PRESSURE INTERFERENCE - 300psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
909 ACRES

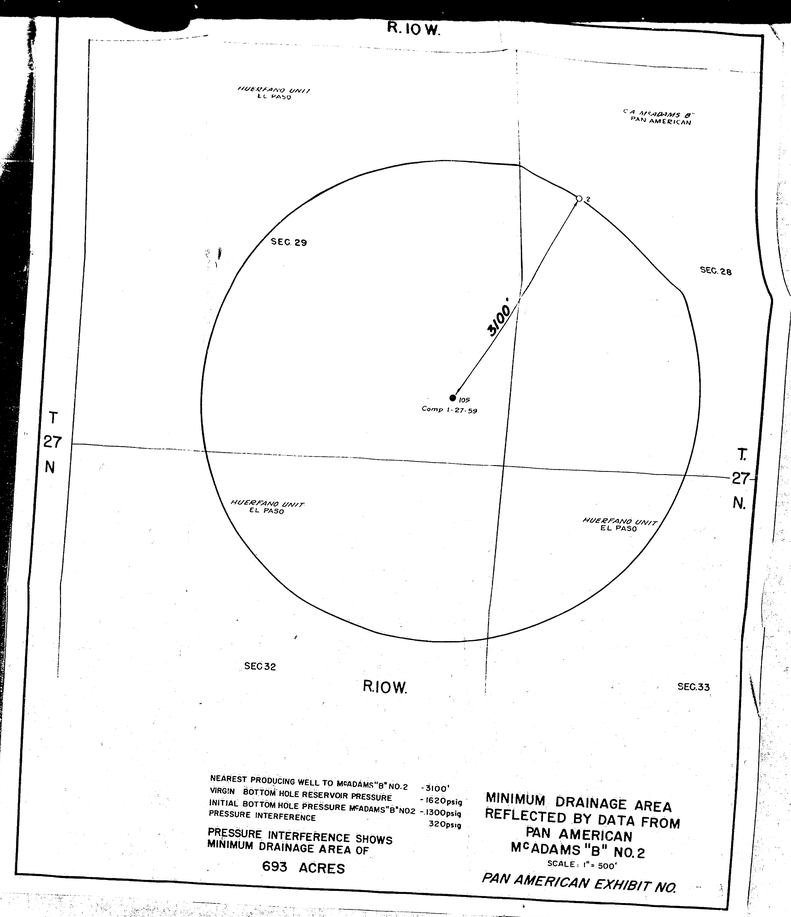
MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM EL PASO'S HUERFANO UNIT NO. 106
SCALE: 1" = 500'
PAN AMERICAN EXHIBIT NO. 12



NEAREST PRODUCING WELL TO McADAMS NO.3 - 2600'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE McADAMS NO.3 - 1450 psig
PRESSURE INTERFERENCE - 170psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
488 ACRES

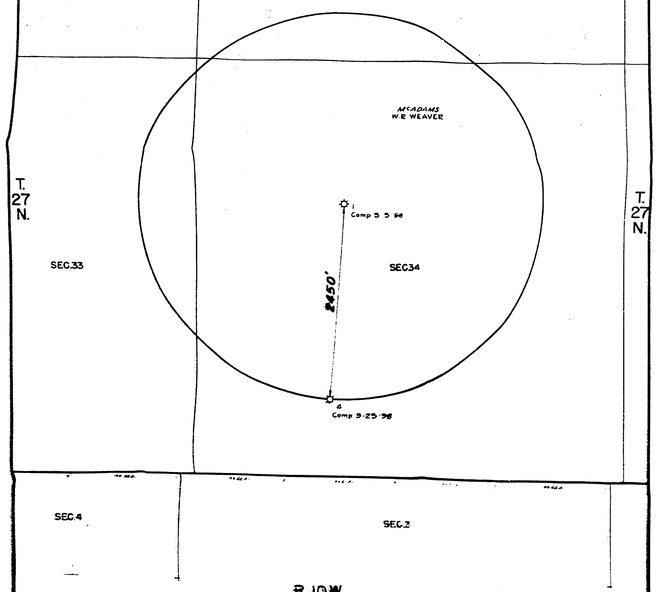
MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM W.R. WEAVER McADAMS NO.3
SCALE: 1" = 500'
PAN AMERICAN EXHIBIT NO. 12-A



NEAREST PRODUCING WELL TO McADAMS "B" NO.2 - 3100'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE McADAMS "B" NO2 - 1300psig
PRESSURE INTERFERENCE 320psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
693 ACRES

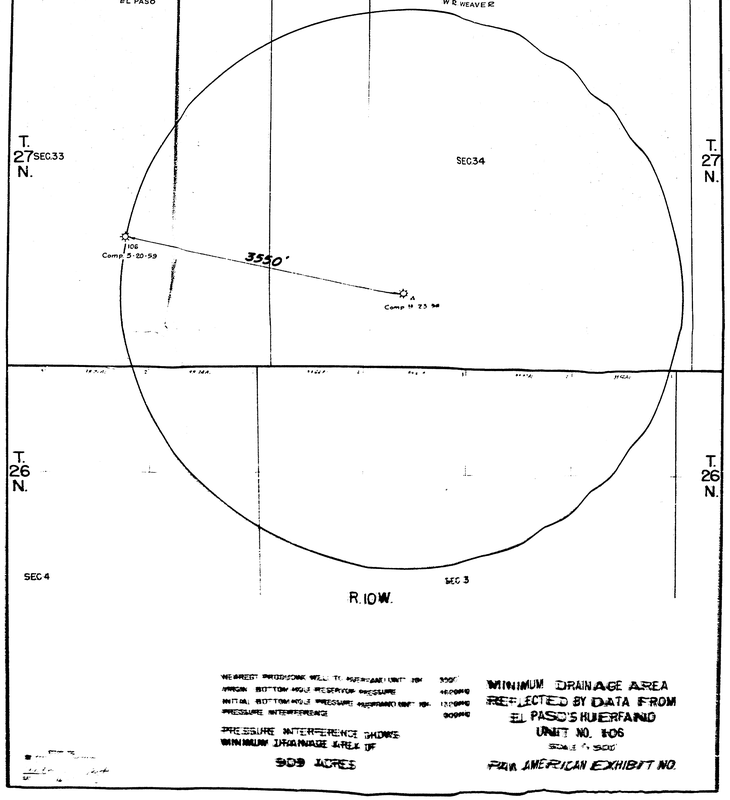
MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM PAN AMERICAN McADAMS "B" NO.2
SCALE: 1" = 500'
PAN AMERICAN EXHIBIT NO.



NEAREST PRODUCING WELL TO McADAMS No. 4 - 2450'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE W. McADAMS No. 4 - 1283psig
PRESSURE INTERFERENCE - 330psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
433 ACRES

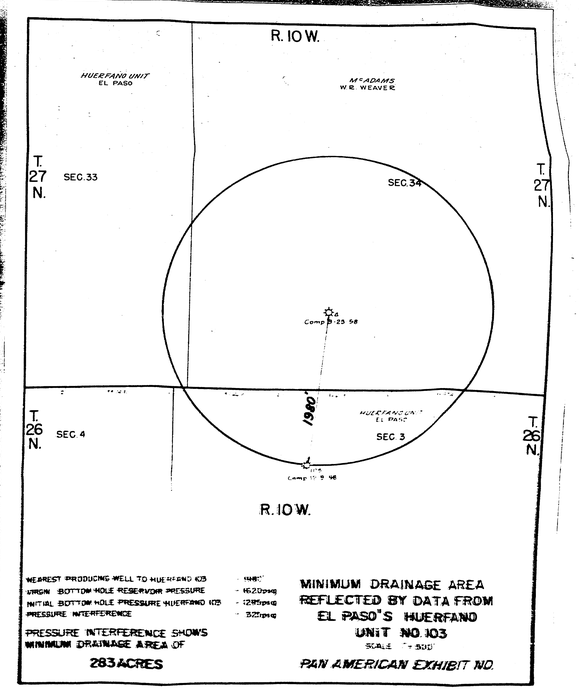
MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM W.R. WEAVER McADAMS NO.4
SCALE 1" = 500'
PAN AMERICAN EXHIBIT NO. 12



NEAREST PRODUCING WELL TO HUERFANO UNIT 106 - 3550'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO UNIT 106 - 1320psig
PRESSURE INTERFERENCE - 300psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
909 ACRES

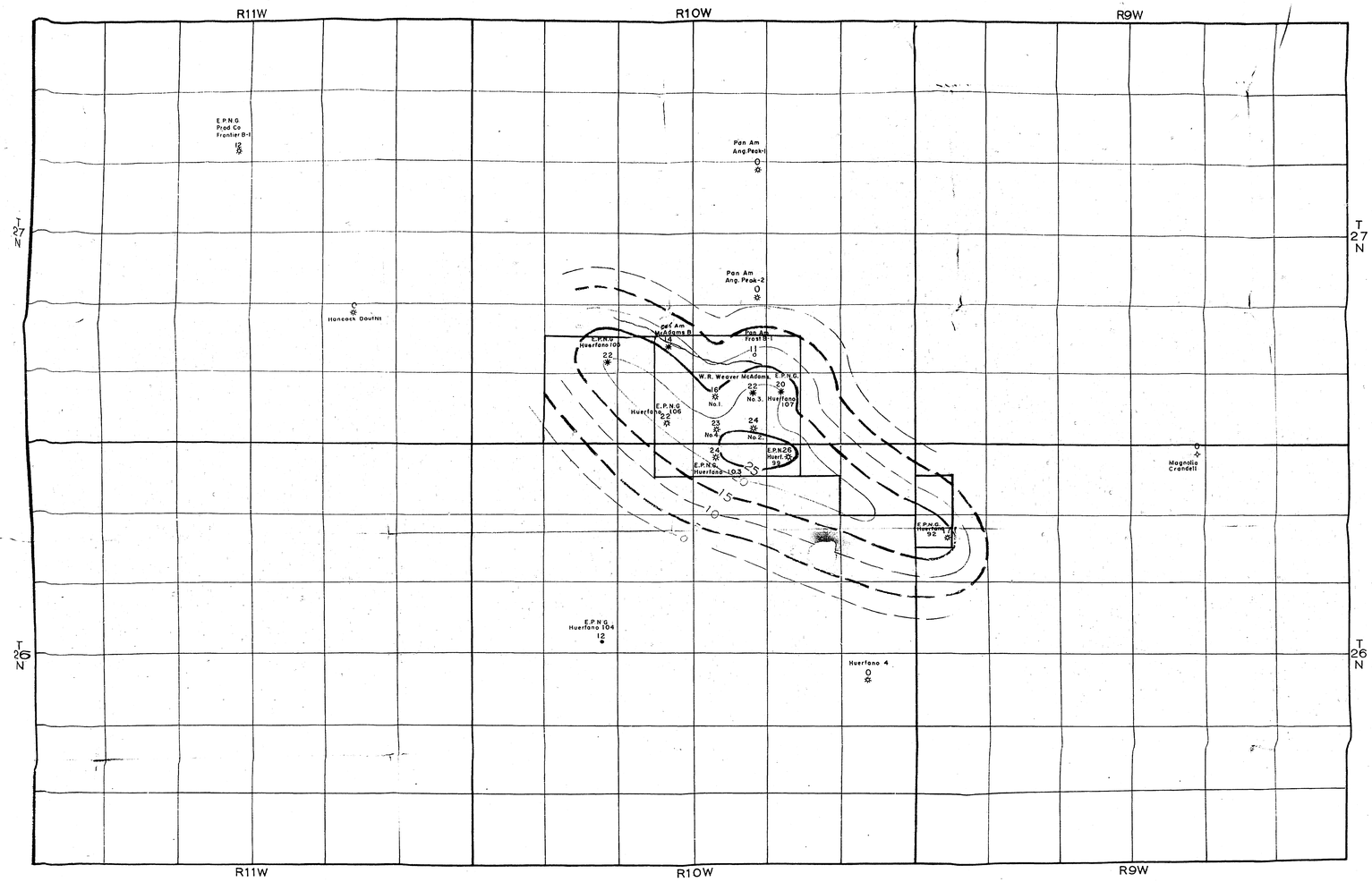
MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM EL PASO'S HUERFANO UNIT NO. 106
SCALE 1" = 500'
PAN AMERICAN EXHIBIT NO.



NEAREST PRODUCING WELL TO HUERFANO 103 - 1980'
VIRGIN BOTTOM HOLE RESERVOIR PRESSURE - 1620psig
INITIAL BOTTOM HOLE PRESSURE HUERFANO 103 - 1285psig
PRESSURE INTERFERENCE - 321psig

PRESSURE INTERFERENCE SHOWS MINIMUM DRAINAGE AREA OF
283 ACRES

MINIMUM DRAINAGE AREA REFLECTED BY DATA FROM EL PASO'S HUERFANO UNIT NO. 103
SCALE 1" = 500'
PAN AMERICAN EXHIBIT NO.

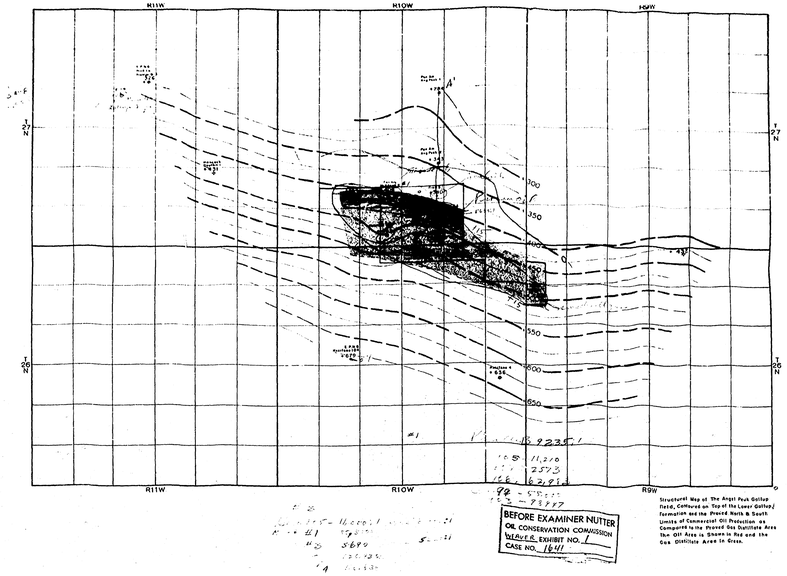


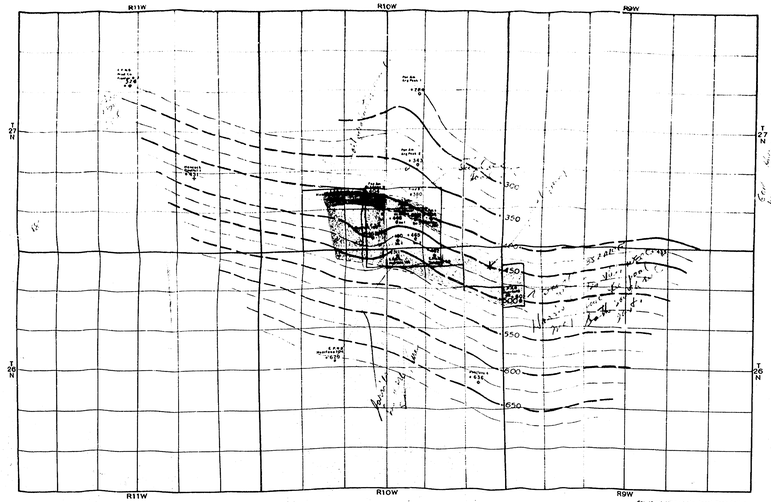
Isopach Map of the Angel Peak Gallup Field, Contoured on the Lower Gallup, Showing Rapid Thinning of Pay Section to the North

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO.
CASE NO.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 6
CASE NO. 1641

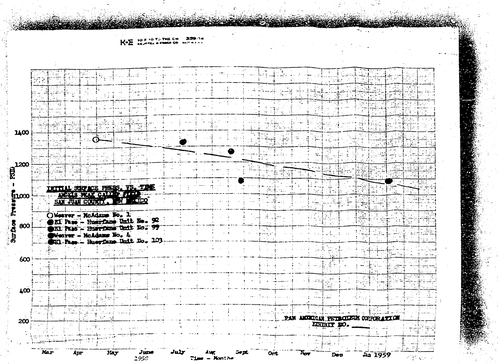
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 6
CASE NO. 1641

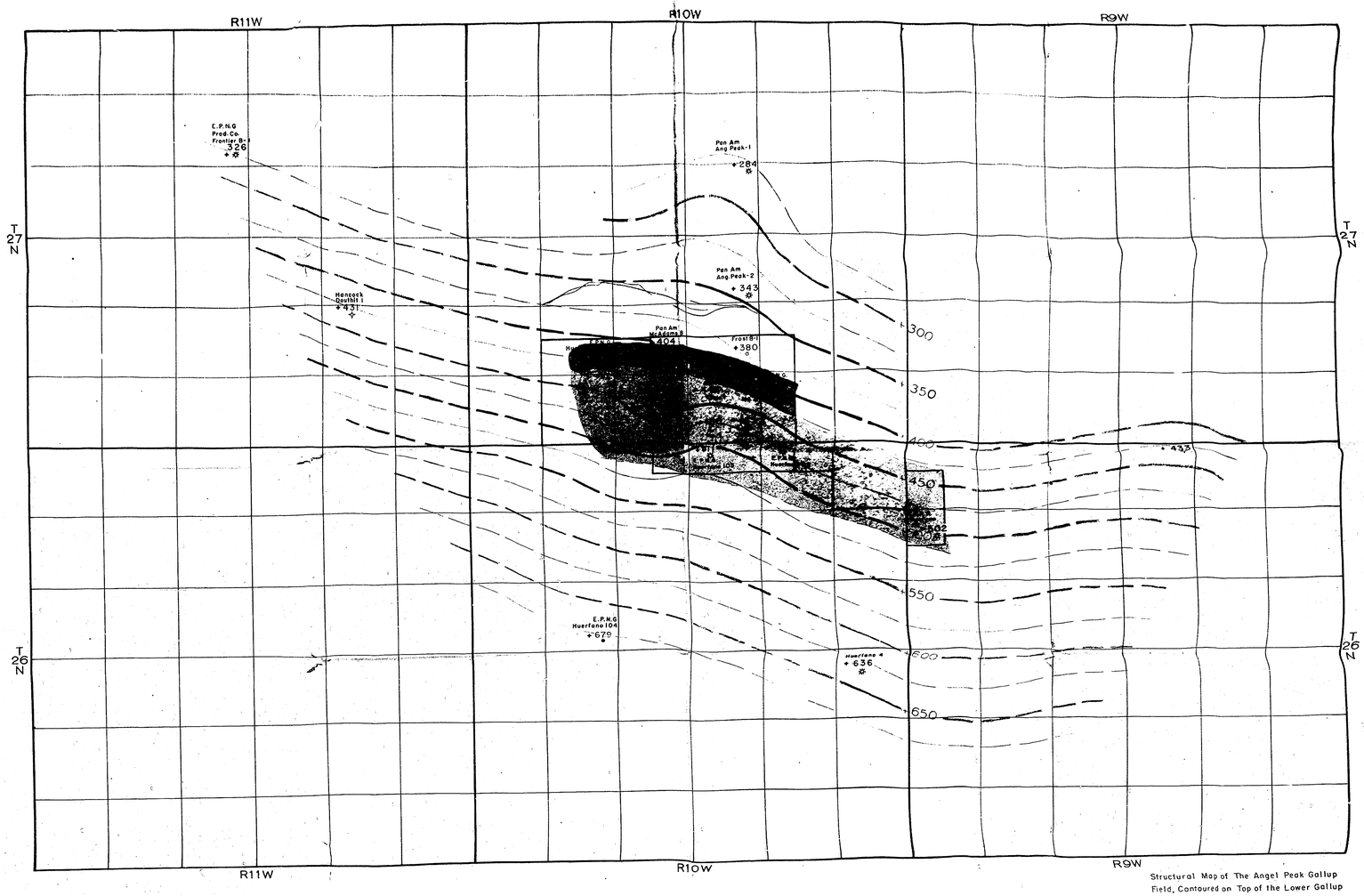

R11W
R10W
R9W
T 27 N
T 26 N
T 25 N
A
A'
Pay Oil
Pay Gas
Water
Gallup Sand
Lower Gallup
Pay Gas
Pay Oil



Structural Map of The Angel Peak Gallup Field, Contoured on Top of the Lower Gallup Formation and the Proved North & South Limits of Commercial Oil Production as Compared to the Proved Gas Distillate Area. The Oil Area is Shown in Red and the Gas Distillate Area in Green.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Werex EXHIBIT NO. 1
CASE NO. 1641





Structural Map of The Angel Peak Gallup Field, Contoured on Top of the Lower Gallup Formation and the Proved North & South Limits of Commercial Oil Production as Compared to the Proved Gas Distillate Area. The Oil Area is Shown in Red and the Gas Distillate Area in Green.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 1641

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 4
CASE NO. 1641

5646

5646

5646

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 4
CASE NO. 1641

#4

5646

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 2
CASE NO. 1641

10 Mexico wells
2 producing wells

no wells closer than
2,000 ft.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 7
CASE NO. 1641

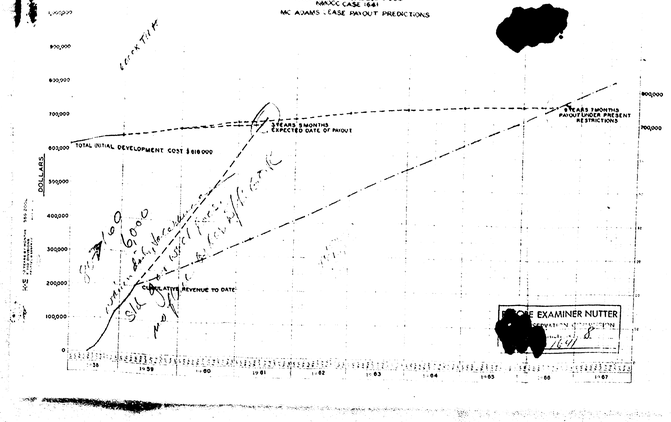
#7

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 7
CASE NO. 1641

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 3
CASE NO. 1641

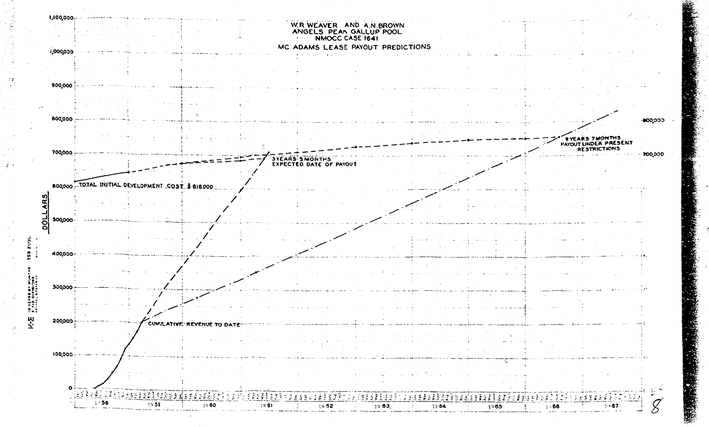
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 8
CASE NO. 1641

W.R. WEAVER AND A.N. BROWN
ANGELS PEAK GALLUP POOL
NMOCC CASE 1641
MC ADAMS - LEASE PAYOUT PREDICTIONS



BEFORE EXAMINER NUTTER

W.R. WEAVER AND A.N. BROWN
ANGELS PEAK GALLUP POOL
NMOCC CASE 1641
MC ADAMS LEASE PAYOUT PREDICTIONS



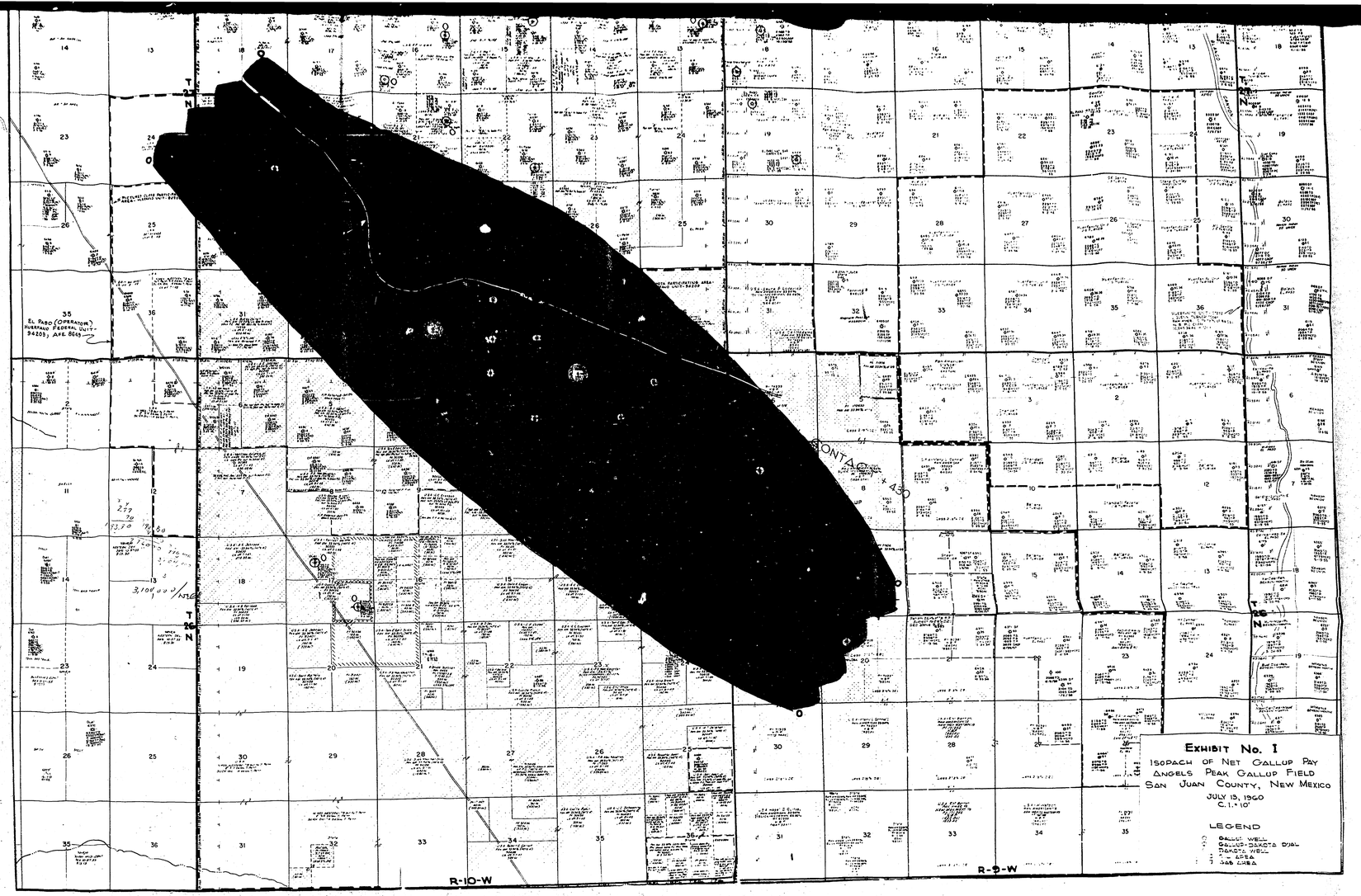
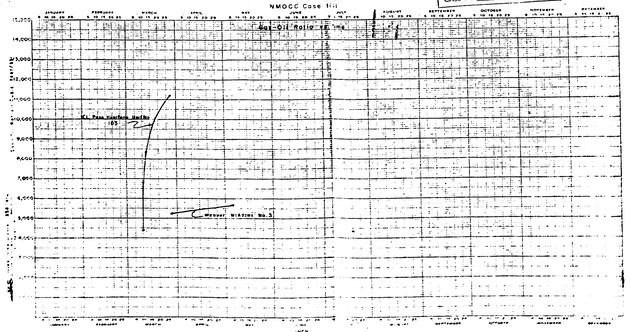


EXHIBIT No. 1
ISOPACH OF NET GALLUP PAY
ANGELS PEAK GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO
JULY 13, 1960
C.I. = 10'

LEGEND
- GALLUP WELL
- GALLUP-DAKOTA DUAL
- DAKOTA WELL
- 1 - 40 ACRE
- 3 - 308 ACRE

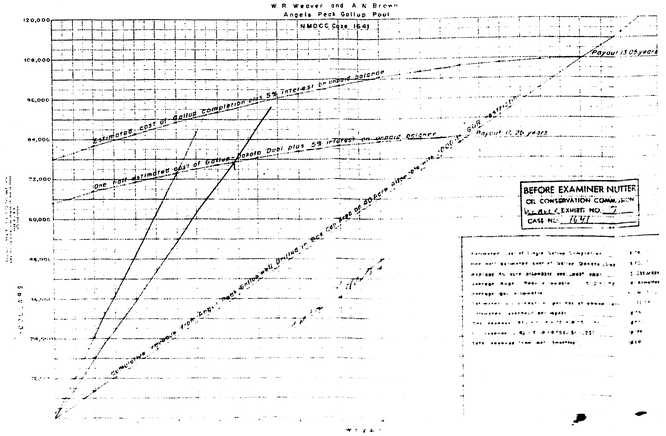
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
WEAVER EXHIBIT NO. 5
CASE NO. 1641

A.R. Weaver and A.N. Brown
Angels Peak Gallup Pool
NMOCC Case 1641

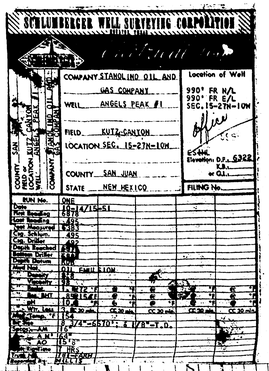


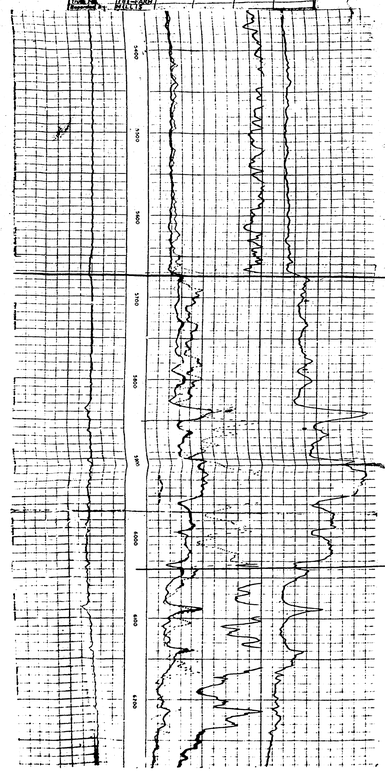
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
W. R. & A. N. EXHIBIT NO. 7
CASE NO. 1641

W.R. Weaver and A.N. Brown
Angels Peak Gallup Pool
NMOCC Case 1641

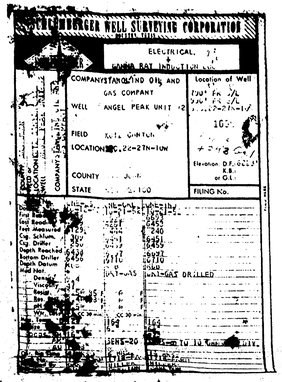


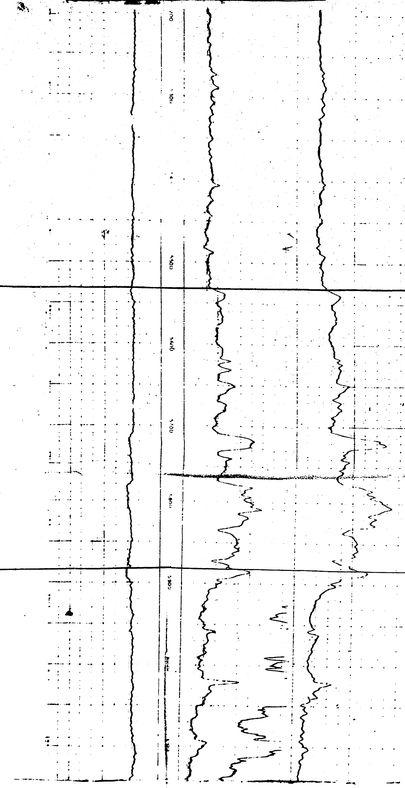
A'

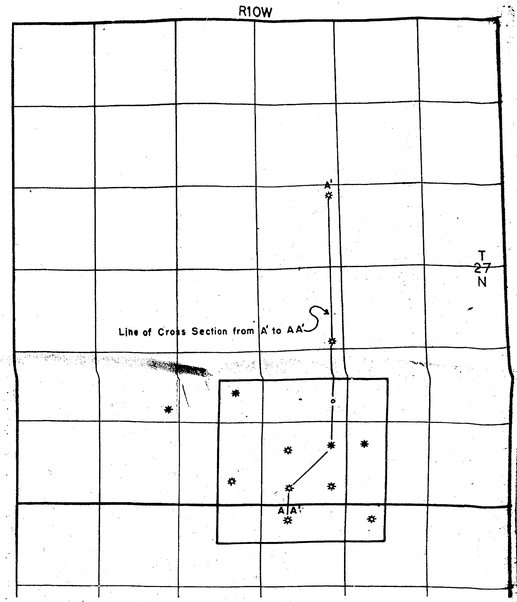




One & Three fourths miles







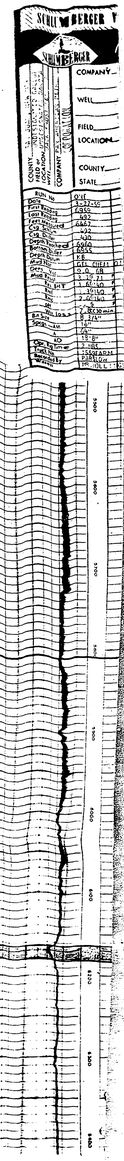
TOP OF GALLUP ZONE

Top of Angels Peak Gallup Pay Zone

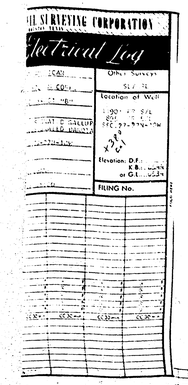
Base of Angels Peak Gallup Pay Zone

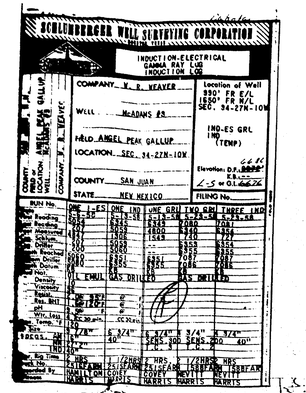
North-South Cross-Section from the Stanolind Angel Peak Unit No. 1 to The El Paso Natural Gas Co. No. 103 Huerfano Unit, Showing Pinchout of Gallup Pay to the North in the Angel Peak Gallup Pool.

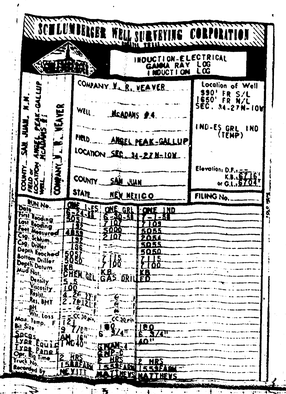
Horizontal Scale – 24 inches = 1 mile

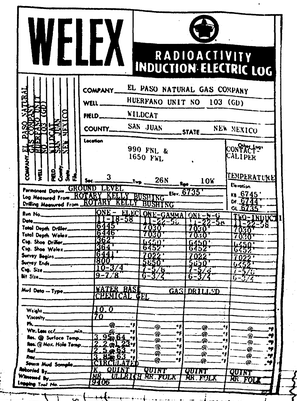


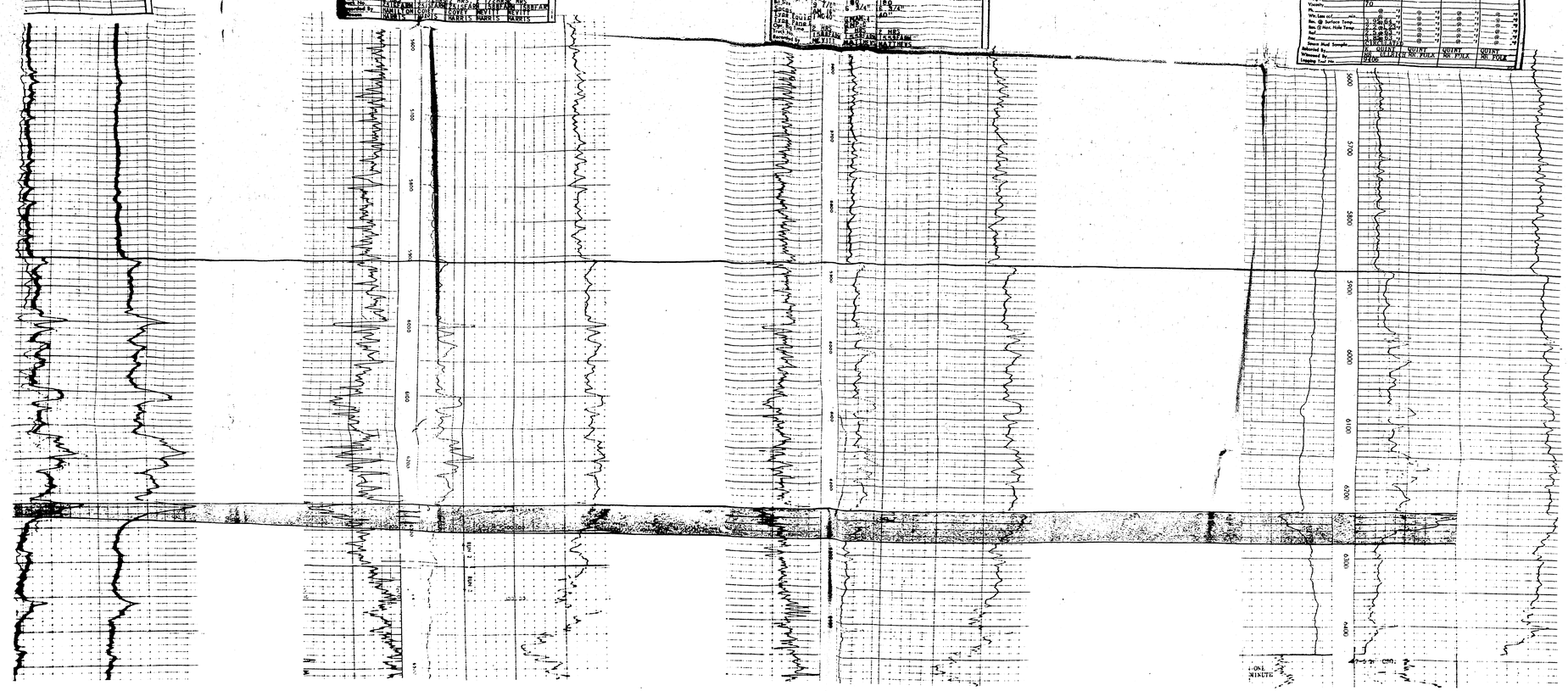
A A'











BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO.