

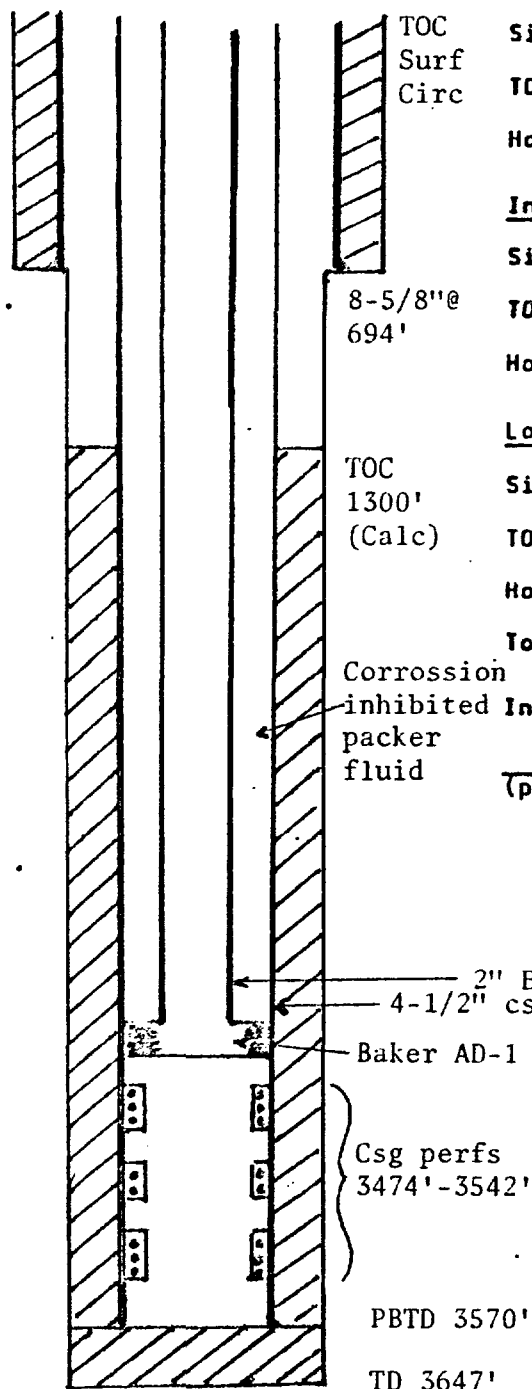
## INJECTION WELL DATA SHEET

The Eastland Oil Company Arco Federal  
 OPERATION LEASE

3 330' FNL, 1980' FWL 5 T18S R31E  
 WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE

Proposed re-entry and completion as injection well

## Schematic



## Tubular Data

## Surface Casing

Size 8 5/8 " Cemented with 350 sx.  
 TOC Surface feet determined by Circulation  
 Hole size 11"

## Intermediate Casing

Size          " Cemented with          sx.  
 TOC          feet determined by           
 Hole size         

## Long string (Proposed)

Size 4-1/2 " Cemented with 600 sx.  
 TOC 1300 feet determined by Calc  
 Hole size 7-7/8"

Total depth 3647' (3570' PB)

Injection interval perforated  
3542 feet to 3536 feet  
 (perforated or open-hole, indicate which)

3504' to 3500'  
 3486' to 3474'

BEFORE EXAMINER STOGNER  
 OIL CONSERVATION DIVISION  
*Emil* EXHIBIT NO. 8-A  
 CASE NO. 8286-82

Tubing size 2-3/8 EUE lined with TK-75 (fusion applied powder epoxy) set in a  
 (material)

Baker Model AD-1 Tension packer at 3450 feet.  
 (brand and model)

(or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No  
 If no, for what purpose was the well originally drilled? Oil and gas -

Plugged and abandoned 2-28-71

- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No zones perforated.  
3410-3298 w/40 sx, 2805-2693 w/40 sx, 1710-1598 w/40 sx, 758-646 w/40 sx,  
30' surface w/10 sx.

- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep "32" State #1 producing from undesignated Bone Springs (7742-7926') 1/2 mile North. Only other producing zone in area (1 mile

## INJECTION WELL DATA SHEET

The Eastland Oil Company

Allied Federal

OPERATOR

LEASE

2

660' FNL, 1980' FEL

6

T18S

R31E

WELL NO.

FOOTAGE LOCATION

SECTION

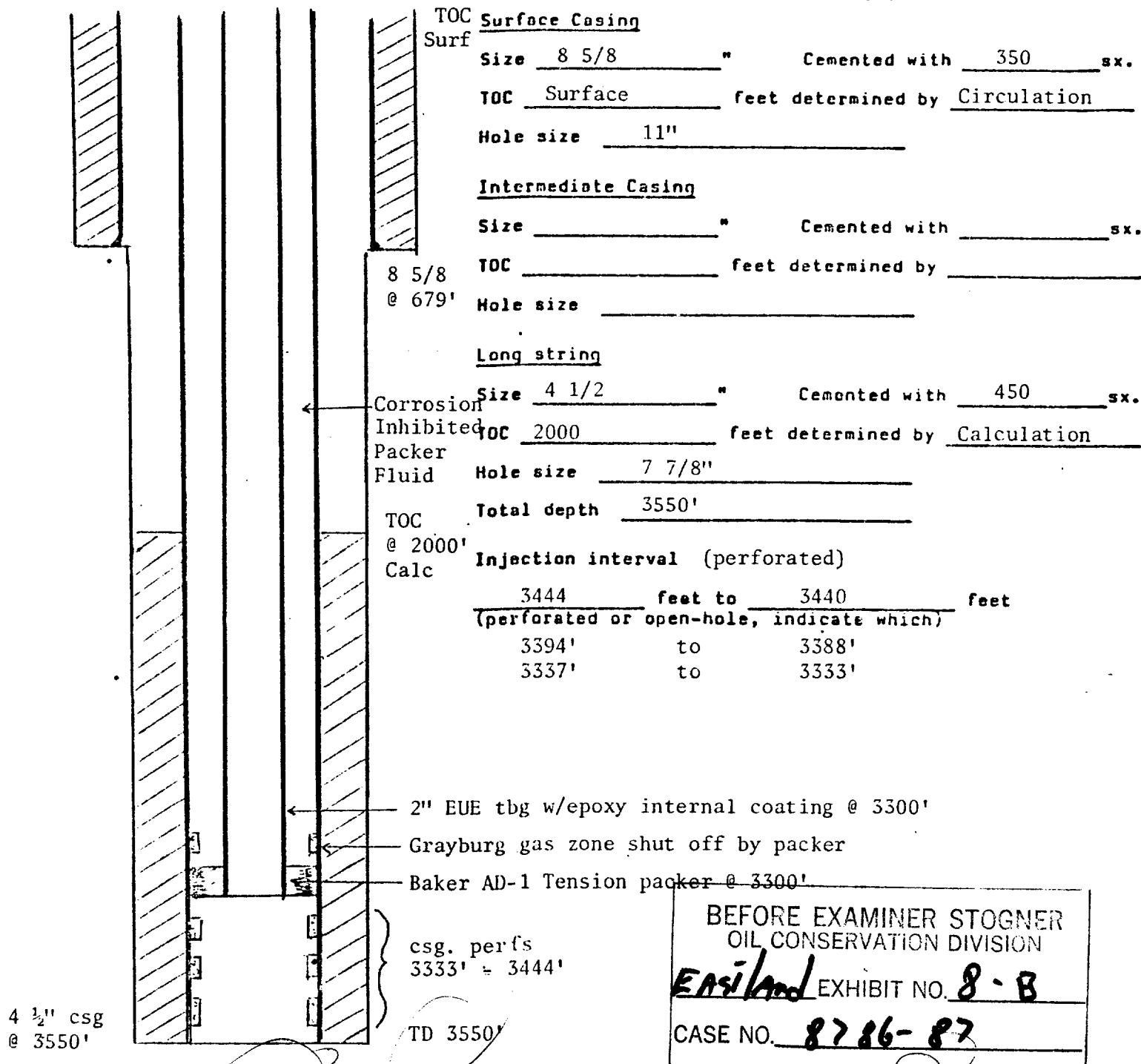
TOWNSHIP

RANGE

Producing well from Grayburg. Completed 1-17-71

## Schematic

## Tabular Data



Tubing size 2 3/8" EUE lined with TK-75 (fusion applied powder epoxy) set in a  
(material)  
Baker Model AD-1 Tension packer at 3300 feet.  
(brand and model)  
(or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Grayburg
- Name of field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No  
If no, for what purpose was the well originally drilled? Oil and Gas
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Additionally  
perforated in Grayburg zone 3164 - 3174'. Presently open to well bore, but  
will be shut off by packer.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep 32 State #1 producing from Bone Springs  
(7742 - 7926') in undesignated pool. No other producing zones in area.

## INJECTION WELL DATA SHEET

The Eastland Oil Company

Kenwood Federal

OPERATION

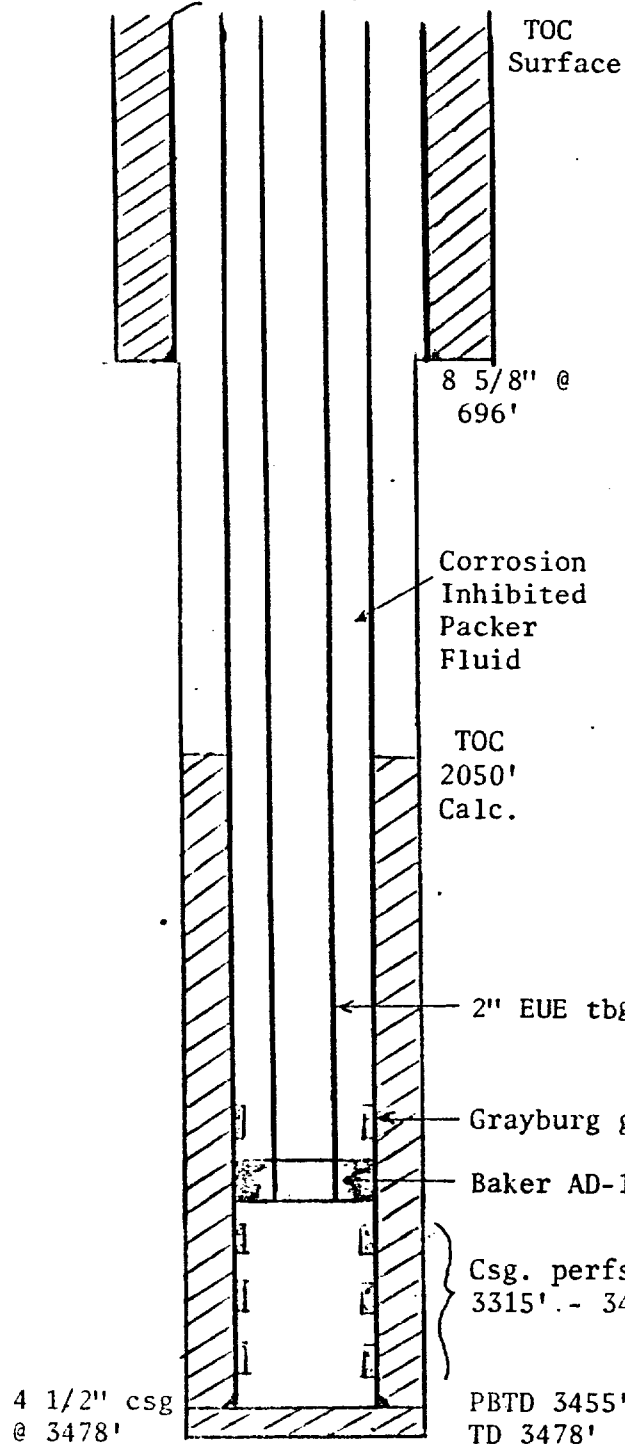
LEASE

WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
3	660' FNL & 660' FWL	6	T18S	R31E

Producing well from Power Grayburg. Completed 4-2-71

## Schematic

## Tubular Data



## Surface Casing

Size 8 5/8 " Cemented with 350 sx.TOC Surface                      feet determined by CirculationHole size 11"

## Intermediate Casing

Size                      " Cemented with                      sx.TOC                      feet determined by                     Hole size                     

## Long string

Size 4 1/2 " Cemented with 250 sx.TOC 2050 feet determined by CalculationHole size 7 7/8"Total depth 3478'3455' PB

## Injection interval

<u>3441</u>	feet to	<u>3435</u>	feet
(perforated or open-hole, indicate which)			
<u>3377</u>	to	<u>3373</u>	
<u>3323</u>	to	<u>3315</u>	

BEFORE EXAMINER STONER  
OIL CONSERVATION DIVISIONEastland EXHIBIT NO. 8-CCASE NO. 8786-87

Tubing size 2 3/8" EUE lined with TD-75 (Fusion applied powder epoxy) set in a  
(material)  
Baker Model AD-1 Tension packer at 3280 feet.  
(brand and model)

(or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No  
If no, for what purpose was the well originally drilled? Oil and Gas
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Additionally  
perforated in Grayburg gas zone 3121 - 3139' and open to well bore. Will be  
shut off by packer.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep 32 State #1 producing from Bone Springs  
in undesignated pool. No other producing zones in area.

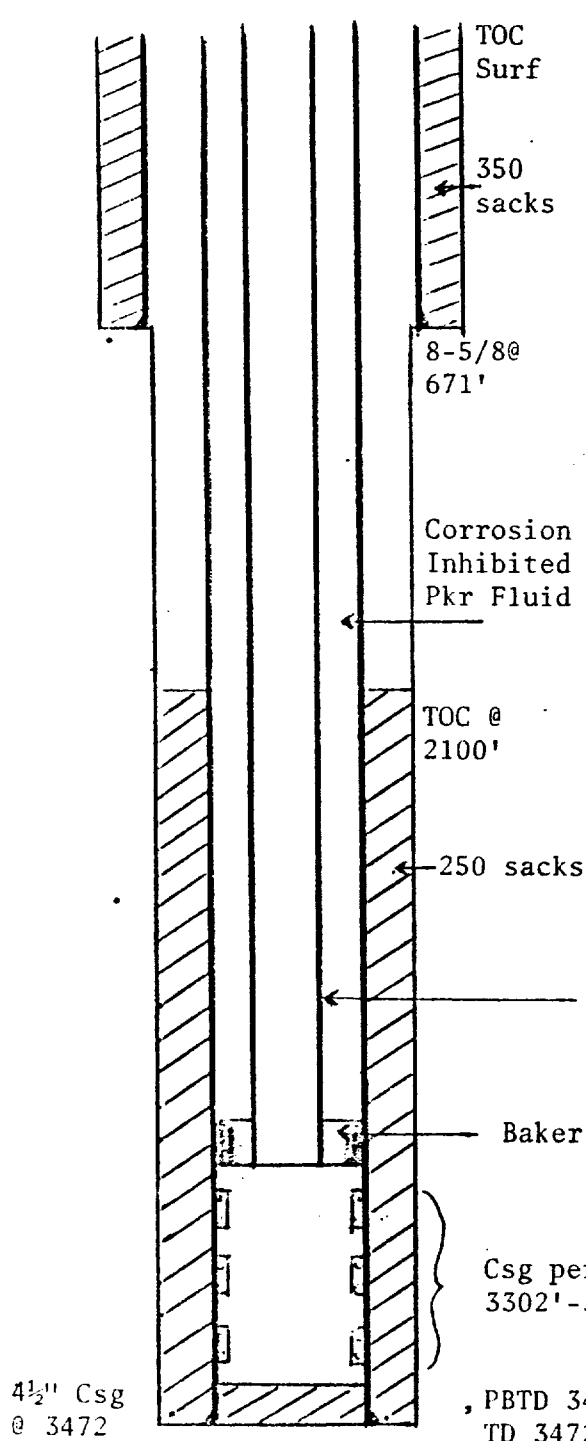
## INJECTION WELL DATA SHEET

The Eastland Oil Company  
OPERATORSibyl Federal  
LEASE

2 330' EEL & 1650' ENL 1 T18S R30E  
WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE  
Producing well from Power Grayburg. Completed 9-4-71

## Schematic

## Tabular Data



## Surface Casing

Size 8-5/8 " Cemented with 350 sx.TOC Surface feet determined by CirculationHole size 11"

## Intermediate Casing

Size        " Cemented with        sx.TOC        feet determined by       Hole size       

## Long string

Size 4-1/2 " Cemented with 250 sx.TOC 2100 feet determined by CalcHole size 7-7/8Total depth 3472' 3443' PBTD

## Injection interval (perforated)

3428 feet to 3423 feet  
(perforated or open-hole, indicate which)

3365	to	3361
3312	to	3302

2" EUE tbg w/epoxy internal coating @ 3280'

Baker AD-1 Tension packer @ 3280'

Csg perfs  
3302'-3428', PBTD 3443'  
TD 3472'BEFORE EXAMINER'S SIGNATURE  
OIL CONSERVATION DIVISION

Eastland EXHIBIT NO. 8-D

CASE NO. 8786-87

Tubing size 2-3/8" EUE lined with TK-75 (fusion applied powder epoxy) set in a  
(material)Baker Model AD-1 Tension packer at 3280 feet.  
(brand and model)

(or describe any other casing-tubing seal).

## Other Data

1. Name of the injection formation Grayburg2. Name of field or Pool (if applicable) Power Grayburg - San Andres3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Oil & Gas4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep "32" State #1 producing from Bone Springs (7742' - 7926') in undesignated pool. No other producing zones in area.

injection - 3300' - 3500'

TABULATION OF WELL DATA  
POWER GRAYBURG UNIT  
ATTACHMENT TO FORM C-108 ITEM NO. VI

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

Eastland

EXHIBIT NO. 9

CASE NO. 8286-87

OPERATOR NAME LEASE NAME WELL NO.	LOCATION	TYPE OF WELL	DATE DRILLED	PRESENT STATUS	SIZE CASING	SET AT	SACKS CEMENT	TOP OF CEMENT	DETERMINED BY	COMPLETION INTERVAL	TOTAL DEPTH
The Eastland Oil Company ARCO Federal No. 1	D-5-18-31	Oil	08-18-70	P&A 11-09-78	8 5/8 4 1/2	712 3684	350 250	Surface 2300	Circ. Calc.	3514-3410	3684 3570 PB
	E-5-18-31	Dry	12-21-70	P&A 05-10-75	8 5/8 4 1/2	713 3963	350 450	Surface 2030	Circ. T.S.	3878-3868 3723-3456 2663-2653 2160-2150	3963
	C-5-18-31	Dry	02-28-71	P&A 02-28-71	8 5/8	694	350	Surface	Circ.	None	3647
	D-5-18-31	Oil	06-29-78	Producing	8 5/8 4 1/2	701 3560	350 350 Lite 250 "C"	Surface Surface	Circ. Circ.	3524-3502 3498-3400	3560 3536 PB
Allied Federal No. 1	A-6-18-31	Oil	10-09-70	Producing	8 5/8 4 1/2	700 3870	350 250	Surface 2400	Circ. Calc.	3831-3803 3486-3392	3870 3530 PB
	B-6-18-31	Oil	01-17-71	Producing	8 5/8 4 1/2	679 3550	350 450	Surface 2000	Circ. Calc.	3444-3333	3550 3519 PB
Kenwood Federal No. 1	C-6-18-31	Oil	12-20-70	Producing	8 5/8 4 1/2	687 3845	350 450	Surface 1400	Circ. T. S.	3462-3334	3845 3827 PB
	E-6-18-31	Oil	07-02-71	Producing	8 5/8 4 1/2	657 3520	350 250	Surface 2095	Circ. Calc.	3427-3316	3520 3497 PB
	D-6-18-31	Oil	04-02-71	Producing	8 5/8 4 1/2	696 3478	350 250	Surface 2050	Circ. Calc.	3441-3315 3139-3121	3478 3455 PB

OPERATOR NAME	LEASE NAME	WELL NO.	LOCATION	TYPE OF WELL	DATE DRILLED	PRESENT STATUS	SIZE CASING	SET AT	SACKS CEMENT	TOP OF CEMENT	DETERMINED BY	COMPLETION INTERVAL	TOTAL DEPTH
No. 4			P-6-18-31	Dry	02-19-76	Water Disp. 08-24-77	13 3/8 8 5/8	700 4200	575 1050	Surface 1300	Circ. T. S.	3598-3599	4110 PB
Sibyl Federal													
No. 1			A-1-18-30	Oil	07-09-71	Producing	8 5/8 4 1/2	682 3512	350 250	Surface 2087	Circ. Calc.	3229-3194	3512 3487 PB
No. 2			H-1-18-30	Oil	09-04-71	Producing	8 5/8 4 1/2	671 3472	350 250	Surface 2100	Circ. Calc.	3428-3302	3472 3443 PB
No. 3			G-1-18-30	Oil	09-01-83	Producing	8 5/8 4 1/2	692 3698	350 1050 Lite 350 Poz	Surface Surface	Circ. Circ.	3364-3308	3700 3706 PB
Allied Federal "A"													
No. 1			M-31-17-31	Dry	07-11-71	P&A 07-11-71	8 5/8	659	350	Surface	Circ.	None	3564
Allied State													
No. 1			M-32-17-31	Oil	02-21-71	P&A 05-08-75	8 5/8 4 1/2	700 3650	350 250	Surface 2225	Circ. Calc.	3509-3499	3650 3625 PB
Harvey E. Yates Company													
Power Deep "32" State													
No. 1			L-32-17-31	Oil	04-08-85	Producing	13 3/8 8 5/8 5 1/2	608 3622 9611	500 1400 550	Surface Surface 6600	Circ. Circ. Calc.	7926-7742	11,700 8000 PB
English & Harmon													
STAGNER													
No. 1			J-31-17-31	Dry	12-19-56 10/12/76 (2-21/39)	P&A 03-21-57	8 1/4 5 1/2	670 4108	50 30	470 3950	Calc. Calc.	2407-2425 60 quarts	4252 2425 PB

RATOR NAME	LEASE NAME	WELL NO.	LOCATION	TYPE OF WELL	DATE DRILLED	PRESENT STATUS	SIZE CASING	SET AT	SACKS CEMENT	TOP OF CEMENT	DETERMINED BY	COMPLETION INTERVAL	TOTAL DEPTH
-entry of above well)													
est A. Hanson	STAGNER	No. 1	J-31-17-31	Dry	12-19-56	P&A 03-21-57	8 1/4	670	15	Surface Plug	Circ.	----	295 PB
uld not clean-out below 295')													
est A. Hanson	Gulf State	No. 1	L-32-17-31	Dry	12-03-56	P&A 01-18-57	8 5/8 5 1/2	706 3814	100 250	313 2457	Calc. Calc.	None	4059 3814 PB
ied Chemical	Atlantic Federal	No. 1	D-5-18-31	Dry	02-07-69	P&A	11 3/4 8 5/8	719 3994	700 1024	Surface 1400	Circ. Calc.	----	11025
-entry of above well)													
ar Oil Company	Atlantic Federal	No. 1	D-5-18-31	Dry	05-16-69	P&A	5 1/2	9004	200	7924	Calc.	8850	9004 PB

The Eastland Oil Company  
Arco-Federal No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P+ A: 11-9-78

Location: D-5-18-31

Pumped 300 sx  
into  $8\frac{5}{8}$ " csq.  
to 1000'

$4\frac{1}{2}$ " csq. pulled  
out of collar  
@ 321'

TOC @ surface - circ.

cemented w/ 350 sx.

$8\frac{5}{8}$ " csq. @ 712'

Cement on retainer  
to 1614'

Retainer set @ 1634'

Squeezed 50 sx @  
1650'

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

Eastland EXHIBIT NO. 10

CASE NO. 8786-87

TOC @ 2300' by calc.

$4\frac{1}{2}$ " csq. cemented w/  
250 sx.

Cement on BP to  
3288'

CIBP @ 3308'

Csq. perforations 3410'-3514'

TD 3684'

$4\frac{1}{2}$ " csq @ 3684'



The Eastland Oil Company  
Arco-Federal No. 2  
Schematic of Plugging Detail  
Form C-108 Item VI

P & A 5-10-75

LOCATION: E-5-18-31

Plug from surface  
to 45' w/ 15 sx.

8 5/8" csg cemented to  
surface w/ 350 sx.

11" hole

Plug from 656' to  
756' w/ 35 sx.

8 5/8" csg. set @ 713'

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

Eastland EXHIBIT NO. 11

CASE NO. 8786-87

7 7/8" hole

Plug from 1580' to  
1680' w/ 35 sx.

Cut 4 1/2" csg @ 1700'  
and pulled

CIBP @ 2100' w/ cement  
to 2060'

CIBP @ 2230' w/ cement  
to 2220'

CIBP @ 2750' w/ cement  
to 2740'

TOC @ 2030' by temp. survey

Casing perfs. 2150'-2160'

Casing perfs. 2653'-2663'

Casing perfs. 3456'-3723'

CIBP @ 3800' w/ cement  
to 3790'

Casing perfs. 3869'-3878'  
PBTD 3939'  
TD 3963'

The Eastland Oil Company  
Arco Federal No. 3  
Schematic of Plugging Detail  
Form C-108 Item VI

P-4A 2-28-71  
Location: C-5-18-31

Plug from surf.  
to 30' w/ 10 sx.

8 5/8" csq. cemented to  
surface w/ 350 sx.

Plug from 646'  
to 758' w/ 40 sx.

8 5/8" csq. @ 694'

7 7/8" hole

Plug from 1598'  
to 1710' w/ 40 sx.

Plug from 2693'  
to 2805' w/ 40 sx.

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

Eastland EXHIBIT NO. 12

CASE NO. 8786-87

Plug from 3298'  
to 3410' w/ 40 sx.

TD 3647'

P&A 2-7-69

5-16-69 (Re-entered by Solar Oil Company)

Schematic of Plugging Detail

Form C-108 Item VI

Location:

D-5-18-31

Plug @ surface w/  
10 sx.

Plug from 619' to  
719' w/ 60 sx.

Plug from 1300' to  
1400' w/ 60 sx.

Plug from 3894' to  
3994' w/ 35 sx.

Plug from 5800' to  
5900' w/ 35 sx.

Plug from 7700' to  
7800' w/ 35 sx.

Pulled 7800' - 5 1/2" csg.

Plug 8200' - 8700' w/ 100 sx.

Plug 8800' - 8850' w/ 30 sx.

Plug from 9240' to  
9393' w/ 45 sx.

Plug from 10,450' to  
10,600' w/ 45 sx.

Plug from 10,925' to  
11,025' w/ 30 sx.

11 3/4" cemented to  
surface w/ 700 sx.

15 1/2" hole  
11 3/4" @ 719'

TOC @ 1400'

11" hole

cemented w/ 1024 sx.

8 5/8" @ 3994'

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

*Eastland* EXHIBIT NO. 13

CASE NO. 8786-87

7 7/8" hole

TOC @ 7924'

5 1/2" cemented w/ 200 sx

5 1/2" @ 9004'

TD 11,025'

The Eastland Oil Company  
Allied State No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P+A: 5-8-75

Location: M-32-17-31

Plug from surface  
to 45' w/ 15 sx.

Cement to surface w/ 350 sx.

Plug from 648'  
to 748' w/ 35 sx

8 5/8" csq. @ 700'

Plug from 1580' to  
1680' w/ 35 sx

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

Eastland EXHIBIT NO. 14

CASE NO. 8786-87

Plug from 2107' to  
2207' w/ 35 sx.

Shot and pulled  
2209' - 4 1/2" csq.

TOC @ 2225' (calc.)

4 1/2" csq. @ 3650'  
cemented w/ 250 sx

Cement on BP to  
3430'

CIBP @ 3450'

Csq. perfs. 3493'-3503'  
PBTD - 3625'  
TD - 3650'

The Eastland Oil Company  
Allied Federal "A" No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P4A: 7-11-71

Location: M-31-17-31

Plug from surface  
to 30' w/ 10 sx

TOC @ surface - circ.

cemented w/ 350 sx.

11" hole

Plug from 588' to  
708' w/ 35 sx

8 5/8" csg. set @ 659'

Plug from 1423' to  
1543' w/ 35 sx.

7 7/8" hole

Plug from 3120' to  
3240' w/ 35 sx

BEFORE EXAMINER STOGNER OIL CONSERVATION DIVISION	
<i>Eastland</i>	EXHIBIT NO. <u>15</u>
CASE NO. <u>8786-87</u>	

Plug from 3444' to  
3564' w/ 35 sx

3564' TD

Ernest A. Hansen  
Gulf State No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P & A 1-18-57

Location: L-32-17-31

Plug from surface  
to 40' w/ 15 sx

Plug from 590'  
to 630' w/ 15 sx

Plug from 1608' to  
1650' w/ 15 sx

Plug from 2293'  
to 2335' w/ 15 sx

TOC @ 313' by calc.

cemented w/ 100 sx.

8 5/8" @ 706'

Shot 5 1/2" csg. @ 2335' and  
pulled

TOC @ 2457' by calc.

Cemented w/ 250 sx

7 7/8" hole

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

EMILAND EXHIBIT NO. 16

CASE NO. 8786-87

PBTD  
3814'

5 1/2" csg. @ 3814'  
TD 4059'

English & Harmon  
Stagner No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P & A: 10-28-40

Location: U-31-17-31

2 sx cement @  
surface

Plug from 172' to  
200' w 10 sx

TOC @ 470' by calc.

8 1/4" csq. cemented w 50 sx

8 1/4" csq. @ 670'

Hole filled w/ mud

*Ernest Hansen feels  
that this well  
can not re-ventured  
for proper P & A ing*

*Doesn't seem to be any  
push water within  
the area*

Plug from 1578' to  
1650' w 125 sx.

Note: Ernest A. Hansen  
attempted to re-enter  
this well on 11-29-56.

Cleaned out to 295'  
and (encountered junk.)

P & A 3-21-57 by filling  
hole from 295' to surface  
w/ mud and setting plug  
from 40' to surface w/  
15 sx.

Shot 5 1/2" csq. @ 2460'  
and pulled

Plug w/ rock, lead  
wool, and steel  
cuttings from  
2460' to 4108'

← 8" hole

← TOC @ 3950' by calc.

← Cemented 5 1/2" csq. w/ 30 sx

← 5 1/2" csq. @ 4108'

← 5" hole

T.D. 4252'

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

EASLAND EXHIBIT NO. 17

CASE NO. 8786-87

POWER GRAYBURG UNIT  
ATTACHMENT TO FORM C-108  
ITEM NO. VII  
INJECTION DATA

1. The daily average rate for each injection well is 375 bbls. per day. A maximum rate of 500 bbls. per day will be injected during fillup. A total volume of 2,700,000 barrels of make-up water will be injected and an equal volume of produced water.
2. The system will be closed.
3. Average injection pressure is 600 - 800 psi.  
Maximum injection pressure is 1,000 psi. *3300  
- 660 psi - max*
4. Analysis of water from producing formation is attached. Injection water is fresh and will be compatible with the produced water and formation.
5. Injection data:  
ARCO #1 - U New Mexico: Perfs 3,415' - 3,449'. Fraced with 18,000 gallons water and 3 lbs. sand/gallon. Injection rate 380 BPD at 1,000 psi. Total injected - 600,000 barrels produced and fresh.  
Eastland Kenwood Fed #4: Injection perfs. 3,506' - 3,598'. Fraced with 30,000 gallons water frac and 33,000 lbs. sand. Injection rate: maximum - 360 BPD at 875 psi., Average - 240 BPD at 750 psi. Total injected - 250,000 barrels produced.

ITEM NO. VIII  
GEOLOGICAL DATA

1. Injection Zone - Grayburg sands. Cross sections attached.
2. Drinking water - none within radius of two miles around injection wells. All produced water has solids content in excess of 10,000 mg/liter. Penrose formation is immediately above Grayburg and San Andres immediately below. All stock water is hauled into area of proposed unit.

ITEM NO. IX  
STIMULATION PROGRAM

1. Wells are treated with limited entry in three sand zones usually in the amount of 30,000 gallons water frac with 1 lb. sand/gallon at rates of 25 BPM.

ITEM NO. X  
LOGGING

1. All logs of wells in Unit have been submitted to Federal agency with a copy for OCD.

BEFORE EXAMINER STOGNER OIL CONSERVATION DIVISION	
<i>Eastland</i>	EXHIBIT NO. <i>18</i>
CASE NO. <i>8786-87</i>	



ITEM NO. XI

1. No fresh water wells within two miles of injection wells.

## HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

## LABORATORY WATER ANALYSIS

No. W678 & W679-85To Mr. George NealDate December 5, 1985The Eastland Oil CompanyP. O. Box 3485Midland, TX 79702

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Jon SmithDate Rec. December 5, 1985

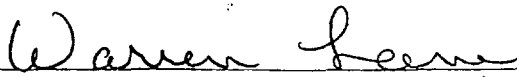
Well No. \_\_\_\_\_ Depth \_\_\_\_\_ Formation \_\_\_\_\_

County \_\_\_\_\_ Field \_\_\_\_\_ Source \_\_\_\_\_

	<u>Kenwood Fed. #1</u>	<u>Sibyl Fed. #3</u>	
Resistivity .....	<u>.07 @ 70°</u>	<u>.06 @ 70°</u>	
Specific Gravity .....	<u>1.08 @ 60°</u>	<u>1.10 @ 60°</u>	
pH .....	<u>8.5</u>	<u>9.0</u>	
Calcium (Ca) .....	<u>2,775</u>	<u>3,660</u>	<u>*MPL</u>
Magnesium (Mg) .....	<u>3,370</u>	<u>3,500</u>	
Chlorides (Cl) .....	<u>72,000</u>	<u>92,000</u>	
Sulfates (SO <sub>4</sub> ) .....	<u>Medium</u>	<u>Medium</u>	
Bicarbonates (HCO <sub>3</sub> ) .....			
Soluble Iron (Fe) .....	<u>Nil</u>	<u>Nil</u>	
.....			
.....			
.....			

Remarks:

\*Milligrams per liter



Respectfully submitted,

Analyst: Warren Lane - Field Engineer

HALLIBURTON COMPANY

cc:

## NOTICE

This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether it be to act or omission, resulting from such report or its use.

The Eastland Oil Company

Power Grayburg Unit

Eddy County, New Mexico

November 20, 1985

Attachment to Form C-108: Statement of Proposed Maximum  
Injection Pressure for Water Injection Wells

Based on required injection pressure for Eastland's Kenwood Federal No. 4, a saltwater disposal well in the Power Grayburg Pool, a maximum surface pressure of 1000 psi is proposed for this secondary recovery project. A copy of the letter from the Oil Conservation Division dated July 17, 1980 authorizing this surface pressure is attached.

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

Eastland EXHIBIT NO. 19

CASE NO. 8786-87



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-2434

July 17, 1980

Eastland Oil Company  
P. O. Drawer 3488  
560 One Marienfeld Place  
Midland, Texas 79702

Attention: George D. Neal

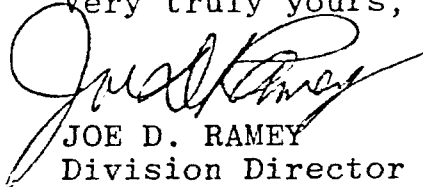
Re: Kenwood Federal (SWD) No. 4  
SE/4 SW/4 Section 6,  
Township 18 South, Range  
31 East, Eddy County,  
New Mexico

Gentlemen:

I have reviewed your request to increase injection pressure in your Kenwood Federal No. 4.

We do not allow operators to inject at fracture pressures. Therefore, based on your fracture pressure of 1100 psi, you are hereby authorized to inject at a pressure not to exceed 1000 psi surface pressure.

Very truly yours,

  
JOE D. RAMEY  
Division Director

JDR/MH/og

ATTACHMENT TO FORM C-108, SECTION VII  
FRACTURE TREATMENTS  
POWER GRAYBURG POOL  
EDDY COUNTY, NEW MEXICO

OPERATOR LEASE & WELL NO.	PERFS TOP-BOTTOM	NO. OF FEET OPEN	FLUID	TREATMENT SAND	TYPE	RATE BPM	TREATING PRESS.	ISDP	15 MIN SLP
THE EASTLAND OIL COMPANY									
ARCO FEDERAL #1	3410-3514	17	30,000 GALS WTR	30,000#	GELLED KCL WTR	25	2500	950	600
#4	3400-3524	22	15,000 GALS WTR	30,000#	GELLED KCL WTR	20	2280	1370	1200
ALLIED FEDERAL #1	3392-3486	15	30,000 GALS WTR	30,000#	GELLED KCL WTR	26.5	2500	975	800
#2	3333-3444	14	30,000 GALS WTR	30,000#	GELLED KCL WTR	25	2000	1000	-----
KENWOOD FEDERAL #1	3334-3462	16	30,000 GALS WTR	30,000#	GELLED KCL WTR	25	2200	1050	950
#2	3316-3427	19	30,000 GALS WTR	30,000#	GELLED KCL WTR	25	2300	1100	1000
#3 <i>E</i>	3315-3441	16	30,000 GALS WTR	30,000#	GELLED KCL WTR	23	2600	1050	950
#4	3506-3598	38	30,000 GALS	33,000#	GELLED WATER	17	2400	1200	1100
SIBYL FEDERAL #1	3194-3229	16	30,000 GALS	30,000#	GELLED KCL WTR	25	1900	1000	800
#2	3302-3428	15	30,000 GALS	30,000#	GELLED KCL WTR	25	2000	1150	1000
#3	3308-3374	14	10,000 GALS	11,000#	GELLED KCL WTR	19	2300	1050	950
AVERAGE 11 - WELLS									
									1081

*Good Member* →

*done with in different*



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Roswell District Office

P. O. Box 1397

Roswell, New Mexico 88201

IN REPLY  
REFER TO:

3180(060)

June 5, 1985

Eastland Oil Company  
Attention: George Neal  
P.O. Drawer 3488  
Midland, TX 79702

Re: Designation of Proposed Power Grayburg Secondary  
Recovery Unit, Eddy, County, New Mexico

Gentlemen:

Your application of May 28, 1985, filed with the Bureau of Land Management, Roswell, New Mexico, requests the designation of the Power Grayburg Unit Area, embracing 427.44 acres, more or less, Eddy County, New Mexico, as logically subject to operation under the unitization provisions of the Minerals Leasing Act as amended.

Pursuant to unit plan regulations 43 CFR 3180, the land requested as outlined on your plat marked "Exhibit "A", Power Grayburg-San Andres Pool, Eddy County, New Mexico" is hereby designated as a logical unit area to more properly conserve natural resources by instituting secondary recovery operations.

If conditions are such that modification of said standard form is deemed necessary three copies of the proposed modifications with appropriate justification must be submitted to this office for preliminary approval.

In the absence of any other type of land requiring special provisions or any objections not now apparent, a duly executed agreement identical with said form will be approved if submitted in approvable status within a reasonable period of time. However, notice is hereby given that the right is reserved to deny approval of any executed agreements submitted which, in our opinion, do not have the full commitment of sufficient lands to afford effective control of operations in the unit area.

When the executed agreement is transmitted to the District Manager, Roswell, New Mexico for approval, include the latest status of all acreage. In preparation of Exhibits "A" and "B", follow closely the format of the sample exhibits attached to the standard unit agreement form.

Sincerely yours,

Francis R. Cherry, Jr.  
District Manager

BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

*Eastland* EXHIBIT NO. 20

CASE NO. 8786-87

APPLICATION FOR DESIGNATION OF THE  
POWER GRAYBURG UNIT AREA  
EDDY COUNTY, MEW MEXICO

District Manager  
BUREAU OF LAND MANAGEMENT  
P. O. Box 1397  
Roswell, New Mexico 88201

Gentlemen:

THE EASTLAND OIL COMPANY, P.O. Drawer 3488, Midland, Texas 79702, respectfully requests your consideration and approval of this application for Designation of the Power Grayburg Unit Area, Eddy County, New Mexico, as an area logically subject to development by secondary recovery under a unit plan of operation. The following information is offered in support of the Application:

1. The area sought to be designated as the Power Grayburg Unit Area comprises 427.44 acres in Eddy County, New Mexico, as outlined on the land map attached hereto and marked Exhibit "A". More particularly, the proposed unit area is described as follows:

T.18S., R.30E., NMPM  
    Sec.1: Lots 1, 2, S/2NE/4  
T.18S., R.31E., NMPM  
    Sec.5: Lots 3, 4  
    Sec.6: Lots 1 thru 5

The proposed unit is comprised of four Federal producing leases. No other type of land is involved.

2. Attached Exhibit "A" is a plat indicating the proposed unit area, Federal lease serial numbers, ownership and subdivision acreages.

3. Exhibit "B" is a list of the effected leases, indicating a description of all the lands within the unit area, Federal serial numbers, and ownership of the various tracts.

4. Applicant proposes to use a form of Unit Agreement that has been previously approved by your office for secondary recovery operations. The attached form is a modification of a sample which was handed out by Mr. Armando Lopez at a Unit Seminar conducted at Roswell on April 11, 1985. Section 3 has been modified to describe the vertical limits of the unitized formations to be from the top of the Grayburg lime to a depth of 450 feet below the Grayburg lime marker. This top occurs

at 3252' (+442' subsea) in The Eastland Oil Company No.1 Arco Federal well, located 660' from the north line and 810' from the west line of Section 5, T.18S., R.31E., Eddy County, New Mexico.

5. A geologic report and supporting maps have been previously filed with your office. It is requested that the geologic report be kept confidential.

6. Exhibit "C" is a schedule of Tract Participation indicating the percent of production to be credited to each tract. The allocation formula provides for tract participation based on a 90% cumulative production to January 1, 1985 factor plus a 10% acreage factor.

7. A recent meeting of the owners of working interests indicates that 100% commitment is expected. It is the opinion of The Eastland Oil Company, unit operator, that controlled waterflooding under unit operations is in the public interest by increasing the ultimate recovery and will protect the correlative rights of all parties.

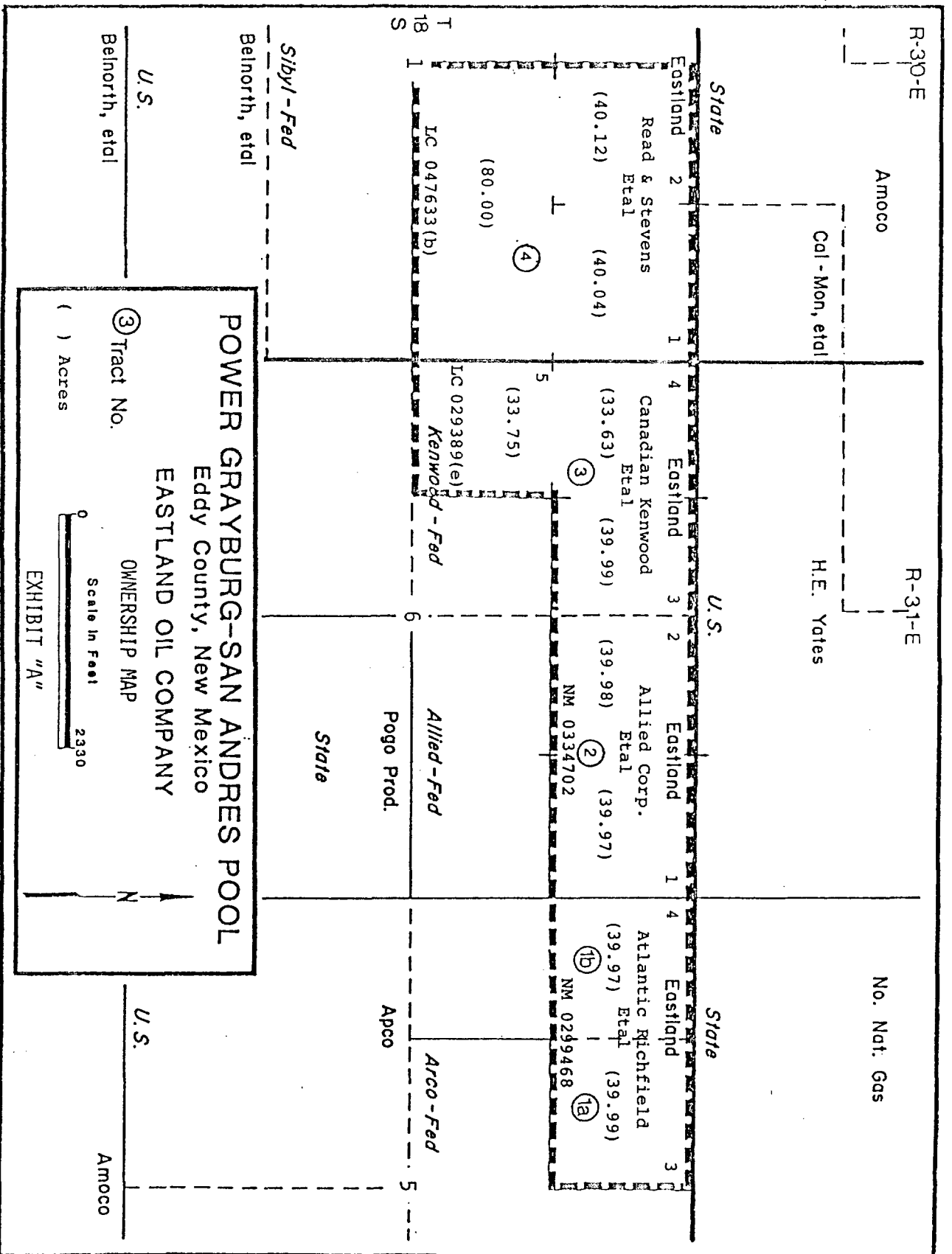
THE EASTLAND OIL COMPANY respectfully requests designation of the Powers Grayburg Unit Area and tentative concurrence of the form and language of the attached unit agreement. Your favorable consideration and early approval is appreciated.

Respectfully submitted,  
THE EASTLAND OIL COMPANY

Date: 5/28/85

By George E. Neal





## EXHIBIT "B"

SCHEDULE SHOWING ALL LAND AND LEASES  
WITHIN THE POWER GRAYBURG UNIT AREA  
EDDY COUNTY, NEW MEXICO

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. EXP. DATE	BASIC ROYALTY	LESSEE OF RECORD AND PERCENTAGE	OVERRIDING ROYALTY AND PERCENTAGE	WORKING INTEREST AND PERCENTAGE
<u>T.18S., R.31E.</u>							
<u>ALL FEDERAL LANDS</u>							
1a	Sec. 5: Lot 3	39.99	NM 0299468 HBP	U.S. 12.5%	Atlantic Richfield Company 100%	Atlantic Richfield Company 6.25%	The Eastland Oil Company Alps Oil Company G.H. Doelling, Jr. George A. Donnelly, Jr. Richard Donnelly Mary L. Holbrook Marshall S. Marshall William S. Marshall Peggy Donnelly McConnell Jack L. Russell
						1.50%	18.750 12.500 12.500 12.500 6.250 6.250 3.125 12.500 12.500
1b	Sec. 5: Lot 4	39.97	NM 0299468 HBP	U.S. 12.5%	Atlantic Richfield Company 100%	Atlantic Richfield Company 6.25%	The Eastland Oil Company Alps Oil Company George A. Donnelly, Jr. Richard Donnelly Mary L. Holbrook Peggy Donnelly McConnell Jack L. Russell
						1.50%	23.863630 15.909090 15.909090 7.954550 7.954550 15.909090 12.500000

## EXHIBIT "B"

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. EXP. DATE	BASIC ROYALTY	LESSEE OF RECORD AND PERCENTAGE	OVERRIDING ROYALTY AND PERCENTAGE	WORKING INTEREST AND PERCENTAGE
<u>T.18S., R.31E.</u>							
2	Sec.6: Lots 1, 2	79.95	NM 0334702 HBP	U.S. 12.5%	Allied Corporation 100%	Allied Corporation 7.5% Pearson-Sibert Oil Co. 1.3333% A.F. Gilmore Company 1.3333% E.B. Hall and Rosemary Hall Bergen 1.3333% Robert D. Fitting 1.0000%	The Eastland Oil Company 18.750 Alps Oil Company 12.500 G.H. Doelling, Jr. 12.500 George A. Donnelly, Jr. 12.500 Richard Donnelly 6.250 Mary L. Holbrook 6.250 Marshall & Winston, Inc. 3.125 William S. Marshall 3.125 Peggy Donnelly McConnell 12.500 Jack L. Russell 12.500
3	Sec.6: Lots 3, 4, 5	107.37	LC 029389(e) U.S. Schedule D	Canadian Kenwood Company 93.25% T.R. Parker 6.75%	Canadian Kenwood Company 11.656250% T.R. Parker and Florence Parker 0.843750%	The Eastland Oil Company 18.750 Alps Oil Company 12.500 G.H. Doelling, Jr. 12.500 George A. Donnelly, Jr. 12.500 Richard Donnelly 6.250 Mary L. Holbrook 6.250 Marshall & Winston, Inc. 3.125 William S. Marshall 3.125 Peggy Donnelly McConnell 12.500 Jack L. Russell 12.500	

## EXHIBIT "B"

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. EXP. DATE	BASIC ROYALTY	LESSEE OF RECORD AND PERCENTAGE	OVERRIDING ROYALTY AND PERCENTAGE	WORKING INTEREST AND PERCENTAGE
<u>T.18S., R.30E.</u>							
4	Sec. 1: Lots 1, 2 S/2NE/4	160.16	LC 047633(b) HBP	U.S. Schedule D	Read & Stevens, Inc. 100%	Sibyl Vivian Perry and Richard L. Perry 6.25%	Read & Stevens, Inc. The Eastland Oil Company Alps Oil Company G.H. Doelling, Jr. George A. Donnelly, Jr. George A. Donnelly, Jr. Trustee of the Trust for George A. Donnelly, III George A. Donnelly, Jr. Trustee of the Trust for Marion Jan O'Neill George A. Donnelly, Jr. Trustee of the Trust for Robert R. Donnelly Richard Donnelly Mary L. Holbrook Marshall & Winston, Inc. William S. Marshall Jack L. Russell
							0.000000 18.750000 12.500000 12.500000 12.500000 4.166666 4.166666 4.166666 6.250000 6.250000 3.125000 3.125000 12.500000

RECAPITULATION: 5 Tracts 4 Federal Leases 427.44 Acres 100% Federal

# EXHIBIT "C"

## SCHEDULE OF TRACT PARTICIPATION THE EASTLAND OIL COMPANY POWER GRAYBURG UNIT EDDY COUNTY, NEW MEXICO

TRACT NO.	TRACT ACRES	ACRES %	TRACT CUM. OIL	PERCENT CUMULATIVE	10% ACRES	90% CUM.	TRACT PART. %
1a	39.99	9.355699	0	0.000000	0.935570	0.000000	0.935570
1b	39.97	9.351020	88034	19.694495	0.935102	17.725046	18.660148
2	79.95	18.704380	108805	24.341272	1.870438	21.907145	23.777583
3	107.37	25.119315	228575	51.135576	2.511931	46.022018	48.533949
4	160.16	37.469586	21584	4.828657	3.746959	4.345791	8.092750
	472.44	100.000000	446998	100.000000	10.000000	90.000000	100.000000

TRACT PARTICIPATION: 90% Cumulative to 1-1-85 + 10% Acreage

Amoco

Cal - Mon, et al

H.E. Yates

No. Nat. Gas

State

U.S.

State

Eastland

Eastland

Eastland

6

Eastland

8,466 O  
31,684 G  
25,820 W

85,814 O  
198,712 G  
40,289 W

77,590 O  
163,050 G  
32,567 W

46,239 O  
73,871 G  
13,073 W

62,566 O  
122,250 G  
18,277 W

21,926 O  
18,372 G  
21,899 W

66,108 O  
150,638 G  
104,756 W

11,746 O  
42,915 G  
19,983 W

65,171 O  
94,852 G  
42,556 W

Kenwood - Fed

Allied - Fed

Arco - Fed

Pogo Prod.

Apco  
HBP

Sibyl - Fed

Belnorth, et al

U.S.

Belnorth, et al

# POWER GRAYBURG-SAN ANDRES POOL

Eddy County, New Mexico

EASTLAND OIL COMPANY

CUMULATIVE PRODUCTION TO 1-1-85

Scale in Feet

0 2330

N

U.S.

Amoco

UNIT AGREEMENT  
FOR THE  
POWER GRAYBURG UNIT  
EDDY COUNTY, NEW MEXICO

BEFORE EXAMINER STOOVER	
OIL CONSERVATION DIVISION	
<i>EASTLAND</i>	EXHIBIT NO. <i>21</i>
CASE NO. <i>8786-87</i>	

UNIT AGREEMENT  
FOR THE  
POWER GRAYBURG UNIT  
EDDY COUNTY, NEW MEXICO



UNIT AGREEMENT  
POWER GRAYBURG UNIT  
EDDY COUNTY, NEW MEXICO

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UNIT AGREEMENT  
POWER GRAYBURG UNIT  
EDDY COUNTY, NEW MEXICO

Index

Exhibit "A" (Map of Unit Area)  
Exhibit "B" (Schedule of Ownership)  
Exhibit "C" (Schedule of Tract Participation)

UNIT AGREEMENT  
FOR THE DEVELOPMENT AND OPERATION  
OF THE  
POWER GRAYBURG UNIT  
EDDY COUNTY, NEW MEXICO

THIS AGREEMENT, entered into as of the \_\_\_\_\_ day of \_\_\_\_\_, 198\_\_\_\_, by and between the parties subscribing, ratifying, or consenting hereto, and herein referred to as the "parties hereto",

WITNESSETH:

WHEREAS, the parties hereto are the owners of working, royalty, or other oil and gas interests in the Unit Area subject to this Agreement; and

WHEREAS, the Mineral Leasing Act of February 25, 1920, 41 Stat. 437, as amended, 30 U.S.C. Secs. 181 et seq., authorizes Federal lessees and their representatives to unite with each other, or jointly or separately with others, in collectively adopting and operating a cooperative or unit plan of development or operation of any oil or gas pool, field, or like area, or any part thereof for the purpose of more properly conserving the natural resources whenever determined and certified by the Secretary of the Interior to be necessary or advisable in the public interest; and

WHEREAS, the Oil Conservation Division of the State of New Mexico (hereinafter referred to as the "Division") is authorized by an Act of the Legislature (Chapter 72, Laws of 1935 as amended) (Chapter 70, Article 2, Section 2 et seq., New Mexico Statutes 1978 Annotated) to approve this Agreement and the conservation provisions hereof; and

WHEREAS, the Oil Conservation Division of the Energy and Minerals Department of the State of New Mexico is authorized by law (Chapter 65, Article 3 and Article 14, N.M.S. 1953 Annotated) to approve this Agreement and the conservation provisions hereof; and

WHEREAS, the parties hereto hold sufficient interest in the Unit Area covering the land hereinafter described to give reasonably effective control of operations therein; and

WHEREAS, it is the purpose of the parties hereto to conserve natural resources, prevent waste, and secure other benefits obtainable through development and operation of the area subject to this Agreement under the terms, conditions, and limitations herein set forth;

NOW, THEREFORE, in consideration of the premises and the promises herein contained, the parties hereto commit to this Agreement their respective interest in the below defined Unit Area, and agree severally among themselves as follows:

SECTION 1. ENABLING ACT AND REGULATIONS. The Mineral Leasing Act of February 25, 1920, as amended, supra, and all valid pertinent regulations, including operating and unit plan regulations, heretofore issued thereunder or valid, pertinent, and reasonable regulations hereafter issued thereunder are accepted and made a part of this Agreement as to Federal lands, provided such regulations are not inconsistent with the terms of this Agreement; and as to non-Federal lands, the oil and gas operating regulations in effect as of the Effective Date hereof governing drilling and producing operations, not inconsistent with the terms hereof or the laws of the state in which the non-Federal land is located, are hereby accepted and made a part of this Agreement.

SECTION 2. UNIT AREA AND DEFINITIONS. For the purpose of this Agreement, the following terms and expressions as used herein shall mean:

(a) "Unit Area" is defined as those lands described in Exhibit "B" and depicted on Exhibit "A" hereof, and such land is hereby designated and recognized as constituting the Unit Area, containing 427.44 acres, more or less, in Eddy County, New Mexico.

(b) "Division" is defined as the Oil Conservation Division of the Department of Energy and Minerals of the State of New Mexico.

(c) "Authorized Officer" or "A.O." is any employee of the Bureau of Land Management who has been delegated the required authority to act on behalf of the BLM.

(d) "Secretary" is defined as the Secretary of the Interior of the United States of America, or his duly authorized delegate.

(e) "Department" is defined as the Department of the Interior of the United States of America.

(f) "Proper BLM Office" is defined as the Bureau of Land Management office having jurisdiction over the federal lands included in the Unit Area.

*Grayburg  
formation only*

(g) "Unitized Formation" shall mean that interval underlying the Unit Area, the vertical limits of which extend from an upper limit described as 450 feet above mean sea level or at the top of the Grayburg formation, whichever is higher, to a lower limit at the base of the Grayburg formation; the geologic markers having been previously found to occur at 3,252 feet and 3,536 feet, respectively, in The Eastland Oil Company's No. 1 Arco-Federal well (located at 660 feet FNL and 810 feet FWL of Section 5, Township 18 South, Range 31 East, Eddy County, New Mexico) as recorded on the Schlumberger Sidewall Neutron Porosity Log taken on August 11 and 12, 1970, said log being measured from a kelly drive bushing elevation of 3,694 feet above sea level.

(h) "Unitized Substances" are all oil, gas, gaseous substances, sulphur contained in gas, condensate, distillate and all associated and constituent liquid or liquefiable hydrocarbons, other than outside substances, within and produced from the Unitized Formation.

(i) "Tract" is each parcel of land described as such and given a Tract number in Exhibit "B".

(j) "Tract Participation" is defined as the percentage of participation shown on Exhibit "C" for allocating Unitized Substances to a Tract under this Agreement.

(k) "Unit Participation" is the sum of the percentages obtained by multiplying the working interest of a Working Interest Owner in each Tract by the Tract Participation of such Tract.

(l) "Working Interest" is the right to search for, produce and acquire Unitized Substances whether held as an incident of ownership of mineral fee simple title, under an oil and gas lease, operating agreement, or otherwise held, which interest is chargeable with and obligated to pay or bear, either in cash or out of production, or otherwise, all or a portion of the cost of drilling, developing and producing the Unitized Substances from the Unitized Formation and operations thereof hereunder. Provided that any royalty interest created out of a working interest subsequent to the execution of this Agreement by the owner of the working interest shall continue to be subject to such working interest burdens and obligations.

(m) "Working Interest Owner" is any party hereto owning a Working Interest, including a carried working interest owner, holding an interest in Unitized Substances by virtue of a lease, operating agreement, fee title or otherwise. The owner of oil and gas rights that are free of lease or other instrument creating a Working Interest in another shall be regarded as a Working Interest Owner to the extent of seven-eighths (7/8) of

his interest in Unitized Substances, and as a Royalty Owner with respect to his remaining one-eighth (1/8) interest therein.

(n) "Royalty Interest" or "Royalty" is an interest other than a Working Interest in or right to receive a portion of the Unitized Substances or the proceeds thereof and includes the royalty interest reserved by the lessor or by an oil and gas lease and any overriding royalty interest, oil payment interest, net profit contracts, or any other payment or burden which does not carry with it the right to search for and produce unitized substances.

(o) "Royalty Owner" is the owner of a Royalty Interest.

(p) "Unit Operating Agreement" is the agreement entered into by and between the Unit Operator and the Working Interest Owners as provided in Section 9, infra, and shall be styled "Unit Operating Agreement, Power Grayburg Unit, Eddy County, New Mexico".

(q) "Oil and Gas Rights" is the right to explore, develop and operate lands within the Unit Area for the production of Unitized Substances, or to share in the production so obtained or the proceeds thereof.

(r) "Outside Substances" is any substance obtained from any source other than the Unitized Formation and injected into the Unitized Formation.

(s) "Unit Manager" is any person or corporation appointed by Working Interest Owners to perform the duties of Unit Operator until the selection and qualification of a successor Unit Operator as provided for in Section 7 hereof.

(t) "Unit Operator" is the party designated by Working Interest Owners under the Unit Operating Agreement to conduct Unit Operations.

(u) "Unit Operations" is any operation conducted pursuant to this Agreement and the Unit Operating Agreement.

(v) "Unit Equipment" is all personal property, lease and well equipment, plants, and other facilities and equipment taken over or otherwise acquired for the joint account for use in Unit Operations.

(w) "Unit Expense" is all cost, expense, or indebtedness incurred by Working Interest Owners or Unit Operator pursuant to this Agreement and the Unit Operating Agreement for or on account of Unit Operations.

(x) "Effective Date" is the date determined in accordance with Section 24.

SECTION 3. EXHIBITS. The following exhibits are incorporated herein by reference. Exhibit "A" attached hereto is a map showing the Unit Area and the boundaries and identity of tracts and leases in said Unit Area to the extent known to the Unit Operator. Exhibit "B" attached hereto is a schedule showing, to the extent known to the Unit Operator, the acreage comprising each Tract, percentages and kind of ownership of oil and gas interests in all land in the Unit Area. Exhibit "C" attached hereto shows the Tract Participation of each Tract in the Unit Area. However, nothing herein or in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown in said map or schedule as owned by such party. The shapes and descriptions of the respective Tracts have been established by using the best information available. Each Working Interest Owner is responsible for supplying Unit Operator with accurate information relating to each Working Interest Owner's interest. If it subsequently appears that any Tract, because of diverse royalty or working interest ownership on the Effective Date hereof, should be divided into more than one Tract, or when any revision is requested by the A.O., or any correction of any error other than mechanical miscalculations or clerical is needed, then the Unit Operator, with the approval of the Working Interest Owners, may correct the mistake by revising the exhibits to conform to the facts. The revision shall not include any reevaluation of engineering or geological interpretations used in determining Tract Participation. Each such revision of an exhibit made prior to thirty (30) days after the Effective Date shall be effective as of the Effective Date. Each other such revision of any exhibit shall be effective at 7:00 a.m. on the first day of the calendar month next following the filing for record of the revised exhibit or on such other date as may be determined by Working Interest Owners and set forth in the revised exhibit. Not less than four (4) copies of such revision shall be filed with the A.O. In any such revision, there shall be no retroactive allocation or adjustment of Unit Expense or of interests in the Unitized Substances produced, or proceeds thereof.

SECTION 4. EXPANSION. The above described Unit Area may, with the approval of the A.O., when practicable be expanded to include therein any additional Tract or Tracts regarded as reasonably necessary or advisable for the purposes of this Agreement provided, however, in such expansion there shall be no retroactive allocation or adjustment of Unit Expense or of the

interests in the Unitized Substances produced, or proceeds thereof. Pursuant to Subsection (b), the Working Interest Owners may agree upon an adjustment or investment by reason of the expansion. Such expansion shall be effected in the following manner:

(a) The Working Interest Owner or Owners of a Tract or Tracts desiring to bring such Tract or Tracts into this unit, shall file an application therefor with Unit Operator requesting such admission.

(b) Unit Operator shall circulate a notice of the proposed expansion to each Working Interest Owner in the Unit Area and in the Tract proposed to be included in the unit, setting out the basis for admission, the Tract Participation to be assigned to each Tract in the enlarged Unit Area and other pertinent data. After negotiation (at Working Interest Owners' meeting or otherwise) if at least three Working Interest Owners having in the aggregate seventy-five percent (75%) of the Unit Participation then in effect have agreed to inclusion of such Tract or Tracts in the Unit Area, then Unit Operator shall:

(1) After obtaining preliminary concurrence by the A.O., prepare a notice of proposed expansion describing the contemplated changes in the boundaries of the Unit Area, the reason therefor, the basis for admission of the additional Tract or Tracts, the Tract Participation to be assigned thereto and the proposed effective date thereof; and,

(2) Deliver copies of said notice to the A.O. at the Proper BLM Office, each Working Interest Owner and to the last known address of each lessee and lessor whose interests are affected, advising such parties that thirty (30) days will be allowed for submission to the Unit Operator of any objection to such proposed expansion; and,

(3) File, upon the expiration of said thirty (30) day period as set out in (2) immediately above with the A.O. the following: (a) evidence of mailing or delivering copies of said notice of expansion; (b) an application for approval of such expansion; (c) an instrument containing the appropriate joinders in compliance with the participation requirements of Section 14 and Section 34, infra; and (d) a copy of all objections received along with the Unit Operator's response thereto.

The expansion shall, after due consideration of all pertinent information and approval by the A.O., become effective as of the date prescribed in the notice thereof, preferably the first day of the month subsequent to the date of notice. The revised Tract Participation of the respective Tracts included within the Unit Area prior to such enlargement shall remain the same ratio one to another.



SECTION 5. UNITIZED LAND. All land committed to this Agreement as to the Unitized Formation shall constitute land referred to herein as "Unitized Land" or "Land subject to this Agreement". Nothing herein shall be construed to unitize, pool, or in any way affect the oil, gas and other minerals contained in or that may be produced from any formation other than the Unitized Formation as defined in Section 2(g) of this Agreement.

SECTION 6. UNIT OPERATOR. The Eastland Oil Company is hereby designated the Unit Operator, and by signing this instrument as Unit Operator, agrees and consents to accept the duties and obligations of Unit Operator for the operation, development, and production of Unitized Substances as herein provided. Whenever reference is made herein to the Unit Operator, such reference means the Unit Operator acting in that capacity and not as an owner of interests in Unitized Substances, when such interests are owned by it and the term "Working Interest Owner" when used herein shall include or refer to the Unit Operator as the owner of a Working Interest when such an interest is owned by it.

Unit Operator shall have lien upon interests of Working Interest Owners in the Unit Area to the extent provided in the Unit Operating Agreement.

SECTION 7. RESIGNATION OR REMOVAL OF UNIT OPERATOR. Unit Operator shall have the right to resign at any time, but such resignation shall not become effective so as to release Unit Operator from the duties and obligations of Unit Operator and terminate Unit Operator's rights as such for a period of six (6) months after written notice of intention to resign has been given by Unit Operator to all Working Interest Owners and the A.O., unless a new Unit Operator shall have taken over and the assumed duties and obligations of Unit Operator prior to the expiration of said period.

The Unit Operator shall, upon default or failure in the performance of its duties and obligations hereunder, be subject to removal by Working Interest Owners having in the aggregate eighty percent (80%) or more of the Unit Participation then in effect exclusive of the Working Interest Owner who is the Unit Operator. Such removal shall be effective upon notice thereof to the A.O.

In all such instances of effective resignation or removal, until a successor to Unit Operator is selected and approved as hereinafter provided, the Working Interest Owners shall be jointly responsible for the performance of the duties of the Unit

Operator and shall, not later than thirty (30) days before such resignation or removal becomes effective, appoint a Unit Manager to represent them in any action to be taken hereunder.

The resignation or removal of the Unit Operator under this Agreement shall not terminate its right, title or interest as the owner of a Working Interest or other interest in Unitized Substances, but upon the resignation or removal of Unit Operator becoming effective, such Unit Operator shall deliver possession of all wells, equipment, books and records, materials, appurtenances and any other assets used in connection with the Unit Operations to the new duly qualified successor Unit Operator or to the Unit Manager if no such new Unit Operator is elected. Nothing therein shall be construed as authorizing the removal of any material, equipment or appurtenances needed for the preservation of any wells. Nothing herein contained shall be construed to relieve or discharge any Unit Operator or Unit Manager who resigns or is removed hereunder from any liability or duties accruing or performable by it prior to the effective date of such resignation or removal.

SECTION 8. SUCCESSOR UNIT OPERATOR. Whenever the Unit Operator shall tender its resignation as Unit Operator or shall be removed as hereinabove provided, the Working Interest Owners shall select a successor Unit Operator as herein provided. Such selection shall not become effective until (a) a Unit Operator so selected shall accept in writing the duties and responsibilities of Unit Operator, and (b) the selection shall have been approved by the A.O. If no successor Unit Operator or Unit Manager is selected and qualified as herein provided, the A.O. may declare this Agreement terminated.

In selecting a successor Unit Operator, the affirmative vote of three (3) or more Working Interest Owners having a total of sixty-five percent (65%) or more of the total Unit Participation shall prevail; provided that if any one Working Interest Owner has a Unit Participation of more than thirty-five percent (35%), its negative vote or failure to vote shall not be regarded as sufficient unless supported by the vote of one or more other Working Interest Owners having a total Unit Participation of at least five percent (5%). If the Unit Operator who is removed votes only to succeed itself or fails to vote, the successor Unit Operator may be selected by the affirmative vote of the owners of at least seventy-five percent (75%) of the Unit Participation remaining after excluding the Unit Participation of Unit Operator so removed.

SECTION 9. ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT. Costs and expenses incurred by Unit Operator in

conducting Unit Operations hereunder shall be paid, apportioned among and borne by the Working Interest Owners in accordance with the Unit Operating Agreement. Such Unit Operating Agreement shall also provide the manner in which the Working Interest Owners shall be entitled to receive their respective proportionate and allocated share of the benefits accruing hereto in conformity with their underlying operating agreements, leases or other contracts and such other rights and obligations as between Unit Operator and the Working Interest Owners as may be agreed upon by the Unit Operator and the Working Interest Owners; however, no such Unit Operating Agreement shall be deemed either to modify any of the terms and conditions of this Agreement or to relieve the Unit Operator of any right or obligation established under this Agreement, and in case of any inconsistency or conflict between this Agreement and the Unit Operating Agreement, this Agreement shall prevail. Copies of any Unit Operating Agreement executed pursuant to this Section shall be filed with the A.O. at the Proper BLM office as required prior to approval of this Agreement.

SECTION 10. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR.

Except as otherwise specifically provided herein, the exclusive right, privilege and duty of exercising any and all rights of the parties hereto including surface rights which are necessary or convenient for prospecting for, producing, storing, allocating and distributing the Unitized Substances are hereby delegated to and shall be exercised by the Unit Operator as herein provided. Upon request, acceptable evidence of title to said rights shall be deposited with said Unit Operator, and together with this Agreement, shall constitute and define the rights, privileges and obligations of Unit Operator. Nothing herein, however, shall be construed to transfer title to any land or to any lease or operating agreement, it being understood that under this Agreement the Unit Operator, in its capacity as Unit Operator, shall exercise the rights of possession and use vested in the parties hereto only for the purposes herein specified.

SECTION 11. PLAN OF OPERATIONS.

It is recognized and agreed by the parties hereto that all of the land subject to this Agreement is reasonably proved to be productive of Unitized Substances and that the object and purpose of this Agreement is to formulate and put into effect an improved recovery project in order to effect additional recovery of Unitized Substances, prevent waste and conserve natural resources. Unit Operator shall have the right to inject into the Unitized Formation any substance for secondary recovery or enhanced recovery purposes in accordance with a Plan of Operation approved by the Working Interest Owners, the A.O. and the Division, including the right to drill and maintain injection wells on the Unitized Land and

completed in the Unitized Formation, and to use abandoned well or wells producing from the Unitized Formation for said purpose. Subject to like approval, the Plan of Operation may be revised as conditions may warrant.

The initial Plan of Operation shall be filed with the A.O. and the Division concurrently with the filing of this Unit Agreement for final approval. Said initial Plan of Operations and all revisions thereof shall be as complete and adequate as the A.O. and the Division may determine to be necessary for timely operation consistent herewith. Upon approval of this Agreement and the initial plan by the A.O., said plan, and all subsequently approved plans, shall constitute the operating obligations of the Unit Operator under this Agreement for the period specified therein. Thereafter, from time to time before the expiration of any existing plan, the Unit Operator shall submit for like approval a plan for an additional specified period of operations. After such operations are commenced, reasonable diligence shall be exercised by the Unit Operator in complying with the obligations of the approved Plan of Operation.

Notwithstanding anything to the contrary herein contained, should the Unit Operator fail to commence Unit Operations for the secondary recovery of Unitized Substances from the Unit Area within eighteen (18) months after the effective date of this Agreement, or any extension thereof approved by the A.O., this Agreement shall terminate automatically as of the date of default.

**SECTION 12. USE OF SURFACE AND USE OF WATER.** The parties to the extent of their rights and interests, hereby grant to Unit Operator the right to use as much of the surface, including the water thereunder, of the Unitized Land as may reasonably be necessary for Unit Operations.

Unit Operator's free use of water or brine or both for Unit Operations, shall not include any water from any well, lake, pond or irrigation ditch of a surface owner, unless approval for such use is granted by the surface owner.

Unit Operator shall pay the surface owner for damages to growing crops, fences, improvements and structures on the Unitized Land that result from Unit Operations, and such payments shall be considered as items of Unit Expense to be borne by all the Working Interest Owners of lands subject hereto.

**SECTION 13. TRACT PARTICIPATION.** In Exhibit "C" attached hereto there are listed and numbered the various Tracts within the Unit Area, and set forth opposite each Tract are figures

which represent the Tract Participation, during Unit Operations if all Tracts in the Unit Area qualify as provided herein. The Tract Participation of each Tract as shown in Exhibit "C" was determined in accordance with the following formula:

$$\text{Tract Participation} = 90\% \frac{A}{B} + 10\% \frac{C}{D}$$

A = the Tract Cumulative Oil Production from the Unitized Formation as of December 31, 1984

B = the Unit Total Cumulative Oil Production from the Unitized Formation as of December 31, 1984

C = the surface acres in each Tract in the Unit Area as recorded by the United States Public Land Surveys

D = the summation of the surface acres in all Tracts in the Unit Area

In the event less than all Tracts are qualified on the Effective Date hereof, the Tract Participation shall be calculated on the basis of all such qualified Tracts rather than all Tracts in the Unit Area.

SECTION 14. TRACTS QUALIFIED FOR PARTICIPATION. On and after the Effective Date hereof, the Tracts within the Unit Area which shall be entitled to participation in the production of Unitized Substances shall be those Tracts more particularly described in Exhibit "B" that corner or have a common boundary (Tracts separated only by a public road or a railroad right-of-way shall be considered to have a common boundary), and that otherwise qualify as follows:

(a) Each Tract as to which Working Interest owners owning one hundred percent (100%) of the Working Interest have become parties to this Agreement and as to which Royalty Owners owning seventy-five percent (75%) or more of the Royalty Interest have become parties to this Agreement.

(b) Each Tract as to which Working Interest Owners owning one hundred percent (100%) of the Working Interest have become parties to this Agreement, and as to which Royalty Owners owning less than seventy-five percent (75%) of the Royalty Interest have become parties to this Agreement, and as to which (1) the Working Interest Owner who operates the Tract and Working Interest Owners owning at least seventy-five percent (75%) of the remaining Working Interest in such Tract have joined in a request for the inclusion of such Tract, and as to which (2) Working Interest

Owners owning at least seventy-five percent (75%) of the combined Unit Participation in all Tracts that meet the requirements of Section 14(a) above have voted in favor of the inclusion of such Tract.

(c) Each Tract as to which Working Interest Owners owning less than one hundred percent (100%) of the Working Interest have become parties to this Agreement, regardless of the percentage of Royalty Interest therein that is committed hereto; and as to which (1) the Working Interest Owner who operates the Tract and Working Interest Owner owning at least seventy-five percent (75%) of the remaining Working Interest in such Tract who have become parties to this Agreement have joined in a request for inclusion of such Tract, and have executed and delivered, or obligated themselves to execute and deliver an indemnity agreement indemnifying and agreeing to hold harmless the other owners of committed Working Interests, their successors and assigns, against all claims and demands that may be made by the owners of Working Interest in such Tract who are not parties to this Agreement, and which arise out of the inclusion of the Tract; and as to which (2) Working Interest Owners owning at least seventy-five percent (75%) of the Unit Participation in all Tracts that meet the requirements of Section 14(a) and 14(b) have voted in favor of the inclusion of such Tract and to accept the indemnity agreement. Upon the inclusion of such a Tract, the Tract Participations which would have been attributed to the nonsubscribing owners of Working Interest in such Tract, had they become parties to this Agreement and the Unit Operating Agreement, shall be attributed to the Working Interest Owners in such Tract who have become parties to such agreements, and joined in the indemnity agreement, in proportion to their respective Working Interests in the Tract.

If on the Effective Date of this Agreement there is any Tract or Tracts which have not been effectively committed to or made subject to this Agreement by qualifying as above provided, then such Tract or Tracts shall not be entitled to participate hereunder. Unit Operator shall, when submitting this Agreement for final approval by the A.O. file therewith a schedule of those tracts which have been committed and made subject to this Agreement and are entitled to participate in Unitized Substances. Said schedule shall set forth opposite each such committed Tract the lease number or assignment number, the owner of record of the lease, and the percentage participation of such Tract which shall be computed according to the participation formula set forth in Section 13 (Tract Participation) above. This schedule of participation shall be revised Exhibit "C", and upon approval thereof by the A.O., shall become a part of this Agreement and shall govern the allocation of production of Unitized Substances until a new schedule is approved by the A.O.

SECTION 15. ALLOCATION OF UNITIZED SUBSTANCES. All Unitized Substances produced and saved (less, save and except any part of such Unitized Substances used in conformity with good operating practices on Unitized Land for drilling, operating, camp and other production or development purposes and for injection or unavoidable loss in accordance with a Plan of Operation approved by the A.O.) shall be apportioned among and allocated to the qualified Tracts in accordance with the respective Tract Participations effective hereunder during the respective periods such Unitized Substances were produced, as set forth in the schedule of participation in Exhibit "C". The amount of Unitized Substances so allocated to each Tract, and only that amount (regardless of whether it be more or less than the amount of the actual productive of Unitized Substances from the well or wells, if any, on such Tract) shall, for all intents, uses and purposes, be deemed to have been produced from such Tract.

The Unitized Substances allocated to each Tract shall be distributed among, or accounted for, to the parties entitled to share in the production from such Tract in the same manner, in the same proportions, and upon the same conditions, as they would have participated and shared in the production from such Tracts, or in the proceeds thereof, had this Agreement not been entered into; and with the same legal force and effect.

No Tract committed to this Agreement and qualified for participation as above provided shall be subsequently excluded from participation hereunder on account of depletion of Unitized Substances.

If the Working Interest and/or the Royalty Interest in any Tract are divided with respect to separate parcels or portions of such Tract and owned now or hereafter in severalty by different persons, the Tract Participation shall in the absence of a recordable instrument executed by all owners in such Tract and furnished to Unit Operator fixing the divisions of ownership, be divided among such parcels or portions in proportion to the number of surface acres in each.

The Unitized Substances allocated to each Tract shall be delivered in kind to the respective parties entitled thereto by virtue of the ownership of oil and gas rights therein. Each such party shall have the right to construct, maintain and operate all necessary facilities for that purpose within the Unitized Area, provided the same are so constructed, maintained and operated as not to interfere with Unit Operations. Subject to Section 17 hereof, any extra expenditure incurred by Unit Operator by reason of the delivery in kind of any portion of the Unitized Substances shall be borne by the party taking delivery. In the event any Working Interest Owner shall fail to take or otherwise adequately dispose of its proportionate share of the production from the

Unitized Formation, then so long as such condition continues, Unit Operator, for the account and at the expense of the Working Interest Owner of the Tract or Tracts concerned, and in order to avoid curtailing the operation of the Unit Area, may, but shall not be required to, sell or otherwise dispose of such production to itself or to others, provided that all contracts of sale by Unit Operator of any other party's share of Unitized Substances shall be only for such reasonable periods of time as are consistent with the minimum needs of the industry under the circumstances, but in no event shall any such contract be for a period in excess of one (1) year, and at not less than the prevailing market price in the area for like production, and the account of such Working Interest Owner shall be charged therewith, as having received such production. The net proceeds, if any, of the Unitized Substances so disposed of by Unit Operator shall be paid to the Working Interest Owner of the Tract or Tracts concerned. Notwithstanding the foregoing, Unit Operator shall not make a sale into interstate commerce of any Working Interest Owner's share of gas production without first giving such Working Interest Owner sixty (60) days' notice of such intended sale.

Any Working Interest Owner receiving in kind or separately disposing of all or any part of the Unitized Substances allocated to any Tract, or receiving the proceeds therefrom if the same is sold or purchased by Unit Operator, shall be responsible for the payment of all royalty, overriding royalty and production payments due thereon, and each such party shall hold each other Working Interest Owner harmless against all claims, demands and causes of action by owners of such royalty, overriding royalty and production payments.

If, after the Effective Date of this Agreement, there is any Tract or Tracts that are subsequently committed hereto, as provided in Section 4 (Expansion) hereof, or any Tract or Tracts within the Unit Area not committed hereto as of the Effective Date hereof but which are subsequently committed hereto under the provisions of Section 14 (Tracts Qualified for Participation) and Section 32 (Nonjoinder and Subsequent Joinder); or if any Tract is excluded from this Agreement as provided for in Section 21 (Loss of Title), the schedule of participation as shown in Exhibit "C" shall be revised by the Unit Operator; and the revised Exhibit "C", upon approval by the A.O., shall govern the allocation of production on and after the effective date thereof until a revised schedule is approved as hereinabove provided.

SECTION 16. OUTSIDE SUBSTANCES. If gas obtained from formations not subject to this Agreement is introduced into the Unitized Formation for use in repressuring, stimulating of production or increasing ultimate recovery which shall be in



conformity with a Plan of Operation first approved by the A.O., a like amount of gas with appropriate deduction for loss or depletion from any cause may be withdrawn from unit wells completed in the Unitized Formation royalty free as to dry gas, but not royalty free as to the products extracted therefrom; provided that such withdrawal shall be at such time as may be provided in the approved Plan of Operation or as otherwise may be consented to or prescribed by the A.O. as conforming to good petroleum engineering practices and provided further that such right of withdrawal shall terminate on the termination date of this Agreement.

SECTION 17. ROYALTY SETTLEMENT. The United States of America and all Royalty Owners who, under an existing contract, are entitled to take in kind a share of the substances produced from any Tract unitized hereunder, shall continue to be entitled to such right to take in kind their share of the Unitized Substances allocated to such Tract, and Unit Operator shall make deliveries of such Royalty share taken in kind in conformity with the applicable contracts, laws and regulations. Settlement for Royalty not taken in kind shall be made by Working Interest Owners responsible therefor under existing contracts, laws and regulations on or before the last day of each month for Unitized Substances produced during the preceding calendar month; provided, however, that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any Royalty due under the leases, except that such Royalty shall be computed on Unitized Substances as allocated to each Tract in accordance with the terms of this Agreement. With respect to Federal leases committed hereto on which the Royalty rate depends upon the daily average production per well, such average production shall be determined in accordance with the operating regulations pertaining to Federal leases as though the committed Tracts were included in a single consolidated lease.

If the amount of production or the proceeds thereof accruing to any Royalty Owner (except the United States of America) in a Tract depends upon the average production per well or the average pipeline runs per well from such Tract during any period of time, then such production shall be determined from and after the effective date hereof by dividing the quantity of Unitized Substances allocated hereunder to such Tract during such period of time by the number of wells located thereon capable of producing Unitized Substances as of the Effective Date hereof, provided that any Tract not having any well so capable of producing Unitized Substances on the Effective Date hereof shall be considered as having one such well for the purpose of this provision.

All Royalty due the United States of America and the other Royalty Owners hereunder shall be computed and paid on the basis of all Unitized Substances allocated to the respective Tract or Tracts committed hereto, in lieu of actual production from such Tract or Tracts.

With the exception of Federal requirements to the contrary, Working Interest Owners may use or consume Unitized Substances for Unit Operations and no Royalty, overriding royalty, production or other payments shall be payable on account of Unitized Substances used, lost, or consumed in Unit Operations.

Each Royalty Owner (other than the United States of America) that executes this Agreement represents and warrants that it is the owner of a Royalty Interest in a Tract or Tracts within the Unit Area as its interest appears in Exhibit "B" attached hereto. If any Royalty Interest in a Tract or Tracts should be lost by title failure or otherwise in whole or in part, during the term of this Agreement, then the Royalty Interest of the party representing himself to be the owner thereof shall be reduced proportionately and the interests of all parties shall be adjusted accordingly.

SECTION 18. RENTAL SETTLEMENT. Rentals or minimum Royalties due on leases committed hereto shall be paid by Working Interest Owners responsible therefor under existing contracts, laws and regulations provided that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any rental or minimum Royalty in lieu thereof, due under their leases. Rental or minimum Royalty for lands of the United States of America subject to this Agreement shall be paid at the rate specified in the respective leases from the United States of America, unless such rental or minimum Royalty is waived, suspended or reduced by law or by approval of the Secretary or his duly authorized representative.

SECTION 19. CONSERVATION. Operations hereunder and production of Unitized Substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by or pursuant to Federal and State laws and regulations.

SECTION 20. DRAINAGE. The Unit Operator shall take all reasonable and prudent measures to prevent drainage of Unitized Substances from Unitized Land by wells on land not subject to this Agreement.

The Unit Operator, upon approval by the Working Interest Owners and the A.O., is hereby empowered to enter into a border-line agreement or agreements with working interest owners of adjoining lands not subject to this Agreement with respect to operation in the border area for the maximum economic recovery, conservation purposes and proper protection of the parties and interest affected.

SECTION 21. LOSS OF TITLE. In the event title to any Tract of Unitized Land shall fail and the true owner cannot be induced to join in this Agreement, such Tract shall be automatically regarded as not committed hereto, and there shall be such readjustment of future costs and benefits as may be required on account of the loss of such title. In the event of a dispute as to title to any Royalty, Working Interest, or other interests subject thereto, payment or delivery on account thereof may be withheld without liability for interest until the dispute is finally settled; provided, that, as to Federal lands or leases, no payments of funds due the United States shall be withheld, but such funds shall be deposited as directed by the A.O. to be held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

If the title or right of any party claiming the right to receive in kind all or any portion of the Unitized Substances allocated to a Tract is in dispute, Unit Operator at the direction of the Working Interest Owners shall either:

(a) require that the party to whom such Unitized Substances are delivered or to whom the proceeds thereof are paid furnish security for the proper accounting therefor to the rightful owner if the title or right of such party fails in whole or in part; or,

(b) withhold and market the portion of Unitized Substances with respect to which title or right is in dispute, and impound the proceeds thereof until such time as the title or right thereto is established by a final judgment of a court of competent jurisdiction or otherwise to the satisfaction of Working Interest Owners, whereupon the proceeds so impounded shall be paid to the party rightfully entitled thereto.

Each Working Interest Owner shall indemnify, hold harmless, and defend all other Working Interest Owners against any and all claims by any party against the interest attributed to such Working Interest Owner on Exhibit "B".

Unit Operator as such is relieved from any responsibility for any defect or failure of any title hereunder.

SECTION 22. LEASES AND CONTRACTS CONFORMED AND EXTENDED.

The terms, conditions and provisions of all leases, subleases and other contracts relating to exploration, drilling, development or operation for oil or gas on lands committed to this Agreement are hereby expressly modified and amended to the extent necessary to make the same conform to the provisions hereof, but otherwise to remain in full force and effect, and the parties hereto hereby consent that the Secretary shall and by his approval hereof, or by the approval hereof by his duly authorized representative, does hereby establish, alter, change or revoke the drilling, producing, rental, minimum Royalty and Royalty requirements of Federal leases committed hereto and the regulations in respect thereto to conform said requirements to the provisions of this Agreement.

Without limiting the generality of the foregoing, all leases, subleases and contracts are particularly modified in accordance with the following:

(a) The development and operation of lands subject to this Agreement under the terms hereof shall be deemed full performance of all obligations for development and operation with respect to each Tract subject to this Agreement, regardless of whether there is any development of any Tract of the Unit Area, notwithstanding anything to the contrary in any lease, operating agreement or other contract by and between the parties hereto, or their respective predecessors in interest, or any of them.

(b) Drilling, producing or improved recovery operations performed hereunder shall be deemed to be performed upon and for the benefit of each Tract, and no lease shall be deemed to expire by reason of failure to drill or produce wells situated on the land therein embraced.

(c) Suspension of drilling or producing operations within the Unit Area pursuant to direction or consent of the A.O., or his duly authorized representative, shall be deemed to constitute such suspension pursuant to such direction or consent as to each Tract within the Unitized Area.

(d) Each lease, sublease, or contract relating to the exploration, drilling, development, or operation for oil and gas which by its terms might expire prior to the termination of this Agreement, is hereby extended beyond any such term so provided therein, so that it shall be continued in full force and effect for and during the term of this Agreement.

(e) The segregation of any Federal lease committed to this Agreement is governed by the following provision in the fourth paragraph of Section 17(j) of the Mineral Leasing Act, as amended by the Act of September 2, 1960 (74 Stat. 781-784): "Any

(Federal) lease heretofore or hereafter committed to any such (unit) plan embracing lands that are in part within and in part outside of the area covered by any such plan shall be segregated into separate leases as to the lands committed and the lands not committed as of the effective date of unitization; provided, however, than any such lease as to the nonunitized portion shall continue in force and effect for the term thereof but for not less than two years from the date of such segregation and so long thereafter as oil or gas is produced in paying quantities."

**SECTION 23. COVENANTS RUN WITH LAND.** The covenants herein shall be construed to be covenants running with the land with respect to the interest of the parties hereto and their successors in interest until this Agreement terminates, and any grant, transfer or conveyance of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee or other successor in interest. No assignment or transfer of any Working Interest subject hereto shall be binding upon Unit Operator until the first day of the calendar month after Unit Operator is furnished with the original, or acceptable photostatic or certified copy, of the recorded instrument or transfer, and no assignment or transfer of any Royalty Interest subject hereto shall be binding upon the Working Interest Owner responsible therefor until the first day of the calendar month after said Working Interest Owner is furnished with the original, or acceptable photostatic or certified copy, of the recorded instrument or transfer.

**SECTION 24. EFFECTIVE DATE AND TERM.** This Agreement shall become binding upon each party who executes or ratifies it as of the date of execution or ratification by such party, and shall become effective on the first day of the calendar month next following the approval of this Agreement by the A.O. and the Commission.

If this Agreement does not become effective on or before January 1, 1987, it shall ipso facto expire on said date (hereinafter called "Expiration Date") and thereafter be of no further force or effect, unless prior thereto this Agreement has been executed or ratified by Working Interest Owners owning a combined Participation of at least seventy-five percent (75%); and at least seventy-five percent (75%) of such Working Interest Owners committed to this Agreement have decided to extend Expiration Date for a period not to exceed one (1) year (hereinafter called "Extended Expiration Date"). If Expiration Date is so extended and this Agreement does not become effective on or before Extended Expiration Date, it shall ipso facto expire on Extended Expiration Date and thereafter be of no further force and effect.

Unit Operator shall file for record within thirty (30) days after the Effective Date of this Agreement, in the office of the County Clerk of Eddy County, New Mexico, where a counterpart of this Agreement has become effective according to its terms and stating further the Effective Date.

The terms of this Agreement shall be for and during the time that Unitized Substances are produced from the Unitized Land and so long thereafter as drilling, reworking or other operations (including improved recovery operations) are prosecuted thereon without cessation of more than ninety (90) consecutive days unless sooner terminated as herein provided.

This Agreement may be terminated with the approval of the A.O. by the Working Interest Owners owning eighty percent (80%) of the Unit Participation then in effect whenever such Working Interest Owners determine that Unit Operations are no longer profitable, or in the interest of conservation. Upon approval, such termination shall be effective as of the first day of the month after said Working Interest Owners' determination. Notice of any such termination shall be filed by Unit Operator in the office of the County Clerk of Eddy County, New Mexico, within thirty (30) days of the effective date of termination.

Upon termination of this Agreement, the parties hereto shall be governed by the terms and provisions of the leases and contracts affecting the separate Tracts just as if this Agreement had never been entered into.

Notwithstanding any other provision in the leases unitized under this Agreement, Royalty Owners hereby grant Working Interest Owners a period of six (6) months after termination of this Agreement in which to salvage, sell, distribute or otherwise dispose of the personal property and facilities used in connection with Unit Operations.

SECTION 25. RATE OF PROSPECTING, DEVELOPMENT AND PRODUCTION. All production and the disposal thereof shall be in conformity with allocations and quotas made or fixed by any duly authorized person or regulatory body under any Federal or State statute. The A.O. is hereby vested with authority to alter or modify from time to time, in his discretion, the rate of prospecting and development and within the limits made or fixed by the Division to alter or modify the quantity and rate of production under this Agreement, such authority being hereby limited to alteration or modification in the public interest, the purpose thereof and the public interest to be served thereby to be stated in the order of alteration or modification; provided, further, that no such alteration or modification shall be effective as to any lands in the State of New Mexico or privately-

owned lands subject to this Agreement or to the quantity and rate of production from such lands in the absence of specific written approval thereof by the Division.

Powers in this Section vested in the A.O. shall only be exercised after notice to Unit Operator and opportunity for hearing to be held not less than fifteen (15) days from notice, and thereafter subject to administrative appeal before becoming final.

SECTION 26. NONDISCRIMINATION. Unit Operator in connection with the performance of work under this Agreement relating to leases of the United States, agrees to comply with all of the provisions of Section 202(1) to (7) inclusive, of Executive Order 11246, (30 F.R. 12319), as amended, which are hereby incorporated by reference in this Agreement.

SECTION 27. APPEARANCES. Unit Operator shall have the right to appear for or on behalf of any interests affected hereby before the Department and the Division, and to appeal from any order issued under the rules and regulations of the Department or the Division, or to apply for relief from any of said rules and regulations or in any proceedings relative to operations before the Department or the Division or any other legally constituted authority; provided, however, that any other interested party shall also have the right at his or its own expense to be heard in any such proceeding.

SECTION 28. NOTICES. All notices, demands, objections or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given if made in writing and personally delivered to the party or parties or sent by postpaid certified or registered mail, addressed to such party or parties at their last known address set forth in connection with the signatures hereto or to the ratification or consent hereof or to such other address as any such party or parties may have furnished in writing to the party sending the notice, demand or statement.

SECTION 29. NO WAIVER OF CERTAIN RIGHTS. Nothing in this Agreement contained shall be construed as a waiver by any party hereto of the right to assert any legal or constitutional right or defense as to the validity or invalidity of any law of the State wherein said Unitized Lands are located, or regulations issued thereunder in any way affecting such party, or as a waiver by any such party of any right beyond his or its authority to waive; provided, however, each party hereto covenants that it

will not resort to any action to partition the Unitized Land or the Unit Equipment.

SECTION 30. EQUIPMENT AND FACILITIES NOT FIXTURES ATTACHED TO REALTY. Each Working Interest Owner has heretofore placed and used on its Tract or Tracts committed to this Agreement various well and lease equipment and other property, equipment and facilities. It is also recognized that additional equipment and facilities may hereafter be placed and used upon the Unitized Land as now or hereafter constituted. Therefore, for all purposes of this Agreement, any such equipment shall be considered to be personal property and not fixtures attached to realty. Accordingly, said well and lease equipment and personal property is hereby severed from the mineral estates affected by this Agreement, and it is agreed that any such equipment and personal property shall be and remain personal property of the Working Interest Owners for all purposes.

SECTION 31. UNAVOIDABLE DELAY. All obligations under this Agreement requiring the Unit Operator to commence or continue improved recovery operations or to operate on or produce Unitized Substances from any of the lands covered by this Agreement shall be suspended while, but only so long as, the Unit Operator, despite the exercise of due care and diligence, is prevented from complying with such obligations, in whole or in part, by strikes, acts of God, Federal, State or municipal law or agency, unavoidable accident, uncontrollable delays in transportation, inability to obtain necessary materials or equipment in open market, or other matters beyond the reasonable control of the Unit Operator whether similar to matters herein enumerated or not.

SECTION 32. NONJOINDER AND SUBSEQUENT JOINDER. Joinder by any Royalty Owner, at any time, must be accompanied by appropriate joinder of the corresponding Working Interest Owner in order for the interest of such Royalty Owner to be regarded as effectively committed. Joinder to this Agreement by a Working Interest Owner, at any time, must be accompanied by appropriate joinder to the Unit Operating Agreement in order for such interest to be regarded as effectively committed to this Agreement.

Any oil or gas interest in the Unitized Formations not committed hereto prior to submission of this Agreement to the A.O. for final approval may thereafter be committed hereto upon compliance with the applicable provisions of this Section and of Section 14 (Tracts Qualified for Participation) hereof, at any time up to the Effective Date hereof on the same basis of Tract Participation as provided in Section 13, by the owner or owners



thereof subscribing, ratifying, or consenting in writing to this Agreement and, if the interest is a Working Interest, by the owner of such interest subscribing also to the Unit Operating Agreement.

It is understood and agreed, however, that from and after the Effective Date hereof the right of subsequent joinder as provided in this Section shall be subject to such requirements or approvals and on such basis as may be agreed upon by Working Interest Owners owning not less than sixty-five percent (65%) of the Unit Participation then in effect, and approved by the A.O. Such subsequent joinder by a proposed Working Interest Owner must be evidenced by his execution or ratification of this Agreement and the Unit Operating Agreement and, where Federal land is involved, such joinder must be approved by the A.O. Such joinder by a proposed Royalty Owner must be evidenced by his execution, ratification or consent of this Agreement and must be consented to in writing by the Working Interest Owner responsible for the payment of any benefits that may accrue hereunder in behalf of such proposed Royalty Owner. Except as may be otherwise herein provided, subsequent joinder to this Agreement shall be effective as of the first day of the month following the filing with the A.O. of duly executed counterparts of any and all documents necessary to establish effective commitment of any Tract or interest to this Agreement, unless objection to such joinder by the A.O. is duly made sixty (60) days after such filing.

SECTION 33. COUNTERPARTS. This Agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties and may be ratified or consented to by separate instrument in writing, specifically referring hereto, and shall be binding upon all those parties who have executed such a counterpart, ratification or consent hereto with the same force and effect as if all parties had signed the same document, and regardless of whether or not it is executed by all other parties owning or claiming an interest in the land within the described Unit Area. Furthermore, this Agreement shall extend to and be binding on the parties hereto, their successors, heirs and assigns.

SECTION 34. JOINDER IN DUAL CAPACITY. Execution as herein provided by any party as either a Working Interest Owner or a Royalty Owner shall commit all interests owned or controlled by such party; provided, that if the party is the owner of a Working Interest, he must also execute the Unit Operating Agreement.

SECTION 35. TAXES. Each party hereto shall, for its own account, render and pay its share of any taxes levied against or

measured by the amount or value of the Unitized Substances produced from the Unitized Land; provided, however, that if it is required or if it be determined that the Unit Operator or the several Working Interest Owners must pay or advance said taxes for the account of the parties hereto, it is hereby expressly agreed that the parties so paying or advancing said taxes shall be reimbursed therefor by the parties hereto, including Royalty Owners, who may be responsible for the taxes on their respective allocated share of said Unitized Substances. No taxes shall be charged to the United States or to any lessor who has a contract with a lessee which requires his lessee to pay such taxes.

SECTION 36. NO PARTNERSHIP. The duties, obligations and liabilities of the parties hereto are intended to be several and not joint or collective. This Agreement is not intended to create, and shall not be construed to create, an association or trust, or to impose a partnership duty, obligation or liability with regard to any one or more of the parties hereto. Each party hereto shall be individually responsible for its own obligation as herein provided.

SECTION 37. PRODUCTION AS OF THE EFFECTIVE DATE. Unit Operator shall make a proper and timely gauge of all leases and other tanks within the Unit Area in order to ascertain the amount of merchantable oil above the pipeline connection, in such tanks as of 7:00 a.m. on the Effective Date hereof. All such oil which has then been produced in accordance with established allowables shall be and remain the property of the Working Interest Owner entitled thereto, the same as if the unit had not been formed; and the responsible Working Interest Owner shall promptly remove said oil from the Unitized Land. Any such oil not so removed shall be sold by Unit Operator for the account of such Working Interest Owners, subject to the payment of all Royalty to Royalty Owners under the terms hereof. The oil that is in excess of the prior allowable of the wells from which it was produced shall be regarded as Unitized Substances produced after Effective Date hereof.

If, as of the Effective Date hereof, any Tract is over-produced with respect to the allowable of the wells on that Tract and the amount of over-production has been sold or otherwise disposed of, such over-production shall be regarded as a part of the Unitized Substances produced after the Effective Date hereof and shall be charged to such Tract as having been delivered to the parties entitled to Unitized Substances allocated to such Tract.

SECTION 38. NO SHARING OF MARKET. This Agreement is not intended to provide and shall not be construed to provide,

directly or indirectly, for any cooperative refining, joint sale or marketing of Unitized Substances.

EFFECTIVE as of the day and year first above written.

ATTEST:

THE EASTLAND OIL COMPANY

Mark H. Ingram, Secretary

By: Vice-President, Production

Date of Execution:

\_\_\_\_\_

ATTEST:

ALPS OIL COMPANY

\_\_\_\_\_

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

G. H. DOELLING, JR.

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

GEORGE A. DONNELLY, JR.

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

GEORGE A. DONNELLY, JR.,  
TRUSTEE

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

GEORGE A. DONNELLY, JR.,  
TRUSTEE

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

GEORGE A. DONNELLY, JR.,  
TRUSTEE

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

RICHARD DONNELLY

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

MARY L. HOLBROOK

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

ATTEST:

MARSHALL & WINSTON, INC.

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

WILLIAM S. MARSHALL

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

PEGGY DONNELLY McCONNELL

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

JACK L. RUSSELL

By: \_\_\_\_\_

Date of Execution:

\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF MIDLAND        }

The foregoing instrument was acknowledged before me this  
day of                   , 198   , by George D. Neal, Vice President  
Production, for THE EASTLAND OIL COMPANY, a Texas corporation.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF                }

The foregoing instrument was acknowledged before me this  
day of                   , 198   , by \_\_\_\_\_  
\_\_\_\_\_, for ALPS OIL COMPANY, a Texas corporation.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF                }

The foregoing instrument was acknowledged before me this  
day of                   , 198   , by GEORGE A. DONNELLY, JR.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF                   }

The foregoing instrument was acknowledged before me this  
day of                   , 198   , by GEORGE A. DONNELLY, JR.,  
TRUSTEE.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF                   }

The foregoing instrument was acknowledged before me this  
day of                   , 198   , by GEORGE A. DONNELLY, JR.,  
TRUSTEE.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF                   }

The foregoing instrument was acknowledged before me this  
day of                   , 198   , by GEORGE A. DONNELLY, JR.,  
TRUSTEE.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_



THE STATE OF TEXAS        }  
COUNTY OF                    }

The foregoing instrument was acknowledged before me this  
day of                    , 198    , by RICHARD DONNELLY.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF                    }

The foregoing instrument was acknowledged before me this  
day of                    , 198    , by MARY L. HOLBROOK.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS        }  
COUNTY OF                    }

The foregoing instrument was acknowledged before me this  
day of                    , 198    , by \_\_\_\_\_  
\_\_\_\_\_, for MARSHALL & WINSTON, INC. a Texas corporation.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS }

COUNTY OF }

The foregoing instrument was acknowledged before me this  
day of , 198 , by WILLIAM S. MARSHALL.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS }

COUNTY OF }

The foregoing instrument was acknowledged before me this  
day of , 198 , by PEGGY DONNELLY McCONNELL.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

THE STATE OF TEXAS }

COUNTY OF }

The foregoing instrument was acknowledged before me this  
day of , 198 , by JACK L. RUSSELL.

\_\_\_\_\_  
Notary Public in and for  
Midland County, Texas

My commission expires:  
\_\_\_\_\_

EXHIBIT "C" SUMMARY  
 ATTACHED TO AND PART OF THE UNIT OPERATING AGREEMENT  
 POWER GRAYBURG UNIT  
 EDDY COUNTY, NEW MEXICO

---

WORKING INTEREST OWNER	TRACT NUMBER	PERCENT UNIT PARTICIPATION
Alps Oil Company	1a	0.116946
	1b	2.968660
	2	2.972198
	3	6.066744
	4	<u>1.011594</u>
		13.136142
G.H. Doelling, Jr.	1a	0.116946
	2	2.972198
	3	6.066743
	4	<u>1.011594</u>
		10.167481
George A. Donnelly, Jr.	1a	0.116946
	1b	2.968660
	2	2.972198
	3	6.066743
	4	<u>1.011594</u>
	13.136141	
Richard Donnelly	1a	0.058473
	1b	1.484330
	2	1.486099
	3	3.033372
	4	<u>0.505797</u>
	6.568071	
George A. Donnelly, Jr Trustee of the Trust for George A. Donnelly, III	4	0.337198
George A. Donnelly, Jr. Trustee of the Trust for Marion Jan O'Neill	4	0.337198
George A. Donnelly, Jr. Trustee of the Trust for Robert R. Donnelly	4	0.337198

EXHIBIT "C" SUMMARY  
 ATTACHED TO AND PART OF THE UNIT OPERATING AGREEMENT  
 POWER CRAYLURG UNIT  
 EDDY COUNTY, NEW MEXICO

---

WORKING INTEREST OWNER	TRACT NUMBER	PERCENT UNIT PARTICIPATION
The Eastland Oil Company	1a	0.175420
	1b	4.452989
	2	4.458297
	3	9.100115
	4	1.517391
		<u>19.704212</u>
Mary L. Holbrook	1a	0.058473
	1b	1.484330
	2	1.486099
	3	3.033372
	4	0.505797
		<u>6.568071</u>
Marshall & Winston, Inc.	1a	0.029237
	2	0.743049
	3	1.516686
	4	0.252898
		<u>2.541870</u>
William S. Marshall	1a	0.029237
	2	0.743049
	3	1.516686
	4	0.252898
		<u>2.541870</u>
Peggy Donnelly McConnell	1a	0.116946
	1b	2.968660
	2	2.972198
	3	6.066744
		<u>12.124548</u>
Jack L. Russell	1a	0.116946
	1b	2.332519
	2	2.972198
	3	6.066744
	4	1.011593
		<u>12.500000</u>

directly or indirectly, for any cooperative refining, joint sale or marketing of Unitized Substances.

EXECUTED as of the day and year first above written.

THE EASTLAND OIL COMPANY

By: \_\_\_\_\_  
Vice-President, Production

Date of Execution:

\_\_\_\_\_

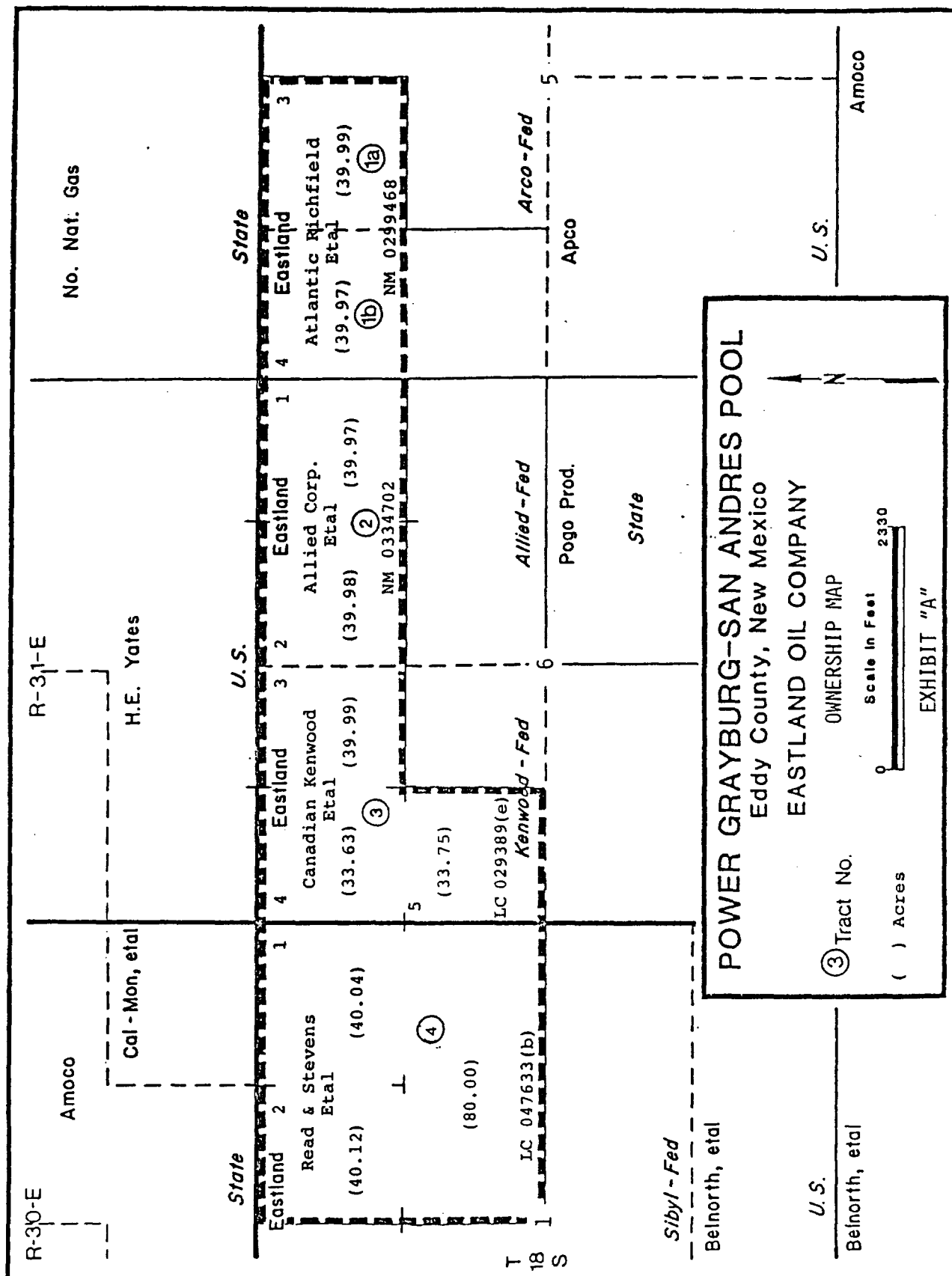


EXHIBIT "B"

UNIT AGREEMENT

SCHEDULE SHOWING ALL LAND AND LEASES

WITHIN THE POWER GRAYBURG UNIT

EDDY COUNTY, NEW MEXICO

ALL FEDERAL LANDS

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. EXP. DATE	BASIC ROYALTY	LESSEE OF RECORD AND PERCENTAGE	OVERRIDING ROYALTY AND PERCENTAGE	WORKING INTEREST AND PERCENTAGE
-----------	---------------------	-----------------	----------------------	---------------	---------------------------------	-----------------------------------	---------------------------------

T.18S., R.31E.

1a	Sec. 5: Lot 3	39.99	NM0299468 HBP	U.S. 12.5%	Atlantic Richfield Company 100%	Atlantic Richfield Company 6.25%	The Eastland Oil Company 18.750 Alps Oil Company 12.500 G.H. Doelling, Jr. 12.500 George A. Donnelly, Jr. 12.500 Richard Donnelly 6.250 Mary L. Holbrook 6.250 Marshall & Winston, Inc. 3.125 William S. Marshall 3.125 Peggy Donnelly McConnell 12.500 Jack L. Russell 12.500
1b	Sec. 5: Lot 4	39.97	NM0299468 HBP	U.S. 12.5%	Atlantic Richfield Company 100%	Atlantic Richfield Company 6.25%	The Eastland Oil Company 23.863630 Alps Oil Company 15.909090 George A. Donnelly, Jr. 15.909090 Richard Donnelly 7.954550 Mary L. Holbrook 7.954550 Peggy Donnelly McConnell 15.909090 Jack L. Russell 12.500000

EXHIBIT "B"

UNIT AGREEMENT

SCHEDULE SHOWING ALL LAND AND LEASES

WITHIN THE POWER GRAYBURG UNIT

EDDY COUNTY, NEW MEXICO

ALL FEDERAL LANDS

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. EXP. DATE	BASIC ROYALTY	LESSEE OF RECORD AND PERCENTAGE	OVERRIDING ROYALTY AND PERCENTAGE	WORKING INTEREST AND PERCENTAGE
T.18S.,R.31E.							
2	Sec.6: Lots 1,2	79.95	NM0334702 HBP	U.S. 12.5%	Allied Corporation 100%	United Texas Petroleum Corporation of Texas 7.5% Pearson-Sibert Oil Co. 1.3333% A.F. Gilmore Company 1.3333% E.B. Hall 0.6667% Hallbergen & Company 0.6667% Robert D. Fitting 1.0000%	The Eastland Oil Company 18.750 Alps Oil Company 12.500 G.H. Doelling, Jr. 12.500 George A. Donnelly, Jr. 12.500 Richard Donnelly 6.250 Mary L. Holbrook 6.250 Marshall & Winston, Inc. 3.125 William S. Marshall 3.125 Peggy Donnelly McConnell 12.500 Jack L. Russell 12.500
3	Sec.6: Lots 3,4,5	107.37	LC029389(e)	U.S. Schedule D	Canadian Kenwood Company 93.25% T.R.Parker 6.75%	Canadian Kenwood Company 11.65625% William G. Parker, Nancy Parker Strong & Sylvia S. Voorhies Tr U/W/O Tom R. Parker 0.84375%	The Eastland Oil Company 18.750 Alps Oil Company 12.500 George A. Donnelly, Jr. 12.500 Richard Donnelly 6.250 Mary L. Holbrook 6.250 Marshall & Winston, Inc. 3.125 William S. Marshall 3.125 Peggy Donnelly McConnell 12.500 Jack L. Russell 12.500



EXHIBIT "B"

UNIT AGREEMENT

SCHEDULE SHOWING ALL LAND AND LEASES

WITHIN THE POWER GRAYBURG UNIT

EDDY COUNTY, NEW MEXICO

ALL FEDERAL LANDS

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. EXP. DATE	BASIC ROYALTY	LESSEE OF RECORD AND PERCENTAGE	OVERRIDING ROYALTY AND PERCENTAGE	WORKING INTEREST AND PERCENTAGE
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T.18S.,R.31E.

4	Sec.1: Lots 1,2 S/2NE/4	160.16	LC047633(b) HBP	U.S. Schedule D	Read & Stevens, Inc 100%	Sibyl Vivian Perry and Richard L. Perry 6.25	Read & Stevens, Inc. The Eastland Oil Company Alps Oil Company G.H. Doelling, Jr. George A. Donnelly, Jr. George A. Donnelly, Jr. Trustee of the Trust for George A. Donnelly, III George A. Donnelly, Jr. Trustee of the Trust for Marion Jan O'Neill George A. Donnelly, Jr. Trustee of the Trust for Robert R. Donnelly Richard Donnelly Mary L. Holbrook Marshall & Winston, Inc. William S. Marshall Jack L. Russell	0.000000 18.750000 12.500000 12.500000 12.500000  4.166667  4.166667  4.166666 6.250000 6.250000 3.125000 3.125000 12.500000
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RECAPITULATION: 5 Tracts 4 Federal Leases 427.44 Acres 100% Federal

# EXHIBIT "C"

## UNIT AGREEMENT

### SCHEDULE OF TRACT PARTICIPATION

THE EASTLAND OIL COMPANY

POWER GRAYBURG UNIT

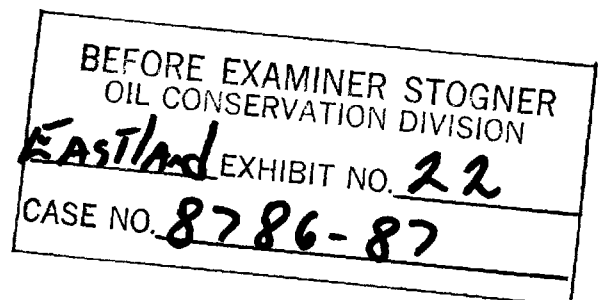
EDDY COUNTY, NEW MEXICO

TRACT NO.	TRACT ACRES	TRACT ACRES %	TRACT CUM. OIL	PERCENT CUMULATIVE	10% ACRES	90% CUM.	TRACT PART. %
1a	39.99	9.355699	0	0.000000	0.935570	0.000000	0.935570
1b	39.97	9.351020	88034	19.694495	0.935102	17.725046	18.660148
2	79.95	18.714380	108805	24.341272	1.870438	21.907145	23.777583
3	107.37	25.119315	228575	51.135576	2.511931	46.022018	48.533949
4	160.16	37.469586	21584	4.828657	3.746959	4.345791	8.092750
	427.44	100.000000	446998	100.000000	10.000000	90.000000	100.000000

TRACT PARTICIPATION: 90% Cumulative to 1-1-85 + 10% Acreage

POWER GRAYBURG UNIT  
ATTACHMENT TO FORM C-108  
LIST OF SURFACE OWNERS AND  
LEASEHOLD OPERATORS WITHIN ONE-HALF MILE

1. Surface Owners: (All leases in Unit)  
Federal Lands  
Bureau of Land Management  
Roswell District Office  
P.O.Box 1397  
Roswell, New Mexico 88201
2. Leasehold Operators:  
Anadarko Producing Company  
Box 2497, 900 Gibraltar Savings Center  
Midland, Texas 79702  
  
Amoco Production Company  
Box 68  
Hobbs, New Mexico 88240  
  
APCO Production Company  
80 Sierra Cr., C.R. 240  
Durango, Colorado 81301  
  
ARCO Oil & Gas Company  
Box 1610  
Midland, Texas 79702  
  
Belnorth Petroleum Corporation  
One Petroleum Center, Bldg. 6  
3300 N. "A" Street  
Midland, Texas 79705  
  
Cal-Mon Oil Company  
P.O.Box 2066  
Midland, Texas 79702  
  
El Paso Natural Gas Company  
Box 1492  
El Paso, Texas 79978  
  
Northern Natural Gas Company  
One Petroleum Center, Bldg. 6  
3300 N. "A" Street  
Midland, Texas 79705



Page 2

Pogo Producing Company  
Box 10340, 300 Midland Tower  
Midland, Texas 79702

Union Texas Petroleum Corporation  
Division of Allied Chemical Corporation  
P.O.Box 200128  
Houston, Texas 77216

Harvey E. Yates Company  
Box 1933  
Roswell, New Mexico 88201

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

**3. Article Addressed to:**

APCO Production Company  
80 Sierra Cr., C.R. 240  
Durango, Colorado 81301

**4. Type of Service:**

- ☒ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail

**Article Number**

P 176 135 292

Always obtain signature of addressee or agent and DATE DELIVERED.

**5. Signature - Addressee**

X *[Signature]*

**6. Signature - Agent**

X *[Signature]*

**7. Date of Delivery**

**8. Addressee's Address (ONLY if requested and fee paid)**

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

## 3. Article Addressed to:

Bureau of Land Management  
Roswell District Office  
Post Office Box 1397  
Roswell, New Mexico 88201

## 4. Type of Service:

- |   |                                  |                                 |
|---|----------------------------------|---------------------------------|
| <input type="checkbox"/> Registered           | <input type="checkbox"/> Insured | Article Number<br>P 176 135 289 |
| <input checked="" type="checkbox"/> Certified | <input type="checkbox"/> COD     |                                 |
| <input type="checkbox"/> Express Mail         |                                  |                                 |

Always obtain signature of addressee or agent and DATE DELIVERED.

## 5. Signature - Addressee

X

## 6. Signature - Agent

X

## 7. Date of Delivery

## 8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

## 3. Article Addressed to:

Anadarko Production Company  
Post Office Box 2497  
Midland, Texas 79702

## 4. Type of Service:

- |   |                                  |                                 |
|---|----------------------------------|---------------------------------|
| <input type="checkbox"/> Registered           | <input type="checkbox"/> Insured | Article Number<br>P 176 135 290 |
| <input checked="" type="checkbox"/> Certified | <input type="checkbox"/> COD     |                                 |
| <input type="checkbox"/> Express Mail         |                                  |                                 |

Always obtain signature of addressee or agent and DATE DELIVERED.

## 5. Signature - Addressee

X

## 6. Signature - Agent

X

## 7. Date of Delivery

## 8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

**SENDER: Complete items 1, 2, 3 and 4.**

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1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

## 3. Article Addressed to:

Amoco Production Company  
Post Office Box 68  
Hobbs, New Mexico 88240

## 4. Type of Service:

- |   |                                  |                                 |
|---|----------------------------------|---------------------------------|
| <input type="checkbox"/> Registered           | <input type="checkbox"/> Insured | Article Number<br>P 176 135 291 |
| <input checked="" type="checkbox"/> Certified | <input type="checkbox"/> COD     |                                 |
| <input type="checkbox"/> Express Mail         |                                  |                                 |

Always obtain signature of addressee or agent and DATE DELIVERED.

## 5. Signature - Addressee

X

## 6. Signature - Agent

X

## 7. Date of Delivery

## 8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

P 176 135 297

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Northern Natural Gas Company	
Street and No. 3300 N. "A" Street	
P.O. State and ZIP Code Midland, Texas 79705	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	

PS Form 3800, Feb. 1982

\* U.S.G.P.O. 1884-446-014

AHIN and KELLAHIN

Attorneys at Law

117 North Guadalupe

Post Office Box 2265

San Antonio, New Mexico 87504-2265

CERTIFIED

P 176 135 292

MAIL

RETURN TO SENDER  
NO FORWARDING ORDER ON FILE  
UNABLE TO FORWARD

APC 80 6R30DANI 11/30/85  
APC 80 6R30DANI 11/30/85

APCO Production Company

80 Sierra Cr., C.R. 240

Durango, Colorado 81301

CLAIM CHECK  
047552

☐ HOLD

DEC 6 1985

1ST NOTICE

2ND NOTICE

RETURN

Detached from  
PS Form 3849-A  
Oct. 1980

2ND NOTICE

RETURN

Detached from  
PS Form 3849-A  
Oct. 1980

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:

Cal-Mon Oil Company  
Post Office Box 2066  
Midland, Texas 79702

4. Type of Service:

☐ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail

Article Number

P 176 135 295

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X

6. Signature - Agent

X

7. Date of Delivery

11-29-81

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:

El Paso Natural Gas Co.  
Post Office Box 1492  
El Paso, Texas 79978

4. Type of Service:

☐ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail

Article Number

P 176 135 296

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X

6. Signature - Agent

X

7. Date of Delivery

11-29-81

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:

Pogo Producing Company  
Box 10340, 300 Midland Tower  
Midland, Texas 79702

4. Type of Service:

☐ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail

Article Number

P 176 135 298

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X

6. Signature - Agent

X

7. Date of Delivery

11-29-81

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT



**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

## 3. Article Addressed to:

Jerry Sexton  
OCD - Hobbs  
Post Office Box 1980  
Hobbs, New Mexico 88240

## 4. Type of Service:

☒ Registered ☐ Insured  
☐ Certified ☐ COD  
☐ Express Mail

Article Number

P 176 135 302

Always obtain signature of addressee or agent and  
DATE DELIVERED.

## 5. Signature - Addressee

X *Jerry Sexton*

## 6. Signature - Agent

X

## 7. Date of Delivery

11-27-85

## 8. Addressee's Address (ONLY if requested and fee paid)

11-27-85

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

## 3. Article Addressed to:

ARCO Oil & Gas Company  
P. O. Box 1610  
Midland, Texas 79702

## 4. Type of Service:

☒ Registered ☐ Insured  
☐ Certified ☐ COD  
☐ Express Mail

Article Number

P 176 135 293

Always obtain signature of addressee or agent and  
DATE DELIVERED.

## 5. Signature - Addressee

X

## 6. Signature - Agent

X *Arco Oil & Gas*

## 7. Date of Delivery

11-27-85

## 8. Addressee's Address (ONLY if requested and fee paid)

11-27-85

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

## 3. Article Addressed to:

Belnorth Petroleum Company  
One Petroleum Center, Bldg. 6  
3300 N. "A" Street  
Midland, Texas 79705

## 4. Type of Service:

☒ Registered ☐ Insured  
☐ Certified ☐ COD  
☐ Express Mail

Article Number

P 176 135 294

Always obtain signature of addressee or agent and  
DATE DELIVERED.

## 5. Signature - Addressee

X *Belnorth*

## 6. Signature - Agent

X

## 7. Date of Delivery

11-27-85

## 8. Addressee's Address (ONLY if requested and fee paid)

11-27-85

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.  
2. ☐ Restricted Delivery.

3. Article Addressed to:  
Union Texas Petroleum Corp.  
Division of Allied Chemical Corporation  
Post Office Box 200128  
Houston, Texas 77216

4. Type of Service: Article Number  
☐ Registered ☐ Insured  
☒ Certified ☐ COD P 176 135 299  
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee  
X

6. Signature - Agent *[Signature]*  
X

7. Date of Delivery  
DEC 2 - 1985

8. Addressee's Address (ONLY if requested and fee paid)

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.  
2. ☐ Restricted Delivery.

3. Article Addressed to:  
Harvey E. Yates Company  
Post Office Box 1933  
Roswell, New Mexico 88201

4. Type of Service: Article Number  
☐ Registered ☐ Insured  
☒ Certified ☐ COD P 176 135 300  
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee  
X *[Signature]*

6. Signature - Agent  
X

7. Date of Delivery  
11-27-85

8. Addressee's Address (ONLY if requested and fee paid)

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.  
2. ☐ Restricted Delivery.

3. Article Addressed to:  
George D. Neal  
The Eastland Oil Company  
Post Office Drawer 3488  
Midland, Texas 79702

4. Type of Service: Article Number  
☐ Registered ☐ Insured  
☒ Certified ☐ COD P 176 135 301  
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

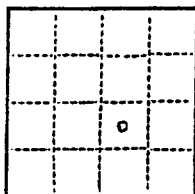
5. Signature - Addressee  
X *[Signature]*

6. Signature - Agent  
X

7. Date of Delivery

8. Addressee's Address (ONLY if requested and fee paid)

Form 9-598  
(April 1952)



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
CONSERVATION DIVISION

Sec. 31  
T. 17S  
R. 31E  
N.M.P. Mer.

INDIVIDUAL WELL RECORD

PUBLIC LAND:

Date June 26, 1952

Ref. No. 29

Land office New Mexico State New Mexico  
Serial No. 0933 \* County Eddy  
Lessee Gulf Oil Corp. Field Wildcat  
Operator E. A. HANSON \* District Artesia  
Well No. 1-STAGNER Subdivision NW $\frac{1}{4}$  SE $\frac{1}{4}$   
Location 1980' from the south and east lines of the section.

Workover  
Drilling approved Nov. 23, 19 56 Well elevation 3713 (L&S) feet  
Workover  
Drilling commenced Nov. 24, 19 56 Total depth 4252 feet  
Workover  
Drilling ceased Dec. 19, 19 56 Initial production None  
Completed for production \_\_\_\_\_, 19 \_\_\_\_\_ Gravity A. P. I. \_\_\_\_\_  
Abandonment approved March 21, 19 57 Initial R. P. \_\_\_\_\_

Geologic Formations		Productive Horizons		
Surface	Lowest tested	Name	Depths	Contents
Recent	Permian			

WELL STATUS

YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1936											Drq.	
1939		BSI										
1940										P&A		
1956											CO	
1957			P&A									

REMARKS Formerly English & Harmon & then Schuster & Schuster.  
Formerly LG-029495 & LG-063596.  
Well originally drilled by English & Harmon during the period 11-22-36  
to 2-29-37 to 40-4252' & completed dry & abandoned. Abandonment was  
approved 10-23-40.

BEFORE EXAMINER SIGNATURE  
OIL CONSERVATION DIVISION  
*Eastland* EXHIBIT NO. 23  
CASE NO. 8786-87

**OIL CONSERVATION COMMISSION**

A 4x4 grid with cardinal directions labeled around the perimeter: N (North) at the top, S (South) at the bottom, E (East) on the right, and W (West) on the left. The grid consists of 16 squares arranged in 4 rows and 4 columns.

Size	Feet	Inches	Six Cement
5 1/2"	0098		30

Company	ENGLISH & HANCOCK			
Farm Name	Slaguer		Well No. 1	
Land Classification	Fence			
Sec. 31	Twp. 17	Range 31	County Eddy	
Feet from Line:	N. 1980/	S. 1980/	E.	W.
Elevation			Method	
Contractor	D. J. ...		Scout	
Spudded	Completed 3-21-3		Initial Production	
Bond Status				

## Gals.

Prod.	Date
Prod.	Date

Top Pay	Total Depth
---------	-------------

## SHOOTING RECORD

No. of Quarts	<u>550</u>	Shot at	<u>2407</u>	Feet	<u>2.5</u>
No. of Quarts		Shot at		Feet	

[illegible]

## LOG

Depth	Formation	Depth	Formation	Depth	Formation
FEB 14 1939	T.D. 4095 L				
	S.D. Wyckoff				
	20 4095-95 L				
	4095				
	add 1 BWP				
	S.D. H. D.				
	300' 4095-4100 WITH				
FEB 21 1939	T.D. 4109 L				
	U/O C				
FEB 28 1939	4095 L				
	200' 4095-4100				
	40				
	300' 4095-4100 WITH				
MAR 7 - 1939	T.D. 4252 L				
	P.B. 4010				
	Reel 5" Cyl				
	4010 2460				
	wait for show				
	415-2.3				
MAR 14 1939	T.D. 4252 L				
	P.B. 4010				
MAR 21 1939	T.D. 4252 L				
	P.B. 4010				
	4.5. 2 P.B.D				
	10 P.B.D				

# ARTEZIA OFFICE COPY

Budget Bureau 42-R358.8  
Approval expires 12-31-33.

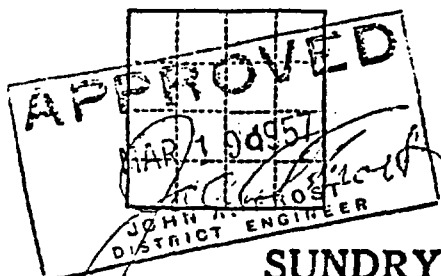
(SUBMIT IN TRIPLICATE)

Land Office New Mexico

Lease No. NM 0933

Unit \_\_\_\_\_

## UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY



### SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	X
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

*Slaguer* January 18, 1937  
Well No. 1 is located 1980 ft. from N line and 1980 ft. from E line of sec. 31  
N 15 E - 31 17 South 31 East N.M.P.M.  
(Of Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
Wilcox Eddy New Mexico  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 3710 ft.

### DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

As outlined in previous report, filled hole from 255 feet with mud to surface and set standard marker with 15 sacks of cement. Filled pits cleaned location and moved off rig.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

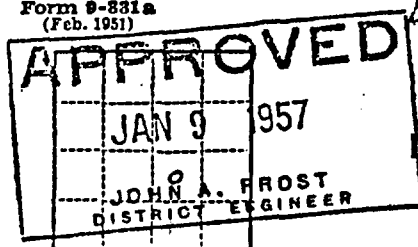
Company Ernest A. Hanson

Address P.O. Box 852

Roswell, N.M.

By *Ernest A. Hanson*

Title Manager \_\_\_\_\_



ARTESIA OFFICE COPY  
(SUBMIT IN TRIPPLICATE)  
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Land Office New Mexico  
Lease No. 0933  
Unit \_\_\_\_\_

## SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	X		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

January 3, 1957

*Stagnant*  
Well No. 1 is located 1980 ft. from N line and 1980 ft. from E line of sec. 31  
W 1/2 Sec. 31 17 South 31 East N.M.P.M.  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
Wildcat Eddy New Mexico  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 3710 ft.

### DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Commenced moving-in cable-tool spudder on November 21, 1956, and began cleaning-cut old hole on November 24, 1956. Reached depth of 295 feet on November 29, 1956, but were unable to drill deeper because of junk casing in hole. Ceased operations on December 19, 1956.

Will re-plug and abandon by filling hole from present depth of 255 feet (hole cased from 295 feet) to surface, and by setting and cementing marker at surface.

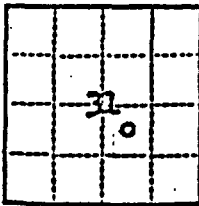
I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Ernest A. Hanson

Address P.O. Box 852  
Roswell, New Mexico

By Ernest A. Hanson

Title Manager



(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Land Office New Mexico

Lease No. NM - 0933

Unit J

NOV 23 1956

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	X	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

November 21, 1956

Well No. 1 is located 1980 ft. from S line and 1980 ft. from E line of sec. 31  
NW 1/4 SE 1/4 31 17S 31E N.M.P.M.  
 (Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
Wildcat Edy New Mexico  
 (Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is about 3710 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudlogging jobs, cementing points, and all other important proposed work)

We propose to re-enter this abandoned well cleaning out to a depth of approximately 3850' with cable tools and will attempt to re-complete at this depth. Deepest testing will be the Lovington Sand to 3850'. Plan to tie into 8 5/8" casing 2 1/2" test, bottomed at 670' and 3850' 5 1/2" casing 1 1/2" test. Cement at 670' and at 3850' with 100 ex.

DEC 1 1956  
U. S. GEOLOGICAL SURVEY  
ARTESIA, NEW MEXICO

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Ernest A. Hanson

Address P. O. Box 852

Roswell, New Mexico

By Ernest A. Hanson

Title Operator



(SUBMIT IN TRIPLICATE)

Stagner Las Cruces  
U. S. Land Office

029495

Lease or permit No. \_\_\_\_\_  
being exchanged for  
Lease

Allottee

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL <u>Plug</u>	<u>X</u>		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

March 24, 1939

Well No. 1 is located 1980 ft. from [N] line and 1980 ft. from [E] line of sec. 31  
NE 1/4 31 17S 31E N.M.P.M.  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
Eddy New Mexico  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is \_\_\_\_\_ ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Mud will be poured to 1650 feet at which place 25 sacks of cement will be dumped into the hole.

Ten sacks of cement will be dumped inside of 200 feet of 8" casing and from there to the top of the hole it will be filled with mud with two sacks of cement on the top.

A pipe filled with cement will mark the hole.

*The pipe will be the regulation size marker.*

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company \_\_\_\_\_

Address % Mrs. Grace McDonald Phillips

Roswell, New Mexico

By P. B. English

Title Operator

(Nov. 1936)

Indian Agency.....

(SUBMIT IN TRIPLICATE)

Stagner

U. S. Land Office Las Cruces

UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

 Permit No. 029495  
 being exchanged for  
 Lease

Allottee.....

Lease No.....

## SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....
NOTICE OF INTENTION TO ABANDON WELL.....	

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

March 29, 1939

Well No. 1 is located 1980 ft. from N line and 1990 ft. from E line of sec. 31
31  
 (4 Sec. and Sec. No.)

17S

(Twp.)

31E

(Range)

N.H.P.M.

(Meridian)

(Field)

Edgar

(County or Subdivision)

New Mexico

(State or Territory)

The elevation of the derrick floor above sea level is \_\_\_\_\_ ft.

## DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

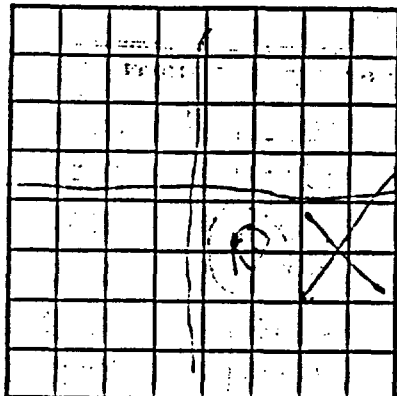
Water in this well was encountered at 4300', the hole was then filled with lead wool, steel cuttings and rock from the bottom of the hole to the pipe, which was at 4118. The pipe extending from 2460 to 4118 was filled with a plug consisting of rock, lead wool and steel cuttings

Mud was poured into the well to 1650' at which place 25 sacks of cement were dumped into the hole. 10 sacks of cement were dumped inside of 200 feet of 3 inch casing and from there to the top of the hole it was filled with mud with 2 sacks of cement on the top. The legal marker, a pipe filled with cement extending 3 feet above the ground marks the hole.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company.....

Address Mrs. Grace McDonald PhillipsRoswell, New MexicoBy P. B. ZieglerTitle Operator



LOCATE WELL CORRECTLY

FORMATION RECORD

Stagner Permit  
U. S. LAND OFFICE Las Cruces

SERIAL NUMBER 029495

EXCHANGE PERMIT TO PROSPECT Permit

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

MAR 21

## LOG OF OIL OR GAS WELL

Company P. B. English Address % Mrs. Grace McDonald Phillips  
 Lessor or Tract Stagner Field \_\_\_\_\_ State New Mexico  
 Well No. 1 Sec. 31 T. 17S R. 31E Meridian N.M.P.M. County Eddy  
 Location 1980 ft. {N.} of S. Line and 1980 ft. {E.} of E. Line of 31 Elevation 3713 (Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Date 24 March, 1939Signed P.B. English  
Title Operator

The summary on this page is for the condition of the well at above date.

Commenced drilling Nov. 21, 1938 Finished drilling \_\_\_\_\_, 1939

## OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from \_\_\_\_\_ to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 3, from \_\_\_\_\_ to \_\_\_\_\_ No. 6, from \_\_\_\_\_ to \_\_\_\_\_

## IMPORTANT WATER SANDS

No. 1, from 4120 to 4124 No. 3, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 2, from 4200 to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_

## CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
8 1/2	32	8		670					Top of Seal
5-3/16	17	10		4108					
HISTORY OF OIL OR GAS WELL									

## MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8 1/2	670	50 sacks			
5-3/16	4108				

# SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

## TOOLS USED

Rotary tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Cable tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

## DATES

\_\_\_\_\_, 19\_\_\_\_

Put to producing \_\_\_\_\_, 19\_\_\_\_

The production for the first 24 hours was \_\_\_\_\_ barrels of fluid of which \_\_\_\_\_ % was oil; \_\_\_\_\_ % emulsion; \_\_\_\_\_ % water; and \_\_\_\_\_ % sediment. Gravity, °Bé. \_\_\_\_\_

If gas well, cu. ft. per 24 hours \_\_\_\_\_ Gallons gasoline per 1,000 cu. ft. of gas \_\_\_\_\_

Rock pressure, lbs. per sq. in. \_\_\_\_\_

## EMPLOYEES

Roy English, Driller Dan Webb, Driller

Jean Horner, Driller \_\_\_\_\_, Driller

## FORMATION RECORD

FROM-	TO-	TOTAL FEET	FORMATION
0	40	40	Caliche
40	300	260	Red sandy shale
300	305	5	Red sand and shale
305	320	15	Anhydrite
320	345	15	Red and blue shale
345	420	75	Anhydrite and shale
420	445	15	Anhydrite
445	505	50	Anhydrite
505	515	10	Anhydrite and grey shale
515	530	15	Anhydrite and red shale
530	570	40	Water
570	650	80	Salt
650	670	20	Salt - 8 1/2" pipe set at 670 -
675	750	75	Cement with 50 sacks at 675
750	790	40	Anhydrite and salt
790	1065	275	Anhydrite and salt - water 1 - 2/3 cills
1065	1085	20	Salt
1085	1400	315	Pollyhydrite
1400	1445	45	Salt
1445	1605	160	Salt and Pollyhydrite
1605	1650	45	Salt
1650	1680	30	Anhydrite
1680	1860	180	Anhydrite and shale mixed
			Anhydrite

(OVER)

FORMATION RECORD - CONTINUED

From	To	Total Depth	Formation
1860	1870	10	Red sand
1870	1930	60	Anhydrite
1930	1953	23	Anhydrite and red shale
1953	1975	22	Anhydrite
1975	2010	35	Anhydrite
2010	2034	24	Anhydrite and red shale
2034	2220	186	Anhydrite
2220	2235	15	Dark grey lime
2235	2345	10	Anhydrite
2345	2365	20	Anhydrite and lime
2365	2415	50	Anhydrite
2415	2423	8	Lime - Show of Oil
2423	2450	27	Anhydrite
2450	2474	24	Anhydrite and lime
2474	2600	126	Anhydrite
2600	2680	80	Anhydrite and red shale
2680	2694	14	Anhydrite and red shale
2694	2730	36	Anhydrite
2730	2754	24	Anhydrite and red shale
2754	2798	44	Anhydrite
2798	2815	17	Sand and red shale
2815	2828	13	Red sand
2828	2842	14	Lime - Reduced at 2840
2842	2883	41	Lime and Anhydrite
2883	2898	15	Lime
2898	2911	13	White Lime
2911	2940	29	Anhydrite and lime
2940	2958	18	Lime
2958	2974	16	Gray lime and anhydrite
2974	2995	21	Lime and anhydrite
2995	3010	15	Red sand
3010	3022	12	Red shale and anhydrite
3022	3040	18	Anhydrite and lime
3040	3055	15	Red sand
3055	3069	14	Red sand and last 2 feet anhydrite
3069	3987	18	Anhydrite and lime
3987	3115	28	Red sand
3115	3124	9	Grey lime, hard. Top of lime
3124	3150	26	Lime
3150	3156	6	Red sand and grey lime
3156	3175	19	Sand and lime
3175	3188	13	Lime and red sand
3188	3204	16	Lime and shale
3204	3218	14	Lime
3218	3231	13	Grey lime and sand - Show of oil.
3231	3245	14	Grey lime
3245	3255	10	Lime
3255	3262	7	White lime, hard
3262	3316	54	Grey lime
3316	3326	10	White lime
3326	3331	5	Lime - Show of oil
3331	3343	12	Lime, grey
3345	3355	10	White lime
3355	3365	10	Grey lime

From	To	Total Depth	Formation
3365	3377	12	Grey lime, shall show
3377	3388	11	Grey sandy lime
3388	3394	6	Lime
3394	3404	10	Grey lime - Show of oil
3404	3414	10	Grey sandy lime
3414	3436	22	Grey lime
3436	3449	13	Sandy lime
3449	3460	11	White lime, sand
3460	3470	10	White sandy lime - Show of oil
3470	3481	11	Grey lime
3481	3490	11	Grey sandy lime
3490	3493	3	Brown lime
3493	3585	92	Grey lime
3585	3595	10	Black sulphur lime
3595	3610		Blue grey sandy lime - some oil
3610	3646	36	Lime
3646	3658	12	Grey lime
3658	3673	15	Grey sandy lime - little oil
3673	3700	27	Grey lime
3700	3707	7	Light grey sandy lime
3707	3714	7	Grey lime
3814	3740	26	Grey lime - 6½ boilers of B.S. and Oil
3740	3883	143	Grey lime
3883	3897	14	Grey brown lime
3897	3900	3	Grey soft lime
3900	4095	195	Grey soft lime
4095	corrected to 4108		5-3/16" pipe set at 4108
4108	4120	12	Grey lime
4120	4129	9	White water sand
4129	4200	71	Grey lime
4200			Water

EDDY POOL WILDCAT STATE N.R. KROENLEIN 1345-56  
 WTRD Ernest A. Hanson - #1 - Oulf-Stagner ELEV. -3713  
 (Fmly. English & Harmon - #1 - Stagner)  
 1. 1980 FSL & 1980 FEL of Sec.  
 Sec. 31, T-17-S, R-31-E

OLD OR SHOT	Old: CASINO RECORD 8 1/4- 670- 5 1/2-4100- —	TOPS
ED-11-24-56	CAMP. 1-2-57	
P & A		
GOR	TP	CP
OPD 4252 -	opr. did not get back	TD 4252
	in hole.	PSU

EDDY POOL - STATE N.R. KROENLEIN 1329

English & Harmon - #1 - Stagner Permit ELEV. 3713

1980 FSL & 1980 FEL  
 Sec. 31, T-17-S, R-31-E

60 qts. 2407-25	8 - 670-50 5 1/2-4100-30 ✓	S. 570 Y. 1785 S.A. 3205
11-22-38	CAMP. 3-21-39	
P&A		
GOR	TP	CP
OPD 4252		TD 4252
PSU 2425		
CONT'D PAGE 2.		

K-1329

PAGE 2.

EDDY, N.R.  
 English & Harmon - #1 - Stagner Permit

SO 2315-23, 3218-31, 3313-31, 3365-77, 3394-3404, 3595-  
 3603, 3658-73, 4023-25, 4085-95, 4100-08, SW 440, 4023-25,  
 salt, sul. 4085.  
 Result bailed test 2 bailers OPD after shot.





CASE 5786

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage  
Application qualifies for administrative approval? ☐ yes ☒ no
- II. Operator: The Eastland Oil Company  
Address: P.O. Drawer 3488, Midland,  
Contact party: George D. Neal Phone: 915/683/6293
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ yes ☒ no  
If yes, give the Division order number authorizing the project \_\_\_\_\_.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- \* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- \* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: George D. Neal Title Vice President - Production  
Signature: George D Neal Date: November 20, 1985
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

[illegible]

R-30-E

Amoco

Cal - Mon, etal

R-31-E

H.E. Yates

No. Nat. Gas

State

U.S.

State

Eastland

Eastland

Eastland

Eastland

1

1



4

2



3

1

6



1b



1a

3

5



Kenwood - Fed

Allied - Fed

Pogo Prod.

Apco  
HBP

Arco - Fed

Sibyl - Fed

Belnorth, etal

U.S.

Belnorth, etal

U.S.

Amoco

# POWER GRAYBURG-SAN ANDRES POOL

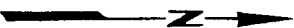
Eddy County, New Mexico

EASTLAND OIL COMPANY

③ Tract No.

Injection  
Well

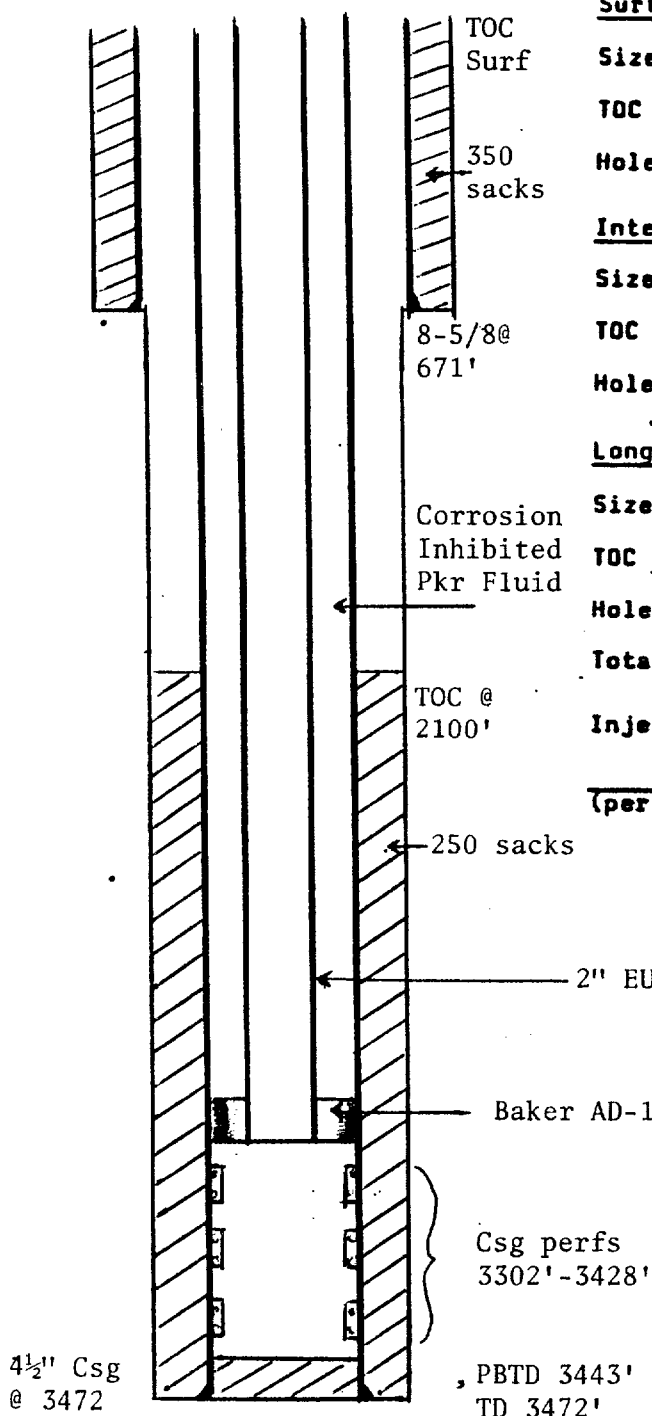
Scale in Feet  
0 2330



## INJECTION WELL DATA SHEET

The Eastland Oil Company Sibyl Federal  
 OPERATOR LEASE  
 2 330' FEL & 1650' ENL 1 T18S R30E  
 WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE  
 Producing well from Power Grayburg. Completed 9-4-71

## Schematic



## Tubular Data

## Surface Casing

Size 8-5/8" Cemented with 350 sx.  
 TOC Surface feet determined by Circulation  
 Hole size 11"

## Intermediate Casing

Size 8-5/8" Cemented with        sx.  
 TOC        feet determined by         
 Hole size       

## Long string

Size 4-1/2" Cemented with 250 sx.  
 TOC 2100 feet determined by Calc  
 Hole size 7-7/8

Total depth 3472' 3443' PBTD

## Injection interval (perforated)

3428 feet to 3423 feet  
 (perforated or open-hole, indicate which)  
3365 to 3361  
3312 to 3302

2" EUE tbg w/epoxy internal coating @ 3280'

Baker AD-1 Tension packer @ 3280'

Csg perfs  
 3302'-3428'

, PBTD 3443'  
 TD 3472'

Tubing size 2-3/8" EUE lined with TK-75 (fusion applied powder epoxy) set in a        (material)

Baker Model AD-1 Tension packer at 3280 feet.  
 (brand and model)

(or describe any other casing-tubing seal).

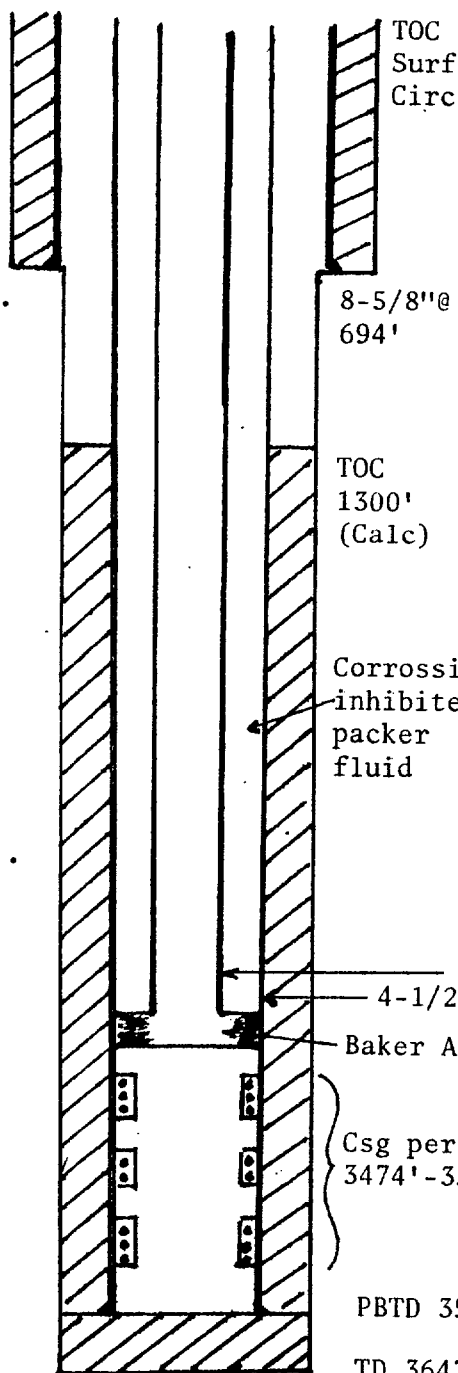
## Other Data

- Name of the injection formation Grayburg
- Name of field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No  
 If no, for what purpose was the well originally drilled? Oil & Gas
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep "32" State #1 producing from Bone Springs (7742' - 7926') in undesignated pool. No other producing zones in area.

## INJECTION WELL DATA SHEET

The Eastland Oil Company Arco Federal  
 OPERATOR LEASE  
 3 330' FNL, 1980' FWL 5 T18S R31E  
 WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE  
 Proposed re-entry and completion as injection well

## Schematic



## Tabular Data

## Surface Casing

Size 8 5/8 " Cemented with 350 sx.  
 TOC Surface feet determined by Circulation  
 Hole size 11"

## Intermediate Casing

Size            " Cemented with            sx.  
 TOC            feet determined by             
 Hole size           

## Long string (Proposed)

Size 4-1/2 " Cemented with 600 sx.  
 TOC 1300 feet determined by Calc  
 Hole size 7-7/8"

Total depth 3647' (3570' PB)

## Injection interval perforated

3542 feet to 3536 feet  
 (perforated or open-hole, indicate which)

3504' to 3500'  
 3486' to 3474'

2" EUE Tbg w/epoxy internal coating @ 3450'  
 4-1/2" csg @ 3570'

Baker AD-1 Tension pkr @ 3450'

Csg perfs  
 3474'-3542'

PBTD 3570'

TD 3647'

Tubing size 2-3/8 EUE lined with TK-75 (fusion applied powder epoxy) set in a  
 (material)

Baker Model AD-1 Tension packer at 3450 feet.  
 (brand and model)

(or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No

If no, for what purpose was the well originally drilled? Oil and gas -

Plugged and abandoned 2-28-71

- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No zones perforated.

3410-3298 w/40 sx, 2805-2693 w/40 sx, 1710-1598 w/40 sx, 758-646 w/40 sx,

30' surface w/10 sx.

- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep "32" State #1 producing from undesignated Bone Springs (7742-7926') 1/2 mile North. Only other producing zone in area (1 mile radius).

## INJECTION WELL DATA SHEET

The Eastland Oil Company

Allied Federal

OPERATION

LEASE

2

660' FNL, 1980' FEL

6

T18S

R31E

WELL NO.

FOOTAGE LOCATION

SECTION

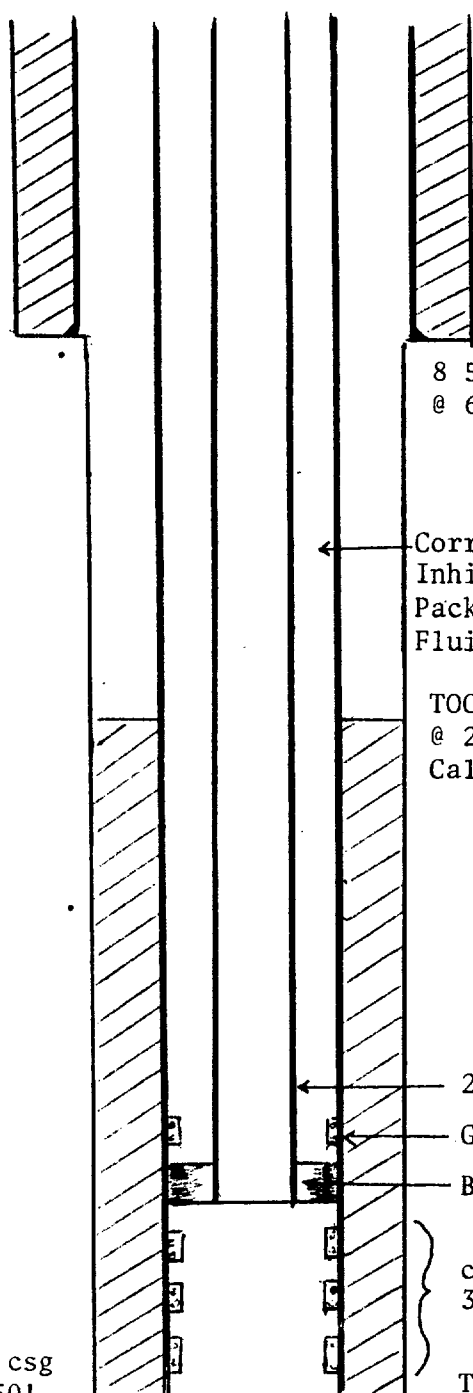
TOWNSHIP

RANGE

Producing well from Grayburg. Completed 1-17-71

## Schematic

## Tabular Data



**Surface Casing**  
 Size 8 5/8 " Cemented with 350 sx.  
 TOC Surface feet determined by Circulation  
 Hole size 11"

**Intermediate Casing**  
 Size          " Cemented with          sx.  
 TOC          feet determined by           
 Hole size         

**Long string**  
 Size 4 1/2 " Cemented with 450 sx.  
 TOC 2000 feet determined by Calculation  
 Hole size 7 7/8"

**Total depth** 3550'

**Injection interval (perforated)**  
3444 feet to 3440 feet  
 (perforated or open-hole, indicate which)  
3394' to 3388'  
3337' to 3333'

2" EUE tbg w/epoxy internal coating @ 3300'

Grayburg gas zone shut off by packer

Baker AD-1 Tension packer @ 3300'

csg. perfs  
3333' - 3444'

TD 3550'

4 1/2" csg  
@ 3550'Tubing size 2 3/8" EUE lined with TK-75 (fusion applied powder epoxy) set in a  
(material)Baker Model AD-1 Tension packer at 3300 feet.  
(brand and model)

(or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Grayburg
- Name of field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No  
If no, for what purpose was the well originally drilled? Oil and Gas

- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Additionally  
perforated in Grayburg zone 3164 - 3174'. Presently open to well bore, but  
will be shut off by packer.

- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep 32 State #1 producing from Bone Springs  
(7742 - 7926') in undesignated pool. No other producing zones in area.

## INJECTION WELL DATA SHEET

The Eastland Oil Company

Kenwood Federal

OPERATION

LEASE

3

660' FNL &amp; 660' FWL

6

T18S

R31E

WELL NO.

FOOTAGE LOCATION

SECTION

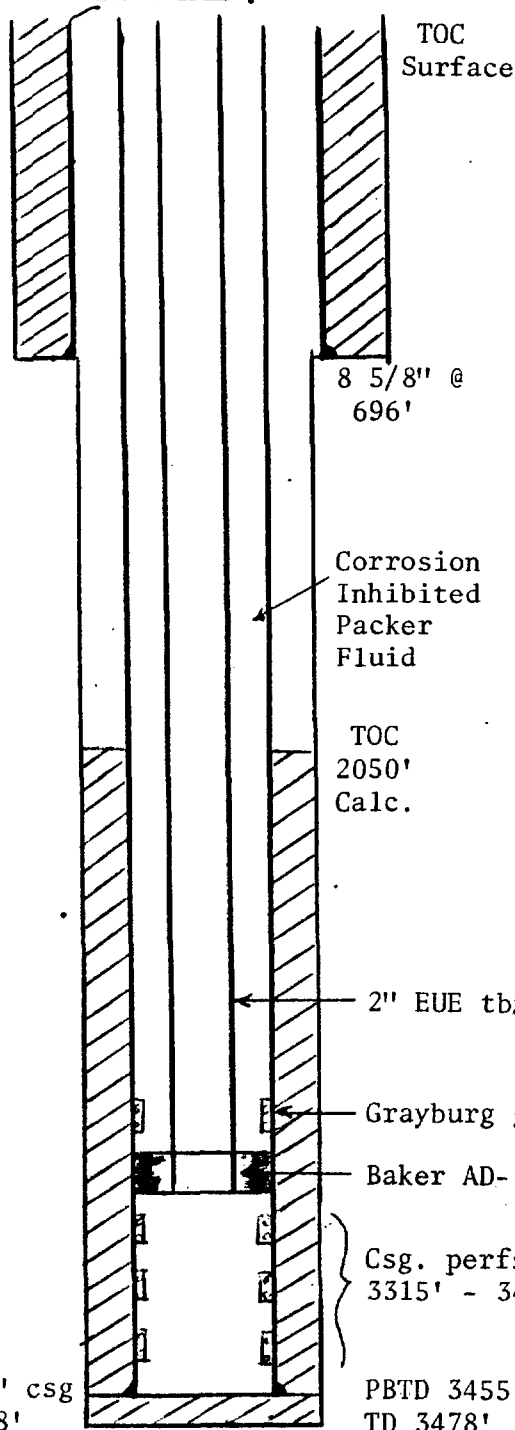
TOWNSHIP

RANGE

Producing well from Power Grayburg. Completed 4-2-71

## Schematic

## Tabular Data



## Surface Casing

Size 8 5/8 " Cemented with 350 sx.TOC Surface            feet determined by CirculationHole size 11"

## Intermediate Casing

Size            " Cemented with            sx.TOC            feet determined by           Hole size           

## Long string

Size 4 1/2 " Cemented with 250 sx.TOC 2050 feet determined by CalculationHole size 7 7/8"Total depth 3478'3455' PB

## Injection interval

3441 feet to 3435 feet

(perforated or open-hole, indicate which)

3377 to 33733323 to 3315Tubing size 2 3/8" EUE lined with TD-75 (Fusion applied powder epoxy) set in a            (material)Baker Model AD-1 Tension            packer at 3280 feet.  
(brand and model)

(or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No  
If no, for what purpose was the well originally drilled? Oil and Gas
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Additionally  
perforated in Grayburg gas zone 3121 - 3139' and open to well bore. Will be  
shut off by packer.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Harvey E. Yates Co. Power Deep 32 State #1 producing from Bone Springs  
in undesignated pool. No other producing zones in area.

TABULATION OF WELL DATA  
POWER GRAYBURG UNIT  
ATTACHMENT TO FORM C-108 ITEM NO. VI

OPERATOR NAME LEASE NAME WELL NO.	LOCATION	TYPE OF WELL	DATE DRILLED	PRESENT STATUS	SIZE CASING	SET AT	SACKS CEMENT	TOP OF CEMENT	DETERMINED BY	COMPLETION INTERVAL	TOTAL DEPTH
The Eastland Oil Company											
ARCO Federal											
No. 1	D-5-18-31	Oil	08-18-70	P&A 11-09-78	8 5/8 4 1/2	712 3684	350 250	Surface 2300	Circ. Calc.	3514-3410	3684 3570 PB
No. 2	E-5-18-31	Dry	12-21-70	P&A 05-10-75	8 5/8 4 1/2	713 3963	350 450	Surface 2030	Circ. T.S.	3878-3868 3723-3456 2663-2653 2160-2150	3963
No. 3	C-5-18-31	Dry	02-28-71	P&A 02-28-71	8 5/8	694	350	Surface	Circ.	None	3647
No. 4	D-5-18-31	Oil	06-29-78	Producing	8 5/8 4 1/2	701 3560	350 350 Lite 250 "C"	Surface Surface	Circ. Circ.	3524-3502 3498-3400	3560 3536 PB
Allied Federal											
No. 1	A-6-18-31	Oil	10-09-70	Producing	8 5/8 4 1/2	700 3870	350 250	Surface 2400	Circ. Calc.	3831-3803 3486-3392	3870 3530 PB
No. 2	B-6-18-31	Oil	01-17-71	Producing	8 5/8 4 1/2	679 3550	350 450	Surface 2000	Circ. Calc.	3444-3333	3550 3519 PB
Kenwood Federal											
No. 1	C-6-18-31	Oil	12-20-70	Producing	8 5/8 4 1/2	687 3845	350 450	Surface 1420	Circ. T. S.	3462-3334	3845 3827 PB
No. 2	E-6-18-31	Oil	07-02-71	Producing	8 5/8 4 1/2	657 3520	350 250	Surface 2095	Circ. Calc.	3427-3316	3520 3497 PB
No. 3	D-6-18-31	Oil	04-02-71	Producing	8 5/8 4 1/2	696 3478	350 250	Surface 2050	Circ. Calc.	3441-3315 3139-3121	3478 3455 PB





OPERATOR NAME		LOCATION	TYPE OF WELL	DATE DRILLED	PRESENT STATUS	SIZE CASING	SET AT	SACKS CEMENT	TOP OF CEMENT	DETERMINED		COMPLETION INTERVAL	TOTAL DEPTH
LEASE NAME	WELL NO.									BY			
(Re-entry of above well)													
Ernest A. Hanson													
STAGNER													
No. 1	J-31-17-31	Dry	12-19-56	P&A 03-21-57	8 1/4	670	15	Surface Plug	Circ.	----	295 PB		
(Could not clean-out below 295')													
Ernest A. Hanson													
Gulf State													
No. 1	L-32-17-31	Dry	12-03-56	P&A 01-18-57	8 5/8 5 1/2	706 3814	100 250	313 2457	Calc. Calc.	None	4059 3814 PB		
Allied Chemical													
Atlantic Federal													
No. 1	D-5-18-31	Dry	02-07-69	P&A	11 3/4 8 5/8	719 3994	700 1024	Surface 1400	Circ. Calc.	----	11025		
(Re-entry of above well)													
Solar Oil Company													
Atlantic Federal													
No. 1	D-5-18-31	Dry	05-16-69	P&A	5 1/2	9004	200	7924	Calc.	8850	9004 PB		

The Eastland Oil Company  
Allied Federal "A" No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P & A: 7-11-71

Location: M-31-17-31

Plug from surface  
to 30' w/ 10 sx

TOC @ surface - circ.

cemented w/ 350 sx.

11" hole

Plug from 588' to  
708' w/ 35 sx

8 5/8" csg. set @ 659'

Plug from 1423' to  
1543' w/ 35 sx

7 7/8" hole

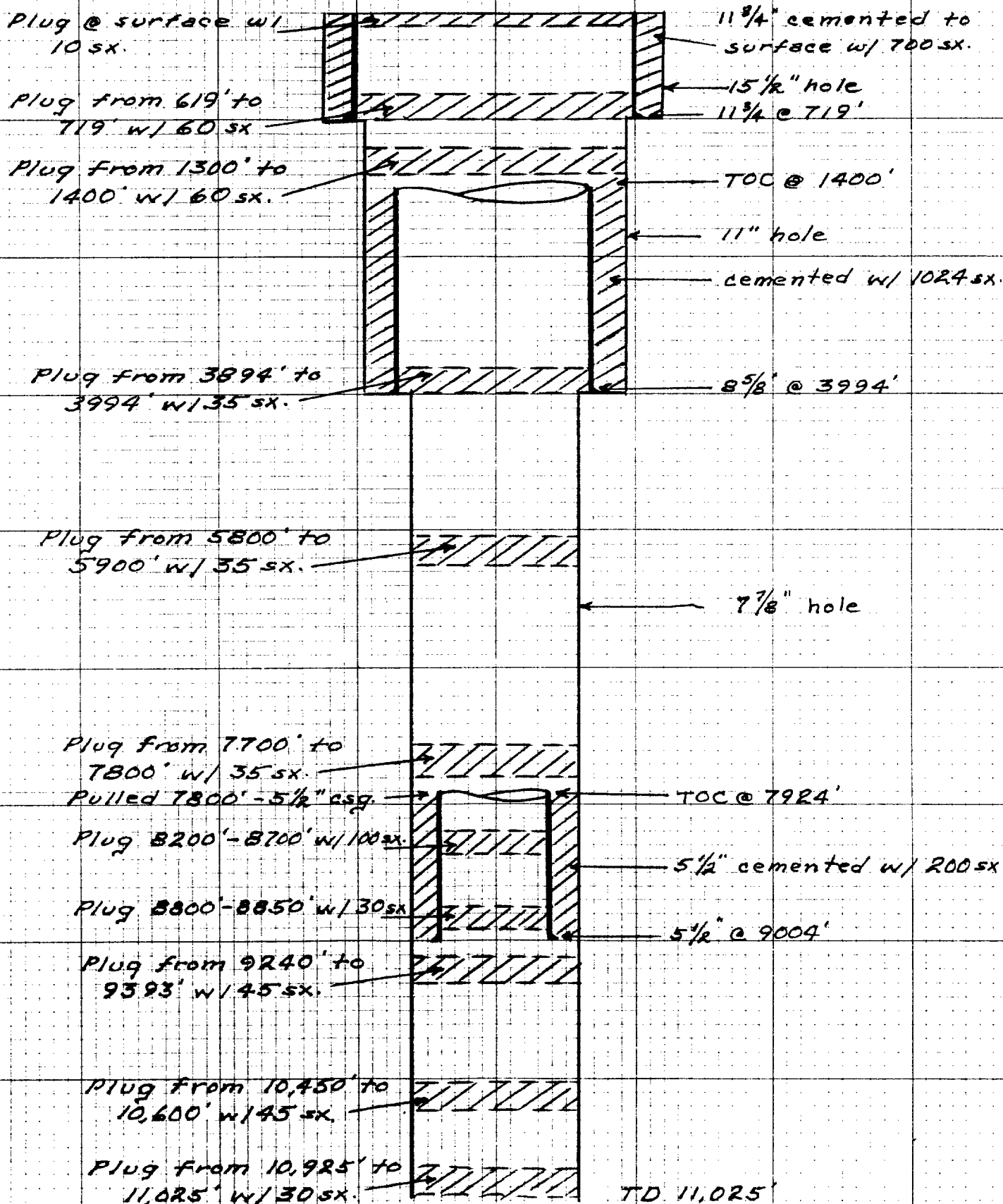
Plug from 3120' to  
3240' w/ 35 sx

Plug from 3444' to  
3564' w/ 35 sx

3564' TD

P & A R-7-69  
 5-16-69 (Re-entered by Solar Oil Company)  
 Schematic of Plugging Detail  
 Form C-108 Item VI

Location:  
 D-5-18-31



The Eastland Oil Company  
Arco-Federal No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P & A: 11-9-78

Location: D-5-18-31

Pumped 300 sx  
into 8 5/8" csg.  
to 1000'

4 1/2" csg. pulled  
out of collar  
@ 321'

TOC @ surface - circ.  
cemented w/ 350 sx.

8 5/8" csg. @ 712'

Cement on retainer  
to 1614'  
Retainer set @ 1634'  
Squeeged 50 sx @  
1650'

TOC @ 2300' by calc.

4 1/2" csg. cemented w/  
250 sx.

Cement on BP to  
3208'  
CIBP @ 3308'

Csg. perforations 3410'-3514'

TD 3684'

4 1/2" csg @ 3684'

The Eastland Oil Company  
Arco-Federal No. 2  
Schematic of Plugging Detail  
Form C-10B Item VI

P + A 5-10-75

LOCATION: E-5-18-31

Plug from surface  
to 45' w/ 15 sx.

8 5/8" csg cemented to  
surface w/ 350 sx.

11" hole

Plug from 656' to  
756' w/ 35 sx.

8 5/8" csg. set @ 713'

7 7/8" hole

Plug from 1580' to  
1680' w/ 35 sx.

Cut 4 1/2" csg @ 1700'  
and pulled

CIBP @ 2100' w/ cement  
to 2060'

TOC @ 2030' by temp. survey

Casing perfs 2150'-2160'

CIBP @ 2230' w/ cement  
to 2220'

Casing perfs 2653'-2663'

CIBP @ 2750' w/ cement  
to 2740'

Casing perfs 3456'-3723'

CIBP @ 3800' w/ cement  
to 3790'

Casing perfs 3868'-3878'

POTD 3939'

TD 3963'

The Eastland Oil Company  
Arco Federal No. 3  
Schematic of Plugging Detail  
Form C-10B Item VI

P+H 2-28-71  
Location: C-5-18-31

Plug from surf.  
to 30' w/ 10 sx.

8 5/8" csq. cemented to  
surface w/ 350 sx.

Plug from 646'  
to 758' w/ 40 sx.

8 5/8" csq. @ 694'

7 7/8" hole

Plug from 1598'  
to 1710' w/ 40 sx.

Plug from 2693'  
to 2805' w/ 40 sx.

Plug from 3298'  
to 3410' w/ 40 sx.

TD 3647'

The Eastland Oil Company  
 Allied State No. 1  
 Schematic of Plugging Detail  
 Form C-108 Item VI

P+A: 5-8-75

Location: M-32-17-31

Plug from surface  
 to 45' w/ 15 sx.

Cement to surface w/ 350 sx.

Plug from 648'  
 to 748' w/ 35 sx

8 5/8" csq. @ 700'

Plug from 1580' to  
 1680' w/ 35 sx

Plug from 2107' to  
 2207' w/ 35 sx.

Shot and pulled  
 2209' - 4 1/2" csq.

TOC @ 2225' (calc.)

4 1/2" csq. @ 3650'

cemented w/ 250 sx

Cement on BP to  
 3430'

CIBP @ 3450'

Csq. perfs. 3493'-3503'

PBTD - 3625'

TD - 3650'



Ernest A. Hansen  
Gulf State No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P-H 1-18-57

Location: L-32-17-31

Plug from surface  
to 40' w/ 15 sx

Plug from 590'  
to 630' w/ 15 sx

TOC @ 313' by calc.

Cemented w/ 100 sx.

8 5/8" @ 706'

Plug from 1608' to  
1650' w/ 15 sx

Plug from 2293'  
to 2335' w/ 15 sx

Shot 5 1/2" csg. @ 2335' and  
pulled

TOC @ 2457' by calc.

Cemented w/ 250 sx

7 7/8" hole

PBTD  
3814'

5 1/2" csg. @ 3814'  
TD 4059'

English & Harmon  
Stagner No. 1  
Schematic of Plugging Detail  
Form C-108 Item VI

P & A: 10-28-40

Location: U-31-17-3

2 sk cement @  
surface

Plug from 192' to  
200' w 10 sk

TOC @ 470' by calc.

8 1/4" csq. cemented w 50 sk

8 1/4" csq. @ 670'

Hole filled w/ mud

Note: Ernest A. Hansen

attempted to re-enter

this well on 11-29-56.

Cleaned out to 295'

and encountered junk.

P & A 3-21-57 by filling

hole from 295' to surface

w/ mud and setting plug

from 40' to surface w/

15 sk.

Plug from 1578' to  
1650' w 25 sk.

Shot 5 1/2" csq. @ 2460'  
and pulled

Plug w/ rock, lead  
wool, and steel  
cuttings from  
2460' to 4108'

← 8" hole

← TOC @ 3950' by calc.

← cemented 5 1/2" csq. w 30 sk

← 5 1/2" csq. @ 4108'

← 5" hole

T.D. 4252'

## INJECTION WELL DATA SHEET

The Eastland Oil Company

Kenwood Federal (SWD).

OPERATION

LEASE

4

1980' FNL &amp; 1980' FWL

6

T18S

R31E

WELL NO.

FOOTAGE LOCATION

SECTION

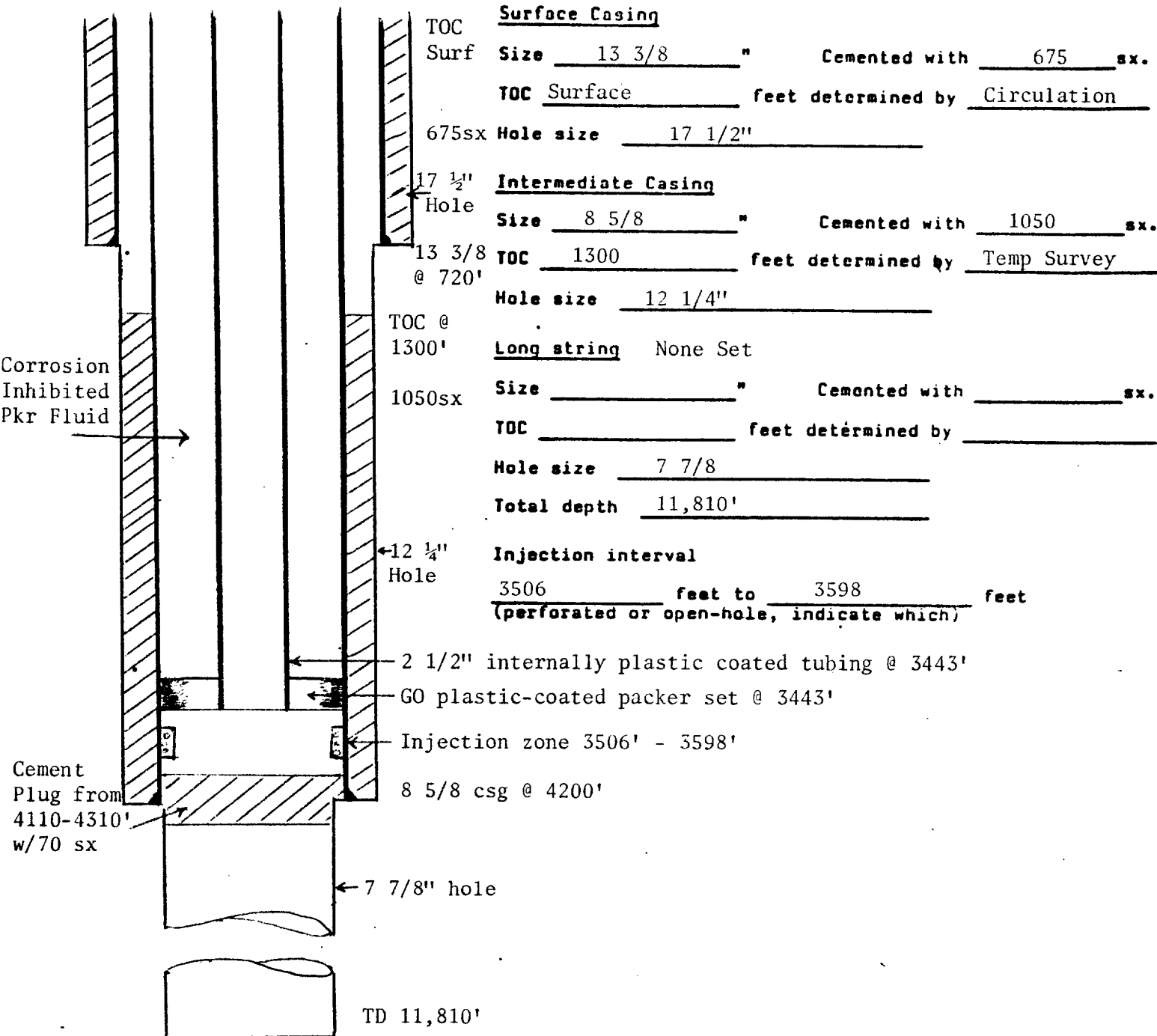
TOWNSHIP

RANGE

Originally drilled as American Quasar Power Deep Unit No. 1

## Schematic

## Tabular Data



Tubing size 2 7/8" EUE lined with TK-75 (fusion applied powder epoxy) set in a  
(material)  
GO G-LOK packer at 3443 feet.  
(brand and model)

(or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Grayburg
- Name of field or Pool (if applicable) Power Grayburg - San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No  
If no, for what purpose was the well originally drilled? Oil and Gas
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No  
Dry as Morrow test by American Quasar Petroleum Co. of New Mexico and plugged back to 4110' on 2-21-76
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. No overlying or underlying oil or gas zones productive in this area.

The Eastland Oil Company

Power Grayburg Unit

Eddy County, New Mexico

November 20, 1985

Attachment to Form C-108: Statement of Proposed Maximum  
Injection Pressure for Water Injection Wells

Based on required injection pressure for Eastland's Kenwood Federal No. 4, a saltwater disposal well in the Power Grayburg Pool, a maximum surface pressure of 1000 psi is proposed for this secondary recovery project. A copy of the letter from the Oil Conservation Division dated July 17, 1980 authorizing this surface pressure is attached.