

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

**RECEIVED**

IN THE MATTER OF ADMINISTRATIVE  
APPLICATION OF MERIDIAN OIL INC.  
FOR DOWNHOLE COMMINGLING APPROVAL  
FOR THE HUERFANO UNIT WELL #131,  
SAN JUAN COUNTY, NEW MEXICO.

APR 21 1992

OIL CONSERVATION DIV.  
SANTA FE

*Case 10510*

ADMINISTRATIVE APPLICATION

Comes now MERIDIAN OIL INC., by and through its attorneys Kellahin, Kellahin & Aubrey, and in accordance with Division Rule 303-C applies to the New Mexico Oil Conservation Division for administrative approval to downhole commingle production from the Gallegos Gallup Associated Pool and the Basin Dakota Gas Pool in its Huerfano Unit well #131, located 990 feet FWL and 800 feet FNL, (Unit D) Section 34, T26N, R10W, NMPM, San Juan County, New Mexico and in support thereof would state:

(1) Meridian Oil Inc. is the operator of the Huerfano Unit which includes the Huerfano Unit well #131, located in Unit D, Section 34, T26N, R10W, NMPM, San Juan County, New Mexico.

(2) The Well was completed on May 19, 1971 as a gas well in the Basin Dakota Gas Pool.

(3) The N/2 of Section 34 is dedicated to the Basin Dakota Gas production.

(4) Applicant proposes to recomplete the well as a downhole commingled well between the Gallup formation and Basin Dakota Gas Pool.

(5) The subject well is located approximately two miles southeast of the Gallegos Gallup Associated Pool.

(6) Applicant anticipates that the Gallup formation at the location of the subject well will be a gas well and will be an extension of the Gallegos Gallup Associated Pool.

(7) The Gallegos Gallup Associated Pool spaces its gas wells on 320 acre gas spacing.

(8) Applicant proposes to dedicated the N/2 of said Section 34 to the Gallup production.

(9) Meridian has evaluated the potential to drill a well to the Gallup formation as a single completion, a dual completion with the Dakota or a downhole commingled completion with the Dakota.

(10) The only economic option is the downhole commingling of Gallup and Dakota production. This commingled production will be on a pump and compression

Administrative Application  
Meridian Oil, Inc.  
Page 3

until such time as line pressures decrease. The gas production from the Dakota may also aid in the lifting of any Gallup oil.

(11) In accordance with Division Rule 303-C-1.(b), the Applicant states:

(a) Name and address of Operator:

Meridian Oil Inc.  
P. O. Box 4289  
Farmington, New Mexico 87499-4289

(b) Lease Name: Huerfano Unit

Well Number: #131

Location: 990 feet FWL and 800 feet FNL  
(Unit D) Sec 34-26N-10W

Pools: (1) Basin Dakota Gas Pool  
(2) Gallegos Gallup Associated  
Pool

(c) Plat: See Exhibit (1)

(d) Productivity Test:

Dakota: See Exhibit (2)

Gallup: Not Yet Tested. Will be  
submitted upon completion  
of test.

(e) Well Completion History and Data:

Dakota: See Exhibit (3a) and (3b)

Gallup: N/A

Other Data: See Exhibits (7) & (8)

(f) Estimated/Measured BHP For Each Zone:

Gallup: See Exhibit (4a)

Dakota: See Exhibit (4b)

(g) Fluid Characteristics Per Zone:

See Exhibits (5-1) through (5-8)

(h) Computation of Commingled Value:

See Exhibits (10) and (11)

(i) Allocation Formula:

To allocation production from each zone of the commingled flowstream, Meridian will contact the District Supervisor-OCD Aztec to determine the allocation formula. Enclosed as Exhibit (6-1 through (6-4) is detailed completion procedures for recompletion and commingling.

(j) Offset Ownership:

All offsetting spacing units are within the Huerfano Unit. See Exhibit (9).

(12) The ownership within the spacing unit is common between both pools. The interests in both pools

Administrative Application  
Meridian Oil, Inc.  
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have been fully committed to the Huerfano Unit. In addition, as a result of the ratification of that agreement by all royalty and working interest owners, the parties entitled to share in the production in the participating areas established for each subject pool have contractually agreed how they will participate and share in that production. See Exhibit (12) and specifically Section 10 and Section 11.

(13) No impairment of correlative rights will occur.

WHEREFORE Applicant requests that the Division enter its administrative order granting this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', written in a cursive style.

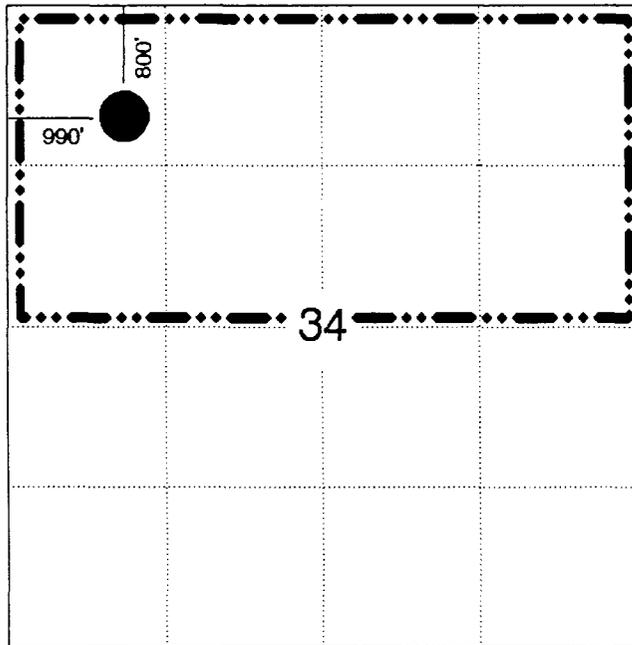
W. Thomas Kellahin  
KELLAHIN, KELLAHIN & AUBREY  
P. O. Box 2265  
Santa Fe, New Mexico 87501  
(505) 982-4285  
Attorneys for Applicant -  
Meridian Oil, Inc.

# Huerfano Unit #131 OFFSET OPERATOR PLAT

Dakota \ Gallup Co-Mingle

Township 26 North, Range 10 West

San Juan County, New Mexico



All surrounding lands are located within the  
Huerfano Unit boundaries. Meridian Oil Inc, Operator.

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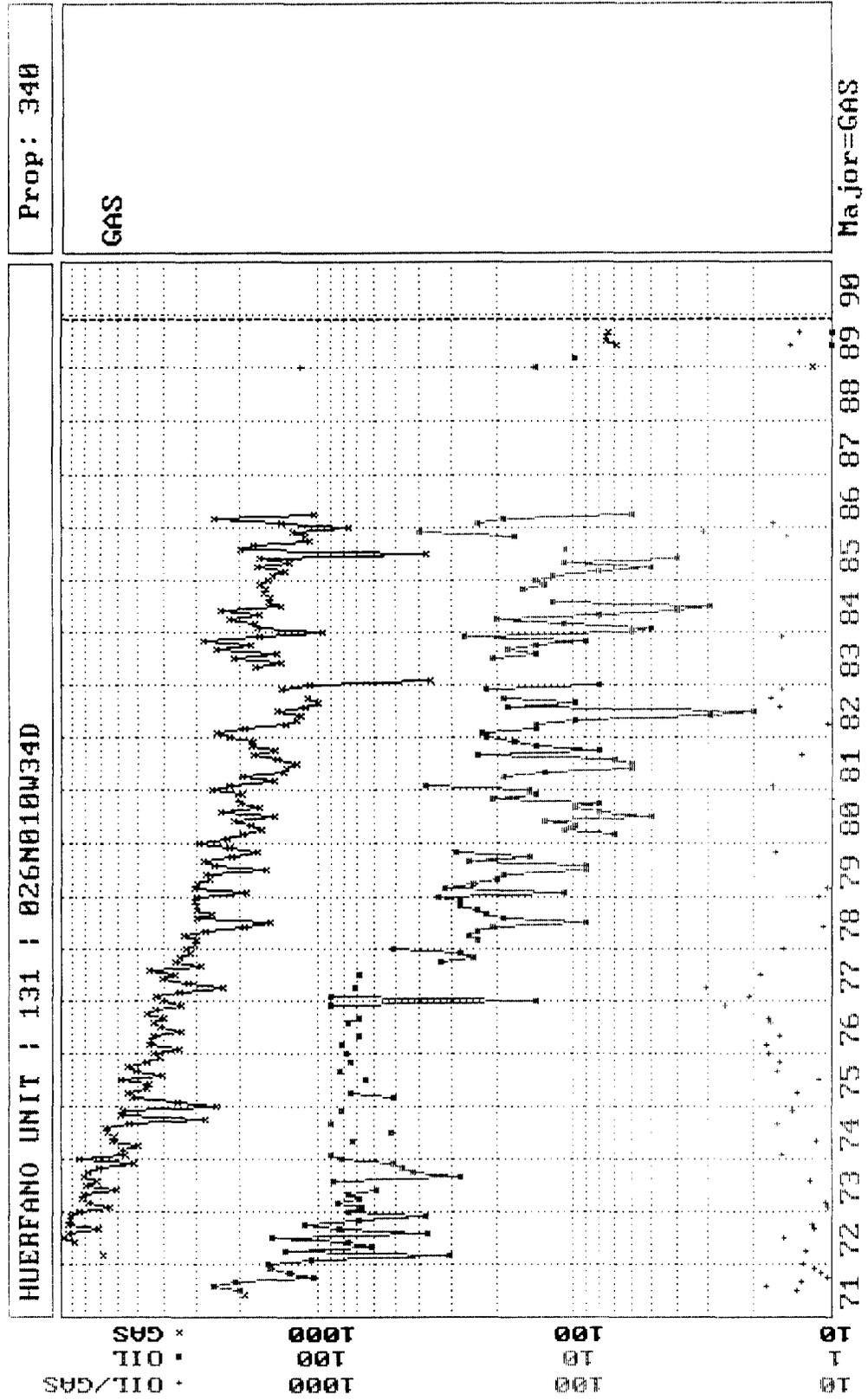
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Production Curve



## WELL COMPLETION LOG

Form 22-5 (Rev. 2-62)

Huerfano Unit #131

Page 2

(Show details of tubular goods, bottom hole accessories, DST's, Cores, Deviations, and General Chronological History).

- 3-2-71 Rigged up Arapahoe Drilling Co. rig #2, spudded well, drilled surface hole.
- 3-3-71 Ran 6 joints 8 5/8", 24#, J-55 surface casing (199') set at 213' w/160 sacks of cement circulated to surface.
- 3-4-71 Drilling w/treated water.
- 3-10-71 Drilling w/mud from approximately 5900'.
- 3-12-71 Lost circulation at 6503' (3 1/2 hours). Drilling.
- 3-14-71 Reached total depth of 6789'. Logs stopped at 1100'.
- 3-15-71 Conditioning hole and ran logs.
- 3-16-71 Ran 208 joints 4 1/2", 10.5#, K-55 production casing (6777') set at 6789'. Float collar at 6777', second stage tool at 4785', third stage tool at 2362'. Cemented first stage w/260 sacks of cement, second stage w/205 sacks of cement, third stage w/205 sacks of cement. W. O. C. 18 hours.
- 3-17-71 P. B. T. D. 6748'. Perf. 6572-78', 6608-14', 6625-31', 6696-6708', 6718-24' w/18 SPZ. Fraced w/30,000# 20/40 sand, 34,692 gal. water, dropped 2 sets of 18 balls, well sanded off.
- 3-18-71 Blowing well, cleaning out sand.
- 3-19-71 Ran 216 joints 2 3/8", 4.7#, J-55 tubing (6716') landed at 6727' w/Baker expendable check valve on bottom and Otis SN 1 joint above.
- 5-19-71 Date well was tested.
- 01-16-75 A Baker Loc-set packer with on-off tool was set at 6510' to isolate a casing failure
- 06-13-75 Set a choke in Baker Loc-Set packer and unseat on-off tool from packer.
- Circulate 68 bbls of Baroid casing packer fluid in annulus displacing tubing with 10 bbls of diesel and 15 bbls of water.
- Connect back into packer with on-off tool.
- Pull choke and swab well in.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See cover in-  
structions on  
reverse side)

Form approved.  
Budget Bureau No. 42-R355.5.

5. LEASE DESIGNATION AND SERIAL NO.

SF 078001-B

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Huerfano Unit

8. FARM OR LEASE NAME

Huerfano Unit

9. WELL NO.

131

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 34, T-26-N, R-10-W  
N. M. P. M.

12. COUNTY OR PARISH

San Juan

13. STATE

New Mexico

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other \_\_\_\_\_

b. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. RESVR.  Other \_\_\_\_\_

2. NAME OF OPERATOR  
El Paso Natural Gas Company

3. ADDRESS OF OPERATOR  
Box 990, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface 800'N, 990'W  
At top prod. interval reported below  
At total depth

14. PERMIT NO. DATE ISSUED

15. DATE SPUNDED 3-2-71 16. DATE T.D. REACHED 3-14-71 17. DATE COMPL. (Ready to prod.) 5-19-71 18. ELEVATIONS (DF, REB, RT, OR, ETC.)\* 6704' GL 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 6789' 21. PLUG, BACK T.D., MD & TVD 6748' 22. IF MULTIPLE COMPL., HOW MANY\* → 23. INTERVALS DRILLED BY → 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\* 6572-6724' (Dakota) 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN Ind-EL, Density 27. WAS WELL CORRED No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	213'	12 1/4"	160 Skts.	
4 1/2"	10.5#	6789'	7 7/8"	670 Skts.	

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 3/8"	6727'	

31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
INTERVAL	SIZE	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6572-78', 6608-14', 6625-31', 6696-6708', 6718-24' w/18 SPZ		6572-6724'	30,000# sand, 34,692 gal. water

33.* PRODUCTION							
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
		Flowing				Shut In	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
5-19-71	3	3/4"	→				
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
SI 1264	SI 1192	→		1499 MCF/D		Z. O. F.	43.9

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) TEST WITNESSED BY D. R. Roberts

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Original Signed for [Signature] TITLE Petroleum Engineer DATE 6-4-71

\*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. **Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29:** "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF, CORED INTERVALS, AND ALL DRILL STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES		TOP		BOTTOM		TOP		TRUE VERT. DEPTH	
FORMATION	DESCRIPTION, CONTENTS, ETC.	MEAS. DEPTH	NAME	MEAS. DEPTH	GEOLOGIC MARKERS	MEAS. DEPTH	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
		2100	Pictured Cliffs	3616		4450	Mesa Verde	5598	
			Point Lookout	6452		6506	Greenhorn	6604	
			Gallup				Graneros		
			Dakota						

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type: <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		Test Date: 11/13/91	
Company: Meridian Oil, Inc.		Connection: El Paso Natural Gas	
Pool: Niobrara Gallup		Formation: Gallup	
Completion Date:	Total Depth: 6634'	Plug Back TD: 6420'	Elevation:
Well No.: 219		Unit: Huerfano #219	
Farm or Lease Name: Huerfano Unit		County: San Juan	
Coq. Size: 4.500	wt. 10.5#	d. 3-55	Set At: 6634'
Perforations: From 5470' To 5767'		Well No.: 219	
Tbg. Size: 2.375	wt. 4.7#	d. J-55	Set At: 5804'
Perforations: From To		Unit: I	Sec. 29
Type well - Single - Broadhead - G.C. or G.O. Multiple		Packer Set At:	Twp. 26
Single		Range 10	
Producing Thru Tubing:	Reservoir Temp. °F:	Mean Annual Temp. °F:	Baro. Press. - P <sub>a</sub> : 12.2
State: New Mexico		State: New Mexico	
L:	H:	G <sub>g</sub> : .700	% CO <sub>2</sub> :
% N <sub>2</sub> :		% H <sub>2</sub> S:	
Prover:		Meter Run:	Taps:

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI	2.000		.750				706	68	Initial
1.							104	66	15 min.
2.							136	68	30 min.
3.							108	72	1 hr.
4.							49	70	2 hrs.
5.							39	70	3 hrs.

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcd
1	12.365		51.2	1.000	.9258	1.000	586.1129
2.							
3.							
4.							
5.							

NO.	P <sub>1</sub>	Temp. °R	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1				A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.				Specific Gravity Separator Gas _____ X X X X X X X X X
3.				Specific Gravity Flowing Fluid _____ X X X X X
4.				Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5				Critical Temperature _____ R _____ R

P <sub>c</sub> 762.2	P <sub>w</sub> 580.948.84				
NO.	P <sub>1</sub>	P <sub>2</sub>	P <sub>2</sub> <sup>2</sup> - P <sub>1</sub> <sup>2</sup>	(1) $\frac{P_c^2}{P_2^2 - P_1^2} = 1.2328$	(2) $\left[ \frac{P_c^2}{P_2^2 - P_1^2} \right]^n = 1.1699$
1	331.2	109,693.44	471,255.40		
2					
3					
4					
5					

AOF = Q  $\left[ \frac{P_c^2}{P_2^2 - P_1^2} \right]^n = 1730.8574$

Absolute Open Flow: 1731	Mcd @ 15.025	Angle of Slope @ _____	Slope, n: .75
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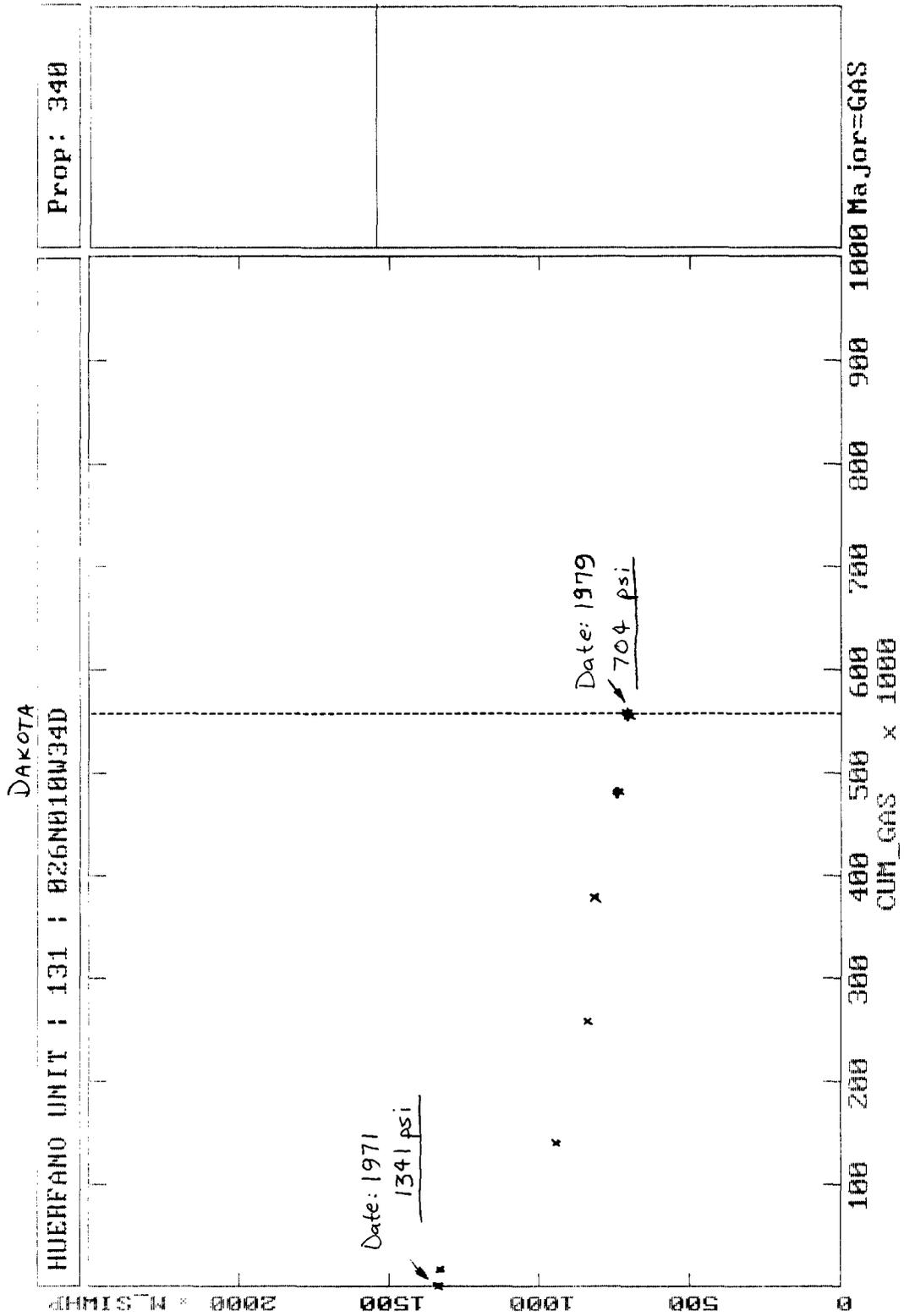
Remarks: \_\_\_\_\_

# ILLEGIBLE

Approved By Division: _____	Conducted By: _____	Calculated By: _____	Checked By: _____
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Dakota surface shut in pressure



**MERIDIAN OIL**  
HUERFANO UNIT #225/#112  
SAN JUAN COUNTY, NM  
DAKOTA/GALLUP FORMATION



**The Western Company**

**LABORATORY INVESTIGATION**

**PREPARED FOR**

**JAMES A. SMITH**  
**PRODUCTION ENGINEER**

**SERVICE POINT**  
**FARMINGTON, NM**  
**(505) 327-6222**

**PREPARED BY**  
**LOREN L. DIEDE**  
**DISTRICT ENGINEER**  
**FARMINGTON**

**APRIL 6, 1992**

**SALES REPRESENTATIVE**  
**LOREN L. DIEDE**

**FM020360**



Meridian Oil  
Huerfano unit #225 & 112

Three samples were submitted for laboratory analysis on April 2nd, 1992 by Mr. James A. Smith, Production Engineer for Meridian Oil.

These samples were to be analyzed to determine if commingling the fluids would have any adverse effects on the production.

The samples submitted were:

1. Dakota produced water (Huerfano #225)
2. Dakota produced oil (Huerfano #225)
3. Gallup produced oil (Huerfano #112)

Laboratory analysis performed:

1. Oil analysis of each sample.
  - a. API gravity
  - b. Pour point
  - c. Cloud point
2. Water analysis of water sample:
  - a. API water analysis
3. Observation and analysis of commingled oil and water.
  - a. Oil analysis
  - b. Emulsion
  - c. Separation
  - d. Precipitation

Meridian Oil  
Huerfano unit #225 & #112

Results of the analysis:  
Dakota produced water.

ph : 6.50  
resistivity: 0.58  
Sp.Gr. : 1.005

Cations

Sodium : 3337.09 mg/l  
Calcium : 200.4 mg/l  
Magnesium : 340.2 mg/l  
Potassium : 101.0 mg/l

Anions

Chloride : 6336.0 mg/l  
Sulfate : 30.0 mg/l  
Bicarbonate: 390.0 mg/l

Total TDS : 10,383.69 mg/l

Dakota Produced Oil

Appearance : light brown oil  
API gravity@60' : 60.6  
Cloud point : 39°F  
Pour point : <10°F

Gallup Produced Oil

Appearance : dark brown oil  
API gravity @60' : 41.8  
Cloud point : <10°F  
Pour point : <10°F

Commingled mixture of oils: 50:50

Appearance : dark brown oil  
API gravity @60' : 49.0  
Cloud point : <10°F  
Pour point : <10°F

Meridian Oil  
Huerfano unit #225 & #112

Summary of results:

1. No precipitation of materials was observed from the mixing of these fluids.
2. The mixture of two oils showed no adverse effects regarding: pour point, cloud point, or precipitation of solids.
3. The mixture of the two oils and the Dakota water showed no adverse effects regarding: emulsion, precipitation of solids.

The laboratory analysis forms are attached to this report.



API FORM 45-1

API WATER ANALYSIS REPORT FORM

Company	<u>Meridian Oil</u>		Sample No.	<u>52-03-97</u>	Date Sampled	<u>2-2-97</u>
Field	Legal Description	County or Parish	State			
	<u>Sec. 30, T 26 N, R 10 W</u>	<u>San Juan</u>	<u>NM</u>			
Lease or Unit	Well	Depth	Formation	Water, B/D		
	<u>Huerfano #2251</u>		<u>Dakota</u>			
Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By				

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	<u>2237.09</u>	<u>145.15</u>
Calcium, Ca	<u>200.4</u>	<u>10.0</u>
Magnesium, Mg	<u>240.2</u>	<u>28.0</u>
Barium, Ba	<u>—</u>	<u>—</u>
Potassium, K	<u>101.0</u>	<u>2.68</u>

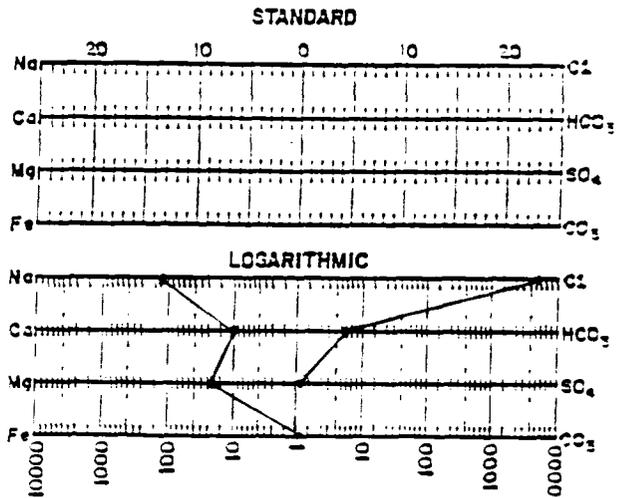
OTHER PROPERTIES

pH	<u>6.50</u>
Specific Gravity, 60/60 F.	<u>1.005</u>
Resistivity (ohm-meters)	<u>72 F.</u>
Total Hardness	<u>1900</u>

ANIONS

	mg/l	me/l
Chloride, Cl	<u>6336</u>	<u>178.72</u>
Sulfate, SO <sub>4</sub>	<u>30</u>	<u>0.624</u>
Carbonate, CO <sub>3</sub>	<u>0.0</u>	<u>0.0</u>
Bicarbonate, HCO <sub>3</sub>	<u>390</u>	<u>6.39</u>
Hydroxide, OH	<u>0.0</u>	<u>0.0</u>

WATER PATTERNS — me/l



Total Dissolved Solids (calc.)	<u>10,353.69</u>
Iron, Fe (total)	<u>0.0</u>
Sulfide, as H <sub>2</sub> S	<u>0.0</u>

REMARKS & RECOMMENDATIONS:

ANALYST: [Signature]

PLEASE REFER ANY QUESTIONS TO:

THE WESTERN CO. OF NORTH AMERICA  
ARMINGTON, N.M.

(505) 327-6222



Date 4-4-92

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator <u>Meridian Oil</u>	Date Sampled _____
Well <u>Huerfano Unit # 225</u>	Date Received <u>4-2-92</u>
Field <u>Sec. 30, T26N, R10W</u>	Submitted By <u>J. Smith</u>
Formation <u>Dakota</u>	Worked By <u>L. Diede</u>
Depth _____	Sample Description _____
County <u>San Juan</u>	<u>light brown oil/condensate</u>
State <u>NM</u>	_____

API Gravity 60.6 ° at 60°F

Paraffin Content \_\_\_\_\_ % by weight

Asphaltene Content \_\_\_\_\_ % by weight

Pour Point <10 °F

Cloud Point 39 °F

Comments:

Analyst 

Date 4-4-92

Rocky Mountain Region

## THE WESTERN COMPANY

## Oil Analysis

Operator <u>Meridian Oil</u>	Date Sampled _____
Well <u>Huerfano Unit #112</u>	Date Received <u>4-2-92</u>
Field <u>Sec. 17, T 26N, R 12W</u>	Submitted By <u>J. Smith</u>
Formation <u>Gallup</u>	Worked By <u>L. Diede</u>
Depth _____	Sample Description _____
County <u>San Juan</u>	<u>dark brown oil.</u>
State <u>NM</u>	_____

API Gravity 41.8 ° at 60°F

Paraffin Content \_\_\_\_\_ % by weight

Asphaltene Content \_\_\_\_\_ % by weight

Pour Point <10 °FCloud Point <10 °FComments:Analyst JLD

Date 4-4-92

Rocky Mountain Region

## THE WESTERN COMPANY

## Oil Analysis

Operator Meridian Oil Date Sampled \_\_\_\_\_  
 Well Huerfano Unit #225/112 Date Received 4-2-92  
 Field \_\_\_\_\_ Submitted By J. Smith  
 Formation \_\_\_\_\_ Worked By L. Diede  
 Depth \_\_\_\_\_ Sample Description \_\_\_\_\_  
 County San Juan Mixture of Gallup &  
 State NM Dakota Oils (50:50)

API Gravity 49.2 ° at 60°F

Paraffin Content \_\_\_\_\_ % by weight

Asphaltene Content \_\_\_\_\_ % by weight

Pour Point <10 °FCloud Point <10 °F

Comments: No precipitates present  
 Oils mixed easily, with no  
 separations noted.

Analyst \_\_\_\_\_

**RECOMPLETION PROCEDURE  
HUERFANO UNIT #131**

**\*\*\* G A L L U P - D A K O T A C O M M I N G L E \*\*\***

**COMPLY WITH ALL BLM, NMOC D AND MERIDIAN OIL RULES AND REGULATIONS**

1. Prepare location for workover. Set 3-400 bbl tanks and fill with 2% KCl water.
  2. MOL and RU. NU BOP with flow tee and stripping head, and test. NU 2-7/8" blowline with 5000# gate valve on tubing head.
  3. Flow test Dakota formation to establish production capability (swab if needed to kick off). Obtain fluid sample for compatibility analysis. Confirm gauge with Meridian office before proceeding to next step.
  4. Load backside with 2% KCl water and pressure test to \*1000 psi. Release pressure and TOOH with Baker Loc-set packer (216 joints, 6700') 2-3/8", 4.7#, J-55 8rd EUE tubing. TIH with 4-1/2" casing scraper to 6740'. Circulate hole clean. TOOH.
  5. RU wireline unit. TIH with wireline and Owen top-drillable bridge plug, set at 6100'. Run CBL from 6100' to 4100'. TIH with 4-1/2" fullbore packer on 2 joints of 2-7/8" tubing to protect wellhead from pressure. Pressure test CIBP and casing to \*3800 psi. Release pressure, TOOH.
- \* A modified procedure will be provided if pressure test fails or CBL shows insufficient cement coverage across Gallup interval.

**\*\*\*STAGE ONE\*\*\***

6. RU wireline unit and perforate first stage (Tocito and Regressive Gallup) with a 3-1/8" HSC gun (0.49" hole, 16 gram GOEX or equivalent charge). Shoot 1 shot per foot top-down over the following intervals:

<u>Holes</u>	<u>Interval</u>	<u>Net Feet</u>	<u>Shot Density</u>	<u>Zone</u>
6	5843'-5848'	5	1 per ft	Tocito
11	5863'-5883'	20	1 per 2ft	Tocito
5	5914'-5918'	4	1 per ft	Reg. Gallup
5	5932'-5936'	4	1 per ft	"
5	5939'-5943'	4	1 per ft	"
4	5946'-5949'	3	1 per ft	"
16	5972'-5987'	15	1 per ft	"
5	5991'-5995'	4	1 per ft	"
57 Holes		59 Feet		

RECOMPLETION PROCEDURE-pg 2  
HUERFANO UNIT #131

7. RD wireline. TIH with 4-1/2" fullbore packer to 5900' on 2-3/8" tubing. Displace tubing with inhibited HCL acid. Set packer. Test backside to 1000 psi to insure packer is set. Breakdown and ball off the Regressive Gallup with a total of 70-1.3 S.G., 7/8" RCN ball sealers (seven sets of ten) and 700 gallons 15% inhibited HCL acid. **Maximum pressure 3800 psi.** Treat acid with the following additives per 1000 gallons:

- \* 2 gallons corrosion inhibitor
- \* 2 gallon silt suspender
- \* 5 gallons Citric Acid (Iron sequestering agent)
- \* 1 gallon quaternary amine-type clay stabilizer

\* Monitor pressure on backside during job.

8. Release pressures and TIH with packer to 6050' to knock off balls. TOOH.
9. TIH and set 4-1/2" fullbore packer on 2 joints of 2-7/8" tubing.

**SHUT DOWN OVER NIGHT. BE PREPARED TO FRACTURE STIMULATE FIRST STAGE AT DAYLIGHT.**

**PURPOSE IS TO GET BOTH STAGES COMPLETED IN ONE (1) DAY.**

10. **Stimulation Company should be ready to pump at daylight.** Hold safety meeting with all personnel on location. Pressure test surface lines to 4800 psi. Fracture treat first stage (Regressive Gallup) according to attached schedule at 40 BPM with 80,600 lbs. of sand and 22,600 gallons of gelled water. Exact flush to top perf is critical to second stage top drillable bridgeplug placement. **MAXIMUM PRESSURE IS LIMITED TO 3800 PSI!**
11. Flow well back slowly until closure is seen. Shut well in immediately after closure. RD Stimulation Company.

**\*\*\*STAGE TWO\*\*\***

12. Release pressure. TOOH with packer. RU wireline unit. TIH with Owen top drillable bridge plug. Set at 5900'. TOOH with wireline. TIH with 4-1/2" fullbore packer on 2 joints of 2-7/8" tubing.
13. Pressure test bridge plug to 3800 psi. Release pressure. TOOH with packer.

RECOMPLETION PROCEDURE-pg 3  
HUERFANO UNIT #131

14. RU wireline unit and perforate second stage (Niobrara "A", "B", and "C") with a 3-1/8" HSC gun (0.49" hole, 16 gram GOEX or equivalent charge). Shoot top down, over the following intervals:

<u>Holes</u>	<u>Interval</u>	<u>Net Feet</u>	<u>Shot Density</u>	<u>Zone</u>
5	5624'-5628'	4	1 per ft	A
7	5721'-5727'	6	1 per ft	B
11	5737'-5747'	10	1 per ft	B
7	5782'-5788'	6	1 per ft	C
8	5794'-5808'	14	1 per 2ft	C
38 Holes		40 Feet		

15. RD wireline. TIH with 4-1/2" fullbore packer to 5900' on 2-3/8" tubing. Displace tubing with inhibited HCL acid. Set packer. Test backside to 1000 psi insure packer is set. Breakdown and ball off the "B" "C" and Tocito with a total of 50-1.3 S.G., 7/8" RCN ball sealers (five sets of ten) and 600 gallons 15% inhibited HCL acid. **Maximum pressure 3800 psi. \* Monitor pressure on backside during job.** Treat acid with the following additives per 1000 gallons:
- \* 2 gallons corrosion inhibitor
  - \* 2 gallon silt suspender
  - \* 5 gallons Citric Acid (Iron sequestering agent)
  - \* 1 gallon quaternary amine-type clay stabilizer
16. Release pressures and TIH with packer to 5900' to knock off balls. TOOH. TIH and set 4-1/2" fullbore packer on 2 joints of 2-7/8" tubing.
17. RU Stimulation Company for fracture treatment. Hold safety meeting with all personnel on location. Pressure test surface lines to 4800 psi. Fracture stimulate second stage according to attached schedule at 40 BPM with 118,000 lbs. of sand and 26,900 gallons of gelled water. **MAXIMUM PRESSURE IS LIMITED TO 3800 PSI!**
18. Flow well back slowly until closure is seen. RD Stimulation Company. Release pressure TOOH with packer. TIH with 3-7/8" concave flat bottom mill, bit sub, and (4) 3-1/8" drill collars on 2-3/8" tubing, cleaning out with gas. Clean out upper zone until sand flow stops. Leave flowing over night (with gas).
19. TIH and check for fill. Gauge well. Drill out the first of two top drillable bridge plugs. Clean out lower zone with gas until sand flow stops. Wash down to lower bridge plug at 6100'. **Do Not Drill Lower Bridge Plug At This Time !**

RECOMPLETION PROCEDURE-pg 4  
HUERFANO UNIT #216

20. Establish Gallup flowrate (use gas injection or swab well if needed). Collect fluid sample for analysis. **Confirm with Meridian office that gauge is acceptable before drilling bridge plug.** Record flowrates.
21. Drill lower bridge plug (estimated Dakota pressure 700 psi). Clean out to PBDT at 6748'. Establish commingled Gallup/Dakota flowrate. Collect fluid sample for analysis. **Confirm with Meridian office that gauge is acceptable before proceeding.** Record flowrates. TOOH.
22. TIH with 1/2" tapped 2-3/8" bullplug (or pumpout plug if needed), 1 full joint 2-3/8" tubing, 3' perforated sub (set at 6724'), seating nipple, and 2-3/8" tubing to surface. Space out tubing string so that perforated sub is set at 6724', and no higher.
23. Flow test well for production capacity. Release rig.

Vendors

Wireline: Schlumberger 325-5006  
Frac. Stim.: Smith 327-7281

Approve: \_\_\_\_\_  
J. A. Howieson

## Pertinent Data Sheet - Huerfano Unit #131

Location: 800'FNL, 990'FWL, SEC.34D T-26-N, R-10-W

Field: BASIN DAKOTA

Elevation: 6704'GL

TD: 6789'

PBTD: 6748'

Spud Date: 03/02/71

Completion Date: 05/19/71

Initial Potential: AOF 1499 MCFD

Casing Record:

<u>Hole Size</u>	<u>Csq. Size</u>	<u>Wt. &amp; Grade</u>	<u>Depth Set</u>	<u>Cement Top</u>
12.250"	8.625"	24.0# J-55	213'	Surface
7.875"	4.500"	10.5# K-55	6789' (DV @ 2362')	3rd - 1950' surf.
			(DV @ 4785')	2nd - 3400' calc.
				1st - 5400' calc.

Tubing Record: 216 Joints of 2-3/8" 4.7# J-55 tubing set @ 6700'.  
Baker Loc-Set packer w/ on-off tool set @ 6510'

Formation Tops:

Pic. Cliffs	2100'	Gallup	5598'
Mesaverde	3616'	Greenhorn	6452'
Pt. Lookout	4450'	Dakota	6604'

Logging Record: Ind-EL , Density

Stimulation: Perfed DK from 6572'-6724'. Fracture stimulated with 30,000# 20/40 san and 34,692 gal. treated water.

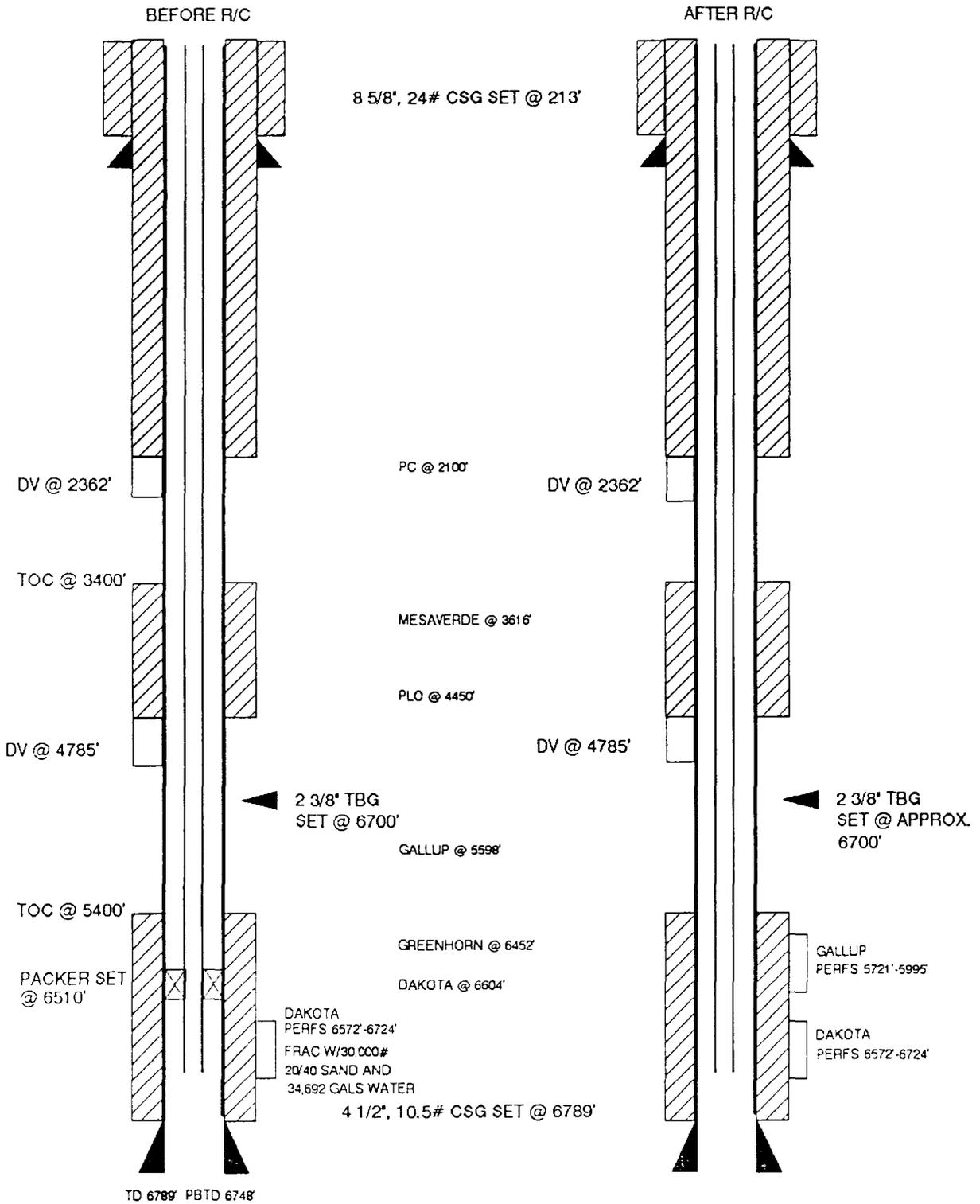
Workover History: Well Swabbed 1/11/75, 1/30/76, 1/26/89,: Well Blind Plated.

Production History: Initial Deliverability - 370 MCFGD  
Latest Deliverability - S.I. Blind Plated  
Cumulative production - 725 MMCFG  
Remaining Hydrocarbons- 321 MMCFG

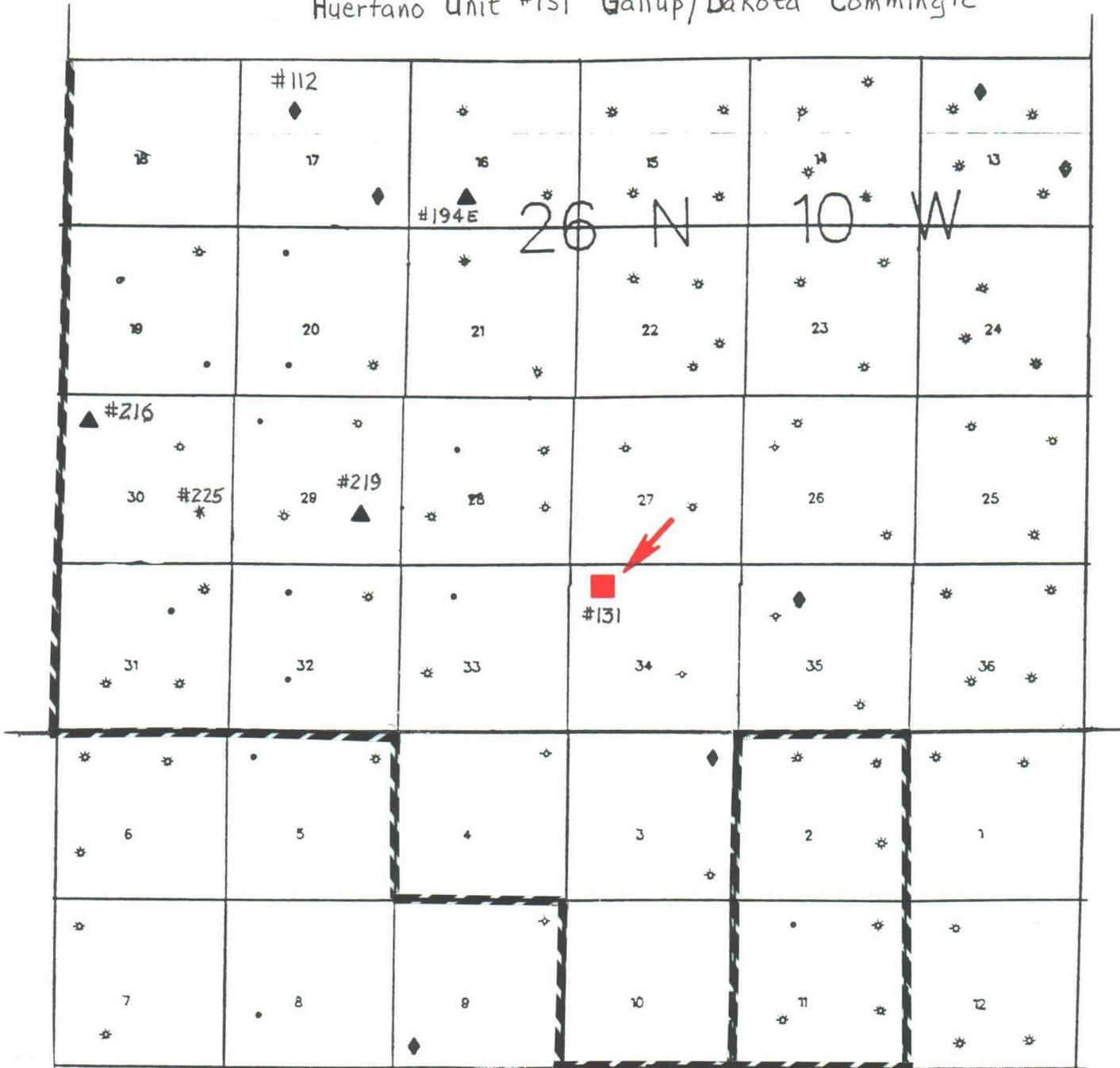
Transporter: EPNG

# HUERFANO UNIT #131

BASIN DAKOTA  
UNIT D SECTION 34, T26N-R10W



Huerfano Unit #131 Gallup/Dakota Commingle



-  Huerfano Unit Boundry
-  Dakota Wellbores
-  Gallup Completions/Recompletions
-  Flowing Gallup Recompletions
-  Huerfano Unit #131 well

**MERIDIAN OIL INC.**  
 Farmington Region  
 Post Office Box 4289  
 Farmington, New Mexico 87499  
 (505) 326-9700

**AUTHORITY FOR EXPENDITURE**

AFE No.: \_\_\_\_\_ Date: 04/07/92  
 Lease/Well Name: Huerfano Gallup Lease No.: \_\_\_\_\_  
 Field Prospect: Gallegos - Gallup Region: Farmington  
 Location: Generic County: San Juan State: N.M.  
 AFE Type: Capital Drill Original X Supplement \_\_\_ Addendum \_\_\_ API Well Type \_\_\_  
 Operator: Meridian Oil Inc.  
 Objective Formation: Gallup Authorized Total Depth (Feet): \_\_\_\_\_  
 Project Description: Drill, complete and produce the Gallup formation.

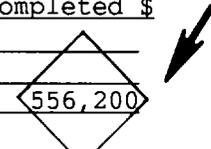
Est. Start Date: \_\_\_\_\_ Prepared By: J. A. Smith  
 Est. Completion Date: \_\_\_\_\_

**GROSS WELL COST DATA**

	<u>Drilling</u>		<u>Workover,</u>	<u>Construction</u>	
	<u>Dry Hole</u>	<u>Suspended</u>	<u>Completion</u>	<u>or Facility</u>	<u>Total</u>
Days:	_____	<u>11</u>	<u>10</u>	<u>2</u>	<u>23</u>
This AFE:	_____	<u>220,300</u>	<u>193,000</u>	<u>142,900</u>	<u>\$556,200</u>
Prior AFE's:	_____	_____	_____	_____	_____
Total Costs: \$	_____	<u>220,300</u>	<u>193,000</u>	<u>142,900</u>	<u>\$556,200</u>

**JOINT INTEREST OWNERS**

<u>Company</u>	<u>Working Interest</u>	<u>Dry Hole \$</u>	<u>Completed \$</u>
	<u>Percent</u>		
<u>Others:</u>	<u>%</u>	_____	_____
<u>MERIDIAN OIL INC:</u>	<u>%</u>	_____	_____
<u>AFE TOTAL:</u>	<u>100.00%</u>	_____	<u>556,200</u>



**MERIDIAN OIL APPROVAL**

Recommended: \_\_\_\_\_/Date: \_\_\_\_\_ Recommended: \_\_\_\_\_/Date: \_\_\_\_\_  
 Recommended: \_\_\_\_\_/Date: \_\_\_\_\_ Recommended: \_\_\_\_\_/Date: \_\_\_\_\_  
 Title: Regional Production Manager

## MERIDIAN OIL - DRILLING WELL COST ESTIMATE

Well Name:	Huerfano Gallup	Prepared By:	04-07-92
Location:	Generic	Approved By:	
County, State:	San Juan, NM	AFE Type:	01 Dev
Field:	Angle Peak - Gallup	Proposed TD:	6400 ' Longstring
Formation:	Gallup	Total Days:	11

ACCT	AFE NOMENCLATURE	SUSPENDED
248	INTANGIBLE DRILLING COST	
-02	Environmental Studies-----	2,500
-03	Location and Roads Construction-----	20,000
-05	Move In, Move Out-----	4,500
-06	Contractor Fees - Footage--- 6400 ft @ \$10.00 /ft	64,000
-07	Contractor Fees - Daywork--- 0.8 days@ \$ 4750 /dy	3,800
-09	Drilling Fluid-----	
-10	Gas and Air Drilling-----	
-15	Fluid Disposal - Onsite-----	
-16	Water-----	
-17	Bits-----	
-18	Primary Cementing-----	22,100
-20	Mud Logging-----	600
-21	Wireline Logging-----DIL/SP/GR, FDC/CNL/GR HRL Dens, ML	13,000
-23	Fuel-----	
-24	BOP and Wellhead Rentals-----	
-25	Drill and Workstring Rentals-----	
-28	Other Rentals-----	1,000
-29	Trucking and Transportation-----	1,500
-30	Disposal Services-----	
-33	Tubular Inspection-----	3,000
-37	Swabbing and Coiled Tubing-----	
-43	Consultants-----	
-45	Roustabout and Contract Labor-----	1,500
-46	Miscellaneous-----	
-72	Company Supervision and Overhead-----	6,600
	Contingency (5%)-----	7,200
	TOTAL INTANGIBLE DRILLING COST	151,300
-80	Casing (COPAS Price)	62,200
	200 ft 8 5/8" - 24.0# K55 STC @ 14.58 /ft	
	6400 ft 5 1/2" - 15.5# K55 STC @ 9.26 /ft	
-84	Casing/Liner Equipment-----	2,500
-86	Wellhead Equipment (List)-----	4,300
	11"-3000psi (9 5/8") Csg Head, 11" x 5 1/2" Hanger	
	TOTAL TANGIBLE DRILLING COST	69,000
	TOTAL DRILLING COST ESTIMATE	220,300

## MERIDIAN OIL INC. COMPLETION WELL COST ESTIMATE

WELL NAME: HUERFANO GALLUP  
 LOCATION: GENERIC  
 AFE TYPE: DEVELOPMENT (01)  
 GALLUP VERTICAL  
 COPUS PRICING

PREPARED BY:  
 DATE: 07-Apr-92  
 APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

ACCT #	INTANGIBLE COSTS		(\$)
249 244	LOCATION, ROADS		
03 03	CONSTRUCTION AND MAINTENANCE		500
04 04	SURFACE RESTORATION		1,500
05 05	MOVE-IN, MOVE OUT		500
07 07	DAYWORK AND COMPLETION RIG (10 DAYS @ \$4224/D)		42,240
09 09	DRILLING FLUID SYSTEMS		
	LIQUIDS		
10 10	GAS & AIR DRLG		10,300
11 11	PROCESSING AND MAINTAINANCE		
12 12	SPECIALTY FLUIDS AND CHEMICALS		
16 16	FRESH WATER		7,400
17 17	BITS		200
19 19	REMEDIAL CEMENT		
23 23	FUEL/ELECTRICITY		2,000
24 24	BOP RENTAL/TESTING		250
25 25	DRILL/WORKSTRING RENTAL SUBSURFACE		
27 27	TANK RENTAL AND TRANS		3,300
28 28	OTHER RENTAL		500
29 29	TRANSPORTATION		1,100
30 30	DISPOSAL SERVICE (OFFSITE)		500
31 31	DRILL STEM TESTING		
33 33	TUBULAR INSPECTION		400
34 34	CASED HOLE SERVICES, PERFORATING		12,300
36 36	PRODUCTION TESTING		
37 37	SWABBING AND COILED TUBING		
38 38	STIMULATION		2,800
39 39	FRACTURING (2 STAGE N2-FOAM FRAC)		57,400
40 40	CASING CREWS AND LAYDOWN		
43 43	CONSULTANTS	\$325/DAY @ 10 DAYS	3,250
49 49	PACKER RENTAL		3,600
	CONTINGENCY (5%)		7,502
<b>TOTAL INTANGIBLES</b>			<b>157,542</b>
<b>TANGIBLE COSTS</b>			
80 80	CASING		
81 81	TUBING (2-3/8", 4.7#, J-55, EUE @ \$3.86/FT)	6400 FT	24,700
82 82	PACKERS, BRIDGE PLUGS AND SCREENS		
84 84	CASING/LINER EQUIPMENT		
85 85	TUBING EQUIPMENT		150
86 86	WELLHEAD EQUIP AND TREE		10,600
<b>TOTAL TANGIBLES</b>			<b>35,450</b>
<b>TOTAL COMPLETION</b>			<b>192,992</b>

**MERIDIAN OIL INC. FACILITY COST ESTIMATE**

WELL NAME: **HUERFANO GALLUP**  
 LOCATION: **GENERIC**  
 AFE TYPE: **FACILITIES (06)**  
**GALLUP VERTICAL**  
**COPUS PRICING**

PREPARED BY:  
 DATE: **07-Apr-92**  
 APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**TANGIBLE FACILITY COSTS**

ACCT #  
247

02	CONTRACT LABOR		11,000
20	EQUIPMENT COATING AND INSULATION		1,000
27	SEPARATORS – 3 PHASE HEATER TREATER		11,500
28	GAS SWEETENING EQUIPMENT		
29	PUMPING UNIT		25,000
31	PRIME MOVER		6,000
32	TANKS AND PITS (2–500 BBL TANKS, 1 PIT)		9,500
33	METERING EQUIPMENT		22,000
35	COMPRESSORS – COMPANY OWNED		
36	BUILDINGS		
39	PIPING, VALVES, AND FITTINGS		6,000
47	COMPRESSOR RENTAL		
48	EQUIPMENT RENTAL		
49	CATHODIC PROTECTION		10,000
50	RIGHT OF WAY, SURVEY, ARCHY		
	GAS TIE-IN DISTANCE @ \$0.98/FT	800	800
51	MINOR PIPELINES		
	PIPE & CONSTR. COST @ \$7.73/FT	800	6,200
53	SURFACE PUMPS		1,000
54	ELECTRICAL ACCESSORIES		
55	MISCELLANEOUS FACILITY EXPENSE		1,200
73	FREIGHT AND TRANSPORTATION		1,000
55	MISC. FACILITY EXPENSE		1,200
82	RODS (3/4" STRING)		9,000
83	DOWNHOLE PUMPS		2,600
85	OTHER SUBSURFACE LIFT EQUIPMENT		1,200
86	ARTIFICIAL LIFT WELLHEAD EQUIPMENT		1,200
96	DEHYDRATION UNIT		15,500
	<b>TOTAL FACILITIES COST</b>		<b>142,900</b>

**MERIDIAN OIL INC.**  
 Farmington Region  
 Post Office Box 4289  
 Farmington, New Mexico 87499  
 (505) 326-9700

**AUTHORITY FOR EXPENDITURE**

AFE No.: \_\_\_\_\_ Date: 3/13/92

Lease/Well Name: Huerfano Unit #131 Lease No.: \_\_\_\_\_

Field Prospect: Gallegos - Gallup/Dakota Commingle Region: Farmington

Location: Section 34-D, T26N-R10W County: San Juan State: N.M.

AFE Type: Cap. WO (14) Original X Supplement \_\_\_\_\_ Addendum \_\_\_\_\_ API Well Type \_\_\_\_\_

Operator: Meridian Oil Inc.

Objective Formation: Gallup Authorized Total Depth (Feet): \_\_\_\_\_

Project Description: Recomplete in Gallup and Commingle with Dakota

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Est. Start Date: 3rd Qtr. 1992 Prepared By: J.A. Smith *JAS*

Est. Completion Date: 3rd Qtr. 1992

**GROSS WELL COST DATA**

	<u>Drilling</u>		<u>Workover,</u>	<u>Construction</u>	
	<u>Dry Hole</u>	<u>Suspended</u>	<u>Completion</u>	<u>or Facility</u>	<u>Total</u>
Days:	_____	_____	11	2	13
This AFE:	_____	_____	149,875	84,800	\$234,675
Prior AFE's:	_____	_____	_____	_____	_____
Total Costs: \$	\$ _____	\$ _____	149,875	84,800	\$234,675

**JOINT INTEREST OWNERS**

<u>Company</u>	<u>Working Interest</u>		<u>Dry Hole \$</u>	<u>Completed \$</u>
	<u>Percent</u>			
<u>Others:</u>	35.89%	_____	_____	\$ 84,225
<u>MERIDIAN OIL INC:</u>	64.11%	_____	_____	\$150,450
<u>AFE TOTAL:</u>	100.00%	_____	_____	\$234,675



**MERIDIAN OIL APPROVAL**

Recommended: J.A. Smith *JAS* Date: 4/1/92 Recommended: \_\_\_\_\_ /Date: \_\_\_\_\_

Recommended: \_\_\_\_\_ /Date: \_\_\_\_\_ Recommended: \_\_\_\_\_ /Date: \_\_\_\_\_

Title: Regional Production Manager

## MERIDIAN OIL INC. RECOMPLETION WELL COST ESTIMATE

WELL NAME: HUERFANO UNIT #131  
 LOCATION: NW/4 OF 16-T26N-R10W  
 AFE TYPE: CAPITAL W/O (14)  
 GALLUP/DAKOTA COMMINGLE  
 COPUS PRICING

  
 PREPARED BY: J. A. SMITH  
 DATE: 31-Mar-92  
 APPROVED BY:   
 DATE: 4/7/92

ACCT #	INTANGIBLE COSTS		(\$)
249 244			
	LOCATION, ROADS		
03 03	CONSTRUCTION AND MAINTENANCE		500
04 04	SURFACE RESTORATION		1,500
05 05	MOVE-IN, MOVE OUT		500
07 07	DAYWORK AND COMPLETION RIG (11 DAYS @ \$2000/D)		22,000
	DRILLING FLUID SYSTEMS		
09 09	LIQUIDS		
10 10	GAS & AIR DRLG		10,300
11 11	PROCESSING AND MAINTAINANCE		
12 12	SPECIALTY FLUIDS AND CHEMICALS		
16 16	FRESH WATER		7,400
17 17	BITS		200
19 19	REMEDIAL CEMENT		3,100
23 23	FUEL/ELECTRICITY		2,000
24 24	BOP RENTAL/TESTING		250
25 25	DRILL/WORKSTRING RENTAL SUBSURFACE		
27 27	TANK RENTAL AND TRANS		3,300
28 28	OTHER RENTAL		500
29 29	TRANSPORTATION		1,100
30 30	DISPOSAL SERVICE.(OFFSITE)		500
31 31	DRILL STEM TESTING		
33 33	TUBULAR INSPECTION		400
34 34	CASED HOLE SERVICES, PERFORATING		12,300
36 36	PRODUCTION TESTING		
37 37	SWABBING AND COILED TUBING		
38 38	STIMULATION		2,000
39 39	FRACTURING.(TWO STAGE N2-FOAM FRAC)		58,000
40 40	CASING CREWS AND LAYDOWN		
43 43	CONSULTANTS	\$325/DAY @ 11 DAYS	3,575
49 49	PACKER RENTAL		3,600
	CONTINGENCY (5%)		6,700
	<b>TOTAL INTANGIBLES</b>		<b>139,725</b>
	<b>TANGIBLE COSTS</b>		
80 80	CASING		
81 81	TUBING (2-3/8",4.7#,J-55,EUE @ \$3.86/FT)	1500 FT	5,800
82 82	PACKERS, BRIDGE PLUGS AND SCREENS		
84 84	CASING/LINER EQUIPMENT		
85 85	TUBING EQUIPMENT		150
86 86	WELLHEAD EQUIP AND TREE		4,200
	<b>TOTAL TANGIBLES</b>		<b>10,150</b>
	<b>TOTAL COMPLETION</b>		<b>149,875</b>

## MERIDIAN OIL INC. FACILITY COST ESTIMATE

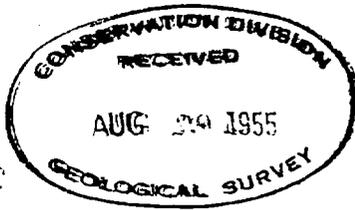
WELL NAME: HUERFANO UNIT #131  
 LOCATION: NW/4 OF 16-T26N-R10W  
 AFE TYPE: FACILITIES (06)  
 GALLUP/DAKOTA COMMINGLE  
 COPUS PRICING

JAS  
 PREPARED BY: J.A. SMITH  
 DATE: 31-Mar-92  
 APPROVED BY: JAS  
 DATE: 4/7/92

### TANGIBLE FACILITY COSTS

ACCT #  
247

02	CONTRACT LABOR		2,400
20	EQUIPMENT COATING AND INSULATION	_____	1,000
27	SEPARATORS - 3 PHASE HEATER TREATER	_____	11,500
28	GAS SWEETENING EQUIPMENT	_____	
29	PUMPING UNIT	_____	18,800
31	PRIME MOVER	_____	5,000
32	TANKS AND PITS (1-210 BBL TANK)	_____	3,900
33	METERING EQUIPMENT	_____	2,400
35	COMPRESSORS - COMPANY OWNED	_____	
36	BUILDINGS	_____	
39	PIPING, VALVES, AND FITTINGS	_____	4,000
47	COMPRESSOR RENTAL	_____	
48	EQUIPMENT RENTAL	_____	
49	CATHODIC PROTECTION	_____	
50	RIGHT OF WAY, SURVEY, ARCHY		
	GAS TIE-IN DISTANCE @ \$0.98/FT	0	0
51	MINOR PIPELINES		
	PIPE & CONSTR. COST @ \$7.73/FT	200	1,500
53	SURFACE PUMPS	_____	1,000
54	ELECTRICAL ACCESSORIES	_____	
55	MISCELLANEOUS FACILITY EXPENSE	_____	1,200
73	FREIGHT AND TRANSPORTATION	_____	1,000
55	MISC. FACILITY EXPENSE	_____	1,200
82	RODS (3/4" STRING)	6700	9,400
83	DOWNHOLE PUMPS	_____	2,600
85	OTHER SUBSURFACE LIFT EQUIPMENT	_____	1,200
86	ARTIFICIAL LIFT WELLHEAD EQUIPMENT	_____	1,200
96	DEHYDRATION UNIT	_____	15,500
	 <b>TOTAL FACILITIES COST</b>	_____	 <b>84,800</b>



LAND OF

3 21 3 25 AM '55

RECEIVED  
AUG 23 1955  
GEOLOGICAL SURVEY  
BOSTON, NEW MEXICO

DESIGNATION OF SUCCESSOR UNIT OPERATOR

UNIT AGREEMENT FOR THE DEVELOPMENT  
AND OPERATION OF THE HUERFANO UNIT AREA  
COUNTY OF SAN JUAN, STATE OF NEW MEXICO  
I-SEC. NUMBER 731

THIS INDENTURE, made and entered into as of the 12th day of August, 1955, by and between EL PASO NATURAL GAS COMPANY, a Delaware corporation, whose address is Post Office Box 1492, El Paso, Texas, (hereinafter referred to as "El Paso"), NEW MEXICO WESTERN OIL AND GAS COMPANY, a Delaware corporation, whose address is 1501 Mercantile Bank Building, Dallas, Texas, (hereinafter referred to as "New Mexico Western"), and PACIFIC NORTHWEST PIPELINE CORPORATION, a Delaware corporation, whose address is 911 M & M Building, Houston, Texas, (hereinafter referred to as "Pacific Northwest"),

W I T N E S S E T H:

WHEREAS, under the provisions of the Act of February 25, 1920, 41 Stat. 437; 30 U. S. C. Secs. 181 et seq., as amended by the Act of August 8, 1946, 60 Stat. 950, the Secretary of the United States Department of the Interior, by his duly authorized representative, on June 6, 1950, approved the Unit Agreement for the Development and Operation of the Huerfano Unit, whereunder Slick-Moorman Oil Company was designated as Unit Operator; and

WHEREAS, Slick-Moorman Oil Company has heretofore resigned as Unit Operator under said Unit Agreement and Stanolind Oil and Gas Company has heretofore qualified as Unit Operator under said Unit Agreement; and

WHEREAS, under date of June 6, 1955, Stanolind Oil and Gas Company submitted its resignation as Unit Operator under said Unit Agreement, to be effective as of July 1, 1955; and

WHEREAS, Stanolind Oil and Gas Company is currently continuing to act as Unit Operator under said Unit Agreement pending the designation of a successor Unit Operator; and

WHEREAS, El Paso desires to assume all of the rights, duties and obligations of Unit Operator under said Unit Agreement, effective upon the approval hereof by the Director of the United States Geological Survey; and

WHEREAS, the undersigned, New Mexico Western, is the owner of 48.9% of the total unitized working interests in said Unit Area and is the owner of 60.8% of the total unitized working interests lying within the presently defined Pictured Cliffs Participating Area under said Unit Agreement, and the undersigned, New Mexico Western, desires to designate, approve and accept the said El Paso as successor Unit Operator to Stanolind Oil and Gas Company; and

WHEREAS, Pacific Northwest is the owner of 32.4% of the total unitized working interests in said Unit Area and is the owner of 26.3% of the total unitized working interests lying within the presently defined Pictured Cliffs Participating Area under said Unit Agreement, and the said Pacific Northwest desires to designate, approve and accept El Paso as successor Unit Operator to Stanolind Oil and Gas Company;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements hereinafter set forth, El Paso Natural Gas Company hereby covenants and agrees to fulfill the duties and assume the obligations of Unit Operator under and pursuant to all of the terms and provisions of the Huerfano Unit Agreement, and New Mexico Western and Pacific Northwest covenant and agree that, effective upon approval of this indenture by the Director of the Geological Survey, El Paso shall be granted the exclusive right and privilege of exercising any and all rights

and privileges as Unit Operator pursuant to the terms and conditions of said Unit Agreement, reference to which Agreement is here made for all pertinent purposes, and the same is incorporated herein by reference and made a part hereof as fully and effectively as though said Unit Agreement was expressly set forth in this instrument.

This Indenture may be executed in any number of counterparts with the same force and effect as if all parties had executed the same document, and shall be binding upon all those parties who execute such a counterpart with the same force and effect as if all such parties had signed the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Indenture as of the day and year first hereinabove set forth.

ATTEST:

EL PASO NATURAL GAS COMPANY

*W. H. Hartsch*  
Assistant Secretary

By *C. L. Perkins*  
Vice President

ATTEST:

NEW MEXICO WESTERN OIL AND GAS COMPANY

*E. R. Hartsch III*  
Assistant Secretary

By *J. Glenn Murray*  
President

ATTEST:

PACIFIC NORTHWEST PIPELINE CORPORATION

*B. J. Roy*  
Assistant Secretary

By *J. M. Clark*  
Vice President

*J. E. ...*

STATE OF TEXAS |

COUNTY OF EL PASO |

On this 15th day of August, 1955, before me appeared C. L. PERKINS, to me personally known, who, being by me duly sworn, did say that he is the Vice President of EL PASO NATURAL GAS COMPANY, a Delaware corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said C. L. PERKINS acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Martha B. Ivey  
Notary Public in and for  
El Paso County, Texas

My Commission Expires:

MARTHA B. IVEY,  
Notary Public, in and for El Paso County, Texas  
My commission expires June 1, 1957

STATE OF TEXAS |

COUNTY OF DALLAS |

On this 12th day of August, 1955, before me appeared J. Glenn Turner, to me personally known, who, being by me duly sworn, did say that he is the President of NEW MEXICO WESTERN OIL AND GAS COMPANY, a Delaware corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said J. Glenn Turner acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Ellen Donihoo  
Notary Public in and for  
Dallas County, Texas

My Commission Expires:

June 1, 1957

ELLEN DONIHOO

STATE OF ~~TEXAS~~ *New Mexico*  
COUNTY OF ~~HARRIS~~ *Bernalillo*

On this 16 day of August, 1955, before me appeared *M. S. [unclear]*, to me personally known, who, being by me duly sworn, did say that he is the Vice President of PACIFIC NORTHWEST PIPELINE CORPORATION, a Delaware corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said *V. M. Clark* acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

*Juanita Teague*  
Notary Public in and for  
~~Harris County, Texas~~  
*Bernalillo County, N. M.*

My Commission Expires:  
*July 15, 1959*

Approved this 14th <sup>September</sup> day of ~~August~~, 1955, subject to like approval by the Commissioner of Public Lands of the State of New Mexico and the Oil Conservation Commission of the State of New Mexico.

Thomas B. Nolan  
Acting Director of the United States  
Geological Survey

Approved this 22nd day of August, 1955, subject to like approval by the Director of the United States Geological Survey and the Oil Conservation Commission of the State of New Mexico.

Eschbacher  
Commissioner of Public Lands  
of the State of New Mexico

Approved this 22nd day of August, 1955, subject to like approval by the Director of the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

NEW MEXICO OIL CONSERVATION COMMISSION

By W B Macey  
Secretary-Director

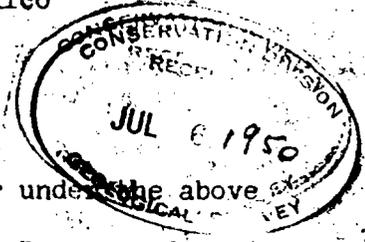
STATE OF NEW MEXICO,  
County of San Juan  
I hereby certify that this instrument was  
recorded for registration February 23, 1953  
9:21 a.m. and duly re-  
corded in the Public Records of said county.  
117  
#16,598

DEPARTMENT OF THE INTERIOR  
UNITED STATES GEOLOGICAL SURVEY  
WASHINGTON, D.C.

RECEIVED

JUN 30 1950  
U. S. GEOLOGICAL SURVEY  
ROSWELL, NEW MEXICO

Re: I-Sec. No. 731  
Huerfano Unit Agreement,  
San Juan County,  
New Mexico



RESIGNATION OF UNIT OPERATOR

Slick-Moorman Oil Company, a partnership, Unit Operator under the above captioned Unit Agreement, dated July 29, 1949 and approved by the Director June 6, 1950, hereby respectfully resigns as Unit Operator under the Unit Agreement and under the Unit Operating Agreement and asks that a successor Operator be appointed and designated as provided in said Unit Agreement.

Dated this 17 day of June, A.D. 1950.

WITNESS:

[Signature]

Respectfully submitted,

SLICK-MOORMAN OIL COMPANY

By James K. Ellis  
A Partner

RESIGNATION OF SUCCESSOR UNIT OPERATOR

Slick-Moorman Oil Company, a partnership, and Stanolind Oil and Gas Company, being the owners of the majority of the Working Interest in the Unit Area embraced by the above-described Huerfano Unit Agreement, do hereby, under the provisions of Section 5 of the said Unit Agreement, and under said Unit Operating Agreement, jointly designate, nominate and appoint Stanolind Oil and Gas Company as successor Unit Operator and ask that such designation be approved.

Dated this 17 day of June, A.D. 1950.

WITNESS:

[Signature]

SLICK-MOORMAN OIL COMPANY

By James K. Ellis  
A Partner

ATTEST:

[Signature]

Assistant Secretary

STANOLIND OIL AND GAS COMPANY

By [Signature]  
Vice-President

ILLEGIBLE

16

117-A

ACCEPTANCE BY SUCCESSOR UNIT OPERATOR

Stanolind Oil and Gas Company hereby expressly accepts its appointment as Unit Operator under said Huerfano Unit Agreement and Unit Operating Agreement, and the duties and responsibilities of such Unit Operator, agrees to be bound by the provisions of said agreements and the applicable laws and regulations in the conduct of its operations, has previously hereto filed with the United States Geological Survey its Unit Operator's bond in the sum of \$15,000.00, and asks that its appointment be approved as provided in said Unit Agreement.

Dated this 19 day of June, A. D. 1950.

ATTEST:

STANOLIND OIL AND GAS COMPANY

[Signature]  
Assistant Secretary

By [Signature]  
Vice-President



STATE OF Texas )

COUNTY OF Bexar )

On this 9th day of June, 1950, before me personally appeared JAMES K. ELLIS, A PARTNER OF SLICK-MOORMAN OIL COMPANY, to me known to be the person described in and who executed and delivered the foregoing instrument, and acknowledged to me that HE executed the same as HIS free act and deed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 9th day of June, 1950.

My Commission expires:  
June 1, 1951

[Signature]  
Notary Public

STATE OF Texas )

COUNTY OF Bexar )

On this 20th day of June, 1950, before me appeared [Signature], to me personally known, who, being by me duly sworn, did say that he is the Vice President of STANOLIND OIL AND GAS COMPANY and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said [Signature] acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and notarial seal this 20th day of June, 1950.

My Commission expires:  
My Commission Expires Feb 5, 1953

[Signature]  
Notary Public

Approved this 28th day of June, 1950

Approved this 20th day of June, 1950

[Signature]  
Commissioner of Public Lands  
State of New Mexico

[Signature]  
Director of the Geological Survey  
United States of America

**ILLEGIBLE**

~~EXHIBIT~~

APPROVED BY DEPT. OF THE INTERIOR ON June 6, 1950.

UNIT AGREEMENT FOR THE DEVELOPMENT AND  
OPERATION OF THE HUERFANO UNIT AREA,  
COUNTY OF SAN JUAN  
STATE OF NEW MEXICO

I- Sec. No 731

THIS AGREEMENT, entered into as of the 29<sup>th</sup> day of July, 1949,  
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 or gas interests in the unit area subject to this agreement; and

WHEREAS, the term "working Interest owner" as used herein and in other  
contracts between and among the parties relating to the subject lands shall mean  
and refer only to such an interest committed hereto as may be obligated to bear a  
share, either in cash or out of production (other than by permitting the use of  
unitized substances for development, production, repressuring or recycling purposes  
a portion or all of the costs or expenses of developing, equipping or operating a  
land within the Unit Area subject to this agreement. If the working interest in  
tract is or shall hereafter be owned by more than one party, the term "working in  
terest owner", when used with respect to such tract, shall refer to all such part  
owning the working interest therein; and

WHEREAS, the act of February 25, 1920, 41 Stat. 437, 30 U.S.C. Sec. 181  
et. seq., as amended by the act of August 8, 1946, 60 Stat. 950, authorizes Feder  
lessees and their representatives to unite with each other, or jointly or separat  
with others, in collectively adopting and operating under a cooperative or unit p  
of development or operation of any oil or gas pool, field, or like area, or any p  
thereof, for the purpose of more properly conserving the natural resources thereo  
whenever determined and certified by the Secretary of the Interior to be necessar  
or advisable in the public interest; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is  
authorized by an Act of the Legislature (Chap. 88, Laws 1943) to consent to or  
approve this agreement on behalf of the State of New Mexico, insofar as it covers  
and includes lands and mineral interests of the State of New Mexico; and

WHEREAS, the Oil Conservation Commission of the State of New Mexico is  
authorized by an Act of the Legislature (Chap. 72, Laws 1935) to approve this agr  
ment and the conservation provisions hereof;

WHEREAS, the parties hereto hold sufficient interests in the Huerfano Unit Area 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 interests in the unit area and agree severally among themselves as follows:

1. ENABLING ACT AND REGULATIONS: The 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, and as to non-Federal land applicable State laws are accepted and made part of this agreement.

2. UNIT AREA: The following described land is hereby designated and recognized as constituting the unit area:

NEW MEXICO PRINCIPAL MERIDIAN

Township 25 North, Range 9 West

Sec. 2-All	Sec. 7-All	Sec. 14-All
Sec. 3-All	Sec. 8-All	Sec. 15-All
Sec. 4-All	Sec. 9-All	Sec. 16-All
Sec. 5-All	Sec. 10-All	Sec. 17-All
Sec. 6-All	Sec. 11-All	Sec. 18-All

Township 25 North, Range 10 West

Sec. 1-All	Sec. 4-All	Sec. 12-All
Sec. 2-All	Sec. 10-All	Sec. 13-All
Sec. 3-All	Sec. 11-All	Sec. 14-All

Township 26 North, Range 9 West

Sec. 5-All	Sec. 18-All	Sec. 28-All
Sec. 6-All	Sec. 19-All	Sec. 29-All
Sec. 7-All	Sec. 20-All	Sec. 30-All
Sec. 8-All	Sec. 21-All	Sec. 31-All
Sec. 9-All	Sec. 22-All	Sec. 32-All
Sec. 15-All	Sec. 23-All	Sec. 33-All
Sec. 16-All	Sec. 26-All	Sec. 34-All
Sec. 17-All	Sec. 27-All	Sec. 35-All

Township 26 North, Range 10 West

Sec. 1-All	Sec. 13-All	Sec. 25-All
Sec. 2-All	Sec. 14-All	Sec. 26-All
Sec. 3-All	Sec. 15-All	Sec. 27-All
Sec. 4-All	Sec. 16-All	Sec. 28-All
Sec. 5-All	Sec. 17-All	Sec. 29-All
Sec. 6-All	Sec. 18-All	Sec. 30-All
Sec. 7-All	Sec. 19-All	Sec. 31-All
Sec. 8-All	Sec. 20-All	Sec. 32-All
Sec. 9-All	Sec. 21-All	Sec. 33-All
Sec. 10-All	Sec. 22-All	Sec. 34-All
Sec. 11-All	Sec. 23-All	Sec. 35-All
Sec. 12-All	Sec. 24-All	Sec. 36-All

Township 26 North, Range 11 West

Sec. 1-All  
Sec. 12-E/2

Township 27 North, Range 9 West

Sec. 31-All

Township 27 North, Range 10 West

Sec. 19-All	Sec. 31-All	Sec. 34-All
Sec. 29-All	Sec. 32-All	Sec. 35-All
Sec. 30-All	Sec. 33-All	Sec. 36-All

Township 27 North, Range 11 West

Sec. 24-All  
Sec. 25-All  
Sec. 36-All

Total Unit Area embraces 63,122.05 acres, more or less.

Exhibit "A" attached hereto is a map showing the unit area and the known ownership of all land and leases in said area. Exhibit "B" attached hereto is a schedule showing the percentage and kind of ownership of oil and gas interests in all land in the unit area. Exhibits "A" and "B" shall be revised by the Unit Operator whenever changes in the unit area or other changes render such revision necessary, but no such revision shall be retroactive. Not less than six copies of the revised exhibits shall be filed with the Oil and Gas Supervisor, hereinafter referred to as "Supervisor", and two copies with the Commissioner of Public Lands of the State of New Mexico, hereinafter referred to as "Commissioner".

The above-described unit area shall when practicable be expanded to include therein any additional tracts regarded as reasonably necessary or advisable for the purposes of this agreement, or shall be contracted to exclude lands not within any participating area whenever such expansion or contraction is necessary or advisable to conform with the purposes of this agreement. Such expansion or contraction shall be in the following manner:

(a) Unit Operator, on its own motion or on demand of the Director of the Geological Survey, hereinafter referred to as "Director", or on demand of the Commissioner, shall prepare a notice of proposed expansion or contraction describing the contemplated changes in the boundaries of the unit area, the reasons therefor, and the proposed effective date thereof;

(b) Said notice shall be delivered to the Supervisor and Commissioner, and copies thereof mailed to the last known address of each working interest owner, lessee, and lessor whose interests are affected, advising that 30 days will be allowed for submission to the Unit Operator of any objections;

(c) Upon expiration of the 30-day period provided in the preceding item (b) hereof, Unit Operator shall file with the Supervisor and Commissioner evidence of mailing of the notice of expansion or contraction and a copy of any objections thereto which have been filed with the Unit Operator;

(d) After due consideration of all pertinent information, the Director and Commissioner shall approve in whole or in part or reject the proposed expansion or contraction. To the extent that it may be approved, such expansion or contraction shall become effective as of the date prescribed in the notice thereof.

All land committed to this agreement shall constitute land referred to herein as "unitized land" or "land subject to this agreement".

3. UNITIZED SUBSTANCES: All oil, gas, natural gasoline, and associated fluid hydrocarbons in any and all formations of the unitized land are unitized under the terms of this agreement and herein are called "unitized substances".

4. UNIT OPERATOR: SLICK-MOORMAN OIL COMPANY is hereby designated as Unit Operator and by signature hereto commits to this agreement all interests in unitized substances vested in it as set forth in Exhibit "B", and agrees and consents to accept the duties and obligations of Unit Operator for the discovery, 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 owner of interests in unitized substances.

The Unit Operator may resign as Unit Operator whenever not in default under this agreement, but no Unit Operator shall be relieved from the duties and obligations of Unit Operator for a period of six months after it has served notice of intention to resign on all owners of working interests subject hereto and the Director and Commissioner unless a new Unit Operator shall have been selected and approved and shall have assumed the duties and obligations of Unit Operator prior to the expiration of said six-month period. Unless a successor operator is to be selected and approved, and is to assume the duties and obligations of operator prior to the effective date of the retiring operator's relinquishment of duties, the retiring operator must place all wells drilled hereunder in a satisfactory condition for suspension or abandonment as may be required by the Supervisor and the Commissioner under applicable Federal and State oil and gas operating regulations. Upon default or failure in the performance of its duties or obligations under this agreement, the Unit Operator may be removed by a majority vote of owners of working interests determined in like manner as herein provided for the selection of a successor Unit Operator. Prior to the effective date of relinquishment by, or

within six months after removal of Unit Operator, the duly qualified successor Unit Operator shall have an option to purchase on reasonable terms all or any part of the equipment, material, and appurtenances in or upon the land subject to this agreement, owned by the retiring Unit Operator and used in its capacity as such Operator, or if no qualified successor operator has been designated, the working interest owners may purchase such equipment, material, and appurtenances. At any time within the next ensuing three months any equipment, material, and appurtenances not purchased and not necessary for the preservation of wells may be removed by the retiring Unit Operator, but if not removed shall become the joint property of the owners of unitized working interests in the participating area or, if no participating area has been established, in the entire unit area. The termination of the rights as Unit Operator under this agreement shall not terminate the right, title, or interest of such Unit Operator in its separate capacity as owner of interests in unitized substances.

5. SUCCESSOR UNIT OPERATOR: Whenever the Unit Operator shall relinquish the right as Unit Operator or shall be removed, the owners of the unitized working interests in the participating area on an acreage basis, or in the unit area on an acreage basis until a participating area shall have been established, shall select a new Unit Operator. A majority vote of the working interests qualified to vote shall be required to select a new Unit Operator; provided, that if a majority but less than 75 per cent of the working interests qualified to vote are owned by one party to this agreement, a concurring vote of at least one additional working interest owner shall be required to select a new Unit Operator. 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 Director and Commissioner. If no successor Unit Operator is selected and qualified as herein provided, the Director and Commissioner at their election may declare this unit agreement terminated.

6. UNIT ACCOUNTING AGREEMENT: If the Unit Operator is not the sole owner of working interests, all costs and expenses incurred in conducting unit operations hereunder and the working interest benefits accruing hereunder shall be apportioned among the owners of unitized working interests in accordance with a unit accounting agreement by and between the Unit Operator and the other owners of such interests, whether one or more, separately or collectively. Any agreement or agreements entered into between the working interest owners and the Unit Operator as provided in this section, whether one or more, are herein referred to as the "Unit Accounting Agreement". No such agreement shall be deemed either to modify

any of the terms and conditions of this unit agreement or to relieve the Unit Operator of any right or obligation established under this unit agreement, and in case of any inconsistency or conflict between this unit agreement and the unit accounting agreement, this unit agreement shall prevail. Three true copies of any unit accounting agreement executed pursuant to this section shall be filed with the Supervisor.

7. 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 which are necessary or convenient for prospecting for, producing, and storing the unitized substances are hereby delegated to and shall be exercised by the Unit Operator as herein provided. Each working interest owner shall take in kind, or market individually or through an agent, its respective portion of the unitized substances and acting individually or through an agent shall pay all royalty, overriding royalty or other payments to which the portion of such working interest owner is subject. The right is hereby secured to the United States and the State of New Mexico under existing or future laws and regulations to elect to take its respective royalty shares in kind or value. 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.

The Unit Operator shall pay all costs and expenses of operation with respect to the unitized land; and no charge therefor shall be made against the royalty owners. If and when the Unit Operator is not the sole owner of all working interests, such costs shall be charged to the account of the owners of working interests, and the Unit Operator shall be reimbursed therefor by such owners and shall account to the working interest owners for their respective shares of the production derived from operations hereunder, all in the manner and to the extent provided in the unit accounting agreement. If the Unit Operator is the sole working interest owner, he shall bear all such costs and expenses. The Unit Operator shall render each month to the owners of unitized interests entitled thereto an accounting of the operations on unitized land during the previous calendar month, and shall pay in value or deliver in kind to each party entitled thereto a proportionate and allocated share of the benefits accruing hereunder in conformity

with operating agreements, leases, or other independent contracts between the Unit Operator and the parties hereto either collectively or individually.

The development and operation of land subject to this agreement under the terms hereof shall be deemed full performance by the Unit Operator of all obligations for such development and operation with respect to each and every part or separately owned tract of land subject to this agreement, regardless of whether there is any development of any particular part or 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 any of them.

8. DRILLING TO DISCOVERY: Within 6 months after the effective date hereof, the Unit Operator shall begin to drill an adequate test well at a location to be approved by the Supervisor if such location is upon lands of the United States, and if upon State lands or patented lands, such location shall be approved by the Oil Conservation Commission of the State of New Mexico, hereinafter referred to as the Commission, unless on such effective date a well is being drilled conformably with the terms hereof, and thereafter continue such drilling diligently until a well has been drilled to a depth of 7000 feet to adequately test the Dakota formation, unless at a lesser depth unitized substances shall be discovered which can be produced in paying quantities or the Unit Operator shall at any time establish to the satisfaction of the Supervisor as to wells on Federal land, or the Commission as to wells on State land or patented land, that further drilling of said well would not be warranted. In the event of discovery and completion of the initial or subsequent test wells as a commercial well or wells in formations above and before reaching the Dakota formation, a test well shall be drilled to the original objective, and it is agreed that such well will be begun at a location approved as above not later than 18 months after the effective date of this agreement. If the first or any subsequent test well fails to result in the discovery of a deposit of unitized substances capable of being produced in paying quantities, the Unit Operator shall continue drilling diligently one well at a time, allowing not more than 6 months between the completion of one well and the beginning of the next well, until a well capable of producing unitized substances in paying quantities is completed to the satisfaction of said Supervisor if on Federal land or the Commissioner if on State land or patented land, or until it is reasonably proved that the unitized land is incapable of producing unitized substances in paying quantities. Nothing in this section shall be deemed to limit the right of the Unit Operator to resign, as provided in Section 4 hereof, after any well drilled under this section

is placed in a satisfactory condition for suspension or is plugged and abandoned pursuant to applicable regulations. The Director, and the Commissioner may modify the drilling requirements of this section by granting reasonable extensions of time when in their opinion, such action is warranted. Upon failure to comply with the drilling provisions of this section, the Director and Commissioner may, after reasonable notice to the Unit Operator and each working interest owner, lessee, and lessor at their last known addresses, declare this unit agreement terminated.

9. PLAN OF FURTHER DEVELOPMENT AND OPERATION: Within six months after completion of a well capable of producing unitized substances in paying quantities, the Unit Operator shall submit for the approval of the Supervisor, the Commissioner, and the Commission an acceptable plan of development and operation for the unitized land which, when approved by the Supervisor, the Commissioner, and the Commission, shall constitute the further drilling and 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 the approval of the Supervisor, the Commissioner, and the Commission, a plan for an additional specified period for the development and operation of the unitized land. Any plan submitted pursuant to this section shall provide for exploration of the unitized area and for the determination of the commercially productive area thereof in each and every productive formation and shall be as complete and adequate as the Supervisor, the Commissioner, and the Commission may determine to be necessary for timely development and proper conservation of the oil and gas resources of the unitized area and shall (a) specify the number and locations of any wells to be drilled and the proposed order and time for such drilling; and (b) to the extent practicable specify the operating practices regarded as necessary and advisable for proper conservation of natural resources. Separate plans may be submitted for separate productive zones, subject to the approval of the Supervisor, the Commissioner, and the Commission. Said plan or plans shall be modified or supplemented when necessary to meet changed conditions or to protect the interests of all parties to this agreement. Reasonable diligence shall be exercised in complying with the obligations of the approved plan of development. The Supervisor and Commissioner are authorized to grant a reasonable extension of the six-month period herein prescribed for submission of an initial plan of development where such action is justified because of unusual conditions or circumstances. After completion hereunder of a well capable of producing oil and gas in paying quantities, no further wells except such as may be necessary to afford protection against operations not

under this agreement or such as may be specifically approved by the Supervisor and the Commissioner shall be drilled except in accordance with a plan of development approved as herein provided.

10. PARTICIPATION AFTER DISCOVERY: Upon completion of a well pursuant to the provisions of Section 8 hereof capable of producing unitized substances in paying quantities or as soon thereafter as required by the Supervisor or the Commissioner, the Unit Operator shall submit for approval by the Director, the Commissioner, and the Commission a schedule, based on subdivisions of the public-land survey or aliquot parts thereof, of all unitized land then regarded as reasonably proved to be productive of unitized substances in paying quantities; all land in said schedule on approval of the Director, the Commissioner, and Commission to constitute a participating area, effective as of the date of first production. Said schedule also shall set forth the percentage of unitized substances to be allocated as herein provided to each unitized tract in the participating area so established, and shall govern the allocation of production from and after the date the participating area becomes effective. A separate participating area shall be established in like manner for each separate pool or deposit of unitized substances or for any group thereof produced as a single pool or zone. The participating area or areas so established shall be revised from time to time, subject to like approval, whenever such action appears proper as a result of further drilling operations or otherwise, to include additional land then regarded as reasonably proved to be productive in paying quantities, and the percentage of allocation shall also be revised accordingly. The effective date of any revision shall be the first of the month following the date of first authentic knowledge or information on which such revision is predicated, unless a more appropriate effective date is specified in the schedule. No land shall be excluded from a participating area on account of depletion of the unitized substances.

It is the intent of this section that a participating area shall represent the area known or reasonably estimated to be productive in paying quantities; but, regardless of any revision of the participating area, nothing herein contained shall be construed as requiring any retroactive apportionment of any sums accrued or paid for production obtained prior to the effective date of revision of the participating area.

In the absence of Agreement at any time between the Unit Operator and the Director, the Commissioner, and Commission as to the proper definition or re-definition of a participating area, or until a participating area has, or areas

have, been established as provided herein, the portion of all payments affected thereby may be impounded in a manner mutually acceptable to the owners of working interests, except royalties due the United States and the State of New Mexico which shall be determined by the Supervisor and the Commissioner and the amount thereof deposited with the district land office of the Bureau of Land Management and the Commissioner of Public Lands respectively to be held as unearned money until a participating area is finally approved and then applied as earned or returned in accordance with a determination of the sum due as Federal and State royalty on the basis of such approved participating area.

Whenever it is determined, subject to the approval of the Supervisor as to wells on Federal land, the Commissioner as to wells on State land, and the Commission as to patented land, that a well drilled under this agreement is not capable of production in paying quantities and inclusion of the land on which it is situated in a participating area is unwarranted, production from such well shall be allocated to the land on which the well is located so long as that well is not within a participating area established for the pool or deposit from which such production is obtained.

11. ALLOCATION OF PRODUCTION: All unitized substances produced from each participating area established under this agreement, except any part thereof used for production or development purposes hereunder, or unavoidably lost, shall be deemed to be produced equally on an acreage basis from the several tracts of unitized land of the participating area established for such production and, for the purpose of determining any benefits that accrue on an acreage basis, each such tract shall have allocated to it such percentage of said production as its area bears to the said participating area. It is hereby agreed that production of unitized substances from a participating area shall be allocated as provided herein regardless of whether any wells are drilled on any particular part or tract of said participating area.

12. DEVELOPMENT OR OPERATION ON NON-PARTICIPATING LAND: Any party or parties hereto, other than the Unit Operator, owning or controlling a majority of the working interests in any unitized land not included in a participating area and having thereon a regular well location in accordance with a well-spacing pattern established under an approved plan of development and operation may drill a well at such location at his or their own expense, unless within 90 days of receipt of notice from said party or parties of intention to drill the well the Unit Operator elects and commences to drill such well in like manner as other wells are drilled

by the Unit Operator under this agreement.

If such well, by whomsoever drilled, results in production such that the land upon which it is situated may properly be included in a participating area, such participating area shall be established or enlarged as provided in this agreement, and the well shall thereafter be operated by the Unit Operator pursuant to the terms of this agreement as other wells within participating areas, and there shall be a financial adjustment between the parties who financed the well and the working interest owners in the participating area concerning their respective drilling and other investment cost, all as provided in the unit accounting agreement.

If any well, by whomsoever drilled, as provided in this section, obtains production insufficient to justify inclusion of the land on which said well is situated in a participating area, such well may be operated and produced by the party drilling the well. If the drilling of such well was financed by parties other than the working interest owners on the well tract, details of financial arrangements and operations as between such parties shall be provided for in the unit accounting agreement.

Wells drilled or produced at the sole expense and for the sole benefit of an owner of working interest other than the Unit Operator shall be operated and produced pursuant to the conservation requirements of this agreement. Royalties in amount or value of production from any such well shall be paid as specified in the underlying lease and agreements affected.

13. ROYALTIES AND RENTALS: Royalty on each unitized tract shall be paid or delivered by the parties obligated therefor as provided by existing leases, contracts, laws, and regulations at the lease or contract rate upon the unitized substances allocated to the tract. Nothing herein contained shall operate to relieve the lessees of Federal or State lands from their obligations under the terms of their respective leases to pay rentals and royalties.

Royalty due the United States shall be computed as provided in the operating regulations and paid in value or delivered in kind as to all unitized substances on the basis of the amounts thereof allocated to unitized Federal land as provided herein at the rates specified in the respective Federal leases or at such lower rate or rates as may be authorized by law or regulations; provided that for leases on which the royalty rate depends on the daily average production per well, said average production shall be determined in accordance with the operating regulations as though each participating area were a single consolidated lease.

Unitized substances produced from any participating area and used therein in conformance with good operating practice for drilling, operating, camp, or other

production or development purposes or under an approved plan of operation for repressuring or cycling said participating area, or for development outside of such participating area if for the purposes of drilling exploratory wells or for camps or other purposes benefiting the unit as a whole, shall be free from any royalty or other charge except as to any products extracted from unitized substances so used. If Unit Operator introduces gas for which royalties have been paid into any participating area hereunder from sources other than such participating area for use in repressuring, stimulation of production, or increasing ultimate production in conformity with a plan first approved by the Supervisor, a like amount of gas may be sold without payment of royalty as to dry gas but not as to the products extracted therefrom; provided, that gas so introduced shall bear a proportionate and equitable share of plant fuel consumption and shrinkage in the total volume of gas processed from such participating area; and provided further, that such withdrawal shall be at such time as may be provided in the plan of operation or as may otherwise be consented to by the Supervisor as conforming to good petroleum engineering practice; provided, however, that said right of withdrawal royalty free shall terminate upon termination of the unit agreement.

Each working interest owner and lessee presently responsible for the payment of rentals, or his successor in interest, shall be responsible for and shall pay all rentals of whatsoever kind on his respective lease. Rental or minimum royalty for land of the United States subject to this agreement shall be paid at the rate specified in the respective Federal leases or such rental or minimum royalty may be waived, suspended, or reduced to the extent authorized by law and applicable regulations. Rentals on State of New Mexico lands subject to this agreement shall be paid at the rates specified in the respective leases, or may be reduced and suspended upon the order of the Commissioner of Public Lands of the State of New Mexico pursuant to applicable laws and regulations.

14. CONSERVATION: Operations hereunder and production of unitized substances shall be conducted to provide for the most economical and efficient recovery of said substances, to the end that the maximum efficient yield may be obtained without waste, as defined by or pursuant to State or Federal law or regulation; and production of unitized substances shall be limited to such production as can be put to beneficial use with adequate realization of fuel and other values.

15. DRAINAGE: The Unit Operator shall take appropriate and adequate measures to prevent drainage of unitized substances from unitized land by wells on land not subject to this agreement, or pursuant to applicable regulations pay a

fair and reasonable compensatory royalty as determined by the Supervisor for Federal land or as approved by the Commissioner as to State land. Unit Operator shall be reimbursed for the cost thereof by the working interest owners in the manner provided in the unit accounting agreement.

16. LEASES AND CONTRACTS CONFORMED TO AGREEMENT: The parties hereto holding interests in leases embracing unitized land of the United States or of the State of New Mexico consent that the Secretary of the Interior, hereinafter referred to as "Secretary", and the Commissioner, respectively, may, and said Secretary and Commissioner by their approval of this agreement do, establish, alter, change, or revoke the drilling, producing, rental, minimum royalty, and royalty requirements of such leases and the regulations in respect thereto, to conform said requirements to the provisions of this agreement, but otherwise the terms and conditions of said leases shall remain in full force and effect.

Said parties further consent and agree, and the Secretary or his duly authorized representative, and Commissioner by their respective approvals hereof determine, that during the effective life of this agreement, drilling and producing operations performed by the Unit Operator upon any unitized land will be accepted and deemed to be operations under and for the benefit of all unitized leases embracing land of the United States and of the state of New Mexico; that no such lease shall be deemed to expire by reason of failure to produce wells situated on land therein embraced; and that all leases or other contracts concerning such land, except as otherwise provided herein, shall be modified to conform to the provisions of this agreement and shall be continued in force and effect beyond their respective terms during the life of this agreement. Any Federal lease for a term of 20 years or any renewal thereof or any part of such lease which is made subject to this agreement shall continue in force until the termination hereof. Any other Federal lease committed hereto shall continue in force as to the committed land so long as the lease remains committed hereto, provided a valuable deposit of unitized substances is discovered prior to the expiration date of the primary term of such lease. Authorized suspension of all operations and production on the unitized land shall be deemed to constitute authorized suspension with respect to each unitized lease.

The parties hereto holding interests in privately owned land within the unit area consent and agree, to the extent of their respective interests, that each such lease may be continued in effect beyond the primary term of such lease and during the term of this agreement, provided however that until some portion of the land in a privately owned lease is included in a participating area said lease may

be kept in force only by the payment of the delay rentals in the time, manner and amount provided by said lease. Except as in this section otherwise provided, all leases or other contracts concerning such land shall be modified to conform to the provisions of this agreement and shall be continued in force and effect during the life of this agreement; that drilling and producing operations conducted on any tract of land committed to this agreement will be accepted and deemed to be performed on and for the benefit of each and every tract of such privately owned land committed hereto; that no lease affecting said privately owned land shall be deemed to expire by reason of failure to drill or to produce wells situated on such lands; and that authorized suspension of all operations and production on unitized land shall be deemed to constitute authorized suspension with respect to all unitized leases affecting privately owned lands.

17. COVENANTS RUN WITH LAND: The covenants herein shall be construed to be covenants running with the land with respect to the interests 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, royalty, or other interest shall be binding on the Unit Operator until the first day of the next calendar month after the Unit Operator is furnished with the original or photostatic or certified copy of the instrument of transfer.

18. EFFECTIVE DATE AND TERM: This agreement shall become effective upon approval by the Secretary and the Commissioner and shall have a term of 5 years commencing as of said effective date, unless (a) the date of expiration is extended by the Director and the Commissioner, or (b) it is reasonably determined prior to the expiration of the fixed term or any extension thereof that the unitized land is incapable of production of unitized substances in paying quantities and after notice of intention to terminate the agreement on such ground is given by the Unit Operator to all parties in interest at their last known addresses, the agreement is terminated with the approval of the Director and the Commissioner, or (c) a valuable discovery of unitized substances has been made on unitized land during said initial term or any extension thereof, in which case the agreement shall remain in effect so long as unitized substances can be produced from the unitized land in paying quantities; or (d) it is terminated as provided in Section 5 or Section 8 hereof. This agreement may be terminated at any time by not less than 75 percentum, on an acreage

basis, of the owners of working interest signatory hereto with the approval of the Director and the Commissioner.

19. RATE OF PROSPECTING, DEVELOPMENT, AND PRODUCTION: All production and the disposal thereof shall be in conformity with allocations, allotments, and quotas made or fixed by any duly authorized person or regulatory body under any Federal or State statute. The Director 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 Commission 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 land of the State of New Mexico as to the rate of prospecting and development in the absence of the specific written approval thereof by the Commissioner and as to any lands of the State of New Mexico or privately-owned lands subject to this agreement as to the quantity and rate of production in the absence of specific written approval thereof by the Commission.

20. CONFLICT OF SUPERVISION: Neither the Unit Operator nor the working interest owners nor any of them shall be subject to any forfeiture, termination, or expiration of any rights hereunder or under any leases or contracts subject hereto, or to any penalty or liability for delay or failure in whole or in part to comply therewith to the extent that the said Unit Operator, working interest owners or any of them are hindered, delayed, or prevented from complying therewith by reason of failure of the Unit Operator to obtain with the exercise of due diligence the concurrence of the representatives of the United States and the representatives of the State of New Mexico in and about any matters or thing concerning which it is required herein that such concurrence be obtained. The parties hereto, including the Commission, agree that all powers and authority vested in the Commission in and by any provisions of this contract are vested in the Commission and shall be exercised by it pursuant to the provisions of the laws of the State of New Mexico and subject in any case to appeal or judicial review as may now or hereafter be provided by the laws of the State of New Mexico.

21. UNAVOIDABLE DELAY: All obligations under this agreement requiring the Unit Operator to commence or continue drilling 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, lock-outs, acts of God, Federal, State, or municipal laws or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market, or other matters beyond the reasonable control of the Unit Operator whether similar to matters herein enumerated or not.

22. TAXES: The working interest owners shall render and pay for their account and the account of the royalty owners all valid taxes on or measured by the unitized substances in and under or that may be produced, gathered and sold from the land subject to this contract after the effective date of this agreement, or upon the proceeds or net proceeds derived therefrom. The working interest owners on each tract shall and may charge the proper proportion of said taxes to the royalty owners having interests in said tract, and may currently retain and deduct sufficient of the unitized substances or derivative products, or net proceeds thereof from the allocated share of each royalty owner to secure reimbursement for the taxes so paid. No such taxes shall be charged to the United States or the State of New Mexico or to any lessor who has a contract with his lessee which requires the lessee to pay such taxes.

23. COUNTERPARTS AND SUBSEQUENT JOINDER: This agreement may be executed in any number of counterparts with the same force and effect as if all parties had signed the same document, or this agreement may be ratified with like force and effect by a separate instrument in writing specifically referring hereto, and shall be binding upon all those parties who execute such a counterpart, ratification or consent hereto with the same force and effect as if all such 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 lands affected hereby. Any owner of oil or gas interests in lands located within the unit area not subject hereto, may, with the consent of the Director, hereafter become a party hereto by subscribing to this agreement or ratifying or approving the same and, if such party is also a working interest owner holding operating rights, such party may be admitted and become a party to this agreement and his acreage become subject hereto by establishing his title to the operating rights to such land to the satisfaction of Unit Operator and by reaching an equitable agreement with the Unit Operator and the majority of the then working interest owners holding operating rights on the lands then subject to this agreement with respect to classification and participating interest of such new acreage and the sharing of the development and operating costs hereunder and by subscribing to this agreement or ratifying or approving the same and subscribing to or

ratifying the unit accounting agreement and securing the execution of such consents as shall be necessary to make this agreement effective as to all parties owning any interest in said lands or in the production therefrom, it being understood that all rights of new parties or new acreage which may become subject hereto shall attach only from the date of their admission hereto and shall in no manner be retroactive. Any separate counterpart, consent, or ratification duly executed after approval hereof by the Secretary and the Commissioner shall be effective on the first day of the month next following the filing thereof with the Supervisor and the Commissioner, unless objection thereto is made by the Director or the Commissioner and notice of such objection is served upon the appropriate parties within 60 days after such filing.

24. FAIR EMPLOYMENT: The Unit Operator shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin, and an identical provision shall be incorporated in all subcontracts.

25. LOSS OF TITLE: In the event title to any tract of unitized land or substantial interest therein shall fail and the true owner cannot be induced to join this unit agreement, so that such tract is not committed to this unit agreement, there shall be such readjustment of participation as may be required on account of such failure of title. In the event of a dispute as to title or as to any interest in unitized land, the Unit Operator may withhold payment or delivery on account thereof without liability for interest until the dispute is finally settled; provided, that, as to Federal and State land or leases, no payments of funds due the United States or the State of New Mexico shall be withheld, but such funds shall be deposited with the district land office of the Bureau of Land Management and the Commissioner of Public Lands of the State of New Mexico, respectively, 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.

26. NO PARTNERSHIP: It is expressly agreed that the relation of the parties hereto is that of independent contractors and nothing in this agreement contained, expressed or implied, nor any operations conducted hereunder, shall create or be deemed to have created a partnership or association between the parties hereto or any of them.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed and have set opposite their respective names the date of execution.

WITNESS:	DATE:	<u>UNIT OPERATOR AND WORKING INTEREST OWNER</u> <u>SLICK-MOORMAN OIL COMPANY, a partnership</u>
<u>SS//E.R.S. ✓</u>	<u>8/9/49</u>	By <u>SS//T.S. ✓</u> Tom Slick, Partner

Address: 2000 Milam Building  
San Antonio, Texas

ATTEST:

DATE:

WORKING INTEREST OWNERS

STANOLIND OIL AND GAS COMPANY

[Initials] ✓ SS// ✓ ok  
Assistant Secretary

7/29/49

By SS// J.E. ROUSE ✓  
Vice-President

Address: P. O. Box 591, Tulsa, Oklahoma

ATTEST:

BLANCO GAS COMPANY

By SS// F.A. SCHULTZ ✓  
VICE - President

[Initials] ✓ SS// ✓ ok  
Secretary

Address: \_\_\_\_\_

ATTEST:

By SS// JAMES J. HUDSON ✓  
President

Secretary

Address: \_\_\_\_\_

ATTEST:

By \_\_\_\_\_  
President

Secretary

Address: \_\_\_\_\_

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

RECEIVED

JUN 26 1966

OIL CONSERVATION DIVISION

APPLICATION OF MERIDIAN OIL INC.  
FOR DOWNHOLE COMMINGLING AND FOR  
AN ADMINISTRATIVE DOWNHOLE  
COMMINGLING PROCEDURE FOR THE  
HUERFANO UNIT, SAN JUAN COUNTY,  
NEW MEXICO.

CASE: 10510

A P P L I C A T I O N

Comes now MERIDIAN OIL INC., by and through its attorneys Kellahin, Kellahin & Aubrey, and applies to the New Mexico Oil Conservation Division for approval of an administrative procedure for the Huerfano Unit to downhole commingle production from the Gallegos Gallup Associated Pool and the Basin Dakota Gas Pool within the Huerfano Unit with the initial well for downhole commingling being its Huerfano Unit well #131, located

990 feet FWL and 880 feet FNL, (Unit D) Section 34, T26N, R10W, NMPM, San Juan County, New Mexico and in support thereof would state:

(1) Meridian Oil Inc. is the operator of the Huerfano Unit which consists of some 63,122, acres, more or less, as described on Exhibit A and as identified upon the plat attached as Exhibit B.

(2) Unit operations include the Huerfano Unit well #131, located in Unit C, Section 34, T26N, R10W, NMPM, San Juan County, New Mexico.

(3) The well was completed on May 19, 1991 as a gas well in the Basin Dakota Gas Pool with the N/2 of said Section 34 being dedicated to that production.

(4) Meridian proposes to recomplete the well as a downhole commingled oil-gas well between the Gallup formation and Basin Dakota Gas Pool.

(5) The subject well is located approximately two miles southeast of the Gallegos Gallup Associated Pool.

(6) Meridian anticipates that the Gallup formation at the location of the subject well will be a gas well and will be an extension of the Gallegos Gallup Associated Pool.

(7) The Gallegos Gallup Associated Pool spaces its gas wells on 320 acre gas spacing.

(8) Meridian proposes to dedicated the N/2 of said Section 34 to the Gallup production.

(9) In addition, Meridian further seeks an administrative procedure for obtaining further downhole commingling approvals for Gallup and Dakota wells within the Huerfano Unit without notice and hearing.

(10) Meridian has evaluated the potential to drill unit wells to the Gallup formation as a single completion, a dual completion with the Dakota or a downhole commingled completion with the Dakota.

(11) The only economic option is the downhole commingling of Gallup and Dakota production. This commingled production will be on a pump and compression until such time as lie pressures decrease. The gas production from the Dakota may also aid in the lifting of any Gallup oil.

(12) In accordance with Division Rule 303-C-1.(b), the Applicant states and will demonstrate at hearing:

1. That the commingling is necessary to permit the Gallup formation to be produced because it is

not otherwise economic to attempt to drill and complete a separate well for Gallup production.

2. That there will be no crossflow between the two zones commingled.

3. That while the ownership in each of the two participating areas is not common, the ownership interests in both pools have been fully committed to the Huerfano Unit. In addition, as a result of the ratification of that agreement by all royalty and working interest owners, the parties entitled to share in the production in the participating areas established for each subject pool have contractually agreed how they will participate and share in that production. Accordingly, no impairment of correlative rights will occur.

4. That it is expected that the bottom hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum.

5. That the value of the commingled production will not be less than the sum of the values of the individual production.

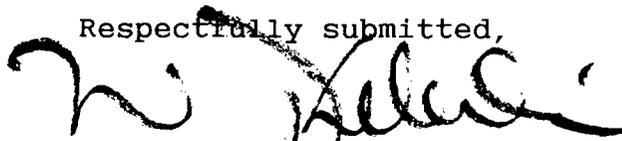
(13) Applicant seeks the approval of an allocation formula for the equitable distribution of production between the two pools based upon separate production tests of each zone prior to commingling.

(14) Applicant requests that this matter be docketed for hearing on the Division's Examiner docket now scheduled for July 23, 1992.

(15) Copy of this application has been sent to all offsetting operators and to the owners of interests in the affected production within the Huerfano Unit as set forth on Exhibit C.

WHEREFORE Applicant requests that this matter be set for hearing on July 23, 1992 before a duly appointed Examiner of the Oil Conservation Division and that after notice and hearing as required by law, the Division enter its order granting this application.

Respectfully submitted,



W. Thomas Kellahin  
KELLAHIN, KELLAHIN & AUBREY  
P. O. Box 2265  
Santa Fe, New Mexico 87501  
(505) 982-4285  
Attorneys for Applicant

RUN DATE 06/26/92  
RUN TIME 17:38:38

DESCRIPTION OF COMMITTED LANDS IN PARTICIPATING AREA:  
R E C A P I T U L A T I O N

DESCRIPTION OF NON-COMMITTED LANDS IN PARTICIPATING AREA:

MERIDIAN OIL INC  
SCHEDULE I

EXHIBIT A

TOWNSHIP 25N . RANGE 10W  
SECTION 1 : ALL  
SECTION 10 : N/2, E/2 SE  
SECTION 12 : W/2, SE, SW/4  
SECTION 13 : N/2  
SECTION 14 : S/2 SW  
SECTION 14 : N/2, SE/4, N/2 SW  
SECTION 3 : S/2  
SECTION 4 : LOTS 1-4, S/2 N/2, S/2 (ALL)  
TOWNSHIP 25N . RANGE 9W  
SECTION 10 : ALL  
SECTION 11 : ALL  
SECTION 14 : ALL  
SECTION 15 : S/2, NE/4  
SECTION 16 : NW/4  
SECTION 16 : SE/SW  
SECTION 16 : SE/SE  
SECTION 16 : NW/NE  
SECTION 16 : NE/SE  
SECTION 16 : SE/NE, NW/4  
SECTION 16 : SW/NE  
SECTION 17 : NW/NW  
SECTION 17 : E/2  
SECTION 17 : SW/4, E/2 NW, SW/NW  
SECTION 18 : LOTS 1-4, E/2 W/2, E/2 (ALL)  
SECTION 2 : SW/NW, SE/SW, SW/SE  
SECTION 2 : NW/SE  
SECTION 2 : NE/SE  
SECTION 2 : SE/NW, N/2 SW, SW/SW  
SECTION 3 : LOTS 1-4, S/2 N/2, S/2 (ALL)  
SECTION 4 : LOTS 1-4, S/2 N/2, S/2 (ALL)  
SECTION 5 : LOTS 1-7, SE/NW, S/2NE, E/2SW, SE/4ALL  
SECTION 6 : LOTS 1-4, E/2 W/2, NE/4, N/2SE, SW/SE  
SECTION 7 : SE/SE  
SECTION 7 : W/2 SW  
SECTION 8 : N/2, SE/4, E/2 SW  
SECTION 9 : ALL  
TOWNSHIP 26N . RANGE 10W  
SECTION 1 : SW/4  
SECTION 1 : LOTS 1&2, S/2 NE, SE/4  
SECTION 1 : LOT 4, S/2 NW  
SECTION 1 : LOT 3  
SECTION 10 : E/2  
SECTION 10 : W/2  
SECTION 11 : SE/4  
SECTION 11 : NW/4  
SECTION 11 : SW/4  
SECTION 11 : NE/4

TOWNSHIP 25N . RANGE 10W  
SECTION 11 : SW/4  
SECTION 11 : NW/4  
SECTION 11 : SE/4  
SECTION 11 : NE/4  
SECTION 2 : SW/4  
SECTION 2 : LOTS 3&4, S/2 NW  
SECTION 2 : SE/4  
SECTION 2 : LOTS 1&2, S/2 NE  
SECTION 3 : LOTS 2-4, S/2 NW, SE/NE  
SECTION 3 : SW/NE  
SECTION 3 : LOT 1  
TOWNSHIP 25N . RANGE 9W  
SECTION 16 : NE/NE  
SECTION 16 : NE/SW  
SECTION 16 : SW/SE  
SECTION 16 : SW/SW  
SECTION 16 : NW/SW  
SECTION 16 : NW/NE  
SECTION 2 : SE/SE  
SECTION 2 : LOTS 1, 2, 3, 4  
SECTION 2 : S/2 NE  
TOWNSHIP 26N . RANGE 10W  
SECTION 36 : NE/SE  
TOWNSHIP 26N . RANGE 9W  
SECTION 15 : ALL  
SECTION 16 : SE/SE, NE/4  
SECTION 16 : E/2 NW, SW/SW, N/2 SW  
SECTION 32 : SW/NW  
SECTION 32 : NE/NE, SW/NE, W/2 SE, SE/SE  
TOWNSHIP 27N . RANGE 10W  
SECTION 19 : E/2  
SECTION 30 : LOTS 3&4, NE/4, E/2 SW  
SECTION 34 : ALL  
TOWNSHIP 27N . RANGE 11W  
SECTION 24 : W/2  
SECTION 24 : W/2  
SECTION 24 : E/2  
SECTION 25 : ALL  
SECTION 26 : ALL  
SECTION 36 : W/2  
SECTION 36 : W/2

RUN DATE 06/26/92  
RUN TIME 17:38:38

DESCRIPTION OF COMMITTED LANDS IN PARTICIPATING AREA:      MERIDIAN OIL INC  
RECAPITULATION      SCHEDULE I  
DESCRIPTION OF NON-COMMITTED LANDS IN PARTICIPATING AREA:      FED535AD-A

SECTION 12 : SE/4, NW/NW  
SECTION 12 : NE/4  
SECTION 12 : E/2 NW, SW/NW  
SECTION 12 : SW/4  
SECTION 13 : NE/4, SW/4  
SECTION 13 : SE/4  
SECTION 14 : NW/4  
SECTION 14 : SW/4  
SECTION 14 : SE/4  
SECTION 14 : NE/4  
SECTION 15 : N/2  
SECTION 15 : S/2  
SECTION 16 : SE/NW  
SECTION 16 : SE/NE  
SECTION 16 : NE/NE, W/2 SE, SE/SE  
SECTION 16 : NW/NE, NW/SW  
SECTION 16 : SW/NW, SE/SW, NE/SE  
SECTION 16 : SW/NE  
SECTION 16 : N/2 NW, NE/SW, SW/SW  
SECTION 17 : S/2  
SECTION 17 : N/2  
SECTION 18 : LOTS 1-3, E/2 NW, NE/SW, NE/4, N/2SE  
SECTION 18 : LOT 4, SE/SW, S/2 SE  
SECTION 19 : LOT 4, SE/SW, S/2 SE  
SECTION 19 : LOTS 1&2, E/2 NW, NE/4  
SECTION 19 : LOT 3, NE/SW, N/2 SE  
SECTION 2 : E/2 SE  
SECTION 2 : SW/NE  
SECTION 2 : NE/NE (LOT 1)  
SECTION 2 : S/2 SW, SW/SE  
SECTION 2 : LOTS 2 & 3  
SECTION 2 : NE/SW, NW/SE  
SECTION 2 : S/2 NW, NW/SW  
SECTION 2 : LOT 4, SE/NE  
SECTION 20 : SW/4  
SECTION 20 : NW/4, SE/4  
SECTION 20 : NE/4  
SECTION 21 : NW/NE, SW/SE  
SECTION 21 : SW/4  
SECTION 21 : NW/4  
SECTION 21 : S/2 NE, N/2 SE, SE/SE  
SECTION 21 : NE/NE  
SECTION 22 : N/2 NW, SE/NW  
SECTION 22 : N/2 NE, SW/NE  
SECTION 22 : NE/SW  
SECTION 22 : W/2 SW, SW/NW  
SECTION 22 : S/2 NE  
SECTION 22 : SE/NE  
SECTION 22 : SE/4, SE/SW  
SECTION 23 : NW/4  
SECTION 23 : SW/4, S/2 NE, N/2 SE

RUN DATE 06/26/92  
RUN TIME 17:38:38

MERIDIAN OIL, INC  
SCHEDULE I  
R E C A P I T U L A T I O N  
DESCRIPTION OF NON-COMMITTED LANDS IN PARTICIPATING AREA:

PAGE 3  
FE0535AP-A

DESCRIPTION OF COMMITTED LANDS IN PARTICIPATING AREA:

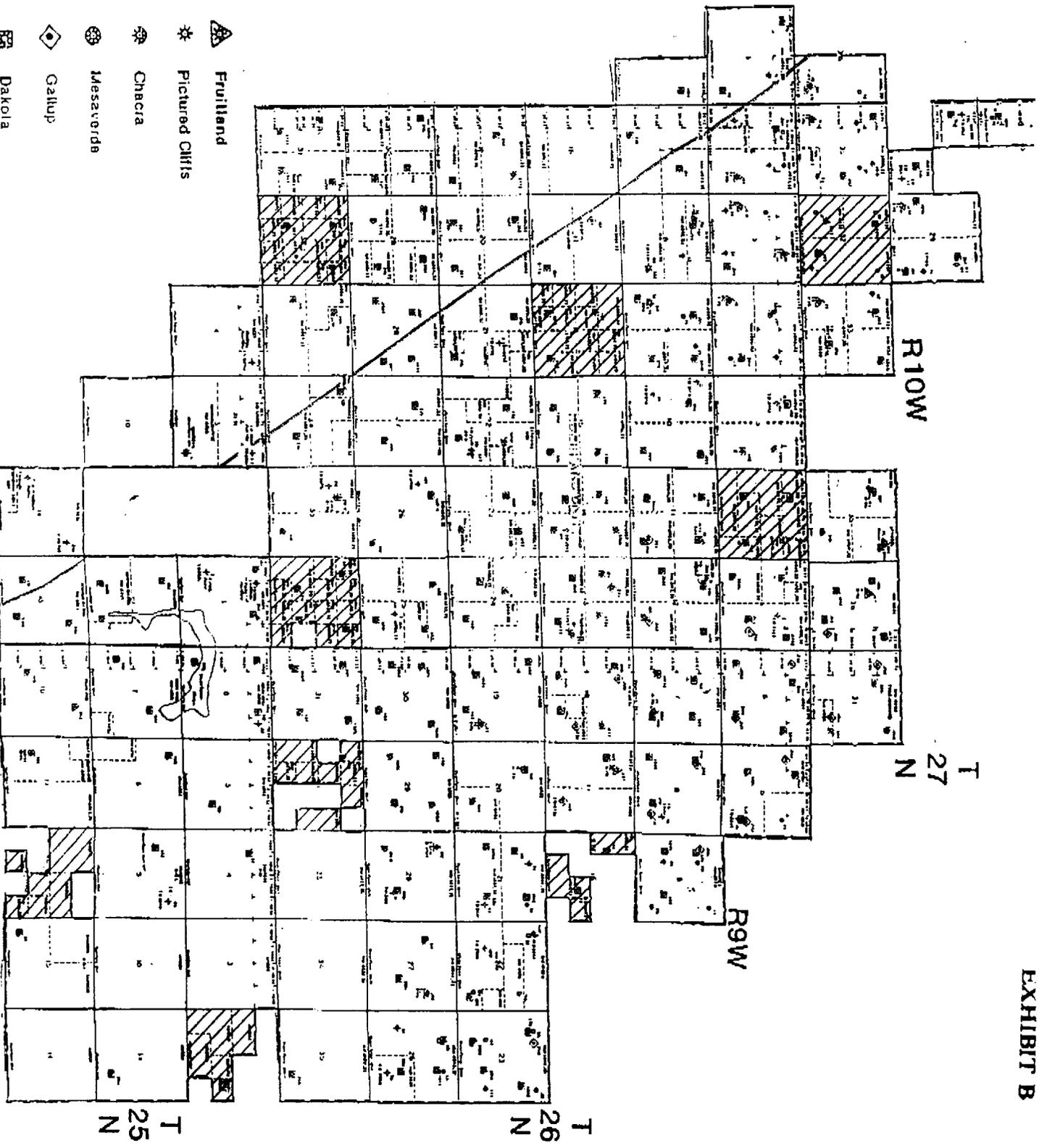
SECTION 23	: S/2 SE
SECTION 23	: N/2 NE
SECTION 24	: SW/4
SECTION 24	: E/2 NE, NW/NE
SECTION 24	: SW/NE, SE/4
SECTION 24	: NW/4
SECTION 25	: NW/4, N/2 NE
SECTION 25	: SE/4
SECTION 25	: SW/4
SECTION 25	: S/2 NE/4
SECTION 26	: ALL
SECTION 27	: W/2
SECTION 27	: E/2
SECTION 28	: ALL
SECTION 28	: S/2 NE, SW/4
SECTION 29	: N/2 SE
SECTION 29	: NW/4
SECTION 29	: N/2 NE
SECTION 29	: S/2 SE
SECTION 3	: LOTS 3&4, S/2 NW, SW/4
SECTION 3	: LOTS 1&2, SE/4, S/2 NE
SECTION 30	: LOTS 1&2, E/2 NW, E/2 NE, W/2 SE
SECTION 30	: W/2 NE, E/2 SE
SECTION 30	: LOTS 3&4, E/2 SW
SECTION 31	: NE/4
SECTION 31	: LOTS 1-4, E/2 W/2, W/2 SE, SE/SE
SECTION 31	: NE/SE
SECTION 32	: SW/NW
SECTION 32	: NW/SE
SECTION 32	: SE/NE, NE/SE, SW/SE
SECTION 32	: E/2 NW
SECTION 32	: SW/NE, SE/SE
SECTION 32	: SW/SE
SECTION 32	: NE/SE
SECTION 32	: NE/NE, SE/SW
SECTION 32	: NW/NE
SECTION 32	: NW/NW, NW/SW
SECTION 33	: NE/4, NE/NW
SECTION 33	: S/2
SECTION 33	: W/2 NW, SE/NW
SECTION 34	: N/2 NE/4
SECTION 34	: S/2
SECTION 34	: E/2 NW, S/2 NE
SECTION 34	: W/2 NW
SECTION 35	: E/2
SECTION 35	: NE/NW
SECTION 36	: SE/NW, SE/NE
SECTION 36	: SE/SW
SECTION 36	: N/2 SW, SW/SW, SW/SE
SECTION 36	: NW/NE, NW/NW



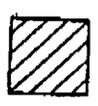
SECTION 32	: NW/NE
SECTION 32	: NW/NW, SE/NW, SE/NE, SW/SW
SECTION 32	: NE/SE
SECTION 32	: N/2 SW
SECTION 32	: SE/SW
SECTION 33	: ALL
SECTION 34	: ALL
SECTION 35	: ALL
SECTION 5	: LOTS 3&4, S/2 NW, S/2
SECTION 5	: LOTS 1&2, S/2 NE
SECTION 6	: LOTS 1-7, SE/NW, E/2SW, S/2NE, SE/4
SECTION 7	: LOTS 1-4, E/2 W/2, E/2 (ALL)
SECTION 8	: ALL
SECTION 9	: ALL
TOWNSHIP 27N	: RANGE 10W
SECTION 19	: LOTS 3&4, E/2 SW
SECTION 19	: LOTS 1&2, E/2 NW
SECTION 29	: W/2
SECTION 29	: E/2
SECTION 30	: LOTS 1&2, E/2 NW, SE/4
SECTION 31	: LOTS 1-4, E/2 W/2, E/2 (ALL)
SECTION 32	: NW/4
SECTION 32	: SW/4
SECTION 32	: E/2
SECTION 33	: NE/4
SECTION 33	: N/2 SE, SW/4
SECTION 33	: S/2 SE
SECTION 33	: NW/4
SECTION 35	: S/2 S/2, N/2 SE
SECTION 35	: NW/4
SECTION 35	: N/2 SW
SECTION 35	: NE/4
SECTION 35	: LOTS 1-4, W/2 E/2, W/2 (ALL)
TOWNSHIP 27N	: RANGE 11W
SECTION 36	: E/2
TOWNSHIP 27N	: RANGE 9W
SECTION 31	: S/2 SE
SECTION 31	: LOTS 1-4, E/2 W/2, NE/4, N/2SE
TOTAL COMMITTED:	56,792.79

TOTAL NUMBER OF ACRES IN PARTICIPATING AREA: 64,400.93

TOTAL ACRES NON-COMMITTED: 7,608.14



- Fruittland
- Pictured Cliffs
- Chacra
- Messavorda
- Gallup
- Dakota



OIL & GAS OWNED BY  
STATE OF NEW MEXICO

# HUERFANO UNIT

**MERIDIAN OIL**  
LAND DEPARTMENT

SIDNEY E LICHT & MARTIN C  
LICHT EXECUTORS WILLIAM V LICHT ESTATE  
C/O SUMMIT SOLOMON & FELDESMAN  
445 PARK AVE  
NEW YORK, NY 10022

MARIANNE WEILL LESTER  
75 MERCER AVE  
HARTSDALE, NY 10530

W BENTON HARRISON III  
561 S COUNTRY CLUB DR  
ATLANTIS, FL 33462

ANNA M FRITZ  
52 FOSTER ST  
NEWINGTON, CT 06111

SAM KIRSCHENBAUM AND SARAH ADA KIRSCHENBAUM  
3033 N VIA VISTA  
LAGUNA HILLS, CA 92653

SIDNEY E LICHT  
6410 VETERANS AVE  
BROOKLYN, NY 11234

DR ALEXANDER LORE  
85 15 CHEVY CHASE ST  
JAMAICA, NY 11432

MARGARET JENSIS  
1615 PUTNAM AVE  
RIDGEWOOD, NY 11385

ANNE ZACHAREK  
166 JEWETT AVE  
JERSEY CITY, NJ 07304

MARGUERITE M HAGUE  
2540 CINNABAR  
PHOENIX, AZ 85028

MURRAY LANGFELDER  
2665 HOMECREST AVE  
BROOKLYN, NY 11235

EDWARD GRAPEL  
7051 ENVIRON BLVD APT 536  
LAUDERHILL, FL 33319

LAWRENCE L LAVALLE  
2600 N MILITARY TRL 4TH FL  
BOCA RATON, FL 33431

MARIE HELENE WEILL  
5 PADDINGTON RD  
SCARSDALE, NY 10583

NELLY LIDELL  
40 E 88TH ST  
NEW YORK, NY 10028

NANCI L FOX  
84 COLTEN AVE  
SAYVILLE, NY 11782

ENID CAROL BARTON  
174 SUMMIT AVE  
SUMMIT, NJ 7091

WALLACE S KARUTZ  
1731 NE 22ND TER  
FORT LAUDERDALE, FL 33305

JAMES E ANDERSON  
PO BOX 285  
PAWLET, VT 5761

JEAN SAMMONS  
2038 EAST 64TH ST  
BROOKLYN, NY 11234

NELLY LIDELL CHARLES J L & JULES GOLDEN EXECUTOR  
ESTATE OF MYRON LIDELL DECD  
40 E 88TH ST  
NEW YORK, NY 10028

FLORENCE DUBILIER AW  
C/O STEELE HECTOR DAVE  
PO BOX 2367  
PALM BEACH, FL 33480

IRIS GITTELMAN  
11 AARON BURR CT CONCORDIA  
CRANBURY, NJ 8512

HELEN G PIENKOWSKI  
35 BROAD ST APT 10  
FREEHOLD, NJ 7728

EMILY D GRAMBLING  
916 CHERRY HILL LANE  
EL PASO, TX 79912

JULIA SIMPSON  
12300 RADOYKA DR  
SARATOGA, CA 95070

JOHN P WINDLE PERSONAL  
REPRESENTATIVE FOR THE ESTATE OF  
LOUISE WINDLE DECD  
74 PHILLIPS STREET  
BOSTON, MA 2114

LEO A ACHTSCHIN  
6335 W NORTHWEST HWY 1917  
DALLAS, TX 75225

DANIEL D DUDEN  
PO BOX 162481  
AUSTIN, TX 78716

DANIEL D DUDEN TRUST B  
P O BOX 162481  
AUSTIN, TX 78716

ROBERT W DUDEN  
PO BOX 162481  
AUSTIN, TX 78716

GUY A WEILL  
50 E 79TH ST (20A)  
NEW YORK, NY 10021

GUY A WEILL CUSTODIAN  
50 E 79TH ST #20A  
NEW YORK, NY 10021

E JEAN KEYSER  
C/O COOPERS & LYBRAND  
500 OUELLETTE AVE  
WINDSOR, ON N9A

INTERNAL REVENUE SERVICE  
A/C ROBERT L BREEDLOVE, ACS  
P O BOX 2502  
MEMPHIS, TN 38101

ROBERT W DUDEN TRUST A  
P O BOX 162481  
AUSTIN, TX 78716

MAXINE S GRAHAM  
1504 SOPLO ROAD SE  
ALBUQUERQUE, NM 87123

SIDNEY H DUNKEN  
5300 WESTPARK DR  
ATLANTA, GA 30336

JULIA B LILLY INDVDLY AND ANCILLARY ADMINISTRATRIX  
U/W O J LILLY DECD  
1906 ROCK CREEK DRIVE  
ROUND ROCK, TX 78681

MARGARET DORIS MCCONNELL LIFE TENANT  
600 NORTH BROADWAY  
HOBART, OK 73651

JERRY J ANDREW  
408 LONGWOODS DR  
HOUSTON, TX 77024

R H FEUILLE  
11TH FLOOR, TEXAS COMMERCE BANK BLDG  
EL PASO, TX 79901

MARY ANN HONEY  
10303 OCOTILLO DR  
SUN CITY, AZ 85373

CLOA W BARKLEY  
P O BOX 872  
MIDLAND, TX 79702

ROSALINE WEISS IND EXEC,  
SIDNEY L WEISS ESTATE  
200 PATTERSON #614  
SAN ANTONIO, TX 78209

JAMES J JOHNSTON  
ELEVEN GREENWAY PLZ STE 2608  
HOUSTON, TX 77046

R E BEAMON III,  
A/K/A ROBERT E BEAMON III  
THREE RIVERWAY STE 470  
HOUSTON, TX 77056

ROBERT BEAMON,  
C/O KLEIN BANK  
ATTN JOE NATION  
P O BOX 73249  
HOUSTON, TX 77273

KATHRYN D ASHBY  
PO BOX 1854  
MIDLAND, TX 79702

LEE ETTA HEDBERG  
PO BOX 470337  
FORT WORTH, TX 76147

PATTIE ANN BEAMON LUNDELL  
CC NO 1034  
1616 S VOSS RD APT 870  
HOUSTON, TX 77057

PATTIE ANN BEAMON LUNDELL  
1616 S VOSS RD STE 870  
HOUSTON, TX 77057

MR OR MRS LOUIS FREED  
5716 OVER DOWNS DR  
DALLAS, TX 75230

JOHN A GRAMBLING  
916 CHERRY HILL LN  
EL PASO, TX 79912

JOSEPHINE ADAMS WESTEFELD  
39 ROLLINGMEAD  
PRINCETON, NJ 8540

JAMES ROBERT MARTIN  
PO BOX 8617  
HORSESHOE BAY, TX 78654

WILLIAM LEVINE DECD  
6126 AVERILL WAY APT 110  
DALLAS, TX 75225

PATRICIA G HARVEY  
PO DRAWER 140  
EL PASO, TX 79980

VIOLA I STEWART  
PO BOX 2460  
UVALDE, TX 78802

FREDERICK EUGENE TURNER JGT ESTATE  
OIL AND GAS INVESTMENTS  
ONE ENERGY SQ STE 852  
4925 GREENVILLE AVE  
DALLAS, TX 75206

FREDERICK EUGENE TURNER  
ONE ENERGY SQ STE 852  
4925 GREENVILLE AVE  
DALLAS, TX 75206

J GLENN TURNER JR JGT ESTATE  
500 LTV CTR  
2001 ROSS AVE  
DALLAS, TX 75201

J GLENN TURNER JR  
500 LTV CTR  
2001 ROSS AVE  
DALLAS, TX 75201

ELLIS RUDY  
PO BOX 789  
HOUSTON, TX 77001

ELIZABETH JEANNE TURNER CALLOWAY  
SEPARATE PROPRTY  
4801 ST JOHNS DR  
DALLAS, TX 75205

ELIZABETH JEANNE T CALLOWAY AS HER  
SEPARATE PROPERTY JGT ESTATE  
4801 ST JOHNS DR  
DALLAS, TX 75205

ELIZABETH T CALLOWAY  
4801 ST JOHNS DR  
DALLAS, TX 75205

DAVID G MCLANE  
P O BOX 214430  
DALLAS, TX 75221

HALEY AYCOCK  
C/O ACCT 304 660 5  
MIDLAND NATIONAL BANK  
BOX 2097  
MIDLAND, TX 79702

ETOILE POSTELLE  
823 S WATER ST #2B  
CORPUS CHRISTI, TX 78401

PATTI JO WOOD  
PO BOX 1099  
RISING STAR, TX 76471

DEBBIE LEE SHOSS  
307 LAKESHORE DR  
LEXINGTON, KY 40502

JOHN LEE TURNER JGT ESTATE  
PO BOX 797215  
DALLAS, TX 75379

JOHN LEE TURNER  
PO BOX 797215  
DALLAS, TX 75379

ALBERT R GREER  
221 PETROLEUM CENTER BLDG  
FARMINGTON, NM 87401

LANGDON D HARRISON  
7517 TAMARRON PL NE  
ALBUQUERQUE, NM 87109

JANE C GORDEN  
11330 GREENBAY DR  
HOUSTON, TX 77024

RICHARD B LODEWICK  
2100 W WADLEY #21  
MIDLAND, TX 79705

BARBARA ANN BRUSS  
C/O SUNWEST BK OF ALBUQUERQUE  
ATTN TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

LAURA PATRICIA LODEWICK  
511 NEWELL  
DALLAS, TX 75223

JOHN WIDNEY LODEWICK  
3305 WENTWOOD  
DALLAS, TX 75225

MINERALS MANAGEMENT SERVICE  
ROYALTY MANAGEMENT PROGRAM  
PO BOX 5810  
DENVER, CO 80217

ANNA LOU HOME  
109 S MCCADDAN PL  
LOS ANGELES, CA 90004

LUCILLE PIPKIN  
P O BOX 1174  
ROSWELL, NM 88202

FORREST GELBKE AND JUNE GELBKE  
12205 HEMLOCK DRIVE  
AUBURN, CA 95603

ROBERTA JUNE DENOON THOMA EST CARL R DENOON  
C/O DOROTHY E DENOON  
RT 1 BOX 56  
DESOTO, GA 31743

TERESA HOME  
20321 CELTIC  
CHATSWORTH, CA 91311

DAVID WILLIAM WALTERS  
17761 ROCKHURST ROAD  
CASTRO VALLEY, CA 94546

ANN HOME EMMERSON TR  
1495 SW CLIFTON  
PORTLAND, OR 97201

CHARLES ALBERT GREER AND NANCIE A GREER TRUSTEES  
221 PETROLEUM CENTER BLDG  
FARMINGTON, NM 87401

FIRST NATL BK & WILFRED B  
LANGMORE CO-TRUSTEES  
ELEANOR WETMORE ESTATE  
DEPT FL 0135 TREM AC#03073004  
PO BOX 2080  
JACKSONVILLE, FL 32231

WM M WESTERMAN PERSONAL R  
GUALTHERA WESTERMAN ESTATE  
3777 KENWICK TRL SW  
ROANOKE, VA 24018

CORINNE ROY KELLY INDVDLY & AS EXECUTOR OF  
THE ESTATE OF FRANK S KELLY  
44 TEALWOOD  
SHREVEPORT, LA 71104

HUFFAKER GREEN AND HUFFAK  
P O BOX 419  
TAHOKA, TX 79373

NATIONSBANK OF TX NA TRUST  
EULA MAY JOHNSTON TR 661  
TRUST OIL & GAS SECTION  
PO DRAWER 848703  
DALLAS, TX 75284

LA PLATA GATHERING SYSTEM  
ONE ENERGY SQUARE 852  
4925 GREENVILLE AVENUE  
DALLAS, TX 75206

AMERITRUST TEXAS NA TRUST  
MARY FRANCES TURNER JR TR 6743  
PO BOX 951412  
DALLAS, TX 75395

FIRST CITY TEXAS MIDLAND  
TRUSTEE ACCT #99-0799-00  
PO BOX 10966  
MIDLAND, TX 79702

K PREWITT & M CHESSER TRU  
V A JOHNSTON FAMILY TRUST  
PO BOX 925  
RALLS, TX 79357

SHOSS LEVINE TRUSTS 8146  
8152 8153 B LIPSHEY & D SHOSS  
TRSTES U/W MORRIS LEVINE  
1445 ROSS AVE STE 2600 LB 201  
DALLAS, TX 75202

SHOSS LEVINE TRUSTS 8149  
8151 BRUCE A LIPSHEY & DAVID  
SHOSS TRSTES U/W MORRIS LEVINE  
5439 CASTLEWOOD ROAD  
DALLAS, TX 75229

FIRST CITY TEXAS MIDLAND  
U/W/O ROZELLE B CLEVELAND  
ACCOUNT #20-0763-00  
PO BOX 10966  
MIDLAND, TX 79702

MONTEZ JOHNSON TRUSTEE  
U/W OF LEAH B DOWNEY DECD  
P O BOX 225  
MIDLAND, TX 79702

DANIEL ALAGNA  
67 52 179TH ST  
FLUSHING, NY 11365

AMOCO PRODUCTION COMPANY  
PO BOX 841521  
DALLAS, TX 75284

ROGERS GIBBARD TRUST  
C/O SUSAN ROGERS EVELAND  
8608 HIDDEN MEADOW DR  
FORT WORTH, TX 76179

ROBERT BEAMON TRUSTEE  
THREE RIVERWAY STE 470  
HOUSTON, TX 77056

MATAGORDA OIL COMPANY  
C/O TEXAS COMMERCE BANK  
TR MINERALS SEC 59677 01  
PO BOX 200555  
HOUSTON, TX 77216

MARALO INC  
PO BOX 2923  
HOUSTON, TX 77252

MELCONE CORPORATION  
C/O MELVIN S COHN  
5847 SAN FELIPE STE 1700  
HOUSTON, TX 77057

GLOBAL NATURAL RESOURCES  
CORPORATION OF NEVADA  
PO BOX 200888  
HOUSTON, TX 77216

TOM L HAIL TR  
1201 LOUISIANA, SUITE 3428  
HOUSTON, TX 77002

ELIZABETH H LUND TRUSTEE  
MABELLE HARDIE ROYALTY TRUST  
1065 LOS JARDINES  
EL PASO, TX 79912

BEN R HOWELL ESTATE  
TEXAS COMMERCE BANK TRUSTEE OF  
THE BEN R HOWELL TRUST ET UX  
PO BOX 722  
EL PASO, TX 79944

ROBERT MURRAY FASKEN EXEC  
TRUSTEE U/W/O ANDREW FASKEN  
500 W TEXAS STE 1160  
MIDLAND, TX 79701

FIRST CITY TEXAS - MIDLAND  
EXECUTOR & TRUSTEE U/W/O  
REESE CLEVELAND DECEASED  
ACCT 99-1100-00  
PO BOX 10966  
MIDLAND, TX 79702

BENSON MONTIN GREER DRILLING CORP  
221 PETROLEUM CENTER BLDG  
FARMINGTON, NM 87401

HANSON MCBRIDE PETROLEUM  
PO BOX 1515  
ROSWELL, NM 88201

STATE OF NEW MEXICO  
PO BOX 1148  
SANTA FE, NM 87501

PWG PARTNERSHIP  
PO BOX 451  
ALBUQUERQUE, NM 87103

MCCONNELL TRUST,  
C/O SUNWEST BANK SUCC TRUSTEE  
ATTN TRUST DEPT  
PO BOX 26900  
ALBUQUERQUE, NM 87125

EVKO DEVELOPMENT COMPANY  
4710 CABRILLO ST  
SAN FRANCISCO, CA 94121

UNION OIL CO OF CALIF  
ATTN REVENUE ACCTG  
PO BOX 9702135  
DALLAS, TX 75397

CASSANDRA KEYSER  
7170 ISABELLE CT  
WINDSOR, ON N8S

JAMES MONTAGUE FARLEY & ANNE MAY COLWILL  
CO-EXEC OF CHARLES W COLWILL ESTATE  
SUITE 302 - 345 CHURCH ST  
OAKVILLE, ON L6J

JAMES LISLE HINKLE  
P O BOX 2002  
ROSWELL, NM 88201

BETTIANNE HINKLE BOWEN  
1902 IVANHOE LANE  
ABILENE, TX 79605

AMOCO PRODUCTION COMPANY  
A/C CONOCO INC  
PO BOX 841521  
DALLAS, TX 75284

CHARLES E HINKLE  
LONOAK RT BOX 4  
KING CITY, CA 93930

CYNTHIA HINKLE TRUSTEE OF,  
HERSELF KRISTIN HINKLE AND JENNA HINKLE  
ROUTE 3 BOX 519  
CARMEL, CA 93923

JULIE LEVINE MULLEN  
4747 EMORY  
EL PASO, TX 79922

BARRON PROPERTIES I.TD,  
C/O FIRST CITY TX MIDLAND NA,  
ACCOUNT #50 1079 0  
PO BOX 10966  
MIDLAND, TX 79702

JOHN T HINKLE  
P O BOX 1793  
ROSWELL, NM 88201

LILLIAN T HINKLE  
P O BOX 2002  
ROSWELL, NM 88201

SHELIA MARIE LEVINE TRUST,  
NCNB TEXAS NAT BANK  
A/C BRUCE LIPSHEY & DAVID SHOSS TRUSTEES,  
TRUST OIL & GAS DEPT  
PO BOX 852029  
DALLAS, TX 75285

PRUDENTIAL BACHE ENERGY I,  
PRODUCTION PARTNERSHIP IIP-10,  
C/O GRAHAM ROYALTY LTD  
P O BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY I,  
PRODUCTION PARTNERSHIP II P-11,  
P O BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY I,  
PRODUCTION PARTNERSHIP III P-12,  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY I,  
PRODUCTION PARTNERSHIP IIP-13,  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY I,  
PRODUCTION PARTNERSHIP IIP-14,  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY I,  
PRODUCTION PARTNERSHIP IIP-15,  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY I,  
LIMITED PARTNERSHIP IV P-16,  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY I,  
LIMITED PARTNERSHIP IV P-17,  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY PRODUCTION INC,  
PO BOX 840300  
DALLAS, TX 75284

JANE HARDIE TRUSTEE,  
WILLIAM B HARDIE SR ROYALTY TR,  
1065 LOS JARDINES  
EL PASO, TX 79912

VIRGINIA SIMMONS  
P O BOX 270  
MEXIA, TX 76667

JUDY WINDLE  
1258 PINECREST AVE  
CHARLOTTE, NC 28205

JANE WINDLE  
202 BERLIN ST  
MONTPELIER, VT 5602

GERALD FITZGERALD JR TRUS,  
GERALD FITZGERALD JR TRUST  
9125 EVANGELINE NE  
ALBUQUERQUE, NM 87111

PRIME ENERGY CORPORATION  
PO BOX 160206  
SAN ANTONIO, TX 78280

DEOBRAH K SLAUGHTER TRUST  
A & D CHILDRENS TRUST  
963 RATCLIFF  
SHREVEPORT, LA 71104

LOWE PARTNERS LP  
PO BOX 2923  
HOUSTON, TX 77252

SANDRA CHAMBERS  
PO BOX 583  
SNYDER, TX 79549

FRANK A SCHULTZ TRUSTEE  
500 N AKARD ST STE 2160 LB-1  
DALLAS, TX 75201

MARYAN KLINGER TRUSTEE,  
MARYAN KLINGER TRUST  
4777 GROUSE RUN #140  
STOCKTON, CA 95207

JAMES ROBERT BEAMON TRUST  
THREE RIVERWAY STE 470  
HOUSTON, TX 77056

CATHRYN BEAMON  
446 SOUTHCHESTER  
HOUSTON, TX 77079

CLAUDIA MARCIA LUNDELL GI  
18 S CYPRESS PINE  
WOODLANDS, TX 77381

GEORGE GALERSTEIN TRUSTEE,  
OF FAMILY TRUST U/W/O, HARRY LIPSITY  
3817 VINECREST  
DALLAS, TX 75229

LINDA JEANNE LUNDELL LIND  
P O BOX 631565  
NACOGDOCHES, TX 75963

CAROLYN BEAMON TILLEY  
5225 PRESTON HAVEN  
DALLAS, TX 75229

SUNWEST BANK OF ALBUQUERQ  
AGENT FOR BARBARA BRUSS TRSTE ADAM BRUSS TRUST,  
C/O TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNWEST BANK OF ALBUQUERQ,  
AGENT FOR BARBARA BRUSS TRSTE,  
JON BRUSS TRUST,  
ATTN TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNWEST BANK OF ALBUQUERQ  
AGENT FOR BARBARA BRUSS TRSTE PETER BRUSS TRUST,  
ATTN TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNWEST BANK OF ALBUQUERQ,  
AGENT FOR BARBARA BRUSS TRSTE ERNEST BRUSS III TRUST  
ATTN TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

BALLARD EXPLORATION CO IN  
1021 MAIN ST STE 1705  
HOUSTON, TX 77002

HOWELL GRANDCHILDRENS TRU, ESTATE (5-38010),  
C/O TEXAS COMMERCE BANK NA,  
EL PASO TRUSTEE,  
P O BOX 722  
EL PASO, TX 79944

RICHARD PARKER LANGFORD  
1512 JERSEY DR  
AUSTIN, TX 78758

BEN HOWELL LANGFORD  
PO BOX 722  
EL PASO, TX 79944

MADOLINE HOWELL JASTRZEMB  
1106 MESITA  
EL PASO, TX 79902

JO ANN SCHMIDT,  
HER SOLE & SEPARATE PROPERTY  
6819 OAKLAWN WAY  
FAIR OAKS, CA 95628

JAMES R PAYNE & JEAN PAYN  
525 SIERRA DR SE  
ALBUQUERQUE, NM 87108

GEORGIA PETTIE IND EXECUT,  
INEZ PETTIE ESTATE  
PO BOX 92  
SLATEN, TX 79364

EMILY MONTEZE HAMILTON TR,  
J J HAMILTON & E MONTEZE,  
HAMILTON FAMILY TRUST 1988,  
C/O SUNWEST BK/ALBUQUERQUE NA  
PO BOX 26900  
ALBUQUERQUE , NM 87125

ROBERT WALTER LUNDELL  
1616 S VOSS #870  
HOUSTON, TX 77057

MERIDIAN OIL PRODUCTION  
801 CHERRY STREET  
FORT WORTH, TX 76102

EL PASO PRODUCTION CO  
P O BOX 910497  
DALLAS, TX 75391

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NEW YORK, NY 10022

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HARTSDALE, NY 10530

W BENTON HARRISON III  
561 S COUNTRY CLUB DR  
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52 FOSTER ST  
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3033 N VIA VISTA  
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BROOKLYN, NY 11234

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LAUDERHILL, FL 33319

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NANCI L FOX  
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SAYVILLE, NY 11782

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SUMMIT, NJ 07091

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TOTAL MINATOMI CORPORATION  
PO BOX 201769  
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ESTATE OF MYRON LIDELL DECD  
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NEW YORK, NY 10028

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C/O STEELE HECTOR DAVE  
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CRANBURY, NJ 08512

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35 BROAD ST APT 10  
FREEHOLD, NJ 07728

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916 CHERRY HILL LANE  
EL PASO, TX 79912

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JEFFREY N SILVERSTEIN GUARDIAN  
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BURKE, VA 22015

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JACKSONVILLE, FL 32225

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DANIEL D DUDEN TRUST B  
P O BOX 162481  
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ROBERT W DUDEN  
PO BOX 162481  
AUSTIN, TX 78716

TAMANACO OIL CORP  
P O BOX 13326  
ALBUQUERQUE, NM 87192

GUY A WEILL  
50 E 79TH ST (20A)  
NEW YORK, NY 10021

GUY A WEILL CUSTODIAN  
50 E 79TH ST #20A  
NEW YORK, NY 10021

E JEAN KEYSER  
C/O COOPERS & LYBRAND  
500 OUELLETTE AVE  
WINDSOR, ON N9A

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MEMPHIS, TN 38101

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MIDLAND, TX 79703

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HOUSTON, TX 77024

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11TH FLOOR  
TEXAS COMMERCE BANK BLDG  
EL PASO, TX 79901

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200 PATTERSON #614  
SAN ANTONIO, TX 78209

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A/K/A ROBERT E BEAMON III  
THREE RIVERWAY STE 470  
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ROBERT BEAMON  
C/O KLEIN BANK  
ATTN JOE NATION  
P O BOX 73249  
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CC NO 1034  
1616 S VOSS RD APT 870  
HOUSTON, TX 77057

PATTIE ANN BEAMON LUNDELL  
1616 S VOSS RD STE 870  
HOUSTON, TX 77057

MR OR MRS LOUIS FREED  
5716 OVER DOWNS DR  
DALLAS, TX 75230

JOHN A GRAMBLING  
916 CHERRY HILL LN  
EL PASO, TX 79912

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PRINCETON, NJ 08540

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6126 AVERILL WAY APT 110  
DALLAS, TX 75225

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MIDLAND, TX 79701

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OIL AND GAS INVESTMENTS  
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4925 GREENVILLE AVE  
DALLAS, TX 75206

FREDERICK EUGENE TURNER  
ONE ENERGY SQ STE 852  
4925 GREENVILLE AVE  
DALLAS, TX 75206

J GLENN TURNER JR, JGT ESTATE  
500 LTV CTR  
2001 ROSS AVE  
DALLAS, TX 75201

J GLENN TURNER JR  
500 LTV CTR  
2001 ROSS AVE  
DALLAS, TX 75201

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CALLOWAY SEPARATE PROPRTY  
4801 ST JOHNS DR  
DALLAS, TX 75205

ELIZABETH JEANNE T CALLOWAY  
AS HER SEPARATE PROPERTY  
JGT ESTATE  
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BOX 2097  
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ETOILE POSTELLE  
823 S WATER ST #2B  
CORPUS CHRISTI, TX 78401

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PO BOX 797215  
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CHESTER E THOMPSON JR  
5202 CENTRAL S W  
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AND BARBARA WILLIAMS  
38-642 WISTERIA DRIVE  
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DONEVA J HUNTINGTON  
7080 COUNTRY ROAD 120  
HESPERUS, CO 81326

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C/O R B NIELSEN & ASSOCIATES  
6424 BELTON RD STE 100  
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ALBERT R GREER  
221 PETROLEUM CENTER BLDG  
FARMINGTON, NM 87401

KATHLEEN EARNEST RIOS TR ROBERT P EARNEST  
AND ANNA DOKUS EARNEST DECLARATION  
OF TRUST DTD 5 4 79  
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SAN DIEGO, CA 92109

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C/O R B NIELSEN & ASSOCIATES  
6424 BELTON RD #100  
EL PASO, TX 79912

HERBERT R BRIGGS  
C/O R B NIELSEN & ASSOCIATES  
6424 BELTON STE 100  
EL PASO, TX 79913

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ALBUQUERQUE, NM 87109

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MIDLAND, TX 79705

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PO BOX 26900  
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1901 RANCH DR  
FARMINGTON, NM 87401

FAY GREER TRUST  
2816 KENTUCKY NE  
ALBUQUERQUE, NM 87110

ROGER B NIELSEN  
6424 BELTON STE 100  
EL PASO, TX 79912

CAROLYN NIELSEN SEDBERRY  
C/O R B NIELSEN & ASSOCIATES  
6424 BELTON STE 100  
EL PASO, TX 79912

UNITED NEW MEXICO TRUST CO TRT  
U/W FOSTER MORRELL DECD  
P O BOX 5614  
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JOHN WIDNEY LODEWICK  
3305 WENTWOOD  
DALLAS, TX 75225

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AGENT FOR C FRED LUTHY JR  
PO BOX 26900  
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ELIZABETH GALT CURRIER ESTATE  
RODMAN GRISCOM & MADELINE  
MOORE CO PERS REP  
C/O MADELINE MOORE  
P O BOX 77732  
TUCSON, AZ 85703

MINERALS MANAGEMENT SERVICE  
ROYALTY MANAGEMENT PROGRAM  
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DENVER, CO 80217

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LOS ANGELES, CA 90004

LUCILLE PIPKIN  
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FORREST GELBKE  
AND JUNE GELBKE  
12205 HEMLOCK DRIVE  
AUBURN, CA 95603

JACK GREENLY  
P O BOX 1629  
ORANGE, CA 92668

ROBERTA JUNE DENOON THOMAS EX  
EST CARL R DENOON  
C/O DOROTHY E DENOON  
RT 1 BOX 56  
DESOTO, GA 31743

TERESA HOME  
20321 CELTIC  
CHATSWORTH, CA 91311

DAVID WILLIAM WALTERS  
17761 ROCKHURST ROAD  
CASTRO VALLEY, CA 94546

ANN HOME EMMERSON TR  
1495 SW CLIFTON  
PORTLAND, OR 97201

CHARLES ALBERT GREER AND  
NANCIE A GREER TRUSTEES  
221 PETROLEUM CENTER BLDG  
FARMINGTON, NM 87401

SUNWEST BANK OF ALBUQUERQUE  
AGENT FOR CYRENE F MAPEL  
TRUST DIVISION  
PO BOX 26900  
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CHERYL L POTENZIANI  
PO BOX 36600 STATION D  
ALBUQUERQUE, NM 87176

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MIDLAND, TX 79703

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AGENT FOR CYRENE L INMAN  
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DORIS F FAMBRO  
#2 SURREY LANE  
BRECKENRIDGE, TX 76424

FIRST NATL BK & WILFRED B  
LANGMORE CO-TRUSTEES  
ELEANOR WETMORE ESTATE  
DEPT FL 0135 TREM AC#03073004  
PO BOX 2080  
JACKSONVILLE, FL 32231

WM M WESTERMAN PERSONAL REP  
GUALTHERA WESTERMAN ESTATE  
3777 KENWICK TRL SW  
ROANOKE, VA 24018

CORINNE ROY KELLY INDVDLY  
& AS EXECUTOR OF THE ESTATE OF  
FRANK S KELLY  
44 TEALWOOD  
SHREVEPORT, LA 71104

DANIEL ALAGNA  
67 52 179TH ST  
FLUSHING, NY 11365

AMOCO PRODUCTION COMPANY  
PO BOX 841521  
DALLAS, TX 75284

ROGERS GIBBARD TRUST  
C/O SUSAN ROGERS EVELAND  
8608 HIDDEN MEADOW DR  
FORT WORTH, TX 76179

ROBERT BEAMON TRUSTEE  
THREE RIVERWAY STE 470  
HOUSTON, TX 77056

MATAGORDA OIL COMPANY  
C/O TEXAS COMMERCE BANK  
TR MINERALS SEC 59677 01  
PO BOX 200555  
HOUSTON, TX 77216

MARALO INC  
PO BOX 2923  
HOUSTON, TX 77252

MELCONE CORPORATION  
C/O MELVIN S COHN  
5847 SAN FELIPE STE 1700  
HOUSTON, TX 77057

GLOBAL NATURAL RESOURCES  
CORPORATION OF NEVADA  
PO BOX 200888  
HOUSTON, TX 77216

TOM L HAIL TR  
1201 LOUISIANA  
SUITE 3428  
HOUSTON, TX 77002

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MABELLE HARDIE ROYALTY TRUST  
1065 LOS JARDINES  
EL PASO, TX 79912

BEN R HOWELL ESTATE  
TEXAS COMMERCE BANK TRUSTEE OF  
THE BEN R HOWELL TRUST ET UX  
PO BOX 722  
EL PASO, TX 79944

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TRUSTEE U/W/O ANDREW FASKEN  
500 W TEXAS STE 1160  
MIDLAND, TX 79701

HUFFAKER GREEN AND HUFFAKER  
P O BOX 419  
TAHOKA, TX 79373

NATIONSBANK OF TX NA TRUSTEE  
EULA MAY JOHNSTON TR 661  
TRUST OIL & GAS SECTION  
PO DRAWER 848703  
DALLAS, TX 75284

LA PLATA GATHERING SYSTEM INC  
ONE ENERGY SQUARE 852  
4925 GREENVILLE AVENUE  
DALLAS, TX 75206

AMERITRUST TEXAS NA TRUSTEE  
MARY FRANCES TURNER JR TR 6743  
PO BOX 951412  
DALLAS, TX 75395

FIRST CITY TEXAS MIDLAND NA  
TRUSTEE ACCT #99-0799-00  
PO BOX 10966  
MIDLAND, TX 79702

K PREWITT & M CHESSER TRUSTEES  
V A JOHNSTON FAMILY TRUST  
PO BOX 925  
DALLAS, TX 79357

SHOSS LEVINE TRUSTS 8146 8148  
8152 8153 B LIPSHEY & D SHOSS  
TRSTES U/W MORRIS LEVINE  
1445 ROSS AVE STE 2600 LB 201  
DALLAS, TX 75202

SHOSS LEVINE TRUSTS 8149 8150  
8151 BRUCE A LIPSHEY & DAVID  
SHOSS TRSTES U/W MORRIS LEVINE  
5439 CASTLEWOOD ROAD  
DALLAS, TX 75229

FIRST CITY TEXAS MIDLAND NA  
U/W/O ROZELLE B CLEVELAND  
ACCOUNT #20-0763-00  
PO BOX 10966  
MIDLAND, TX 79702

MONTEZ JOHNSON TRUSTEE  
U/W OF LEAH B DOWNEY DECD  
P O BOX 225  
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ADMINISTRATOR ESTATE OF  
FRANCES ADAMS LANGMORE  
KERRIGAN  
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EXECUTOR & TRUSTEE U/W/O  
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ACCT 99-1100-00  
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EVERGREEN RESOURCES INC  
1512 LARIMER ST  
1000 WRITER SQUARE  
DENVER, CO 80202

BENSON MONTIN GREER  
DRILLING CORP  
221 PETROLEUM CENTER BLDG  
FARMINGTON, NM 87401

DUGAN PRODUCTION CORPORATION  
P O BOX 420  
FARMINGTON, NM 87499

ELLIOTT OIL COMPANY  
BOX 1355  
ROSWELL, NM 88201

POTENZIANI FAMILY PTSP  
C/O FRANK POTENZIANI  
PO BOX 36600 STATION D  
ALBUQUERQUE, NM 87176

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TOM & TOMMY BOLACK  
GENERAL PARTNERS  
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FARMINGTON, NM 87401

HANSON MCBRIDE PETROLEUM CO  
PO BOX 1515  
ROSWELL, NM 88201

STATE OF NEW MEXICO  
PO BOX 1148  
SANTA FE, NM 87501

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KING RIDDLE II TRUST  
P O BOX 13326  
ALBUQUERQUE, NM 87192

PWG PARTNERSHIP  
PO BOX 451  
ALBUQUERQUE, NM 87103

UNITED NEW MEXICO TRUST CO TRT  
EDNA E MORRELL LIVG TRUST  
P O BOX 5614  
HOBBS, NM 88241

MCCONNELL TRUST  
C/O SUNWEST BANK SUCC TRUSTEE  
ATTN TRUST DEPT  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNLAND REFINING CORP  
P O BOX 1345  
BAKERSFIELD, CA 93302

EVKO DEVELOPMENT COMPANY  
4710 CABRILLO ST  
SAN FRANCISCO, CA 94121

UNION OIL CO OF CALIF  
ATTN REVENUE ACCTG  
PO BOX 9702135  
DALLAS, TX 75397

CASSANDRA KEYSER  
7170 ISABELLE CT  
WINDSOR, ON N8S

JAMES MONTAGUE FARLEY &  
ANNE MAY COLWILL CO-EXEC  
OF CHARLES W COLWILL ESTATE  
SUITE 302 - 345 CHURCH ST  
OAKVILLE, ON L6J

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BETTIANNE HINKLE BOWEN  
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A/C NAVAJO AGENCY ALLOTTED  
ROYALTY MANAGEMENT PROGRAM  
P O BOX 5810  
DENVER, CO 80217

JUNE ELAINE MACDONALD  
1219 LEXINGTON DR  
VISTA, CA 92084

EDNA IONE HALL SOLE TRUSTEE  
OF THE EDNA IONE HALL TRUST  
C/O ELLIOTT OIL COMPANY  
BOX 1355  
ROSWELL, NM 88201

WILLIAM FREDERICK JEFFS JR  
RT 1 BOX 20  
GORMAN, TX 76454

AMOCO PRODUCTION COMPANY  
A/C CONOCO INC  
PO BOX 841521  
DALLAS, TX 75284

F A CRONICAN JR & P B CRONICAN  
TRUSTEES F A CRONICAN SR & H B  
CRONICAN TRUST  
C/O R B NEILSEN & ASSOCIATES  
6424 BELTON STE 100  
EL PASO, TX 79912

FRANK O ELLIOTT TRUSTEE OF  
THE FRANK O ELLIOTT LIVING TR  
P O BOX 1355  
ROSWELL, NM 88201

CHARLES E HINKLE  
LONOAK RT BOX 4  
KING CITY, CA 93930

CYNTHIA HINKLE TRUSTEE FOR  
HERSELF KRISTIN HINKLE AND  
JENNA HINKLE  
ROUTE 3 BOX 519  
CARMEL, CA 93923

JULIE LEVINE MULLEN  
4747 EMORY  
EL PASO, TX 79922

BARRON PROPERTIES LTD  
C/O FIRST CITY TX MIDLAND NA  
ACCOUNT #50 1079 0  
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MIDLAND, TX 79702

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P O BOX 1793  
ROSWELL, NM 88201

LILLIAN T HINKLE  
P O BOX 2002  
ROSWELL, NM 88201

SHELJA MARIE LEVINE TRUST 8151  
NCNB TEXAS NAT BANK A/C BRUCE  
LIPSHEY & DAVID SHOSS TRUSTEES  
TRUST OIL & GAS DEPT  
PO BOX 852029  
DALLAS, TX 75285

PRUDENTIAL BACHE ENERGY INCOME  
PRODUCTION PARTNERSHIP IIP-10  
C/O GRAHAM ROYALTY LTD  
P O BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY INCOME  
PRODUCTION PARTNERSHIP II P-11  
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DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY INCOME  
PRODUCTION PARTNERSHIP IIP-12  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY INCOME  
PRODUCTION PARTNERSHIP IIP-13  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY INCOME  
PRODUCTION PARTNERSHIP IIP-14  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY INCOME  
PRODUCTION PARTNERSHIP IIP-15  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY INCOME  
LIMITED PARTNERSHIP IV P-16  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY INCOME  
LIMITED PARTNERSHIP IV P-17  
PO BOX 840300  
DALLAS, TX 75284

PRUDENTIAL BACHE ENERGY  
PRODUCTION INC  
PO BOX 840300  
DALLAS, TX 75284

HENRY B KRAUSE  
1405 S MOUNTAIN VIEW RD  
CASTLE ROCK, CO 80104

JANE HARDIE TRUSTEE  
WILLIAM B HARDIE SR ROYALTY TR  
1065 LOS JARDINES  
EL PASO, TX 79912

VIRGINIA SIMMONS  
P O BOX 270  
MEXIA, TX 76667

JUDY WINDLE  
1258 PINECREST AVE  
CHARLOTTE, NC 28205

JANE WINDLE  
202 BERLIN ST  
MONTPELIER, VT 05602

GERALD FITZGERALD JR TRUSTEE  
GERALD FITZGERALD JR TRUST  
9125 EVANGELINE NE  
ALBUQUERQUE, NM 87111

PRIME ENERGY CORPORATION  
PO BOX 160206  
SAN ANTONIO, TX 78280

DEOBRAH K SLAUGHTER TRUSTEE  
A & D CHILDRENS TRUST  
963 RATCLIFF  
SHREVEPORT, LA 71104

LOWE PARTNERS LP  
PO BOX 2923  
HOUSTON, TX 77252

DIANNE CLEES & HOMER N CLEES  
JOINT TENANTS  
PO BOX 236  
ALTON, NM 88312

SANDRA CHAMBERS  
PO BOX 583  
SNYDER, TX 79549

LAURA DICHTER  
2324 DAHLIA ST  
DENVER, CO 80207

MARK S SEXTON  
C/O EVERGREEN PROPERTIES  
1000 WRITER SQUARE  
1512 LARIMER ST  
DENVER, CO 80202

JAMES C RYAN JR  
PO BOX 2485  
GREENVILLE, SC 29602

JOHN J RYAN III  
CHERYL F LAWSON AIF  
PO BOX 10221  
GREENVILLE, SC 29603

LARRY D ESTRIDGE  
PO BOX 728  
GREENVILLE, SC 29602

TIMOTHY G COREY  
PO BOX 2485  
GREENVILLE, SC 29602

CARYL C CLOVER  
PO BOX 2485  
GREENVILLE, SC 29602

SAN JUAN 1990-A LP  
C/O AMERITRUST PETROLEUM CORP  
PO BOX 951424  
DALLAS, TX 75395

FRANK A SCHULTZ TRUSTEE  
500 N AKARD ST STE 2160 LB-1  
DALLAS, TX 75201

MARYAN KLINGER TRUSTEE  
MARYAN KLINGER TRUST  
4777 GROUSE RUN #140  
STOCKTON, CA 95207

JAMES ROBERT BEAMON TRUSTEE  
THREE RIVERWAY STE 470  
HOUSTON, TX 77056

CATHRYN BEAMON  
446 SOUTHCHESTER  
HOUSTON, TX 77079

CLAUDIA MARCIA LUNDELL GILMER  
18 S CYPRESS PINE  
WOODLANDS, TX 77381

GEORGE GALERSTEIN TRUSTEE  
OF FAMILY TRUST U/W/O  
HARRY LIPSHY  
3817 VINECREST  
DALLAS, TX 75229

LINDA JEANNE LUNDELL LINDSEY  
P O BOX 631565  
NACOGDOCHES, TX 75963

SUNWEST BANK OF ALBUQUERQUE NA  
AGENT FOR MARCIA BERGER  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNWEST BANK OF ALBUQUERQUE NA  
AGENT FOR WWR ENTERPRISES INC  
PO BOX 26900  
ALBUQUERQUE, NM 87125

CAROLYN BEAMON TILLEY  
5225 PRESTON HAVEN  
DALLAS, TX 75229

SUNWEST BANK OF ALBUQUERQUE NA  
AGENT FOR BARBARA BRUSS TRSTE  
ADAM BRUSS TRUST  
C/O TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNWEST BANK OF ALBUQUERQUE NA  
AGENT FOR BARBARA BRUSS TRSTE  
JON BRUSS TRUST  
ATTN TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNWEST BANK OF ALBUQUERQUE NA  
AGENT FOR BARBARA BRUSS TRSTE  
PETER BRUSS TRUST  
ATTN TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SUNWEST BANK OF ALBUQUERQUE NA  
AGENT FOR BARBARA BRUSS TRSTE  
ERNEST BRUSS III TRUST  
ATTN TRUST DIVISION  
PO BOX 26900  
ALBUQUERQUE, NM 87125

SOUTHERN NATL BANK OF HOUSTON  
C/O TEXAS STATE TREASURY  
UNCLAIMED PROPERTY DIV  
PO BOX 12608 CAPITOL STATION  
AUSTIN, TX 78711

BALLARD EXPLORATION CO INC  
1021 MAIN ST STE 1705  
HOUSTON, TX 77002

HOWELL GRANDCHILDRENS TRUST  
ESTATE (5-38010)  
C/O TEXAS COMMERCE BANK NA  
EL PASO TRUSTEE  
P O BOX 722  
EL PASO, TX 79944

RICHARD PARKER LANGFORD  
1512 JERSEY DR  
AUSTIN, TX 78758

BEN HOWELL LANGFORD  
PO BOX 722  
EL PASO, TX 79944

MADOLINE HOWELL JASTRZEMBSKI  
1106 MESITA  
EL PASO, TX 79902

JO ANN SCHMIDT  
HER SOLE & SEPARATE PROPERTY  
6819 OAKLAWN WAY  
FAIR OAKS, CA 95628

JAMES R PAYNE & JEAN PAYNE  
525 SIERRA DR SE  
ALBUQUERQUE, NM 87108

GEORGIA PETTIE IND EXECUTOR  
INEZ PETTIE ESTATE  
PO BOX 92  
SLATEN, TX 79364

EMILY MONTEZE HAMILTON TRUSTEE  
J J HAMILTON & E MONTEZE  
HAMILTON FAMILY TRUST 1988  
C/O SUNWEST BK/ALBUQUERQUE NA  
PO BOX 26900  
ALBUQUERQUE, NM 87125

ROBERT WALTER LUNDELL  
1616 S VOSS #870  
HOUSTON, TX 77057

MERIDIAN OIL PRODUCTION  
801 CHERRY STREET  
FORT WORTH, TX 76102

EL PASO PRODUCTION CO  
P O BOX 910497  
DALLAS, TX 75391