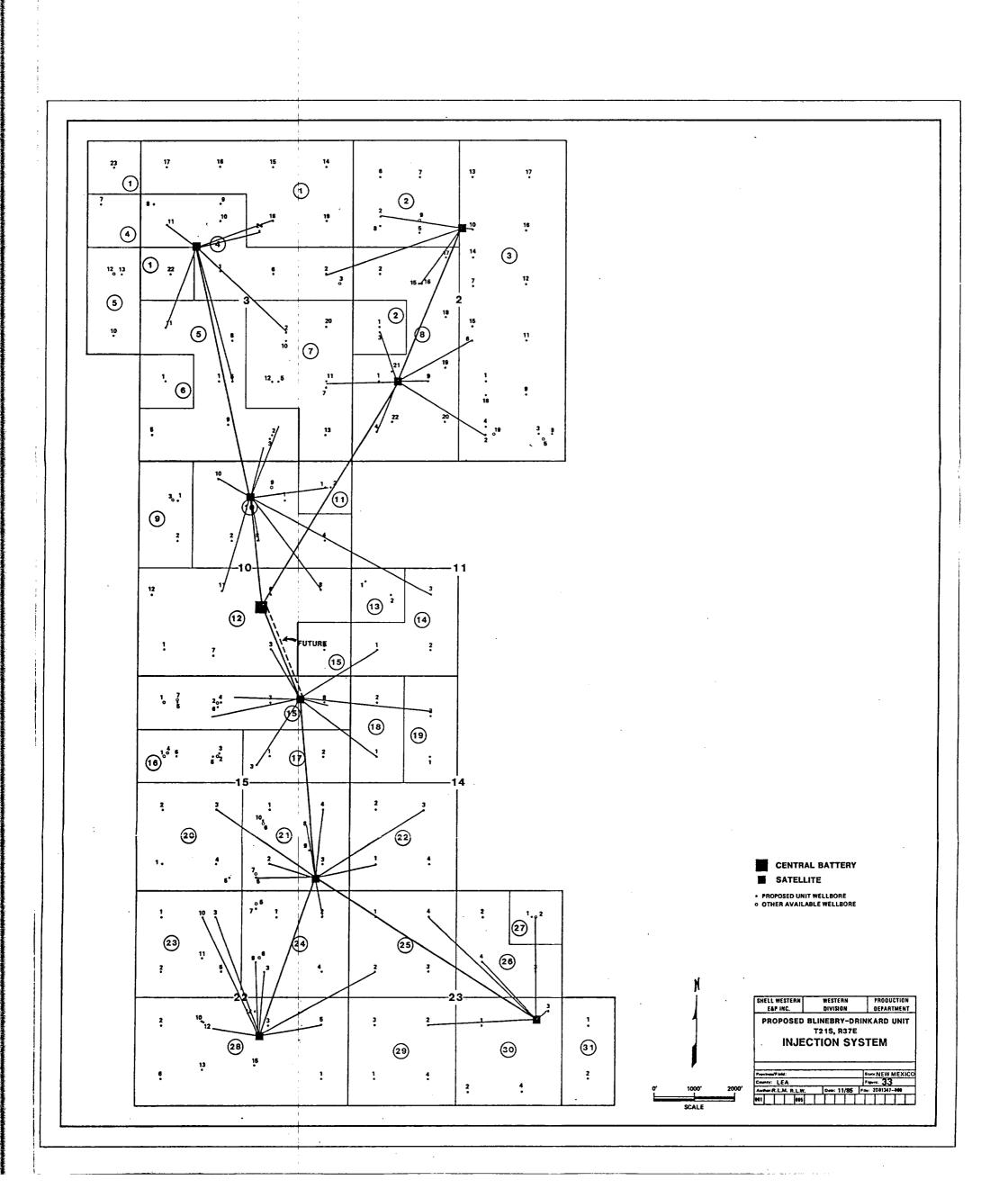
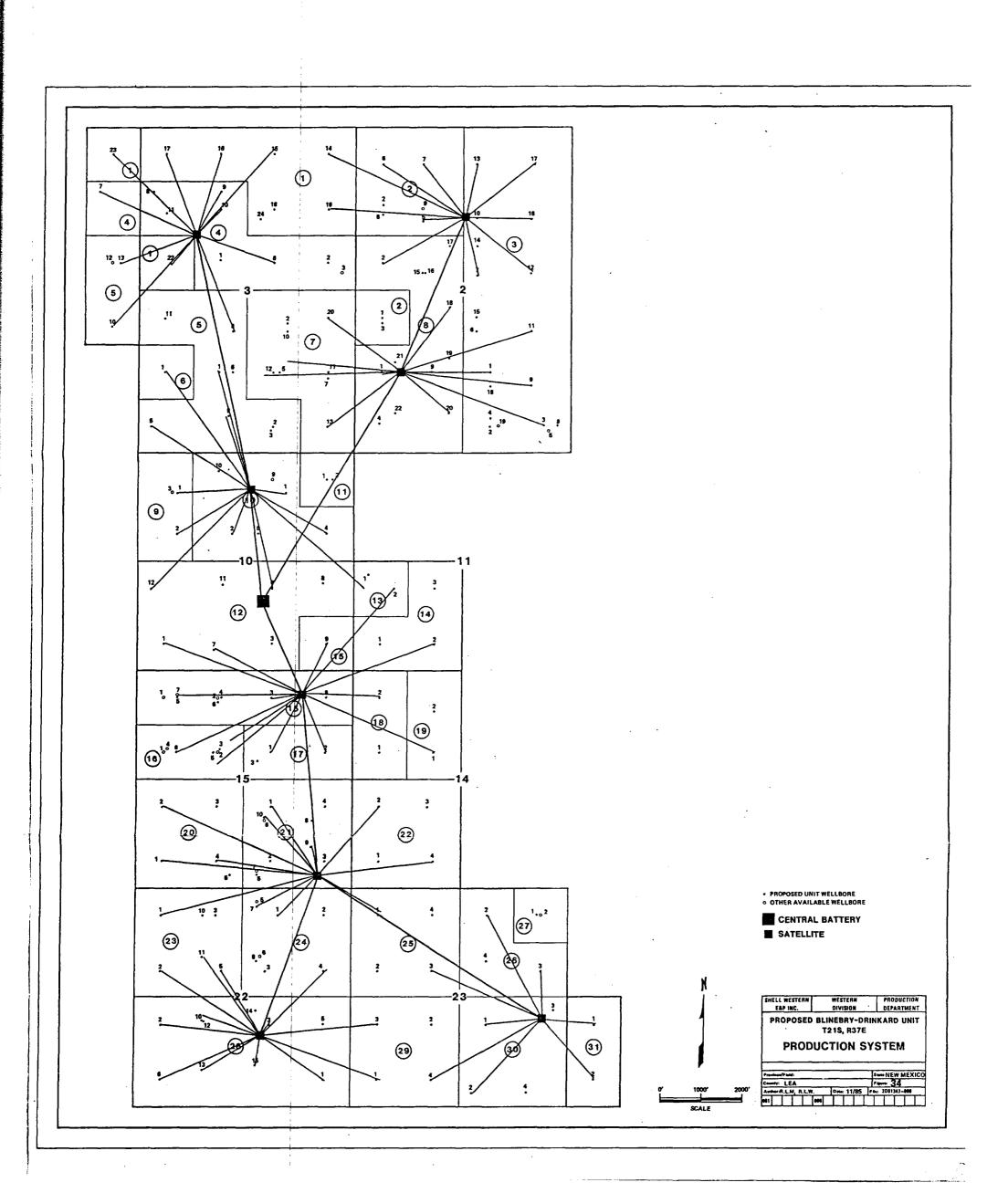
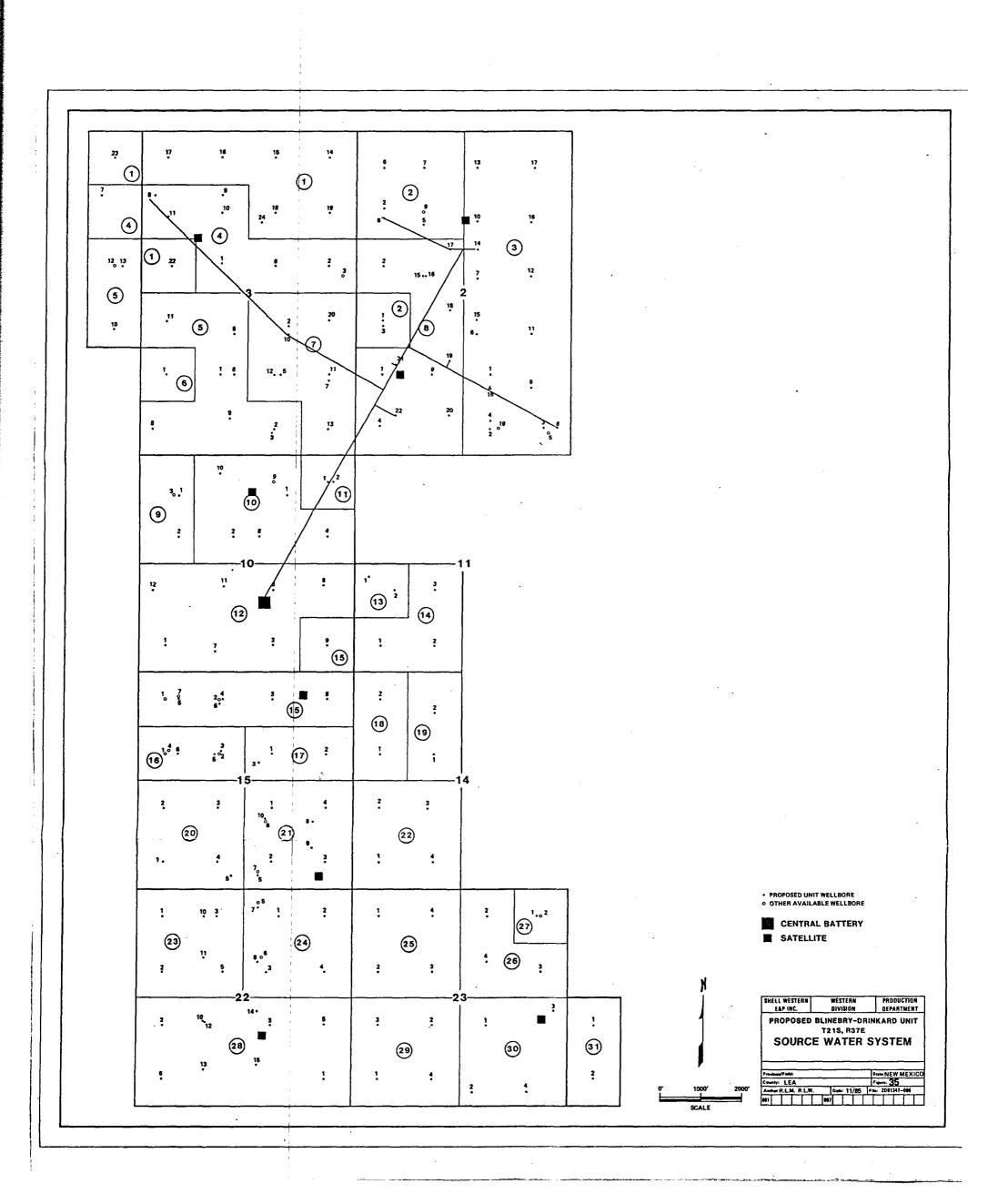


FIGURE 32 TYPICAL DUAL INJECTION WELLHEAD ASSEMBLY PROPOSED BLINEBRY/DRINKARD UNIT







NORTHEAST DRINKARD UNIT PROPOSED UNIT GAS WELLS

Well	Unit Well Designation	Location (All T21S-R37E)
SWEPI Taylor Glenn #9	107	Sec 3, 1585' FNL, 1980' FWL
Meridian St. Sec 2 #8	116	Sec 2, 5790' FSL, 660' FWL
SWEPI Livingston #12	201	Sec 4, 4520' FSL, 660' FEL
Meridian St. Sec 2 #3	215	Sec 2, 3175' FSL, 660' FWL
SWEPI St. Sec 2 #15	216	Sec 2, 3546' FNL, 1650' FWL
Conoco Hawk B-3 #12	305	Sec 3, 1980' FSL, 1980' FEL
Conoco Hawk B-10 #2	404	Sec 10, 1980' FNL, 2310' FWL
Conoco Hawk B-10 #9	405	Sec 10, 660' FNL, 1980' FEL
Meridian Dauron #2	409	Sec 10, 660' FNL, 525' FEL
Meridian Gatman #2	510	Sec 11, 1980' FSL, 990' FWL
Cities Service St. S #1	602	Sec 15, 1980' FNL, 660' FWL
Cities Service St. S #5	608	Sec 15, 1980' FNL, 1880' FWL
SWEPI St. Sec 15 #1	611	Sec 15, 1980' FNL, 1978' FEL
SWEPI Argo #5	705	Sec 15, 330' FSL, 2310' FWL
Marathon Warlick C #1	706	Sec 15, 1980' FSL, 1980' FEL
Marathon Warlick C #9	710	Sec 15, 990' FSL, 990' FEL
SWEPI Argo A #11	804	Sec 22, 1650' FNL, 1650' FWL
SWEPI Turner #10	902	Sec 22, 2080' FSL, 1650' FWL
SWEPI Turner #14	906	Sec 22, 2310' FSL, 2310' FEL
SWEPI Sarkeys #2	913	Sec 23, 1980' FSL, 1980' FWL

Cullmin ORZINALS

Northeast Drinkard Unit Exhibit Twenty-Eight Cases 9230 9231 9232

NORTHEAST DRINKARD UNIT

PROPOSED UNIT INJECTION WELLS

Well	Unit Well Designation	Location (All T21S-R37E)									
SWEPI Taylor Glenn #11	105	Sec 3, 2080' FNL, 660' FWL									
Conoco Hawk B-3 #15	109	Sec 3, 660' FNL, 1980' FEL									
Conoco Hawk B-3 #24	111	Sec 3, 2232' FNL, 2310' FEL									
Meridian St. Sec 2 #6	114	Sec 2, 906" FNL, 660' FWL									
Meridian St. Sec 2 #2	115	Sec 2, 1896' FNL, 660' FWL									
Chevron Leonard #10	121	Sec 2, 2220' FNL, 2307' FEL									
SWEPI Livingston #11	205	Sec 3, 660' FWL, 3300' FSL									
SWEPI Taylor Glenn #1	206	Sec 3, 3226' FNL, 1980' FWL									
Conoco Hawk B-3 #2	209	Sec 3, 3150' FSL, 1650' FEL									
SWEPI Taylor Glenn #2	211	Sec 3, 4620' FSL, 660' FEL									
Meridian St Sec 2 #1	214	Sec 2, 3300' FSL, 660' FWL									
SWEPI St Sec 2 #16	218	Sec 2, 3546' FNL, 1700' FWL									
Chevron Leonard #6	221	Sec 2, 2983' FSL, 2317' FEL									
SWEPI Livingston #1	303	Sec 3, 1980' FSL, 1980' FWL									
SWEPI Livingston #2	307	Sec 3, 660' FSL, 1980' FEL									
Conoco Hawk B-3 #7	309	Sec 3, 1830' FSL, 660' FEL									
SWEPI St Sec 2 #9	315	Sec 2, 1980' FSL, 1880' FWL									
Conoco Hawk B-10 #10	403	Sec 10, 460' FNL, 1980' FWL									
Conoco Hawk B-10 #8	407	Sec 10, 1980' FNL, 2310' FEL									
Exxon NM V St #11	503	Sec 10, 2080' FSL, 2080' FWL									
Exxon NM V St #3	506	Sec 10, 660' FSL, 1980' FEL									
Conoco Nolan #1	511	Sec 11, 660' FWL, 660' FSL									
Texaco St S #6	605	Sec 15, 760' FNL, 1980' FWL									
SWEPI St Sec 15 #3	610	Sec 15, 2210' FNL, 2310' FEL									
Texaco St S #8	612	Sec 15, 660' FNL, 660' FEL									
Bravo Energy Eva Owen #1	615	Sec 14, 1980' FNL, 660' FWL									
SWEPI Argo #3	703	Sec 15, 1980' FSL, 1980' FWL									
Marathon Warlick #2	708	Sec 15, 660' FSL, 1980' FEL									
Marathon Warlick #4	709	Sec 15, 1980' FSL, 660' FEL									
SWEPI Argo A #3	803	Sec 22, 660' FNL, 1980' FWL									
Chevron Eubank #8	807	Sec 22, 1750' FNL, 2310' FEL									
Chevron Eubank #2	808	Sec 22, 660' FNL, 660' FEL									
Texaco Williamson #2	811	Sec 23, 1980' FNL, 660' FWL									
Arco Barton #4	815	Sec 23, 1750' FNL, 1980' FEL									
SWEPI Turner #12	904	Sec 22, 2065' FSL, 1700' FWL									
SWEPI Turner #5	909	Sec 22, 1980' FSL, 660' FEL									
Arco Sarkeys #1	915	Sec 23, 1980' FSL, 1980' FEL									

Northeast Drinkard Unit Exhibit Twenty-Nine Cases 9230 9231 9232

SPECIAL RULES AND REGULATIONS FOR THE NORTH EUNICE BLINEBRY-TUBB-DRINKARD OIL AND GAS POOL

RULE 1.

A standard gas proration unit in the North Eunice
Blinebry-Tubb-Drinkard Oil and Gas Pool shall be 160 acres.
RULE 2.

A standard oil proration unit in the North Eunice
Blinebry-Tubb-Drinkard Oil and Gas Pool shall be 40 acres.
RULE 3.

Acreage may be simultaneously dedicated to a gas well and an oil well in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool, thereby receiving separate oil and gas allowables.

RULE 4.

Any acreage within the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall not be assigned to a gas well proration unit if the acreage is: 1) located within 1320' of the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool boundary, and 2) such acreage is not contiguous to offset non-unit gas proration unit.

RULE 5.

Any well within the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool designated as a gas well shall be subject to the gas proration rules set forth in Commission Order No. R-8170, as amended for the Blinebry Oil and Gas Pool or Tubb Oil and Gas Pool or both as appropriate.

EXHIBIT "A"

Northeast Drinkard Unit Exhibit Thirty Cases 9230 9231

9232

The District Supervisor shall have authority to classify any well in the pool as a gas well or an oil well upon appropriate showing by the operator.

RULE 6.

An oil well in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be a well producing from the vertical and horizontal limits of the Pool and not classified as a gas well.

RULE 7.

The limiting Gas-Oil Ratio for oil wells in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be 6000 cubic feet of gas per barrel of oil.

RULE 8.

Commingling in the well bore of production from oil zones and gas zones in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool is prohibited.

RULE 9.

In submitting Form C-115 on gas wells producing from the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool, the operator shall estimate the condensate and gas volumes produced by each well in the Blinebry, Tubb, and Drinkard zones by using the ratios as reflected in the most recent tests submitted if separate metering equipment for each zone is not utilized.

SPECIAL RULES AND REGULATIONS - Page 2

RULE 10.

Oil wells in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall receive oil and casinghead gas allowables as provided in either Rule 701F.3 or Rules 503, 505 and 506 of the Division Rules and Regulations.

RULE 11.

An oil well in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool may be recompleted as a gas well in the Blinebry or Tubb formations provided the operator of such well makes application to and receives approval from the District Supervisor for such recompletion.

RULE 12.

All gas wells in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be subject to the same pool rules as would be applicable to gas wells completed in either or both the Blinebry Oil and Gas Pool and the Tubb Oil and Gas Pool; except that such gas wells shall not be subject to any provision in either set of pool rules relating to classification by gas-liquid hydrocarbon ratio, nor shall they be subject to any provision within such rules prohibiting multiple assignments of acreage, except as provided by Rule 4 above. To the extent applicable rules of either the Blinebry Oil and Gas Pool or the Tubb Oil and Gas Pool conflict with the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool rules, the latter shall control.

SPECIAL RULES AND REGULATIONS - Page 3

RULE 13.

Special Pool Rules and Regulations for the North Eunice
Blinebry-Tubb-Drinkard Oil and Gas Pool shall be applicable only
within the pool boundaries.

RULE 14.

Any expansion of the boundaries of the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be only upon application filed after notice under Rule 1207 and hearing.

[WPP:47]

ANALYSES OF OTHER WATERFLOOD ALTERNATIVES

- ALTERNATIVE 1 BUILD COMMON WATER INJECTION PLANT, BUT MAINTAIN SEPARATE BLINEBRY AND DRINKARD PRODUCTION.
 - O REQUIRES 52 ADDITIONAL WELLS
 BECAUSE DUAL PUMPING PRODUCERS
 NOT FEASIBLE.
 - O REQUIRES DUPLICATE PRODUCTION FACILITIES.
 - O PROFIT BEFORE FEDERAL INCOME TAX IS (\$20.4) MILLION.
- ALTERNATIVE 2 USE ALL EXISTING WELLS AND PRODUCTION FACILITIES TO WATERFLOOD BLINEBRY.
 - O PROFIT BEFORE FEDERAL INCOME TAX IS (\$9.8) MILLION.
 - O LOST PRIMARY AND SECONDARY DRINKARD/TUBB RESERVES.
- ALTERNATIVE 3 USE ALL EXISTING WELLS AND PRODUCTION FACILITIES TO WATERFLOOD DRINKARD.
 - O PROFIT BEFORE FEDERAL INCOME TAX IS (34.8) MILLION.
 - O LOST PRIMARY AND SECONDARY BLINEBRY/TUBB RESERVES.

Northeast Drinkard Unit Exhibit Nineteen Cases 9230

9231 9232

DERT.		BRANCH OFFICE		ORIGINATING	OFFICE	AFE NO.						
PRODUCT	T O N	WESTERN DIVISION		RESVDE		83879, 83880						
LOCATION C	OF PROJECT	WESTERN DIVISION		INESVDE	VCL.	APPROPRIATION						
Northeast Drinkard Unit Oil Phase II Participation OATE PREPARED DATE F												
		DATE PREPARED DATE REGISTERE										
Lea Cou	4/6/87											
						EST. COMP	LETION ACTUAL					
WORK				SWEPI'S 4	3.83050	% SHARE	!					
ORDER NUMBER	TYPE	DESCRIPTION	100% COST	BUDGET	NONBUDGET	EXPENSE	TOTAL					
838792	С	Production Facilities	\$4850M	\$2397M			\$2308M					
1	l _	Production ractificies	\$ 175M	\$239/11		\$ 77M	\$ 77M					
<i>8</i> 38 7 97	_		\$ 17514			\$ //M	Φ //m					
E38793	С	Injection Facilities	\$3850M	\$1832M			\$1832M					
(,)(,)		This could be a controlled	4000011	\$100211			\$100En					
							<u> </u>					
838794	С	Source Water Facilities	\$1000M	\$ 476M			\$ 476M					
0.50,107			41000 11	1			1					
E36795	С	Elec. Distribution System	\$2350M	\$1118M			\$1118M					
	_	,					,					
838807	R&R	Well workovers: Producer	\$4820M			\$2113M	\$2113M					
		to injector conversions										
		(35), oil producer										
		workovers (87), source										
		water workovers (10)										
838802	C	Production & Injection	\$ 480M	\$228M			\$228M					
		Well Equipment										
			,									
	(647)	SUBTOTALS	\$17525M	\$5962M		\$2190M	\$8040M					
BUD	GET	AVAILABLE IN BUDGET			RETIREMENT EXP	ENSE (LESS SALVAGE)						
POSI	TION	NEW CAPITAL FUNDS REQUIRED BY BUDGET REVI	SION		TOTAL COST		\$8040M					

1	APPROVED*
Company:	
By:	
Date:	

Return to: B. M. Bradley, WCK 2127

P. O. Box 576

Shell Western E&P Inc.

Houston, TX 77001

* This AFE approval is given subject to regulatory approvals of the Northeast Drinkard Unit by the New Mexico Oil Conservation Division, the Commissioner of Public Lands, and the Bureau of Land Management, according to Section 24 of the Unit Agreement.

Northeast Drinkard Unit Exhibit Twenty-Six Cases 9230

9231 9232

			<i>JL</i> JL
	. RECOMMENDED	APPR	OVALS
1	185/1 PH 4/19 VBC3/1/81	K. Flanty	M.L. Blanton 5/15/87
	V 19 20 PM 1 1 56	Deliminel 5/1/07	16 19 m 5/2:/01
41	5/8/27 3/7 5700/AFE02 SWEP-0415	This atto samidler	
	BNBK8709601/0001.0.0	1.1-0 c-4-87	

•	RITY FOR	EXPENDIT											
PRODUCT	TION		WESTERN DIVIS	ION		RESV DE	VEL.	AFE NO. 63887					
	ast Dri	nkard Uni		G	as Phase I	Participation APPROPRIATION NO.							
		w Mexico						4/1/87	DATE REGISTERED				
			LOCATIO	IN NUMBE	: 0			EST. COM	PLETION ACTUAL				
WORK	Τ	T				SWEPI'S 5	7.19624	% SHARE					
ORDER NUMBER	TYPE		DESCRIPTION		100% COST	BUDGET	NONBUDGET	EXPENSE	TOTAL				
8388/2	С	Gas Faci	lities		\$725M	\$450M			\$450M				
838817	R&R	Gas Prod	ucer Workovers	(20)	\$400M			\$229M	\$229M				
	(647)		SUBT	OTALS	\$1125M	\$450M		\$229M	\$679M				
	GET	AVAILABLE IN B					RETIREMENT EXP	ENSE (LESS SALVAGE					
			UDGET UNDS REQUIRED BY BUDG			\$450M	RETIREMENT EXP		1 '				
C	Company			-	* This AFE	approval	is given	subject to	reg-				
	By			_	ulatory Unit by	approvals	of the No lexico Oil	rtheast Dr Conservati	inkard				
	Date			_	Divisior	, the Com	missioner (of Public	Lands,				
Return to: B. M. Bradley, WCK 2127 Shell Western E&P Inc. P. O. Box 576 Houston, TX 77001													

RECOMMENDED	10/	APPRO	OVALS	
1PS31187/12S511/4-1/12 5/1/57	K. Flan	Ky O	mx. Ble	won 5/17/87 APPROVAL
M 10/20 RP4/6/81	DOX.	inine 5/1/8	Alr. fin	V 5/W/1
5/5/87	TT. 3			

5700/AFE02 SWEP-0415 BNBK8709101/0001.0.0 MLXI

JUSTIFICATION

NORTHEAST DRINKARD UNIT WATERFLOOD PROJECT

We recommend approval of the attached AFE for the purpose of implementing the Northeast Drinkard waterflood project. The \$24.2 MM ultimate investment is expected to result in additional supplemental oil recovery of 14.7 MMBO and return an incremental \$38.2 MM PVPAT (174% PVPAT).

The proposed Northeast Drinkard Unit is located in Lea County, New Mexico approximately 18 miles south of Hobbs, New Mexico. The unit boundary encompasses 5018 acres and is developed on 40-acre spacing. The vertical interval to be unitized includes the Blinebry, Tubb, and Drinkard formations at depths ranging from approximately 5500' to 6700'. SWEPI will be operator of the unit with 43.8 percent working interest in the supplemental oil recovery (Phase II oil participation).

The proposed unitized interval contains both gas zones and oil zones. The upper two layers of the Blinebry and most of the Tubb pay produce non-associated gas. The remaining primary gas will be depleted using 20 gas wells located throughout the unit. Oil is produced from the bottom three layers of the Blinebry, oil pocket accumulations in the Tubb, and the entire Drinkard zone. The oil zones, whose primary production mechanism was a solution gas drive, will be flooded using a five-spot injection pattern.

The proposed Northeast Drinkard Unit waterflood forecast is based on the Central Drinkard Unit, a mature waterflood adjoining the proposed unit area. The Central Drinkard Unit waterflood, operated by Chevron, is projected to increase ultimate recovery in the Unit area by 50% (Ult Sec./Ult Prim.= 0.50). Thus, the proposed Northeast Drinkard Unit waterflood area, with a projected ultimate primary recovery of 29.4 MMBO, is expected to recover an additional 14.7 MMBO.

An initial investment of \$18.7 MM is required to implement the total program. Items covered by the AFE include the water injection station, flowlines, injection lines, central battery, satellites, producer-to-injector conversions, producer recompletions, source water system, and CAO (computer assisted operations) system. Future expenditures estimated at \$5.5 MM are expected for larger lift equipment.

Total Gross Summary

Secondary Reserve Additions	14,738 MBO
Investment	440 - 1114
Initial	\$18.7 MM\$
Ultimate	\$24.2 MM
PV Profit, AFIT, 10% Nominal Disc. Rate	\$38.2 MM
% PVP, AFIT, 10% Nominal Disc. Rate	174%
Payout AFIT	7.9 yrs.
Nom. Earning Power, AFIT	23%

(\$18/B0, \$1/MCF, 5% inflation rate on all revenues, investments and operating costs.)

These economics contain no SWEPI premises and are included for information purposes only.

BNBK8707105

PROPOSED NORTHEAST DRINKARD UNIT

LISTING OF CONTENTS

1.	labie	-	Investment and Operating Costs by Year
2.	Table	-	Remaining Primary Production by Year
3.	Table	-	Remaining Primary Operating Costs by Year
4.	Table	-	Waterflood Oil and Gas Production by Year
5.	Table	-	Waterflood Water Production and Injection by Year
6.	Table	-	Waterflood Operating Costs by Year
7.	Table	-	Waterflood Investment Schedule by Item
8.	Write-Up	-	Description of Waterflood Facilities and CAO
9.	Tables	-	Facilities and CAO Detailed Cost Estimates
10.	Table		Well Configurations and Cost Estimates
11.	Graph	-	Remaining Primary Forecast
12.	Graph	-	Waterflood Performance Forecast
13.	Map	-	Oil Gathering System
14.	Map	-	Injection System
15.	Map	-	Source Water System
16.	Map	-	Gas Gathering System
17.	Schematics	-	Facilities
18.	Мар	-	Unit Wells with Well Number Redesignations

PROPOSED NORTHEAST DRINKARD UNIT SUMMARY, 1987\$
PRODUCTION/OPERATING COST/INVESTMENT

		I	(Ph.I) Expense	40	160	160	40																												400	
		Investment	Gas	73	652	[•																													725	
		Inve	(Ph.II) Expense]	3395	880	220																												4.995	
			0il CAPEX	4.563	_	52			П																										18,039	
Y OPERATIONS	Total Unit	ಹ	Cost (M\$)	1,284	2,995	2,898	2,812	2,735	2,665	2,587**	2,535	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	06467	
SECONDARY		Total Gas	Production (MMCF)		ຸຕຸ	4,758	4,364	4,037	3,681	3,341	3,029	2,712	2,420	2,206	2,012	1,835	1,676	1,532	1,402	1,284	1,177	1,081	366	894	802	721	648	585	525	470	422	381	35	30 16	56.754	
		011	Production (STB)	65.278	147,116	141,264	222,483	372,692	491,883	613,369**	755,583	796,620	796,620	796,620	796,620	796,620	796,620	796,620	796,620	796,620	796,620	796,620	788,247	069,969	597,062	511,681	438,509	375,801	322,061	276,006	236,536	202,711	1/3,/23	148,830	•	
	Total Unit	£	Cost (M\$)	661	1.586	1,586	•	•	•	•	•	•	•	•	•	•	•	•	1,586	•	69	69	69	69	69	69	69	69	69	69	69	69				
RY OPERATIONS		Total Gas	Production (MMCF)	4	ຸນ	5,043	ഹ	ָּר,	, ·	ന്	0	,	۷,	5	0	ω	9,	ď	ູ້	ς,	0	955	864	782	708	641	280	525	475	430	389	352			56.930)) h
PRIMARY		011	Production (STB)	5	85,3	168,572	53,3	39,4	26,8	15,3	04,9	4	ထ္	οŽ	ထ္	ന്	4	0,	Ţ,	۲,															1.682.352	
			Year		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	0107	

* 5 months ** Phase II oil participation is estimated to begin 6/1/93 BNBK8707505

PROPOSED N. E. DRINKARD UNIT LEA COUNTY, NEW MEXICO

REMAINING PRIMARY PRODUCTION FORECAST

Year	Oil Production (STB)		Solution Gas Production (MMCF)	Total Gas Production (MMCF)	Solution GOR (SCF/STB)
1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2010 2011 2012 2013 2014 2015	(5 mo) 82,536 185,328 168,572 153,331 139,468 126,859 115,389 104,956 95,467 86,836 78,985 71,843 65,348 59,440 54,066 49,177 44,731	2,326 5,204 4,710 4,263 3,858 3,492 3,160 2,860 2,589 2,343 2,121 1,920 1,737 1,572 1,423 1,288 1,166 1,055 955 864 782 708 641 580 525 475 430 389 352	165 371 333 299 268 241 216 194 174 156 140 126 113 101 91 81 73	2,491 5,575 5,043 4,562 4,126 3,733 3,376 3,054 2,763 2,499 2,261 2,046 1,850 1,673 1,514 1,369 1,239 1,055 955 864 782 708 641 580 525 475 430 389 352	2,000 2,000 1,975 1,950 1,925 1,900 1,875 1,850 1,825 1,800 1,775 1,750 1,725 1,700 1,675 1,650 1,625
	1,682,352	53,788	3,142	56,930	

PROPOSED NORTHEAST DRINKARD UNIT LEA COUNTY, NEW MEXICO

REMAINING PRIMARY OPERATIONS OPERATING COST FORECAST (1987\$)

<u>Year</u>	Production Facilities O&M (M\$)	Production Wells (M\$)	Total Unit Operating Cost (M\$)
1987 (5 mo.)	26	635	661
1988	62	1,524	1,586
1989	62	1,524	1,586
1990	62	1,524	1,586
1991	62	1,524	1,586
1992	62	1,524	1,586
1993	62	1,524	1,586
1994	62	1,524	1,586
1995	62	1,524	1,586
1996	62	1,524	1,586
1997	62	1,524	1,586
1998	62	1,524	1,586
1999	62	1,524	1,586
2000	62	1,524	1,586
2001	62	1,524	1,586
2002	62	1,524	1,586
2003	62	1,524	1,586
2004	9	60	69
2005	9	60	69
2006	9	60	69
2007	9	60	69
2008	9	60	69
2009	9	60	69
2010	9	60	69
2011	9	60	69
2012	999999999999	60	69
2013	9	60	69
2014	9	60	69
2015	9	60	69

PROPOSED N. E. DRINKARD UNIT LEA COUNTY, NEW MEXICO

WATERFLOOD OIL AND GAS PRODUCTION

Year	Oil Production (STB)	Gas Zone Gas Production (MMCF)	Solution Gas Production (MMCF)	Total Gas Production (MMCF)	Solution GOR (SCF/STB)
1987 (5 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011	mo) 65,278 147,116 141,264 222,483 372,692 491,883 613,369* 755,583 796,620	2,245 5,022 4,546 4,114 3,723 3,370 3,050 2,760 2,499 2,261 2,047 1,853 1,676 1,517 1,373 1,243 1,125 1,018 922 834 755 683 619 560 507	MMCF) 131 294 212 250 314 311 291 269 213 159 159 159 159 159 159 159 159 159 159	(MMCF) 2,376 5,316 4,758 4,364 4,037 3,681 3,341 3,029 2,712 2,420 2,206 2,012 1,835 1,676 1,532 1,402 1,284 1,177 1,081 992 894 802 721 648 582 522	2,000 2,000 1,500 1,125 843 632 474 356 267 200 200 200 200 200 200 200 200 200 20
2012 2013 2014	322,061 276,006 236,536	458 415 375	55 47	470 422	200 200
2015 2016 2017 2018	202,711 173,723 148,830 80,328	340 0 0 0	41 35 30 16	381 35 30 16	200 200 200 200
	16,420,723	51,910	4,844	56,754	

^{*} Switch from Phase I to Phase II oil participation is estimated to occur 6/1/93.

PROPOSED N.E. DRINKARD UNIT LEA COUNTY, NEW MEXICO

WATERFLOOD OPERATIONS WATER PRODUCTION AND INJECTION FORECAST

<u>Year</u>	Total Produced Water BWPD	Produced Water Disposed of BWPD	Reinjected Produced Water BWPD	Injected Make-Up Water BWPD	Total Injected Water BWPD
1987 (5 mo)	140	140	_	-	_
1988*	134	134	0	49,650 (5	5 mo) 49,650 (5 mo)
1989	137	137	Ō	49,650	49,650
1990	236	236	0	41,343	41,343
1991	458	458	0	34,425	34,425
1992	726	726	0	28,665	28,665
1993	1121	0	1,121	22,748	23,869
1994	1764	0	1,764	18,112	19,876
1995	2271	0	2,271	14,279	16,550
1996	2778	0	2 , 778	13,772	16,550
1997	3274	0	3,274	13,276	16,550
1998	3882	0	3,882	12,668	16,550
1999	4430	0	4,430	12,120	16,550
2000	5093	0	5,093	11,457	16,550
2001	5901	0	5,901	10,649	16,550
2002	6912	0	6,912	9,638	16,550
2003	7737	0	7,737	8,813	16,550
2004	8729	0	8,729	7,821	16,550
2005	9942	0	9,942	6,608	16,550
2006	11,367	0	11,367	5,183	16,550
2007	11,817	0	11,817	4,733	16,550
2008 2009	12,145	0	12,145	4,405	16,550
2010	11,542 11,061	0 0	11,542 11,061	5,008 5,400	16,550
2011	10,704	0	10,704	5,489 5,846	16,550
2012	10,704	0	10,704	6,063	16,550
2012	10,437	0	10,437	6,113	16,550 16,550
2013	10,437	Ö	10,602	5 ,94 8	16,550
2015	11,076	Õ	11,076	5,474	16,550
2016	12,053	0	12,053	4,497	16,550
2017	14,024	ŏ	14,024	2,526	16,550
2018	16,550	Ö	16,550	-	16,550

^{*} Initial water injection assumed 8/1/88.

PROPOSED NORTHEAST BLINEBRY UNIT LEA COUNTY, NEW MEXICO

WATERFLOOD OPERATIONS OPERATING COST FORECAST (1987\$)

<u>Year</u>	Facilities 0&M (M\$)	Production & Injection Wells (M\$)	Total Unit Operating Cost (M\$)
1987 (5 mo.)	483	.765	1,284
1988	1,158	1,837	2,995
1989	1,061	1,837	2,898
1990	975	1,837	2,812
1991	898	1,837	2,735
1992	828	1,837	2,665
1993	750	1,837	2,587
1994	698	1,837	2,535
1995	653	1,837	2,490
1996	653	1,837	2,490
1997	653	1 , 837	2,490
1998	653	1 , 837	2,490
1999	653	1,837	2,490
2000	653	1,837	2,490
2001	653	1,837	2,490
2002	653	1,837	2,490
2003	653	1,837	2,490
2004	653	1,837	2,490
2005	653	1,837	2,490
2006	653	1,837	2,490
2007	653	1,837	2,490
2008	653	1,837	2,490
2009	653	1,837	2,490
2010	653	1,837	2,490
2011	653	1,837	2,490
2012	653	1,837	2,490
2013	653	1,837	2,490
2014	653 653	1,837	2,490
2015	653 653	1,837	2,490
2016	653 653	1,837	2,490
2017	653	1,837	2,490
2018	653	1,837	2,490

PROPOSED NORTHEAST DRINKARD UNIT LEA COUNTY, NEW MEXICO WATERFLOOD INVESTMENT SCHEDULE

		TOTAL	COST 1007¢
	ITEM	TUTAL	COST 1987\$ M\$
	Initial Investment - Facilities	•	
	Production Facilities Central Battery Satellites Flowlines Transfer Lines Injection Facilities		1,000 2,250 1,050 725
	Injection Plant Injection Lines Gas Facilities		2,525 1,325 725
	Source Water Facilities Electrical System Subtotal - Facilities		1,000 2,350 12,950
	Initial Investment - Well Preparations		
	117 Producer Workovers 87 Commingled Oil (Blinebry/Tubb/Drinkard) 20 Gas (Tubb) 10 Source Water (San Andres) 35 Producer-to-Injector Conversions)	2,330 400 350
	35 Single Commingled Injectors Subtotal - Well Preparations	_	2,620 5,700
	Total Initial Investment		18,650
YEAR			
1987 1988	35% Facilities, 10% Conversions, Source Water Workovers, 10% Workovers 65% Facilities, 90% Conversions, Source Water		5,176 12,109
1989 1990 1991 1992 1993 1994	Workovers, 40% Workovers 40% Workovers 10% Workovers Larger Lift Equipment		1,092 273 689 1,377 1,377
1995	Larger Lift Equipment TOTAL WATERFLOOD INVESTMENT		689 24,159

NORTHEAST DRINKARD UNIT

WATERFLOOD FACILITIES DESCRIPTION

PRODUCTION SYSTEM

Groups of 8-16 wells will flow into three remote headers and five satellites. A remote header consists of a production manifold which functions as an extension of the production manifold at the satellite. Use of remote headers reduces the number of satellites required. A satellite consists of a production manifold, a test separator, and a production separator. From the satellites, the liquids are pumped to a central battery and the gas is transported via a casinghead gas gathering system. The battery has a free water knockout followed by a wash tank for oil dehydration. Approximately $2\frac{1}{2}$ days of oil storage at peak production is provided. The gas system consists of a 2-phase separator at each gas well with separate casinghead and gas well gas gathering systems.

INJECTION SYSTEM

Injection water will be provided from source wells and from produced water. Source water will be submersibly pumped from wells completed in the San Andres. The source water is produced into a skim tank for oil removal. A separate skim tank collects produced water. The produced water then flows to a storage tank which provides approximately 18 hours of storage capacity at peak rates upon complete loss of injection capacity. Five centrifugal injection pumps take common suction on the two sources of water and deliver water into a branched distribution system.

ELECTRICAL SYSTEM

A new power system will provide increased reliability and subsequent higher on-stream production. The system consists of three main high voltage distribution feeders with individual well supply and voltage transformation.

CAO SYSTEM

The Computer Assisted Operations (CAO) equipment will provide beam pumping unit control, injection well control, gas well control, production facility monitoring and automatic well testing.

WORK ORDER COST ESTIMATE

FORM NO. EP-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Production Battery

QUANTITY	DESCRIPTION		AMOUNT	TOTAL
1	10' x 30' FWKO		\$100	\$100
2	2M Bbl stock tanks		\$ 30	\$ 60
1	1.5M Bbl wash tank		\$ 40	\$ 40
1	LACT		\$ 35	\$ 35
1	Vapor Recovery unit		\$ 25	\$ 25
2	Recirculating Pumps		\$ 7	\$ 14
1	Control panel		\$ 25	\$ 25
1	Satellite header		\$ 50	\$ 50
1	Pipe, valves, and fittings		\$150	\$150
1	Electrical material and labor		\$ 60	\$ 60
1	Civil material and labor		\$ 15	\$ 15
1	Painting material and labor	···	\$ 25	\$ 25
1	Mechanical Labor		\$200	\$200
1	Battery metering/alarm monitoring		\$ 14	\$ 14
1	Site damages		\$ 6	\$ 6
···	Inspection			\$ 40
	Taxes and Transportation			\$ 91
	Capital Total			\$950
Expense	Facility Retirement			\$_50
	Grand Total			\$1000
PARED BY	0,	ATE PREPARED	A.F.E. NO.	WORK ORDER NO

FORM NO. EP-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Production Satellites

QUANTITY	DESCRIPTION	(Thous	TOTAL
5	3' x 10' 3 ph test seps	\$28	\$138
5	4' x 12' 2 ph prod seps	\$33	\$165
5	500 Bbl pump tanks	\$ 8	\$ 40
5	Transfer pumps	\$ 3	\$ 15
8	Production Manifolds	\$15	\$120
1	Pipe, valves, and fittings	\$130	\$130
1	Electrical material and labor	\$80	\$ 80
1	Civil material and labor	\$65	\$ 65
1	Painting material and labor	\$50	\$ 50
1	Mechanical labor	\$400	\$400
5	Satellite monitoring/control	\$17.5	\$ 88
3	Remote header monitoring/control	\$7.5	\$ 23
88	Bm pumping well monitoring/control	\$4.0	\$352
88	Header actuation	\$1.5	\$132
8	Site damages	\$6	\$ 48
	Inspection		\$ 90
	Taxes and Transportation		\$190
	Capital Total		\$2125
pense	Facility Retirement		\$ 50
	Software Implementation		\$ 75
	Grand Total		\$2,250
REPARED BY	DATE PREPAR	RED A F.E. NO.	WORK ORDER NO
J. P. Sat	tler 4/3/87		

FORM NO. EP-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Production Flowlines

QUANTITY	DESCRIPTION	AMOUNT	(Thousands
201.6 M'	2 7/8" LPO	\$3.50/ft.	\$706
201.6 M'	Surface Damages	\$1.00/ft.	\$202
	Inspection		\$ 45
	Taxes and transportation		\$ 98
	Capital Cost		\$1050
 			
ARED BY	DATE PE	REPARED A.F.E. NO.	WORK ORDER A

WORK ORDER COST ESTIMATE

FORM NO. EP-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Oil Transfer Lines

QUANTITY	DESCRIPTION		AMOUNT	Thousands TOTAL
27 M'	8" Fiberglass Line	, , , , , , , , , , , , , , , , , , ,	\$10.50/ft.	\$284
13 M'	10" Fiberglass Line		\$15.50/ft.	\$202
4.5 M'	12" Fiberglass Line		\$21.25/ft.	\$ 96
44.5 M'	Surface Damages		\$1.00/ft.	\$ 45
	Inspection			\$ 30
	Taxes and transportation			\$ 70
	Capital Cost			\$725
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ARED BY	DAT	E PREPARED	A.F.E. NO.	WORK ORDER NO
J. P. Sat	tler 4/	'3/87		

FORM NO. EP-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Water Plant

QUANTITY	DESCRIPTION		AMOUNT	cenne (ebnee
			:	1
5	Injection pumps		\$ 80	\$400
1	1000 Bbl skim tank		\$ 27	\$ 27
1	10,000 Bbl skim tank		\$130	\$130
1	300 Bbl skim pump tank		\$ 7	\$ 7
1	10,000 Bbl storage tank		\$ 80	\$ 80
1	Control building		\$ 45	\$ 45
1	Overhead crane		\$ 60	\$ 60
1	Manifold		\$ 40	\$ 40
1	Pipe, valves, and fittings		\$400	\$400
1	Electrical material and labor		\$150	\$150
1	Civil material and labor		\$ 40	\$ 40
1	Painting material and labor		\$ 25	\$ 25
1	Mechanical Labor		\$600	\$600
35	Injection well monitoring/contro	1	\$ 5	\$175
	Inspection			\$110
	Taxes and Transportation			\$236
	Capital Cos	t		\$2,525
PARED BY		DATE PREPARED	A.F.E. NO.	WORK ORDER NO
J. P. Sa <u>t</u>	tlar	4/3/87		

FORE NO. EF-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Injection Lines

QUANTITY	DESCRIPTION	Commission distributions and property of the commission of the com	AMOUNT	(Thousands)
39 M'	2" High press fiberglass line	_	\$7.0/ft.	\$273
5.5 M'	3" High pressure fiberglass line	\$ 44		
18 M'	4" High press fiberglass line	\$162		
17 M'	6" Steel header	\$16.0/ft.	\$272	
3.7 M'	8" Steel header		\$26.5/ft.	\$ 98
83.2 M'	Surface damages		\$1.0/ft.	\$ 83
35	Wellhead filtration		\$1,500/ea.	\$ 53
35	Wellhead connection labor	\$5	,000/ea.	\$175
	Inspection			\$ 55
	Taxes and Transportation			\$110
	Capital Total			\$1,325
		······································		
PAHED BY J. P. Sat	:	E PREPARED	A.F.E. NO	WORK ORDER NO

WORK ORDER COST ESTIMATE

FORM NO. EP-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Gas Facilities and Flowlines

OUANTITY	DESCRIPTION		(Thousa	1143/
QUANTITY	DESCRIPTION		AMOUNT	TOTAL
	Casinghead			
13 M'	3" PEP (polyethylene pipe) gathering	line	\$2.0/ft.	\$ 26
	Gas Well			
18.5 M'	4" PEP gathering line		\$3.4/ft.	\$ 63
18.5 M'	6" PEP gathering line		\$4.7/ft.	\$ 87
14.5 M'	8" PEP gathering line		\$8.6/ft.	\$125
6 M'	10" PEP gathering line		\$13.9/ft.	\$ 83
20	Gas well monitoring/control		\$6.0/ea.	\$120
20	Facility labor		\$2.5/ea.	\$ 50
70.5 M'	Surface damages		\$1.0/ft.	\$ 71
	Inspection			\$ 30
	Taxes and transportation			\$71
	Capital Total			\$725
<u> </u>				
				
				
ARED BY	DATE	PREPARED	A,F.E. NO.	WORK ORDER N

FORM NO. EF-225 (4-66)

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Source Water Facilities

QUANTITY	DESCRIPTION		AMOUNT	(Thousands)		
10.4 M'	4" PEP gathering line		\$3.00/ft.	\$ 31		
12.4 M'	6" PEP gathering line	\$ 50				
1.9 M'	8" PEP gathering line		\$7.25/ft.	\$14		
6.4 M'	10" PEP gathering line	\$ 82				
31.1 M'	Surface Damages	\$31				
10	Source well monitoring/control	\$ 40				
10	5000 B/D submersible pumps \$60M ea.					
	Inspection			\$ 50		
	Taxes and Transportation			\$102		
	Capital Tota	1		\$1,000		
		· · · · · · · · · · · · · · · · · · ·				
		.				
						
			<u> </u>			
PARED BY		DATE PREPARED	A.F.E. NO	WORK ORDER NO		
J. P. Sat	tler	4/3/87	i :			

roff N. 24-22: 4-66

WORK ORDER DESCRIPTION

Northeast Drinkard Unit Electrical

227 M' 3 70 70	Powerline Oil Circuit Recloser 75 KVA transformers (oil wells) Control Panels	enten en e	\$5.00/ft. \$8.00	\$1,135 \$ 24
70	75 KVA transformers (oil wells)		\$8.00	¢ 24
				P 24
70	Control Panels		\$2.50	\$ 175
	000.0.	\$1.50	\$ 105	
30	37.5 KVA transformers (source water	\$1.00	\$ 30	
10	Control Panels	\$2.00	\$ 20	
35	10 KVA transformers (injectors)	\$0.50	\$ 18	
4	45 KVA transformers (satellites)	\$1.50	\$ 6	
3	667 KVA transformers (water plant)	\$5.00	\$ 15	
3	100 KVA transformers (battery)	\$1.67	\$ 5	
1	5000 Volt isolation switch	\$7.00	\$ 7	
3	Capacitors for power factor correct	\$5.00	\$ 15	
97	Well installations (not injection)	\$2.00	\$ 194	
35	Injection well installation	\$1.00	\$ 35	
5	Satellite installations	\$1.50	\$ 8	
1	Central battery/water plant install	\$14.00	\$ 14	
1	Survey and stake	\$20.00	\$ 20	
227 M'	Surface Damages		\$1.00/ft.	\$ 227
	Inspection		\$ 100	
	Taxes and Transportation		\$ 197	
	Capital Total			\$2,350
PAREC EY	DA	TE PREPARED	A F.E. NO	WORK ORDER NO

NORTHEAST DRINKARD UNIT LEA COUNTY, NEW MEXICO

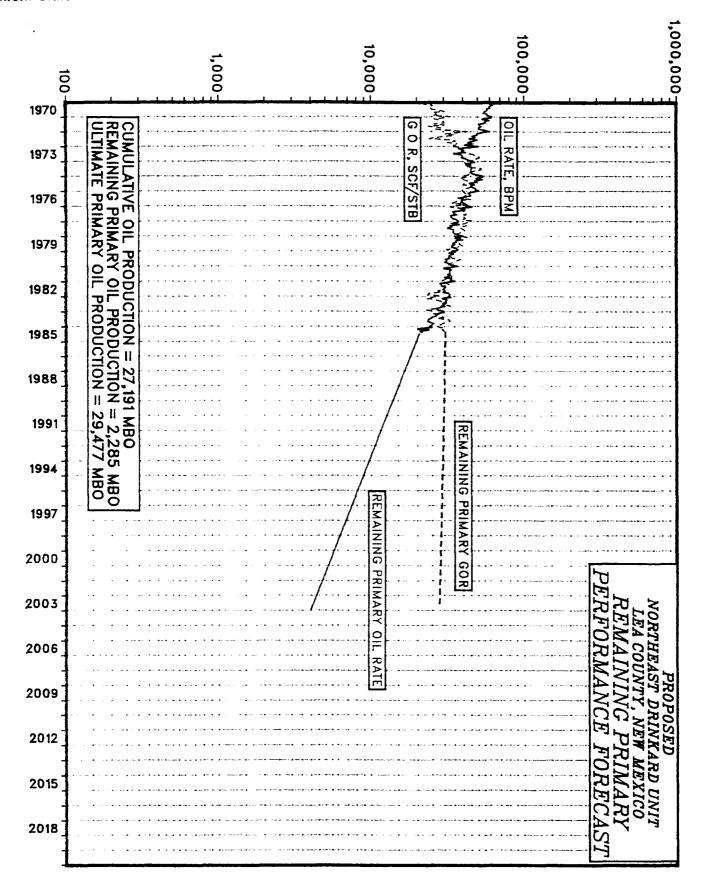
WELL CONFIGURATIONS AND COST ESTIMATES

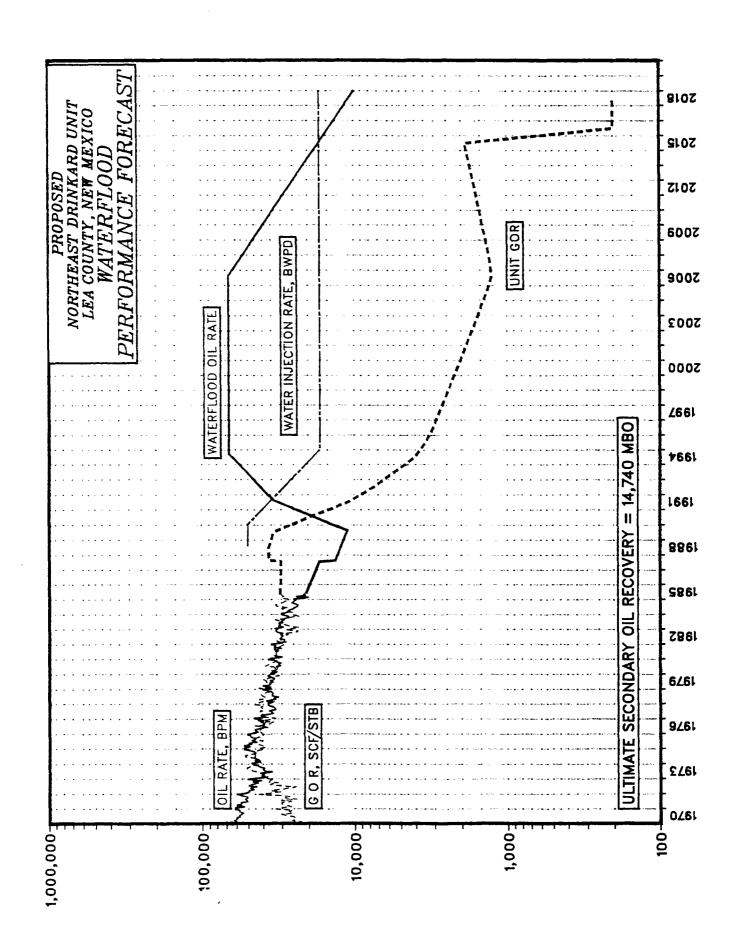
	Description (# Wells)	Zones	Completion Type	Preparation Costs**	Operating Costs** Per Month
	Single Injector (1)	Blinebry-Oil	Injection Well Completion w/Packer Set Above Blinebry	\$60,000 (Exp.) \$10,000 (Cap.)	\$1,000
2.	Commingled Injector (26)	Blinebry-Oil Drinkard-Oil	Single Tubing String w/Packers and downhole flow regulators	\$65,000 (Exp.) \$10,000 (Cap.)	\$1,000
, m	Commingled Injector (8)	Blinebry/Tubb-Oil Drinkard-Oil	Single Tubing String w/Packers and downhole flow regulators	\$65,000 (Exp.) \$10,000 (Cap.)	\$1,000
4.	Single Producer (13)	Blinebry-Oil	Conventional Pumping or Flowing Well Design	\$20,000 (Exp.) \$5,000*(Cap.)	\$1,000 (Primary) \$1,300 (Secondary)
5.	Commingled Producer (56)	Blinebry-Oil Drinkard-Oil	Conventional Pumping or Flowing Well Design	\$25,000 (Exp.) \$5,000*(Cap.)	\$1,000 (Primary) \$1,300 (Secondary)
. • 9	Commingled Producer (18)	Blinebry-Oil Tubb-Oil Drinkard-Oil	Conventional Pumping or Flowing Well Design	\$30,000 (Exp.) \$5,000*(Cap.)	\$1,000 (Primary) \$1,300 (Secondary)
7.	Gas Producer (20)	Blinebry-Gas and/or Tubb-Gas	Flowing Well Completion w/Packer Set Above Blinebry	\$20,000 (Exp.)	\$250

NORTHEAST DRINKARD UNIT (Cont.)

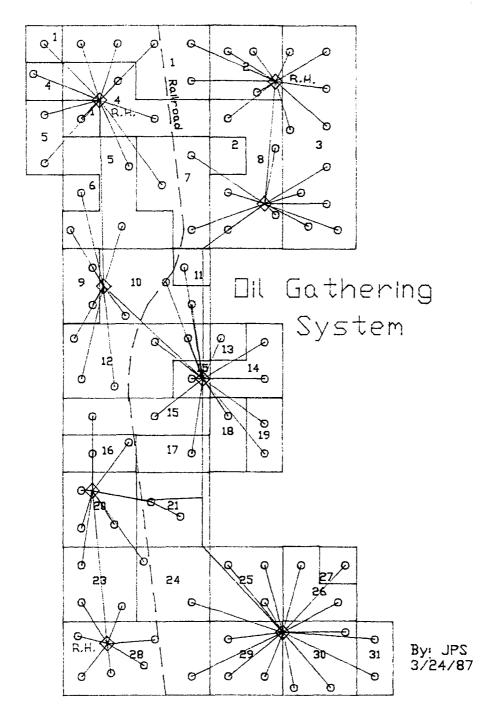
Operating Costs** Per Month	\$35,000 (Exp.) \$1,500 (Sub-Pumped)
Preparation Costs**	\$35,000 (Exp.)
Completion Type	Submersible Pumping Design
Zones	· San Andres-Water
Description (# Wells)	Source Water Producer San Andres-Water (10)
	œ.

Notes: * Only 30% of the producers will require initial artificial lift installations. ** All costs are 1987\$.

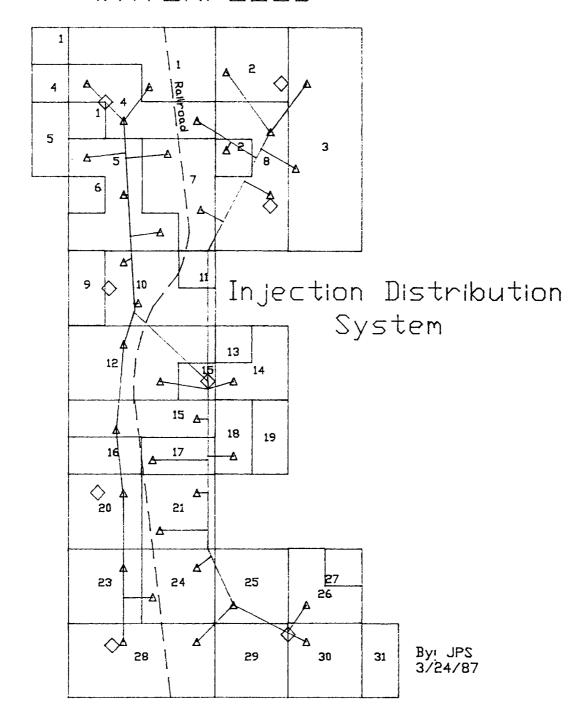




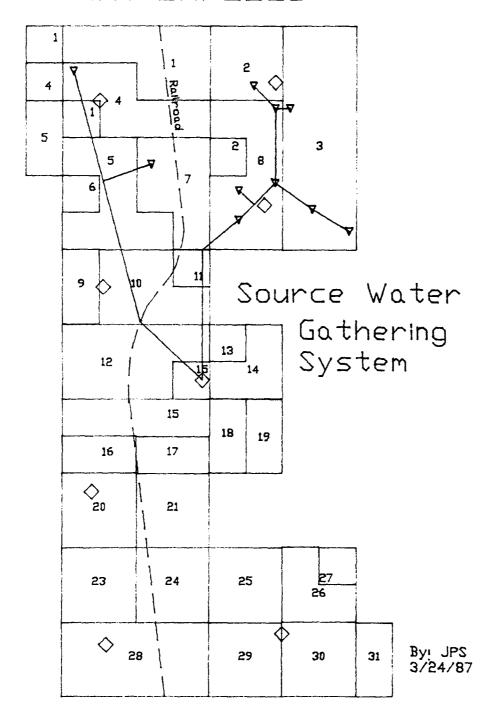
DRINKARD Waterflood



DRINKARD Waterflood



DRINKARD WATERFLOOD



DRINKARD Waterflood

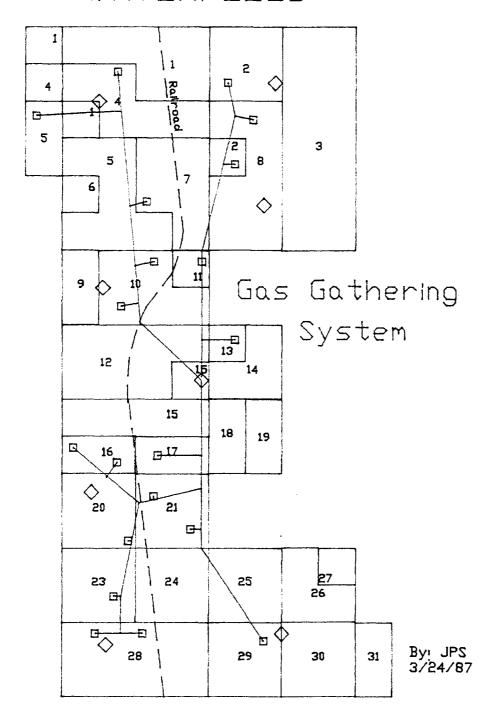
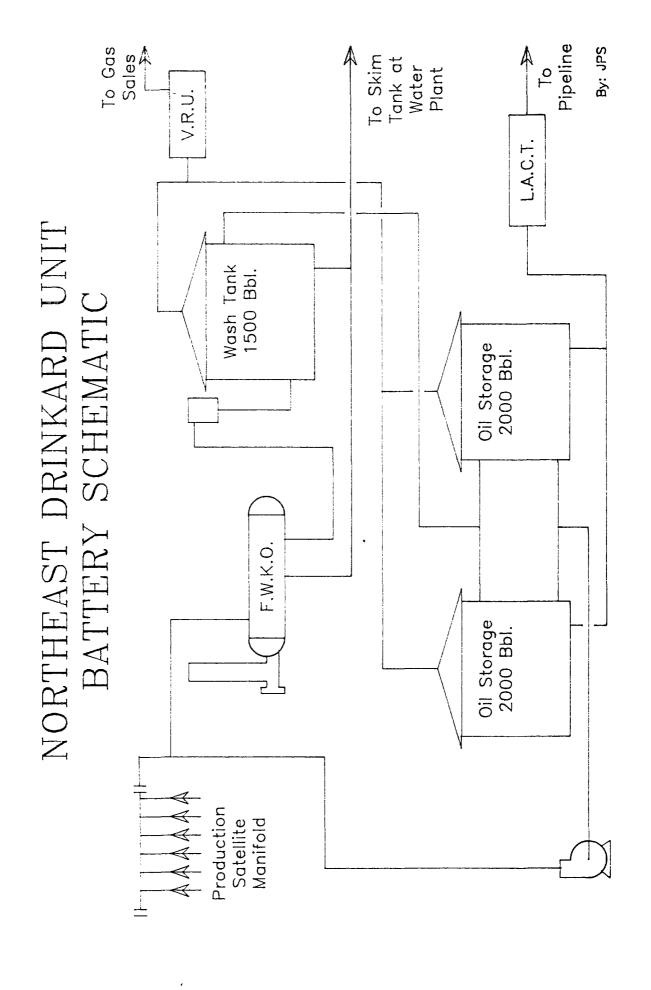
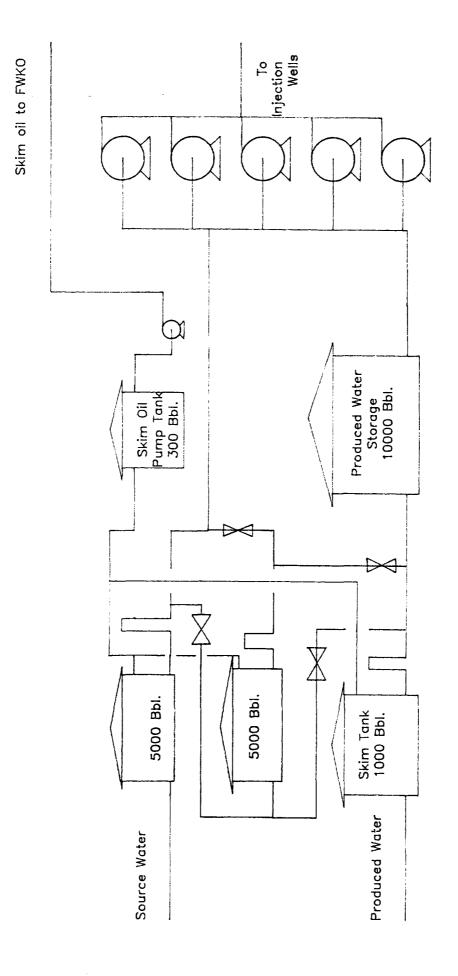


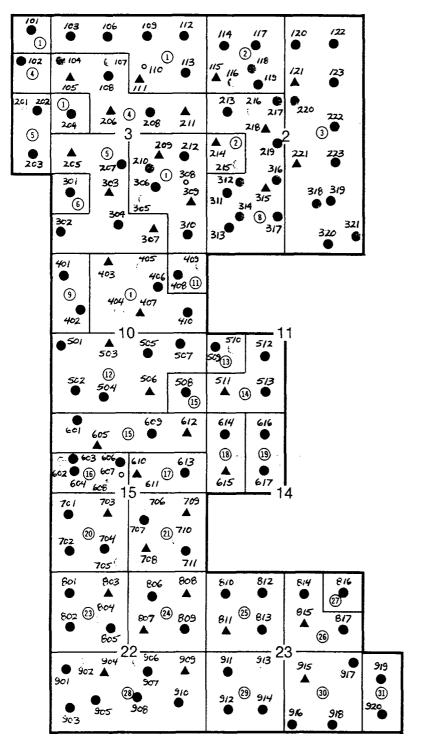
DIAGRAM NORTHEAST DRINKARD UNIT TO CENTRAL BATTERY TO GAS SALES SCHEMATIC SATELLITE SCHEMATIC FLOW By: IRP PUMP TANK 500 BBL. GAS EMULSION SATELLITE **EM**OSION TEST SEP. 3 PH 3'x10' PROD. SEP. 2 PH 4'x12' EMULSION **EMULSION LEON MELLS**



DRINKARD WATERFLOOD WATER PLANT



By: JPS 3/24/87



LEGEND

- WATER SOURCE WELL
- **GAS WELL**
- OIL WELL
- **▲ WATER INJECTION WELL**
- **1 TRACT NUMBER**



1 MILE

½ MILE

SCALE

PROPOSED NORTHEAST DRINKARD UNIT

WELLBORE UTILIZATION & INJECTION PATTERN

<u>Tract Ratification Summary</u>

Tract	Ratifications, Working Interest	% of Tract Royalty Interest
•	75.0	100.0
1 2 3	75.0	100.0
2	0.0	100.0
	100.0	100.0
4A	100.0	79.5
4B	100.0	84.9
4C	100.0	81.4
5 6 8 9	100.0	83.7
6	90.0	100.0
8	100.0	100.0
	75.0	100.0
11	0.0	97.0
12	100.0	100.0
13	0.0	89.1
14	74.7	91.6
15	100.0	100.0
16	100.0	100.0
17	100.0	100.0
180	39.5	68.4
18BT	52.8	70.7
19	69.7	73.3
20	100.0	42.2
21	28.9	69.1
23	100.0	42.2
24	100.0	64.7
25B	43.8	87.4
25TD	100.0	87.4
26	0.0	84.3
27	0.0	68.8
28	100.0	91.3
29	100.0	100.0
30	0.0	100.0
31	0.0	68.3

Northeast Drinkard Unit Exhibit Seven Cases 9230 9231 9232

DEB/dmr 09/21/87

State of New Mexico





Commissioner of Public Lands

SLO REF NO. OG-107

_P.O. BOX 1148 SANTA FE, NEW MEXICO 87504-1148

May 7, 1987

Shell Western E & P Inc. ATTENTION: Mr. James H. Smitherman P. O. Box 576 Houston, Texas 77001

> Re: Proposed Northeast Drinkard Unit Lea County, New Mexico

Gentlemen:

This office has reviewed the unexecuted copy of unit agreement for the proposed Northeast Drinkard Unit area, Lea County, New Mexico. This agreement meets the general requirements of the Commissioner of Public Lands and has this date granted you preliminary approval as to form and content.

Preliminary approval shall not be construed to mean final approval of this agreement in any way and will not extend any short term leases, until final approval and an effective date have geen given.

When submitting your agreement for final approval please submit the following:

- Application for formal approval by the Commissioner setting forth the tracts that have been committed and the tracts that have not been committed.
- 2. A duplicate and original copy of the unit agreement.
- 3. All ratifications from the Lessees of Record and Working Interest Owners. All signatures should be acknowledged by a notary and one set must contain original signatures.
- 4. Order of the New Mexico Oil Conservation Division and the Designation from the Bureau of Land Management. Our approval will be conditioned upon subsequent favorable approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Northeast Drinkard Unit Exhibit Eight Cases 9230 9231

9232

Shell Wester E & P Inc. May 7, 1987 Page 2

Your filing fee in the amount of \$300.00 Dollars has been received.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES COMMISSIONER OF PUBLIC LANDS

BY: Dople New

FLOYD O. PRANDO, Director Oil and Gas Division (505) 827-5744

WRH/FOP/pm

cc:

OCD-Santa Fe, New Mexico BLM-Roswell, New Mexico



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Roswell District Office P. O. Box 1397

IN REPLY

Roswell, New Mexico 88201

Northeast Drinkard Unit 3180 (065)

APR 241987

Shell Western E & P, Inc. Attention: John Goforth P. O. Box 831 Houston, Texas 77001

Gentlemen:

Your application of April 1, 1987, filed with the Bureau of Land Management, Roswell, New Mexico, requested the designation of the Northeast Drinkard Unit area, embracing 5,018 acres, more or less, as logically subject to operation under the unitization provisions of the Mineral Leasing Act of 1920 as amended for secondary recovery operations.

Pursuant to unit plan regulations 43 CFR 3180, the land requested as outlined on your plat marked "Exhibit A", Northeast Drinkard Unit, Lea County, New Mexico, Shell Western E & P, Inc., Operator is hereby designated as a logical unit area to more properly conserve natural resources by instituting secondary recovery water injection operations.

Your basis for allocation of unitized substances and your proposed form of unit are acceptable with the following modifications:

1. In Section 8, paragraph 2, page 15, lines 10 and 11 of the paragraph should read, "at least seventy five percent (75%) of the Unit Participation remaining . . . ".

In selecting a successor Unit Operator, affirmative vote must be by a majority and therefore "at least fifty percent (50%)" as stated in your agreement is not appropriate.

2. In Section 24, paragraph 2, page 43, lines 5 and 6 of the paragraph should read "owning a combined Unit Participation of at least seventy five percent (75%) . . . ".

All Working Interest Owners should be included in this section for committment status purposes, not only those participating in Phase II.

Northeast Drinkard Unit Exhibit Nine Cases 9230 9231

9232

3. In Section 24, paragraph 5, page 44, lines 2 and 3 of the paragraph should read "owning seventy five percent (75%) of the Unit Participation then in effect . . . ".

All committed Working Interest Owners should have a vote in termination of the unit whether they be in Unit Oil Participation or Unit Gas Participation.

For your convenience we are enclosing copies of the above-mentioned pages with corrections shown in red.

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

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

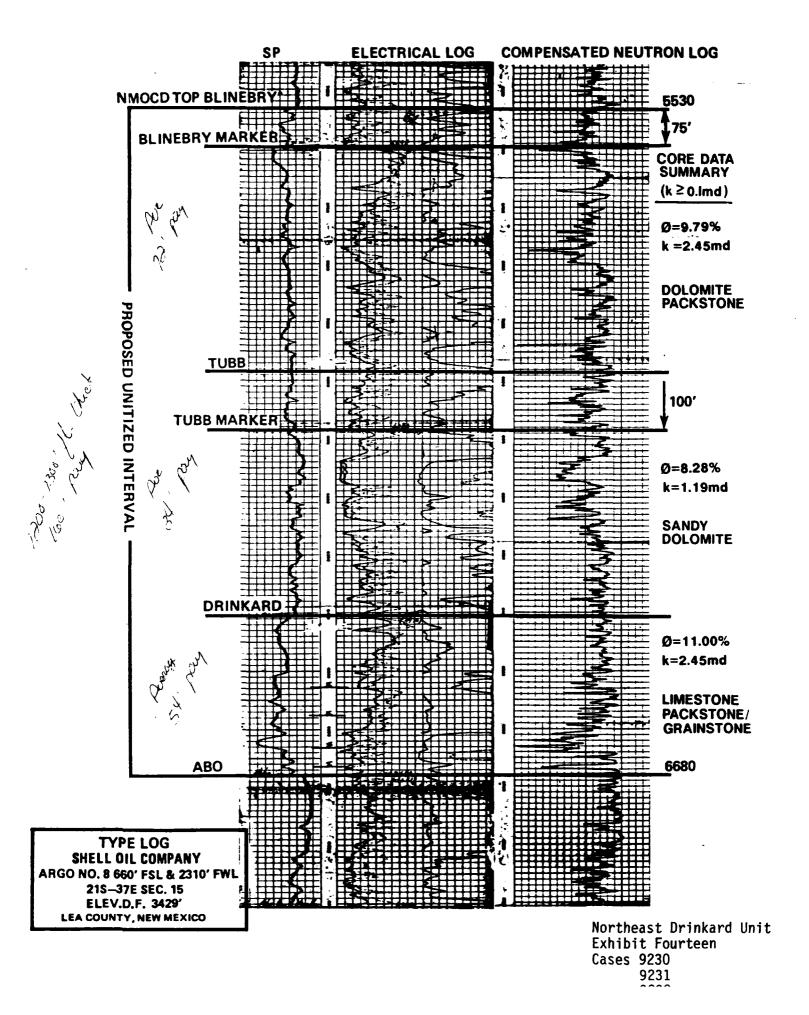
When the executed agreement is transmitted to the BLM for approval, include the latest status of all acreage. In preparation of Exhibits "A" and "B", follow closely the format set forth in your proposed form of unit agreement.

Sincerely,

Francis R. Cherry, Jr.

District Manager

Enclosures



NORTHEAST DRINKARD UNIT TECHNICAL COMMITTEE CHARGE

- DEFINE OPTIMUM UNIT AREA
- DETERMINE OPTIMUM VERTICAL INTERVAL TO UNITIZE
- DEVELOP UNITIZATION PARAMETERS
- DEVELOP A WATERFLOOD PLAN

OIL RECOVERY FORECAST

INVESTMENT

ECONOMIC EVALUATION

Northeast Drinkard Unit Exhibit Twenty Cases 9230 9231 9232

UNIT PARTICIPATIONS

								_	DATIFICATIONS
TRACT NUMBER	(WORKING INTEREST OWNER(S)	WORKING INTEREST (%)	OIL PHASE 1 (%)	OIL PHASE 2 (%)	GAS PHASE 1 (%)	GAS PHASE 2 (%)	RATIFIED?	RATIFICATIONS % OF TRACT
30	ARCO OIL & GAS	s co.	100.00000	3.70361	3.07660	5.34515	4.63653	X	100.00000
			100.00000	3.70361	3.07660	5.34515	4.63653	•	100.00000
		ROYALTY INTEREST	ROYALTY INTEREST	OIL PHASE 1	OIL PHASE 2	SAS PHASE 1	GAS PHASE 2	RATIFIED?	RATIFICATIONS 2 OF TRACT
	=======================================	OWNER(S) ====================================	(%) 	(%) =========	(%) =======	(%) ========	(%) ==========	*********	
	INTERFIRST BAN	VK DALLAS N. A., ESCROW	12.50000 12.50000					X	100.00000 100.00000

State of New Mexico





SLO REF NO. OG-545

Commissioner of Public Lands

October 30, 1987

P.O. BOX 1148 SANTA FE, NEW MEXICO 87504-1148

Shell Western E&P Inc.
ATTENTION: Mr. James H. Smitherman
P. O. Box 576
Houston, Texas 77001

Re: Final Approval of Northeast Drinkard Unit Agreement Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date granted final approval to the Northeast Drinkard Unit Agreement Lea County, New Mexico, along with your Initial Plan of Operation. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Our approval is given with the understanding that you will obtain the New Mexico Oil Conservation Division's approval of Statuatory Unitization within a reasonable time.

Enclosed are Five (5) Certificates of Approval.

Your filing fee in the amount of \$300.00 has been received.

If we may be of further help, please do not hesitate to call on $\ensuremath{\text{us}}$.

Very truly yours,

W. R. HUMPHRIES COMMISSIONER OF PUBLIC LANDS

FLOYD O. PRANDO, Director Oil and Gas Division

Lighte Their

(505) 827-5744

WRH/FOP/pm

encls. cc:

OCD-Santa Fe, New Mexico BLM-Roswell, New Mexico

Gulram OGAD

Individual Tract Ratification Status
(As of October 21, 1987)

Total Unit Ratifications (As of October 21, 1987)

Worki	ng Interes	t Ratifica	tions	Royal	ty Interest	Ratificat	ions
0il Phase 1 (%)	0il <u>Phase 2</u> (%)	Gas Phase 1 (%)	Gas Phase 2 (%)	0il Phase 1 (%)	0il Phase 2 (%)	Gas Phase 1 (%)	Gas Phase 2 (%)
98.37786	98.57269	98.22773	98.56469	95.33770	94.48162	93.71573	93.26604

Tract Ratification Summary (As of October 21, 1987)

	Ratifications	, % of Tract
Tract	Working Interest	Royalty Interest
1	100.0	100.0
1 2 3	100.0	100.0
3	100.0	100.0
4A	100.0	85.4
4 B	100.0	95.9
4C	100.0	89.0
	100.0	88.7
6	90.0	100.0
8	100.0	100.0
9	75.0	100.0
5 6 8 9 11	100.0	97.0
12	100.0	100.0
13	100.0	89.1
14	99.0	91.6
15	100.0	100.0
16	100.0	100.0
17	100.0	100.0
18BD	85.5	100.0
18T	91.0	100.0
19	96.4	100.0
20	100.0	93.8
21	99.4	69.1
23	100.0	93.8
24	100.0	64.7
25B	43.8	87.4
25TD	100.0	87.4
26	100.0	84.3
27	100.0	68.8
28	100.0	91.3
29	100.0	100.0
30	100.0	100.0

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company

March 16, 1989

P.O. Box 576 Houston, TX 77001

#9231

Mr. David R. Catanach New Mexico Oil Conservation Division State Land Office Building 310 Old Santa Fe Trail Santa Fe, New Mexico 87503



Gentlemen:

SUBJECT: NORTHEAST DRINKARD UNIT LEA COUNTY, NEW MEXICO

We are submitting herewith a copy of first "First Supplement - 1989" of the "Plan of Development" for the Northeast Drinkard Unit. This submittal is for your information in accordance with Section II of the Unit Agreement - Northeast Drinkard Unit. We have this date filed copies of "First Supplement - 1989" with the New Mexico Commissioner of Public Lands and the Bureau of Land Management for their review and approval.

Should you have any questions, please contact J. M. Winder at (713) 870-3797.

Yours very truly,

W. F. N. Kelldorf

Staff Production Engineer

Safety, Environmental, and Administration

Western Division

JMW:LGC

Enclosure

"First Supplement-1989" to the "Plan of Operation"

Alternate Utilization of Original Source Wells

Working Interest Owner approval has been received to recomplete nine of the ten wells initially proposed as water source wells to an alternate utilization. It was recommended that seven of the wells be utilized as Unit oil producers, one as a gas producer, and one as an observation well. This work will result in additional recovery, and an initial sustained production increase of 20 BOPD plus 250 MCFD. The last of the ten wells, NEDU 118, has no immediate utility and will be offered back to its original owner.

These wellbores are no longer needed as source wells, because sufficient San Andres water has been located in the southern portion of the Unit (please refer to the 1988 Supplement to the Initial Plan of Operations dated April 28, 1988 for additional details). In lieu of temporarily abandoning the wells, the following utilization plan was been developed:

- A. Recomplete as oil wells: NEDU 104, 217, 220, 314, 316, 318 and 321.
- B. Recomplete as a gas well: NEDU 312
- C. Recomplete as an observation well: NEDU 210

The seven wells presented above in category A are at favorable locations to recover additional secondary reserves. Three of those listed (NEDU 220, 318, and 321) are the only Unit wells in their respective 40 acre pattern. The remaining four (NEDU 104, 217, 314, and 316) are at 20 acre infill locations, or situated more than 450 feet from the nearest producer. In general, the proposed workover for these wells will consist of a clean out, the opening of any additional pay, and an acid treatment.

The NEDU 312 is being recommended as a replacement for the NEDU 215, a proposed gas well located only 125 feet from a Unit injection well (NEDU 214W). Because the NEDU 312 is positioned more than 1000 feet from the nearest injector, the risk of interference due to injection will be significantly reduced. NEDU 215 will be temporarily abandoned and held for future use as a possible observation well or back-up injector.

The NEDU 210, located 180 feet south of NEDU injector No. 209W, is ideally positioned for use as an observation well. Its objective would be to determine if any of the injected water has migrated into the Blinebry or Tubb gas zones.

The only wellbore originally intended for use as a source well without an immediate alternate utility, is the NEDU 118. The well was only drilled through the Paddock, and thus does not penetrate the Unitized interval. Therefore, it will be recommended that abandonment proceedings begin as detailed in Article 18 of the Unit Operating Agreement.

SWEPI Wellbore Donation

Working interest owner approval has been received for SWEPI's donation of its State Section 2 No. 6 as a replacement for the NEDU No. 315W, due to the presence of an "irrecoverable" fish across the lower Tubb and Drinkard in the 315W.

It was recommended that the State 2-6 be used as a Blinebry II-V/Tubb I-III/Drinkard I-V injector, and that it be renamed the NEDU 322W. This will enable injection into the entire oil column at this location. The 315W will be temporarily abandoned, and retained as a back-up injection site.

An injection well data sheet for the State 2-6 (proposed NEDU 322W) is attached.

Background. The NEDU 315W, formerly SWEPI's State Section 2 No. 9, was originally completed in 1951 as a Drinkard I-II producer. During a 1956 operation to frac treat the well, ten joints of tubing and a treating packer came free from the pulling unit slips, and fell 6500 feet downhole. Subsequent efforts to recover the corkscrewed tubing, in 1956 and again in 1978, were unsuccessful as only 100 feet of the fish was recovered in 21 days of milling (8 feet in the final 8 days). The remainder of the fish is located opposite the Tubb III and Drinkard I-II. Communication with the Drinkard I-II perfs is still possible as evidenced by 32 years of Drinkard production since the accident.

The State Section 2 No. 6, located 100 feet east of 315W, was also completed in 1951, but as an Ellenburger producer. It has since been recompleted to the Abo where it is currently producing near its economic limit. The State 2-6 would prove a far more effective injection site than the 315W, due to its accessibility to the entire Unitized interval.

Ur CR.		LEASE (FORMERLY SWEPI'S)
WELL	SWEPT NORTH	HEAST DRINKARD NIT STATE SEC 2 No. 6)
32		RANGE
<u> </u>	1960 PSL E	1980' FWL 2 - 215 - 37E
	Schematic	Tabular Data
	111	Surface Casing
	13 ³ ° 225'	
	- = 108 @ 225	Size 13% " Cemented with 300 ex.
		TOC SFC feet determined by CIRC.
٠.		Hole size 17"
	5½" LINER TIED BACK TO ER 10/Q	Intermediate Casing
		Size 85/8 " Cemented with 1500 sx.
•	8툴"@ 3149'	TOC SEC feet determined by CIRC.
		Hole size11"
•		
•,		Long string *
		Size $\frac{5\sqrt{2}}{}$ " Cemented with 1450 sx.
		TOC SFC feet determined by CIRC
:		Hole size 77/8"
	BLINEBRY	Total depth <u>8207' (CSG TO 806</u> 5')
	TUEB	Injection interval
	1 1000	•
	DRINKARD	±5820' feet to ±6830' feet (perforated or open-hole, indicate which)
	X X	71
	ABO	*: Originally RUN AS A LINER IN 7/51.
	(10 BE 302'0)	FROM 2942' TO 8065' (CMT'D 4/ 1000 SX)
	HARE	TOC AT LINER TOP). IN 10/86 IT WAS THE
	(SQZ'D)	THED BACK TO SURFACE (CHT'D W/ 450 SK.
		TOC AT SURFACE).
	5½ ° 8005	Joseph Jo
	{ FLLEN	
•	(ABAN'O)	
	TD=8207'	
	73/	
Tubi	ng size2/8 lin	ed with FIBERULASS EPOXY set in a (material)
 .	GUIBERSON UNI-VI	packer at ±5750 feet
(or	describe any other casing-tubi	no seal).
	er Data	
		BLINEBRY TUBB DIZINKARD
		Licable) N. EUNICE BITID OILEGAS POOL
3.	Is this a new well drilled for	• —
	If no, for what purpose was to	
	EUENBURGE	
4.	Has the well ever been perfor and give plugging detail (sac	ated in any other zone(s)? List all such perforated intervals ks of cement or bridge plug(s) used)
· .	• • •	TO BE SOZ'D WY 100 SX PRIOR TO BIT/D INTECTION
		072'D W/ 100 SX IN 7/87. EUEN: 8005-8207, ABAN'D YCIBP
. 5.		AT 8000, 10/86 any overlying and/or underlying oil or gas zones (pools) in
	this area.	

·

State of New Mexico





Commissioner of Public Lands

P.O. BOX 1148 SANTA FE, NEW MEXICO 87504-1148

SLO REF NO. OG-1020

February 7, 1989

Shell Western E&P Inc. Attn: Mr. W. F. Kelldorf P. O. Box 576 Houston, Texas 77001

Re: 1989 Plan of Development Northeast Drinkard Unit Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development.

Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES COMMISSIONER OF PUBLIC LANDS

FLOYD O. PRANDO, Director Oil and Gas Division

(505) 827-5744

cc: OCD

State of New Mexico





Commissioner of Public Lands

P.O. BOX 1148 SANTA FE, NEW MEXICO 87504-1148

April 5, 1989

Shell Western E&P Inc. P.O. Box 576 Houston, Texas 77001

ATTN: W.F.N. Kelldorf

RE: 1989 Plan of Development

First Amendment

Northeast Drinkard Unit Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned amendment to the 1989 Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files. If we may be of further help, please do not hesitate to contact us.

Very truly yours,

W.R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: FLOYD O. PRANDO, Director

Oil and Gas Division

(505) 827-5749

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



P.O. Box 576 Houston, TX 77001

January 25, 1989

United States Department of the Interior Bureau of Land Management Roswell District Office P. O. Box 1397 Roswell, NM 88201

Gentlemen:

SUBJECT: 1989 PLAN OF DEVELOPMENT AND 1988 REVIEW

NORTHEAST DRINKARD UNIT LEA COUNTY, NEW MEXICO

Enclosed, in triplicate, is the 1989 Plan of Development and Review of 1988 operations for the subject unit.

Should you have any questions, please contact A. J. Fore at (713) 870-3787.

Yours very truly,

W. F. N. Kelldorf

Staff Production Engineer
Safety, Environmental, and Administration
Western Division Production

JMW: VJC

Enclosures

cc: Mr. Floyd O. Prando, Director Commissioner of Public Lands Oil and Gas Division State Land Office Building 310 Old Santa Fe Trail Santa Fe, New Mexico 87503

Mr. David R. Catanach New Mexico Oil Conservation Division State Land Office Building 310 Old Santa Fe Trail Santa Fe, New Mexico 87503

ATTACHMENT 1

REVIEW OF 1988 OPERATIONS

General

Steps toward the implementation of the Northeast Drinkard Unit Water-flood Project began immediately following its Effective Unit Date of December 1, 1987. Project implementation involves workovers on each of the Unit's 153 wellbores, and installation of water injection and oil gathering facilities. Work is scheduled to be completed by year-end 1989.

Facilities

Construction of the central battery and powerhouse, as well as laying and testing of all injection, source water, and oil transfer lines was completed in the summer of 1988. This allowed for gravity feed injection to commence in August. Following completion of Southwest Public Service's NEDU substation in October, full scale injection began via permanent injection pumps. During December 1988 average injection was 11,855 BWPD into a total of 20 injection wells. Installation of production satellites, and the Unit's new electrical distribution, is underway at this time with completion expected in the spring of 1989.

Oil Producers

Workovers were completed on 38 oil producers. In general, these operations consisted of squeezing off any open gas intervals, opening all oil intervals, and acid treating.

Injectors

In addition to workovers on producers, 20 wells were converted to injection. Like the oil producer workovers, these operations consisted of squeezing off any gas intervals, opening all oil intervals, and acid treating.

Gas Producers

To date, no workovers have been performed on those well bores intended for use as gas wells. During 1989 we plan to complete 20 unit wells as gas producers.

BNBW8800501 - 0001.0.0

Water Source

In the original NEDU plan, 10 spare wells located in the northern portion of the unit were to provide source water from the San Andres. However, the initial test of northern San Andres (well 312S) found it to be an inadequate water source. In the search for an alternate water source the San Andres was tested in the southern portion of the unit. This test found that the southern San Andres would be capable of supplying the required volumes of source water. Based on these findings our original water source plan has been revised. SWEPI contributed five expendable non-unit wellbores as follows:

Pre Unit Well No.	NEDU Well No.
Argo No. 10	712\$
Argo A No. 5	8205
Argo A No. 9	818\$
Argo A No. 10	819\$
Turner 16	9198

Wells 919S and 819S were completed during 1988. Approval of this change was given by the Working Interest ownership 4-25-88 and by the BLM 5-12-88. Alternate uses are being recommended for nine of the 10 original north end ex-source wells, and a recommendation to temporarily abandon the tenth ex-source well is routing.

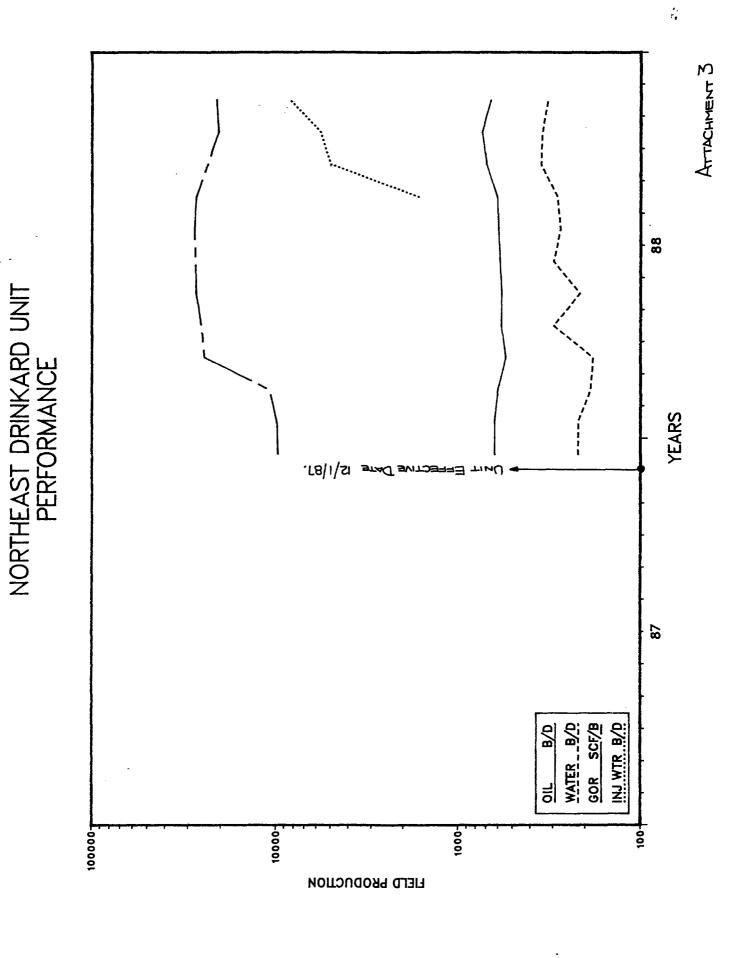
ATTACHMENT 2 NORTHEAST DRINKARD UNIT BLINEBRY-TUBB-DRINKARD WATERFLOOD

1987 - 88 MONTHLY PRODUCTION AND INJECTION VOLUMES (BBLS & MMCF)

1987	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. **
Prod 0il												19370
Prod Gas									-			184
Prod Water		٠										ı
Inj Water												1
1988												
Prod 0il	19398	17421	16850	17270	17735	17549	18474	18800	20824	22804	19755	21270*
Prod Gas	187	184	415	422	475	433	462	496	495	468	417	450*
Prod Water	62/89	5603	5610	8952	10407	8929	8485	8812	10509	10670	9618	10350*
Inj Water	ı	1	ı	1	1	1	•	47139	149838	175863	251403	367500*
				CUMULATI	VE VOLUME (BBLS &	CUMULATIVE VOLUMES AS OF 12-31-88 (BBLS & MMCF)	2-31-88					
	1. From Prod Prod	From Discovery Prod Oil Prod Gas	>	27	27,918,135 428,645							
	2. From Prod Prod Prod Inje	From Unitization (12/1/87) Prod Oil Prod Gas Prod Water Injected Water	ion (12/1/ r	(87)	247,520 5,058 104,734 991,743			3	• • • • • • • • • • • • • • • • • • •	**************************************	• • • • • • • • • • • • • • • • • • •	

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* December figures are estimates ** Unit effective 12/1/87



ATTACHMENT 4 WELL STATUS AT END OF CALENDAR YEAR

STATUS	YEAR-END 1987	YEAR-END 1988
Producers	124	118
Injectors	0	20
Shut-In Prod	29	14
Shut-In Source	0	6
TA'd	0	0
Water Source	0	1
Disposal	0	0
TOTAL	153	159

* Additional wells

- (1) Five new source wells(2) Arco contributed Sarkeys No. 6

ATTACHMENT 6

WELL WORK 1987-1988

Type of Operation	Number 1987	of Jobs 1988
Oil Producers: Squeeze open gas intervals, open all oil intervals, and acid treat.	1	38
Injectors: Squeeze open gas intervals, open all oil intervals, acid treat, and convert to injection.	0	20
Water Source Wells: Abandon existing perforations, open San Andres, and acid treat.	1	3

NOTE: Unit Effective Date was December 1, 1987.

ATTACHMENT 7

1989 Plan of Development NEDU

COMPLETE WATERFLOOD INSTALLATION

The injection facilities are in place. The production facilities will be completed in 1989. The remaining well work as listed in the initial 12/87 development plan will be completed in 1989 as follows:

- 1. CTI 17 wells (Total 37 CTI)
- 2. Workover 45 oil wells
- 3. Workover/recomplete 20 gas wells

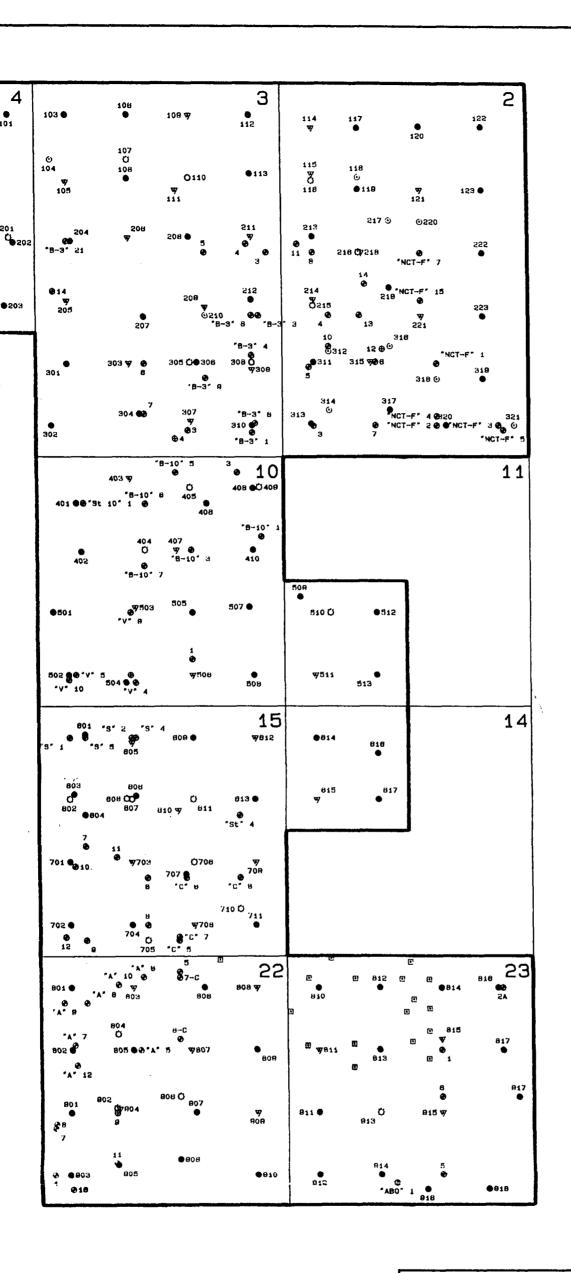
DEVELOP PERIPHERAL PATTERNS W/CO-OP INJECTION

In order to preclude oil losses to offset non-unit properties the NEDU initial plan of development did not include the full complement of injectors in the peripheral five spot patterns. To fully develop these peripheral patterns we now plan to enter into co-op agreements with offset lease operators and convert alternate line wells to injectors. Ultimately up to 22 unit line wells could be converted if agreement can be made with all offset operators. Assuming agreements can be reached with one or more offset operators in the near future we plan to make six co-op CTI's during 1989.

Water Source Wells

The remaining three water source wells (712S, 820S and 818S) will be completed in the San Andres in 1989.

Alternate uses are being planned for the 10 unit San Andres water source wells located in the northern portion of the unit that were replaced with five alternate San Andres source wells in the southern portion of the unit. Nine of these original 10 wells will be used as producers or observation wells. The tenth well will be temporarily abandoned or returned to the original owner.





NORTHEAST DRINKARD UNIT

UNIT AND NON UNIT WELLS

JOHN WEST ENGINEERING CO. CONSULTANTS

HOBBS

NEW MEXICO

ATTACHMENT 5

. OIL PRODUCER # : GAS PRODUCER

V : INTECTION WELL

() : WATER SOURCE WELL . NON-UNIT WELLBORE

> Surveyed By T. Asel Drawn By J. Holmes Last Rev Date Drawing Number Date Begin Date 02-11-88 SCALE : 1"=2000" Checked By G. Jones Date End Sheet

1	STATE OF NEW MEXICO
2	ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3	OIL CONSERVATION DIVISION
4	CASE 10052
5	
6	
7	
8	EXAMINER HEARING
9	
10	IN THE MATTER OF:
11	
12	Application of Shell Western E & P, Inc., for
13	Amendment of Division Order Nos. R-8539
l 4	and R-8541, as Amended, Lea County,
15	New Mexico
16	
17	TRANSCRIPT OF PROCEEDINGS
18	
19	BEFORE: DAVID R. CATANACH, EXAMINER
2 0	
21	STATE LAND OFFICE BUILDING
22	SANTA FE, NEW MEXICO
23	August 22, 1990
2 4	
2 5	ORIGINAL

APPEARANCES 1 2 3 FOR THE DIVISION: ROBERT G. STOVALL Attorney at Law Legal Counsel to the Divison 4 State Land Office Building 5 Santa Fe, N.M. 87501 FOR THE APPLICANT: W. PERRY PEARCE, ESQ. 6 Montgomery & Andrews, P.A. Post Office Box 2307 7 Santa Fe, N.M. 87504-2307 8 ERNEST L. PADILLA, ESQ. Padilla & Snyder FOR JOHN H. HENDRIX: 9 Post Office Box 2523 Santa Fe, N.M. 87504-2523 10 11 FOR J. R. and TOM CONE: W. THOMAS KELLAHIN, ESQ. Kellahin, Kellahin & Aubrey 12 Post Office Box 2265 13 Santa Fe, N.M. 87504-2265 14 15 16 17 18 19 20 21 22 23 24 25

1	INDEX	
2		Page Number
3	Appearances	2
4	LISA CORDER Examination by Mr. Pearce	7
5	Examination by Hearing Examiner	22, 53
6	WILLIAM R. LANCASTER Examination by Mr. Pearce 24,	40 46
7	Examination by Hearing Examiner Examination by Mr. Stovall	31, 48 32, 48
8	JOE D. RAMEY	02, 10
9	Examination by Mr. Pearce Examination by Hearing Examiner	33 38
10	Examination by Mr. Stovall	38
	Certificate of Reporter	55
12	EXHIBITS	
13	APPLICANT'S EXHIBITS:	
	Exhibit l Exhibit 2	8 8
	Exhibit 3 Exhibit 4	8 9 9
	Exhibit 5 Exhibit 6	10 10
	Exhibit 7 Exhibit 8	11 12
	Exhibit 9 Exhibit 10	13 13
19	Exhibit 11 Exhibit 12	14 25
20	Exhibit 13 Exhibit 14	26 28
21	Exhibit 15 Exhibit 16	28 46
22	Exhibit 17 Exhibit 18	34 35
23	Exhibit 19 Exhibit 20	49 49
24		
25		

1	EXAMINER CATANACH: At this time we'll call
2	10052.
3	MR. STOVALL: Application of Shell Western
4	E & P, Inc., for an amendment of Division Order Nos.
5	R-8539 and R-8541 as amended, Lea County, New Mexico.
6	EXAMINER CATANACH: Are there appearances
7	in this case?
8	MR. PEARCE: May it please the Examiner,
9	I'm W. Perry Pearce of the Law Firm of Montgomery &
10	Andrews, appearing in this matter on behalf of Shell
11	Western E & P, Inc., and I have three witnesses who
12	need to be sworn.
13	MR. PADILLA: Mr. Examiner, I'm Ernest L.
14	Padilla of Santa Fe, New Mexico, for John H. Hendrix
15	Corporation. I have no witnesses.
16	MR. KELLAHIN: Mr. Examiner, I'm Tom
17	Kellahin of the Santa Fe Law Firm of Kellahin,
18	Kellahin & Aubrey, appearing on behalf of J. R. Cone
19	and Jim Cone. I have no witnesses to present.
20	EXAMINER CATANACH: Any other appearances?
21	Will the witnesses please stand to be sworn
22	in.
23	(Thereupon, the witnesses were sworn.)
24	MR. PEARCE: Thank you, Mr. Examiner.
25	Before I call my first witness, if I may, I would like

to take just a moment to introduce this case and describe what we're doing.

As you may recall, in November of 1987,
Shell Western appeared before the Division and asked
for the creation of a new Blinebry-Tubb-Drinkard Pool.
That Pool was approved by the Division in Order No.
8539 and was named the North Eunice Blinebry-TubbDrinkard oil and gas pool.

At the same time, in a consolidated hearing, the Division approved statutory unitization of an area that was the same as the pool boundaries, and approved a waterflood covering that same area.

The order, as is customary, required Shell Western to appear before the Division within three years to discuss why the special pool rules should not lapse and general pool rules should not go into effect.

We're appearing before you today to have that three-year rule review, to request that special pool rules be made permanent after some amendments that result from information that we've gained during the almost three years of waterflood, unit and pool operation.

When we appeared before you in 1987, we indicated that the available production information

and geological information seemed to indicate that the gross Blinebry-Tubb-Drinkard interval was composed of separate oil and gas zones. Based on that description, the present pool rules provide for oil wells and gas wells in the pool area.

As I indicated, we've done extensive study during this almost three-year period, and after collecting that data and analyzing it, Shell Western is now ready to demonstrate that gas was originally distributed in the form of gas caps rather than separate zones, that those gas caps are now largely depleted and that almost all of the gas currently being produced in the pool area is coming from the oil column.

That indicates to us that the retention of a separate gas well classification and the imposition of the natural gas prorationing system on that gas production is not necessary and, in fact, is not appropriate.

As part of our case today, we will present data supporting the conclusion to the Division, we will attempt to answer any questions you have, and at the conclusion of the case we have a proposed form of order which contains new special pool rules.

We'll demonstrate that the changes we're

1	requesting will operate to prevent a waste of
2	resources by assisting in a more efficient operation
3	of the pool and the associated waterflood, and we'll
4	indicate that it will operate to protect the
5	correlative rights of interest owners in the pool and
6	interest owners offsetting the pool.
7	With that introduction, if I may, I would
8	like to call my first witness, Ms. Lisa Corder.
9	LISA CORDER
10	the witness herein, after having been first duly sworn
11	upon her oath, was examined and testified as follows:
12	EXAMINATION
13	BY MR. PEARCE:
14	Q. For the record, would you please state your
15	name and place of residence?
16	A. My name is Lisa Corder, and I live in
17	Houston, Texas.
18	Q. By whom are you employed?
19	A. Shell Western Exploration Production.
20	Q. And in what capacity?
21	A. I'm a geological engineer in the Western
22	Division Production.
23	Q. Have you appeared before the Division
24	previously and had your credentials as an expert in

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the field of petroleum geology made a matter of

25

1 record?

- A. Yes, I have.
- Q. Are you familiar with the application filed by Shell Western today?
 - A. Yes, I am.

MR. PEARCE: Mr. Examiner, At this time I would ask that Ms. Corder be qualified as an expert in the field of petroleum geology.

EXAMINER CATANACH: She is so qualified.

- Q. Ms. Corder, at this time I would like for you to look at the exhibits--I have passed out copies to the Examiner and the other parties in this case--and discuss those for the Examiner and those in attendance, please.
- A. Okay. As indicated on the Exhibit 1, the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool lies within the Penrose Skelly trend, which parallels the western edge of the Central Basin Platform. Drinkard production in the area was discovered in 1944, and most of the drilling activity occurred between 1948 and 1958, when the field was developed on 40-acre spacing.

As shown on Exhibit 2, the North Eunice
Blinebry-Tubb-Drinkard Oil and Gas Pool is situated on
the northeast end of the north/northwest,

south/southeast trending anticline, about one mile north of the town of Eunice.

I would like to ask the Examiners at this time to note that the North Eunice
Blinebry-Tubb-Drinkard Oil and Gas Pool and the
Northeast Drinkard Unit may be used interchangeably by the SWEPI witnesses throughout the rest of the testimony, and also there may be occasion where the Northeast Drinkard Unit is abbreviated NEDU, or referred to simply as NEDU.

I would like to now direct your attention to Exhibits 3 and 4. As indicated on these exhibits, the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool and the Northeast Drinkard Unit became effective in December of 1987. Water injection for secondary recovery operations began in August of 1988.

Currently the pool is producing approximately 560 barrels of oil a day, 11,600 Mcf of gas a day, and 680 barrels of water per day.

As you can see on Exhibit 4, current production is approximately 200 barrels of oil a day above the 1987 forecast. That is basically the result of an aggressive workover program to open all pay in all of the producers.

Water injection currently averages about

25,400 barrels of water per day. Cumulative protection is 28 million barrels of oil and 438 Bcf of gas, and since unitization we've recovered 556,000 barrels of oil and 12 Bcf of gas.

Exhibit 5 is a map of the pool area. This map outlines the status of all the Northeast Drinkard Unit wells at mid-year 1990. Included on this map are oil wells, pre-unit gas wells, post-unit gas wells, observation wells, injectors, water source wells, future water source wells, TA'd and shut in wells and also plugged and abandoned wells. Of particular note are the oil well and gas well classification.

Oil wells correspond to all those wells open in oil zones, and gas wells correspond to those wells open only in gas zones. So this sort of nomenclature may or may not correspond to how the State currently classifies a particular well.

This same exhibit will be used with slight modifications later in the testimony by the reservoir engineer.

As shown on Exhibit 6, the formations within the area dip approximately one to two degrees to the northeast. This particular map is contoured on the Blinebry Marker, but the Tubb and the Drinkard formations more or less follow this same general

structure. The structurally highest point within the Unit is in the southwest corner, in Section 22. This same structural interpretation will be displayed later with the aid of a structural cross-section through the field.

Exhibit 7 is a log from the Northeast

Drinkard Unit #221. Shown in black on the left-hand

side of this is the conventional gamma ray curve,

shown in yellow in the center track is the silt index

curve, shown in blue on the right-hand side is the

porosity curve.

The top of the Unit is defined by the NMOCD Blinebry, and the bottom of the Unit is defined by the top of the Abo formation. As indicated on the left-hand side of this exhibit, the Blinebry has been subdivided into five porosity zones that are correlative across the Unit area. The Tubb has been subdivided into four zones based on lithologic breaks, and the Drinkard has been subdivided into five zones based on lithology and porosity zonation.

The zonation shown on this exhibit is consistent with our revised interpretation of the geology of the pool, which I will go into in more detail later in the testimony.

Limited core data, in combination with

production data, was used to develop the original 1 reservoir production description as presented in the 2 1987 unitization hearing. Since unitization, we've acquired a much better understanding of the reservoir 4 with the aid of (1) more complete and detailed 5 6 production information by the working interest owners, 7 (2) more complete log data provided by the working interest owners, and (3) a series of additional cased 8 9 whole log suites that have been run in many of the 10 wells in conjunction with the post-unitization 11 workover program.

One of the most significant results of the detailed cased hole log program was the development of a lithologic model over the entire vertical interval. As I will demonstrate later in the testimony, that revised lithologic model has had a significant impact on the fluid distribution model.

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I would like to direct your attention now to Exhibit 8. This exhibits compares the vertical distribution of lithology data that was available at the time of unitization with the distribution of lithology data that's available at the present.

Shown in red on the left-hand side of this exhibit is a vertical distribution of lithology data that was available at unitization. This was in the

form of actual core and covered only one-third of the unitized interval. We had a little bit of core coverage in the upper part of the Blinebry and then the upper to middle part of the Drinkard Formation.

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Since unitization, we have run detailed cased hole logs in several wells over the entire vertical interval, as shown in blue on the right-hand side of this diagram. Those detailed cased hole logs have been used to develop a lithologic model over the entire vertical interval that's resulted in a more detailed and accurate reservoir description.

As indicated on Exhibit 9, the detailed cased hole log suites have been run in five key wells located in strategic positions across the field. The well in the northwest corner of this exhibit is Northeast Drinkard Unit #108. We have actual core and core data available over portions of the Blinebry and Drinkard in that well, and they have been used to calibrate the cased hole log suite.

Exhibit 10 shows simplified results of the lithology data that was obtained from the detailed cased hole logging of that well, which is Northeast Drinkard Unit #108. The mineralogical log suite was used to identify and approximate the relative volumetric abundance of four main matrix components,

and those included limestone, dolomite, anhydrite and silt.

The component that's most important to an understanding of the fluid distribution is silt. The silt, as we have defined it here is composed primarily of quartz and potassium bearing feldspars and clays. Silt, on this particular diagram, is indicated in orange and spikes on that silt curve above the background value indicate zones where there is significant silt content. Those zones will be referred throughout the rest of the testimony simply as silts. Continuous silts are believed to constitute reservoir seals, preventing the vertical migration of fluid over geologic time.

The continuous silts that are present in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool are shown in yellow on Exhibit 11.

- Q. At this time, Ms. Corder, I would ask you to approach Exhibit 11 which we've hung on the wall.

 The exhibit set contains smaller copies. If you would just be careful to speak up as you discuss it.
 - A. Okay.

- Q. Thank you.
- A. Before I get into the details of this, I'm just going to briefly summarize the main points that

I'm going to make with the aid of this exhibit throughout the rest of the testimony.

The first point is that the silts within this interval are confined to basically two packages; secondly, that those silts acted as seals over geologic time; third, that we've identified a gas/oil contact within the Blinebry at a depth of minus 225; that the upper part of the Tubb is actually a continuation of the Blinebry hydrocarbon column; that the remainder of the Tubb is generally gas productive high on structure and oil productive across the rest of the unit; and that a gas/oil contact was discovered or identified within the Drinkard at a depth of minus 3025.

The overall result is that the original gas bearing pore volume is currently believed to be much less than that which was presented at the 1987 unitization hearing.

Before I go into the details concerning the lithology and the fluid distribution, I'm just going to briefly summarize the cross-section construction.

This is a structural cross-section constructed using logs that have been acquired since unitization. Five of the six wells, excluding NEDU 910, have been logged with detailed cased hole log

suites and portions of those logs are what you see displayed.

As indicated in the lower right-hand corner of this exhibit, the cross-section generally runs from north to south. Beginning in a downdip position at NEDU 221, continues updip to NEDU 910 and slightly downdip at NEDU 918.

The green curve on the left-hand side of the logs is the conventional gamma ray. Shown shaded in red next to the gamma ray is the silt indicator curve, and shown in blue on the right-hand side of each of these logs is the porosity curve.

Pay corresponds to those intervals that are shaded blue but do not have a significant silt content. Also Noted on the left-hand side of this exhibit is formation tops, NMOCD Blinebry NMOCD Tubb, the Drinkard, and the top of the Abo formation. We've shown between NEDU #108 and NDU #407 the subzone nomenclature, and that nomenclature is consistent with that which was described and presented on Exhibit 7.

I'm now going to summarize in detail the lithologic model over the entire vertical interval and I'll emphasize the position of the silts and their control on fluid distribution.

The 75-foot interval from the NMOCD

Blinebry to the Blinebry Marker is a silty interval that forms the upper seal to the Blinebry hydrocarbon column. The interval from the Blinebry Marker to the NMOCD Tubb basically consists of dolomite and various amounts of nodular pore filling and replacement anhydrite. There are a few discontinuous silt stringers that are present within this interval.

Correlative porosity zones corresponding to the Blinebry subzones are correlative across the unit area. Within this interval there are no continuous barriers other than variations within porosity.

The 100-foot international from the NMOCD
Tubb to the Tubb Marker, which is commonly referred to
as Tubb I Upper, is very similar in lithology to the
overlying Blinebry. There are no lithologic breaks
that separate Blinebry V from the Tubb I Upper. And,
as I will mention again later in the testimony, we now
feel that that Tubb I Upper is actually a continuation
of the Blinebry oil column.

The Tubb Marker is the first silt of the Tubb silt package and it's correlative or continuous across the unit area. Three other silts of varying thicknesses are also continuous across the unit area. They are separated by relatively clean intervals of dolomite that do have a little bit of porosity

development. The lower part of the Tubb, referred to as Tubb III, has very little, if any, porosity development.

There's no lithologic break separating Tubb III from the Drinkard I. The Drinkard I is basically dolomite with some anhydrite in the form of pore filling replacement and nodular anhydrite. The porosity within the Drinkard I is relatively low as indicated by NEDU \$704. Drinkard II through V consists of interbedded stringers of limestone and dolomite, and most of the porosity within that interval appears to be developed within the limestone units. Locally those porous units are correlative. Again, within the Drinkard, there are no continuous barriers other than variations in porosity.

Using detailed original completion information provided by working interest owners, we've superimposed or revised the fluid distribution model on top of this lithology model, and I'll now summarize that fluid distribution model.

Based on original completion information we've identified an original gas/oil contact within the Blinebry at minus 2225. This differs from the original reservoir description or fluid distribution for the Blinebry at the 1987 unitization hearing.

At that time Blinebry I and II were believed to essentially be gas-bearing across the entire unit area. The change in the fluid distribution for the Blinebry is a result of detailed analysis of all available data, including data that's been acquired since unitization.

Given the gas/oil contact is at minus 2225 for the Blinebry, the downdip portions of Blinebry I are oil-bearing, and Blinebry II is oil-bearing across most of the unit area. Only the southwestern corner of the unit falls within the Blinebry II gas wedge.

So the overall result of the change in the fluid distribution is that the original gas-bearing pore volume is currently believed to be much less than that which was presented in the 1987 hearing.

The Tubb fluid distribution is also different from that which was presented at the 1987 hearing. At that time the entire interval from the NMOCD Tubb to the top of the Drinkard was believed to be more or less discrete pods of oil and gas distributed more or less randomly across the unit area.

Based on lithologic data that we've acquired since unitization, we do not see any lithologic break separating Blinebry V from the Tubb I

Upper. 1988 selective zone tests of Tubb I Upper indicates that the zone is oil-bearing across the entire unit area, and we now believe that that interval, the Tubb I Upper, is actually a continuation of the Blinebry oil column.

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This, again, results in a substantial reduction of the original gas-bearing pore volume from that which was presented at the 1987 hearing. Again, at that time, we thought the Tubb I Upper was predominantly gas-bearing.

Tubb I Lower and Tubb II generally appear to be gas-bearing, high on structure and oil-bearing across the rest of the structure. Data does not support a single gas/oil contact for those zones, but it does support the existence of a transition from gas to oil about at the mid-structure of the pool area.

A very thick, tight and largely nonproductive interval, referred to as the Tubb III, separates the upper zones of the Tubb from the Drinkard. Based on original completion information, we've identified an original gas/oil contact within the Drinkard at a depth of minus 3025. As a result, Drinkard I is partially gas-bearing in the southwestern corner of the Unit. However, the pore volume associated with that gas cap is relatively

small or very small due to the fact that there is very little porosity development in Drinkard I, as evidenced by NEDU #704.

The remainder of the Drinkard, including all of the downdip portions of Drinkard I, all of Drinkard II, III, IV and V are completely oil-bearing across the entire unit area.

So, to summarize the fluid distribution model, the changes that we've seen have resulted in a substantial reduction of the original gas-bearing pore volume from that which was presented at the 1987 hearing.

Blinebry I was found to be oil-bearing in the downdip portions of the unit; Blinebry II was oil-bearing across most of the unit area; Tubb I Upper is oil-bearing across the entire unit area and is now considered to be a continuation of Blinebry oil column and not predominantly gas-bearing as original thought.

The rest of the Tubb is generally gas-bearing high on structure, and oil-bearing in the downdip portions of the pool area. A small gas cap is identified within the Drinkard, but again the pore volume associated with that gas cap is very small. The remainder of the Drinkard is completely

1 | oil-bearing.

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So again, the overall result of the revised lithology model and fluid distribution model is that the original gas-bearing pore volume is currently believed to be much less than that which was presented at the 1987 unitization hearing.

As the reservoir engineer will demonstrate, the intervals that were gas-bearing are now depleted and are contributing very little to the current gas production from the unit.

- Q. Is there anything else you want to point out right now?
- 13 A. No.

MR. PEARCE: Mr. Examiner, that's all the questions I didn't have of this witness at this time.

She's available for questions, if you have any.

EXAMINATION

18 BY EXAMINER CATANACH:

- Q. Ms. Corder, you've come to the conclusion that the only real gas-bearing zones are high on structure, and those would be mostly in the southeast parts of the units?
 - A. That's right.
- Q. Basically, what would that area consist of, the gas-bearing portion?

A. It's basically going to be confined to Sections 15, 22 and portions of 23, but given the gas/oil contacts, it's going to vary a little bit for each of the horizons, Blinebry I, Blinebry II, Tubb and the Drinkard.

- Q. You're saying the remainder of the unit, there really isn't any recoverable gas or pore gas volume?
- A. Originally, there was a little bit of gas in portions of the Tubb, like in Section 10 and Section 3, although it was very spotty. Based on the results that we've seen from recent completions—and the reservoir engineer will go into that in a little more detail—we're just not seeing any producible volumes at the present time, so what gas was there is now depleted. The majority of the gas at the time of field discovery was in the updip portions of the unit which I described as Sections 15, 22 and parts of 23.
- Q. Now, there are some gas wells in Sections 3 and 4 and 10. Are those currently not producing?
- A. The reservoir engineer is going to show those.
- EXAMINER CATANACH: I have no further questions at this time.
 - Any other questions of this witness? She

1 may be excused.

WILLIAM R. LANCASTER

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

6 BY MR. PEARCE:

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- Q. For the record, would you please state your name and place of residence?
 - A. William R. Lancaster, Houston, Texas.
 - Q. Mr. Lancaster, by whom are you employed?
- A. Shell Western Exploration and Production.
- 12 Q. In what capacity, sir?
- 13 A. As a reservoir engineer.
 - Q. Mr. Lancaster, have you appeared before the Division and had your qualifications as an expert in the field of reservoir engineering accepted and made a matter of record?
- 18 A. Yes.
 - Q. Are you familiar with the application filed by Shell Western under consideration today?
- 21 A. Yes, I am.
- MR. PEARCE: Mr. Examiner, at this time I
 would ask Mr. Lancaster be recognized as an expert in
 the field of reservoir engineering.
 - EXAMINER CATANACH: He is so qualified.

Q. Mr. Lancaster, you have some information. Would you please discussion that for the Examiner?

A. In this portion of the testimony, I would like to cover how, as operator of the Drinkard unit, Shell Western has changed their concept as to the makeup of the gas reserves and how this has related to the need for gas zone injection.

As illustrated by the geologist, there is a revised description and considerably less pore volume of the free gas than was originally thought, but we do not anticipate any change in the initial estimate of 54 billion cubic feet of gas that was given when we formed the unit.

The basis for this statement is our observed performance of the unit and tests that we've made on different zones that have if confirmed (1) that the gas zones are largely depleted and have a bottom hole pressure of something in the range of 250 psi and (2) that some 95 percent of the gas is coming from wells that are completed in the oil column.

Now, to demonstrate what we mean when we say the gas zones are depleted, I would like to call your attention to Exhibit 12. That is a plot of the pressure as given in the Drinkard Unit versus the ultimate recovery that you would receive from a gas

zone.

On the Y axis we have the Drinkard pressure that would range from 0 to 2400 pounds, and on the X axis is the recovery of ultimate, from 0 to 100 percent, assuming an abandonment pressure of 100 psi.

As you can see on this plot, at 250 psi we've recovered some 95 percent of the ultimate oil. Now, one of the things that we found in order to confirm what we had seen here, that were these zones really depleted, we went in and tested eight wells. These eight wells are shown on Exhibit 13, their location.

This is the same exhibit as was shown on 5, except that we've included in the lower right-hand corner a tabulation of the wells that we've tested, the zones, and the rates and the bottom hole pressures that we observed.

These wells were scattered across the unit, and we've selected four Blinebry Zone 1 and four Tubb to test the completions. The northernmost well, 201, was a Blinebry well that we were unable to establish production in even though we spent extensive time and money trying to bring it in. Its average bottom hole pressure, that we measured later after an extended shut-in period was only 135 pounds.

The test rates that you can see range from 20 to 72 Mcf per day and really are uneconomical. Several of the wells, I might point out, you talked about the gas wells in Sections 3--or 2 and 10, these wells, although we tested them as gas wells, the gas zones actually produced as oil wells, produced with rather low gas/oil ratios.

These rates, which average probably some 33 Mcf per day, are essentially uneconomical and we can't really afford to make any additional recompletions at this rate. The pipelines feel the same way. In fact, the pipelines refused to hook up the last three wells we had, and the only way we were able to test them was to receive permission from the Commission to test them through our unit facilities rather than have the pipelines hook up to them.

What we've seen here where we've seen these low rates is really consistent with what we've seen in the field in our observations, in that when we would recomplete wells, squeeze off the gas zones and recomplete into the oil zones, we would see little or no change in the gas rate of the producing well. Now, given this sort of production and performance, I would like to--

Q. Excuse me. Before we do that, Mr.

Lancaster, I want to back up, please, to Exhibit 12.

You indicated that this exhibit indicates that 95

percent of the gas has been recoverable gas from the

gas zone so far? Is that what it says?

A. Yes.

- Q. I apologize for interrupting. Let's go to
- A. In Exhibit 14 we have two pie charts. The upper pie chart is our gas production as of mid-1990 and the lower one is our gas reserves. Given the production that we see in these seven wells that we produced, plus the other three gas producers that are completed in the gas zones only, the total gas production from the gas wells in this field is about five percent.

Given five percent of the gas production we've assumed we have five percent of the reserves remaining in the gas zones. Given this gas production, and I would like to draw your attention to Exhibit 15, which is a plot, a comparison of the plot of the forecast of the gas production as given in 1987 and the current 1990 forecast.

There's two similarities and two differences in these. The similarities are that we have assumed or recommended -- we base the reserves the

same in both cases, they're 54.7 Bcf of gas. 1 total rate of production really hasn't changed very Our total rate that we now forecast is about equivalent to what they had forecast then.

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The differences in what we see is in the makeup of the gas. Where we see significant amounts of the gas now coming from the oil column and only minor from the gas zones, we've extended the life from 2018 to 2033 to tie into the oil forecasts that we're going to show a little later.

Now, given the evidence that we've seen, where we have gas caps instead of gas zones, where we have indications that there's some communication by similarities in pressures, there's a concern that repressuring the oil column to 1,000 pounds or more could result in displacing some of the secondary oil into the gas cap. And, under this scenario, we could lose at least a million barrels of the 15 million barrels of secondary recovery. And, to prevent these losses, we would propose to include the gas zones as part of our injection.

We would anticipate no loss in gas reserves as a result of this and conceivably could actually have a slight increase in the gas reserves by injecting water into a depleted gas zone.

so, in summation, I would like to say that we see no current--because we've seen a change in the makeup, we see no current change in the ultimate gas recovery; that 95 percent of the gas we now believe is coming from wells completed in the oil column; the gas zones are largely depleted, which was confirmed with the completion of eight wells, four completed in the Tubb and four completed in the Blinebry.

Additional gas zones recompletion are uneconomical, and based on this we would recommend that the NMOCD eliminate the gas well classification which would allow us to increase our operating efficiency and to maximize the ultimate recovery of gas and oil.

MR. PEARCE: Mr. Examiner, at this time Mr. Lancaster has completed his discussion of the reservoir engineering aspects of the case and he is available for questioning on those.

If I may, after he has been questioned about reservoir engineering, I would like to excuse Mr. Lancaster, bring on our third witness, and then subsequently bring Mr. Lancaster back to discuss unit operations since formation of the unit and approval of the waterflood. But reservoir engineering information is now before you.

EXAMINATION

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- Q. Mr. Lancaster, how would the injection of water into these gas zones increase your gas production?
 - A. It would be very negligible, but when you have depleted gas and no more gas to recover, injecting water could possibly move some water into the drainage area of your gas well. Some gas.
 - Q. Do you propose this in the entire unit, to inject water into these gas zones in the entire unit?
 - A. In selected wells, yes; not every well.
- Q. You don't propose to exclude the southwest structurally high gas zones?
- 15 A. Initially we probably would, yes, until we 16 get it completely drained.
 - Q. So you would continue to produce the gas in the southwest quarter, that portion?
 - A. That we have, yes.
 - Q. Is most of the gas production from gas wells coming from that southwest portion of that unit?
 - A. Yes, it is.
 - EXAMINER CATANACH: I believe that's all I have of the witness at this time.
- MR. STOVALL: I just have one probably

1	naive question.
2	EXAMINATION
3	BY MR. STOVALL:
4	Q. The wells that are identified as gas wells
5	at the present time, are they perforated in the oil
6	column?
7	A. No, they are completed.
8	Q. They're strictly in the gas?
9	A. Only in the gas column.
10	Q. Can they be? Are they drilled through to
11	the oil? Could they be converted to oil production
12	without any
13	A. Some of them. I would have to look and
14	tell you which ones. Probably
15	Q. Do you have any intent to try to make them
16	into into oil wells?
17	A. No.
18	MR. STOVALL: That's all I need to know.
19	EXAMINER CATANACH: Mr. Pearce, why don't
20	we take a 10-minute break now.
21	(Thereupon, a recess was taken.)
22	EXAMINER CATANACH: Let's proceed, Mr.
23	Pearce.
24	MR. PEARCE: Thank, you, Mr. Examiner.
25	JOE D. RAMEY

the witness herein, after having been first duly sworn 1 2 upon his oath, was examined and testified as follows: 3 EXAMINATION BY MR. PEARCE: For the record, sir, would you please state 5 Q. your name and place of residence? 6 Joe D. Ramey, Hobbs, New Mexico. 7 A. Mr. Ramey, have you been retained by Shell 8 Q. 9 Western E & P, Inc. to testify in regard to the matter 10 under consideration today? 11 Yes, I have. Α. 12 And have you previously appeared before the Q. Division or one of its Examiners and had your 13 14 credentials accepted as an expert in the field of oil 15 and gas regulatory matters? 16 Α. Yes, I have. 17 MR. PEARCE: Mr. Examiner, at this time I 18 would ask that Mr. Ramey be so accepted. EXAMINER CATANACH: 19 He is so accepted. At this time, Mr. Ramey, would you describe 20 21 for us briefly the purpose of your testimony today? The purpose of my testimony is to 22 23 illustrate the differences in casinghead allowables 24 under the present rules and the proposed new rules.

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MR. PEARCE: Mr. Examiner, at this time I

would like to briefly skip over Exhibit 16 and we'll 1 return to that exhibit when Mr. Lancaster returns.

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- Mr. Ramey, at this time I would like for you to address your attention to Exhibit No. 17, please, and describe that exhibit for the Examiner and those in attendance?
- This exhibit illustrates the allowables or Α. the top casinghead gas allowables or gas allowables in the North Eunice Blinebry-Tubb-Drinkard Pool.

The first three lines are the current allowables for a 40-acre North Eunice oil well, which is 107 barrels per day times the limiting gas/oil ratio of 6,000 cubic feet per barrel. The Blinebry gas well, that's the average daily allowable based on the last year's production for allowables for a 160-acre unit, and the same with the Tubb.

Under the heading "Potential Gas Allowables Mcf Per Day for a 160-Acre Tract," under the current rules a fully developed 160-acre tract would have four North Eunice Blinebry-Tubb-Drinkard oil wells, one Blinebry gas well and one Tubb gas wells, which would give you a daily gas allowable of 3468 Mcf.

Under the current rules, the fully developed tract would only go down to four net North Eunice Blinebry-Tubb-Drinkard oil wells.

Q. That's if the gas well classification is dropped from the pool rules, is that correct?

- A. Yes, that's right, and then the gas wells would turn out to be second wells on a proration unit, and the allowable would be 2568 Mcf per day.
- Q. After determining what the allowable for an average 160-acre tract would be, under the current rules and then current rules without a gas well classification, have you attempted to determine the average producing capability of certain 160-acre tracts within the unit area?
- A. Yes, I have, and that's illustrated on Exhibit 18. There are nine tracts listed which encompass what we consider the higher gas producing area of the pool. They are in the southwest portion of the pool. Each square illustrated is a 160-acre tract. And, as you can see, the farthest north 160-acre tract is the highest gas-producing tract, and it makes around 1300 Mcf per day.
- Q. As I understand it, once again this is the area of highest gas productivity in the unit area?
- A. Yes, it is. This is approximately one-third of the 160-acre units, and it produces about two-thirds of the gas that is being produced currently from the pools.

- Q. Let's look at Exhibits 17 and 18 together. As I understand the information you've presented, the highest 160-acre gas-producing tract now currently can produce about 1300 Mcf a day, with an average current allowable of perhaps 3468 Mcf, and if you subtract out the gas wells, that allowable would be about 2500, is that correct?
 - A. That is correct.

- Q. Mr. Ramey, when you look at the average allowables which would be available to wells within the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool and you compare that with the 160-acre tract's producing ability, do you believe that it is necessary to have controls on the gas production within the unit area?
- A. No, I don't think that's necessary at all. I think we've shown today that what we have at this time in the pool is essentially a solution gas reservoir, and so we have a waterflood in a solution gas reservoir at this time.

And I would, you know, like to throw something out for the Examiner's consideration. If you'll refer to Rule 701(F)(3), it says, "Allowables in waterfloods are equal to the ability to produce, and they are not subject to the depth bracket

allowable. So the Examiner might consider treating
this waterflood as any other waterflood is treated in
the state.

- Q. Mr. Ramey, do you believe that the elimination of the gas well classification from the rules governing the North Eunice Pool and allowing that pool to be regulated under normal waterflood rules is in the best interest of the prevention of waste and the protection of correlative rights?
- A. Yes.
- Q. Mr. Ramey, do you have anything further at this time?
- A. I think not. I think just to add a little something, these are current gas rates and we have, you know, every indication is that these gas rates will decline as the injection volume increases and we start realizing fill-up. I think the gas volumes will decline, so I don't think there will be any additional gas or additional gas volumes produced on a daily basis or a monthly basis.

MR. PEARCE: Mr. Examiner, I have nothing further of this witness at this time. He's available for questioning.

EXAMINATION 1 2 BY EXAMINER CATANACH: 3 Q. Mr. Ramey, on Exhibit 18, where's the gas coming from on these tracts? Are they from gas wells or does that also include oil wells? 5 Α. There are gas wells on those tracts. 6 think the tract, the 1300 tract has four oil wells or 7 8 four North Eunice Blinebry-Tubb-Drinkard wells and a Tubb gas well and a Blinebry gas well. 9 10 So most of these tracts do contain some oil 0. 11 wells that are producing gas? Yes. There are four oil wells on each of 12 Α. 13 these tracts. 14 Q. There are? In addition to--15 Or three wells and an injection well, but 16 basically four North Eunice Blinebry-Tubb-Drinkard 17 wells on each of the tracts. 18 Q. And each of the tracts also has a gas well? No, I don't think -- not each of them. 19 Α. 20 MR. PEARCE: No. 21 EXAMINER CATANACH: That's all right.

23 EXAMINATION

can get that from the other exhibit here.

24 BY MR. STOVALL:

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Q. Mr. Ramey, let me clarify. Exhibit 18, the

squares drawn with the numbers in them are sections, 160-acre tracts?

A. Yes, they're 160-acre tracts.

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- Q. The four 160-acre tracts, 100 in the northwest, 200 in the northeast, 1100 in the southeast and 1000 southwest, is the southwestmost section of the unit, is that correct? I don't see the number on the exhibit?
- A. All of Section 22, would it be the west half of Section 23, and all but the northeast quarter of Section 15 is what the area encompasses. It's essentially the area that Ms. Corder outlined in her testimony.

If you'll look up in the upper right-hand corner of the exhibit, there's a small unit outlined with the 160-acre tracts outlined in them.

MR. STOVALL: I just wanted to be sure my interpretation of that was correct.

EXAMINER CATANACH: Mr. Ramey, did you give a percentage of the amount of gas that's being produced from this area right here?

THE WITNESS: Yes, about two-thirds of the gas comes from this approximately one-third of the unit.

MR. STOVALL: Approximately how much of the

gas coming from this area delineated comes from the gas wells? Do you have that information?

MR. PEARCE: Counselor, I think when we get Mr. Lancaster back on, he may have detailed production records from each of those wells and we can probably figure that out with him if you'll hold off on that question for a couple of minutes.

MR. STOVALL: I can do that.

EXAMINER CATANACH: Any further questions?
The witness may be excused.

MR. PEARCE: Mr. Lancaster, if you would return, please.

WILLIAM L. LANCASTER

the witness herein, after having been previously duly sworn upon his oath, was examined and testified further as follows:

EXAMINATION

18 BY MR. PEARCE:

Q. Before we go, Mr. Lancaster, to the second part of your testimony, I would ask you to look at the previous exhibits that Ms. Corder introduced, and it may be that 13 is the best exhibit to use. We were having some questions from the Examiner and Counsel about relative production in the study area. Can you address those for us?

The gas production from the gas wells 1 primarily comes from this area. There are two gas 2 producers listed that are not included in this area, 3 and they're 305 and 405, that make 70 Mcf a day. 5 Q. Where are the wells you just mentioned? They're up here in Section 2 and 15--2 and A. 6 I beg your pardon. 201 is not producing. 7 10. So what you really see in Exhibit 18 is 8 9 that the 1300, the 160 acres with 1300 Mcf a day has 10 two gas wells, one of which is very marginal. 11 160 acres south of that with 1000 Mcf a day has four wells and no gas wells. The two leases south 12 13 of that have three oil wells and one gas well each. 14 And the gas wells make maybe 150 Mcf a day each. 15 EXAMINATION BY MR. STOVALL: 16 17 In each of those areas? Q. A. No, just the two southern wells. 18 19 0. When you're saying the two, down in Section 20 22? 21 Α. The west half of Section 22, yes. 22 0. Okay. It appears to me there's a gas well 23 in the northwest quarter, a gas well in the southwest

CUMBRE COURT REPORTING (505) 984-2244

quarter and a gas well in the northeast quarter, is

that correct, of Section 22?

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- 806 is essentially shut in. 1 Α. 902 are the two gas wells. 2 Q. And those each make about 150 Mcf? 3 Approximately. Α. So they're making their proportionate share 5 Q. of the gas, approximately, is what you're saying, is 6 that correct? The oil wells are making as much or 7 more gas than those wells? 8 9 The oil wells make as much or more gas than Α. the gas wells do. 10 11 Is that true in Section 15 as well, where Q. it looks like there's four gas wells that appear in 12 the area of study in Section 15, two in the northwest 13 and two in the southeast? 14
 - A. Essentially the oil wells probably make the majority of the production. And then, from there, north, we have literally no gas production from the gas.

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- Q. Let me make sure I understand your concern on why you're seeking the rule changes. One is that by classifying these as gas wells, they're subject to proration and limitations on production, is that correct? Is that one of your concerns?
- A. Our concern here is that --well, we have several concerns. One is that we have to treat them

separately and produce them through the pipeline and 1 this is a problem. So, we would like to produce them through the unit facilities and just kind of put them in with the unit. And accounting for them and keeping them separate is a very definite burden. The few gas wells we have, we would just like to put in with the rest of the oil wells and produce them until they deplete, and then abandon them.

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MR. PEARCE: If I may clarify, under the previous order there was a requirement that the gas wells be squeezed so that they are only open in the gas zones. We're before you because, as shown by Exhibit 13, when Shell did that to eight wells, it got very marginal gas producers.

Shell is being forced to do extensive workover on a number of wells, and the previous order required us to keep, I believe, the number was, 22 gas wells in the unit area. In fact, the last three wells, as the previous witness mentioned, the last three wells that were drilled, the pipeline was not willing to lay line to connect them, they were producing so little gas.

So, we're in a situation in which the present order requires us to produce gas wells that are not even marginally economic, and the cost of

doing that, plus the administrative burden of maintaining separate gas well records and classification, we believe, is unnecessary.

MR. STOVALL: Referring to the eight wells, Mr. Pearce, those are the eight on Exhibit 13 that are blocked in red?

MR. PEARCE: That is correct.

- Q. (BY MR. STOVALL) And what would you propose to do with those wells if the relief you're seeking in this hearing is granted?
- A. We would basically produce them to their economic limit, or produce them until-- If any one of them had a mechanical failure, it would be abandoned because we just could not afford to work it over.
- Q. I think you told me before, there would be no intent to put them in the oil column or turn them into oil wells, if you eliminate that classification?
 - A. Right.

MR. STOVALL: Would it be possible to amend the order or get an exception to rules to allow the gas from gas wells to go through the unit operation? What would cause a problem as far as seeking that relief?

MR. PEARCE: Well, the present order, as I mentioned, requires us to maintain a set number of gas

wells in the unit so that we have a problem of system
that the gas can go through, we have a problem of
converting wells with uneconomic workovers, we have a
problem of dual administration through the Hobbs
office, with marginal wells being subject to the gas
prorationing system.

The witness has indicated that their intention is to produce these wells to their economic limit and eventually there just won't be any straight gas wells in this area because Shell has no intention of drilling additional gas wells.

- Q. (BY MR. STOVALL) Is there any allowable problem with respect to the oil wells in the unit, based on a GOR or anything of that nature?
- A. No. The average production here is around, like we said, 560 barrels of oil with 11,600 Mcf per barrel of gas. The problem is having to separate the gas in our work, day-to-day work, separate and accounting separate and keeping it separate from the oil in just some of the wells, having to squeeze it off. And this is a very expensive operation, something that we would rather not have to do.

MR. STOVALL: I don't have any further questions at this time.

MR. PEARCE: All right.

EXAMINATION

2 BY MR. PEARCE:

Q. At this point, Mr. Lancaster, let's go back and I would ask you to pick out Exhibit 16.

MR. PEARCE: In this part of our testimony, Mr. Examiner, we want to have Mr. Lancaster provide an overview of unit and waterflood operations since formation.

A. One of the requirements in the original pool orders were that after three years we would come before you and show cause why the pool rules should be made permanent. That's what we're doing in this portion of the testimony, is fulfilling that requirement.

What we will do is show that the waterflood in our opinion is performing satisfactorily and we would recommend that the pool rules, with slight modifications, be made permanent.

To date we have expended some \$18.4 million or 92 percent of the total \$20 million that will be spent to install this waterflood as initially recommended. The facilities are completed and most of the remaining expenditures will be for well work.

Again, as stated earlier, our production is about 560 barrels of oil a day and our gas is 11,600

Mcf a day. Our injection at 25,400 barrels a day is the one thing that's less than forecast. However, we intend to add a source well and three co-op wells offsetting the Cone acreage later this year, and by the end of the year we would hope to have injection up to 35,000 barrels a day.

Profile survey work has shown that we put about 60 percent of the water into the Blinebry, five percent into the Tubb, and 35 percent into the Drinkard, and we think this is satisfactory for an effective waterflood.

We've run a large number of bottom hole pressures, and we've observed a normal range of values and an average reservoir pressure of something less than 250 psi. We've also observed relatively little vertical or horizontal variation in these pressures.

I would like to draw your attention to Exhibit 16, which is the current forecast of the oil production for this pool. Like the gas forecast, there are several similarities and differences; the similarity being that the reserves used in this forecast were the same as those predicted back in 1987, of a little over a million barrels of remaining primary and 15 million barrels of secondary oil.

The difference is in the time required to

reach maximum production or fill-up. Given the fact 1 2 that we now envision most of the gas coming out of the 3 oil column, our fill-up requirements are significantly higher and will require a longer period of time. 4 instead of, say, six years, we now anticipate 5 something like 11 years to fill up the reservoir and 6 the corresponding lengthening of the life from 2018 to 7 2033. 8

- Q. Anything further, Mr. Lancaster?
- 10 A. That's all I have.

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Q. Mr. Lancaster, you've studied the operations of the pool, the unit and the waterflood.

Do you believe that the continuation of the North Eunice Blinebry-Tubb-Drinkard Pool and the continuation of waterflood operations in this area are in the best interests of conservation of natural resources?

A. Yes, I do.

MR. PEARCE: Mr. Examiner, I have nothing
further of this witness at this time. He's
available.

EXAMINATION

23 BY EXAMINER CATANACH:

Q. Mr. Lancaster, Shell doesn't plan to inject into the zones that were previously thought to be gas,

is that correct? They don't plan to actively inject into those zones that were thought to be gas caps--

- A. Not into what we anticipate to be gas caps. Now, into zones that we have reinterpreted to have oil, like the downdip portion of Blinebry II and the downdip of the Tubb, yes, we would probably actively inject into those.
- Q. That would not include or would that include the southwest portion of the unit?
 - A. Not immediately, no.
- Q. You would deplete the gas out of those zones and then maybe go with injection?
- A. Yes. And it could be 10 years from now.

 It wouldn't be in the next immediate future at all.

 EXAMINER CATANACH: I believe that's all I

16 have of the witness.

MR. PEARCE: A couple of additional matters at this time, Mr. Examiner, if I may. I would like to bring the Examiner's attention to what we have marked as Exhibit No. 19. That's is an Affidavit of service with an attached list of people receiving notice of this case; and also to what we've marked as Exhibit No. 20, which is a draft order in this matter adopting new pool rules which have the effect of eliminating the gas well classification, returning the waterflood

to normal waterflood operational and regulatory procedures, and have the effect of conforming the waterflood order itself to these changes of gas/oil classification elimination.

If you could, I would ask you to turn to page 4 of the draft order, Exhibit No. 20, and focus your attention for a minute on proposed Rule No. 5.

The last part of that proposed rule has been added to a previously existing North Eunice rule after discussions of this matter with offset operators.

In addition to that, this morning we have been asked to add another phrase at the end of that proposed rule. The last part of that presently reads that Shell will seek permission from such office, and that's the Hobbs's office, before perforating the gas-bearing intervals of the Blinebry Zones I and II and any additional producing well.

To that we have been asked this morning to add a phrase that says "after giving notice to offset operators." As I say, we've been asked by an offset operator to include that provision. Shell has no objection to that. I would ask you to amend the exhibit to show the addition of that phrase.

At this time, Mr. Examiner, I would ask that Shell Western Exhibits 1 through 20 be admitted

into this record.

EXAMINER CATANACH: Exhibits 1 through 20 are hereby admitted.

MR. PEARCE: Thank you. Mr. Examiner, if I may very briefly, Shell has appeared before you today seeking some changes to the present rules for the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool. We appear because after almost three years of operation in this area we have gained a better technical petroleum engineering and geological understanding of the reservoir, we have examined available cores and core data, we have collected and analyzed detailed cased hole log suites, we've reviewed detailed original completion data, and we've conducted numerous bottom hole pressure surveys and zonal production surveys.

This data has been summarized for you today and demonstrates that a small amount of remaining gas reserves can be produced from nearly depleted gas caps but that approximately 95 percent of gas production from the North Eunice Blinebry-Tubb-Drinkard Pool is being produced from the oil column.

Based on this information, we are requesting that the temporary pool rules eliminate the minimum number of gas well provision and that the gas

prorationing restrictions on production from this pool
be eliminated.

We've demonstrated that such elimination will not adversely affect ultimate recovery; that, in fact, it may increase the efficiency and therefore the ultimate recovery from the pool, will therefore prevent waste, and we're of the opinion that it will not impair correlative rights of any interest owners in the pool or surrounding the pool.

Our Exhibit No. 20, as I've said, is a proposed order with new rules which have the effect of eliminating that gas well classification, and the witnesses have testified for you that that elimination will be in the best interests of the prevention of waste and the protection of correlative rights.

We, therefore, recommend that the draft order be reviewed and that the proposed Rule 5, as we have suggested the amendment, and the other special pool rules be adopted. Thank you, sir.

MR. STOVALL: Mr. Pearce, do we have the return receipt cards on your--

MR. PEARCE: I do not have them. We will get them for you.

MR. LANCASTER: I have them.

MR. PEARCE: You have them with you?

MR. LANCASTER: Yes. 1 2 MR. PEARCE: I will copy them immediately after the hearing and put them in the case file. 3 EXAMINER CATANACH: Mr. Pearce, if I may, I have two questions for Ms. Corder. 5 MR. PEARCE: Certainly. Ms. Corder, can 6 7 you come back please? 8 LISA CORDER 9 the witness herein, after having been previously duly 10 sworn upon her oath, was examined and testified further as follows: 11 12 EXAMINATION 13 BY EXAMINER CATANACH: Ms. Corder, Mr. Lancaster has testified 14 15 that Shell may inject into some of those previously 16 bearing gas zones. 17 Have you looked at any of the acreage 18 surrounding the units, and do you have an opinion as 19 to whether that might have any detrimental effect to 20 any other operators outside of the unit? I have not went and looked in detail at the 21 Α. 22 logs from wells surrounding the unit area, but based

CUMBRE COURT REPORTING (505) 984-2244

on the fact or just assuming there's similarities

between our unit area and the offsetting area, the

porosity stringers themselves are continuous locally

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but they're not continuous in such a degree that I 1 2 think it's really going to impair the offsetting 3 operators. Especially the fact that we don't plan injecting along the lease lines until we get some sort 4 of co-op agreement with those offsetting operators. 5 So, if we inject into those gas caps, we're 6 7 going to be well away from the lease line unless we've gotten approval from the offsetting operators to do 8 9 so. 10 **EXAMINER CATANACH:** Okay. That's all I 11 have. 12 Is there anything further in this case? 13 MR. PEARCE: Nothing further, Mr. Examiner. EXAMINER CATANACH: Case 10052 will be 14 15 taken under advisement. 16 MR. PEARCE: Thank you. 17 18 19 20 21 22 23 24 25

CERTIFICATE OF REPORTER 1 2 3 STATE OF NEW MEXICO)) ss. COUNTY OF SANTA FE 4 5 I, Carla Diane Rodriguez, Certified 6 Shorthand Reporter and Notary Public, HEREBY CERTIFY 7 that the foregoing transcript of proceedings before 8 9 the Oil Conservation Division was reported by me; that 10 I caused my notes to be transcribed under my personal 11 supervision; and that the foregoing is a true and 12 accurate record of the proceedings. I FURTHER CERTIFY that I am not a relative 13 or employee of any of the parties or attorneys 14 15 involved in this matter and that I have no personal interest in the final disposition of this matter. 16 17 WITNESS MY HAND AND SEAL August 30, 1990. 18 19 CARLA DIANE RODRIGUE CSR No. 91 20 21 My commission expires: May 25, 1991 22 I do hereby certify that the foregoing is 23 a complete record of the proceedings in the Examiner hearing of Case No. 10052 24 heard by me on Hous 19 % 25 Examiner

CUMBRE COURT REPORTING (505) 984-2244

Oil Conservation Division

INJECTION WELLS

LEASE NAME

WELL NO	LOCATION	SURVEY			CA	CASING			,	TUBING	:	:	PACKER(S)	•
	SEC-TS-RNG		S17E	DEPTH	SXS. OF CMT.	HOLE S12E	201	TOC DATA SOURCE	1 S12E	LINING TYPE	DEPTH	MAKE	NODEL	DEPTH
Northeast Drinkard Unit	inkard Unit													
105W	3-21S-37E	2080' FNL & 660' FNL	8 5/8" 5 1/2"	1380'	400 760	11* 7 7/8"	3975°	CIRC CALC W/ 50% LOSS	2 3/8"	9	.0059	TENSION PKR. Baker Lok-si	N PKR. Lok-set	. 2009.
109M	3-21S-37E	980' FNL &	11 3/4" 7 5/8" 5 1/2"	270° 3061° 6024°	375 1112 375	N/A N/A	SURF 1517' 3190'	CIRC TEMP-SVY TEMP-SVY	2 3/8"	E E	. 2200	ВАКЕЯ	LOK-SET	. 200.
M111	3-21S-37E	2232' FNL & 2310' FEL	8 5/8" 5 1/2"	1395'	599 2612	12 1/4" 7 7/8"	SURF	CIRC	2 3/8"	FG	, 0029	TENSION PKR. BAKER LOK-S	N PKR. LOK-SET	5650°
11 34 34	2-215-37E	906' FNL &	13 3/8" 8 5/8" 5 1/2" 3 1/2" LNR	2081 30081 60301 56481- 68981	240 1750 225 100	17 1/4" 11" 7 7/8" 4 3/4"	SURF SURF 4780' 5648'	CIRC CIRC TEMP-5VY CIRC	2 3/8"	8	5700'	BAKER	LOK-SET	5700'
115W	2-215-37E	1896' FNL & 660' FWL	13 3/8" 9 5/8" 5 1/2"	152° 3004° 8519°	165 1600 550	17 1/4" 12 1/4" 7 7/8"	SURF SURF 4250°	CIRC CIRC TEMP-SVY	2 3/8"	7	6475′	TENSION PKR. TENSION PKR. BAKER LOK-S	TENSION PKR. TENSION PKR. BAKER LOK-SET	5600° 6250° 6475°
1210	2-215-37E	2220' FNL \$ 2307' FEL	13 3/8" 8 5/8" 5 1/2"	375° 3024° 5844°	425 2950 1120	17 1/4" 11" 7 7/8"	SURF 317' 3100'	CIRC TEMP-SVY TEMP-SVY	2 3/8"	92	. 2800	BAKER	LOK-SET	.0085
Z05W	3-215-37E	3300' FSL	9 5/8" 2 7/8" 2 7/8" 2 7/8"	271° 6724° 6724° 6726°	250 635 635 635	12 1/4* 8 3/4" 8 3/4" 8 3/4"	SURF 2400 ' 2400 ' 2400 '	CIRC TEMP-SVY TEMP-SVY TEMP-SVY	1 1/2"	3 3	5400°	BAKER	7 - 7 5 - 3	2600°

WELL NO	LOCATION	SURVEY			CA	CASING			 	TUBING	å 1 1 1 1	PACK	PACKER (S)	!
	SEC-TS-RNG		SIZE	DEPTH	SXS. OF CMT.	HOLE Size	70L	TOC DATA SOURCE	L S17E	LINING TYPE	рертн	MAKE NODEL	į	DEPTH
Northeast Drinkard Unit	inkard Unit	1 1 1 1 1 1 1 1 1 1 1 1 1 1												
Z06N	3-215-37E	3226' FNL & 1980' FWL	13 3/8" 8 5/8" 5 1/2"	301° 3879° 8060°	250 4800 675	17 1/4" 11" 7 7/8"	SURF Surf 2915	CIRC CIRC TEMP-SVY	2 3/8"	£	6450°	TENSION PKR. BAKER LOK-SET	ᇤ	5600'
209W	3-125-37E	3150' FSL % 1650' FEL	13 3/8" 9 5/8" 7"	250° 3150° 8113°	250 1370 940	17 1/2" 12 1/2" 8 3/4"	SURF 1450 ' 2950 '	CIRC TEMP-SVY TEMP-SVY	2 3/8"	5	. 0059	TENSION PKR. BAKER LOK-SET	· 🗀 · ·	5700° 6500°
2114	3-215-37E	4620' FSL & 660' FEL	13 3/8" 8 5/8" 5 1/2"	222° 2920° 6665°	300 2200 600	17 1/4" 11" 7 7/8"	SURF SURF 3200'	CIRC CIRC FREE PT.	2 3/8"	i i	, 0029	TENSION PKR. BAKER LOK-SET	· - H	, 2009 2000
2144	2-215-37E	3300' FSL & 660' FWL	13 3/8" 9 5/8" 7	145' 2939' 6810'	165 1600 600	17 1/4" 12 1/4" 8 3/4"	SURF 115' 1970'	CIRC Temp-svy Temp-svy	2 3/8"	F6	6550°	TENSION PKR. TENSION PKR. BAKER LOK-SET	· ·	2600° 6350° 6550°
Z18W	2-21S-37E	3546' FNL & 1700' FWL 5	13 3/8" 8 5/8" 1/2" LNR	222' 3150' 2948'- 7997'	250 1800 . 895	17 1/2" 11" 7 7/8"	SURF SURF 2948	CIRC CIRC CIRC	2 3/8"	9	, 0099	TENSION PKR. TENSION PKR. BAKER LOK-SET	·· 📅 · ·	5700° 6350° 6600°
221H	2-215-37E	2983' FSL & 2317' FEL	13 3/8" 8 5/8" 5 1/2"	271' 2998' 8258'	300 3400 675	17 1/4" 11" 7 7/8"	SURF 1430' 4085'	CIRC TEMP-SVY TEMP-SVY	2 3/8"	3	. 0099	TENSION PKR. TENSION PKR. BAKER LOK-SET	듑	5700° 6250° 6600°
303M	3-21S-37E	1980' FSL \$ 1980' FWL	13 3/8" 8 5/8" 5 1/2"	228° 2916° 6674°	300 2000 600	17 1/4" 11" 7 7/8"	SURF Surf 3601°	CIRC CIRC TEMP-SVY	2 3/8"	9	6450 '	TENSION PKR. Baker Lok-Set	. ti	5600°

WELL NO	LOCATION	SURVEY			3	CASING			-	TURING	!	PACKER(S)	(3
	SEC-15-RNG		\$17E	ОЕРТН	SXS. OF CMT.	HOLE S17E	100	TOC DATA Source	311E	LINING	DEPTH	MAKE MODEL	DEPTH
Northeast Drinkard Unit	inkard Unit	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		: : : : :	• • • • •	: : : : : :	: : : :	1 1 1 1 1 1 1 1 1 1	! ! ! !	! ! ! !	5 1 6 8 8 8 8 8	· 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	f 2 2 2 6 6
307H	3-215-37E	660' FSL & 1980' FEL	13 3/8" 8 5/8" 5 1/2"	224° 3148° 6674°	300 3700 6 00	17 1/4" 11" 7 7/8"	SURF SURF 3600'	CIRC CIRC FREE PT.	2 3/8"	FG	. 0229	TENSION PKR. Baker Lok-set	5500.
309W	3-215-37E	1830' FSL \$4 660' FEL	10 3/4" 7 5/8" 5 1/2"	268° 3128° 8020°	250 1145 550	N/A N/A	SURF 1200° 2550	CIRC TEMP-5VY TEMP-5VY	2 3/8"	8	. 0059	TENSION PKR. Baker Lok-set	5700'
315W	2-215-37E	1980' FSL & 1880' FWL 5	13 3/8" 8 5/8" 1/2" LNR	209° 3145° 2950°- 6701°	250 2000 700	17 1/4" 11" 7 7/8"	SURF SURF 2950°	CIRC CIRC CIRC	2 3/8"	FG	6550'	TENSION PKR. TENSION PKR. BAKER LOK-SET	5600° 6350° 6550°
403M	10-21S-37E	460' FNL & 1980' FWL	13 3/8" 8 5/8" 5 1/2" 4" F LNR	337' 3000' 6485' 6413'- 6790'	300 300 375 35	N/A N/A N/A 4 3/4"	SURF 1900' 3150' 6413'	CIRC TEMP-SVY TEMP-SVY CIRC	2 3/8"	FG	6525 '	TENSION PKR. TENSION PKR. BAKER LOK-SET	5700° 6150° 6525°
407W	10-215-37E	1980' FNL & 2310' FEL	13 3/8" 9 5/8" 7"	251° 3149° 7795°	250 1156 1308	17" 12 1/4" 8 3/4"	SURF 950° SURF	CIRC TEMP-SVY CIRC	2 3/8"	9	. 0059	TENSION PKR. TENSION PKR. BAKER LOK-SET	5700° 6150° 6500°
503M	10-215-37E	2080' FSL & 2080' FWL	13 3/8" 9 5/8" 5 1/2"	333° 3165° 7785°	375 1400 400	17 1/2" 12 1/4" 6 3/4"	SURF SURF 2500°	CIRC CIRC N/A	2 3/8"	9	6400°	TENSION PKR. TENSION PKR. BAKER LOK-SET	5600° 6050° 6400°
N909	10-215-37E	660' FSL & 1980' FEL	10 3/4" 7 5/8" 5 1/2"	342° 3098° 7673°	300 1600 485	15" 9 7/8" 6 3/4"	SURF SURF 2945	CIRC CIRC TEMP-SVY	2 3/8*	9		TENSION PKR. Baker Lok-Set	5550° 6350°

LEASE NAME

	DEP TH	<u>:</u>	5500'	5500° 6400°	5500° 6400°	5700° 6450°	6350	5500°
(8)	8							
PACKER (S)	MODEL	 	TENSION PKR. Baker lok-set	IENSION PKR. SAKER LOK-SET	TENSION PKR. Baker Lok-set	TENSION PKR. BAKER LOK-SET	IENSION PKR, Baker lok-set	TENSION PKR. BAKER LOK-SET
	MAKE	9 9 9 1 1 1 1 1 1	TENSI	TENSION BAKER	TENSI(BAKER	TENSIC	TENSIO Baker	TENSION BAKER
	DEPTH	 	6400°	. 6400	6400°	6450	6350.	6450
TURING	LINING TYPE		3	a a	5	5	3	3
-	3115	! ! ! ! ! !	2 3/8*	2 3/8*	2 3/8"	2 3/8	2 3/8"	2 3/8"
	TOC DATA SOURCE	9 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CIRC CIRC TEMP-SVY	CIRC CIRC CIRC N/A	CIRC CIRC CALC W/ 50% LOSS	CIRC Temp-svy Circ	CIRC CIRC CIRC	CIRC CIRC FREE PT.
	201		SURF SURF 3225	SURF SURF SURF 3840'	SURF SURF 5050°	SURF 100° SURF	SURF Surf 2768°	SURF SURF 3800°
CASING	HOLE S12E	! ! ! !	13 3/4" 9 7/8" 6 3/4"	N/A N/A N/A N/A	17 1/4" 11" 7 7/8"	17 1/2" 12 1/4" 7 7/8"	17 1/4" 11" 7 7/8"	17 1/4" 11" 7 7/8"
ä	SXS. OF CMT.	; ; ; ; ; ;	225 1880 358	300 2000 550 350	250 2000 695	325 935 1180	250 1500 500	250 1500 600
	DEPTH	; ; ; ; ; ; ; ;	269° 3069° 6699°	295' 2997' SURF- 2830' 2839'-	222° 2925° 7635°	336' 3007' 121' 121'- 6693'	214' 3000' 2768'- 6565'	208° 2891° 6494°
	SIZE) 	10 3/4" 7 5/8" 5 1/2"	13 3/8" 8 5/8" 5 1/2" LNR 5 1/2" LNR	13 3/8" 8 5/8" 5 1/2"	13 3/8" 8 5/8" 6 5/8" 5 1/2"	13 3/8" 8 5/8" 1/2" LNR	13 3/8" 8 5/8" 5 1/2"
SURVEY		i 1 1 1 1 1 1 1 1 1	990' FWL &	1980' FWL &	2210' FNL & 2310' FEL	990. FEL &	1980' FNL & 560' FNL \$	1980' FSL & 1980' FWL
LUCATION	SEC-15-RNG	inkard Unit	11-215-37E	15-215-37E	15-215-37E	15-215-37E	14-215-37E	15-215-37E
HELL NO		Northeast Drinkard Unit	511W	N 509	610W	612W	615H	703M

WELL NO	LOCATION	SURVEY			CA	CASINB			11	TUBING		!	PACKER (S)	
	SEC-1S-RNB		SIZE	S DEPTH	SXS. OF CMT.	HOLE SIZE	10C	TOC DATA Source	S12E 1	LINING TYPE	DEPTH	NAKE	MODEL	DEPTH
Northeast Drinkard Unit	inkard Unit													
708W	15-21S-37E	660' FSL & 1980' FEL	13 3/8" 8 5/8" 5 1/2"	300° 2799° 6590°	250 1200 750	17" 11" 7 7/8"	SURF SURF 3750'	CIRC CIRC CALC W/ 50% 1055	2 3/8"	8	6450°	TENSION PKR. BAKER LOK-S	N PKR. LOK-SET	5450°
109W	15-215-37E	1980' FSL & 660' FEL	13 3/8" 8 5/8" 5 1/2"	306° 2802° 6596°	300 1500 750	N/A N/A N/A	SURF Surf 1250°	CIRC CIRC N/A	2 3/8"	5	6400°	TENSION PKR. BAKER LOK-S	N PKR. Lok-set	5500°
B03W	22-215-37E	660' FNL & 1980' FWL	13 3/8" 8 5/8" 5 1/2"	226° 2918° 6559°	200 1500 700	17 1/4" 11" 7 7/8"	SURF SURF 2800'	CIRC CIRC FREE PT.	2 3/8*	F.	6350°	TENSION PKR. BAKER LOK-S	딥	5450° 6350°
807#	22-21S-37E	1750' FNL & 2310' FEL	13 3/8" 8 5/8" 5 1/2"	315° 2799° 7520°	360 1651 580	17 1/4" 11" 7 7/8"	SURF SURF 4424	CIRC CIRC TEMP-SVY	2 3/8"	97	.0029	TENSION PKR. BAKER LOK-S	I PKR. Lok-set	5650°
M808	22-21S-37E	990' FEL	13 3/8" 9 5/8" 7"	291° 2800° 6 550°	300 1300 700	17 1/4" 12 1/4" B 3/4"	SURF 1500° 2720°	CIRC TEMP-SVY TEMP-SVY	2 3/8*	F6	6400′	TENSION PKR. BAKER LOK-S	I PKR. LOK-SET	5650°
811N	23-21S-37E	1980' FNL & 660' FNL	13 3/8" 8 5/8" 5 1/2"	293° 2798° 6520°	300 1200 400	17 1/4" 11* 7 7/8"	SURF SURF 5000'	CALC W/ 50% LOSS CALC W/ 50% LOSS	2 3/8"	F6	6400′	TENSION PKR. Baker Lok-5	. PKR, LOK-SET	5700° 6400°
8108 8	23-21S-37E	1750' FNL & 1980' FEL	13 3/8" 9 5/8" 7" LNR	378' 3203' 3062'- 6750'	400 1160 888	17 1/2" 12 1/4" 8 5/8"	SURF Surf 3062'	CIRC CIRC CIRC	2 3/8"	55	, 6400	TENSION PKR. Baker Lok-5	I PKR. Lok-set	5650° 6400°

LEASE NAME

	WELL NO LOCATION	SURVEY	ÆY			CA	CASING		1 1 6 5 1 8		TUB 1 16	1	1	PACKER (S)	
SEC-TS-RNG				SIZE	DEPTH	SXS. OF CMT.	HOLE S12E	700	TOC DATA Source	SIZE	LINING TYPE	DEPTH	MAKE	MODEL	DEPTH
Northeast Drinkard Unit			! ! ! ! !	6 6 1 1 1 1 1 1	; ; ; ; ;	1 	! ! ! !	 	 	! ! ! !		• • • • • •		i 	,
22-215-37E		2065' FSL 8 1700' FWL	FS1 F#1	13 3/8" 8 5/8" 5 1/2"	220° 2905° 6480°	300 2000 500	17 1/4" 11" 7 7/8"	SURF SURF 4400°	CIRC CIRC FREE PT.	2 3/8*	FB	,0220	TENSION BAKER	TENSION PKR. Baker Lok-set	5650'
22-215-37E		1980°	1980' FSL & 660' FEL	13 3/8" 8 5/8" 5 1/2"	224° 2913° 6450°	300 1955 500	17 1/4" 11" 7 7/8"	SURF SURF 4545	CIRC CIRC CALC W/ 50% LOSS	2 3/8"	Ē.	, 0229	TENSION BAKER	TENSION PKR. Baker Lok-set	5650'
23-215-37E 1980' FSL & 1980' FEL		1980° 1980°	FSL & SE &	4 10 3/4" 7 5/8" 5 1/2" 3 1/2" LNR	270° 2933° 6000° 6000° 6650°	200 1200 250 150	12 1/2" 9 1/2" 6 3/4" 4 3/4"	SURF 1620° 3820° 6000°	CIRC TEMP-SVY TEMP-SVY CIRC	2 3/8"	5	6450 '	TENSION Baker	TENSION PKR. Baker lok-set	5550° 6450°

LINING TYPES: FG = FIBERGLASS EPOXY

TABLE 3 EUNICE MONUMENT SOUTH UNIT TRACT DECLINE, PRODUCTION, AND RESERVE SUMMARY

TRACT	LEASE	DECLINE FACTOR PER YEAR	ULT RECOVERY AT ECONOMIC LIMIT (STB)	TOTAL PRODUCTION TO DATE (STB)	PRIMARY RESERVES (STB)	ECONONIC
•		921	596614	547732	48882	99
- (SKELL! "	040		615785	44877	99
A IA	- V- X- III - X- V-	889	1683731	1051814	31917	96
• ◀	GILLULLY'B'	000.	64868	64868	O (1)	9 6
ın	WHITE . A.	.041	1061900	800174	Y. 6	•
•	FOFEAND	000	362296	362296 00101	.	•
2	PHILLIPS	000	71040	71670	000	9 4
8	STATE .W.	. 627	317364	380) IS	N &	္ရွ
۰.	STATE193	900	154251	1244C	59795	9
9	SUNSHINE	B79.	181181	40000	676	98
<u>.</u>	SKELLY'G'	201.	7 ABI C 1	566627	6362	0 F
J.		M40	3528777	2949963	578814	186
	CTATESK	\$50°	3618342	2384372	1233970	120
<u>.</u>	STATE	.022	1081545	925110	156435	99
00	ORCUIT	.054	4396074	3851334	544740	
2	AGGIES	£60°	3577850	3460262	116788	- 0.0
(N	STATE "H"	.028	1020828	944770	76058	9
i es	STATE . 0.	600	120665	120465	9	D (
4	TURNER_STATE	.036	318361	285631	32730	99
25	STATE AY.	000.	21573	21573	D (1)	9 6
56	STATE 196"	£90°	381373	365674	71071	9 6
27	STATE .J.	.052	427081	3760	2.44.0	99
8 0	STATE "L"_BATT2	899.	860776	70768		3 @
,	STATE	999.	024040	D10477	28643	30
35	NIATE EE.		025020	962695	10	9
		80 C	2566750	2426863	139887	150
4 6 4 6	UNCOLL TO	 	924772	840869	83903	99
1 10	STATE	.069	444679	A33937	16742	30
37	GRAHAM_STATE .E.	.036	949266	907372	41894	Θ <u>ς</u> (
38	R_R_BELL.B.	.041	2635327	1735275	900032	9 6
39	HEASLEY_STATE	.026	2791516	2213016	578500	98
90	ORCUIT.B.	.028	569443		4430	9 9
42	STATE .H.	400	1576492	1476673	50408 54444	99
4	STATE	- 19	20102		4966	9
4 4		~ C	1000000 10000000	1181996	45957	09
î .	21212	146	1325255	1081610	243645	99
£ 4	BEII RAHCAY'A'	6.00	2057392	1855285	202107	150
. 6	ZEYER E4.	940	8387823	7321758	1066065	330
0 •	STATE	.027	174053	155639	18414	0 (
. 00	WALLACE	.041	583429	566864	16625	90
in	AKENS	.092	1114003	1105175	8828	9 6
52	AKENS	.117	528833	479649	491B4	9 9
53	HOUSTON	190.	927409	895397	32012	9 . (
54	H_L_HOUSTON•MA•	000.	461791	461791	9	9

TABLE 3 EUNICE MONUMENT SOUTH UNIT TRACT DECLINE, PRODUCTION, AND RESERVE SUNMARY

		DECLINE FACTOR	ULT RECOVERY AT ECONOMIC LIMIT	TOTAL PRODUCTION TO DATE	PRIMARY RESERVES	ECONOMIC
FRACT	LEASE	PER YEAR	(\$78)	(STB)	(STB)	LIMIT
¥	700	181	2665562	2013216	52286	99
7	MOUST OF CAMPEEL	140	368264	358518	9746	30
2 .	A F HOMETON	141	1508803	1505329	3474	30
- 0 1 L	NEVER BO	.024	5435382	2876588	2558794	120
; e	STATE A	.674	2569125	2369336	682661	-20
2 6	STATE	. 091	1330887	1279320	51567	9 (
, F.	BELL. A.	.164	1664752	1004016	736	9 9
3 4	BELL RAMSAY'A'S	949.	1629966	1696697	23269	0 6
¥ 2	MEYER B9	.042	1991625	1826619	165006	0
3 4	ADE INC	,629	4395649	3820702	574947	210
22	ADKINS	890.	2146758	2137045	9713	98
. E	ADKINS	.049	537239	472750	64489	9 ;
3 6	· XONX G	.053	2789776	2657560	132216	+ 20 10
, e	RASHUSSEN ST	.042	129121	157193	1938	97
? ?	8611.96	.673	689225	672445	16780	99
2	STATE L'BATT3	. 640	464721	370034	34687	9, 6
× 2	STATE	000.	165971	165971	•	9 (
7.	MCOUATTERS	000.	502736	502734	•	•
, X	CTATE D BATT2	.045	P49474	926018	23456	96
	BERRYMAN	900.	122116	122116	Φ	Ο,
. 6	MARCHALI	999	283207	283207	Φ .	o
2 0	MARSHALL	000	212949	212949	•	o :
. 0	MFYFR-B18	900.	610333	616333	•	9
3 6	NEYER A1	. 046	10294096	8966471	1327625	390
. C	I DEKHART "A"	929	1872355	1831365	40990	99
2 6	ιŒ	999.	635821	602851	32970	9 E
2 6	COLEMAN	.095	725405	716979	14426	30
. K	COLEMAN	.065	2421222	2304058	115164	120
98	COLEMAN	.084	1666394	965363	41031	99
82	MEYER'B17	900.	774162	774162	•	o
98	SKELLY STATE B.	. 085	2535772	2479635	56737	90.
68	STATE AW	.067	350913	345202	5711	es i
0	STATE AX.	.038	390324	385966	44.8	95
9	STATE	.126	1539256	1516980	22276	99
6	STATE D.	.037	1131006	983003	148003	9 9
2.0	STATE*E	.065	1013875	978165	33/10	90
9.4	BELL.C.	160.	2518212	1949372	568840	97.0
56	JANDA	160.	1913123	1849230	5,4859	9.
96	STATE .D.	169.	2786097	2511730	274367	9B.
2.6	LOCKHART B14	411.	1288965	1265171	23794	9 6
98	COLLINS	4.0.	852187	754307	97839	9 6
66	FRONA_LECK	.121	169580	165393	7814	900
102	ARNOTT_RAMSAY.C.	. 693	4592500	4392116	200384	9 (
103	STATE G	. 668	416222	385556	36672	9 0
104	STATE . I .	.052	787325	767101	42202	9 6
105	STATE .J.	. 676	E08E6E	375283	18526	9 6
901	STATE .L. BATTA	.109	433191	412916	2000	}

EXHIBIT # 1

PROPOSED EUNICE MONUMENT SOUTH UNIT UNIT AREA PRODUCTION AND RESERVE ESTIMATE

Ultimate Prima	ry Recovery			
91.0 percent	Cumulative Production	122	million	bbl
9.0 percent	Remaining Primary	_12	${\tt million}$	bb]
100.0 percent		134	million	bb:
Actual Unit Re	coverable Reserve on January 1, 1985			
15.8 percent	Remaining Primary	12.0	million	bb.
84.2 percent	Secondary Reserves	64.2	million	bb.
100.0 percent		76.2	million	bb:
Allocation of	Unit Reserve by Participation Formula	<u>a</u> (Formu	ıla #2A)	
Primary				
10.0 percent	Oil Production (January 1, 1982 through September 30, 1982)	7.62	million	bb:
	-	20 40	million	hh.
40.0 percent	as of October 1, 1982	30.40	MITITION	טט.

Se	eco	nda	ary
----	-----	-----	-----

50.0 percent	Cumulative Oil Production from the unitized interval as of			
	September 30, 1982	38.1	million	bbls.
100.0 percent		76.2	million	bbls.

Exhibit No. /
Exxon Corporation
Case No. 8397 November 7, 1984



Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

WATER ANALYSIS

ALL RESULTS EXPRESSED IN PPM UNLESS OTHERWISE NOTED

CLIENT NAME:

SHELL OIL CO.

FACILITY:

DRINKARD

LOCATION:

SEC. 10

DATE:

09/08/87

SAMPLE DATE:

09/08/87

DATE ANALYZED: 09/08/87

SAMPLE IDENTIFICATION :

NORTH

SOUTH

		moves and to dather despit manner in see place parks, bedar werter dealth, matter without	phof toda dead helps dobe to be the day and depending to the man man and the special control of the special contro
pH		7.43	7.45
PHEND ALKALINITY	(CaCO3)	NIL	NIL.
TOTAL ALKALINITY	(CaCO3)	164	246
BICARBONATE	(HCO3)	200.1	300.1
CARBONATE	(CO3)	NIL	NIL
HYDROXIDE	(CH)	MIL	NIL.
TOTAL HARDNESS	(CaCO3)	880	344
CALCIUM	(Ca)	200.0	78.4
CALCIUM	(CaCD3)	500	196
MAGNESIUM	(Mg)	91.2	ميد مساه ميد است
MAGNESIUM	(CaCO3)	3 80	148
CHLORIDE	(C1)	438	130
CHROMATE	(CrO4)	* * *	***
SULFATE	(SD4)	345	438
TOTAL PHOSPHATE	(PO4)	***	***
ORTHO PHOSPHATE	(FQ4)	***	***
POLY PHOSPHATE	(PO4)	***	***
SILICA	(SiO2)	***	***
SILICA	(CaCO3)	***	***
SPECIFIC CONDUCTANCE	(mmhos)	2230	1270
IRON	(Fe)	***	* * *
COPPER ·	(Cu)	* * *	***
CALCULATED :			
TOTAL DISSOLVED SOLIDS	3	1394	1231
SODIUM	(Na)	120	249

ANALY	ZED BY: (HOBBS LAB)	APPROVED	ВУв
**	INDICATES THAT THIS TEST WAS NOT	RUN	



Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 503/392-7751, TWX 910/986-0010

WATER ANALYSIS

ALL RESULTS EXPRESSED IN FPM UNLESS OTHERWISE NOTED

CLIENT NAME: FACILITY:

SHELL DIL CO.

LOCATION:

MUIDOR

NE DRINKARD

SECTION 14

DATE

09/21/87

SAMPLE DATE:

09/21/87

DATE ANALYZED: 09/21/87

SECTION 15

SAMPLE IDENTIFICATION :

7.45 9.01 рΗ PHEND ALKALINITY (CaCO3) NIL 36 TOTAL ALKALINITY (CaCOS) 248 120 (HCD3) 302.6 58.6 BICARBONATE CARBONATE (CO3) NIL 43.2 NIL HYDROXIDE (DH) NIL TOTAL HARDNESS (Cacos) 344 248 83.2 CALCIUM (Ca) 41.6 208 (CaCO3) CALCIUM 104 MAGNESIUM (Mg) 32.6 34.6 MAGNESIUM (CaCO3) 136 144 CHLORIDE 148 (C1) 160 *** CHROMATE (Cr:04) *** 250 SULFATE (SQ4) 164 TOTAL PHOSPHATE (F(34) *** ORTHO PHOSPHATE (FO4) *** *** POLY PHOSPHATE (PO4) 冰水水 *** BILICA (SiO2) *** *** SILICA (CaCO3) *** *** SPECIFIC CONDUCTANCE (mmhos) 1001 924 (Fe) *** *** IRON COPPER *** *** (Cu) CALCULATED : TOTAL DISSOLVED SOLIDS 987 625

171

ANALYZED	EY: Dyke Dianne
	(HOBBS LAB)

APPROVED BY:

123

*** INDICATES THAT THIS TEST WAS NOT RUN

(Na)

SHELL WESTERN E&P INC.

WATER ANALYSIS REPORT

Ca C

WESTERN DIVISION

SAMPLE DESCRIPTION

COMPANY Shell Western E&P, Inc.	,	LABORATORY MAX	tin Water Labs., Inc.	
FIELD		LABORATORY NUMBER		
LEASE CDU		DATE SAMPLE TAKEN	3-17-87	
WELL NUMBER		DATE SAMPLE RECEIVE	3-26-87	
COUNTY & STATE		DATE SAMPLE REPORT	ED 3-30-87	
PRODUCING FORMATION San Andres				
WHERE SAMPLED Water Supply Well #20	00			
REMARKS				
CHEMICAL AND PHYSICAL PROPERTIES				
TOTAL HARDNESS Mg/L AS Ca CO3		TOTAL ALKALINITY M	19/L AS C. CO3	
CONSTITUENT	Mg/LITER	REACT, COEF.	Meg/LITER	
SODIUM (INCL POTASSIUM) AS Na 4	10,057	0.04350	437.3	
CALCIUM - Cs + +	1,000	0.04990	49.9	
MAGNESIUM - Mg + +	334	0.08224	27.5	
IRON TOTAL - Fe + + & Fe + + +	2.9	0.03581	0.1	
BARIUM Ba++		0.01460		
POSITIVE SUB-TOTAL	11,394		514.8	
CHLORIDE - CI -	14,914	0.0000	420.6	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	927	0.02820	15.2	
SULFATE - SO4=	2,027	0.02082	42.2	
HVOROXYL - OH -	0	0.05880	0.0	
SULFIDE - S -	589	0.08238	36.8	
		0.70200		
NEGATIVE SUBTOTAL	18,457		514.8	
			_	
TOTAL DISSOLVED SOLIDS	29,851		1,029.6	
		<u> </u>	2,02710	
*BICARBONATE 1.0222 & 60 of	au 6.74	RES. 0.270 @	80o _F *	
SECURIO BRAVIII	pr:		NALYST	
REACTION VALUE = (MILLIGRAMS/LITER) X (REACTION COFFEICH	FNT) F	REQUESTED BY	
REACTION COEFFICIENT - VALENCE - MOLE	CULAR WEIGHT.	Mr. Donni	e Anderson, Hobbs	
Na + 8 7 6 5 4 3 2	1 0 1	2 3 4	5 6 7 8 Ci-	
1000				
Ce + +			HC03- 100	
t/10 + 100	++++		504	
	\ /			
Fe +	+ + + -		CO3	
			-i	

SHELL WESTERN E&P INC. WATER ANALYSIS REPORT MID-CONTINENT DIVISION

SAMPLE DES												
COMPANY -	DRINKARD						ATORY -					
	ELD <u>DRINKARD</u> TURNER						ATORY NU					
LEASE	WELL NUMBER					DATES	AMPLE TA	KEN	<u>4</u>	/ <u>8</u> / g		
WELL NUMBE	I F /	NEW ME	OOTY			DATE S	AMPLE RE	CEIV	ED	/0		
COUNTY & S	TATE LEA	RITNEE	FDDV			DATES	AMPLE RE	PORI	בב ספו	()		······································
	FORMATION -											
	PLED		· · · · · · · · · · · · · · · · · · ·			***************************************		~~				
REMARKS							·					
CHEMICAL A	ND PHYSICA	L PROPER	TIEŞ									
TOTAL HAR	oness mail as	C+ CO3	30500			TOTAL	ALKALIN	ITY N	Ag/L AS (Ce CO3 _	20)2
CONSTITUEN	ίΤ			Ма	/LITER	RE	ACT, COEF	. 1		Meq/	LITER	
SODIUM (INC	L. POTASSIUM	AS Ne+		469	95		0.04350					
CALCIUM - C	Ca + +			740	0		0.04990					
MAGNES!UM	- Mg + +		· · · · · · · · · · · · · · · · · · ·	291	6		0.08224					
IRON TOTAL	- Fe + + & Fe +	. + +		4			0.03581	,				
BARIUM - BI	1 + +				0		0.01460					
POSITIVE SU	B-TOTAL			573	55							
CHLORIDE -	C! -			930	35		0,02820					
	& BICARBONA	TE - CO3 =	& HCO3 -	246		1	0,01639 *					
SULFATE - S	504-			126	2		0.02082					
HYDROXYL	– он –			0			0,05830					
SULFIDE - 8				0			0,06238					
NEGATIVE S	US-TOTAL			945	43							
						1						·
				151	898							
	OLVED SOLI	28		1 171	090			1				
* BICARBON		068 _	60 of		6.33	3	.069		90			
SPECIFIC GR	AVITY	<u> </u>		Þ	н	RES		_				
REACT	TON VALUE .	(MILLIGRA)	WCD ITERL Y	(DEACTIO	N COSESU	O/EA/TI			analys Reques	TED BY		
REACT	ION COEFFICIE	NT = VALE	NCE + MOLE	CULAR W	EIGHT.					_		
Na + E 7	8 5		3 2) <u> </u>		3 4		<u>5</u>	5 7		CI 1000
1000												
Ca + + 100												HCC3- 100
Mg + + 100				- 		_						504 100
Fe + +												503
100						1			T	T -		100

Ca SO4 N

SHELL WESTERN E&P INC. WATER ANALYSIS REPORT

WESTERN DIVISION

SAMPLE DESCRIPTION

COMPANY Shell Western E&P, Inc.		LABORATORYMar	tin Water Labs Inc.
FIELD Drinkard		LABORATORY NUMBER	38790
LEASE ATGO		DATE SAMPLE TAKEN .	
WELL NUMBER		DATE SAMPLE RECEIVE	3-12-87
COUNTY & STATE Les, NM		DATE SAMPLE REPORTE	9 14 07
PRODUCING FORMATION Tubb			
WHERE SAMPLED			
REMARKS			
CHEMICAL AND PHYSICAL PROPERTIES			
TOTAL HARDNESS Mg/L AS Ca CO3 5,750	_	TOTAL ALKALINITY Mg	/L AS C+ CO390
CONSTITUENT	Mg/LITER	REACT, COEF.	Meq/LiTER
SODIUM (INCL. POTASSIUM) AS No+	6,152	0.04350	267.4
CALCIUM - Ca + +	1,640	0.04990	81.8
MAGNESIUM - Mg + +	401	0.08224	33.0
IRON TOTAL - Fe++ & Fe+++	255	0.03581	9.2
BARIUM - Bs + +	0	0.01460	0.0
POSITIVE SUB-TOTAL	8,448		391.4
CHLORIDE - CI -	13,494	0.02820	380.5
XXXEDEATE & SICARBONATE - XXX = & HCO3 -	110	0,01639 *	1.8
SULFATE - SO4=	438	0.02082	9.1
HYDROXYL - OH -	0	0,05880	0.0
SULFIDE - S =	0.0	0,06238	0.0
NEGATIVE SUBTOTAL	14,041		391.4
VIONINE DOD! TOTAL			
TOTAL DISSOLVED SOLIDS	22,490		782.8
* BICARBONATE			·
SPECIFIC GRAVITY 1.0181 \$ 60 0	6.02	BEC 0.390	80 pe
S-ECIPIC GRAVIII ZIZZZZZ	рп		NALYST
REACTION VALUE = [MILLIGRAMS/LITER] >	(REACTION COFFEICH	CAUTI RE	EQUESTED BY
REACTION COEFFICIENT = VALENCE + MOL	ECULAR WEIGHT.	Mr. Don	nie Anderson, Hobbs
Ne - 8 7 6 5 4 3 2	1 0 1	2 3 4 5	6 7 8 CI-
000			1300
Ca++			HC03-
100			100
Mg - +			SO4
100	\		100
Se + ~ 4	<u> </u>		CO3
90			10%

SHELL WESTERN E&P INC. WATER ANALYSIS REPORT

Ca203 - 0.58 (NUNK Ca204 N

WESTERN DIVISION

S	AM	PLE	DES	SCR	IPT	ION

COMPANY Shell Western ESP, Inc.		LARORATORY ME	rtir Water Labs., Inc.
FIELD Drinkard		LABORATORY NUMBER	
LEASE Argo "A"		DATE SAMPLE TAKEN	
WELL NUMBER #3		DATE SAMPLE RECEIV	ED 3-12-87
COUNTY & STATE Les, NM		DATE SAMPLE REPORT	7ED 3-16-87
PRODUCING FORMATION			•
WHERE SAMPLED			
REMARKS			
CHEMICAL AND PHYSICAL PROPERTIES			••/
TOTAL HARDNESS Mg/L AS Ca CO3		TOTAL ALKALINITY	Mg/L AS Ca CO3106
CONSTITUENT	Mg/LITER	REACT, COEF.	Med/LITER
SODIUM (INCL. POTASSIUM) AS NE+	26,603	0.04350	1,156.6
CALCIUM CE + +	6,920	0.04990	345.3
MAGNESIUM - Mg + +	1,434	0.08224	117.9
IRON TOTAL - Fe + + & Fe + + +	351	0.03581	12.6
B4RIUM - 88++	0	0.01460	0.0
POSITIVE SUB-TOTAL	35,308		1,632.4
CHLORIDE - C! -	57,525	0,02820	1,622.2
MAYEUWATE & BICARBONATE - XXX = & HCO3 -	129	0.01839 *	2.1
SULFATE - SO4=	390	0.02082	8.1
HYDROXYL - OH -	0	0.05820	0.0
SULFIDE - S =	0.0	0.06238	0.0
NEGATIVE OUR TOTAL	50.045		1 422 /
NEGATIVE SUBTOTAL	58,045		1,632.4
			<u>.</u>
TOTAL DISSOLVED SOLIDS	93,353		3,264.8
BICARBONATE			•
SPECIFIC GRAVITY 1.0651 & 60	of pH <u>5.9</u>	RES. 0.098 6 _	0F
			ANALYST
REACTION VALUE = [MILLIGRAMS/LITER] REACTION COEFFICIENT = VALENCE MC	' X IREACTION COEFFICI DLECULAR WEIGHT.	en i i	onnie Anderson, Hobbs
Na+ 8 7 6 5 4 3 2		2 3 4	5 6 7 8 Ci-
1000			1000
Ce · ·			нсоз-
100			100
Mg + +			S04
100			160
F6+++			003
95			100

SHELL WESTERN E&P INC. WATER ANALYSIS REPORT

Ca CO3 0.63 Ca SO4 10.22

WESTERN DIVISION

SAMPL	E DES	CRIPT	ION

COMPANY Shell Western E&P, Inc.		LABORATORY Ma:	rtin Water Labs., Inc.
FIELD Drinkard		LABORATORY NUMBER	/ 0720
LEASE Sarkey		DATE SAMPLE TAKEN	3-30-87
WELL NUMBER		DATE SAMPLE RECEIVE	4_2_87
COUNTY & STATE Lea, NM		DATE SAMPLE REPORT	1. 0 07
PRODUCING FORMATION	-	20 1121 0111	
WHERE SAMPLED			
REMARKS			
CHEMICAL AND PHYSICAL PROPERTIES			
TOTAL HARDNESS Mg/L AS Ca CO3 29,600		TOTAL ALKALINITY M	g/L AS Ca CO3 330
CONSTITUENT	Mg/LITER	REACT. COEF.	Meq/LITER
SODIUM (INCL. POTASSIUM) AS Na+	25,607	0.04350	1,113.4
CALCIUM - Ca + +	8,680	0.04990	433.1
MAGNESIUM - Mg + +	1,920	0.08224	157.9
IRON TOTAL - Fe + + & Fe + + +	21.6	0.03581	0.8
BARIUM - Ba + +	0	0.01460	0.0
POSITIVE SUB-TOTAL	36,228	-	1,705.2
CHLORIDE - CI -	58,946	0.0000	.1,662.3
	403	0.02820	6.6
CARBONATE & BICARBONATE - COX = & HCO3 -	1,742	0.01639 *	36.3
SULFATE - SO4=	1,742	0.02082	0.0
HYDROXYL - OH -	0.0	0.05880	0.0
SULFIDE - S =	0.0	0.06238	0.0
NEGATIVE SUB-TOTAL	61,090		1,705.2
			•
TOTAL DISSOLVED SOLIDS	97,318		3,410.4
* BICARBONATE			
SPECIFIC GRAVITY 1.0770 @ 60 of	рн <u>6.49</u>	RES. 0.096 @	80 of
			NALYST
REACTION VALUE = [MILLIGRAMS/LITER] X (REACTION COEFFICIENT = VALENCE - MOLEC	REACTION COEFFICIE		nnie Anderson, Hobbs
8 7 6 5 4 3 2	1 0 1		5 6 7 8 CI-
Na +			1000
Ca++			HCO3-
100			100
Mg + +			SO4
100	1111		100
Fe+++			co3
100			100

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

POST OFFICE BOX 2018
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108 Revised 7-1-81

I.	Purpose: Secondary Recovery Pressure Maintenance Disposal St. Application qualifies for administrative approval? yes no	orage
II.	Operator: Shell Western E&P Inc.	
•	Address: P. O. Box 576; Houston, TX 77001	
	Contact party: D. E. Burbank Phone: (713) 870-2213	
III.	Well data: Complete the data required on the reverse side of this form for each proposed for injection. Additional sheets may be attached if necessity.	
IV.	Is this an expansion of an existing project?	<u> </u>
٧.	Attach a map that identifies all wells and leases within two miles of any proposinjection well with a one-half mile radius circle drawn around each proposed injuvell. This circle identifies the well's area of review.	ed ection
VI.	Attach a tabulation of data on all wells of public record within the area of rev penetrate the proposed injection zone. Such data shall include a description of well's type, construction, date drilled, location, depth, record of completion, a schematic of any plugged well illustrating all plugging detail.	each
VII.	Attach data on the proposed operation, including:	
	 Proposed average and maximum daily rate and volume of fluids to be inject. Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility the receiving formation if other than reinjected produced water; and If injection is for disposal purposes into a zone not productive of oil at or within one mile of the proposed well, attach a chemical analysis the disposal zone formation water (may be measured or inferred from exliterature, studies, nearby wells, etc.). 	with or gas
III.	Attach appropriate geological data on the injection zone including appropriate 1 detail, geological name, thickness, and depth. Give the geologic name, and depth bottom of all underground sources of drinking water (aquifers containing waters total dissolved solids concentrations of 10,000 mg/l or less) overlying the proprinjection zone as well as any such source known to be immediately underlying the injection interval.	h to with
IX.	Describe the proposed stimulation program, if any.	
х.	Attach appropriate logging and test data on the well. (If well logs have been f with the Division they need not be resubmitted.)	iled
XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.	ng
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faor any other hydrologic connection between the disposal zone and any underground source of drinking water.	ults
II.	Applicants must complete the "Proof of Notice" section on the reverse side of th	is form.
av.	Certification	
•	I hereby certify that the information submitted with this application is true an to the best of my knowledge and belief.	
	Name: D. E. Burbank Title Production Engine Signature: Douglas E. Burbank Date: September 8, 1987	er
	Signature: Louglas C. Burtank Date: September 8, 1987	
subm:	e information required under Sections VI, VIII, X, and XI above has been previous tted, it need not be duplicated and resubmitted. Please show the date and circum a carlier submittal.	ly

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
 - Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
 - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.
 - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

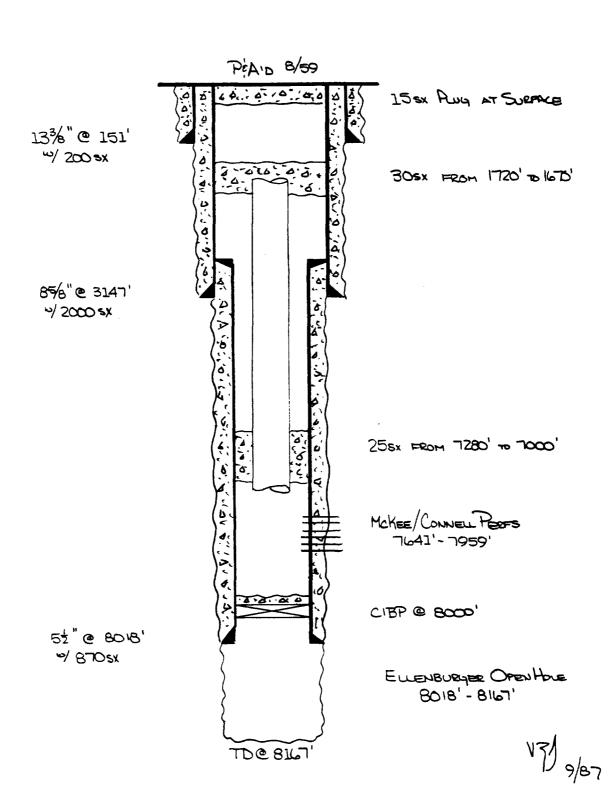
- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.
 - NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

P+A'd WELL

SWEPI'S LNINGTON #4

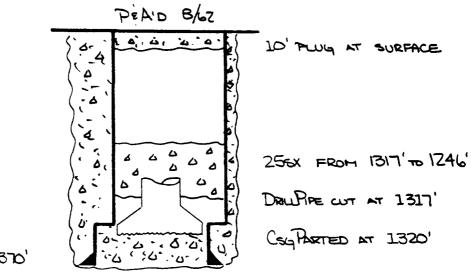
Unit LETTER W 3-215-37E LEA COUNTY, NEW MEXICO



PFA'd well

CONOCO'S HANK B-3 #21

3300' FNL & 660' FWL 3-215-37E LEA COUNTY, NEW MEXICO



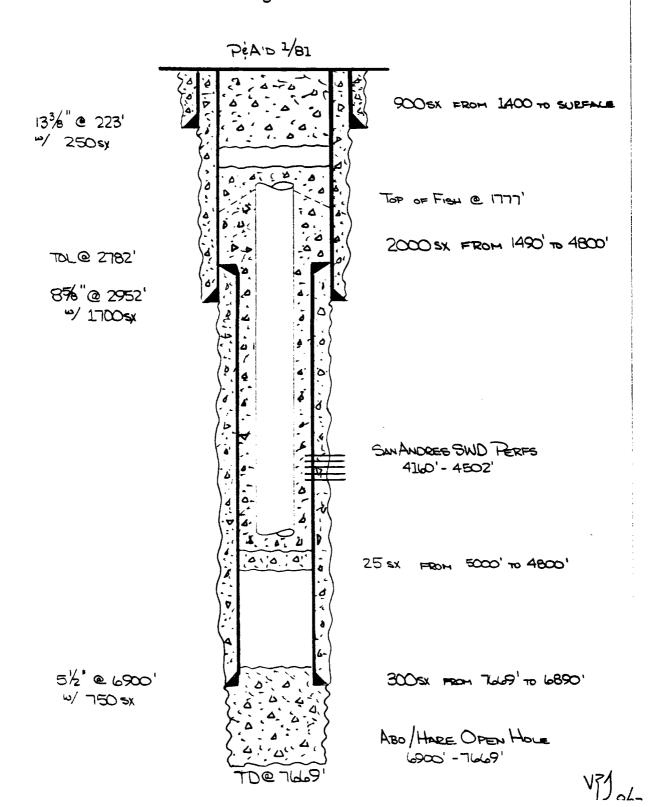
9%"@1370' "/ 500sx

* AFTER SETTING 958" STRING - CSG PARTED AND
MILL BELLE STUCK AT 1320'. PIPE CUT AT
1317'. Two plus set to PEA.

P+AZ well

SWEPI'S SARKEY'S No. 5

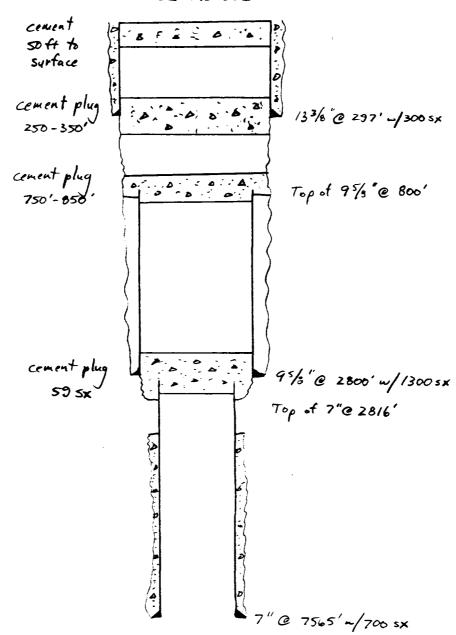
2310' F5L & 2310' FWL 23-215-37E LEA COUNTY, NEW MEXICO



PrAd well

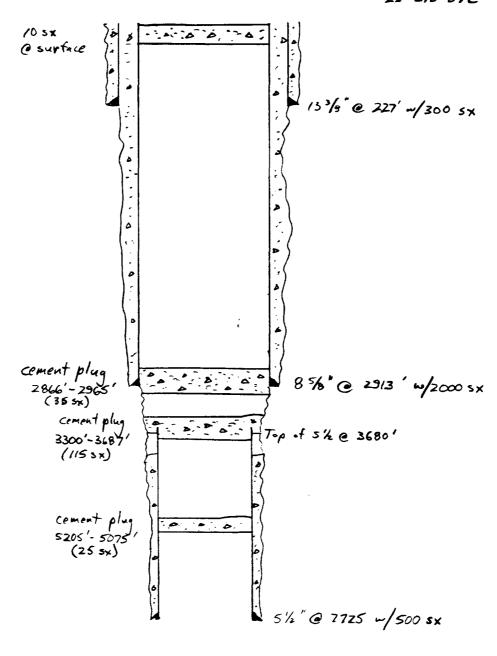
GULF EUBANK #6

UNIT LETTER 0 22-215-37E



Shell Turger * 3

UNIT LETTER K 22-215-37E



42 187 SO SHEETS SSOUME 42 182 Into SHEETS SSOUME 57 CAD DOOR SHEETS SSOUME Unit LETTERS 2-215-37E LEACOUNTY, NOW MEXICO

PEA'D 1/63.

4.40.0

13%" @ 211'

TOL @ 2928'

85%" @ 3150' ~/ 1800 sx 30sx FROM SURFACE TO 100'

15 sx FROM 2870' to 2912'
Top of Figu @ 2912'

McKee/Connect Peops 7719' TO 8016'

5½ ° 6 8072' ° 850 sx

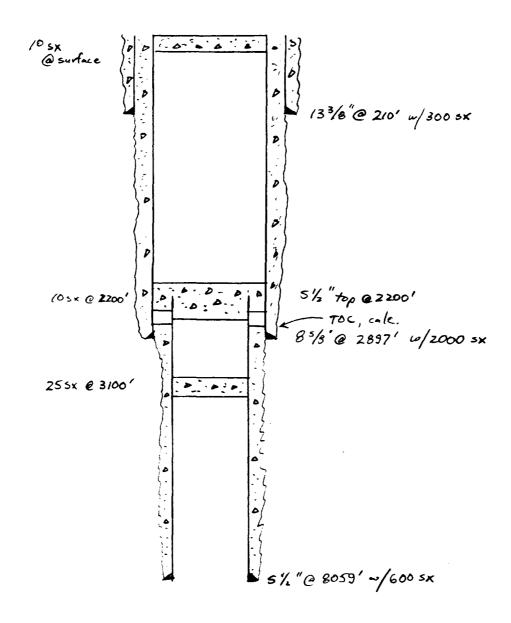
TD@ 8075'

V71 9/87

P+A'd well

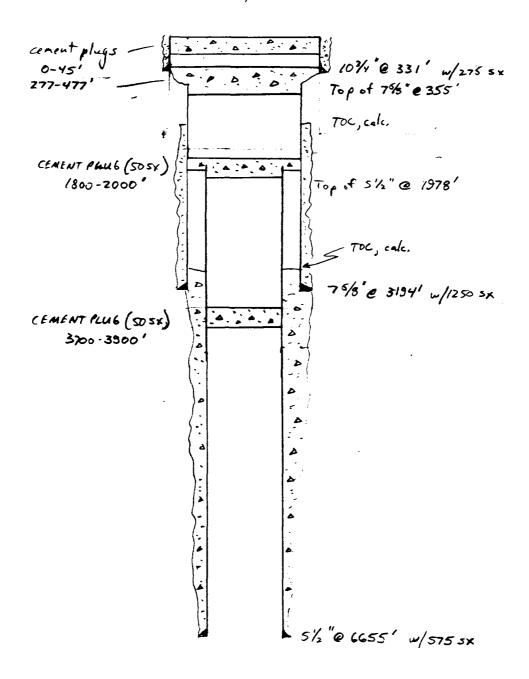
SHELL TURNER #7

3630' FNL, 4950' FEL 22-215-37E



HUMBLE NM STATE V Z

SE/4 OF SW/4
SEC. 10, 215-37E
LEA COUNTY, NEW MEXICO



SOUND STATES OF THE STATES SOUND STATES SOUN

GULF'S HARRY LEONARD #13

Unit LETTER 2 2-215-37E LEA COUNTY, NEW Mexico

PERF'D AT 445', CIRCULATED 138 @ 318' CMT TO SURFACE THOU SPOTTED 425 sx PLUG FROM 445' TO SURFACE (135 sx TOTAL) 25 sx FROM 1650' TO 1400' TOC @ = 2100' (CALC.) පිද්*ී @ 3099 ් ਘ∕ 2025 **x CIBP @ 5570' CAPPED -/ 10 8x PADOCK PERFS (56-20'- 5786') CIBP @ 5808' 5½" @ 5879' w/6705x BUNEBRY OPEN HOLE (5879'-5995') TD @ 5995

P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025859	Hunt, N. B. 2400 Thanksgiving Tower 1601 Elm Street Dallas, TX 75201	2.40	75	70	
025860	Kirby Exploration Company of Texas 1717 St. James Place Houston, TX 77056				
025861	Marathon Oil Company 125 W. Missouri Street Midland, TX 79702				
025862	Mobil Producing Texas & New Mexico, Inc. Nine Greenway Plaza - Suite 2700 Houston, Tx 77046				-
025863	Natural Resources Group, Inc. 401 West Texas - Suite Midland, TX 79701				
025864	Summit Energy, Inc., 1925 Mercantile Dallas Bldg. Dallas, T. 75201				
025865	Sun Exploration & Production Company Sun Tower Clay - Desta Plaza Midland, TX 79702-1861				
025866	Tenneco Oil Company 7990 IH 10 West San Antonio, TX 78230				
625867 9/11/87	Texaco Producing Inc. 1401 N. Turner Hobbs, NM 88240				
	Northeast Drinkard Unit Exhibit Thirty-Two Cases 9230	Compiles List for	1		e
	9231 9232	Service List for Authorization to			LOI
_)					
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVE	NG POS	TAL EM	PLOYEE

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025,868	Dallas McCasland P. O. Box 206 Eunice, NM 88231	240	75	70	
025869	Nadine Owen 909 West Taos Hobbs, NM 88240				
025870	Tom Kennann P. O. Box 202 Eunice, NM 88231				
025871	Jimmie Charles Weir P. O. Box 777 Jal, NM 88252				
025871	Charlie A. Bettis P. O. Box 483 Eunice, NM 88231				
025873	Muriel Terry McNeill c/o Will N. Terry Trust P. O. Box 686 Hobbs, NM 88240	T. COOR			
025874	Ruth Terry Furneaux c/o Will N. Terry Trust P. O. Box 686 Hobbs, NM 88240				
025875	Marcia McNeill Blackburn c/o Will N. Terry Trust P. O. Box 686 Hobbs, NM 88240				
11101					
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	FRECEIVIN	IG POS	TAL EMP	PLOYEE

NUMBER OF ARTICLE		ADDRESSE	 E		POSTAGE	FEE	R.R.	CLASS
025876	Executi Suite 1 210 W.	il Corporation ve Plaza Bldg. 200 6th Street th, TX 76102			240	75	70	
025877	100 NW	Hess Corporation 7th Street e, TX 79360				,		
025878	205 E. Hobbs,	roduction Company Bender Blvd. NM 88240	•				Wisto.	Ž.
025879 (elward (1/1/1877)	Antweil 814 W. Hobbs,	, Morris R. Marland NM 88240					(C) G	
025880	h	l & Gas Company lle Sur NM 88240					100	~
025881	Argee 0 401 W.	il Company Texas, Suite 810 , TX 79701-4454						
625882	Broadmo	nergy, Inc. or Pedro Plaza East NM 88241-2160						
025883	Harper Briercr Midland	Oil Company oft Bldg. Suite 300 , TX 79701						
	/							
TOTAL NUMBER OF PIECES LISTED BY SENDER	3	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	8	NAME OF	RECEIVIN	G POS	TAL EMI	PLOYEE

NUMBER OF ARTICLE	ADDRESSEE	POST	AGE	FEE	R.R.	CLASS
025884	Chevron U.S.A., Inc. 1923 N. Dal Paso Hobbs, NNM 88240	2.	70/	75	70	
025885 allind (9/11/873)						
025886	726 E. Michigan Hobbs, NM 88240 Elliott Oil Company		,			
025887 9/11/17 025888	500 N. Kentucky Roswell, NM 88201 Exxon Company U.S.A. 615 W. Missouri					
025889 9/11/87	Midland, TX 79702-1600 Elk Oil Company 500 N. Main, Suite 814 Roswell, NM 88201					
025890	Hendrix, J. 223 W. Wall 525 Midland Tower Bldg. Midland, TX 79701					
025891	Hondo Drilling Company 410 N. Loraine Street Midland, TX 79701-2516					
					·	
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECE	IVIN	G POST	AL EMP	LOYEE '

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
625892 9/10/87	Marilyn McNeill Cates c/o Will N. Terry Trust P. O. Box 686 Hobbs, NM 88240	240	TS	70	
025893	William Frank McNeill c/o Will N. Terry Trust P. O. Box 686 Hobbs, NM 88240				
025894 9/10/87	State of New Mexico Commissioner of Public Lands P. O. Box 1148 Santa Fe, NM 87504-1148				·
025895 025896 025897 025898	Millard Deck Estate c/o Erdman Corp. HL 8200 Brookview Drive N600 Dallas, Texas 75447	·			
025896	Ruth B. Glen 211 W. Avenue M. Lovington, NM 88260				
025897	Ms. G. P. Sims P. O. Box 1046 Eunice, NM 88231				
025898	Joe Taylor c/o Lee Newsom 3383-C Punta Alta Laguna Hills, CA 92653				
025899 \$9/11/87	Mr. Robert L. Beck P. O. Box 561 Eunice, NM 88231				
		5			
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE NAME OF	RECEIVIN	IG POST	TAL EMF	PLOYEE

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

Put your arkives in the "REFURN 10" space on the reverse side. Failure to do this will prevent this card from being ratu med to you. The return receipt tee with provide you. the name of the person delivered to and the date of a delivery. For additional feet the following services are available. Consult postmaster for fees and check box(es) for service(s) requested. 1983 1. U Show to whom, date and address of delivery. 2. Asstricted Delivery. 3. Article Addressed to: Hunt, M. B. 2400 Thanksgiving Tower 1601 Elm Street Dallas, TX 75201 4. Type of Service: Article Number ☐ Registered ☐ Insured ☐ COD ☐ Express Mail 025859 Always obtain signature of addressee or agent and DATE DELIVERED. DATÉ DELIVERED.

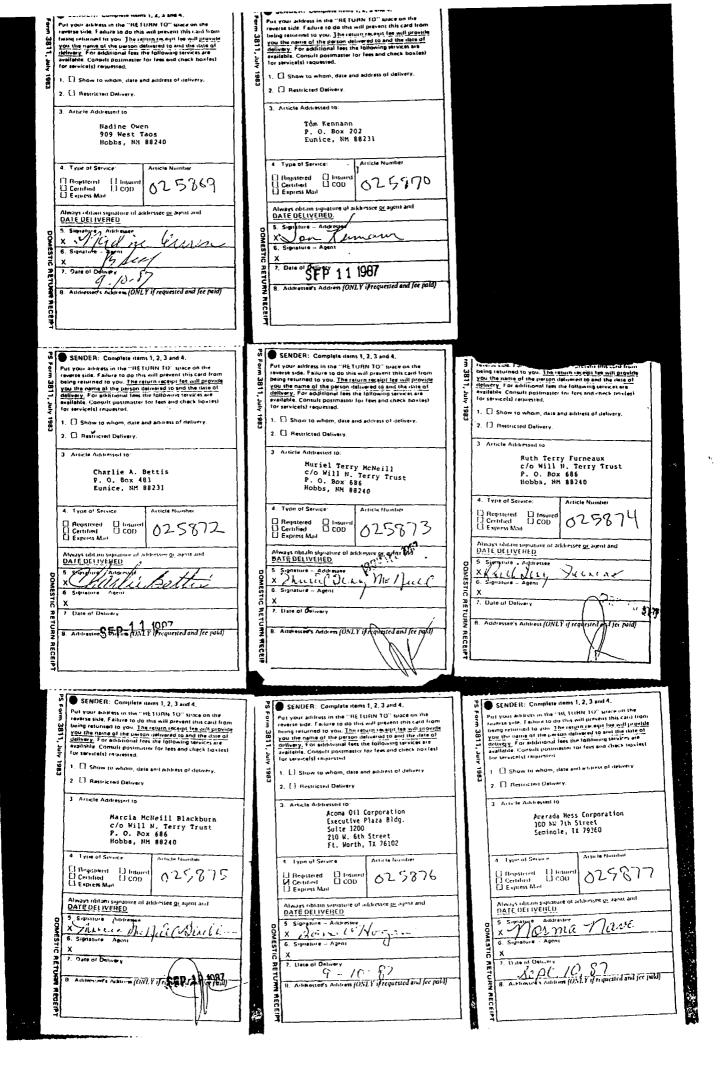
S. Signatura - Addresse

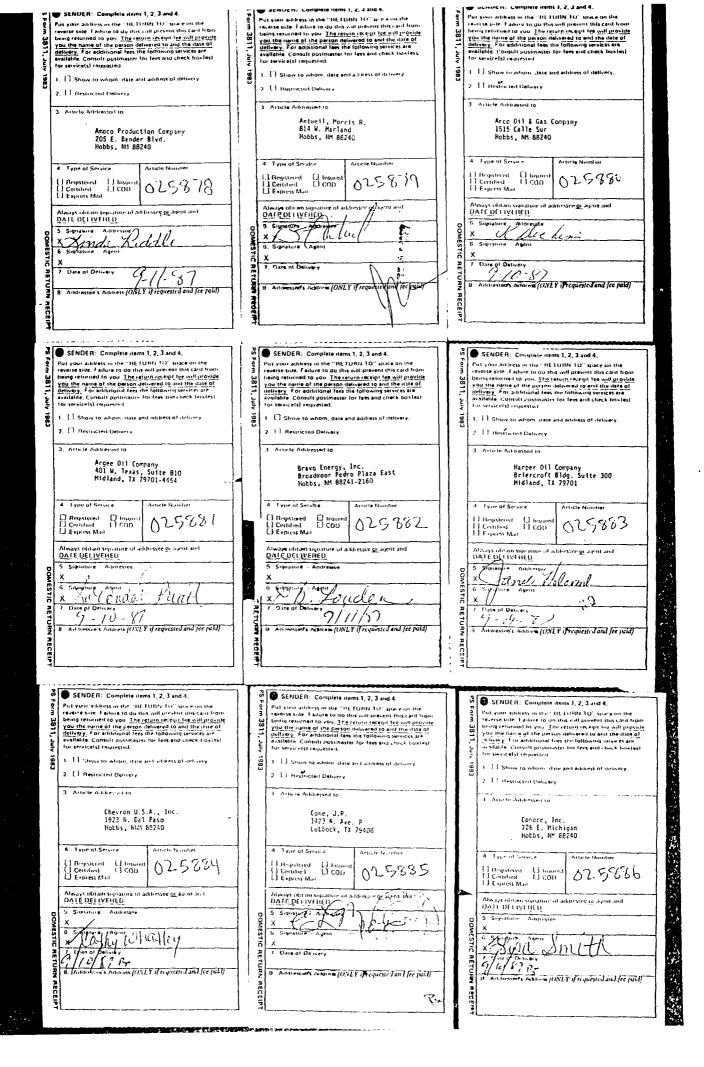
6. Signatura - Addresse

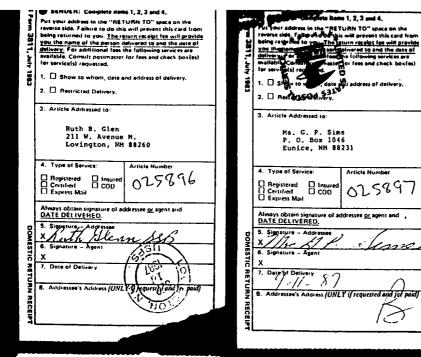
7. Date of DeliveAL 1 1 () 1913

8. Addressers Address (ONLY I prequested and fee paid)

Pur your address in the "RETURN TO" space on the reverse title. Failure to do the will prevent this rate from reverse title. Failure to do the will prevent this rate from leave the title. Failure to do you have also and the date of interest you the name of the person delivered to and the date of interest you the name of the person delivered to and the date of interest you the name of the person delivered to the title of the person delivered to and the date of interest you the name of the person delivered to not the name of the person delivered to several to the name of the person delivered to several to the name of the person delivered. 2. [] Rostricted Oblivery 3. Article Addressed to. Kirby Exploration Company of Texas 1717 St. James Place Houston, Tx 77056 4. Type of Service Registered Insured OCC OCC OCC OCC Contined COD OCC OCC Contined COD OCC OCC Despress Mail Always obtains signature of arkhesine of aignat and OATE DETIVENED 5. Suprature Agent X 7. Date of Delivery C C 7 8. Addressed's Address (ONLY if requested and fee paid)	Put your authers in the "NETITIN 10" was on the reversance facine to do the with prevent this card from being returned to you. The return result less will involve the name of the preson delivered to and the state of delivery. For artistical test the following services are resulting consulting postmaster for less and check boatest for service(s) requested. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: Harathon Oil Company 125 W. Hissouri Street Hidland, TX 79702 4. Type of Service: Article Number Highestered Insured Cettisted Coo Cettisted Coo Express Mail Coo Cettisted Coo Signature - Addressee Address Address	Put year applies in the "ALTURN 10" shace on the reasons side. I admit to do this will prevent this card from being returned to you. The enturn-scape fee will regulate the name of the peason fellipresed to and the state of delivery. For admitsional less the following services are assisted to services of an admitted consult postmatter for fees and check toxical for services of services of the ser
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SENDER: Complete nems 1, 2, 3 and 4. Put your authors in the "HE FURIL 10" space on the reserve side. Feature 10 do this will measure the result provide the improvide your the region of the person delivered to and the date of delivery. For artificial post measure of the part of the provide your the provide your the part of the part of the provide and the date of delivery. For artificial post measure for term and check boxies! for servicely! requested! 1. Show to whom, date and attress of delivery. 2. I Restricted Delivery. 3. Actually Additional to Delivery. 4. Type of Service Actually San Antonio Humber Centiled Conjugate Conjugate San Antonio, 1X 78230 4. Type of Service Insured Centiled Conjugate San Antonio, 1X 78230 Always obtain separation of architecture of against and DATE DELIVERED 5. Signatury Addressee X. Signatury Addressee X. Signatury Addressee X. Signatury Addressee X. Additional of Actual San Antonio Reputation of Additional Sections (IMI). I preparated and fee publications of the section	SENDER: Complete items 1, 2, 3 and 4. Put your address in the "HE IDHIT TO Mine on the reviews side. Endure to do this will perent this card from buring returned to you. The return except less will provide the unit of the person delivery. For additional less the following crivices are delivery. For additional less the following crivices are delivery. 1. [] Show to whom, date and address of delivery. 2. [] Destricted Delivery. 3. Article Addressed to Texaco Producing Inc. 1401 N. Turner Hobbs, KM 88240 4. Type of Service [] Registering [] Insured [] Certified [] Con [] Show to whom, date and address of delivery. 4. Type of Service [] Registering [] Insured [] Express Mall Always distant supporture of addresse on agent and DAIL DELIVERED 5. Suparure Addresses 6. Suparure Addresses 7. Date of Delivery. 9. Addressed a Addresse [UNLY of requested and for publ] 1. Addressed a Addresse [UNLY of requested and for publ] 1. Date of Delivery. 1. Addressed a Address [UNLY of requested and for publ]	SENDER: Complete items 1, 2, 3 and 4. Put your alidress in the "HETURN 10" space on the reverse side failure to do this will prevent this card from the reverse side failure to do this will prevent this card from you the name of the perion delivered to and the lists of delivery. For existional territles following services are exabilitie. Consult postmaster for less and which boxless for service(s) equiented. 1. [] Show to whom, that and address of delivery. 2. [] Restricted Delivery. 3. Article Addressed to Dallas McCasland P. O. Box 206 Eunice, NN 88231 4. Type of Service: Article Number Certified [] CoD Express that Always obtain simplicity of addresse of agent and DALE (BETYELLE). 5. Signature - Addressee X. 6. Signature - Addressee X. 7. Date of Delivery 11. Authoriston's Addressee 12. Date of Delivery 13. Article Number 14. Type of Service 15. Signature - Addressee X. 16. Signature - Addressee X. 17. Date of Delivery 18. Authoriston's Addressee 19. Date of Delivery 19. Date of Delivery 10. Date of Delivery 10. Date of Delivery 11. Authoriston's Addressee 12. Date of Delivery 13. Date of Delivery







	SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.	se are desired, and complete Items 3 and 4.
	Pet your address in the "RETURN TO" stores on the reverse side, Faliure to do this will prevent this reard from being returned to you. The traum cassigit fee will propie you this way the traum do you have so read the case of some years and the date. The second delication is not not shown by the date of delication to see and solventy services are seatables. Come percent and the date of delication to desire and solventy services are seatables. Come of the date	side. Failure to do this will prevent this provide you the name of the person following services are evailable. Consult
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_	3. Article Addressed to:	4. Article Number
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	my laket & beck	Type of Service:
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r _t	70 Day 201	_
	Einie, 77 88231	Always obtain signature of addresses or agent and DATE DELIVERED.
7	5. Signature - Addressee	8. Addresses's Address (ONLY if
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T	B. Commerce - Agent / Cure X	
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H	2 Date of Delinear	
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4	PS Farm 3811, Feb. 1986	COMESTIC RETURN RECEIPT

NUMBER OF	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
ARTICLE					
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025494 9/8/87	AJM Company CEM Company EMM Company KAM Company KPM Company PGM Company TMM Company P. 0. Box 758 Hobbs, Nm 88241				
025495	Amoco Production Company ATTN Mr. Dan Janik 502 West Lake Park Blvd. P. O. Box 3092 Houston, TX 77253				
025496	Arco Oil & Gas Company ATTN Mr. Dan C. Dodd P. O. Box 1610 Midland, TX 79702				
025497	Bravo Energy, Inc. ATTN Mr. Jay Janica P. O. Box 2160 Hobbs, NM 88241				
025498 atmost	Chevron U.S.A. Inc. ATTN Mr. John C. Prindle P. O. Box 670 Hobbs, NM 88240				
025499 04/87	Chevron U.S.A. Inc. ATTN Mr. Mickey Cohlmia P. O. Box 1150 Midland, TX 79702	10310			
025500	Cities Service Oil & Gas Corp. ATTN Mr. Terry Lindquist P. O. Box 1919 Midland, TX 79702	TE O G			
025501	Cities Service Oil and Gas Corp. ATTN Mr. Charles E. Creekmore P. O. Box 300 Tulsa, OK 74102	Mila			
	Exhibit Twelve Work	rice List for No ling Interest Ov losed Unit Bound	mers 1		ing:
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	AME OF RECEIVING	IG POS	TAL EMI	PLOYEE

	parent this card ham receipt fee will provide receipt fee will provide red to and the date of littlewing services are sens and check box loss difference of delivery. Italia Number 125687			A Type of I. Cartine A Type of I. Register Cartine Car	nead to you. The return registre person deliver or artificional fees the to make the person selection of the person selection of the person selection of the person selection of the person of the per	prevent this card from the price of the pric
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1	10" space on the researt this cand from sevent this cand from sevent the cand from sevent the cand from sevent the cand from sevent the cand from sevent are it and check boxies! 11 crust 12 58 3	SENDER: Complete items Put your audress in the "RETU- energy of the war and the status to do the Dump returned to you. The set you the manne of the person for available. Consult postmatter to for severce(s) requested. 1. [] Show to whom, date an action of the severce of the	JAN TO" space on the will provide will prevent this card from un rac cept the will provide tigered to and the data of a following savices are or fees and check box lest of address of delivery. Sico Public Lands S04-3148 Article Number O 2 5 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Put your revores you the temp of you the your revores you the you had been you the your revores the your revores to the yo	othe I advant to the this humand to you. The rest name of the newson did to the this consult provides the Consult provinced feet in Consultation of the Cons	with 10" state on the wood treatment this card from our period fee out primate inverted to and the state of a continuous received are or test on delivery. desired to and the state of a continuous received are or test only check box feet or test of the check box feet or test or t

SWEP-458

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025502	Charles L. Cobb 1722 Broadway St. Lubbock, TX 79401-3014				
025503	Adeline Z. Cone P. O. Box 10321 Lubbock, TX 79408				
025504	S. E. Cone, Jr. P. O. Box 10321 Lubbock, TX 79408				
025505	Conoco, Inc. ATTN Mr. Donald Johnson P. O. Box 460 Hobbs, NM 88240				
025506	Conoco, Inc. ATTN Mr. Gene Shumate P. O. Box 1959 Midland, TX 79702				
025507	Devon Energy Corp. 20 N. Broadway Suite 1500 Oklahoma City, OK 73102				
025508 9/4/87	Exxon Company, U.S.A. ATTN Mr. R. R. Hickman P. O. Box 1700 Midland, TX 79702-1700				
025509	Felmont Oil Corporation P. O. Box 2266 Midland, TX 79702				
025510	Texaco, Inc. ATTN Mr. Joe E. King Broadmoor Building P. O. Box 728 Hobbs, NM 88240				*,
025511	Duer Wagner, Jr. ATTN Joe Hale 1420 Continental Plaza 777 Main Ft. Worth, TX 76012		1001		
				300	
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	IG POS	TAL EM	PLOYEE

SWEP-458

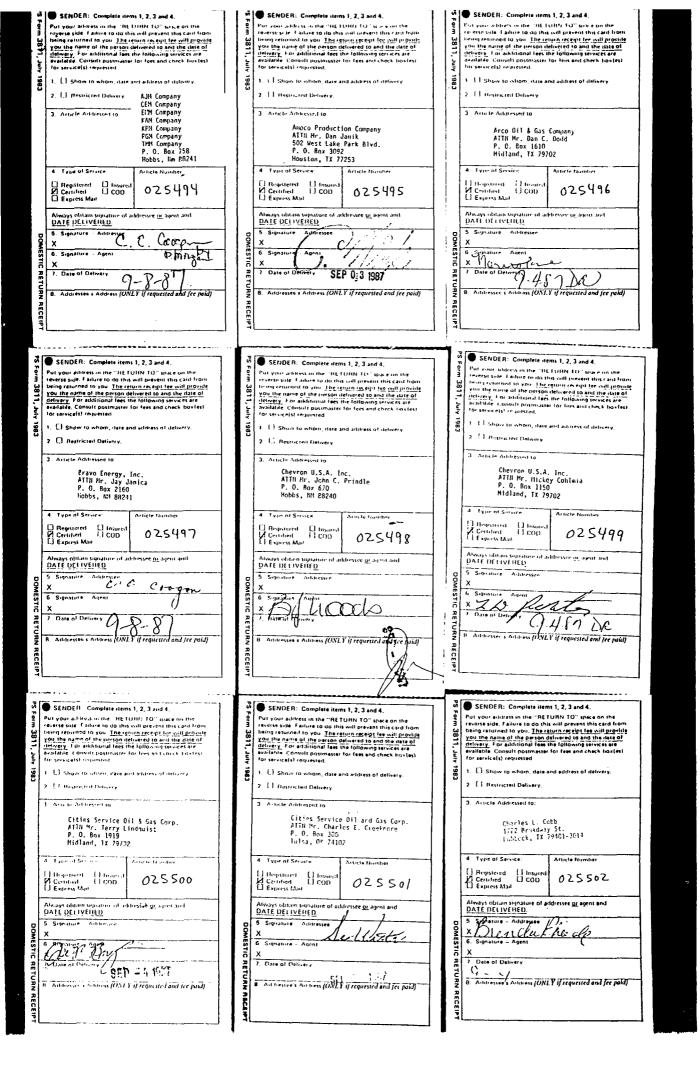
SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

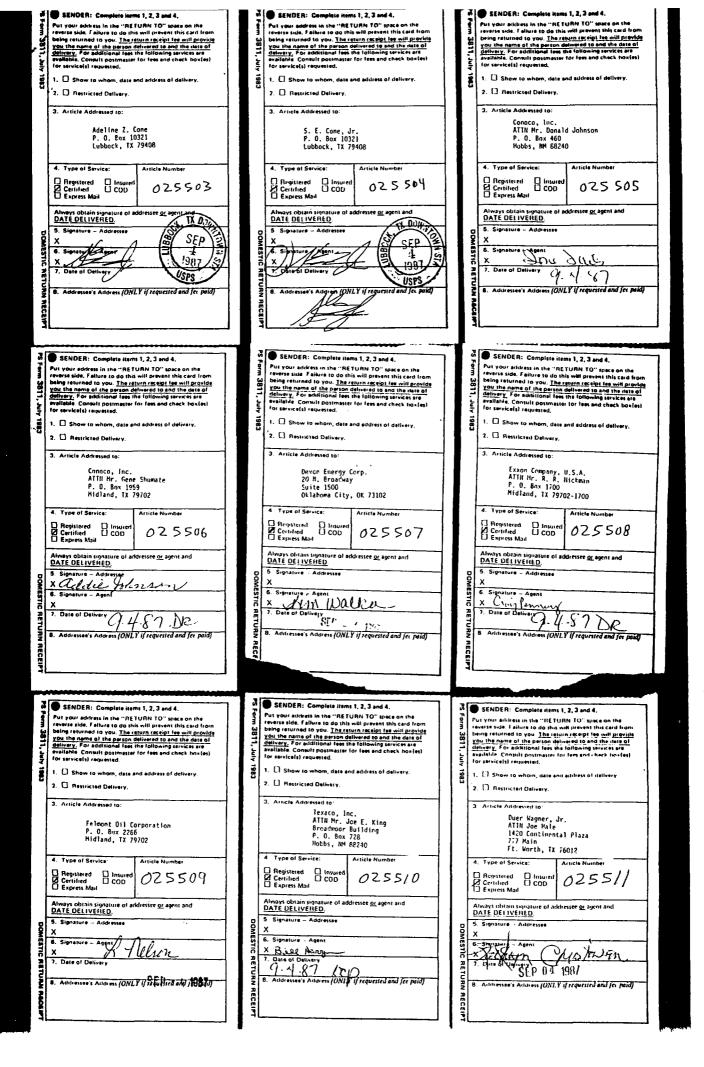
NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
	Duer Wagner, III ATTN Joe Hale 1420 Continental Plaza 777 Main Ft. Worth, TX 76012 Ms. Jo-Ann Garrison 5221 Ira Fort Worth, TX 76117 John H. Hendrix Corp. 525 Midland Tower Midland, TX 79701 Lavena Howard 1629 16th St., Apt . #8 Lubbock, TX 79401 Barbara Moran Jernigan P. O. Box 368 Hobbs, NM 88240 Marjorie Cone Kastman P. O. Box 5930 Lubbock, TX 79417 Katherine Adeline Cone Keck 1801 Avenue of the Stars Los Angeles, CA 90067 Marathon Oil Company ATTN Mr. Jim W. Nichols P. O. Box 552 Midland, TX 79702 Owen W. McWhorter, Jr. 3019 21st St. Lubbock, TX 79410 Meridian Oil Co. ATTN Mr. Tom Olle 21 Desta Drive	POSTAGE	FEE	R.R.	CLASS
9/4/87	Midland, TX 79705 Mobil Producing Texas and New Mexico, Inc. ATTN Joint Interest Manager P. O. Box 633 Midland, TX 79702		2,1		
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	OF RECEIVIN	IG POS	TAL EM	PLOYEE

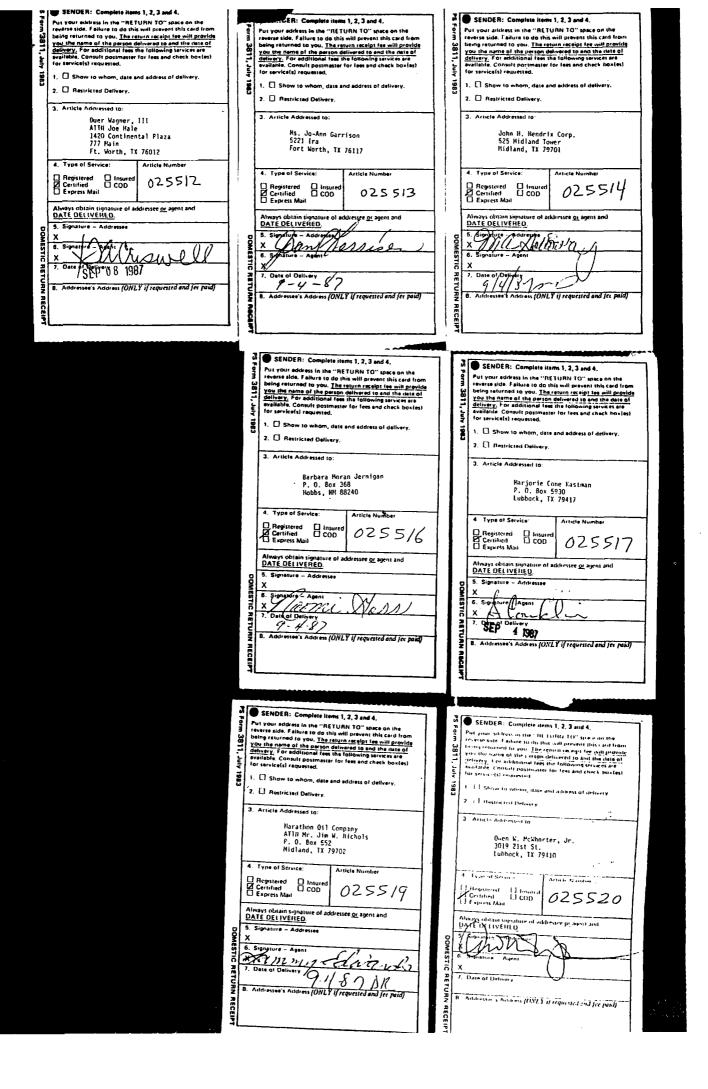
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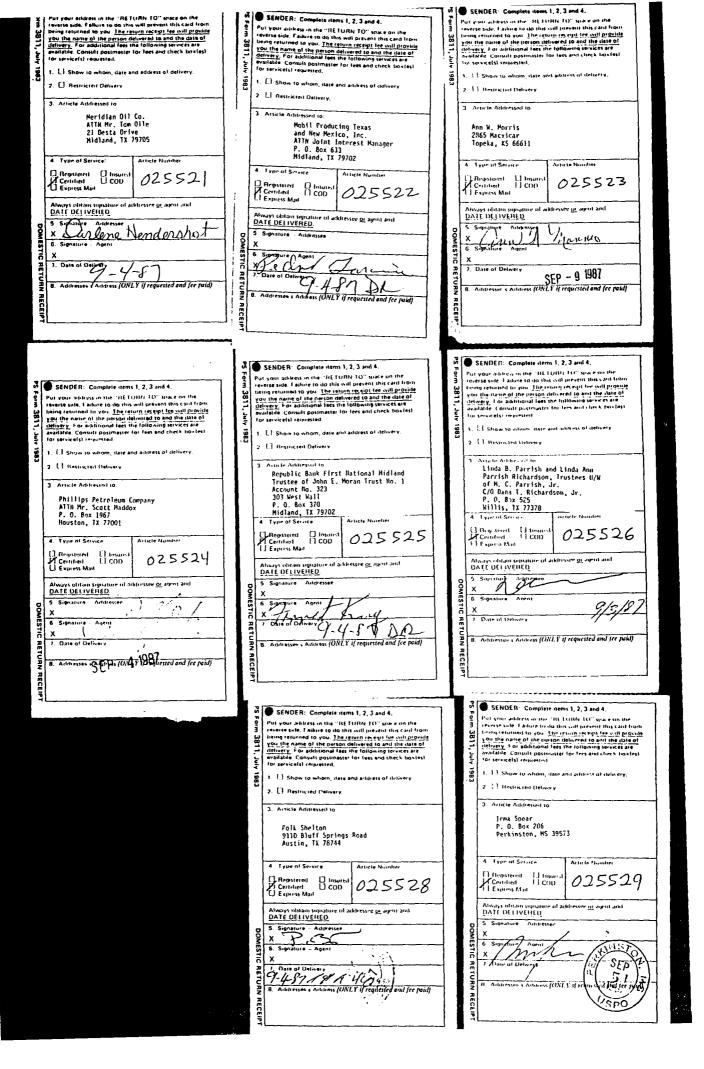
SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025523	Ann W. Morris				
9/9/87	2865 Macvicar Topeka, KS 66611				
025524	Phillips Petroleum Company ATTN Mr. Scott Maddox P. O. Box 1967 Houston, TX 77001				
025525	Republic Bank First National Midland Trustee of John E. Moran Trust No. 1 Account No. 323 303 West Wall P. O. Box 370 Midland, TX 79702				
025526	Linda B. Parrish and Linda Ann Parrish Richardson, Trustees U/W of M. C. Parrish, Jr. C/O Dana T. Richardson, Jr. P. O. Box 525 Willis, TX 77378				w,
025527 (refused 9/10) 025528	Maryanne Riwinsky P. O. Box 9620 Fort Worth, TX 76107-0620		\$6.5°		
025528	Polk Shelton 9110 Bluff Springs Road Austin, TX 78744		00.15		
025529	Irma Spear P. O. Box 206 Perkinston, MS 39573				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	IG POS	TAL EMI	PLOYEE









Shell Western E & P Inc.

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RETURN RECEIPT REQUESTED

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FIRST CLASS

- Show to whom, date and address of delivery.
 -] Restricted Delivery.

rticle Addressed to:

Lavena Howard 1629 16th St., Apt . ≓8 Lubbock, TX 79401

Article Number	0255/5	ddressee <u>or</u> agent and
Type of Service:	Registered Insured Certified COD Express Mail	ways obtain signature of addressee <u>or</u> agent and ATE OELIVERED.

Signature - Addressee

Signature - Agent

Date of Delivery

Addressee's Address (ONLY if requested and fer paid)

Lavena Howard 1629 16th St., Apt . #8 Lubbock, TX 79401 HOM 29 070439N1 09/04/87

RETURN TO SENDER NO FORMARDING ORDER ON FILE UNABLE TO FORMARD

RETURN RECEIPT REQUESTE

FIRST CLASS

Failure to do this will prevent this card from ned to you. The return receipt fee will provide or additional tees the following services are ne of the person delivered to and the date of adress in the "RETURN TO" space on the R: Complete items 1, 2, 3 and 4. Empsoc slusue

tricted Deliver s; requested. w to who

Addressed to:

nne Riwinsky 3ox 9620 Worth, TX 76107-0620

Article Number Insured COD 1 Service: Mail s Date

tain signature of addressee or agent and LIVERED.

REFUSED

re - Addressee

ire - Agent

Delivery

see's Address (ONLY if requested and fee paid)

th, TX 76107-0620 ne Riwinsky

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSE	POSTAGE	FEE	R.R.	CLASS
025530 9/4/87 025531 9/4/87 025532 025533 025533 025535 025535 025536 025537 025537 025537 025537 025537 025537 025537 025537 025537 025540 025541 9/3/87	Emma 5. Turtand Baker 607 Waco Road Belton, TX 76513 Helen Jane Christmas 8. by P. 0. Box 2767 Edmond, OK 73083-2767 New Mexico Bank & Trust Co. For Account of Opal Bar on Hobbs, NM 88240 Roy G. Barton, Jr. P. 0. Box 978 Hobbs, NM 88240-6978 Roy G. Barton, Jr., Truster of Roy G. Barton, Sr. and Opal Barton Revocable Trust Box 978 Hobbs, NM 88240-6978 Dixie Bennett 5600 Oakmont Lane Fort Worth, TX 76112 Richard C. Bennett 5017 Circle Ridge Drive Fort Worth, TX 76114	e List for l rking Intere ed Unit Bour	est Ow	ners Wi	
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APPLICATION FOR	:	CERTIFIED	MAIL
BLOCK NUMBERS			

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025542	Verda Bennett 4900 Ridge Oak Drive Austin, TX 78731				
025543	Dorothy P. Black 4615 Clybourn Avenue Toluca Lake, CA 91602				
025544	Republic National Bank Agency No. 631-00, Agent for Braille Institute of America Trust Oil and Gas Dept. P. O. Box 241 Dallas, TX 75221-0241				
025545	Joyce Ann Brown 909 North Alameda Las Cruces, NM 88001				
025546	Ronald J. Byers 1600 United Bank Tower 400 West Fifteenth Street Austin, TX 78701	·			
025547	<pre>S. E. Cone, Jr. P. O. Box 10321 Lubbock, TX 78=9408-0321</pre>				
025548	Harry Campbell, Jr. 708 Arrowhead Circle Garland, TX 75043				
025549	Sandra Chaskin 4951 Glenmeadow Houston, TX 77096	, m. (1911	1,	
9/3/87	B. A. Christmas, Jr. Chico Route Raton, NM 87740		96. Y		
025550 9/12/87 025551 9/4/87	Bradford Ace Christmas P. O. Box 173 Wagon Mound, NM 87752-01:3				
025552	Candy Christmas P. O. Box 64278 Lubbock, TX 79464-4278				
025553	Charles H. Coll Box 1818 Roswell, NM 88201-1818				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	G POS	TAL EMP	PLOYEE

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE			FEE R.R.	R.R.	CLASS
025554	James N. Coll Box 1818 Roswell, NM 88201-1818				
625555	Jon F. Coll Box 1818 Roswell, NM 88201-1818				
025556	Max W. Coll, II Box EE Santa Fe, NM 87502				
025557	Commissioner of Public Lands State of New Mexico P. O. Box 1148 Santa Fe, NM 87501-1148				
025558	J. R. Cone P. O. Box 10217 Lubbock, TX 79408-0217				
025559	Kathleen Wilmeth Cowart 1402 Sixteenth Street Plains, TX 79355				
025560	Ollie Gann Cowden Box 579 Carlsbad, NM 88220-0579				
025561	Charles Doyle Crain 3207 Park Hills Drive Austin, TX 78746				
100000	Cheryl Margaret Crain 7030 Meadow Creek Drive Dallas, TX 75240				
025563	Michael W. Crain 3625 Centenary Drive Dallas, TX 75225		.61 .61	À	-
025,564	Patricia Crain 901 South Coit, No. 1043 Richardson, TX 75080		13	•	
015/37 025/37 025/3/87 025/564 025/565 9/5/47	Roxann K. Crain 7030 Meadow Creek Dallas, TX 75240		100 300		
025566	Walter Robert Crain Thanksgiving Tower, Suite 960 Box 50 Dallas, TX 75201-0050				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	AME OF RECEIVIN	G POSTI	AL EMF	PLOYEE

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025567 delioned (914/97?) 025568	Billie June Crow P. O. Box 643 Roswell, NM 88201-0643 Earl D. Crow Route 3, Box 3177 Pearland, TX 77581				
9/14/87 025569 9/4/87	RepublicBank First National Midland, Trustee for Jessie Blevins Crump Trust #1069 P. O. Box 270 Midland, TX 79702-0270				
025570	David C. Bevins & Texas American Bank, Co-Trustees of Joe & Jessie Crump Fund #2312 Drawer No. 99033 Fort Worth, TX 76199				
02557/	Margaret Hamm Curry P. O. Box 135 Montgomery, TX 77356-0135				
025572	Edwin L. Cox, Trustee of DEF Trusts 3800 First National Bank Building 1400 Elm Dallas, TX 75202				
025573	Juanelle G. Wilmeth Daldal 87 Pine Oaks Road Oroville, CA 95965				
025574	June P. Danglade Drawer 1687 Lovington, NM 88260				
9/4/87	Miller Daniel P. O. Box 3728 Lubbock, TX 79452-3728			and the	
025575	Elizabeth Dekker 6535 West 114th Avenue Westminster, CO 80020			80	1
025576	Greg Dodd 154 East 29th Street, #6G New York, NY 10016		I.E.	, y	nog/
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APPLI(CATION	FOR:	CERTIFIED	MAIL
BLOCK	NUMBER	RS		

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
			-		
025578	Monte Sue Dodd 17314-48th Terr. So. Ct. Independence, MO 64055				
025579 914[87	Bank of California NA, Trustee of Betty Kyte Dreessen Trust Nos. 2-2010 and 2-2013 Real Estate Operations P. O. Box 7629 San Francisco, CA 94119-7629				
025580	Betty M. Dreessen, Trustee of the Betty M. Breessen Revocable Living Tust P. O. Box 817 Los Altos, CA 94022-0817				
025581	Edward Dreessen, Jr. P. O. Box 416 Los Altos, CA 94022-0416				
025582	Juanelle Jones Dunn 1120 Linda Vista Avenue Napa, CA 94558				
025583	Charles L. Cobb 1722 Broadway Street Lubbock, TX 79401-3014				
025584	Elliott Oil Company P. O. Box 1355 Roswell, NM 88201-1355				
025585	Fairway Oil & Gas Co. P. O. Box 2280 Midland, TX 79702-2280			WIL.	Ŝ.
025586	First National Bank of Midland Trustee for Trust No. 320 P. O. Box 270 Midland, TX 79702-0270			12 987	
025587	First National Bank of Midland Trustee for Trust No. 319 P. O. Box 270 Midland, TX 79702-0270				
1	Catherine Ruth Hamm D Hemecourt Star Route 3, Box 751 New Braunfels, TX 78130				
025588 9/4/87 025589 9/8/87	Theresa Morrow Hamm 1819 Cypress Rapids Drive New Braunfels, TX 78130				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVE	I NG POS	<u> </u> TAL EM	l Ployee

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE			FEE	R.R.	CLASS
025590	William Edward Hamm 1226 Clearwater New Braunfels, TX 78130				
025591	Owen W. McWhorter 3019 21st Street Lubbock, TX 79410				
025592	Hamon Operating Company c/o Fina Oil & Chemical Co. P. O. Box 2159 Dallas, TX 75221-2159		•		
025593	Polk Shelton 9110 Bluff Springs Road Austin, TX 78744				
025594	Hanaho, Ltd. P.O. Box 2280 Midland, TX 79702-2280				
025595	First National Bank Lubbock, Successor Trustee of J. E. Simmons Test Trust B F/B/O Mary Jane Hand Trust Department Account #101-3084 P. O. Box 1242 Lubbock, TX 79408-1242				
025596	First National Bank Lubbock, Successor Trustee of Beulah H. Simmons Test Trust B F/B/O Mary Jane Hand Trust Department Account #101-3068 P. O. Box 1241 Lubbock, TX 79408-1241				
025597	Juanita L. Harris 2125 North 20th Abilene, TX 79603				
025598	Edith Minnie Harsin 15713 Osage Avenue Lawndale, CA 90260	All Core	000		
025598	Hendrick Medical Center 1242 North 19th Street Abilene, TX 79601				
025600	J. H. Herd Box 130 Midland, TX 79702-0130				
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TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN		TAL EMI	PLOYEE

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
	Homer Herring Route 21, Box 428A Tyler, TX 75709 La Verne Herring 2105 43rd Street Snyder, TX 79515 Ray Herring Box 17 Fluvanna, TX 79517-0017 Curtis Wayne Holden 309 Gorman Belen, NM 87002 Mary T. Christmas Holladay P. 0. Box 11041 Spring, TX 77391-1041 Howard P. Holmes Box 667 Hobbs, NM 88240-0667 Pearlie Hopkins 1902 White Killeen, TX 76541 Hunter Oil Corporation 2020 Civic Circle Amarillo, TX 79109 Felmont Oil Corporation P. 0. Box 2266 Midland, TX 79702-2266 Evelyn Jeter HCR 7, Box 152 Lamesa, TX 79331 Nancy June Johnson 3257 Wabash Fort Worth, TX 76109 Alice Jones 1915 - 30th Street Lubbock, TX 79411 First National Bank, Successor Co-Trustee & Jerry D. Jones, Co-Trustee of Belinda Jones Trust P. 0. Box 1626 Levelland, TX 79336-1626	POSTAGE	FEE	R.R.	CLASS
TOTAL NUMBER OF PIECES LISTED BY SENDER		OF RECEIVIN	IG POS	TAL EMI	PLOYEE

P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025614 9/8/87	First National Bank, Successor Co-Trustee & Jerry D. Jones Co-Trustee of Deann Jones Trust P. O. Box 1626 Levalland, TX 79336-1626				
025615	Nelva Ruth Herring Jones Route 1, Box 26 Fluvanna, TX 79517				
025616	Jones Robinson Company P. O. Box 2076 Roswell, NM 88201-2076				
025617	Thurman Jones, Jr. 14829 SE Fairwood Boulevard Renton, WA 98055				
no forwarding aldre	Lavena Howard 1629 Sixteenth Street, Apt. #8 Lubbock, TX 79408	·			
05.2619	Katherine Cone Kleck 1801 Avenue of the Stars, Suite 430 Los Angeles, CA 90067				
02562.0	Marjorie Cone Kastman P. O. Box 5930 Lubbock, TX 79408-5930				
025621	Aubrey E. Kenyon P. O. Box 911 Hobbs, NM 88240-0911				
025622	David Bond Kyte c/o Estado Home Loan Co. Ste B 1900 State Street Santa Barbara, CA 93101				
025623	Betty M. Dreessen and Ingrid Powell, Trustees of the Mariee I. Kyte Revocable Living Turst P. O. Box 749 Los Altos, CA 94022-0749	a series	1-000		
025624	Edward David Ladner 2116 South Detroit Avenue Tulsa, OK 74114		(V)		
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	AME OF RECEIVIN	IG POST	TAL EM	PLOYEE

APPLIC	CATION	FOR:	CERTIFIED	MAIL
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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE R.R.	CLASS
025625	Helen Louise Ladner 1020 North Corona Colorado Springs, CO 80903			
025626	Mildred M. Ladner 2116 South Detroit Avenue Tulsa, OK 74114			
025627	Allie M. Lee Trust United New Mexico Trust Co., Trustee P. O. Box 1977 Roswell, NM 88201-1977			
025628	Kay Levy 410 Menking Court Houston, TX 77024			
025629	Sue Herring Lloyd Star Route Fluvanna, TX 79517			
025630	Jerry W. Love 1109 Lindsey Circle Belton, TX 76513			
025631	Johnnie A. Love Route 4, Box 261F Caldwell, TX 77836			
025632	Margaret L. Mahon, Individually and Independent Executrix of the Estate of D. D. Mahon 3307 38th Street Lubbock, TX 79413			
025633	Violet Malaby 4571 Colver Road Talent, OR 97540			
	Billie Joe Markham 6524 East Julep Street Mesa, AZ 85205			
025635	C. B. Markham, Jr. 5090 Coors Road SW, No. 35 Albuquerque, NM 87105			
025634 025635 1/4/17 025636 1/4/187	Jack Markham First National Pioneer Building 1500 Broadway, Suite 1212 Lubbock, TX 80401		n 13	
	·		10 July 10 Jul	
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	G POSTAL EI	1PLOYEE

APPLICATION FOR:	CERTIFIED MAIL
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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025637	John Markham Route 2, Box 143 Idalou, TX 79329				
025638	Susan Crain Matsuura 178 Kaliko Drive Honolulu, HI 96786				
025639	Joyce Matzenbacker 4110 NE 103 Road St. Vancouver, WA 98665 Malcolm McDuffie 711 East Walnut Street, Room 206				
025640	Pasadena, CA 91101 Joyce McGough	-			
025641	4110 NE 103 Road Street Vancouver, WA 98665 Interfirst Bank Dallas, N.A., Agent for Methodist Home,		-		
025642	A Texas Non-Profit Corporation Department No. 0738 P. O. Box 84738 Dallas, TX 75284-0738				
025645	Lou Francis Mahon 9715 Tiltree Houston, TX 77075 J. Hiram Moore, Betty Jane Moore &				
025644	Michael Harrison Moore, Trustees of The Moore Trust P. O. Box 10908 Midland, TX 79702-0908				
025645	5221 Ira Fort Worth, TX 76117				
025646	The Moran Partnership P. O. Box 1919 Hobbs, NM 88241-1919				
025647	Reese Cleveland c/o First City National Bank of Midland Account #50-110-00 P. O. Box 10966 Midland, TX 79702-0966	6	600	12 12 12 12 12 12 12 12 12 12 12 12 12 1	
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APPLICATION	FOR:	CERTIFIED	MAIL
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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025648 slimed (a/4/82?) 025649 9/4/87 025650 9/10/87 025651 9/5/87 025653 9/4/87 025654 9/4/87 025655 9/5/87 025655 9/5/87 025656 9/5/87 025657	Albert Lee Newsom and Dora B. Newsom, Trustees of the Newsom Revocable Living Trust 3383-C Punta Alta Laguna Hills, CA 92653 Lula C. Peterson, Representative for Estate of Arthur J. Pierce c/o First National Bank Account #115-39-23 P. O. Box 697 Destin, FL 32541-0697 Ingrid K. Powerll P. O. Box 416 Los Altos, CA 94022-0416 Robert C. Prater Box 1135 Hobbs, NM 88240-1135 Pete Proctor, Personal Ancillary Representative of the Estate of Julia Ruth Markham Proctor 2506 Redbud Odessa, TX 79761 Fannye Gae Ratcliff 2248 Demaret Drive Mesa, AZ 85205 Ann W. Morris 2865 Mac Vicar Topeka, KS 66611 Martha Rips 122 Bartlett San Antonio, TX 78209 Mary Patricia Ladner Robertson 1209 Canal Road R.D. 1 Princeton, NJ 08540 Iris Rigers P. O. Box 8044 Roswell, NM 88202-8044 Robert L. Rorschach 320 South Boston Avenue, Suite 708 Tulsa, OK 74103				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	l POS	TAL EMI	PLOYEE

APPLICATION FOR:	CERTIFIED	MAIL
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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
02565 9 9/4/87	Interfirst Bank Dallas N.A. Escrow Agent for Sabine Royalty Trust Department No. 0887 Dallas, TX 75284-0887				
025660	Charles D. Sands P. O. Box 314 Elephant Butte, NM 87935-0314				
025661	Shriners Hospital for Crippled Children P. O. Box 0050 Tampa, FL 33655-0050				
025662	Blanche Shulie 160 East Fargo Street Stockton, CA 95204				
025663	June D. Speight Drawer 1687 Lovington, NM 88260				
025664	Eula Splittgerber Route 2, Box 2255 Belton, TX 76513				
9/10/87 025665 9/4/87	First National Bank Lubbock, Successor Trustee of J. E. Simmons Test Trust A, F/B/O Jean S. Sullican Trust Department, Account #101-3076 P. O. Box 1241 Lubbock, TX 79408-1241				
025666	First National Bank Lubbock, Successor Trustee of Beulah H. Simmons Test Trust A, F/B/O Jean S. Sullivan Trust Department, Account #101-3033 P. O. Box 1241 Lubbock, TX 79408-1241				
025667	Judith A. Becker 4231 Maple Lane Carmichael, CA 95608		22 TH		
025668	Cassie M. Turland Tabor Route 1, Box 273 Salado, TX 76571		1982	SE	
1/4/87 025669 9/4/87	Joe F. Taylor 3002 Brentwood Amarillo, TX 79106	/3		(CO)	
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	E OF RECEIVIN	IG POS	TAL EMI	PLOYEE

APPLICATION FOR:	CERTIFIED	MAIL
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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025670 9/3/87 025671 025672 9/4/87 025673 025674 (refund) 025674 (refund) 025675 9/8/87 025675 9/8/87 025676 025677 9/4/87 025679 025679 025679 025687 025687 025687	Tenneco Oil Company Southwestern Division P. O. Box 100143 Houston, TX 77212-0143 Jo Dell Terrel Box 247 Magdalena, NM 87825-0247 Texaco, Inc. P. O. Box 3109 Midland, TX 79702-3109 Carolyn Wilmeth Truss 5101 Leonard Road Box 59 Bryan, TX 77801-0059 A. A. Turland 1900 South Wall Belton, TX 76513 Ace Turland 610 Carmen Killeen, TX 76541 Ann Turland 1700 Hooten Killeen, TX 76541 Billie T. Turland Box 479 Ozona, TX 76943-0479 Charles G. Turland Box 26584 Austin, TX 78755-6584 Donald Turland 9331 Forest Lane, Apt. 1117 Dallas, TX 75243 Dorothy D. Turland 200 Mitchell Belton, TX 76513 Margaret Ethel R. Turland P. O. Box 658 Ozona, TX 76943-0658 Pat Turland 1700 Hooten Killeen, TX 76541				
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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
			-		-
025683	William H. Turland 1308 South 51st Street Temple, TX 76501				
025684	J. M. Welborn First National Pioneer Building 1500 Broadway, Suite 1212 Lubbock, TX 79401				
025685	Sallie Mae White 3418 36th Street Lubbock, TX 79413				
025686	Bonnie J. Wilmeth 2809 Peoria Avenue Lubbock, TX 79410				
025687	Billie Jean Wilmeth, Attorney in Fact for Elton Wilmeth 5115 47th Street Lubbock, TX 79414				
025688	Mack Wilmeth 1202 East Ward Street Brownfield, TX 79316				
025689	Mitchell Wilmeth 1163 East 25th Street San Angelo, TX 79303				
025690	Ross Alton Wilmeth 2427 West Main Houston, TX 77098				
025691	Thorn T. Wilmeth P. O. Box 298 Ralls, TX 79357-0298				
025692	Tandy Sueann Wilmeth 1163 East 25th Street San Angelo, TX 76903				
025693	Valley Sue Wilmeth 3720 33rd Street Lubbock, TX 79410			C C	38
025094	W. C. Wilmeth P. O. Box 69 Plains, TX 79355-0069			W _O	
9/9/84 025695 9/4/87	The Wiser Oil Company Department L 454 P Pittsburgh, PA 15264				
TOTAL NUMBER OF PIECES	TOTAL NUMBER OF PIECES	NAME OF RECEIVIN	G POS	TAL EM	PLOYEE
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P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
	United States Department of the Interior Bureau of Land Management New Mexico State Office ATTN Mr. Joseph M. Montoya Federal Building, South Federal Place P. O. Box 1449 Santa Fe, NM 87504-1449 John William Nichols P. O. Box 2177 Midland, TX 79701-2177 First National Bank of Midland Trustee for Trust #2071-12 Christopher Perkins Nichols P. O. Box 270 Midland, TX 79702-0270 Judith A. and Donald T. Becker 4231 Maple Lane Carmichael, CA 95608 Judith A. Becker 4231 Maple Lane Carmichael, CA 95608 Pauline Cowden P. O. Box 5316 San Angelo, TX 76902-5316 Louise P. Slagle P. O. Box 26509 Benbrook, TX 76126-6509 First National Bank Midland Trustee Under Trust #1055 P. O. Box 270 Midland, TX 79702-0270 Joe Gant P. O. Box 909 Carlsbad, NM 88220-0909 Teresa W. Irvin P. O. Box 13328	POSTAGE	FEE		CLASS
9/4/87	El Paso, TX 79913-3328 Maude M. Hooker LeFlore 6449 Lontos Dallas, TX 75214				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	G POST	'AL EMP	PLOYEE

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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025707 9/8/87 025708 9/5/87 025710 9/4/87 025711 9/4/87 025712 9/4/87 025713 9/4/87 025715 9/4/87 025715 9/4/87	Catherine J. Nerwick 9604 Morrow Road NE Albuquerque, NM 87112 John Perkins, III 29510 Terra Vista Boerne, TX 78006 George L. Reese, Jr. District Judge P. O. Box 1776 Roswell, NM 88201-1776 Ethel E. and Mark W. Rogers Maria Manor, Apt. M-3 4158 Tamiami Trail Charlotte Harbor, FL 33952 John Simpson 877 Redfern Avenue Akron, OH 44314 Patricia J. Simpson 877 Redfern Avenue Akron, OH 44314 Leona L. Stagner 1605 Live Oak Carlsbad, NM 88220 Ben F. Williams, Jr. P. O. Drawer W Douglas, AZ 85607 William A. Kolliker 3812 Hillcrest Drive El Paso, TX 79902 Betty Buttag, Trustee, Charles Gutman Trust Dated 04-30-56 Manufacturers Hanover Trust Co. P. T. Real Estate Department 600 Fifth Avenue, 2nd Floor New York, NY 10020 Jule L. Daniels 2409 Wooded Acres Waco, TX 76710 Fort Worth National Bank, Independent Executor U/W/O Roy S. Magruder, Deceased, Account #1059 P. O. Box 2402 Fort Worth, TX 76113-2402				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	RECEIVIN	IG POS	TAL EMI	PLOYEE

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025719 9/5/87 025720 9/4/87 025721 9/4/87 025722 025724 9/9/87 025724 9/9/87 025726 9/8/87 025727 1/5/87 025727 025727 9/8/87	Alfred E. Gutman 206 Winthrop Street Taunton, WA 02780 G. L. Gutman, Trustee Estate of Max Gutman P. O. Box 2823 Dallas, TX 75221-2823 Daniel L. Gutman 239 East 79th Street, Apt. 11E New York, NY 10021 Betty Gutman 16 Sutton Place New York, NY 10022 Edith G. and A. Walter Socolow, Trustees 45 East 82nd Street New York, NY 10028 Jane Blain Baker 5200 Hiltop Drive N-4 Brookhaven, PA 19015 H. W. Benischek 1216 Morningside Drive NE Albuquerque, NM 87110 Janet E. Benson Main Street Carver, MA 02330 Ella F. Blain The Briarcliff, Apt. 104 801 South Chester Road Swarthmore, PA 19081 Esther L. Blain The Briaircliff, Apt. 104 801 South Chester Road Swarthmore, PA 19081 Citizens National Bank & Trust Co. Oklahoma City Trustee U/W Charles Pfile, Deceased P. O. Box 1216 Oklahoma City, OK 73101 Eugene Coffelt Box 104 Bentonvillle, AR 72712				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	I POS	TAL EMI	PLOYEE

APPLI	CATION	FOR:	CERTIFIED	MAIL
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NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025731	E. L. Cooper 2620 Princeton Drive Durham, NC 27707				
025732	Helen I. Godfrey 610 West Maywood Street Peoria, IL 61604				
025733	Twila Goodding, Trustee U/Agent & Declaration Tr., Lucky Wright Royalty Syndicate Tr Re-Established, dated 12-01-78 P. O. Box 505 Farmington, NM 87401-0505			,	·
025734	Laura Kaempf 1325 Valley View Drive, Apt. 202 Glendale, CA 91202				
025735	Liberty Trust Co., Trustee Trust No. 2007 P. O. Box 7159 Odessa, TX 79760-7159				
025736	Reuben I. Wolfson Properties 1999 Bryan Street, Suite 3140 Dallas, TX 75201				
025737	Raymond J. O'Connor, Jr. 400 Jefferson, Apt. 103 Springfield, IL 62701				
025 738	Myrtle Pfile Box 18741 Oklahoma City, OK 73154-8741				
025739 delivered (9/4/878)	Philadelphia National Bank and Eileen Hart Hinkson and Charles H. Hinkson, Executors and Trustees U/W/O J. H. Ward Hinkson, Deceased Personal Trust Department Philadelphia, PA 19101				
025740	Betty Moran Rive 6223 Lupton Dollas, TX 75225		OF DE		
025741	George F. Senner, Jr. 2849 West Myrtle Phoenix, AZ 85021		1987 1987	月)	
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TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	F RECEIVIN	IG POS	TAL EM	PLOYEE

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D25742 9/3/87 A. E. Smith San Antonic Savings Asc ciation Account #06-105690-1 P. O. Box 1810 San Antonic, 1X 78296 810 Southwestern Baptist TI ological Seminary P. O. Box 22000 Fort Worth, 1X 76122-2 /00 Ellie Spear 603 Sec On 1824 Hobbs, MM 88240 Hobbs, MM 88240 Howell Spear 808 206 Perkinston, MS 39573-0206 Perkinston, MS 39573-0206 P	NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
	025742 9/3/87 025743 9/4/87 025744 9/4/87 025745 9/5/87 025746 9/15/87 025748 1/3/87 025749 9/4/87 025750 9/4/87 025751 9/4/87 025752 9/4/87	San Antonio Savings Asc ciation Account #06-105690-1 P. 0. Box 1810 San Antonio, TX 78296 810 Southwestern Baptist TJ ological Seminary P. 0. Box 22000 Fort Worth, TX 76122-2,00 Ellie Spear 603 Seco Drive Hobbs, NM 88240 Howell Spear Box 206 Perkinston, MS 39573-0206 Frances B. Swarts 217 East Fifth Street Dixon, IL 61021 H. L. and Frances B. Swarts 217 East Fifth Street Dixon, IL 61021 Texas Commerce Bank KA Agent and AIR Trust Mineral Sec 63140 P. 0. Box 200555 Houston, TX 77216-055 Mary Ellen Todd 2032 Rose Lane Las Cruces, NM 88001 Sam Wolfson 1999 Bryan Street, Suite 3 40 Dallas, TX 75201 Mildred A. Wright P. 0. Box 505 Farmington, NM 87401-0508 Ernest Frances Bradfield P. 0. Box 587 Nowata, OK 74048-0587 Sam Campbell 1717 Norfolk, #3301		STORE		

P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POST	AGE FEE	R.R.	CLASS
025754 9/4/87 025755 9/15/87 025756 025756 025756 025757 025759 9/4/87 025760 9/4/87 025762 9/4/87 025762 9/4/87 025762 9/4/87 025765 9/4/87 025765 9/4/87	Hubert E. Cone 4810 College Avenue Lubbock, TX 79413 L. M. Duncan 3404 37th Lubbock, TX 79413 George Eager 810 North Coddington Lincoln, NE 65828 Marion R. Eager 3530 South 38th Street Lincoln, NE 68506 R. H. Fulton P. 0. 80x 1526 Lubbock, TX 79408-1526 Julian W. Glass, Jr., Executor of Eva Payne Glass Estate P. 0. Box 587 Nowata, OK 84048-0587 Julia J. Harmon Box 286 Nowata, OK 74048-0286 The Pennsylvania Bank & Trust Co. Trustee U/W of Albert W. Cone Warren, PA 16365 Donald M. Phillips P. 0. Box 6908 Albuquerque, NM 87940 John W. Phillips P. 0. Box 6908 Albuquerque, NM 87940 John W. Phillips P. 0. Box 1379 La Jolla, CA 92038 Paul M. Phillips 3843 Park Boulevard San Diego, CA 92103 Pierre D. Phillips P. 0. Box 700034 Tulsa, OK 74170 Wilma M. Phillips and Curtis Darling, Co-Executors of Estate of Ross M. Phillips 3843 Park Boulevard, Suite C San Diego, CA 92103				
TOTAL NUMBER OF PIECES LISTED BY SENDER	13 TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECE	IVING POS	TAL EMP	PLOYEE

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025767 9/3/87 025768 9/4/87 025769 9/4/87 025770 9/4/87 025771 9/4/87 025772 9/4/87 025774 1/4/87 025774 1/4/87 025776 (mothering language) 025776 9/4/87	Rom Rhone 7625 Blue Hills Road Houston, TX 77069 A. L. Cone P. O. Box 3457 Lubbock, TX 79452 Julian W. Glass, Jr. Box 587 Nowata, OK 74048-0587 Julian W. Glass Special P. O. Box 587 Nowata, OK 74048-0587 The Pennsylvania Bank & Trust Co., Trustee of the Estate of Albert Walter Goal Warren, PA 16365 Pierre D. Phillips Trust No. 1 Under Declaration of Trust Dated 06-25-82 P. O. Box 700034 Tulsa, OK 74170 Tom W. Schnaubert Life Estate c/o Mary Irwinsky 3912 Eighth Avenue Fort Worth, TX 76110 Hazel E. Schwancke, Independent Executrix of the Estate of Duncan Schwancke 316 Linden Lane Lake Jackson, TX 77566 Florence Louise Woods 224 East Tucla Hobbs, NM 88240 George A. Moberly P. O. Box 228 Midland, TX 79701-0228 Daniel L. Hannifin P. O. Box 182 Roswell, NM 88201-0182	1861 1861			
9/8/87 D 25778 9/4/87	Gannye Gae Ratcliff, Independent Executrix of the Estate of C. B. Markham 3418 36th Lubbock, TX 79413				
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	NAME OF RECEIVIN	I POS	TAL EM	PLOYEE

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE		ADDRESSE	E.		POSTAGE	FEE	R.R.	CLASS
625779 625779 625787	Reese and Traccourty of the series of the se	City National Bank ar Cleveland, Independer rustees U/W Roselle B. at #1-763-00-4 Box 2097 ad, TX 79702-2097 by H. Hannifin Box 218 ad, TX 79702-0218 be Wygocki bins Road and and and and and and and and and a	nt Co-Executors Cleveland					
TOTAL NUMBER OF PIECES LISTED BY SENDER	12	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	12	NAME OF	RECEIVIN	IG POS	TAL EMP	PLOYEE

APPLICATION FOR:	CERTIFIED	MAIL
BLOCK NUMBERS		

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NUMBER OF ARTICLE	ADDRESSEE		POSTAGE	FEE	R.R.	CLASS
- 5-01	Carlla Lynn Montgomery Antwine					
025791	1701 Pease Street Sweetwater, TX 79556					
1	Melvin S. Cohn 5847 San Felipe, Suite 1700					п
625792	Houston, TX 77057					
125793	Mary J. Dotson 206 Old Eagle Pass Road Carrizo Springs, TX 78834		٠.			
9/5/87	John J. Christman					
025794	First National Bank Building 1500 Broadway, Suite 800 Lubbock, TX 79401					
	Irene J. Schuler 1210 Highland Road					
025795	Roswell, NM 88201 Mary J. McWhorter					
025796	2033 East Second Street Tucson, AZ 85719					
9/4/87	Brent W. McWhorter 2701 East Aldine					
025797	Phoenix, AZ 85332					
025798	Hayden M. Moberly 7106 McKamy Boulevard Dallas, TX 75248					
9/4/87	Margaret Hannifin Voelker					
025799	1261 St. Tropez Circle Box 28 Orlando, FL 32806					
025800	Reuben I. Wolfson Properties Michael S. Wolfson, Partnership Manager					
	1999 Bryan Street, Suite 3140 Dallas, TX 75201			18	1 3 3 4 0 2 3 3 3 4 1	
025801	Fort Worth National Bank Trustee U/W of Roy S. Magruder				W 432	
9/3/87	P. O. Box 2605 Fort Worth, TX 76101				2	
025802	Edith C. Wheeler P. O. Box 64035				No.	
9/8/87	Lubbock, TX 79464-4035					
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TOTAL NUMBER OF PIECES	TOTAL NUMBER OF PIECES	NAME OF	RECEIVIN	G POS	ral emp	PLOYEE
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SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025803	Diane M. Landen P. O. Box 155 Allen, TX 75002-0155				
025304	Ann D. Allison P. O. Box 64035 Lubbock, TX 79464-4035				:
	Julia Ruth Proctor 2506 Redbud Odessa, TX 79761				
025305 Juliania (1/5/37?) 025306	Betty Adkins 7107 South Hudson Circle Littleton, CO 80122				
9/5/87 025307 4/8/81	The Fort Worth National Bank, Trustee for the Katherine K. McIntyre Revocable Trust #4541 P. O. Box 2605 Fort Worth, TX 76101-2605				
025308	United New Mexico Trust Company, Trustee of the Allie M. Lee Trust P. O. Box 1977 Roswell, NM 88201-1977	•			
025309	The First City National Bank of Midland, Texas Trustee U/S/O Rozelle B. Cleveland, Account #20-0763-00 P. O. Box 10966 Midland, TX 79702-0966				
025310	Sallie Mae White 3418 36th Street Lubbock, TX 79413				
025811	Carrla Lynne Davis Antwine 1701 Pease Street Sweetwater, TX 79556				
025812	Bettina Blackmar P. O. Box 351 Luling, TX 78648-0351		dist	į	
025812 025813 025814	Donald E. Blackmar P. O. Box 608 Roswell, NM 88201-0608	1000	1981		
025814	Richard A. Blackmar 1907 Adams Drive Roswell, NM 88201	M		,	
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TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE NAME OF	RECEIVIN	G POST	'AL EMP	PLOYEE

SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE R.	R. CLASS
025815 9/8/87 025816 9/8/87 025817 025819 025819 025820 9/4/87 025820 9/4/87 025822 9/4/87 025823 025823 025823 025825 025825 025825 025825 025826 9/4/87	Box 874 Putnam, TX 76469-0874 Gordon Donaway P. O. Box 4635 El Paso, TX 79914-4635 Harlan Donaway 1308 North Lauderdale Odessa, TX 79760		Book.	
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	. NAME OF RECEIVIN	G POSTAL	EMPLOYEE

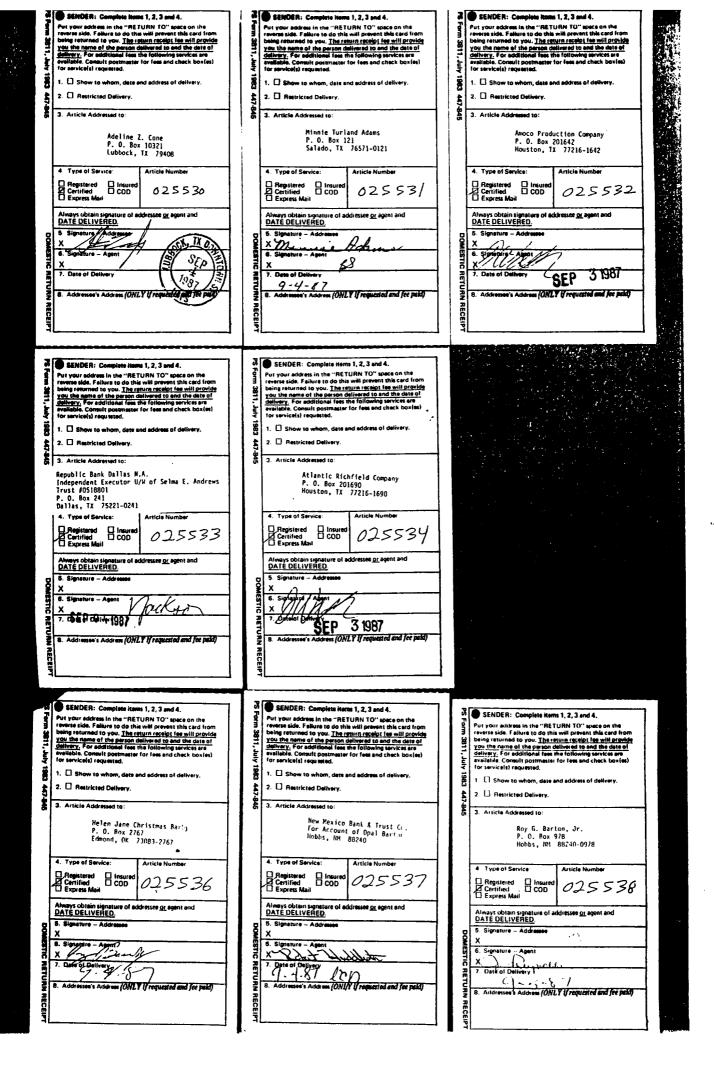
APPLICATION	FOR:	CERTIFIED	MAIL
BLOCK NUMBE	RS		

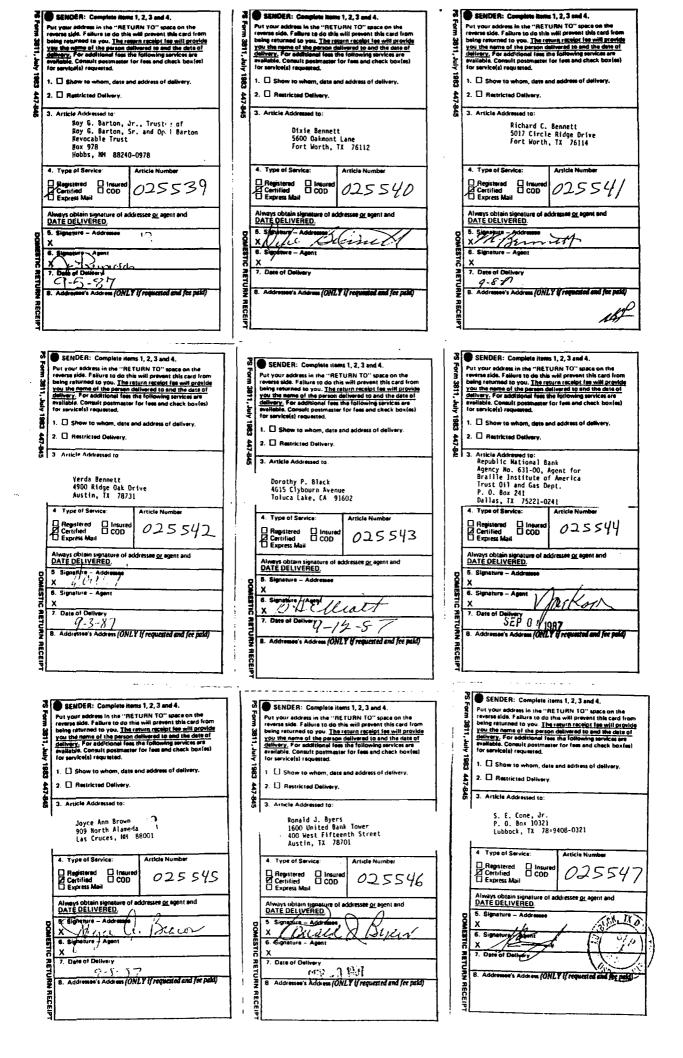
NUMBER OF ARTICLE		ADDRESS	EE		POSTAGE	FEE	R.R.	CLASS
025827 9/3/87 025828 9/8/87 025829 9/8/87 025830 9/4/87 025837	Abilene, Clara M. 207 Quai Brownwood Clara M. John Ree 207 Quai Brownwood Oleta Ha 907 West Cisco, 1 Ida Haze Route 7, Midland Edith Iv Box 1043 Putnam, Bonnie M. 802 West Cisco, 1 Clara S. 2126 Pri Wichita Laudis I Box 418 Clyde, 1 Gertrude Route 4 Cisco, 1 Dora Ett General Buckhorn Ethel M. P. O. Be Eunice, F. M. Si Route 1	th Sixteenth Street, TX 79601 Graves il Run od, TX 76801 Graves, Trustee U/Nese Graves, Deceased il Run od, TX 76801 Ale is Fourteenth Street fX 76437 Elwood Box 856 TX 79701 AcCleskey t Twelfth Street fX 76437 McKinley inceton Street fX 7637 McKinley inceton Street fX 7637 Accleskey t Twelfth Street fX 76437 Accleskey t Twelfth Street fX 76437 Accleskey t Twelfth Street fX 76437 Accleskey t Twelfth Street fX 76301 Accleskey t Twelfth Street fX 76437 Accleskey t Twelfth Street fX 76437 Accleskey fX 76437	d of					
TOTAL NUMBER OF PIECES LISTED BY SENDER	13	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	13	NAME OF	RECEIVIN	IG POS	TAL EM	PLOYEE

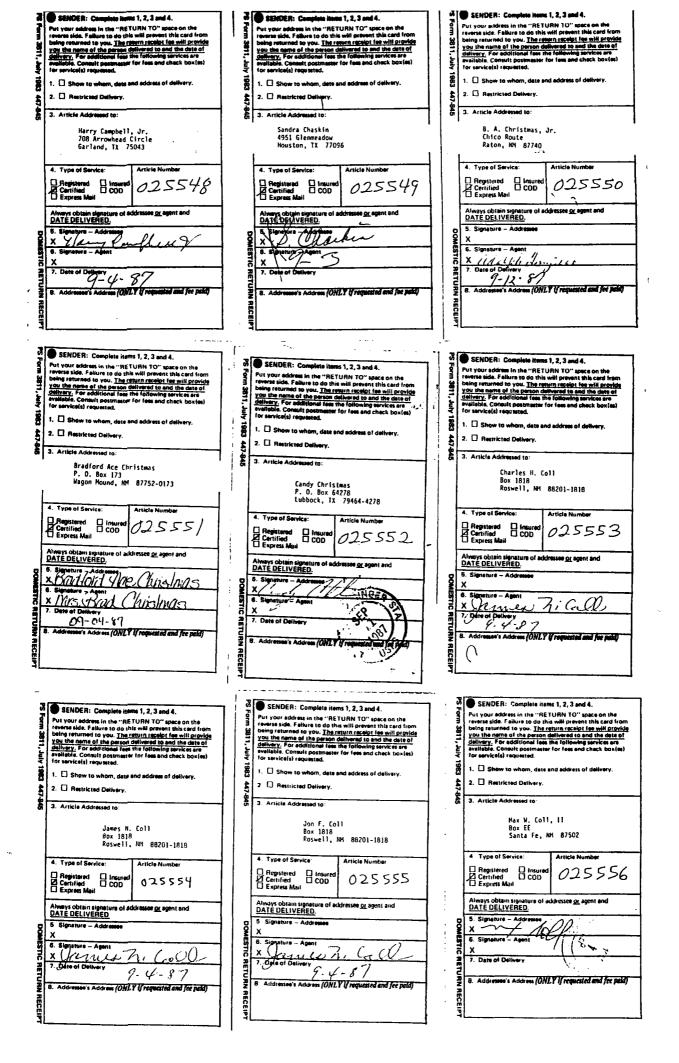


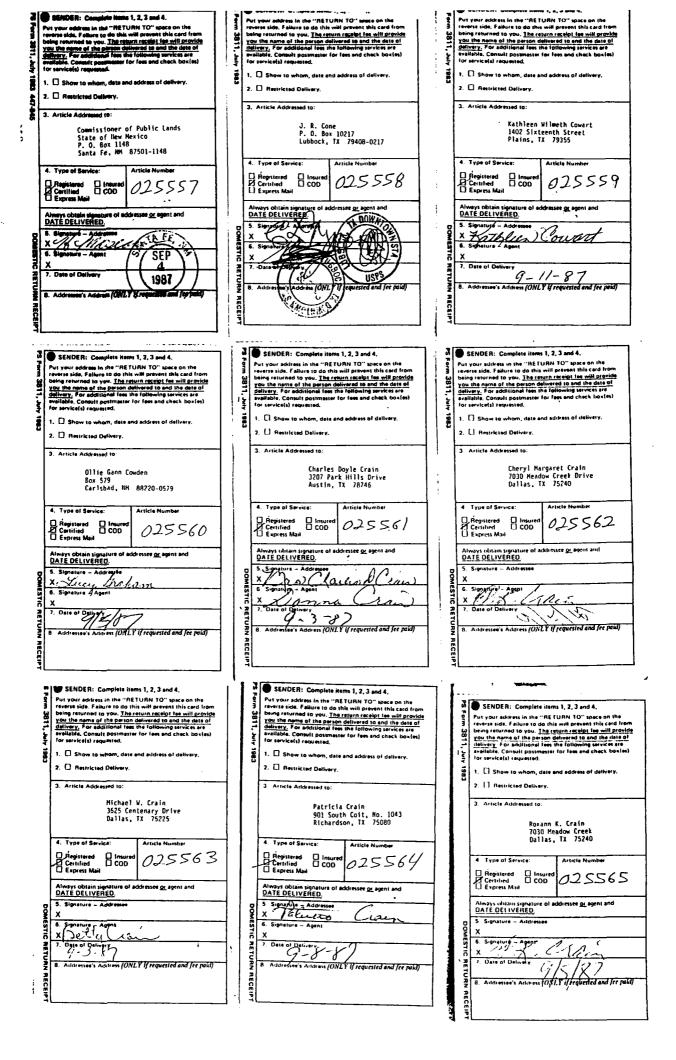
SHELL WESTERN E & P INC. P.O. BOX 576 HOUSTON, TX. 77001

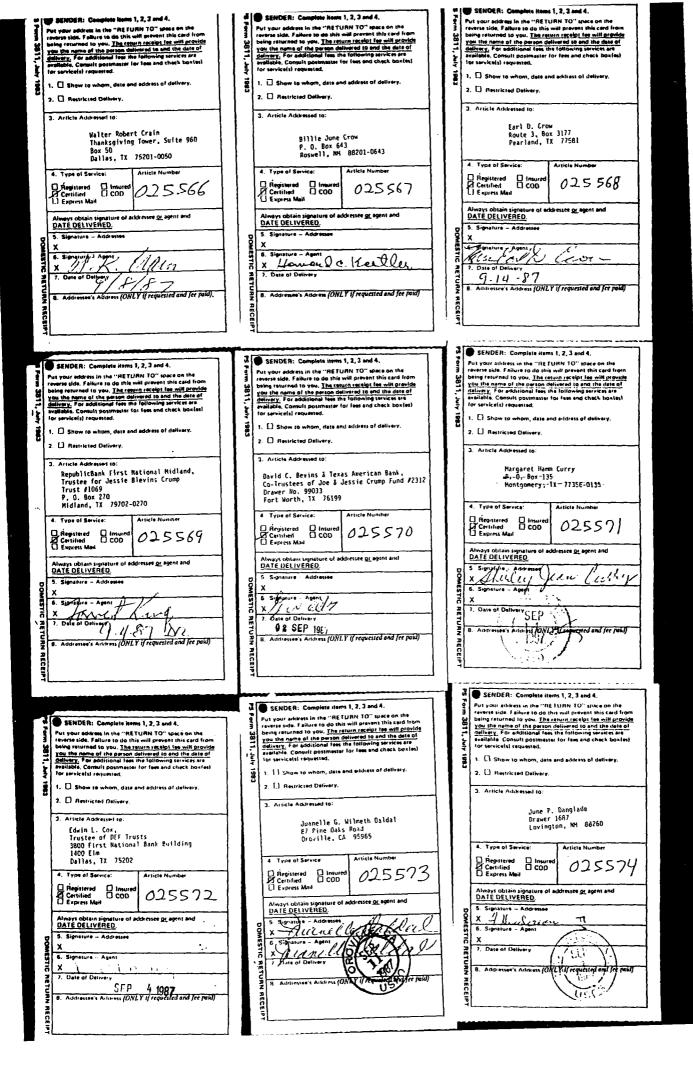
NUMBER OF ARTICLE	ADDRESSEE	POSTAGE	FEE	R.R.	CLASS
025840 9/4/87 025841 9/4/87 025847 025843 9/4/87 025844 025844 025844 025845 9/4/87	Grover C. Stephens 7304 Good Samaritan Court, No. 101 El Paso, TX 79912 Wayne C. Stephens 10928 Gary Player El Paso, TX 79935 William O. Stephens P. O. Box 115 Eunice, NM 88231-0115 Eva M. Toussaint Box 9047 806 Tonicte Incline Village, NV 89450 Irene H. Schuler 1210 Highland Road Roswell, NM 88201 Interfirst Bank Dallas, N.A. Escrow Agent Sabine Royalty Trust Department #0337 Dallas, TX 75284				
				5 3	
TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE NAMI	E OF RECEIVIN	IG POS	TAL EMI	PLOYEE

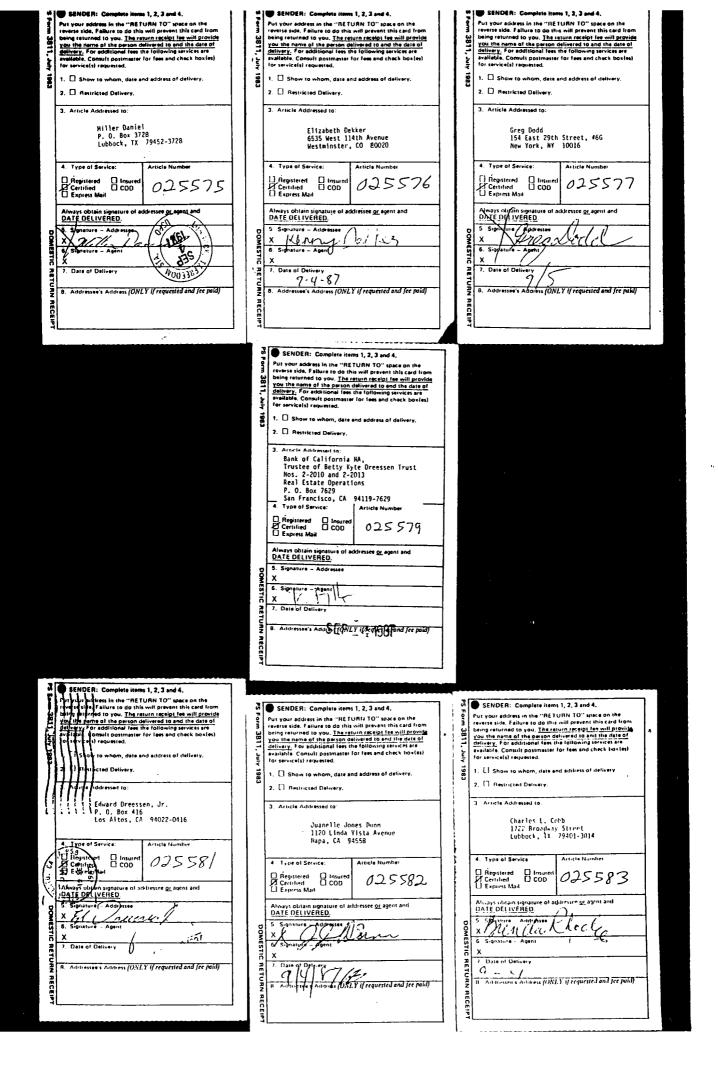


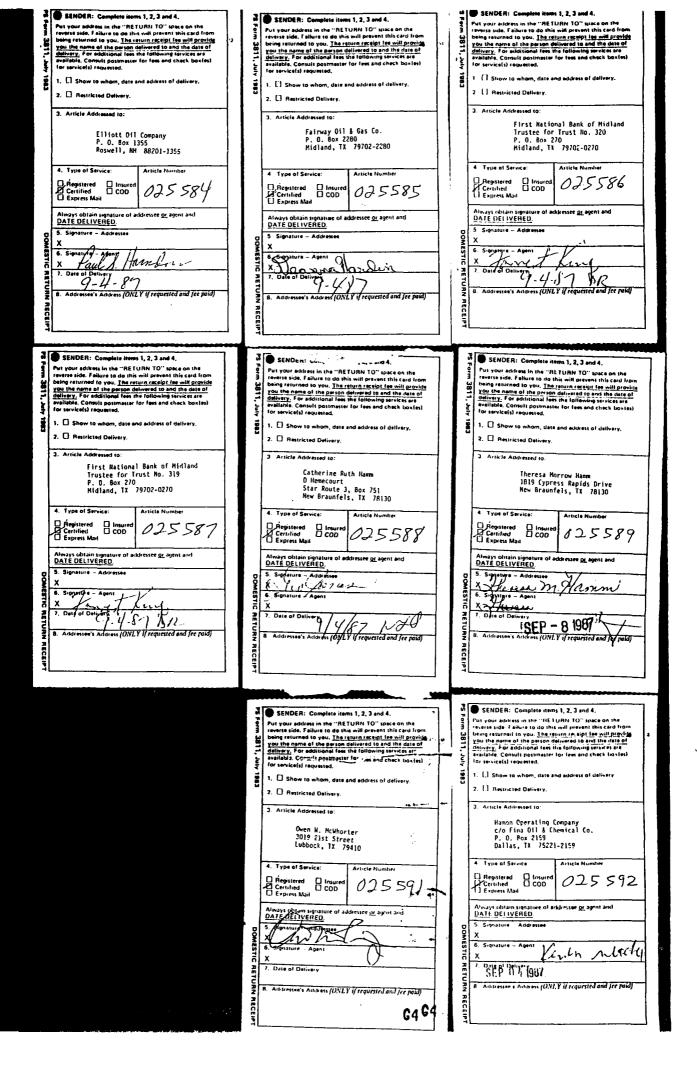


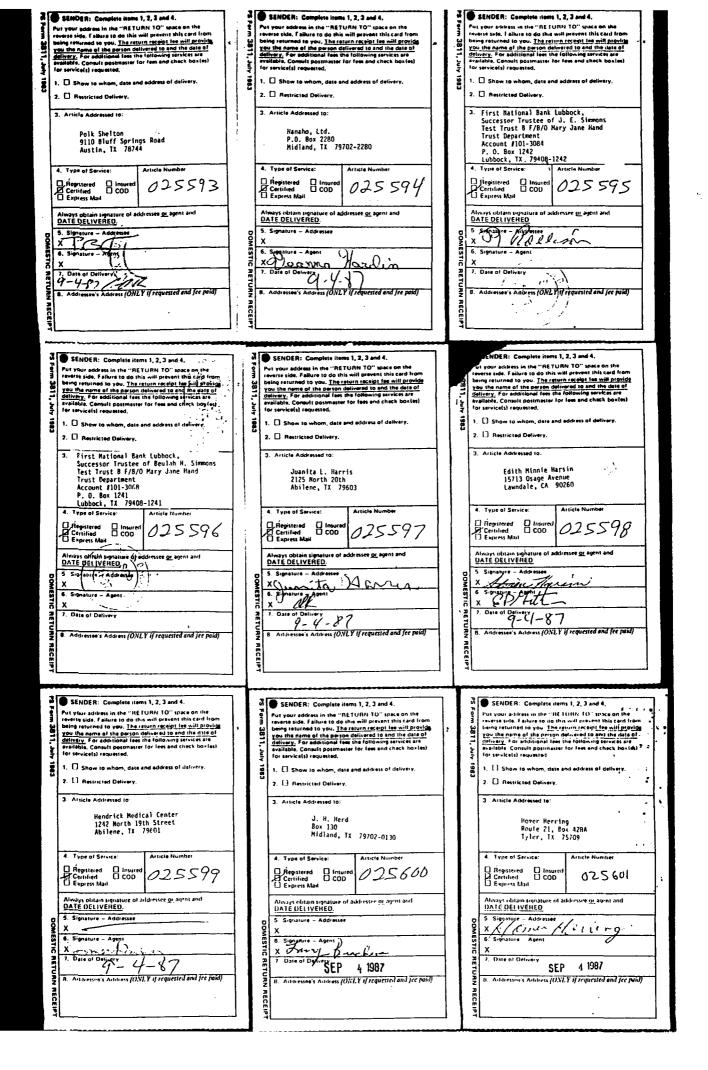




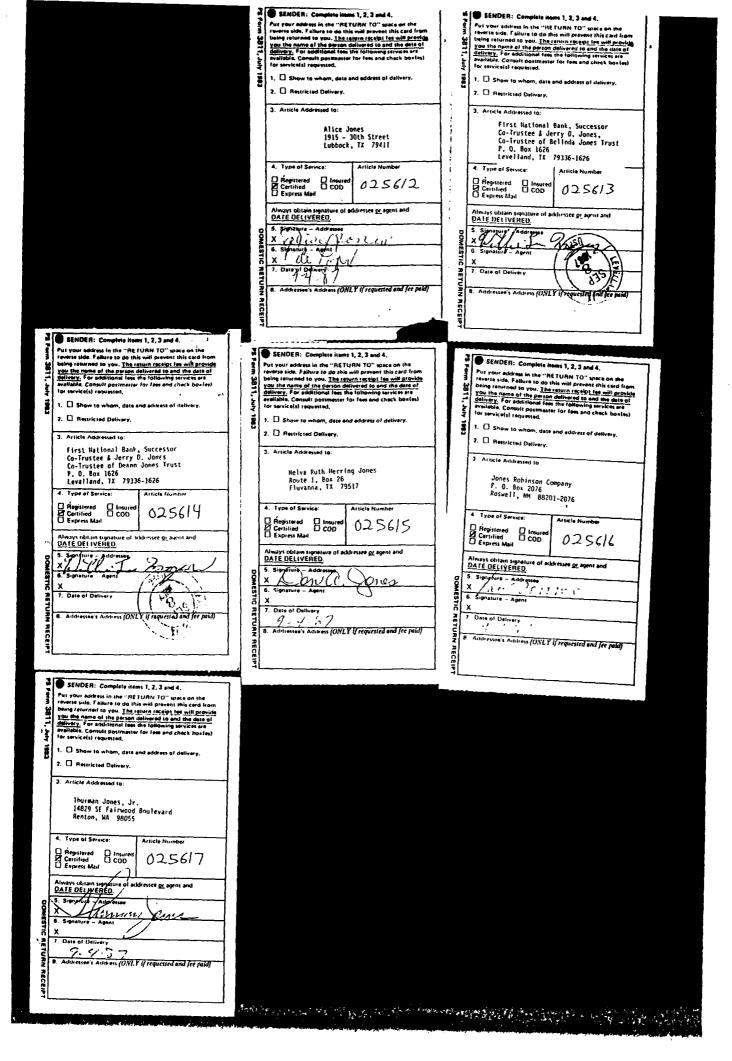


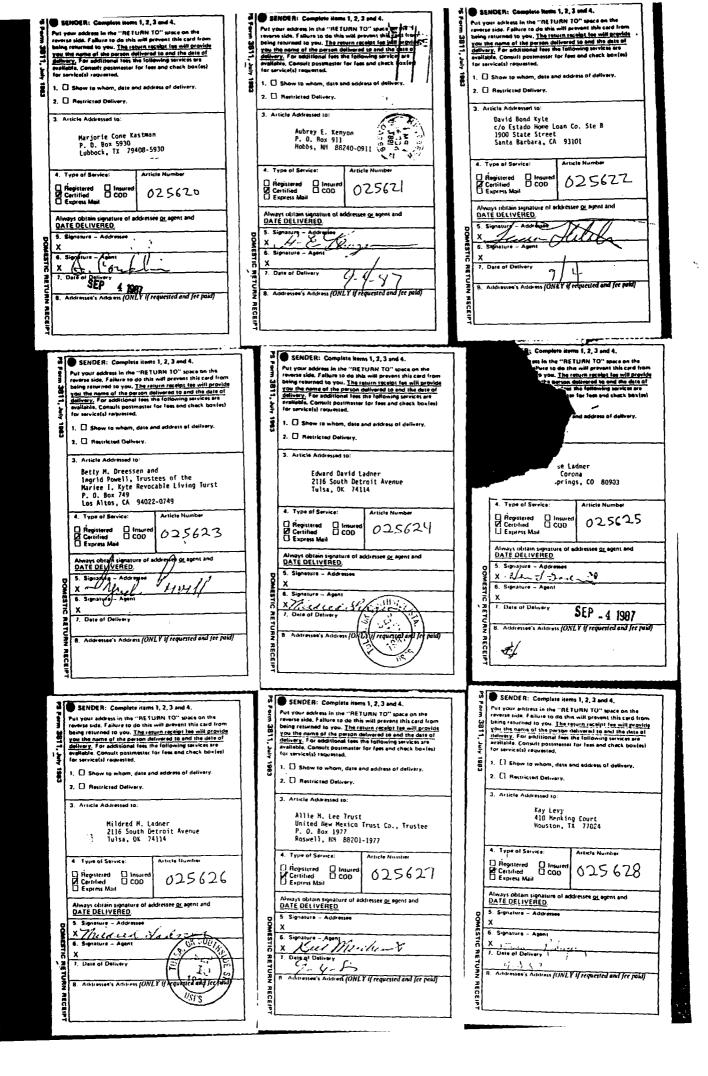


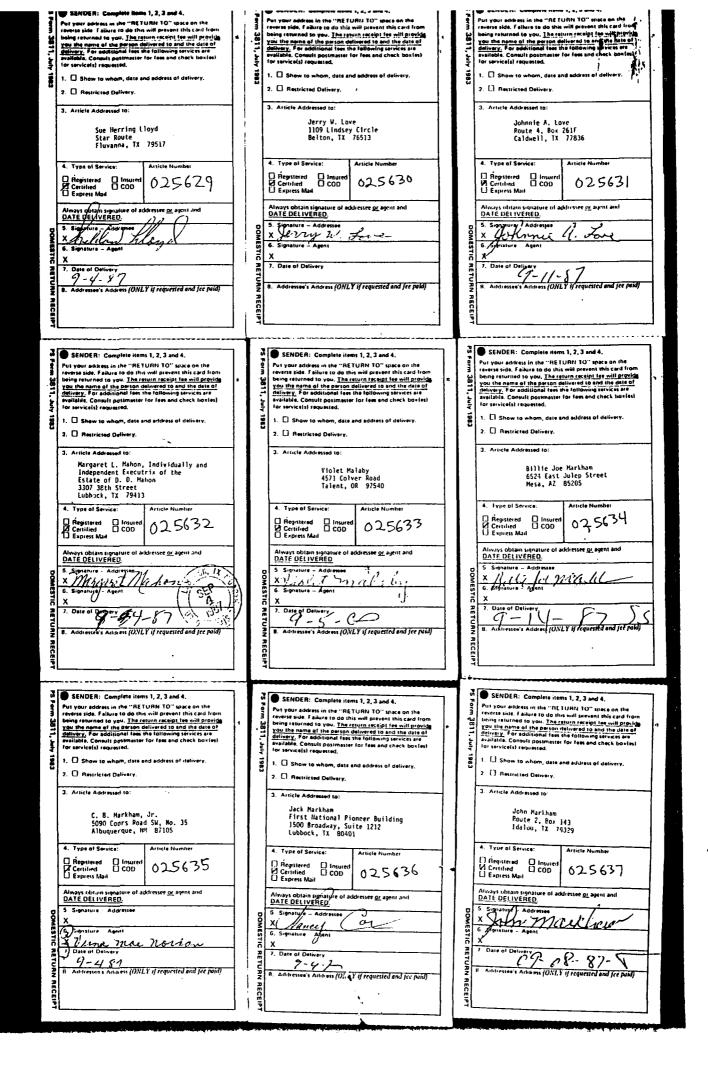


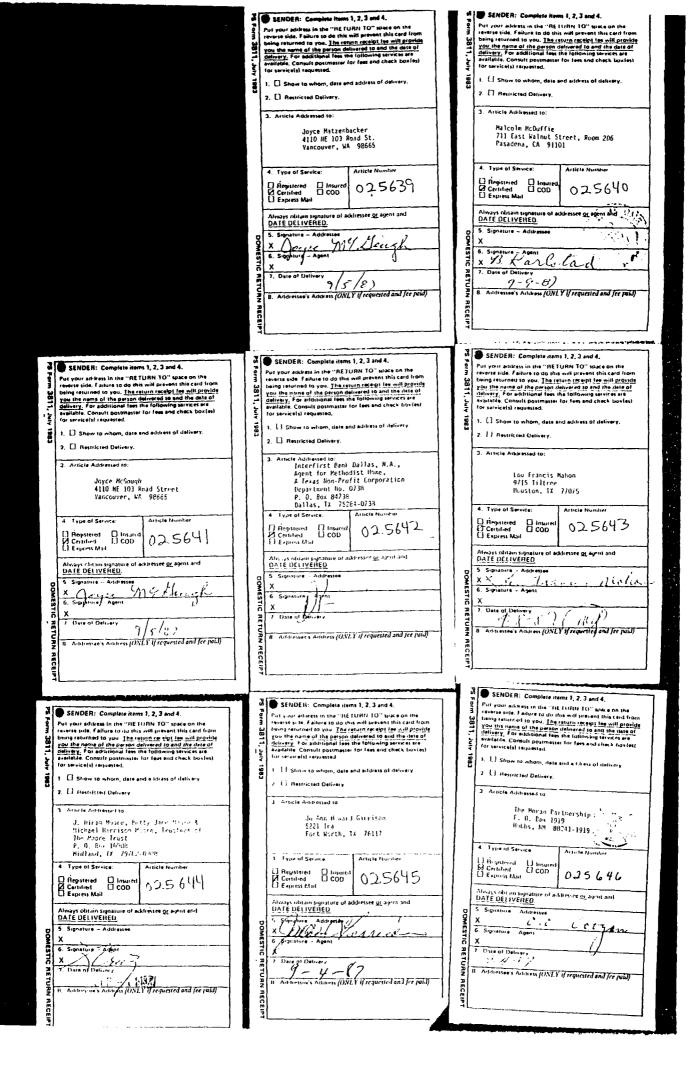


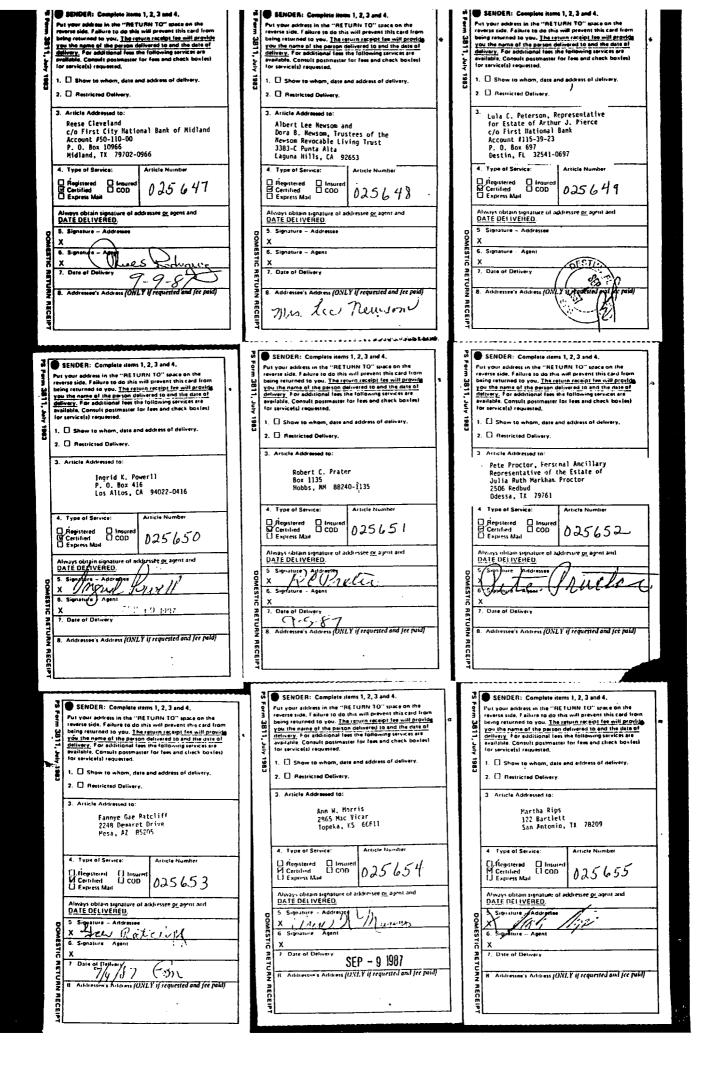
President 1. 2. 3. 4 CRC A015 X 6 > 7	SENDER: Complete items 1, 2, 3 and 4. Lyder address in the "RETJRITO" space on the reverselds. Fabric to do this will prevent this card from long solvened to you. The setum revent this card from long solvened to you. The setum revent this date of the person delivery. For additional fees the following services are allowed. Consult postmester for fees and check box(es) restricted continued. Show to whom, date and address of delivery. [] Restricted Delivery. Article Addressed to: La Verne Herring 2105 43rd Street Snyder, IX 79515 Type of Service: Article Number Article Number Registered Insured Cortified COD 025607 Begistered Insured Cortified COD 025607 Signature - Andressee La L	75 Ferm 3811, July 1983 DOMESTIC RETURN RECEIPT	SENDER: Complete Homes 1, 2, 3 and 4. Pur your address in the "RETURN TO" space on the covers stale. Failure to do this will prevent this card from being returned to you. The system costlet for will elevant the card from being returned to you. The system costlet for will elevant the person delivered to and the date of delivery. For additional test the following services are examilable. Consult postmaster for fees and check boxless for service(s) requested. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to. Ray Herring Box 17 Fluvanna, Tx 79517-0017 4. Type of Service: Article Number Gertified Con Express Mail Alreays obtain signisture of addresse og agent and DATE DELIVERED. 5. Signature — Agent X. 1. Date of Delivery 2. Date of Delivery 3. Addresse's Address (ONLY if requested and fee paid)			
Form 3011, July 1983	SENDER: Complete items 1, 2, 3 and 4. The your alrivers in the "RETURN 10" space on the severe side. Exhibite to do this will prevent this card from sping returned to you. The return recipit less will provide to the series of the person deferred to and the date of returner. For additional less the following services are resiliable. Computing postmeter for less and check boxless for service(sta) requested. 1. Show to whom, date and alldress of delivery. 2. Restricted Delivery. 3. Article Addressed to: Hary T. Christmas Holladay P. 0. Box 11041 Spring, Tx 77391-1041 4. Type of Service: Registered Con	PS Form 3811, July 1983 COMESTIC RETURN RECEIPT	Date of Delivery S	Form 3811, July 1883		
PS Form 3511, July 1983 COMESTIC RETURN RECEIPT	8. Additional actions (D. L.Y if requested and see paid)	PS Form 3811, July 1983	Pitt your address in the "RE furth 10" space on the reverse such. Failure to do this will prevent this card from termy resurred to you. The summ receipt fee will provide you the name of the purson delivered to and the state of reflexery. For additional test the following services are as allatte. Consult postmaster for fees and check too (es) for service(s) requested. 1. (1) Show to whom, date and address of delivery. 2. (1) Restricted Delivery. 3. Article Addressed to: Fellmont. 0il Corporation P. O. Box. 2266 Midland, 1X. 79702-2266 4. Type of Service (2) Hospital (1) Insured (3) Experis Mult. Along obtains significate of addresses p. 3 port and OATE DELIVERED 5. Signature. Addresses X. 6. Signature. Addresses X. 6. Signature. Addresses X. 7. Date of Delivery. 8. [1 - 1907] R. Addresses's Address (ONLY if requested and fee paid)	orm 3811, July 1983	Signature - Agent	

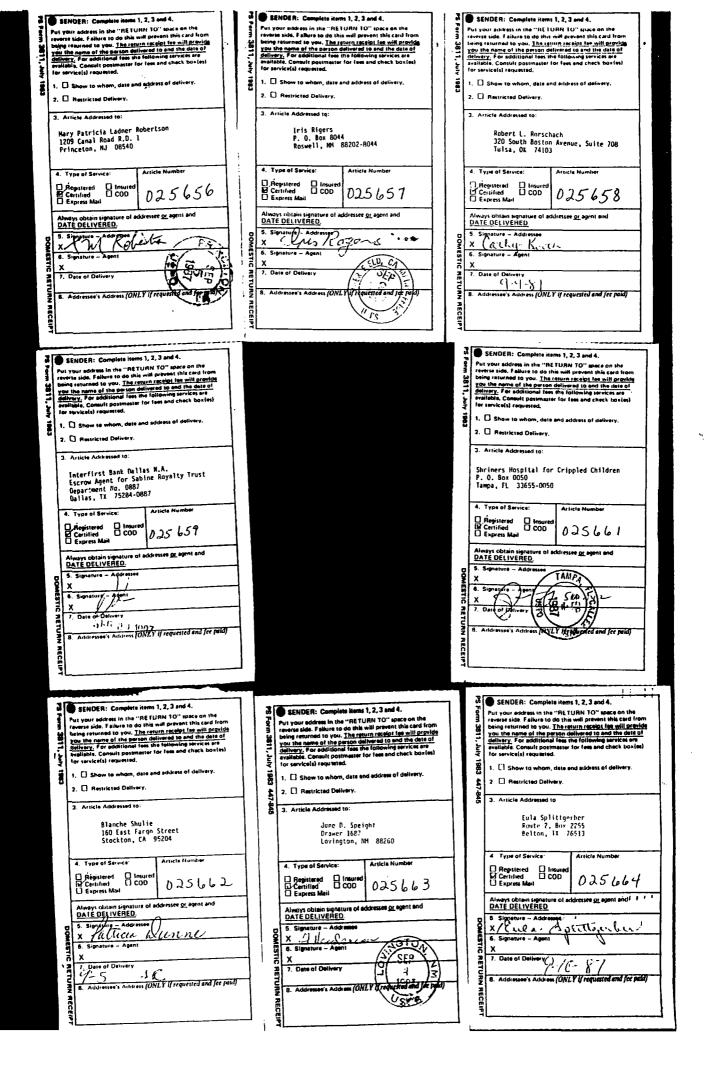


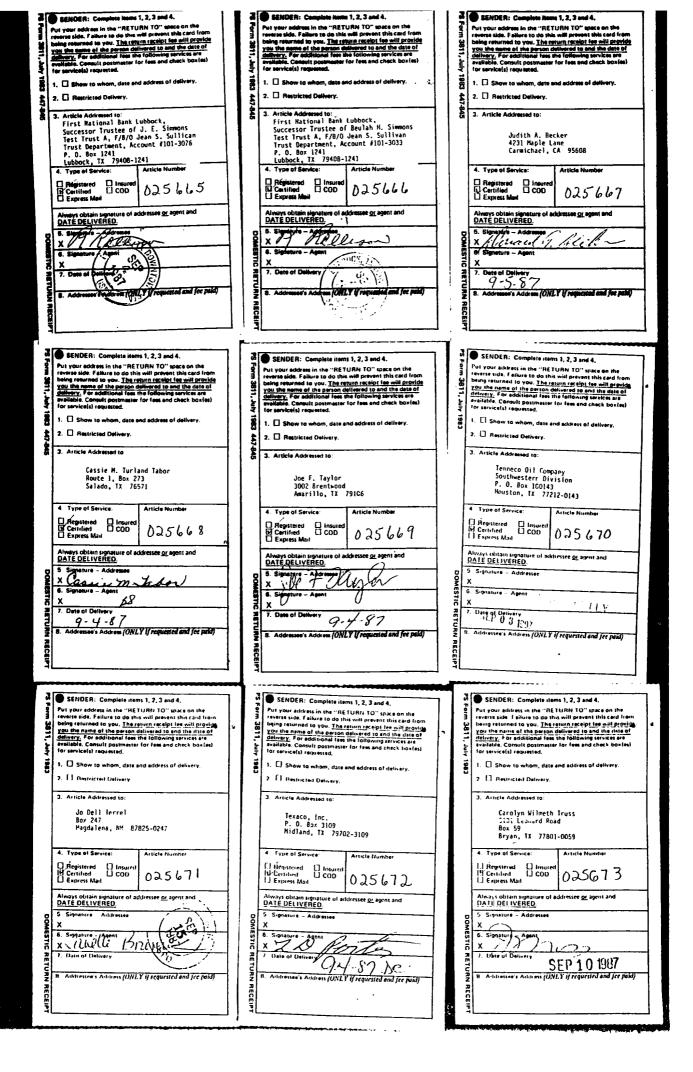


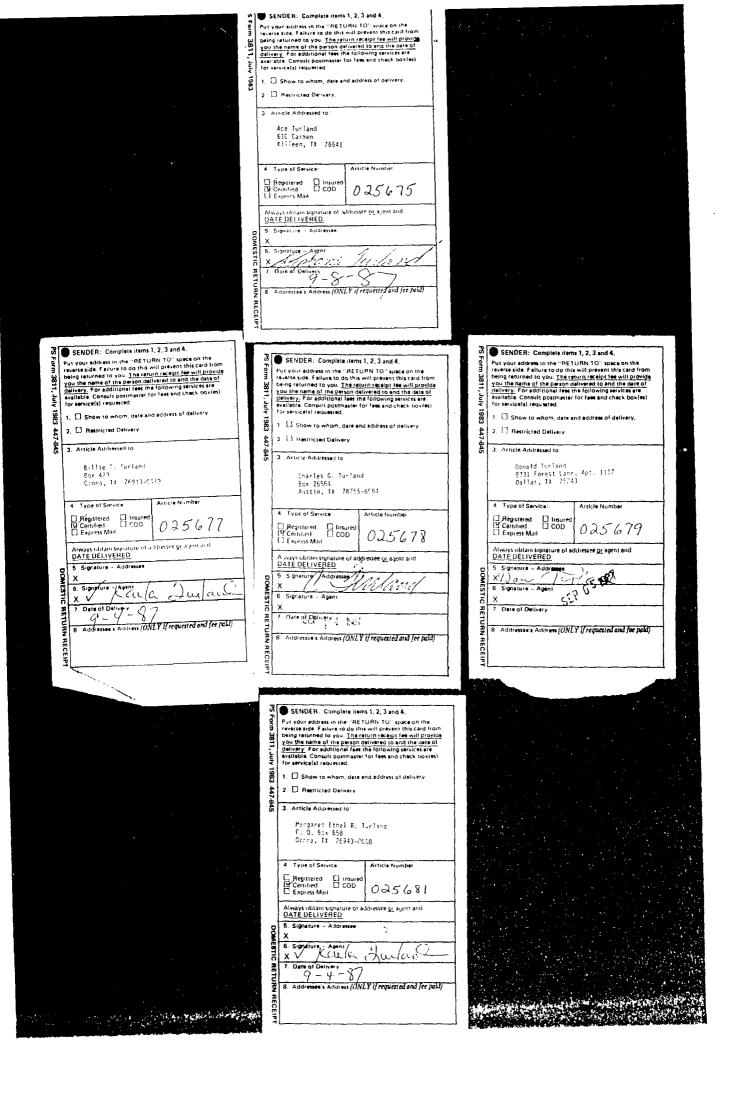


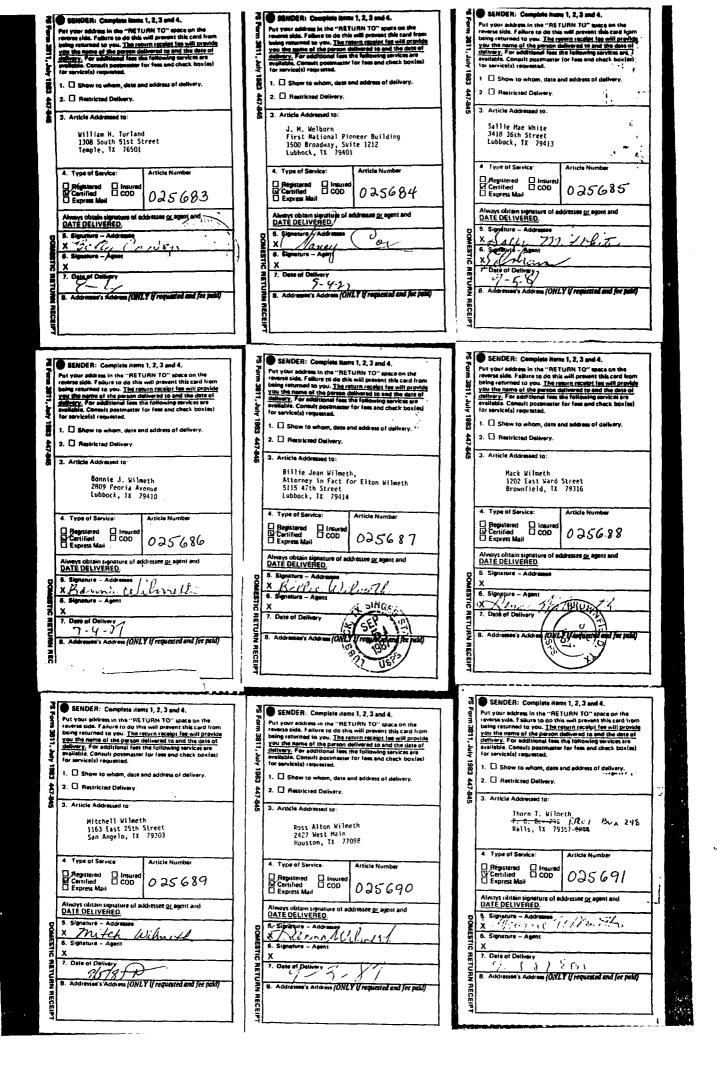


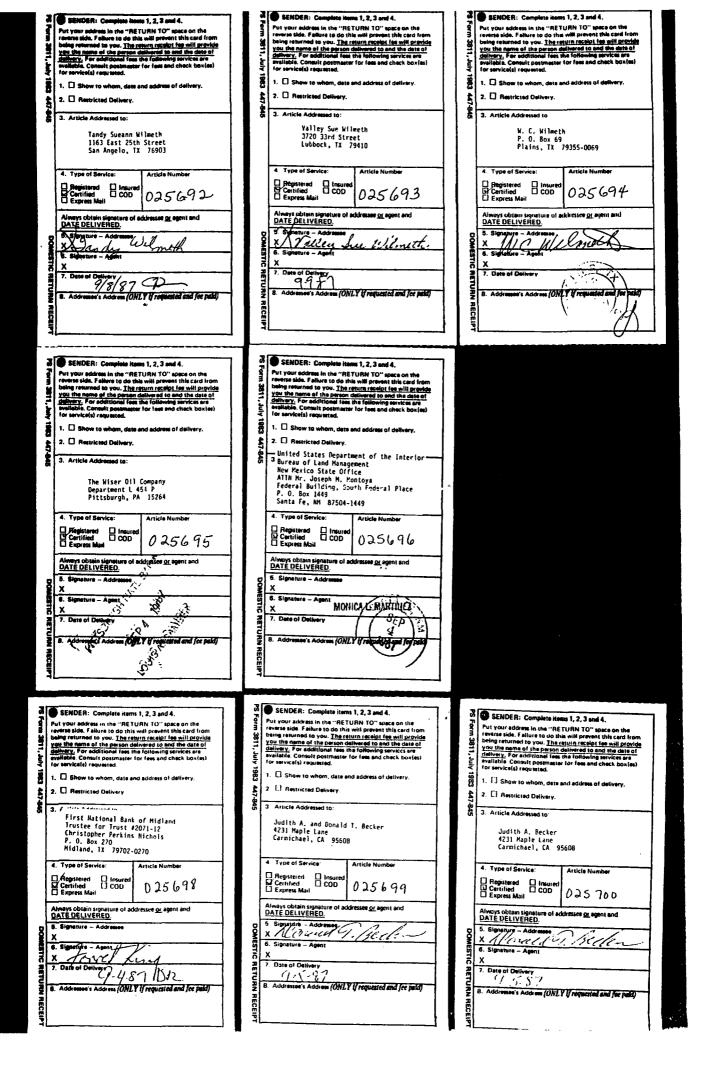


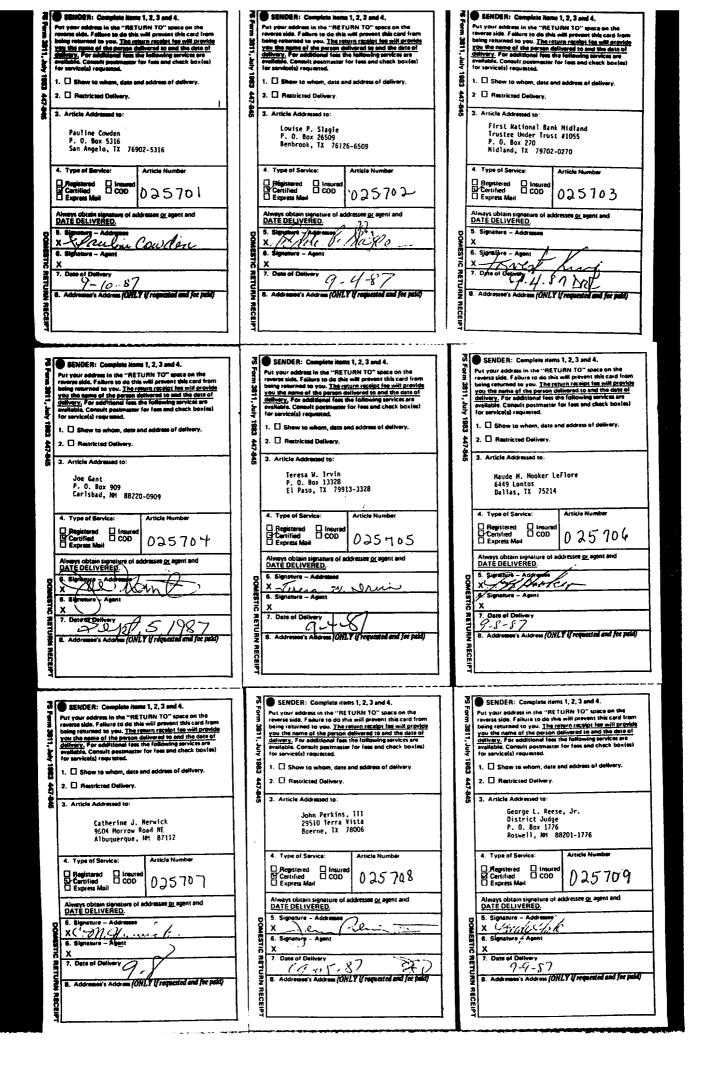








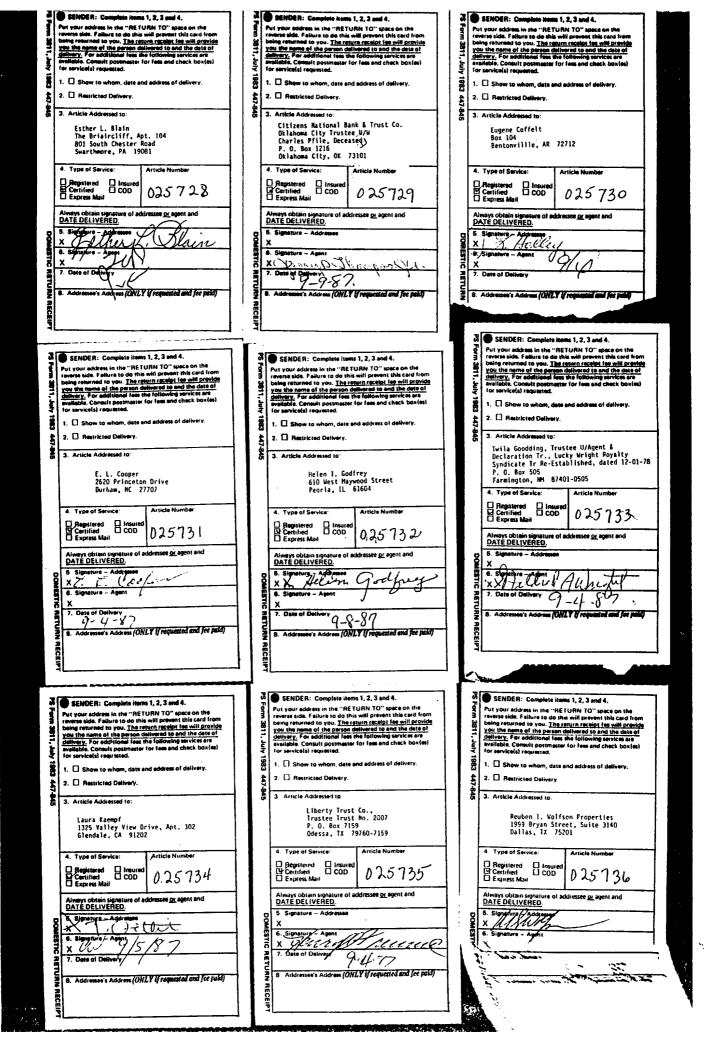


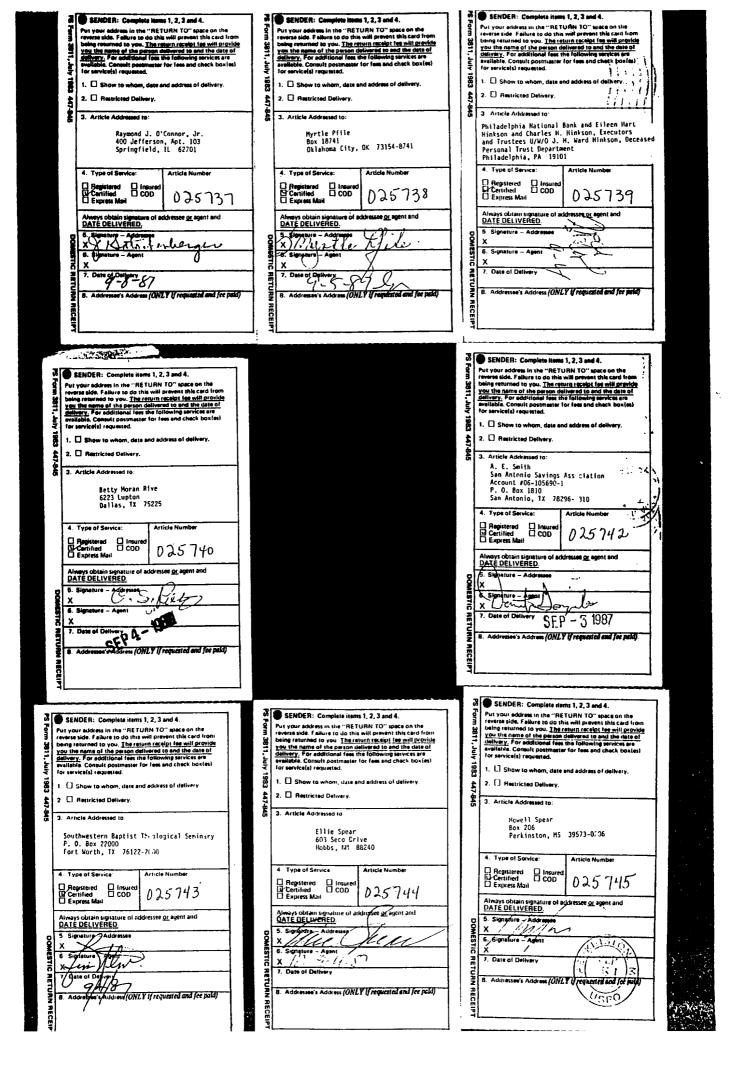


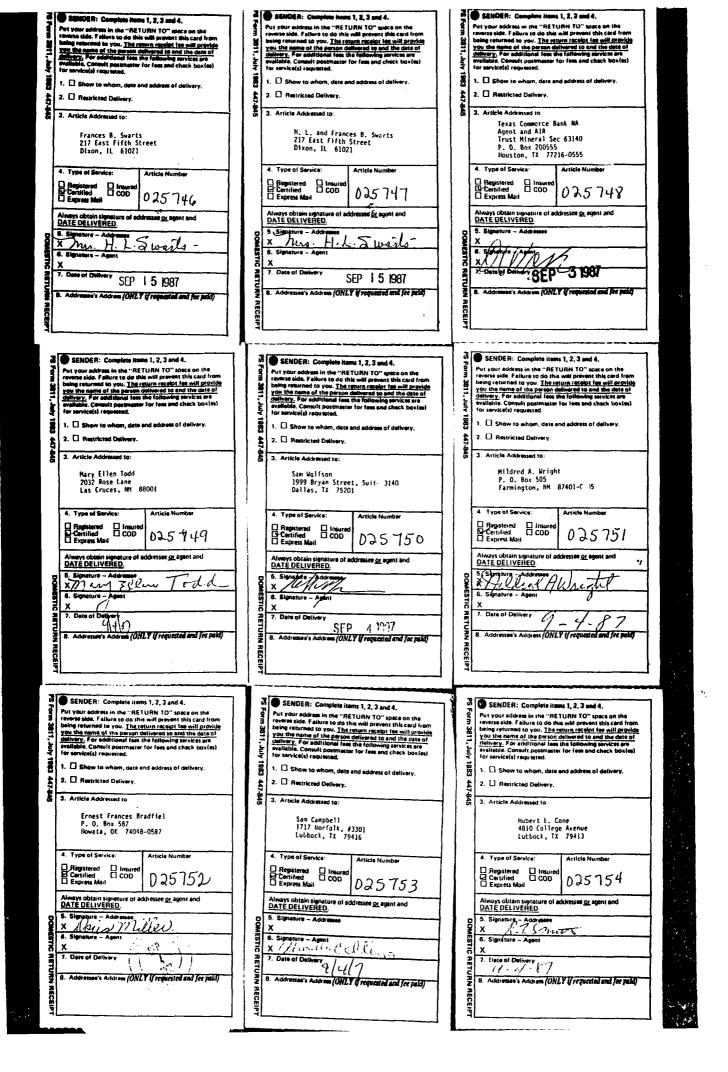
SENDER: Complete leads 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned by you. The return recipit be will provide you the name of the person delivered to and the date of delivery. For additional face the Indowney services are evaluable. Compute passenser for fees and check box less for a serviced in requested. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: Ethel E. and Hark N. Rogers Harfs Mano", Apt. H-3 4158 Tamiani Trail Charlotte Harbor, FL 33952 4. Type of Service: Registered Insured Cartilled COD Express Mail Always obtain signature of addresse or agent and DATE DELIVERED. 5. Signature - Addressee X / Tipe of Delivery 2. Oses of Delivery 8. Addressed's Address (ONLY I) requested and fee paid)	SERODER: Complete items 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Fallows to do this will present this card from both property on the name of the person deliberal to and the date of vallowing services are evallable. Censuit postmaster for fees and check box(es) for avrices a required. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: John Simpson 877 Red fern Avenue Akron, OH 44314 4. Type of Service: Article Number Fregistered Insured Centried Confidence of gent and OATE DELIVERED. 5. Signsture Addresses 6. Signsture Addresses 7. Dete of Dalivery 8. Addresse's Address (ONLY if requested and fee paid)	SENDER: Complete items 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt few fills provide you the name of the person delivered to and the date of delivery. For additional fees the following service are evaluable. Consult postmaster for fees and check boxfeel for services is requested. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: Patricia J. Simpson 877 Redfern Avenue Akron, OH 44314 4 Type of Service: Article Number Registered COD Express Mail Always obtain signature of addressee or agent and DATE DELIVERED. 5. Signature - Addressee 6. Signature - Addressee 8. Addressee's Address (ONLY V requested and fee paid)
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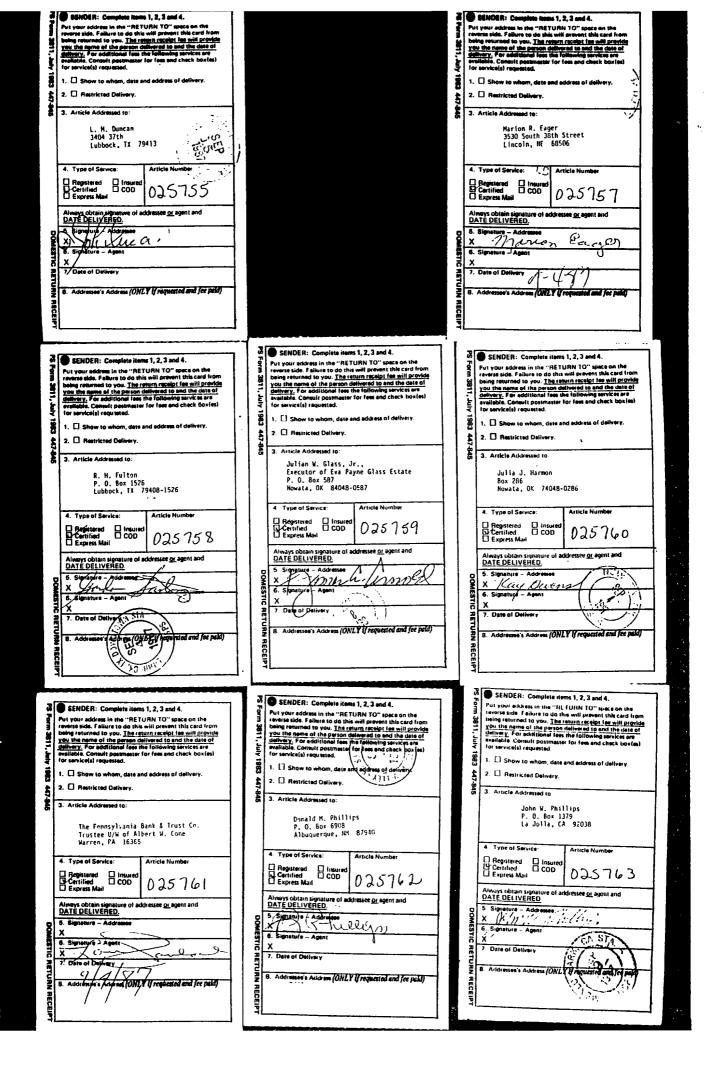
Form 3611, July 1963 447-945 DOMESTIC RETU	## SEMDER: Complete issues 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Follows to do this will present this card from being resemble to you. The revers reside the will be card from being resemble to you. The revers reside the will be card from being resumed to you. The revers reside the will be card from being resumed to you and address of the date of telephone provides are repulsible. Consends potentiates for fees and check boxies for serviced required.	3811, July 1983 447-8	SENDER: Complete items 1, 2, 3 and 4, Put your solders in the "RETURIN TO" tabace on the reverse side. Failure to do this will prevent this card from being returned to you. The retern carbot law will provide you the name of the pas on delivered to and the date of delivery. For additional fees the following services are evaluate. Consult postmater for fees and the date of delivery. For additional fees the following services are evaluate. Consult postmater for fees and check boxles) for service(s) requested. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: G. L. Gutman, Trustee Estate of flax Gutman P. 0. Box 2623 Dallas, TX 75221-2823 4. Type of Service: Begistered Insured Westified Con Express Mail Always obtain signature of addressee of agent and DATE DELIVERED. 5. Signature — Agent X 7. Date of Delivery 8. Addressee's Address (ONLY (frequested and fee paid)	Form 3911, July 1983 447-845 COMESTIC RETURN NEVERT	7. Date of Delivery 9/1/57 B. Addresses's Address (ONLY I) requested and fee paid)	
PS Form 3011, July 1983 447-945 DOMESTIC RETURN RECEIFT	Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The resum raceful fee will provide you the name of the person deliberate to send the date of content person of the person deliberate to send the date of collectivery. For editional test the following services are excluded. Cancel peasements for fees and chack box(es) for services frequented. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: Betty Gutnan 16 Sutton Place New York, NY 10022 4. Type of Service: Article Number Pregistered COD D 25 7 2 2 Always obtain signature of addressee or agent and DATE DELIVERED. S. Signature Addressee X 8. Signature Addressee X	PS Form 3811, July 1983 447-845 DOMESTIC RETURN RECEIPT	SENDER: Complete items 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return scader lies will provide you the name of the person delivered to and the date of delivery. For additional less the following services are evellable. Consult postmeter for fees and check box(es) for service(s) required. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: Edith G. and A. Walter Socolow, Trustees 45 East 87nd Street New York, NY 10028 4. Type of Service: Registered Insured CoD Delivery. 5. Signature - Addressee y. Always obtain signature of addressee on addressee of signature of part of the part	orm 3811, July 1983 447-845	SENDER: Complete items 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return resetot fee will provide you the neme of the person delivered to and the date of delivery. For additional less the following service are evaluable. Consult postmasser for less and check box(es) for service(s) requested. 1. Show to whom, date and address of delivery. 2. Restricted Delivery. 3. Article Addressed to: Jane Blain Baker 5200 Hilltop Drive N-4 Brookhaven, PA 19015 4. Type of Service: Article Number Express Mail COD 0.25.7.2.4 Always obtain signature of addressee or agent and DATE DELIVERED. Signature - Addresses X. Signator Agent X. Date of Delivery. 8. Addresses Addresses (ONLY I frequested and fee paid)	
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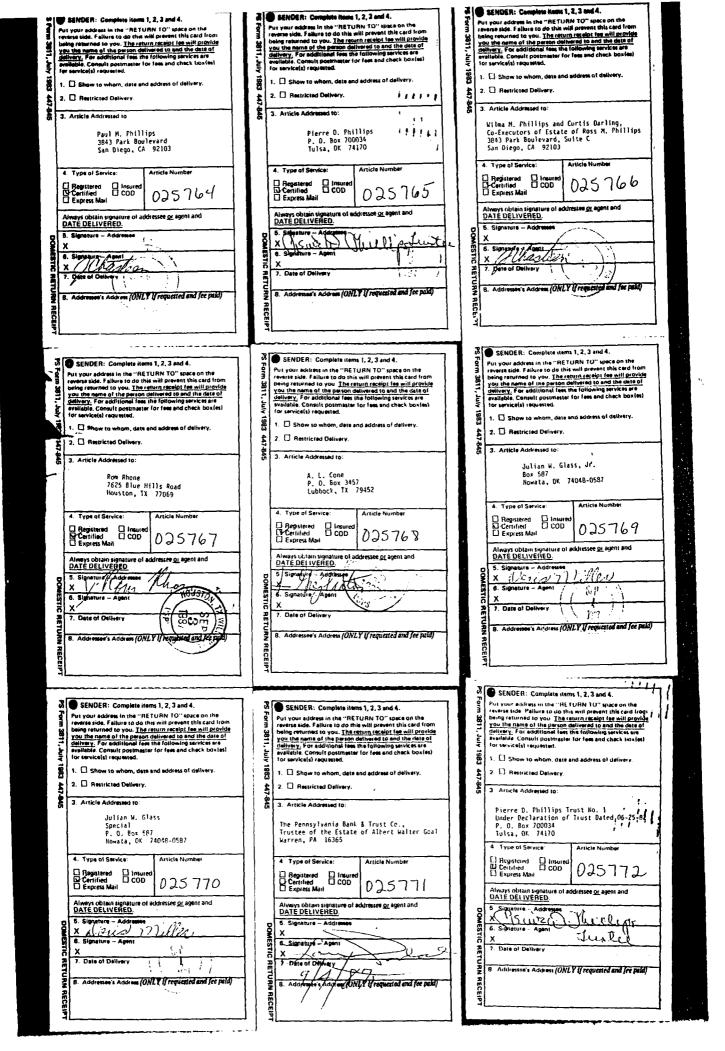
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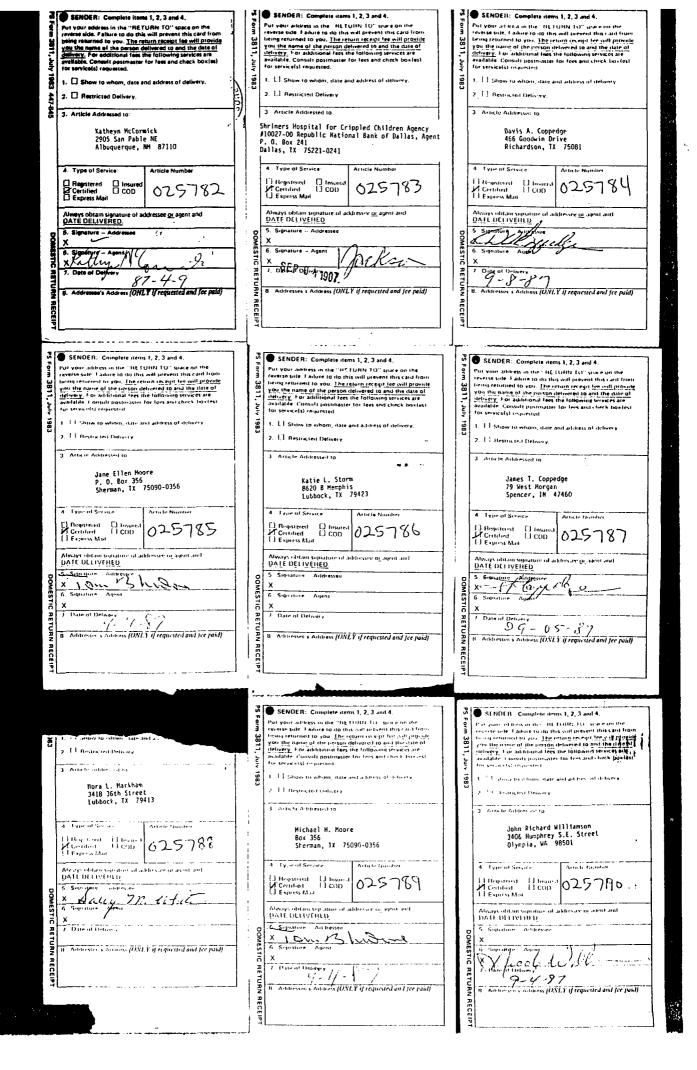


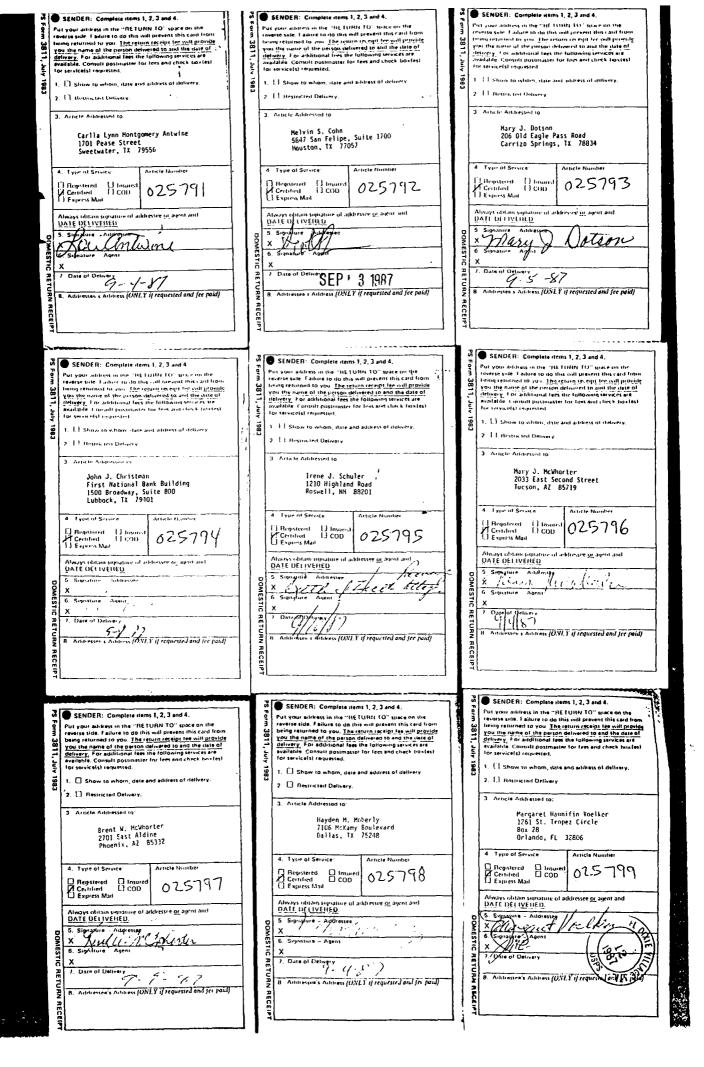


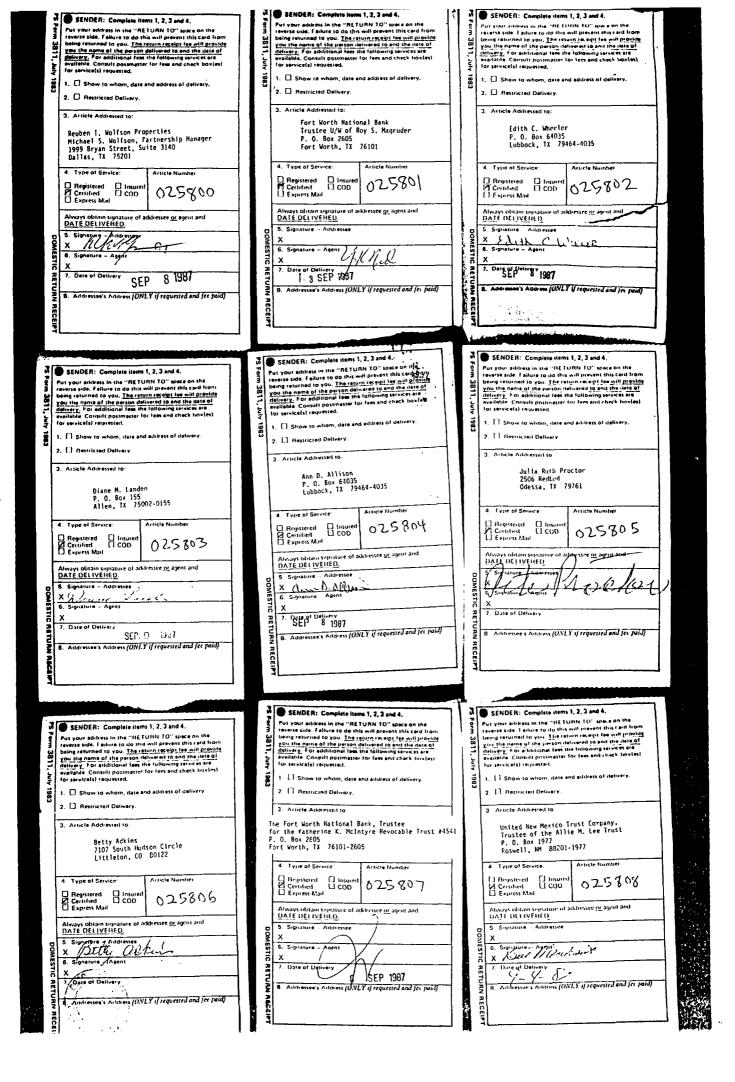




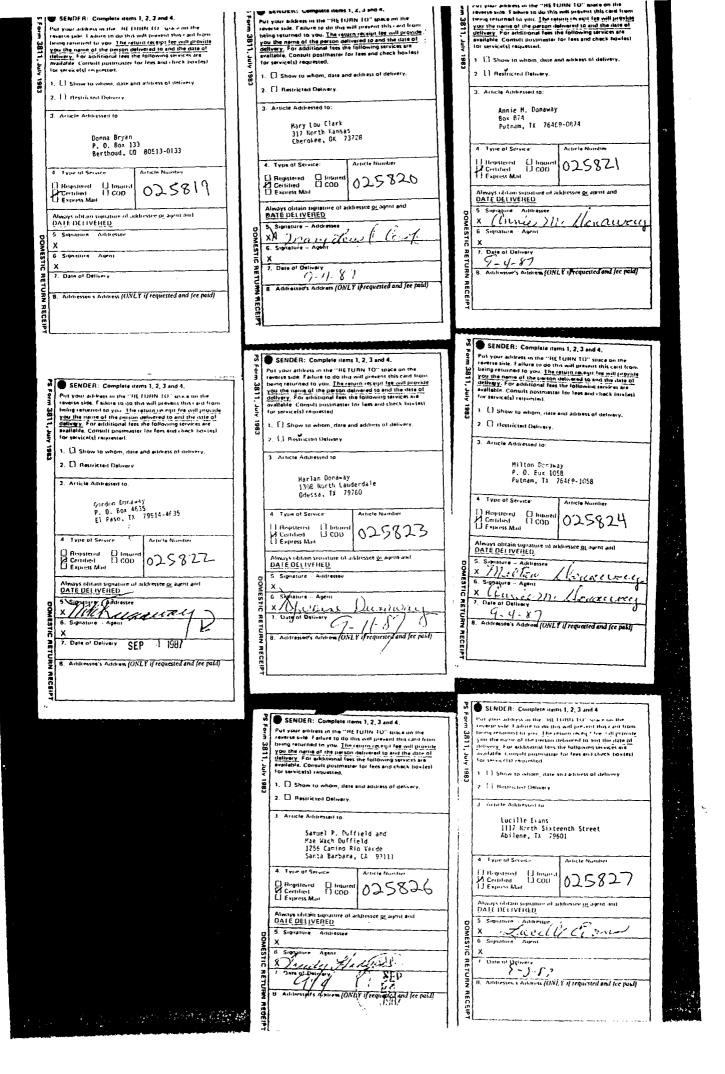
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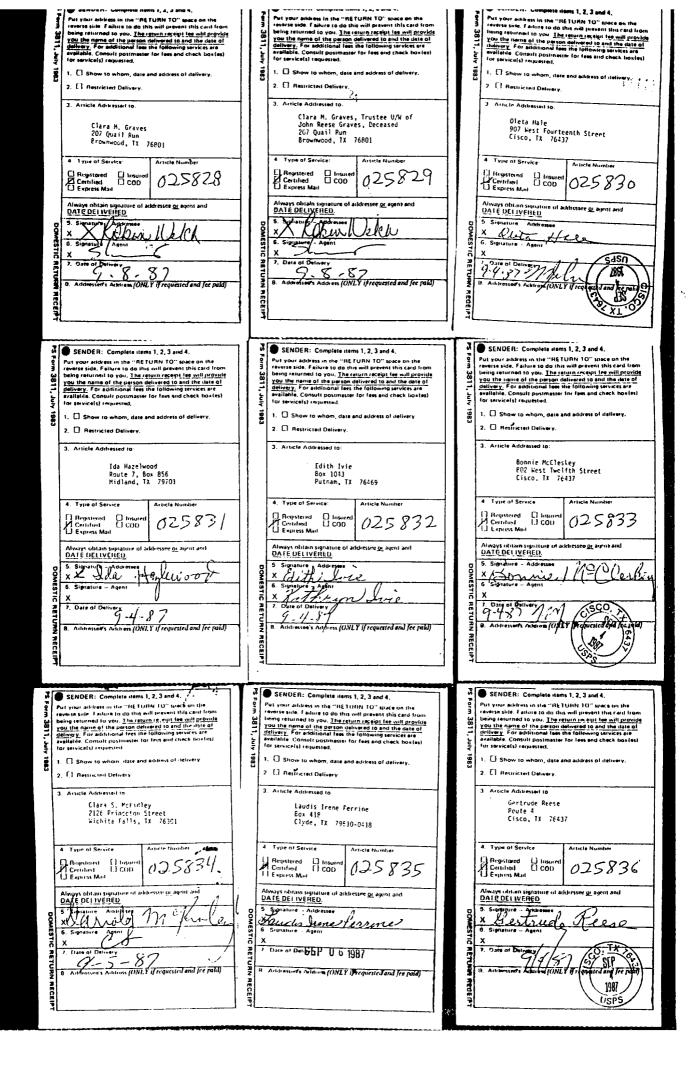






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Shell Western E & P Inc.

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Florence Louise Goods 224 East Tucla 88240

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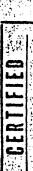
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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF SHELL WESTERN E&P INC. FOR CREATION OF A NEW POOL, FOR CONTRACTION OF POOL BOUNDARIES AND FOR SPECIAL POOL RULES, LEA COUNTY, NEW MEXICO.

Case No. 9230

APPLICATION

COMES NOW the Applicant, Shell Western E&P Inc. (Shell Western) and requests that the Division create a new pool, the North Eunice Blinebry-Tubb-Drinkard Pool Oil and Gas Pool, Lea County, New Mexico.

Applicant requests that the horizontal boundaries of this pool include:

TOWNSHIP 21 SOUTH, RANGE 37 EAST

All Lots Sections 2, 3, 10, 15, 22, 23
Lots A,H,I,P Section 4
Lots K,L,M,N Section 11
Lots C,D,E,F Section 14
Lots L,M Section 24

Applicant further requests that the vertical limits of this pool include all of the Blinebry, Tubb, and Drinkard formations. In support of this application, Shell Western states:

1. The acreage underlying the proposed pool boundaries or portions thereof are presently within the boundaries of the Blinebry Oil and Gas Pool, Tubb Oil and Gas Pool and Drinkard Pool, previously established by the Division. During the course

Northeast Drinkard Unit Exhibit Thirty-Three Cases 9230 9231 9232 of operations within this area in these three pools the Division has allowed liberal commingling of these three zones and the three zones are now in effective communication with each other so as to constitute one common source of supply.

- 2. Applicant believes that the communication between the zones affected by operations in this area have effectively created a single common source of supply and believes that the formation of a common pool within this area will operate to prevent waste of natural resources and will better protect the correlative rights of interest owners within this area.
- 3. Applicant believes that in order to prevent waste and protect correlative rights of interest owners within this area that special pool rules should be adopted for the proposed North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool as set forth in Exhibit A hereto.
- 4. In order to allow for the orderly continuation of the proration of natural gas produced from the Blinebry Oil and Gas Pool and the Tubb Oil and Gas Pool (present prorated gas pools), it is necessary to designate appropriate wells as gas wells subject to proration under the provisions of Order R-8170 as amended.
- 5. In order to accomplish this pool creation it will be necessary to contract the present boundaries of the Blinebry Oil and Gas Pool, Tubb Oil and Gas Pool, and Drinkard Pool by eliminating from those pools the acreage to be included within the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool.

APPLICATION - Page 2

WHEREFORE, Applicant prays that the Division enter its order creating a new pool named the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool, contracting the present boundaries of the Blinebry Oil and Gas Pool, the Tubb Oil and Gas Pool, and the Drinkard Pool to allow acreage presently in those pools to be included within the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool, designating certain wells as gas wells, and adopting the special pool rules attached hereto as Exhibit A as the rules governing the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool, all for the purpose of preventing waste of natural resources and protecting the correlative rights of interest owners within the area of the proposed North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool.

Respectfully submitted,
MONTGOMERY & ANDREWS, P.A.

By // / //

W. Perry Pearle Post Office Box 2307

Santa Fe, New Mexico 87504-2307

(505) 982-3873

Attorneys for Shell Western E & P, Inc.

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APPLICATION - Page 3

SPECIAL RULES AND REGULATIONS FOR THE NORTH EUNICE BLINEBRY-TUBB-DRINKARD OIL AND GAS POOL

RULE 1.

A standard gas proration unit in the North Eunice
Blinebry-Tubb-Drinkard Oil and Gas Pool shall be 160 acres.
RULE 2.

A standard oil proration unit in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be 40 acres.

RULE 3.

Acreage may be simultaneously dedicated to a gas well and an oil well in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool, thereby receiving separate oil and gas allowables.

RULE 4.

Any acreage within the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall not be assigned to a gas well proration unit if the acreage is: 1) located within 1320' of the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool boundary, and 2) such acreage is not contiguous to offset non-unit gas proration unit.

RULE 5.

Any well within the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool designated as a gas well shall be subject to the gas proration rules set forth in Commission Order No. R-8170, as amended for the Blinebry Oil and Gas Pool or Tubb Oil and Gas Pool or both as appropriate.

EXHIBIT "A"

The District Supervisor shall have authority to classify any well in the pool as a gas well or an oil well upon appropriate showing by the operator.

RULE 6.

An oil well in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be a well producing from the vertical and horizontal limits of the Pool and not classified as a gas well.

RULE 7.

The limiting Gas-Oil Ratio for oil wells in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be 6000 cubic feet of gas per barrel of oil.

RULE 8.

Commingling in the well bore of production from oil zones and gas zones in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool is prohibited.

RULE 9.

In submitting Form C-115 on gas wells producing from the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool, the operator shall estimate the condensate and gas volumes produced by each well in the Blinebry, Tubb, and Drinkard zones by using the ratios as reflected in the most recent tests submitted if separate metering equipment for each zone is not utilized.

SPECIAL RULES AND REGULATIONS - Page 2

RULE 10.

Oil wells in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall receive oil and casinghead gas allowables as provided in either Rule 701F.3 or Rules 503, 505 and 506 of the Division Rules and Regulations.

RULE 11.

An oil well in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool may be recompleted as a gas well in the Blinebry or Tubb formations provided the operator of such well makes application to and receives approval from the District Supervisor for such recompletion.

RULE 12.

All gas wells in the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be subject to the same pool rules as would be applicable to gas wells completed in either or both the Blinebry Oil and Gas Pool and the Tubb Oil and Gas Pool; except that such gas wells shall not be subject to any provision in either set of pool rules relating to classification by gas-liquid hydrocarbon ratio, nor shall they be subject to any provision within such rules prohibiting multiple assignments of acreage, except as provided by Rule 4 above. To the extent applicable rules of either the Blinebry Oil and Gas Pool or the Tubb Oil and Gas Pool conflict with the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool rules, the latter shall control.

SPECIAL RULES AND REGULATIONS - Page 3

RULE 13.

Special Pool Rules and Regulations for the North Eunice
Blinebry-Tubb-Drinkard Oil and Gas Pool shall be applicable only
within the pool boundaries.

RULE 14.

Any expansion of the boundaries of the North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool shall be only upon application filed after notice under Rule 1207 and hearing.

[WPP:47]

SPECIAL RULES AND REGULATIONS - Page 4

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF SHELL WESTERN E&P INC. FOR A STATUTORY UNITIZATION, LEA COUNTY, NEW MEXICO.

Case No. 9231

APPLICATION

COMES NOW the Applicant, Shell Western E&P Inc. (Shell Western) and requests that the Division approve the statutory unitization of the Northeast Drinkard Unit, Lea County, New Mexico for secondary recovery, waterflood, operations.

In support of its application, Applicant states:

- 1. Shell Western is engaged in the business of producing and selling oil and gas in New Mexico.
- 2. The unit area for which application is made consists of approximately 5018 acres, more or less, of federal, state and fee lands in Lea County, New Mexico, and is more particularly described in Exhibit A attached hereto and incorporated herein by reference. Shell Western seeks an order pursuant to the Statutory Unitization Act providing for the unitized management, operation and further development of the unit area.
- 3. The vertical limits of the formation to be included within the proposed unit area is that interval commonly known as the Blinebry, Tubb, and Drinkard formations as encountered

between the log depths of 5530 ft. and 6680 ft. in the Shell Western Argo No. 8 well located 660' FSL, 2310' FWL, Section 15, Township 21 South, R 37 East, Lea County, New Mexico as recorded on the log of that well run on June 21, 1951 and filed with the Oil Conservation Division.

- 4. The portion of the reservoir involved in this application has been reasonably defined by development.
- 5. The unitized interval is in effective communication throughout the three stratographic intervals due to operational practices in this area which have allowed liberal and frequent commingling of the three zones so that the three zones now comprise one common source of supply.
- 6. The type of operations to be conducted in this unit will be a waterflood.
- 7. Attached to this application as Exhibit B and incorporated herein by reference is a copy of the proposed plan of unitization, unit agreement, which Shell Western considers to be fair, reasonable and equitable.
- 8. Attached to this application as Exhibit C and incorporated herein by reference is a copy of the proposed unit operating agreement setting forth the manner in which the unit will be supervised and managed and setting forth the method of allocation of costs and payment of those costs among unit participants.
 - 9. Shell Western further states:

APPLICATION - Page 2

A. That the unitized management, operation and further development of that portion of the Blinebry, Tubb, and Drinkard formations which is the subject of this application is reasonably necessary in order to effectively carry on waterflood operations and to substantially increase the ultimate recovery of oil from the unitized interval.

- B. That the unitized methods of operation applied to the portion of the Blinebry, Tubb, and Drinkard formations which are the subject of this application are feasible, will prevent waste and will result with reasonably probability in the increased recovery of substantially more oil from the unitized portion of the North Eunice Blinebry-Tubb-Drinkard Pool that would otherwise be recovered.
- C. That the estimated additional costs, if any, of conducting such operations will not exceed the estimated value of additional oil so recovered plus reasonable profit.
- D. That such unitization and adoption of unitized methods of operation will benefit the working interest owners and royalty owners of the oil and gas rights within that portion of the pool directly affected.
- E. That Shell Western, as operator, has made a good faith effort to secure voluntary unitization within that portion of the pool affected by this application.

F. That the participation formula contained in the unitization agreement allocates the produced and saved unitized hydrocarbons to the separately owned tracts in the unit area on a fair, reasonable, and equitable basis.

10. Approval of the statutory unitization of the Northeast Drinkard Unit is in the best interests of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE, Shell Western respectfully requests that this application be set for hearing before the Division examiner on September 23, 1987 and after notice and hearing as required by law and the rules of the Division, the Division enter its order granting this application.

Respectfully submitted,

MONTGOMERY & ANDREWS, P.A.

W Perry Pearce

W. Perry Pearce Post Office Box 2307

Santa Fe, New Mexico 87504-2307

(505) 982-3873

Attorneys for Shell Western E & P, Inc.

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STATE OF NEW MEXICO - ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

FORM C-108 Revised 7-1-81

NT POST OFFICE BOX JOINT STATE LAND OFFICE BUILDING GANTA FE, NEW MEXICO B/301

APPLICA	Case No. 9232					
Ι.	Purpose: X Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Dyes Dno					
II.	Operator: Shell Western E&P Inc.					
•	Address: P. O. Box 576; Houston, TX 77001					
	Contact party: D. E. Burbank Phone: (713) 870-2213					
III.	Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.					
IV.	Is this an expansion of an existing project? If yes, give the Division order number authorizing the project					
٧.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.					
* VI.	Attach a tabulation of data on all wells of public record within the area of review whic penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.					
VII.	Attach data on the proposed operation, including:					
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.). 					
*VIII.	Attach appropriate geological data on the injection zone including appropriate lithological, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.					
· IX.	Describe the proposed stimulation program, if any.					
* X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)					
* XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.					
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.					
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.					
XIV.	Certification					
	I hereby certify that the information submitted with this application is true and correcto the best of my knowledge and belief.					
	Name: D. E. Burbank Title Production Engineer					
	Signature: Louglas E. Burbank Date: September 8, 1987					
imdua	e information required under Sections VI, VIII, X, and XI above has been previously teed, it need not be duplicated and resubmitted. Please show the date and circumstance are earlier submittal.					