

Midland Division
Exploration and Production

Conoco Inc. 10 Desta Drive West Midland, TX 79705-4514 (915) 686-5400

December 21, 1990

Mr. Michael Stogner New Mexico Oil Conservation Division P.O. Box 2088 Santa Fe, NM 87501

Dear Mr. Stogner:

Request for Examiner Hearing
January 24, 1991 for Approval to
Create a New Oil and Gas Pool,
Special Pool Rules, and Contraction
of the Blinebry and Warren Tubb Pool,
Lea County, New Mexico

CT udikarny na namana Dia Do

(1) Conoco seeks the creation of a new oil and gas pool for Blinebry and Tubb production to be designated the Warren Blinebry-Tubb Oil and Gas Pool comprising the following described acreage in Lea County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 38 EAST

Section 22: S2/S2 Section 26: All Section 27: All Section 33: All Section 34: All Section 35: N2/N2

- (2) Conoco further proposes that the vertical limits of this pool be defined from the top of the Blinebry Pool (75' above the Blinebry Marker) down to the base of the Warren Tubb Pool (top of Drinkard). These vertical limits are specifically identified in Warren Unit Well No. 37, located in Unit J, Section 27, T-20S, R-38E, with the Blinebry top at 5865' and the Tubb base at 6741'.
- (3) The creation of this new pool is for the purpose of expanding the current North Blinebry Waterflood Secondary Recovery Project to include all of the above described horizontal acreage and vertical interval.
- (4) Conoco also seeks the promulgation of special rules and regulations for the new Warren Blinebry-Tubb Oil and Gas Pool including the establishment of a gas-oil ratio limitation of 4,000 cubic feet of gas per barrel of oil.
- (5) In conjunction with the proposed pool creation, Conoco further seeks the concomitant contraction of the Blinebry Oil and Gas Pool and the Warren Tubb Gas Pool by the following described acreage:

TOWNSHIP 20 SOUTH, RANGE 38 EAST

Section 22: S2/S2 Section 26: All Section 27: All Section 33: All Section 34: All Section 35: N2/N2

(6) It is proposed that this application be set for hearing at the January 24, 1991 docket.

Very truly yours,

Jerry W. Hoover

Jerry W. Hoover

Regulatory Coordinator

JWH/tm

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Exploration and Production

Conoco Inc. 10 Desta Drive West Midland, TX 79705-4514 (915) 686-5400

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Mr. Michael Stogner New Mexico Oil Conservation Division P.O. Box 2088 Santa Fe, NM 87501

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A REPORT ERVATION DIVISION

Dear Mr. Stogner:

Request for Examiner Hearing January 24, 1991 for Approval of Expansion and Contraction of Conoco's North Blinebry Waterflood Project Located in the Warren Unit, Lea County, New Mexico

10220

(1) With the filing of the attached C-108, Conoco seeks approval to expand its Blinebry Waterflood Project in the Warren Unit for water injection into 20 additional wells in Sections 22, 26, 27, 33, 34, and 35, T-20S, R-38E, Lea County, New Mexico.

Of these 20 proposed injectors 14 will be converted producing wells and 6 will be newly drilled wells.

- (2) The existing Blinebry Waterflood was authorized by Division Order No. R-6906. This project, as approved, consisted of nine injection wells, located in Sections 33 and 34, T-20S, R-38E and in Sections 3 and 4, T-21S, R-38E, for water injection and oil and gas recovery from the Blinebry Pool.
- (3) Conoco proposes to expand this project to include the following described acreage in Lea County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 38 EAST

Section 22: S2/S2

Section 26: All

Section 27: All

Section 33: All

Section 34: All

Section 35: N2/N2

- (4) Conoco further seeks approval to expand this project for water injection into both the Blinebry and Tubb formations in downhole-commingled operations of the above described acreage.
- (5) Conoco also requests that provisions be included in the OCD Order for administrative approval of future expansions of this project.

(6) It is also proposed that the initial Blinebry Waterflood as authorized by Division Order No. R-6906, be contracted for injection into two wells in the following locations:

TOWNSHIP 21 SOUTH, RANGE 38 EAST

Well Name	Location	<u>Operator</u>
Hawk B-3 No. 15	Unit B, Sec. 3	Conoco Inc.
State Well No. 6	Unit D, Sec. 2	Southland Royalty

The two locations, as described above, were unitized into Shell's Northeast Drinkard Unit and are no longer under Conoco operations.

- (7) This proposed waterflood project expansion should result in the recovery of otherwise unrecoverable oil, thereby preventing waste, and otherwise protecting correlative rights.
- (8) Conoco requests that this application be set for hearing at the January 24, 1991 docket.

Very truly yours,

Jerry W. Hoover

Regulatory Coordinator

JWH/tm

OIL CONSERVATION DIVISION

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108 Revised 7-1-81

£ 10270

APPLIC	ATION FOR AUTHORIZATION TO INJECT
I.	Purpose: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? yes no
II.	Operator: Conoco Inc.
	Address: 10 Desta Drive West, Midland, TX 79705
	Contact party: <u>Jerry W. Hoover</u> Phone: (915) 686-6548
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? X yes no R-6906 .
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 which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	 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.).
/111.	Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
х.	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.
aii.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification
	I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	Name: Jerry W. Hoover Title Regulatory Coordinator
	Signature: Janua Date: 12/21/90

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:
 - (1) 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.

North Blinebry Waterflood Expansion

ATTACHMENT TO FORM C-108 NOS. VII, VIII, IX, X, XI, XII

VII

1. Proposed average and maximum daily rate:

12,500 BWPD average (500 BWPD/well) 17,500 BWPD total maximum (700 BWPD/well)

- 2. System is open. Water is treated for bacteria and salinity increased.
- 3. Proposed average and maximum injection pressure:

1700 psi average pressure 2000 psi maximum pressure

- 4. Injection fluid will be treated City of Hobbs sewerage effluent. Analysis of this water and compatibility tests with the Blinebry/Tubb commingled formation water are attached.
- 5. N/A

VIII

The proposed zones of injection are the Blinebry and Tubb formations. These zones are located at -2300' SSD and -2880' SSD respectively. The Blinebry zone is 570' and Tubb zone is 300'. Both zones are composed of dolomite and interbedded dolomite and anhydrite. The Blinebry zone is composed of primarily fine granular to fine crystalline silty dolomite with numerous small anhydrite inclusions and shale partings. The Tubb is characterized by dolomite which is very similar to the Blinebry, however, it contains a sandy dolomite interval. Both zones exhibit intercrystalline and intergranular porosity and fairly low permeability (5 md).

IX

Proposed Stimulation Program: See Attached

X

Logs and test data were submitted when the well was initially completed.

ΧI

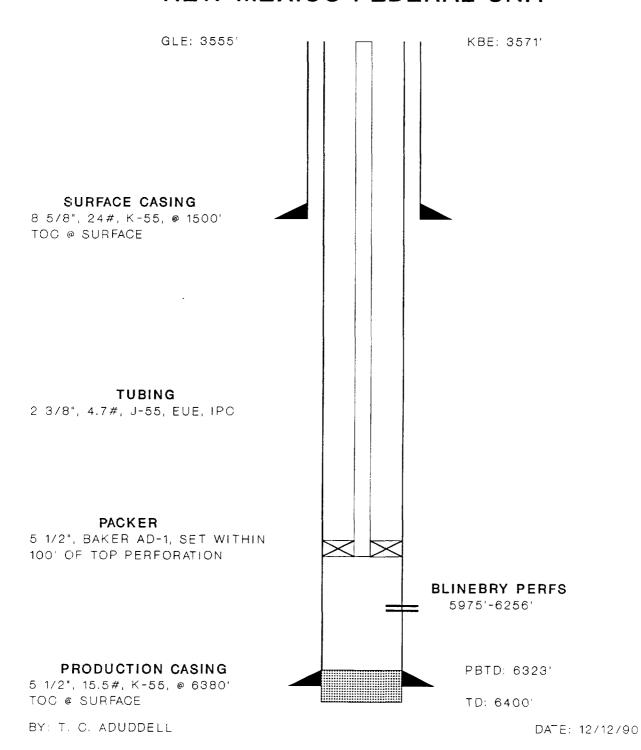
Chemical analysis of fresh water wells: See Attached

XII

Yes, there is no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

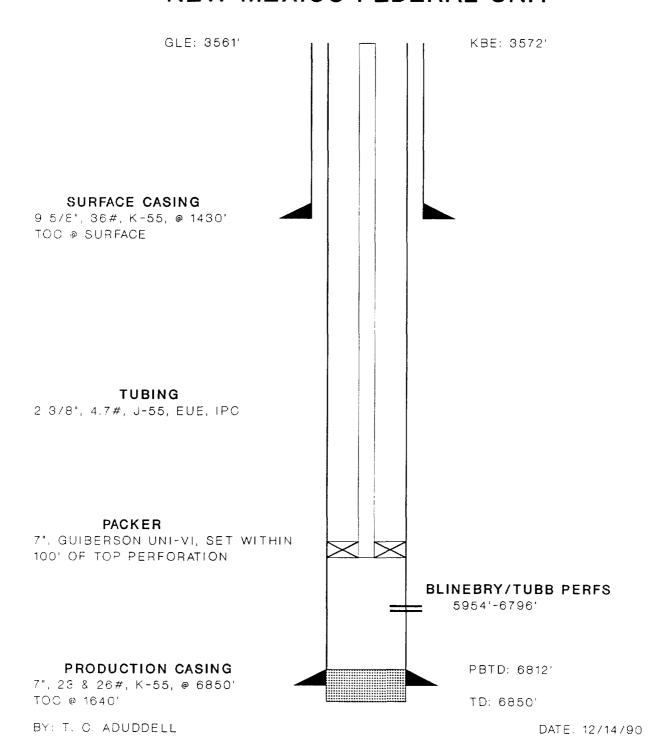
Conoco	lnc.		Wa	<u>rren Unit</u>	
OPERAT	OR			LEASE	
70	660' FSL & 660'		22	20\$	38E
WELL N	O. FOOTAGE LO	JATION	SECTION	TOWNSHIP	RANGE
<u>Schematic</u>			<u>Tubula</u>	ar Data	
		Surface	e Casing		
		Size	8-5/8		ith <u>718</u> sx.
See Attached		TOC Hole si	<u>Surface</u> fee ze 12-1/4"	t determined b	oy <u>circ.</u>
			tion Casing		
		Size TOC	5-1/2" "	Cemented w t determined b	ith <u>2814</u> sx.
			<u>Surface</u> fee ze 7-7/8"	t determined L	y circ.
			epth 6400'		
		Injectio	n interval		
			5975 ated or open-h		<u>256</u> fee
		(perior	ateu or open-n	ioie)	
Tubing size	2-3/8"	lined	with plastic	coating	set in
rubing size	2-3/0			naterial)	
	Baker AD-1		packer with	in 100' of top i	perforation.
(bran	nd and model)		Puester		
Other Data					
	ithe Injection format	lan	Dlinohn		
	the injection format Field or Pool (if app				
	new well drilled for	•		Yes	<u>X</u> No
If no, for	what purpose was to Drill and eq			d?	
	well ever been perfo	orated in	any other zone		
	uch perforated inter				of cement or
	lug(s) used)	140		/	
5 Give the	depth to and name	of any o	erlying and/a-	underlying oil	l or gee
	ooois) in this area				
<u>Queen -</u>	3693', Penrose - 38	44', Gray			
<u>Glorieta</u>	- 5578', Blinebry - 5	<u>975'. </u>			

WELLBORE DIAGRAM WARREN UNIT NO. 70 NEW MEXICO FEDERAL UNIT



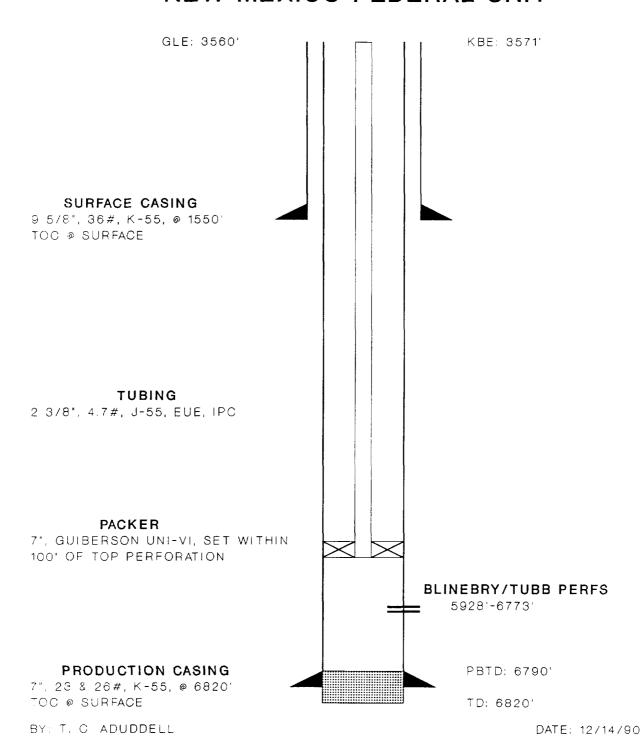
	Conoco Inc.		Warren Unit				
_	OPERATOR 56 660' FNL &				LEASE		
	56	660' FNL & 1980'	FEL	26	205	38E	
	WELL NO.	FOOTAGE LOCAT	ION SE	CTION	TOWNSHIP	RANGE	
Schem	natic			Tubular	Data		
		s	urface Casi	na			
		S	ize <u>9-5/</u>	8 "	Cemented wit		
See At	tached				determined by	circ.	
		n	ole size <u>1</u>	2-1/4"	_		
		_		_			
			roduction C ize 7		Competed wit	h 1700 sx.	
						temp. survey	
			ole size 8		-		
		To	otal Depth_	6850'	•		
		In	jection inte				
		7.			et to <u>67</u>	<u>96</u> feet	
		U.	<u>erforated</u> o	r open-no	ie)		
Tubina	size	2-3/8"	lined with	plastic o	coating	set in	
		<u> </u>			aterial)		
Gui	<u>iberson UNI-V</u> (brand an	I Double Grip		_ packer	within 100' of	top perforation	
	(Drand ar	ia modelj					
Other I	<u>Data</u>						
1.	Name of the	Injection formation	RI	inebn/Tuk	.h		
2		d or Pool (if applica		NMFU			
3.		well drilled for inje			Yes	X No	
	If no, for wha	at purpose was the	_	•		·	
4	Hoo the well	Drill and equip					
4.		ever been perforate perforated intervals				cement or	
		•	lo	.agging ut	ALL GROKS OF	Joinett Of	
_							
5.		th to and name of a) in this areaYat				or gas	
	**) in this area. <u> </u>					
		55', Blinebry - 5954					

WELLBORE DIAGRAM WARREN UNIT NO. 56 NEW MEXICO FEDERAL UNIT



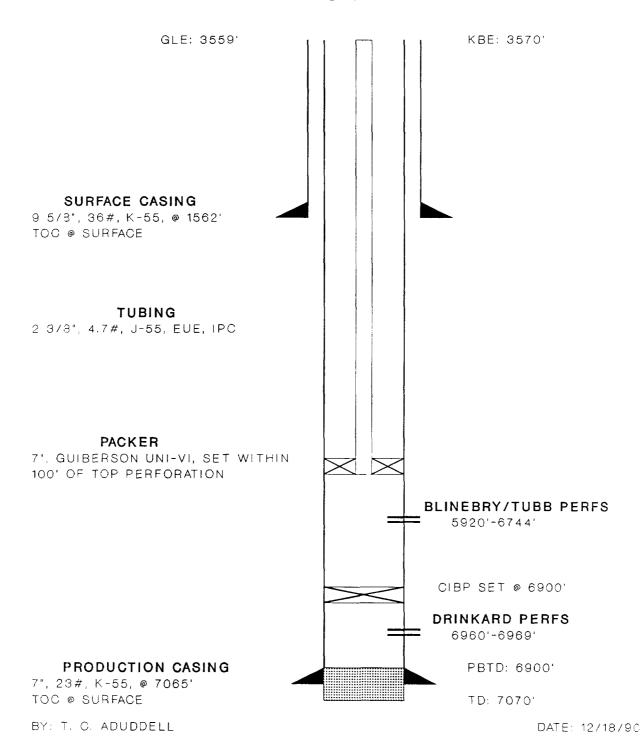
V	RATOR			waı	LEASE		
0, 2					LLAGE		
57	•	660' FNL & 660'	FWI	26	20\$	38E	
	L NO.	FOOTAGE LOC		SECTION	TOWNSHIP	RANGE	
Schematic				Tubula	ır Data		
			Surfac Size	e Casing 9-5/8 "	Cemented wit	h 600	ev
See Attache	d			Surface feet			JA.
			Hole s	ize <u>12-1/4"</u>	<u>—</u>		
			Produc	ction Casing			
			Size	7_"	Cemented wit		sx.
			TOC	<u>Surface</u> feet ize 8-3/4"	determined by	<u>circ.</u>	
				Depth 6820'	_		
				•			
			-	on interval	eet to 67	73	feet
				<u>5928 </u>		13	_ ieei
					,		
Tubing size		2-3/8"	lined	with plastic		se	et in a
				(n	naterial)		
Guiberson	UNI-VI	Double Grip		packer	r within 100' of	top perfor	ation
		nd model)				тор рошо.	
Other Data							
<u> </u>							
		injection formation			ıpp		_
		ld or Pool (if appl v well drilled for i			Yes	X N	 No
		at purpose was ti	•			 ·	
		Drill and equ	ıip Bline	bry/Tubb dual			_
4. Has t	the well	ever been perfor	rated in	any other zone	(s)?		-
		perforated interv s) used)		give plugging o	detail (sacks of	cement or	Г
bildg			110	·			-
							_
		oth to and name o				or gas	
		s) in this area` 77', Penrose - 382				300'	_
		42' Blinebry - 59					_

WELLBORE DIAGRAM WARREN UNIT NO. 57 NEW MEXICO FEDERAL UNIT



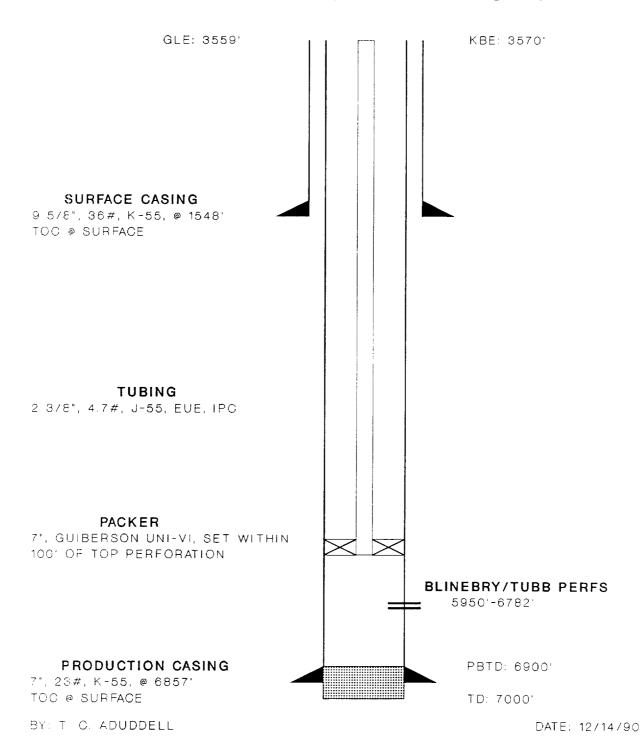
Conoco In	с.	Warren Unit				
OPERATO	R			LEASE		
48	2030' FNL & 198	80' FWL	26	20\$	38E	
WELL NO	. FOOTAGE LOC	CATION SE	CTION	TOWNSHIE	P RANGE	
Schematic			<u>Tubulaı</u>	· Data		
		Surface Cas	ina			
See Attached		Size 9-5 TOC Suri Hole size 1	/8 " face feet	determined		_
		Production (Size 7 TOC Surf Hole size 8 Total Depth	ace feet 3-3/4"	Cemented v determined –		_ sx. -
		Injection inte				
		(perforated of			5744	_ feet
Tubing size	2-3/8"	lined with	····	coating aterial)		set in a
Guiberson UNI- (brand	VI Double Grip and model)		packer	within 100'	of top perfo	oration
Other Data						
2 Name of F 3. Is this a no If no, for w and equip	ne injection formati ield or Pool (if app ew well drilled for i rhat purpose was t Blinebry/Tubb dua ell ever been perfo	licable) injection? he well origina I.		Yes Test Drin	<u>X</u> kard. Drill	No
List all suc	ch perforated interv g(s) used) <u>Yes. D</u>	als and give p	olugging d	etail (sacks		or —
zones (pod <u>Queen - 3</u>	epth to and name obls) in this area	<u>Yates - 2848',</u> 22', Grayburg	Seven Riv - 4006', Sa	ers - 3111', in Andres -	4292'	

WELLBORE DIAGRAM WARREN UNIT NO. 48 NEW MEXICO FEDERAL UNIT



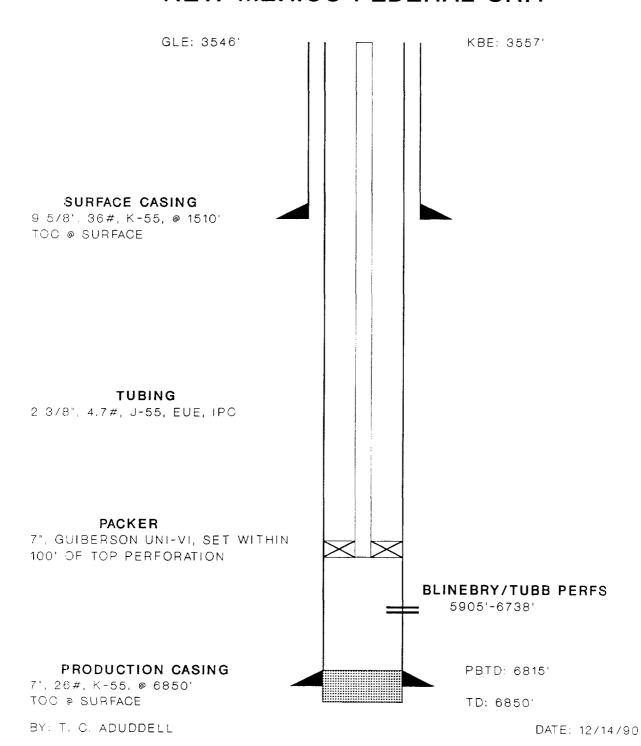
Conoco In		Warren Unit LEASE				
OPERATO)ri			LEASE		
49	1980' FSL & 198	30' FEL	26	20\$	38E	
	. FOOTAGE LOC		CTION	TOWNSHIP		
Schematic			<u>Tubular</u>	· Data		
		Surface Cas	ing			
See Attached		Size 9-5 TOC <u>Surf</u> Hole size 1	ace feet			
		Production (Size 7 TOC Surf Hole size 8 Total Depth	ace feet	Cemented v determined 		
		Injection inte				
		5950 (perforated o		eet to(ele)	6782	feet
Tubing size	2-3/8"	lined with		coating aterial)	:	set in a
Guiberson UNI- (brand	VI Double Grip and model)		packer	within 100'	of top perfe	oration
Other Data						
Name of F 3. Is this a n	he injection formati Field or Pool (if app ew well drilled for i what purpose was t	licable) njection?	NMFU	_ Yes	<u>X</u> Drill and	No No
equip Blin 4. Has the w List all su	ebry/Tubb dual. ell ever been perfoch perforated intervig(s) used) No	rated in any o	ther zone(s)?		
zones (po <u>Queen - 3</u>	lepth to and name ools) in this area	Yates - 2855', 32', Grayburg	Seven Riv - 4022', Sa	vers - 3120', an Andres -	<u>-</u>	<u>-</u>

WELLBORE DIAGRAM WARREN UNIT NO. 49 NEW MEXICO FEDERAL UNIT



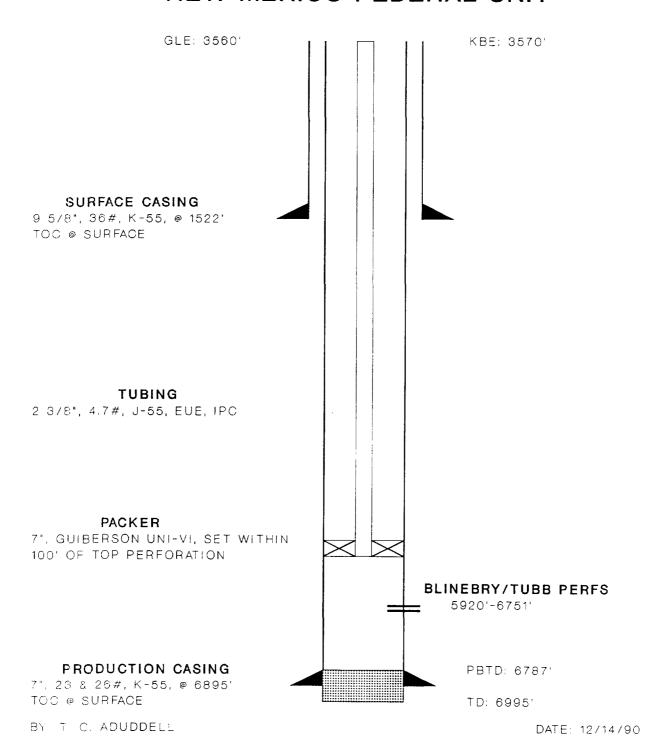
	<u>IOCO INC.</u> ERATOR		,	·····	warre H	<u>n Unit</u> EASE		_
OF I	LIIAIOII	•			l!	LAUL		
5	•	1000' ESI 9 660	, EVA/I	2	•	205	38E	
	9 LL NO.	1980' FSL & 660 FOOTAGE LOC		SECTI		20S OWNSHIP		
Schematic				<u>י</u>	ubular D)ata		
			Surface	e Casing				
			Size		С	emented w	ith <u>600</u>	sx.
See Attach	ed				-	etermined b	oy <u>circ.</u>	
			Hole S	ize <u>12-1</u>	4-			
			Produc	tion Casi	na			
			Size	7 "	C	emented w	ith <u>1250</u>	sx.
			TOC		_	etermined b	by circ.	
				ize <u>8-3/4</u> epth <u>68</u>				
			Injectio	on interva	1			
				5905	fee		738	_ feet
			(perfor	ated or o	pen-hole)		
		(-)		•••				
Tubing size	•	2-3/8"	lined	withp		erial)	s	et in a
					•	•		
		Double Grip nd model)		F	backer w	ithin 100' d	of top perfor	ration
	(
Other Data								
				Duna	b /T la la			
		injection formation in the injection in		Bline NM)		_
3. is ti	nis a nev	wwell drilled for i	njection	?		Yes	·	οV
	•	iat purpose was ti ory/Tubb dual.	he well d	originally	drilled?		Drill and	_
		l ever been perfo	rated in	any other	zone(s)	?		_
List	all such	perforated interv					of cement o	r
brid	ge plug	(s) used) <u>No</u>	,					_
								_
		pth to and name o s) in this area					l or gas	
Que	en - 36	50', Penrose - 380	00', Gray	burg - 39	95', San	Andres - 4	270'	_
Glo	rieta - 59	510' Blinebry - 58	96' Tub	h - 6448'	Drinkar	d - 6738'		

WELLBORE DIAGRAM WARREN UNIT NO. 59 NEW MEXICO FEDERAL UNIT



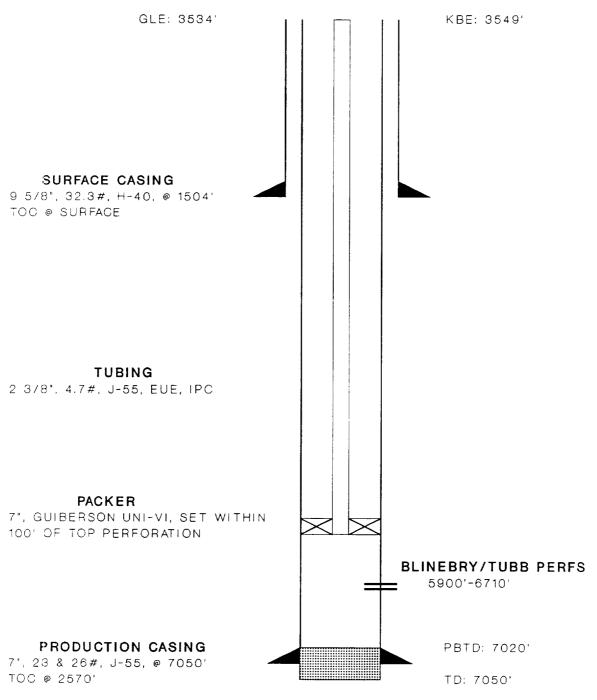
OPERATOR		wa	LEASE	****
OFERATOR			LLAGE	
45 660)' FSL & 1980' FWL	26	20\$	38E
	OOTAGE LOCATION		TOWNSHIP	
<u>Schematic</u>		<u>Tubula</u>	ar Data	
	Surfac	e Casing		
	Size	9-5/8	Cemented w	vith <u>625</u> sx.
See Attached	TOC		t determined l	by circ.
	Hole s	size <u>12-1/4"</u>		
	Duna des	allan Oaalan		
	<u>Produ</u> Size	ction Casing	Cemented w	ith <u>2025</u> sx.
	TOC	Surface feet		
		size <u>8-3/4"</u>		
	i Otai i	Depth <u>6995'</u>		
		on interval		954 4
		5920 1 rated or open-h		751fee
	(101101	<u></u> 0. 0po	0.0,	
Tubing size 2-3	<u>/8"</u> lined	l with <u>plastic</u> /n	<u>coating</u> naterial)	set in
		ν	naterial)	
Guiberson UNI-VI Do (brand and i		packe	r within 100'	of top perforatio
(Dianu and i	nodel)			
Other Date				
Other Data				
	ection formation		app	
	r Pool (if applicable) ell drilled for injection		Yes	X No
	urpose was the well			Drill and
equip Blinebry/			·	
4. Has the well ev	er been perforated in forated intervals and	any otner zone	e(s)? detail <i>(</i> sacks (of cement or
bridge plug(s) L			(
····				
5. Give the depth	o and name of any o	verlying and/or	underlying of	l or gas
zones (pools) ir	this area. Yates -	2839', Seven R	ivers - 3103',	
	<u>Penrose - 3815', Grav</u> Blinebry - 5912', Tul			4 <u>280</u>

WELLBORE DIAGRAM WARREN UNIT NO. 45 NEW MEXICO FEDERAL UNIT



	Conoco Inc.			Wa	rren U <u>nit</u>		
	OPERATOR				LEASE		_
	33	1980' FNL & 198	20' EWI	27	20\$	38E	
	WELL NO.	FOOTAGE LOC		SECTION	TOWNSHIP	RANGE	_
Schem	natic			<u>Tubul</u>	ar Data		
			Surface (Casing			
			Size _	9-5/8 "	Cemented wi		sx.
See At	ttached			<u>12-1/4"</u>	t determined by	y circ.	
			Production				
			Size _ TOC	<u>7</u> " 2570 feet	Cemented wife determined by		SX.
			Hole size			<u> </u>	
			Injection 590		feet to67	10	feet
				ed or open-h		7	
Tubing	size	2-3/8"	lined wi	ith <u>plastic</u> נו	coating naterial)	se	t in a
0 "	14514 74	i Baratala Osta		,	•		
Guib		l Double Grip and model)		раске	er within 100' of	top periora	ation
	•	ŕ					
Other I	<u>Data</u>						
1.	Nama of the	e injection formati	00	Blinebry/T	uhh		
2	Name of Fig	eld or Pool (if app	licable)		ubb		- -
3.		w well drilled for i nat purpose was t	•	ninally drille	Yes	X N	0
	equip Bline	bry/Tubb dual.				Drill and	<u>-</u>
4.		I ever been perfo perforated interv				cement or	
		(s) used) <u>No</u>					-
							_
5.		pth to and name o	•			or gas	_
		s) in this area 12', Penrose - 376				223'	_
		470', Blinebry - 59					_

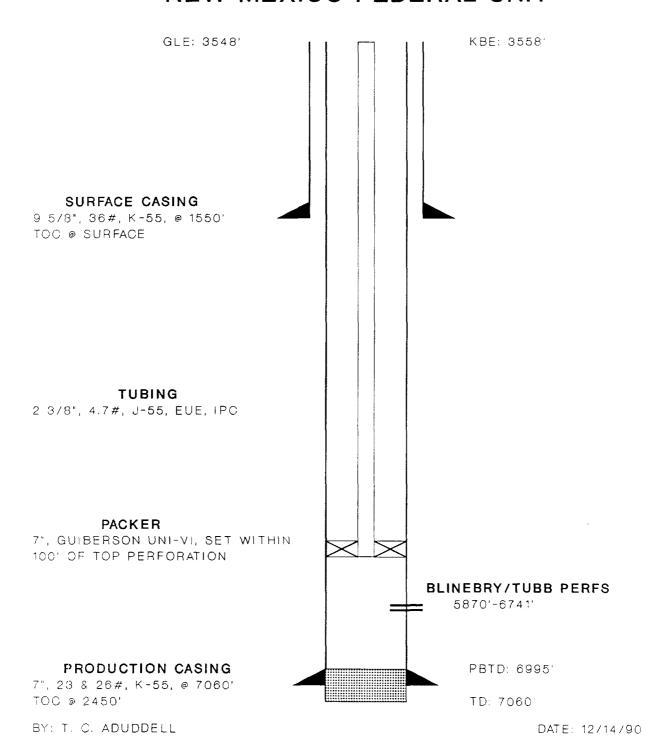
WELLBORE DIAGRAM WARREN UNIT NO. 33 NEW MEXICO FEDERAL UNIT



BY: T. C. ADUDDELL DATE: 12/14/90

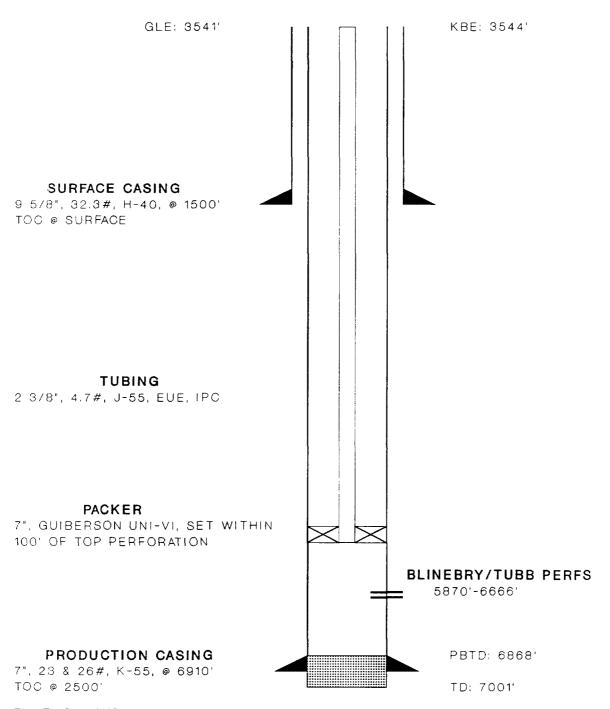
Conoco	Inc	Warren Unit				
OPERA	TOR			LEASE		
37	1980' FSL & 1			208	38E	
WELL I	NO. FOOTAGE LO	OCATION	SECTION	TOWNS	HIP RANGE	=
<u>Schematic</u>			Tubu	ılar Data		
		Surface (Casing			
See Attached		Size	9-5/8	et determine	d with <u>1025</u> ed by <u>circ.</u>	
		<u>Production</u>	on Casing	Cemente	d with 1450	SX.
		Hole size	8-3/4*	et determine	d by CBL	_
		Total Dep	oth <u>7060'</u>			
		Injection		feet to	6741	feet
			ed or open			;
Tubing size	2-3/8"	lined w	ith <u>plast</u>	ic coating (material)		set in
			_	` ,		
	NI-VI Double Grip and and model)		pack	cer within 10	0' of top perf	ioration
(515	······································					
Other Data						
	of the injection form			Tubb		
	of Field or Pool (if ap a new well drilled fo		NMFU	Yes	x	No
If no, fo	or what purpose was		ginally drill		Drill and	
	Blinebry/Tubb dual. e well ever been per	forated in an	v other zoi	ne(s)?		 -
List all	such perforated inte plug(s) used) <u>No</u>				ks of cement	or
	e depth to and name	•				<u></u>
Queen	pools) in this area - 3614', Penrose - 3	3768', Graybu	ırg - 3948',	San Andres	s - 4213'	
Glorieta	- 5475'. Blinebry -	5940'. Tubb	- 6437'. Dr	inkard - 674	1'. Abo - 701	4'.

WELLBORE DIAGRAM WARREN UNIT NO. 37 NEW MEXICO FEDERAL UNIT



Conoc	Conoco Inc.		Warren Unit				
	OPERATOR			LEASE			
44	een' Eel 9	1090' EWI	27	205	205		
41 WELL	NO. FOOTAGE	1980' FWL LOCATION	27 SECTION	20S TOWNSHIP	38E RANGE		
Schematic			Tubula	ar Data			
			e Casing				
See Attached				Cemented with determined b		ζ.	
oo Allamou			ze <u>12-1/4"</u>		<u> </u>		
			tion Casing				
		Size TOC	7_"	Cemented with determined by		X.	
			ze 8-3/4"		<u> </u>		
			epth 7001'				
		Iniectio	n interval				
		5	5870	feet to6	<u> 666</u> f	eet	
		(perfora	ated or open-h	nole)			
Tubing size _	2-3/8*	lined	with <u>plastic</u>	coating	set	in :	
0	INII M. Daviela Oda						
	<u>JNI-VI Double Grip</u> and and model)		раске	r within 100' o	it top perforat	ion	
(5.	and and model,						
Other Data							
1. Name	of the injection for	mation	Blinebry/T	ubb			
	of Field or Pool (if		NMFU				
	a new well drilled for what purpose w			Yes	X No	1	
equip	Blinebry/Tubb dua	ļ .			Jim and		
	e well ever been p						
	l such perforated in plug(s) used) <u>No</u>		give plugging	aetail (sacks o	T cement or		
	p.129(0) 1000) 110						
	he depth to and na (pools) in this area				or gas		
	1 - 3560', Penrose				172'		
	ta - 5396', Blinebry						

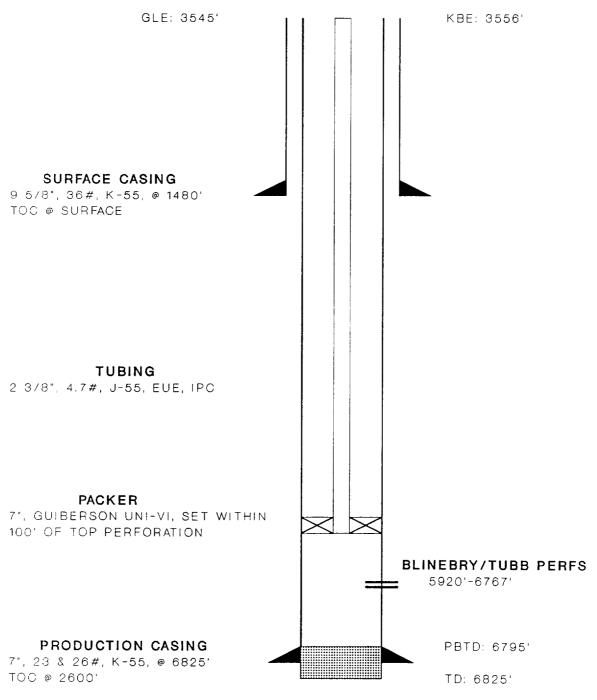
WELLBORE DIAGRAM WARREN UNIT NO. 41 NEW MEXICO FEDERAL UNIT



BY: T. C. ADUDDELL DATE: 12/14/90

Conoco	Inc.	Warren Unit						
OPERA	TOR	LEASE						
32	660' FQL 9. 660	, ECI	27	20\$	38E			
WELL N	660' FSL & 660 IO. FOOTAGE LO		27 ECTION	TOWNSHI				
<u>Schematic</u>			Tubula	r Data				
		Surface Cas	sing					
Can Attacked		Size 9-5	5/ 8 "		with <u>660</u>	sx.		
See Attached		TOC <u>Sur</u> Hole size		determined	by circ.	-		
		Production	Casing					
					with 1200	_ sx.		
		TOC <u>26</u> Hole size		determined	by CBL	_		
		Total Depth		_ 				
		Injection int	erval					
		5920	f	eet to	6767	_ feet		
		(perforated	or open-h	ole)				
Tubing size	2-3/8"	lined with	plastic	coating	•	set in :		
				naterial)				
Guiberson Ul	NI-VI Double Grip		packer	within 100'	of top perfo	ration		
	nd and model)		puokei	***************************************	or top perio	or attion		
Other Data								
1 Nama a	f the injection format	ion E	linohm/Tu	hh				
	f the injection format f Field or Pool (if app		Blinebry/Tu NMFU	מטו				
3. Is this a	new well drilled for	injection?		Yes		No		
	r what purpose was linebry/Tubb dual.	the well origin	ally drilled	l?	Drill and			
4. Has the	well ever been perfo	orated in any o	ther zone	(s)?				
List all s	such perforated inter	vals and give	plugging o	letail (sacks	of cement of	or		
bridge p	olug(s) used) <u>No</u>		 					
	e depth to and name pools) in this area							
	- 3659', Penrose - 38					_		
	- 5514'. Blinebry - 5					-		

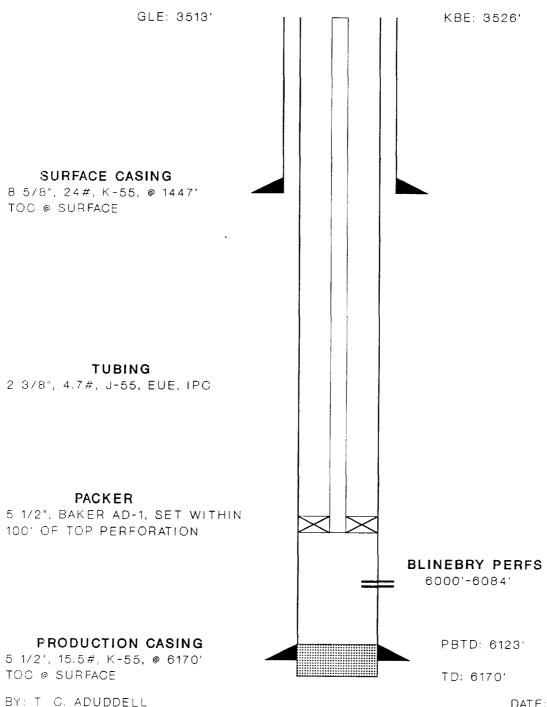
WELLBORE DIAGRAM WARREN UNIT NO. 32 NEW MEXICO FEDERAL UNIT



BY: T. C. ADUDDELL DATE: 12/14/90

Cor	noco Inc.	•	Warren Unit							
OP	ERATOF	R	LEASE							
	34	660' FNL & 1920	' FWL	33		20\$	38E			
WE	LL NO.	FOOTAGE LOC	ATION	SECTIO	N 7	OWNSHIP	RANGE			
Schematic				<u>Tu</u>	bular [<u>Data</u>				
			Surface	e Casing						
					С	emented w	ith <u>696</u>	_sx.		
See Attach	ned					etermined b	y circ.	-		
			Hole SI	ze <u>12-1/4</u>	-					
			Produc	tion Casing	a					
			Size		_	emented w	ith <u>2350</u>	_ sx.		
						etermined b	y circ.	-		
				ize <u>7-7/8"</u> epth <u>6170</u>						
				• •	<u> </u>					
				on Interval 3000	fee	t to 6	084	feet		
				ated or ope						
Tubing size	e	2-3/8"	lined	with <u>pla</u>				set in a		
					(mat	erial)				
E	Baker AD			_ packer v	vithin 1	100' of top	perforation).		
	(brand a	and model)								
Other Date										
Other Data										
		e injection formation ald or Pool (if appl			-			·		
		w well drilled for i			<u> </u>	Yes	X	No		
lf n	o, for wh	nat purpose was ti			rilled?		Drill and	_		
	uip Bline	bry II ever been perfo	rated in	ony other a	(-)					
		n ever been perior n perforated interv					of cement	or		
		(s) used) <u>No</u>			-		·- <u>-</u>	_		
			<u></u>					_		
		pth to and name o						_		
		s) in this area` 49', Penrose - 369						 -		
		370', Blinebry - 57			_ ,					

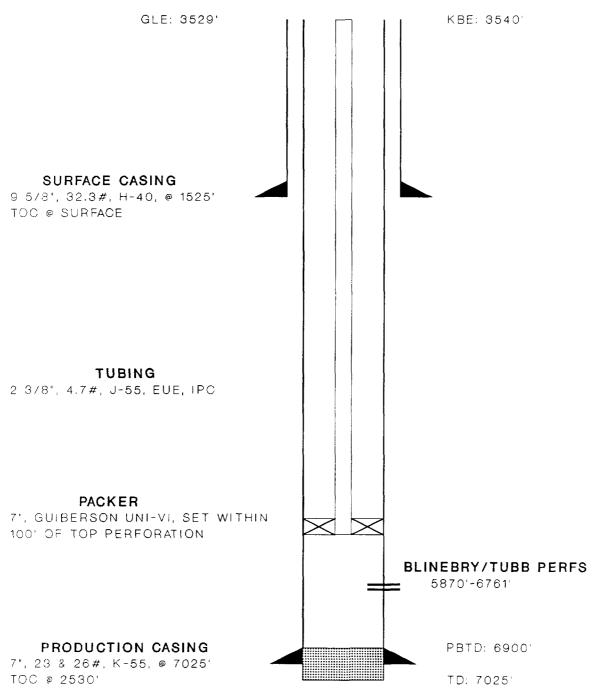
WELLBORE DIAGRAM WARREN UNIT NO. 84 NEW MEXICO FEDERAL UNIT



DATE: 12/14/90

Co	noco Inc.		Warren Unit						
OPERATOR			LEASE						
	<u>39</u> ELL NO.	660' FNL & 1980 FOOTAGE LOC			20S TOWNSHI	38E P RANGE	-		
***	LLL NO.	TOOTAGE LOC	Allon	SECTION	1011110111	HANGE			
Schematic	2			Tubu	lar Data				
			Surface	Casing					
Can Attacl	hod		_			with 700	SX.		
See Attacl	nea			e <u>12-1/4"</u>	et determined ——	i by <u>circ.</u>			
				on Casing	_				
			Size _	·	Cemented t determined	with <u>1225</u>	SX.		
			_	e <u>8-3/4</u> "		Dy <u>OUL</u>	-		
			Total De	pth <u>7025'</u>	*********				
			Injection	interval					
			58	70	feet to	6761	feet		
			(perforat	ed or open-	hole)				
Tubing siz	e	2-3/8"	lined v	vith <u>plasti</u>	ic coating	se	et in		
				ı	(material)				
Guibere	on UNILVI	Double Grip		nack	er within 100	of top perfor	etior		
Guibeis		and model)		pack	er within 100	or top perior	atioi		
	`	,							
Other Data	<u>a</u>								
1. Na	me of the	injection formati	ion	Blinebry/	Tubb				
		eld or Pool (if app		NMFU			_		
		w well drilled for i			Yes		No.		
	•	nat purpose was t	he well or	iginally drille	ed?	Test Tubb	<u>. </u>		
		<u>uip Blinebry.</u> Il ever been perfo	rated in a	ny other zon	ne/e\?		_		
		n perforated interv		•	, ,	of cement or	r		
		(s) used) <u>Yes. T</u>							
<u>on</u>	top.								
s <u></u>	vo the de	nth to and name	of environment	rhipa and/-	r undoubles	oil or see	_		
		pth to and name (s) in this area	•			-			
		00', Penrose - 37!					 -		
		130', Blinebry - 58							

WELLBORE DIAGRAM WARREN UNIT NO. 39 NEW MEXICO FEDERAL UNIT



BY. T. C. ADUDDELL DATE: 12/14/90

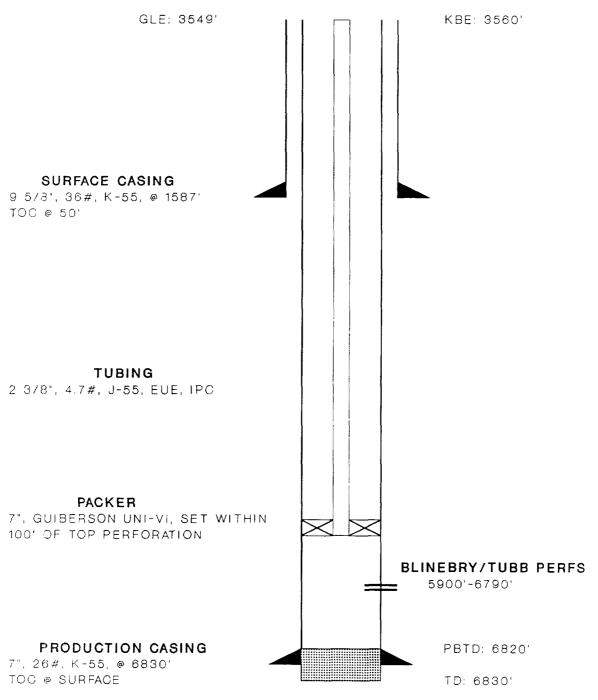
INJECTION WELL DATA SHEET

Warren Unit

Conoco Inc.

OPERATOR			LEASE					
	79	660' FNL & 660'			5	20S	38E	
	WELL NO.	FOOTAGE LOC	CATION	SECT	ION	TOWNSHIP	RANGE	
Schem	<u>atic</u>				<u>Tubula</u>	r_Data		
			Surface	Casing	I			
			Size	9-5/8		Cemented wit	h 593	SX.
See Att	tached		TOC		•	etermined by t	emp. sur	<u>vey</u>
			Hole siz	e <u>12-1</u>	1/4"	_		
			Producti	on Cas	ing			
			Size _			Cemented wit		_ sx.
			TOC _ Hole size		_	determined by	<u>circ.</u>	
			Total De			-		
			Injection 59	interva		eet to 679	90	feet
			(perforat					
Tubing	size	2-3/8"	lined v	vith		coating naterial)		set in a
		_			`	•		
Guib		l Double Grip and model)			packer	within 100' of	top perfo	oration
	·	ŕ						
Other [<u>Data</u>							
1.		injection formati						
2		eld or Pool (if app			//FU			A.L.
3.		wwell drilled for it at purpose was t			4-11104			No
	Drill and eq		ine well of	iginaliy	arillea	<i></i>		_
4.		l ever been perfo	rated in a	ny othe	r zone	(s)?		_
	List all such	perforated inter-	vals and g	ive plug	gging d	etall (sacks of		or
		(s) used) No.						
		pth to and name						
		s) in this area.						
		55', Penrose - 38				an Andres - 42	73'	
	Giorieta - 5	506', Blinebry - 59	J∠I, IUDD	- 04/9				

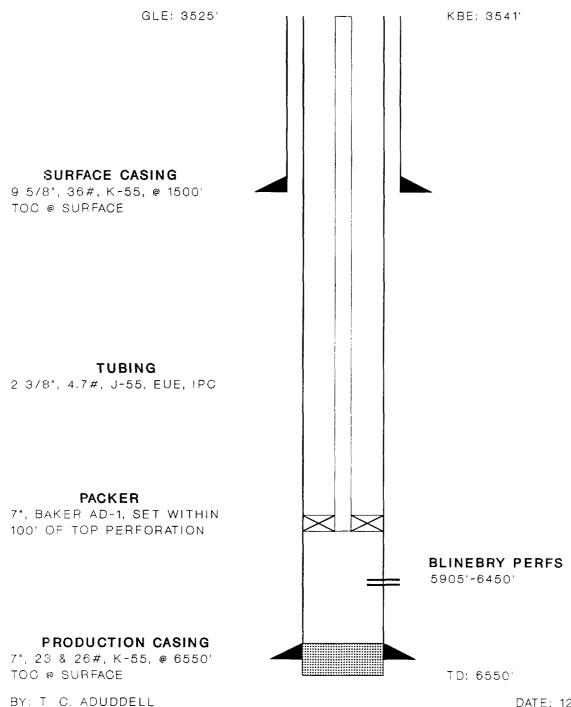
WELLBORE DIAGRAM WARREN UNIT NO. 79 NEW MEXICO FEDERAL UNIT



BY: T. C. ADUDDELL DATE: 12/14/90

Conoco In	c	Warren Unit						
OPERATO	R	LEASE						
	1980' FNL & 1				38E			
WELL NO	. FOOTAGE LOC	CATION	SECTION	TOWNSHIP	RANGE			
Schematic			Tub	ular Data				
		Surface C	asing					
				Cemented wi				
See Attached			<u>12-1/4"</u>	eet determined by	y <u>circ.</u>			
		Production						
		Size _		Cemented wi eet determined b	th <u>3100</u> sx.			
		Hole size			<u> </u>			
		Total Dep	th <u>6550</u>	,				
		Injection						
			5 d or open	_ feet to64 -hole)	<u>50</u> feet			
			<u> </u>	,				
Tubing size	2-3/8"	lined wi	th <u>plas</u>	tic coating (material)	set in a			
Dakas Al	3.4		maal	ran wikhin 100° at	ton morforetion			
Baker Al (brand	and model)		pack	er within 100' of	top perforation.			
•	•							
Other Data								
	no injection formati	lan	Dlinahm					
	ne injection formati ield or Pool (if app				· · · · · · · · · · · · · · · · · · ·			
3. Is this a ne	ew well drilled for i	injection?	_	X Yes	No			
If no, for w	vhat purpose was t	he well orig	inally drill	led?				
4. Has the w	ell ever been perfo	rated in an	other zo	ne(s)?				
List all suc	ch perforated interv	als and giv			cement or			
bridge plu	g(s) used)	No						
	epth to and name				or gas			
**	ols) in this area - 3930', San Andre							
<u>Tubb - 645</u>								

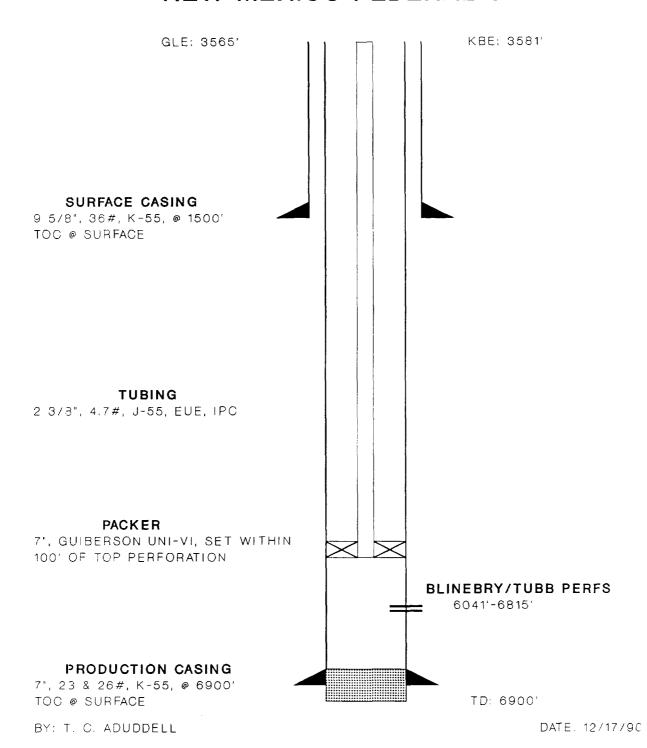
WELLBORE DIAGRAM WARREN UNIT NO. 102 **NEW MEXICO FEDERAL UNIT**



DATE: 12/17/90

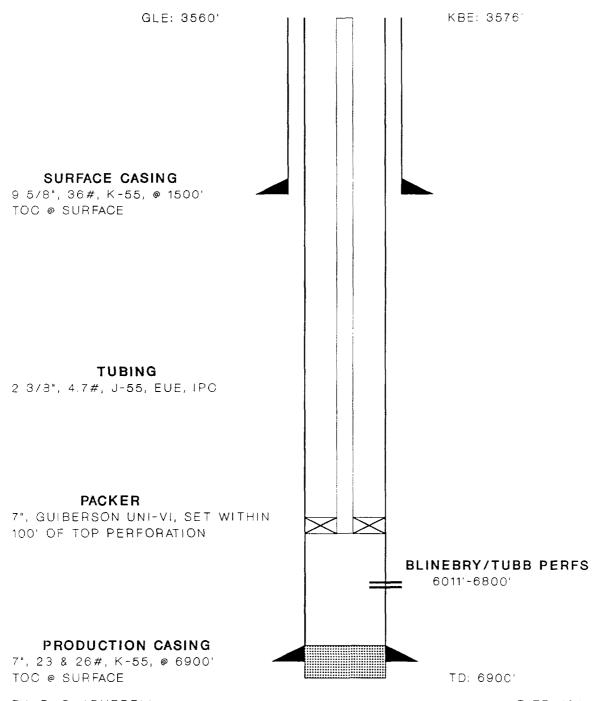
	Conoco Inc.	Warren Unit							
OPERATOR			LEASE						
	103	1980' FNL & 66	60' FEL		26	20 S	38E		
	WELL NO.	FOOTAGE LOC			TION	TOWNSHIP		E	
Schem	atic				Tubula	r Data			
			Surface	e Casir	ng				
_						Cemented w		_	
See At	tached		TOC Hole si			determined I	by circ.		
			noie și	IZE <u>1</u> 2	:-1/4	_			
				_					
			Produc Size			Cemented w	#b 2224		
					-	determined l			
			Hole si			_	- <u> </u>		
					6900'	_			
			Injectio	on inter	val				
						eet to6	815	feet	
					open-h				
Tubing	size	2-3/8"	lined	with _	plastic	coating		set in a	
				_		naterial)			
Gui		'I Double Grip			_ packer	within 100' o	of top per	foration.	
	(DIBIO BI	nd model)							
Other I	<u>Data</u>								
				5 "					
1. 2		injection formation or Pool (if appl			<u>nebry/1 u</u> IMFU	IDD			
3.		well drilled for i				Yes		No	
		at purpose was th			ly drilled	<u> </u>			
									
4.		ever been perfor					-f		
		perforated interv s) used)		give pi	ugging c	ietali (sacks i	or cement	or	
	ziiuge piug(t	-, uccu,					 		
5.		th to and name o						_	
	'1	in this area							
		045', San Andres		, Glorie	eta - <u>555</u>	5', Blinebry -	6041',		
	1 UDD - 0540	<u>, Drinkard - 6815</u>							

WELLBORE DIAGRAM WARREN UNIT NO. 103 NEW MEXICO FEDERAL UNIT



Cono	co Inc.	Warren Unit								
OPER	RATOR		LEASE							
104		660' FNL & 1980			7	20S	38E			
WELI	. NO.	FOOTAGE LOCA	HON	SEC	TION	TOWNSHIP	RANGE	=		
Schematic					<u>Tubula</u>	r Data				
			Surface							
See Attached						Cemented with determined				
See Attachet	4		Hole siz				Dy <u>clic.</u>	_		
			Product							
			Size			Cemented w				
			Hole siz			determined	by circ.	_		
			Total De			- -				
			Injectio	n interv	/al					
			-			eet to6	800	feet		
		1	(perfora	ited or	open-ho	ole)				
Tubing size _		2-3/8"	_ lined \	with		coating		set in a		
					(m	aterial)				
		Double Grip			packer	within 100'	of top perf	oration.		
a)	rand an	d model)								
Other Data										
1. Name	of the	injection formation	1	Blin	ebry/Tu	hh				
2 Name	of Field	d or Pool (if applic	able) _	N	MFU					
		well drilled for inj t purpose was the			<u>X</u> y drilled			No —		
4. Has t	he well	ever been perfora	ted in a	ny oth	er zone	(s)?				
List a	il such	perforated interva	is and g				of cement	or		
bridg	e plug(s) used)	No				<u> </u>			
		th to and name of in this area. Ya								
Gray	ourg - 4	000', San Andres	- 4290',							
Tubb	<u>- 6525',</u>	Drinkard - 6800'.			·					

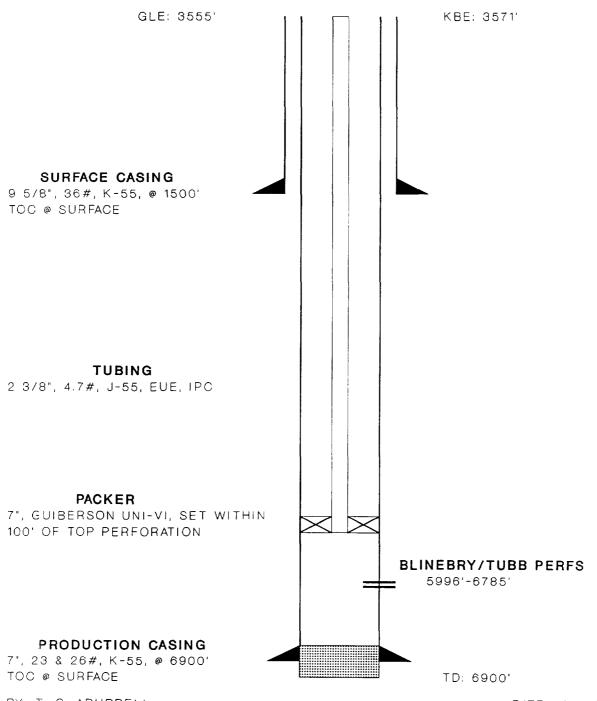
WELLBORE DIAGRAM WARREN UNIT NO. 104 NEW MEXICO FEDERAL UNIT



BY: T. C. ADUDDELL DATE: 12/17/90

Conoco Inc.			Warren Unit						
OPERATOR			LEASE						
		1980' FNL & 6				208	38E		
	WELL NO.	FOOTAGE LOC	AHON	SEC	CTION	TOWNSHIP	RANGE		
<u>Schem</u>	atic				Tubula	ır Data			
			Surface	e Casi	ng				
			Size			Cemented wit			
See At	tached		Hole si			determined by	/CITC		
					, .				
			Produc	tion C	asina				
			Size	7		Cemented wit			
			TOC Hole si			determined by	/ <u>circ.</u>		
			Total D						
			Injectio	n inte	rval				
			5	5996	1	eet to67	85 fee		
			(perfora	ated o	r open-h	ole)			
	•								
Tubing	size	2-3/8"	lined	with _		coating	set in		
					(n	nateriai)			
Gui		/I Double Grip			_ packe	r within 100' of	top perforatio		
	(brand a	nd model)							
Other I	<u>Data</u>								
1.	Name of the	injection formati	on	ВІ	inebry/Tu	app			
2	Name of Fiel	ld or Pool (if app	licable) _		NMFU				
3.		 well drilled for i at purpose was t 	•			Yes	No		
		at purpose was t	ile well t	nigina 	ny urme				
4.		ever been perfo		-		, ,			
		perforated intervented intervented in perforated in perfor		give p	iugging (detail (Sacks of	cement or		
5.	Give the den	oth to and name o	of any ov	erivin	and/or	underlying oil	or das		
·-	zones (pools	s) in this area	Yates - 2	830',	Seven R	vers - 3100',			
		1000', San Andre ', Drinkard - 6785		, Glori	<u>eta - 552</u>	20', Blinebry - 5	5996',		
	1 UUU - 040U	<u>, Dillikalu • 0/03</u>	<u> </u>						

WELLBORE DIAGRAM WARREN UNIT NO. 105 NEW MEXICO FEDERAL UNIT



BY: T. C. ADUDDELL DATE: 12/17/90