

Amoco Production Company (USA)

OIL CONSERVATION DIVISION
SANTA FE

Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson District Superintendent

January 6, 1984

File: SJ0-35-WF

Re: Application for Authorization To Inject

South Hobbs (GSA) Unit Nos. 171, 172 and 173

Lea County, New Mexico

State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 2088 Santa Fe, NM 87501

Attention: Mr. Richard L. Stamets

Gentlemen:

Amoco Production Company hereby makes application for administrative approval to expand its South Hobbs (GSA) Unit Pressure Maintenance Project. Forms C-108 and necessary documentations are attached. Our plans are to drill three replacement wells (No. 171, 172 and 173) and equip them for injection. Copies of NMOCD Approved Drilling Permits are attached for South Hobbs Unit Wells No. 171 and 172. Well No. 173 will be directionally drilled and is tentatively scheduled for hearing February 1, 1984. Your prompt consideration of these applications will be appreciated.

If additional information is needed, contact Charles Herring (505) 393-1781.

Yours very truly,

SJ OKerom XX

Attachments

January 6, 1984 File: SJO-35-WF Page 2

cc: Mrs. N. T. McNeill P. O. Box 686 Hobbs, NM 88240

> State of New Mexico Commissioner of Public Lands P. O. Box 1148 Santa Fe, NM 87501

Getty Oil Company P. O. Box 730 Hobbs, NM 88240

Conoco, Inc. P. 0. Box 460 Hobbs, NM 88240

State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 1980 Hobbs, NM 88240

STATE OF NEW MEYICO

OIL CONSERVATION DIVISION

EDRM C-108

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11.	Operator:	AMOCO PRODUCT		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- CUMSERVATION DI
	Address:		Hobbs, NM 88240		SANTA FE
	Contact pa	Min lohn	M. Breeden	Phone:	(505) 393-1781
111.	Well data:	Complete the da	ata required on the r	reverse side of t	his form for each well attached if necessary.
IV.			existing project? order number authoriz		R-4934
٧.	injection	well with a one-I	es all wells and leas half mile radius circ ies the well's area o	ele drawn around	les of any proposed each proposed injection
VI.	penetrate well's typ	the proposed injection,	ection zone. Such da	ata shall include ion, depth, recor	n the area of review which a description of each dof completion, and
VII.	Attach dat	a on the propose	d operation, includin	ıg:	
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VIII.	detail, ge bottom of total diss	eological name, the all underground solved solids concept as well as a	hickness, and depth. sources of drinking w	Give the geolog vater (aquifers o mg/l or less) o	ling appropriate lithologic gic name, and depth to containing waters with everlying the proposed ely underlying the
IX.	Describe t	he proposed stim	ulation program, if a	iny.	
х.			and test data on the d not be resubmitted.		logs have been filed
XI.	available	and producing) wa	of fresh water from ithin one mile of any s samples were taken.	/ injection or di	sh water wells (if sposal well showing
XII.	examined a or any oth	vailable geologio	lls must make an affi c and engineering dat nnection between the	ta and find no ev	idence of open faults
XIII.	Applicants	must complete t	he "Proof of Notice"	section on the r	everse side of this form.
xīv.	Certificat	ion			
		ertify that the ist of my knowledge		d with this appli	cation is true and correct

* If the information required under Sections (I, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. August 17, 1983, Order Nos. R-4934-B and R-4934-C copy

Title <u>Administrative Analyst</u>

Date: ____

January 6, 1984

attached.

Signature: _/

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.

AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea. Robert L. Summers of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period of . day 0ne _w/e9k/s/ Beginning with the issue dated January 4 ____, 19 <u>_____</u> and ending with the issue dated January 4 Sworn and subscribed to before Notary Public.

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

My Commission expires

OFFICIAL SEAL

Signature AND PAUL OWNER

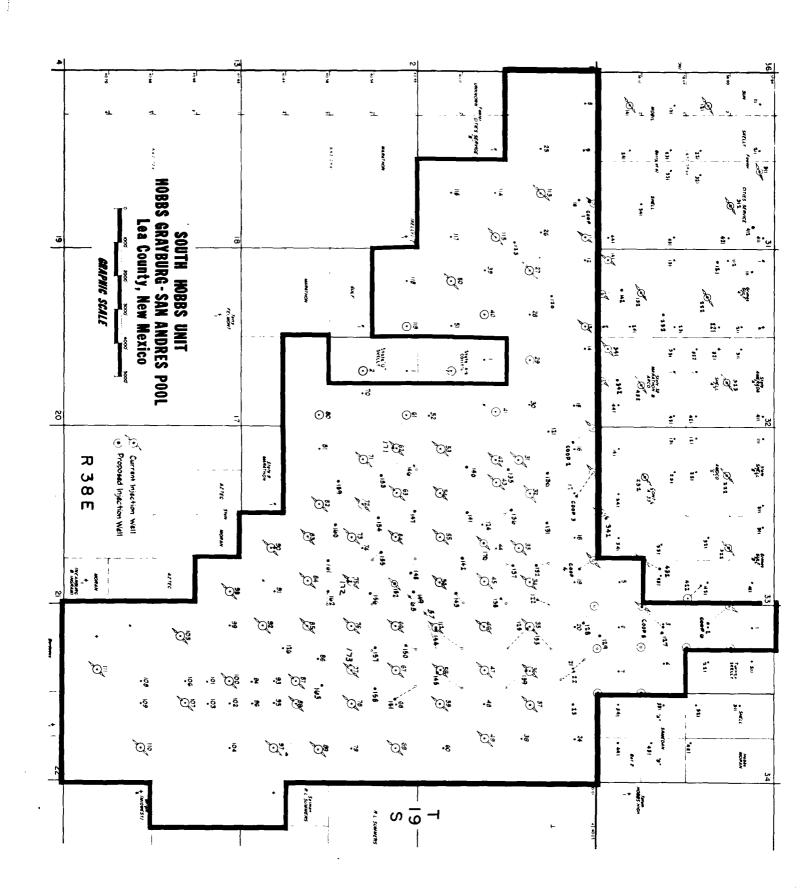
NOTARY JUBLIC - NEW MEXICO

NOTARY BOND FILED WITH SECRETARY OF STATE

My Commission Expires 3 - 24 7

LEGAL NOTICE JANUARY 4, 1984

To Whom It May Concern: Amoco Production Company has applied to the NMOCD for administrative approval to drill 3 water injection wells and to convert 1 oil well to a water injection well. The 3 wells to be drilled will be located in Section 9 and 10, Township 19-South, and Range 38-East, Lea County, New Mexico. The well to be converted is located in Section 4, Township 19-South, and Range 38-East, Lea County, New Mexico. The purpose of this work is to expand the pressure maintenance operations of our South Hobbs (GSA) Unit. Water will be injected into the Grayburg-San Andres Formation at an average rate of 800 BWIPD with an average injection pressure of 500 psi. Any questions concerning this project may be directed to Mr. John M. Breeden, District Foreman, Amoco Production Company, P. O. Box 68, Hobbs, NM 88240, Phone: (505) 393-1781. Interested parties must file objections or request for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, NM 87501, within 15 days.

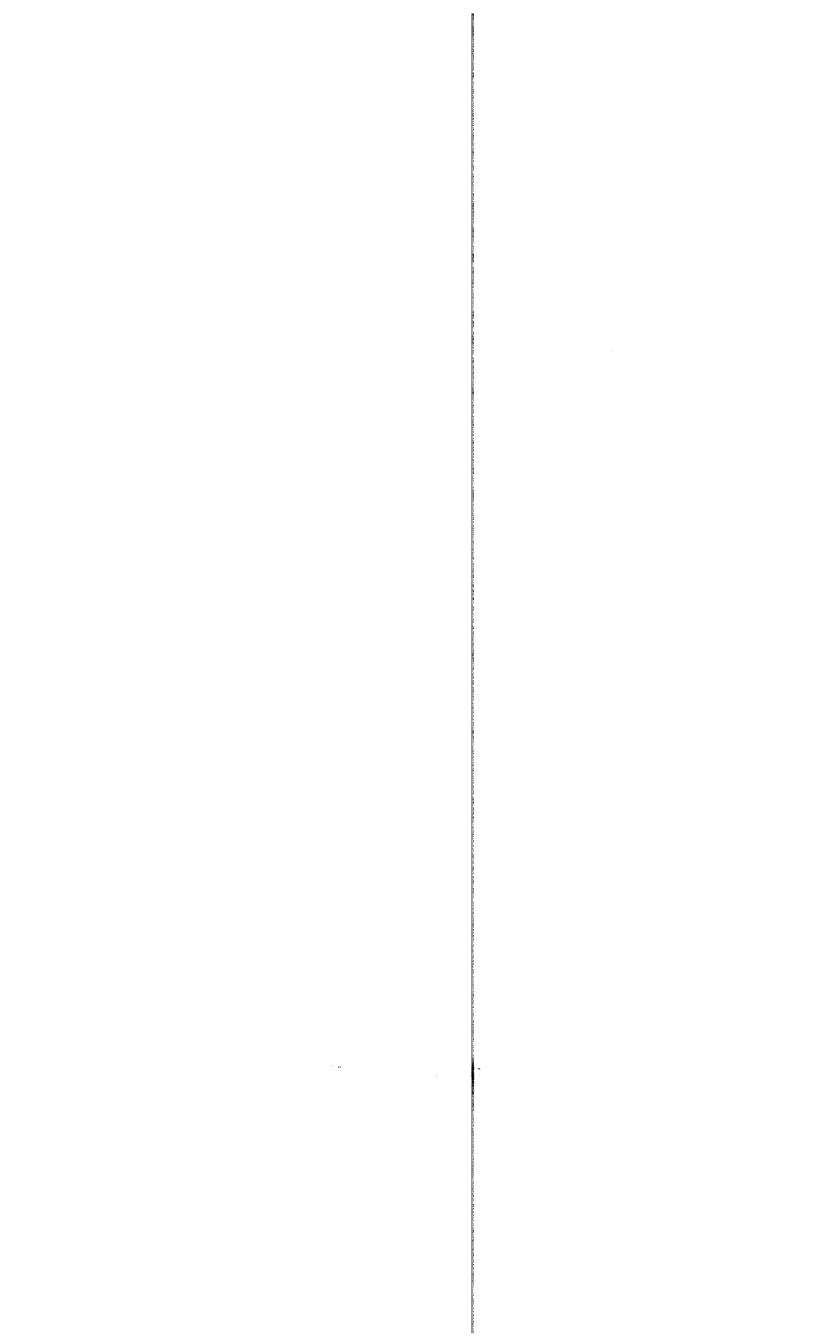


South Hobbs Units 171, 172, 173

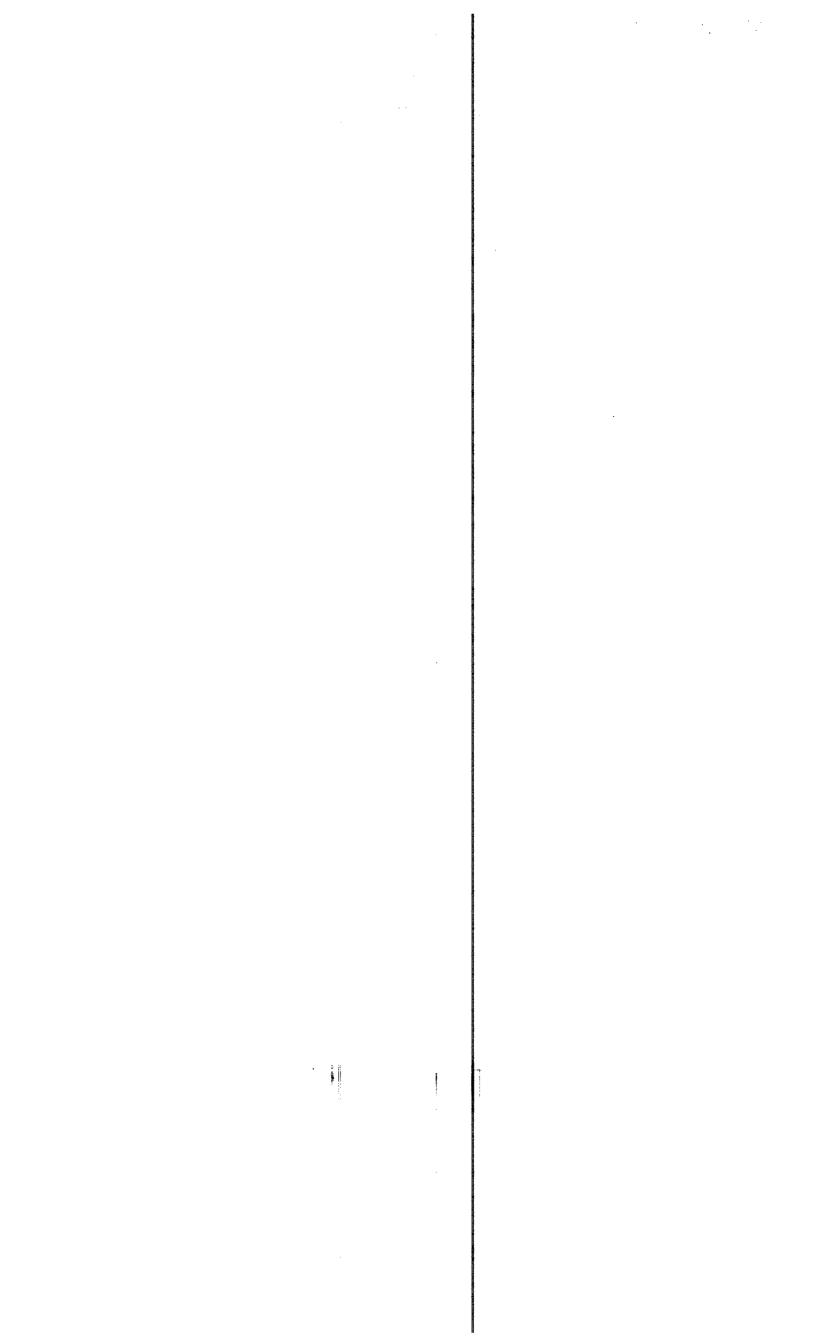
VII

- 1. Average 800 BWIPD Maximum 1200 BWIPD
- 2. Closed System.
- 3. Average 500 psi Maximum 830 psi (.2 PSI/FT. max.)
- 4. Reinjected produced water.
- 5. Reinjected into produced zone.

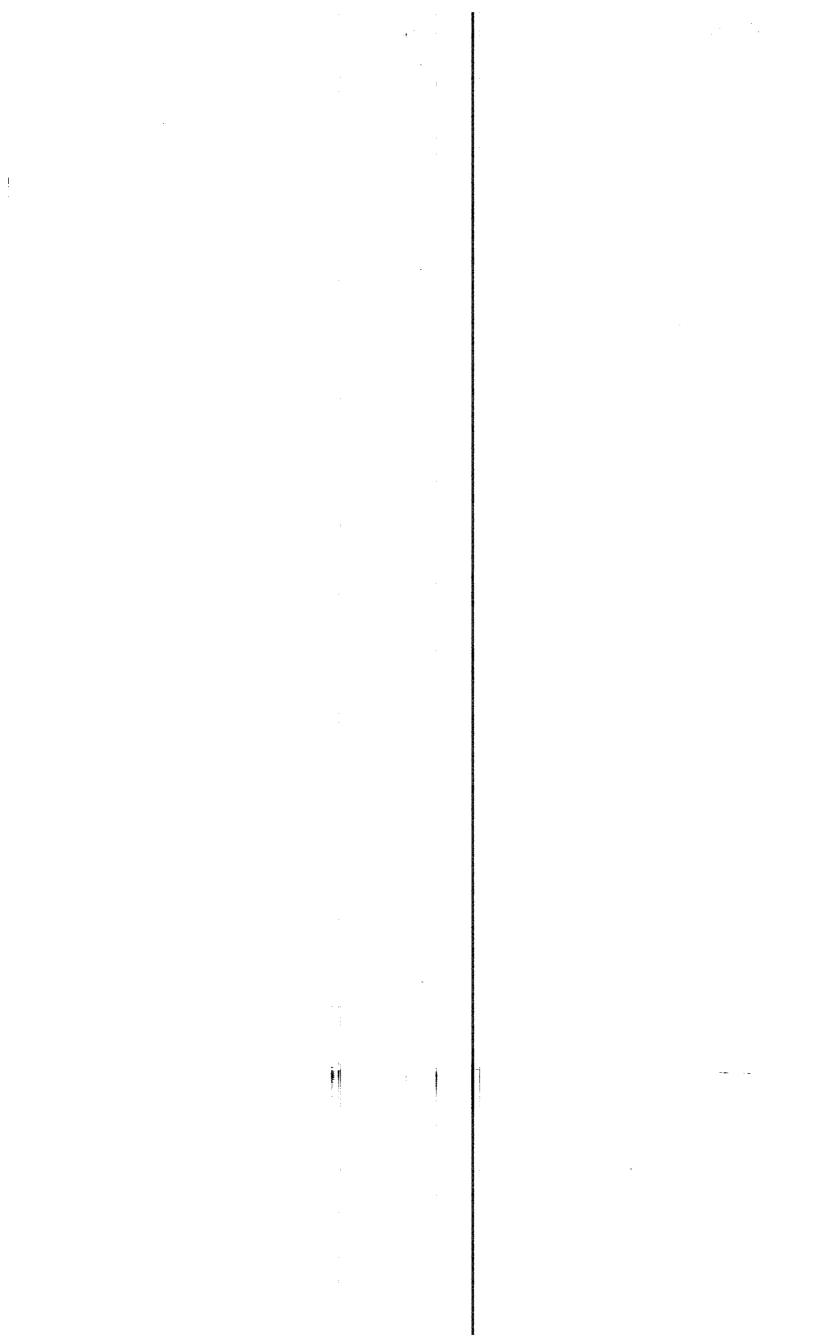
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BAKER	Lok-SET	packer	at <u>4000</u>	feet
•	and and model) e any other casing-tubing	seal).		
Other Data	,			
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Baker Lok-Set (brand and model) (or describe any other casing-tubing seal). Other Data 1. Name of the injection formation 2. Name of Field or Pool (if applicable) Hooks Graybub Tox Moves 3. Is this a new well drilled for injection? Yes Mo If no, for what purpose was the well originally drilled? 4. Has the well ever been perforated in any other zonc(s)? List all such perforated intervent and give plugging detail (sacks of cement or bridge plug(s) used) No. 6. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.	Schematic Surface Cosing Size 14 To Cinculated Feet determined by Hale size 15 Intermediate Cosing Size 2 9 To Concolled Feet determined by Hale size 10 Intermediate Cosing Size 3 9 To Concolled Feet determined by Hale size 12 Ingesting string Size 51 To Concolled Feet determined by Hale size 17 Ingesting interval Hale size 16 Total depth 4300 Total dept	AMOCO	PRODUCTION	SOUTH	HOBBS UNI	T
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Amoco	PRODUCTION	SOUTH	HOBBS U	NIT
OPERATOR 1	710 FNLX 610 FWL	LEASE S	105	70 T
WELL NO.	FOOTAGE LOCATION	SECTION	TIHERWUT	38E RANGE
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Cak	•			
. <u>Sen</u> e	<u>ematic</u>		Tabular Data	
ST.	14"	Surface Casing		.) .
41^{1}	CSA 40'	Size 14	_" Cemente	with 4 uds. ex
		"	<i>t</i> -	ed by
		Hole size <u>JU" X</u>	40 .	 .
~		Intermediate Casing		•
	. /	Size 8 5/8"	_" Cemented	f with <u>850</u> s
		1		ed by
		Hole size JZ 4	- K 1600'	
	8 5/8 24			_
	C3A 1600'	Long string		
		Size 5 2		
		Hole size 7 8"	_ feet determine	ed by
			,	
		Total depth 430	0	
		Injection interval		•
		(perforated or open-	to 4250	feet
		(perforated or open-	noie, indicate w	hich)
				,
	23/8	plastic coated to	bing and Baka	r Lok-set paulor
.		set at 4000'.		•
00	6		•	
00	0 San And	res Zones II and II	cents ~ 4150	·-4250 .
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		1 KES (CSA 4300),		•
		cives ated.		
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	ر الا الح الا الا الح	Distric	•	
Tubing size	Z ³ /8 lined	with PCROTC (mat	erial)	set in a
BAKER	LOK-SET	packer	at 4000	feet
	and and model) e any other casing-tubing	ı seal).		
Other Data		,,		
	the injection formation	SAN ANDRE	<	•
	Field or Pool (if applic			N ANDRES
	a new well drilled for i			11.7.111.7.513.
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			12 12-1	h nampanakad data
4. Has the and giv	well ever been perforate e plugging detail (sacks	ed in any other zond(s) of cement or bridge pl	r List all auc lug(s) used)	n periorated interval
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this ar	ea			
<u>Yate</u>		Bowers Oil 3	SICO	
Driv	nkard 7000',			



STATE OF NEVY MEXIC ENERGY AND MINERALS DEPA		CONSERVATION P. O. BOX 20		٥٤	Form C-101 Revised 10	() = 2 (+ 2) L = -1-78
DISTRIBUTION SANTA FE FILE U.S.G.S.	SA	NTA FE, NEW ME	EXICO 87501		BTATE	Type of Louse rec X 6 Gas Louge No.
OPERATOR APPLICATION	ON FOR PERMIT TO	DRILL, DEEPEN, O	OR PLUG BACK			
b. Type of Well		DEEPEN [BACK [7. Unit Agre	
OIL CAS WELL	DTHC#	Injection Well	SINGLE MUL	TIPLE 20NE		bbs (GSA) Unit
Amoco Production	Company		The second second		171	
P. O. Box 68, Hol	bbs, New Mexico	88240				d Pool, or Wildcat GSA
4. Location of Well UNIT LETTI	en D	710 F	LET FROM THENOT	th LINE		
AND 640 PEET FROM	THE West		~e. 19−S RGE. 38-	-E NMPM		
	111111111111111111111111111111111111111	C) SY (V)		, , , , , , , , , , , , , , , , , , , 	17. County Lea	
		AN 1 01901 M				
		EERVATION DIVISIO	7,4500	Grayburg San Andre	s	Rotary .
3599.4' GL		c storus Pilos Bond 21	IB. Drilling Contractor N/A		1	Date Work will start Soon as possibl
23.	P	ROPOSED CASING AND	CEMENT PROGRAM		1,	
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF	CEMENT	EST. TOP
12-1/4"	8-5/8"	24#	1600'	Circu	late	Surface
7-7/8"	5-1/2"	15.5#	4500'	Circu	late	Surface
Propose to drill logs will be run * This is a rep shut-in pending a	and evaluated. lacement well fo	r South Hobbs (GSA) Unit No. 62	2. The w		-
		Mud P	rogram: 0 - 160 1600 - 450	00 Brine	with min	d native muds. imum properties conditions.
BOP Diagram attac	ched.			•		
0+6-NMOCD,H 1-H0 1-Shell 1-Sun		Rm 21.150 1-F	. J.Nash, HOU F	Rm 4.206	1-CMH	1-Texaco
N ABOVE SPACE DESCRIBE PR	OPOSED PROGRAMI IF I	PROPOSAL IS TO DEEPEN OR	PLUG BACK, GIVE DATA ON	PRESENT PROD	UCTIVE ZONE	AND PROPOSED NEW PRODUC-
hereby certify that the information	\sim //	Title Administ		D	ace <u>12-1</u>	9-83
(This space for S	State Use)					
ORIGINAL PROVED BY DIS	SIGNED BY JERRY SE TRICT I SUPERVISOR	KTON	,	D	ATE DEC	2 1 1983
ONDITIONS OF APPROVAL, IF	ANYI					· · · · · · · · · · · · · · · · · · ·

STATE OF NEW MEXIC ENERGY AND MINISTRALS DEPAI	_	CONSERVATI			Form C-101 Revised 10-	5-23545 1-78
ENTRIBUTION SANTAFE FILE	SA	NTA FE, NEW M			BTATE	
U.S.G.S. LAND OFFICE OPERATOR					5. State Off 8	6 645 Louro No. 2-1
	N FOR PERMIT TO	DRILL, DEEPEN,	OR PLUG BACK		7. Unit Agree	ament Ivaine
b. Type of Well OIL GAS		DEEPEN		G BACK	8. Farm or Le	
2. Name of Operator	PANTO	Injection Wel	ZONE LX	I ONE	South H	obbs (GSA)Unit
Amoco Production	Company		-	يتعمسند،	172	
P. O. Box 68, Hob					Hobbs G	Pool, or Wildcat
4. Location of Well UNIT LETTE			WP. 19-S RGE.	S8-E NMPM		
AND OOD PECT FROM		CONTRACTOR OF THE PARTY OF THE			Lea	
		MA LABOR				
1. Lievations show whether Ur.		ISERVATION DINE	5. Fromsed Depth On14500' 11B. Drilling Contractor	Grayburg San Andre	20	Rotary Date Work will start
3599.9' GL	1	t-on-file	N/A		L .	n as possible
23.	P	ROPOSED CASING AND	CEMENT PROGRAM	-	<u>-</u> -J	
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPT	H SACKS OF	CEMENT	EST. TOP
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7-7/8"	5-1/2"	15.5#	4500'	Circula	ate	Surface
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0+6-NMOCD,H 1-HC 1-Shell 1-Sun		Rm 21.150 1-F	. J.Nash, HOU	Rm 4.206	1-CMH	l-Texaco
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hereby certify that the information	n above to true and comp	lete to the be et of my ke			. 12	-19-83
igned parties on.	Z	Title		<u></u>	Date12.	
(7 his space for S	NED BY JERRY SEXT	ON		_	DEC	2 1 1983
ONDITIONS OF APPROVAL, IF	CT I SUPERVISOR		·		/ A C <u>= _=</u> =_=	
	Asialia		·	PERMIT	. VALID FOR EXPIRES <u>(</u> 3 DALLING	180 DAYS 0121/84 CHDEKWAY
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STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 7939 Order No. R-4934-B

APPLICATION OF AMOCO PRODUCTION COMPANY FOR UNORTHODOX LOCATIONS, DIRECTIONAL DRILLING, AND PRESSURE MAINTENANCE EXPANSION, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 17, 1983, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 23rd day of August, 1983, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Amoco Production Company, seeks authority to drill 36 South Hobbs Unit wells at unorthodox oil well locations and to directionally drill 21 of said wells to various bottomhole locations all as shown on Exhibit "A" attached to this order.
- (3) That the unorthodox surface locations and the unorthodox bottomhole locations are necessitated by topography and to permit efficient recovery from the South Hobbs_Pressure Maintenance Project.
- (4) That the quarter-quarter section wherein any of said wells is-drilled or, in the case of directionally drilled wells, the quarter-quarter section wherein any one of said

wells is ultimately bottomed should be dedicated to such well.

- (5) That a 75-foot radius tolerance should be provided for the bottomhole location for any directionally drilled well authorized by this order.
- (6) That the applicant should be required to determine the subsurface location of the bottom of directionally drilled holes by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling.
- (7) That the applicant also seeks expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152 authorized herein.
- (8) That said well should be authorized for injection subject to the provisions of Order No. R-4934 which authorized said project.
- (9) That, in addition, said well or the injection system should be equipped so as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well but the Director should have authority to increase said pressure limitation should circumstances warrant.
- (10) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the Hobbs Pool and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

- (1) That the applicant, Amoco Production Company, is hereby authorized 36 unorthodox oil well locations in its South Hobbs Unit, Hobbs Pool, Lea County, New Mexico, all as shown on Exhibit "A" attached to this order.
- (2) That the applicant is further authorized to directionally drill 21 of said wells to bottomhole locations also as shown on said Exhibit "A" with a 75 foot radius tolerance target being provided for each such well.

PROVIDED HOWEVER, that prior to the above-described directional drilling, the applicant shall establish the location of the kick-off point by conducting a continuous multi-shot directional survey of the well.

-3-Case No. 7939 Order No. R-4934-B

PROVIDED FURTHER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico-87501, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

- (3) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true Vertical depth in addition to measured depths.
- (4) That the quarter-quarter section wherein any one of said wells is drilled or, in the case of directionally drilled wells, the quarter-quarter section wherein any such well is ultimately bottomed shall be dedicated to the well.
- (5) That approval is also given for the expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152 being authorized herein.
- (6) That injection into and operation of said well shall be in compliance with the provisions of Division Order No. R-4934 and Division Rules 702 through 708.
- (7) That the injection well herein authorized and/or the injection pressurization system shall be equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in such well.
- (8) That the Director of the Division may administratively authorize a higher injection pressure upon a proper showing that such pressure will not result in fracturing of the confining zone.
- (9) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessar

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO OLL CONSERVATION DIVISION

JOE D. RAMEY

Director

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CASE NO. 7939 ORDER NO. R-4934-B

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EXHIBIT "A"

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 7939 Order No. R-4934-C

APPLICATION OF AMOCO PRODUCTION COMPANY FOR UNORTHODOX LOCATIONS, DIRECTIONAL DRILLING, AND PRESSURE MAINTENANCE EXPANSION, LEA COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE DIVISION:

It appearing to the Division that Order No. R-4934-B dated August 23, 1983, does not correctly state the intended order of the Division,

IT IS THEREFORE ORDERED:

- (1) That Paragraphs (7), (8) and (9) on Page 2 of Order No. R-4934-B in Case No. 7939 are hereby amended to read in their entirety as follows:
 - "(7) That the applicant also seeks expansion of the South Robbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152, authorized herein, and into 19 other unit wells as shown on Exhibit "B", attached to this order, said wells to be converted from producing wells to injection wells.
 - (8) That said wells should be authorized for injection subject to the provisions of Order No. R-4934 which authorized said project.
 - (9) That, in addition, said wells or the injection system should be equipped so as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well but the Director should have authority to increase said pressure limitation should circumstances warrant."
- (2) That Paragraphs (5), (6) and (7) on Page 3 of Order No. R-4934-B are hereby amended to read in their entirety as follows:

× -2-Case No. 7939 Order No. R-4934-C

- (5) That approval is also given for the expansion of the South Hobbs Grayburg-San Andres Pressure
 No. 152 heing authorized herein and into Unit Well Maintenance Project to permit injection into Unit Well No. 152, being authorized herein, and into 19 other unit wells as shown on Exhibit "B" attached to this order, such wells to be converted from production to injection.
- (6) That injection into and operation of said wells shall be in compliance with the provisions of Division Order No. R-4934 and Division Rules 702 through 708.
- (7) That the injection wells herein authorized (7) That the injection wells herein authorized and/or the injection pressurization system shall be equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in such wells.
- (3) That this order shall be effective nunc pro tunc as of August 23, 1983.

DONE at Santa Fe, New Mexico, this 30th day of September, 1983.

STATE OF NEW MEXICO QIL CONSERVATION DIVISION

JOE D. RAMEY Director

SEAL

SOUTH HOBBS UNIT PRODUCING WELLS TO BE CONVERTED TO INJECTION

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CASE NO. 7939 Order No. R-4934-C

EXHIBIT "B"

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Amoco Production Company (USA)

Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson
District Superintendent

January 6, 1984

File: SJ0-34-WF

Re: Application For Authorization To Inject

State A No. 37

Lea County, New Mexico



State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 2088 Santa Fe, NM 87501

Attn: Mr. Richard L. Stamets

Gentlemen:

Amoco Production Company hereby makes application for administrative approval to expand its South Hobbs (GSA) Unit Pressure Maintenance Project. Forms C-108 and necessary documentations are attached. The wellbore of State A No. 37 has been purchased by South Hobbs (GSA) Unit and our plans are to recomplete this well from the Drinkard to the Grayburg-San Andres formation. When this work is completed, it will be renamed South Hobbs (GSA) Unit No. 170 and equipped for injection. Your prompt consideration of this application will be appreciated.

If additional information is needed, contact Charles Herring (505)393-1781.

Yours very truly,

& J AKenon HIZ

Attachments

January 6, 1984 File: SJO-34-WF Page 2

cc: State of New Mexico Commissioner of Public Lands P. O. Box 1148 Santa Fe, NM 87501

> State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 1980 Hobbs, NM 88240

Mrs. George L. New P. O. Box 580 Hobbs, NM 88240

OIL CONSERVATION DIVISION

POST OFFICE BOX 2008
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108 Revised 7-1-81

APPLICATION	FOR	AUTHORIZATION	TΟ	INJECT

I.	Purpose: Secondary Recovery X Pressure Maintenance Disposal Storage Application qualifies for administrative approval? X yes no
II.	Operator: AMOCO PRODUCTION COMPANY
	Address: P. O. Box 68, Hobbs, NM 88240
	Contact party: Mr. John M. Breeden Phone: (505) 393-1781
111.	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-4934
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, recording to and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including: 1. Proposed average and maximum daily rate and volume of thirds to be injected; L. 2. Whether the system is open or closed; 3. Proposed average and maximum injection pressure; 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
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.
III.	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: Charles M. Herring Title Administrative Analyst
	Signature: (Marles M. Herring Date: January 6, 1984
aubmi	ne information required under Sections XI, VIII, X, and XI above has been previously itted, it need not be duplicated and resubmitted. Please show the date and circumstance ne earlier submittal. August 17, 1983, Order No.s R-4934-B and R-4934-C copy

attached.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division

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 now 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.

- 8. 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 dri led 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.

AFFIDAVIT OF PUBLICATION

State of New Mexico,	
County of Lea.	
1,	
Robert L. Summer	s

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period

Of	
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Beginning with the	issue dated
January 4	_, 19
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This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

OFFICIAL SEAL

Signature AME VITALOUS KY

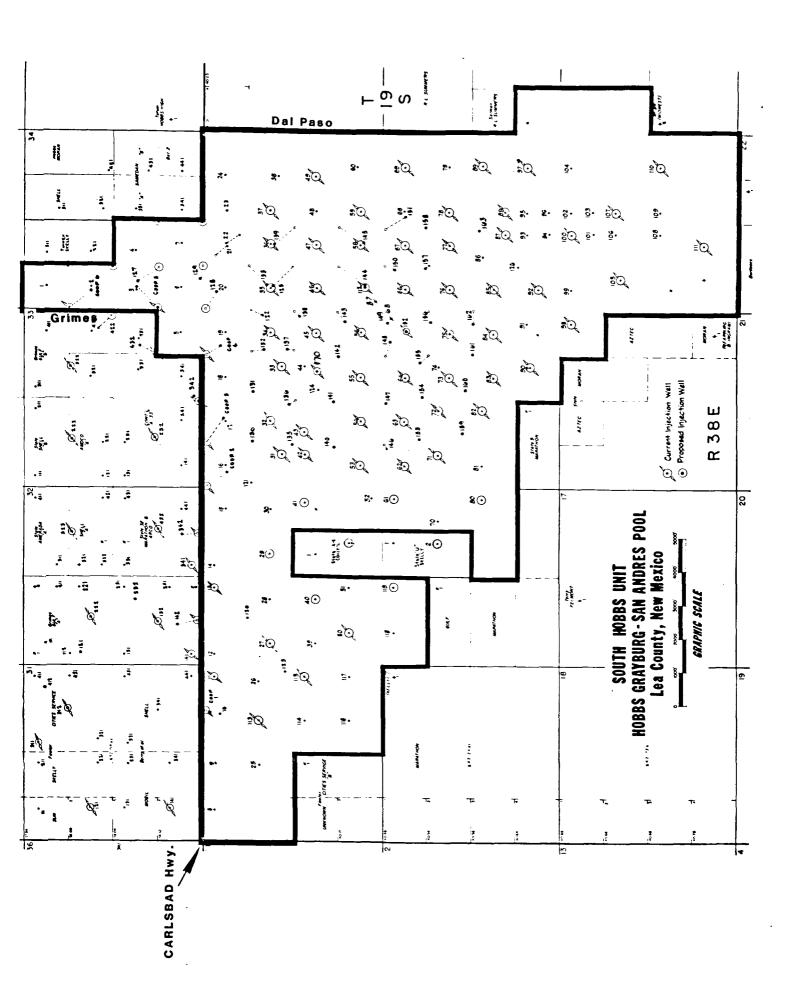
AND PAUL OWS AY

NOTARY BOND FILED WITH SECRETARY OF STATE

My Commission Expires 3 - 24

LEGAL NOTICE JANUARY 4, 1984

To Whom It May Concern: Amoco Production Company has applied to the NMOCD for administrative approval to drill 3 water injection wells and to convert 1 oil well to a water injection well. The 3 wells to be drilled will be located in Section 9 and 10, Township 19-South, and Range 38-East, Lea County, New Mexico. The well to be converted is located in Section 4, Township 19-South, and Range 38-East, Lea County, New Mexico. The purpose of this work is to expand the pressure maintenance operations of our South Hobbs (GSA) Unit. Water will be injected into the Grayburg-San Andres Formation at an average rate of 800 BWIPD with an average injection pressure of 500 psi. Any questions concerning this project may be directed to Mr. John M. Breeden, District Foreman, Amoco Production Company, P. O. Box 68, Hobbs, NM 88240, Phone: (505) 393-1781. Interested parties must file objections or request for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, NM 87501, within 15 days.



State "A" No. 37

VII.

- 1. Average 800 BWIPD Maximum 1200 BWIPD
- 2. Closed System
- 3. Average 500 psi Maximum 830 psi (.2PSI/FT. max.)
- 4. Reinjected produced water.
- 5. Reinjected into produced zone.

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STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 7939 Order No. R-4934-B

APPLICATION OF AMOCO PRODUCTION COMPANY FOR UNORTHODOX LOCATIONS, DIRECTIONAL DRILLING, AND PRESSURE MAINTENANCE EXPANSION, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 17, 1983, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 23rd day of August, 1983, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Amoco Production Company, seeks authority to drill 36 South Hobbs Unit wells at unorthodox oil well locations and to directionally drill 21 of said wells to various bottomhole locations all as shown on Exhibit "A" attached to this order.
- (3) That the unorthodox surface locations and the unorthodox bottomhole locations are necessitated by topography and to permit efficient recovery from the South Hobbs Pressure Maintenance Project.
- (4) That the quarter-quarter section wherein any of said wells is-drilled or, in the case of directionally drilled wells, the quarter-quarter section wherein any one of said

wells is ultimately bottomed should be dedicated to such well.

- (5) That a 75-foot radius tolerance should be provided for the bottomhole location for any directionally drilled well authorized by this order.
- (6) That the applicant should be required to determine the subsurface location of the bottom of directionally drilled holes by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling.
- (7) That the applicant also seeks expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152 authorized herein.
- (8) That said well should be authorized for injection subject to the provisions of Order No. R-4934 which authorized said project.
- (9) That, in addition, said well or the injection system should be equipped so as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well but the Director should have authority to increase said pressure limitation should circumstances warrant.
- (10) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the Hobbs Pool and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

- (1) That the applicant, Amoco Production Company, is hereby authorized 36 unorthodox oil well locations in its South Hobbs Unit, Hobbs Pool, Lea County, New Mexico, all as shown on Exhibit "A" attached to this order.
- (2) That the applicant is further authorized to directionally drill 21 of said wells to bottomhole locations also as shown on said Exhibit "A" with a 75 foot radius tolerance target being provided for each such well.

PROVIDED HOWEVER, that prior to the above-described directional drilling, the applicant shall establish the location of the kick-off point by conducting a continuous multi-shot directional survey of the well.

-3-Case No. 7939 Order No. R-4934-B

PROVIDED FURTHER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico-87501, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

- (3) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true Vertical depth in addition to measured depths.
- (4) That the quarter-quarter section wherein any one of said wells is drilled or, in the case of directionally drilled wells, the quarter-quarter section wherein any such well is ultimately bottomed shall be dedicated to the well.
- (5) That approval is also given for the expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152 being authorized herein.
- (6) That injection into and operation of said well shall be in compliance with the provisions of Division Order No. R-4934 and Division Rules 702 through 708.
- (7) That the injection well herein authorized and/or the injection pressurization system shall be equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in such well.
- (8) That the Director of the Division may administratively authorize a higher injection pressure upon a proper showing that such pressure will not result in fracturing of the confining zone.
- (9) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessar

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO OLL CONSERVATION DIVISION

JOE D. RAMEY

Director

5 E A L

UNIT WELL NO.		SURF. A	ACE LOCATION	DOTTOMHOLE LOCATION DIRECTIONALLY DRILLED WELLS	<u> </u>
	•	TOWNSHIP	18 SOUTH, RANGE	38 EAST	
127 129	1980' . 100'	FSL x 860' FSL x 900'	FWL, Sec. 34 FWL, Sec. 34	1330' FSL x 1230' FWL, Sec. 3	3. 3
	•	TOWNSHIP	19 SOUTH, RANGE	38 EAST	
128 130 131	14031	FNL x 1403' FNL x 2498'	FWL, Sec. 3 FWL, Sec. 4 FEL, Sec. 4		
132 133 135	1790' 1840'	FNL x 1185' FNL x 748'	FEL, Sec. 4 FWL, Sec. 3 FWL, Sec. 4	1403' FNL x 1238' FEL, Sec. 4 1330' FNL x 1310' FWL, Sec. 3	4 3
136 137	2490' 2458'	FNL x 2504' FSL x 1180'	FWL, Sec. 4 FEL, Sec. 4 FEL, Sec. 4	2630' FNL x 2630' FWL, Sec. 4 2630' FSL x 1200' FEL, Sec. 4 2630' FSL x 10' FEL, Sec. 4	4
139 140	2052' 1485'	FNL x 1941' FSL x 1245'	FWL, Sec. 3 FWL, Sec. 4	2630' FNL x 2475' FWL, Sec. 3	3
	1310'		FWL, Sec. 4 FEL, Sec. 4 FEL, Sec. 4	1310' FSL x 10' FEL, Sec. 4	4
.144	580	FSL x 755'	FWL, Sec. 3 FWL, Sec. 3	1310' FSL x 1310' FWL, Sec. 3	3 3
146 147	70'		FWL, Sec. 9 FWL, Sec. 9	10' FNL x 1310' FWL, Sec. 9	
148 149 150	150'	FNL x 380'	FEL, Sec. 9	10' FNL x 1310' FEL, Sec. 9 10' FNL x 10' FEL, Sec. 9 10' FNL x 1310' FWL, Sec. 1	9
151 152 153	710' 623' 1105'	FNL x 2410' FNL x 632' FNL x 1485'	FEL, Sec. 10 FEL, Sec. 9 FWL, Sec. 9	10' FNL x 2475' FWL, Sec. 1	
154 155 156	1158' 1370'	FNL x 1568'. FNL x 330'	FEL, Sec. 9	1310' FNL x 1330' FEL, Sec. 9	9 9
157 158 159	1245' 1245' 2335'	FNL x 1245' FNL x 2475' FNL x 1675'	FWL, Sec. 10 FWL, Sec. 10 FWL, Sec. 9	1310' FNL x 1310' FWL, Sec. 1	
160 161	2475' 2630'	FNL x 2425' FNL x 1331'	FEL, Sec. 9 FEL, Sec. 9 FEL, Sec. 9	2630' FNL x 10' FEL, Sec. 9	- 9
162 163	2475	FSL x 2475'	FWL, Sec. 10	The second second	~

CASE NO. 7939 ORDER NO. R-4934-B

EXHIBIT "A"

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 7939 Order No. R-4934-C

APPLICATION OF AMOCO PRODUCTION COMPANY FOR UNORTHODOX LOCATIONS, DIRECTIONAL DRILLING, AND PRESSURE MAINTENANCE EXPANSION, LEA COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE DIVISION:

It appearing to the Division that Order No. R-4934-B dated August 23, 1983, does not correctly state the intended order of the Division,

IT IS THEREFORE ORDERED:

- (1) That Paragraphs (7), (8) and (9) on Page 2 of Order No. R-4934-B in Case No. 7939 are hereby amended to read in their entirety as follows:
 - "(7) That the applicant also seeks expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152, authorized herein, and into 19 other unit wells as shown on Exhibit "B", attached to this order, said wells to be converted from producing wells to injection wells.
 - (8) That said wells should be authorized for injection subject to the provisions of Order No. R-4934 which authorized said project.
 - (9) That, in addition, said wells or the injection system should be equipped so as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well but the Director should have authority to increase said pressure limitation should circumstances warrant."
- (2) That Paragraphs (5), (6) and (7) on Page 3 of Order No. R-4934-B are hereby amended to read in their entirety as follows:

.-2-Case No. 7939 Order No. R-4934-C

- (5) That approval is also given for the expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152, being authorized herein, and into 19 other unit wells as shown on Exhibit "B" attached to this order, such wells to be converted from production to injection.
- (6) That injection into and operation of said wells shall be in compliance with the provisions of Division Order No. R-4934 and Division Rules 702 through 708.
- (7) That the injection wells herein authorized and/or the injection pressurization system shall be equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in such wells.
- (3) That this order shall be effective nunc pro tunc as of August 23, 1983.

DONE at Santa Fe, New Mexico, this 30th day of September, 1983.

STATE OF NEW MEXICO

JOE D. RAMEY Director

SEAL

SOUTH HOBBS UNIT PRODUCING WELLS TO BE CONVERTED TO INJECTION

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

UNIT WELL No.	UNIT LETTER	SECTION No.
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77	F	10
83	J	9
85	L	19
88	J	19

CASE NO. 7939 Order No. R-4934-C

EXHIBIT "B"



P 26, 164 411 RECEIPT FOR CERTIFIED MAIL

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OIL CONSERVATION DIVISION DISTRICT I



OIL CONSERVATION DIVIS	1014	DATE_	January 12,	1984
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Amoco Production Co. Operator	South Hobbs (G/S Lease and Wel	A) Unit #17	/2, #172, #173 Jnit, S - T -	9-19-38 R
and my recommendations	are as follows:			
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Yours very truly,				
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