ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

HOBBS DISTRICT OFFICE

6-11-90

POST OFFICE BOX 1980 HOBBS, NEW MEXICO 88241-1980 (505) 393-6161

Pmx 157

GARREY CARRUTHERS

RE:

OIL CO	INSE	RVAT	ION DIV	ISION
P. O.	BOX	2088	3	
SANTA	FE,	NEW	MEXICO	87501

Proposed: MC DHC NSL NSP SWD WFX PMX

Gentlemen:

I have examined the application for the:

N-Hobbs 136/81 Ut # Sec 27 # 221 Well No. Unit S-T-R F-27-18-38 Operator

and my recommendations are as follows:

Yours very truly, v Sexton

Supervisor, District 1

/ed

Shell Western E&P Inc.



P.O. Box 576 Houston, TX 77001

JUNE 5, 1990

CERTIFIED MAIL

State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division P. O. Box 2088 Santa Fe, NM 87504-2088

Gentlemen:

SUBJECT: EXPANSION OF PRESSURE MAINTENANCE PROJECT SWEPI - NORTH HOBBS (GRAYBURG/SAN ANDRES) UNIT HOBBS (GRAYBURG/SAN ANDRES) POOL TOWNSHIP 18 SOUTH, RANGE 38 EAST LEA COUNTY, NEW MEXICO

Shell Western E&P Inc. hereby requests administrative approval to drill one North Hobbs (Grayburg/San Andres) Unit well for water injection. Administrative Order No. R-6199, dated November 30, 1979, authorized Shell Western to operate the North Hobbs (Grayburg/San Andres) Unit pressure maintenance project within the subject pool.

The well to be drilled is the North Hobbs (GSA) Unit No. 27-221W, Section 27, T18S, R38E, Lea County, New Mexico. Form C-108 and the necessary documentation to obtain the injection permit is attached.

As required, a copy of this application, complete with all attachments, has been sent to the only surface owner, Rodger Gray, P. O. Box 1501, Hobbs, New Mexico 88240. Although the Area of Review includes a portion of the SW/4 of Section 22, as shown on our Area of Review map, our Land Department has determined that there is no valid lease in the SW/4 of Section 22. Accordingly, no offset operator notification is necessary because the remainder of the Area of Review is wholly within the North Hobbs (GSA) Unit boundaries.

BNND9015606 - 0001.0.0

If you have any questions concerning this application or any attachment, please contact Ellyn Schade at (713) 870-3016.

Very truly yours,

= Let

W. F. N. Kelldorf Sr. Staff Production Engineer Health, Safety and Environment Western Division

EMS:rlb

Attachments

cc: (w/attachments)
State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

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

ENERGY	STATE UP NEW MERICI UIL CONSTRUCTION CONSTRUCTION Extended Y AND MINERALS DEPARTMENT POST OFFICE GOX 1008
APPLICA	TION FOR AUTHORIZATION TO INJECT
Ι.	Purpose: Secondary Recovery XXX Pressure Maintenance Disposal Storage Application qualifies for administrative approval? XXXyes no
11.	Operator:Shell Western E&P Inc.
·	Address: P. O. Box 576, Houston, Texas 77001
	Contact party: <u>Ellyn Schade</u> Phone: <u>(713) 870-3016</u>
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? XX yes no If yes, give the Division order number authorizing the project <u>R-6199, November 30, 1</u> 979
۷.	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.).
*VIII.	Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
* X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
* XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification
	I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief. Sr. Staff Production Engineer, Name: <u>W. F. N. Kelldorf</u> Title <u>Health, Safety and Environment</u> ,
	Signature: And Collars 6/5/90 Date: Western Division

f	If the information requir	ed under Sections VI, VIII, X, and XI above has been previously
	submitted, it need not be	duplicated and resubmitted. Please show the date and circumstance
	of the earlier submittal.	See attached information sheet

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.

FORM C-108 REQUIRED INFORMATION NORTH HOBBS (GSA) UNIT NO. 27-221W TO BE DRILLED

ITEM NUMBER

- III. Well Data See attached injection well data sheet. This also includes well data requested on Side 2, Part III.A. and Part III.B.
- V. See attached Area of Review (AOR) map for location of NHGSAU 27-221W with a one-half-mile radius circle identifying the well's area of review.
- VI. This tabulation of well data supplements well data already submitted. Please reference approved orders for previously submitted data:

<u>Order No.</u>	Date
R-6199	11/30/79
PMX-87	8/26/80
PMX-109	8/13/81
R-6199-A	8/04/83
PMX-131	10/25/84
PMX-133	1/11/85
PMX-151	1/27/88

Also included is a schematic of the R. H. King - Sanger #1 illustrating plugging details.

- VII. Proposed Operation Data:
 - Average injection rate 1500 BWPD Maximum injection volume 2000 BWPD
 - This system is closed and is reinjecting North Hobbs (Grayburg/San Andres) Unit produced water
 - 3) Average injection pressure 760 psi Maximum injection pressure 830 psi

Injection will be into the perforated San Andres formation at an injection interval of 4150' (TVD) to 4300' (TVD). Surface injection pressure will be limited to 0.2 psi per foot gradient to the top of the perforated interval, in accordance with Rule 11 of Order No. R-6199.

- VIII. Previously submitted by earlier referenced orders.
 - IX. The proposed stimulation program is included on the Injection Well Data Sheet.
 - X. Logs and test data will be submitted when the well is drilled and tested.
 - XI. No evidence exists of any active fresh water well within one mile of the well site. This statement is based on:
 - Attempts by Shell Western personnel to contact owners of water wells in the area. A list of permits containing ten acre locations with permit dates and owners was obtained from the State Engineer's office in Roswell. The wells are posted on the AOR map. We could not locate an active water well.
 - Discussions with personnel in both the Hobbs, NM OCD office (Mr. Sexton) and the Roswell State Engineer District office (Mr. Hernandez).
- XII. Does not apply.
- XIII. A copy of this application and attachments have been mailed, as required by "Proof of Notice" section, to Rodger Gray, P. O. Box 1501, Hobbs, New Mexico 88240. There are no offset operators within the area of review. (No valid lease in the SW/4 of Section 22.)

Enclosed is the Legal Notice and Affidavit of Publication from the Hobbs Daily News - Sun, a daily newspaper published in Hobbs, New Mexico.

OPENATOR 27-221	2207 ,FNL & 505 FWL	. (Surface) ⁵ // (Pottor 27	18-S	38-E
WELL NO.	2035 FNL α 1350. FM	Hole) SECTION	TOWNSHIP	RANGE
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<u>۵</u> {	4 1/	Hole size 8 3/4"		
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ζΔ		Injection Interval		
<u>}</u>	ž i	4150' (TVD) feet (perforated or open-1	to 4300 (TVD)	feet
).		(perforated or open-)	ole, indicate whic	h) .
A.	413	(IX) Proposed Sum	Intion Program	
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		(ma	terial)	ערע.
Guibe	rson Uni-VI (brand and model)	packer	at <u>+ 4100' (</u>	VD) feet
	cribe any other casing-tu	ubing seal).		
Other D		Gravburg/San An	dres	
	e of the injection formation of the injection formation of the second second second second second second second	tion <u>Grayburg/San An</u> Hobbs		
		for injection? / ¥7 Yes	(7 No	
		the well originally drill		
		orated in any other zone(s		
end	give plugging detail (s	acks of cement or bridge p	lug(s) used) <u>NO</u>	
	· · · · · · · · · · · · · · · · · · ·	· <u> </u>		
5. Giv	ve the depth to and name	of any overlying and/or un	derlying oil ar nes	s zones (pools) in
thi	s area.			
_N	<u>ext higher zone – Queer</u>		······	
	ext lower zone - Paddoo			

INSERT

LARGE FORMAT

HERE

AOR TABULATION

N.M.O.C.D. ORDER NO. R-6199 FORM C-108, ITEM VI JANUARY 1990

								ASING	DETAIL				
LOCATION S-T-R FOOTAGE	PERA	ELEV.	DATE RILLE	TD PBT	WEL	IZE	WEIGHT (LB/FT)	РТН Т)	MEN I MEN I	TOC [(FT) E	NM T MNI	HOLE	COMPLETION INTERVAL
34-T18S-R38E 1990' FWL & 511 FWL	AMOCO 30	3635 GL	8/79	7050 7036	DRINKARD	13.375 9.625 7	54.50 32.30 20.00 23.00 23.00 26.00	420 4403 7050	2550 400	400	CIRC SQZ TS		000
34-T18S-R38E Surface: 717'FNL & 651'FWL Bottomhole: 1303'FNL & 1339 FWL	AMOCO WI-9	3636 GL	11/84	4491 4480	INJ - CNI GB/SA	14 8.625 5.5	36.71 24.00 15.50	40 1655 4491	25 875 1250	000	CONSTRUCTION CIRC 12.25 CIRC 7.875	CTION 12.25 7.875	4293-4441'
34-T18S-R38E 721' FNL & 569' FWL	AMOCO 210	3637 GL	4/86	4380 4370	OIL - GB/SA	16 10.75 7	42.05 40.50 23.00	40 1650 4380	2.5 YD 1200 1600	000	CONSTR. CIRC CIRC	22 14.75 9.875	4126-4168'
34T18S-R38E 1950' FNL & 535' FWL	AMOCO WI-6	3637 GL	6/83	4444 4408	INJ - GB/SA	14 8.625 5.5	36.71 24.00 15.50	40 1640 4444	4 YD 1380 1800	000	CONSTRUCTION CIRC 12.25 CIRC 7.875	2710N 12.25 7.875	4232-4406'
34-T18S-R38E 1980' FNL & 660' FWL	AMOCO 2 /old 29	3642 DF	8/32 8/78 8/82	4180 4220 4256	OIL GB/SA	10.75 10.75 8.625 5.5 (LINER -	70.00 45.50 36.00 14.00 TOL @ 39	236 2776 3970 4220 19)	100 150 155	124 618 0 0 3919 0	CALC CALC CIRC CIRC CIRC	19.75 12.25 9.5 * 7.875 *	3970-4180'
34-T18S-R38E 660' FNL & 660' FWL	AMOCO 1 /old 8		8/34 3/48 10/78	3976 4221 4246	OIL GB/SA	10.75 " 7 5.5 (LINER -	70.00 40.00 24.00 18.00 TOL @ 38	224 1647 3976 4221 72)	90 350 50 50	130 0 0 0 3872 0	CALC CALC CIRC CIRC CIRC	19.75 12.25 8.75 *	4080-4246'
27-T18S-R38E 650' FSL & 5' FWL	R H KING SANGER #1	3640 *	1/48	4286	DRY	8.625 5.5	32.00 14.00	246 4069	200 C 350	IRC C 2790 T	CALC S	12.25 7.875	PLUGGED
33-T18S-R38E 510' FNL & 660' FEL	CHEVRON GRIMES STATE B 9	3655 KB	10/33	7110 6317	011	13.375 8.625 5.5	48.00 32.00 17.00	415 4289 7109	500 1740 1220	000	DIRC DIRC DIRC	17.5 12.25 7.875	6638-6642'

AOR TABULATION

N.M.O.C.D. ORDER NO. R-6199 FORM C-108, ITEM VI JANUARY 1990

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OPERATOR WELL # SHELL
SANGER #6 SANGER #6 (NHU 27-111W) SHELL 3636 KB 6/36 4
SANGER #7 4 (NHU 27-121) SHELL 3638 KB 6/35 4 SANGER #3 4 (NHU 27-131)
SHELL 3644 KB 10/34 42 SANGER #1 (NHU 27-141)
SHELL 3640 KB 7/37 43 SANGER #5 (NHU 27-231)
SHELL 3643 DF 2/35 4350 SANGER #2 4345 (NHU 27-241)
SHELL 3650 DF 5/85 442 NHU 33-312 438
SAMEDAN 3648 GL 5/35 426 MOON B #1 423 (NHU 28-421)
SHELL 3649 KB 6/81 4510 NHU 28-422W 4470

AOR TABULATION

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N.M.O.C.D. ORDER NO. R-6199 Form C-108, ITEM VI JANUARY 1990

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						CASING	DETAIL			
LOCATION S-T-R FOOTAGE			TD W PBTD T	SIZE	IGHT B/FT	н Н Н	CEMENT (SACKS)	ТОС DTM (FT) ВY	HOLE SIZE	COMPLETION INTERVAL
		iL 9/35	4225 01L GB/SA	. 0 . 5	40.00 26.40	040	150 400 400	ййй	13.5 * 9.625 * 7.875 *	93-4225
28-T18S-R38E 330 FSL & 660' FEL	CONTINENT 3642 GL GRIMES #2 (NHU 28-441W)	iL 1/35	4320 INJ 4272 GB/SA	10.75 7.625 5.5 4 4 (LINER -	40.00 26.40 17.00 11.30 TOL @ 38	243 1634 4015 4318 (01)	150 300 100	0 CIRC 185 CALC 1940 TS 3801 CIRC	13.5 9.625 6.25 6.25	4102-4257'
34-T18S-R38E 660 FSL & 1650' FWL	SKELLY 3642 K TURNER #2 (NHU 34-211)	KB 7/34	4276 OIL 4276 GB/SA	12.5 7 5	50.00 24.00 15.00	240 4012 4211	175 400 340	0 CALC 1593 CALC 0 CIRC	16 8.75 6.25	4211-4276'
34-T18S-R38E 1980' FNL & 1700' FWL	GETTY 3638 TURNER #1 (NHU 34-221)	KB 9/32	4222 OIL 4220 GB/SA	12.5 9 5	50.00 34.00 24.00	220 2780 3974 4221	200 400 300 340	0 CIRC 0 SQZ 1823 CALC 3120 CBL	11.75 * 8.5 * 6.25 *	4083-4217'
34-T18S-R38E 1022' FNL & 2310' FEL	SHELL 3641 GL TURNER #2 (NHU 34-311)	L 9/35	4254 OIL 4254 GB/SA	12.5 9.625 7	50.00 36.00 24.00	282 1700 4134	150 625 300	0 CIRC 0 CIRC 3210 CBL	16 11.5 * 8.75 *	4134-4254'
34-T18S-R38E 660' FNL & 660' FEL	GULF 3647 KB GRIMES B #4 (NHU 33-411)	B 11/34	4256 OIL 4256 GB/SA	13.375 9.625 7 5.5 (LINER -	54.50 36.00 24.00 14.00 TOL @ 39	285 2739 3970 4175 79)	200 351 40	0 CALC 1723 CALC 3260 CBL 3964 TS		4095-4;
	ABBREVIATIONS									
		i f l l l l l l		, I						

CIRC - CIRCULATE CBL - CEMENT BOND LOG TS - TEMPERATURE SURVEY SQZ - SQUEEZED CEMENT TO SURFACE TOL - TOP OF LINER GB - GRAYBURG SA - SAN ANDRES GL - GROUND LEVEL DF - DERICK FLOOR KB - KELLY BUSHING MD - MEASURED DEPTH

FORM C-108

R. H. KING SANGER #1



AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I. Don Teer

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 a supplement thereof for a period

of

One weeks. Beginning with the issue dated

<u>May 17</u>, 19<u>90</u> and ending with the issue dated

. 19 90 <u>May</u> 17

Business Manager Sworn and subscribed to before

25th me this_ day of

19 90 May T RoNdg Notary Public.

 $\frac{\text{July 24}}{(\text{Seal})}, \frac{1991}{(3200)}$

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

LEGAL NOTICE May 17, 1990 Notice is hereby given of the application of Shell Western E&P Inc., P.O. Box 576, Houston, TX 77001, to the Oil Conservation Division, New Mexico Energy & Minerals De-partment, for approval of the following injection well for the purpose of pressure maintenance and enhanced Well Nos: 27-221W Lease/Unit Name: 36/2 * North Hobbs (Grayburg/ San Andres) Unit Location: Section 27, T.185, *** R38E, Lea County The NHU 27-221W, 2267' FNL & 505' FWL, will be drilled as a water injector. The injection formation is the San Andres at a depth of approximately 4150 feet below the surface of the ground. Expected maximum injection rate is 2000 barrels of water per day, and expected maximum injection pressure is 830