

20 North Broadway, Suite 1500 Oklahoma City, Oklahoma 73102-8260 Telephone:405/235-3611 FAX 405/552-4550

September 23, 1997

Certified Mail: Z 397 639 797

NM Oil Conservation Division 2040 S. Pacheco St. Santa Fe, NM 87505

Re: Application For Authorization To Inject Grayburg-Jackson Waterflood Project Hudson Federal #9 Section 18-T17S-R31E Eddy County, NM



Dear Sir:

Enclosed are two(2) copies of the "Application For Authorization To Inject" for the above mentioned well.

Please direct any questions regarding this matter to the undersigned at (405) 552-4528.

Sincerely,

**Devon Energy Corporation** 

Charles H. Carleton

Sr. Engineering Technician

/chc

enclosures

xc: Well File

Ct 705 70 Not A /2 Not Change.

#### **APPLICATION FOR AUTHORIZATION TO INJECT**

I.	PURPOSE: X Secondary Recovery Application qualifies for administrative approval?	Pressure Maintenance Yes No	Disposal	Storage
II.	OPERATOR: Devon Energy Corporation(Ne	evada)		
	ADDRESS: 20 N. Broadway, Suite 1500	Oklahoma City,	OK 73102-8260	
	CONTACT PARTY: Mr. Randy Jackson		PHONE:	405/552-456
III.	WELL DATA: Complete the data required on the revers sheets may be attached if necessary.	e side of this form for each v	vell processed for injec	tion. Additional
IV.	Is this an expansion of an existing project: $\underline{X}$ Yes If yes, give the Division order number authorizing the p	No project R-2268		
v.	Attach a map that identifies all wells and leases within to circle drawn around each proposed injection well. This			-half mile radius
VI.	Attach a tabulation of data on all wells of public record wind Such data shall include a description of each well's type and a schematic of any plugged well illustrating all plug	, construction, date drilled,		
VII.	Attach data on the proposed operation, including:			
	<ol> <li>Proposed average and maximum daily rate and volute.</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluir reinjected produced water; and</li> <li>If injection is for disposal purposes into a zone not pattach a chemical analysis of the disposal zone forms studies, nearby wells, etc.).</li> </ol>	d and compatibility with the	within one mile of th	e proposed well
VIII.	Attach appropriate geological data on the injection zone and depth. Give the geologic name, and depth to botton waters with total dissolved solids concentrations of 10,0 any such sources known to be immediately underlying the	n of all underground sources 000 mg/1 or less) overlying	of drinking water (aq	uifers containing
IX.	Describe the proposed stimulation program, if any.			
X.	Attach appropriate logging and test data on the well. resubmitted.)	(If well logs have been file	d with the Division, t	hey need not be
XI.	Attach a chemical analysis of fresh water from two or n of any injection or disposal well showing location of we	nore fresh water wells (if avells and dates samples were	ailable and producing) taken.	within one mile
XII.	Applicants for disposal wells must make an affirmative st data and find no evidence of open faults or any other hyd source of drinking water.	atement that they have exami trologic connection between	ined available geologic the disposal zone and a	and engineering any underground
KIII.	Applicants must complete the "Proof of Notice" section	on the reverse side of this	form.	
αv.	Certification: I hereby certify that the information sub- knowledge and belief.	mitted with this application	is true and correct to	the best of my
	NAME: Mr. Randy Jackson	TITLE: _	District Engin	eer
	SIGNATURE: 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
	If the information required under Sections VI, VIII, resubmitted. Please show the date and circumstance of the	X. and XI above has been	previously submitted	. it need not be

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

#### 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, PO Box 2088, Santa Fe, NM 87504-2088 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.

## DEVON ENERGY OPERATING CORPORATION APPLICATION FOR AUTHORITY TO INJECT GRAYBURG-JACKSON WATERFLOOD

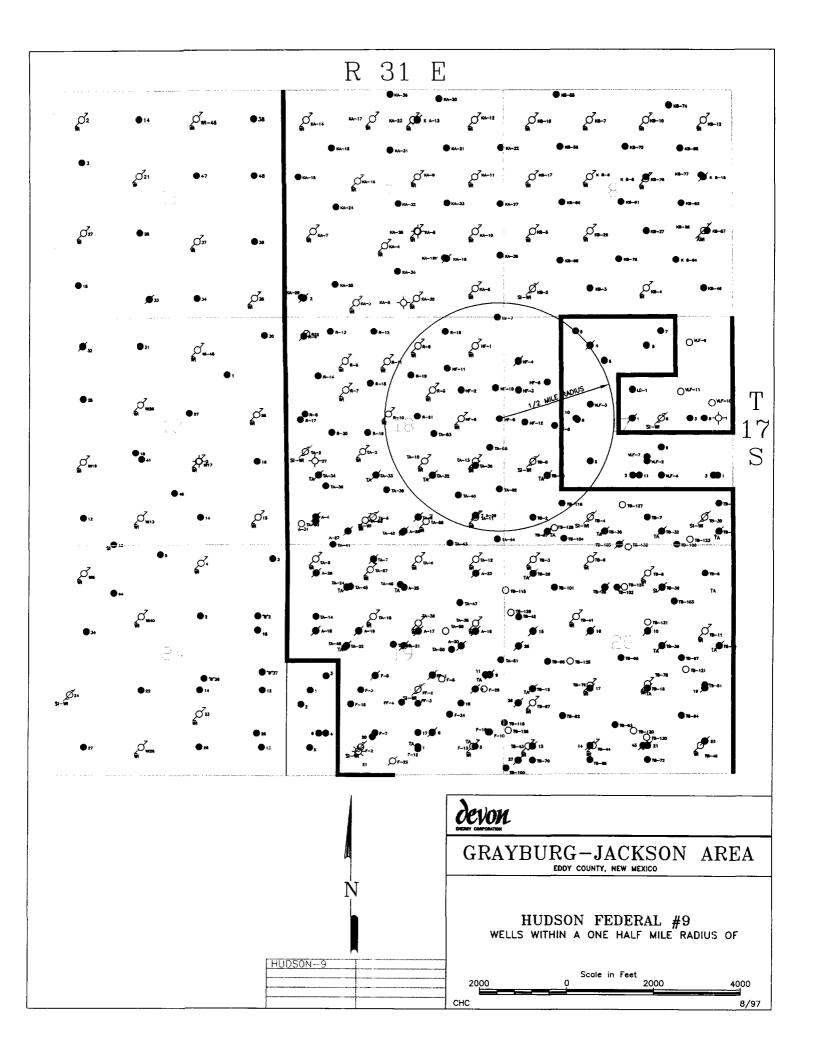
#### III Well Data:

- A. (1) Hudson Federal #9
  2310'FNL & 110'FEL
  Section 18-T17S-R31E
  Eddy County, NM
  - (2) Surface Casing: 8 5/8" 24# J-55 ST&C @ 1600'. TOC @ surface Hole Size = 12 1/4"

Production Casing: 5 1/2" 15.5# J-55 LT&C @ 7233'. TOC @ surface Hole Size = 7 7/8"

- (3) Tubing will be 2 3/8" 4.7# J-55 EUE 8rd (IPC) set at 2750'.
- (4) 5 1/2" Baker AD-1 tension packer set at 2750'.
- B. (1) The injection formation will be the Grayburg/San Andres in the Grayburg-Jackson Field.
  - (2) Water injection will be through perforations 2806'- 3717'(OA). **The injection interval is** 2806'- 3717'.
  - (3) This well was originally drilled and completed as an oil well, producing from the Grayburg/San Andres formation.
  - (4) Additional perforations may be added in the 2806'- 3717' interval.
  - (5) The top of the Seven Rivers formation is at approximately 1780', there are no known lower oil zones

#### **DEVON ENERGY CORPORATION** WELLBORE SCHEMATIC FIELD: GRAYBURG-JACKSON WELL NAME: HUDSON FEDERAL #9 LOCATION: 2310'FNL & 110'FEL, SEC 18-T17S-R31E COUNTY: EDDY STATE: NM ELEVATION: GL=3706'; KB=3720' SPUD DATE: 03/01/96 COMP DATE: 05/03/96 PREPARED BY: C.H. CARLETON API#: 30-015-28790 DATE: 08/13/97 **DEPTH** SIZE WEIGHT GRADE THREAD HOLE SIZE **CASING** 0' - 437' 8 5/8" 24# J-55 ST&C 12 1/4" CASING: 0' - 3809' 5 1/2" 15.5# J-55 LT&C 7 7/8" CASING: TUBING: 0' - 2750' 2 3/8" 4.7# J-55 EUE 8rd TUBING: CURRENT PROPOSED OPERATOR: DEVON ENERGY CORPORATION(NEVADA) 8 5/8" CASING @ 437' W/500 SXS. TOC @ SURFACE **DETAIL OF PERFORATIONS** U.GRAYBURG: 2806', 09', 11', 13' M.GRAYBURG: 2851', 61', 63' LOCO HILLS: 2895', 97' METEX: 2933', 35', 57', 59', 61' L.GRAYBURG: 2985', 3019' **PREMIER:** 3039', 69', 71', 73', 75' LOVINGTON: 3202', 04', 06', 08', 10', 12', 23', 39', 47' M.JACKSON: 3351', 53', 55', 93', 3405' **SLAUGHTER:** 3630', 36', 38', 40', 42', 59', 76', 87', 92', 95', 3701', 09', 12', 17' INJECTION INTERVAL: 2806'- 3717' BAKER AD-1 PACKER @ 2750' PERFORATIONS: 2806'- 3717' (OA) - 49 HOLES PBTD @ 3762' 5 1/2" CASING @ 3809' W/1100 SXS. TOC @ SURFACE TD @ 3810'



# WELL LISTING "AREA OF REVIEW" GRAYBURG-JACKSON WATERFLOOD HUDSON FEDERAL #9 - PROPOSED INJECTOR

WELL NAME	LOCATION	OPERATOR	STATUS	REMARKS
Hudson Federal #1	18-T17S-R31E	Devon Energy Corp.	WIW	
Hudson Federal #2	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Hudson Federal #3	17-T17S-R31E	Devon Energy Corp.	Active Oil	
Hudson Federal #4	17-T17S-R31E	Devon Energy Corp.	P&A'd	
Hudson Federal #5	17-T17S-R31E	Devon Energy Corp.	Active Oil	
Hudson Federal #6	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Hudson Federal #7	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Hudson Federal #8	17-T17S-R31E	Devon Energy Corp.	Active Oil	
Hudson Federal #9	18-T17S-R31E	Devon Energy Corp.	Active Oil	Proposed Injector
Hudson Federal #10	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Hudson Federal #12	17-T17S-R31E	Devon Energy Corp.	Active Oil	
Russell #8	18-T17S-R31E	Devon Energy Corp.	WIW	
Russell #9	18-T17S-R31E	Devon Energy Corp.	WIW	
Russell #10	18-T17S-R31E	Devon Energy Corp.	WIW	
Russell #18	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Russell #19	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Russell #21	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Turner "A" #10	18-T17S-R31E	Devon Energy Corp.	WIW	
Turner "A" #11	18-T17S-R31E	Devon Energy Corp.	WIW	
Turner "A" #13	18-T17S-R31E	Devon Energy Corp.	WIW	
Turner "A" #29	18-T17S-R31E	Devon Energy Corp.	P&A'd	
Turner "A" #30	18-T17S-R31E	Devon Energy Corp.	Inactive Oil	
Turner "A" #32	18-T17S-R31E	Devon Energy Corp.	TA'd	
Turner "A" #40	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Turner "A" #52	18-T17S-R31E	Devon Energy Corp.	Inactive Oil	
Turner "A" #53	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Turner "A" #55	18-T17S-R31E	Devon Energy Corp.	Active Oil	
Turner "B" #2	17-T17S-R31E	Devon Energy Corp.	Active Oil	
Turner "B" #5	17-T17S-R31E	Devon Energy Corp.	WIW (inactive)	
Turner "B" #40	17-T17S-R31E	Devon Energy Corp.	Active Oil	
Turner "B" #116	17-T17S-R31E	Devon Energy Corp.	Active Oil	
		OUTSIDE OPERATED		
Foster-Eddy #3	17-T17S-R31E	Marbob Energy Corp.	Active Oil	
Foster-Eddy #4	17-T17S-R31E	Oryx Energy	P&A'd	
Foster-Eddy #8	17-T17S-R31E	Marbob Energy Corp.	Active Oil	
Foster-Eddy #10	17-T17S-R31E	Marbob Energy Corp.	Active Oil	
Foster Federal #8	17-T17S-R31E	Weier Drilling Company	P&A'd	
Superior #2	17-T17S-R31E	Trinity Univ. & Closuit	Active Oil	

WELL NAME	LOCATION	SPUD DATE	COMP DATE	WELL TYPE	DEPTH/PBTD	COMPLETION RECORD
HUDSON FEDERAL #1	660'FNL & 660'FEL	1/24/39	5/20/39	OIL PRODUCER	3533'/3533'	8 5/8" @ 570' W/50 SXS
	SEC 18-T17S-R31E EDDY COUNTY, NM					7" @ 2795' W/100 SXS OPEN HOLE COMPLETION: 2795'- 3533'
			8/10/67	WATER INJECTOR		CONVERT TO WATER INJECTION WELL
			1/18/71	OIL PRODUCER		RETURN WELL TO PRODUCTION
			12/17/80			PLUGGED & ABANDONED
			3/14/97	WATER INJECTOR	3535'/3490'	RE-ENTER AND DRILL OUT CEMENT PLUGS 4 1/2" @ 3534' W/450 SXS. CEMENT TO SURFACE
						PERFORATE: 2768'- 3469'(OA) RETURN WELL TO WATER INJECTION
HUDSON FEDERAL #2	1650'FNL & 990'FEL SEC 18-T17S-R31E	8/22/39	10/27/39	OIL PRODUCER	3501'/3501'	9" @ 635' W/50 SXS  7" @ 2770' W/100 SXS
	EDDY COUNTY, NM					OPEN HOLE COMPLETION: 2770'- 3501' IP=100 BOPD
HUDSON FEDERAL #3	1650'FNL & 330'FWL SEC 17-T17S-R31E	4/4/41	6/14/41	OIL PRODUCER	3497'/3497'	8 1/4" @ 636' W/50 SXS 7" @ 2780' W/100 SXS
	EDDY COUNTY, NM					OPEN HOLE COMPLETION: 2780'- 3497'  P=100 BOPD
HUDSON FEDERAL #4	990'FNL & 330'FWL SEC 17-T17S-R31E	11/8/41	1/21/42	OIL PRODUCER	3500'/3500'	8 1/4" @ 636' W/50 SXS 7" @ 2803' W/100 SXS
	EDDY COUNTY, NM					OPEN HOLE COMPLETION: 2803: 3500' IP=52 BOPD
			4/19/79			PLUGGED & ABANDONED
HUDSON FEDERAL #5	2480'FNL & 1160'FWL SEC 17-T17S-R31E	7/26/67	8/10/67	WATER INJECTOR	3510'/3498'	8 5/8" @ 500' W/200 SXS. CEMENT TO SURFACE. 4 1/2" @ 3510' W/225 SXS
	EDDY COUNTY, NM					PERFORATE: 3490'(OA)  COMPLETED AS WATER INJECTION WELL
			8/30/88	OIL PRODUCER	3510/3287	PERFORATE: 3168 - 3287(OA) - CONVERTTO OIL PRODUCER IP=110 BOPD

WELL NAME	LOCATION	SPUD DATE	COMP DATE	WELL TYPE	DEPTH/PBTD	COMPLETION RECORD
HUDSON FEDERAL #6	2310'FNL & 990'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	11/23/88	12/12/88	OIL PRODUCER	3505'/3505'	8 5/8" @ 373' W/275 SXS. CEMENT TO SURFACE. 5 1/2" @ 3505' W/1700 SXS. CEMENT TO SURFACE. PERFORATE: 2782'- 3469'(OA)
HUDSON FEDERAL #7	10'FNL & 150'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	5/19/96	6/24/96	OIL PRODUCER	3835'/3788'	8 5/8" @ 434' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3834' W/900 SXS. CEMENT TO SURFACE. PERFORATE: 2855'- 3479'(OA) IP=96 BOPD
HUDSON FEDERAL #8	1475'FNL & 990'FWL SEC 17-T17S-R31E EDDY COUNTY, NM	5/10/96	6/1/96	OIL PRODUCER	3870'/3822'	8 5/8" @ 420' W/375 SXS. CEMENT TO SURFACE. 5 1/2" @ 3869' W/1450 SXS. TOC @ 175'(CBL) PERFORATE: 2852'- 3488'(OA) IP=151 BOPD
HUDSON FEDERAL #9	2310'FNL & 110'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	3/1/96	5/3/96	OIL PRODUCER	3810/3762'	8 5/8" @ 437' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3809' W/1100 SXS. CEMENT TO SURFACE. PERFORATE: 2806'- 3717'(OA) IP=131 BOPD
HUDSON FEDERAL #10	1600'FNL & 200'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	2/23/96	3/21/96	OIL PRODUCER	3850/3804	8 5/8" @ 429' W/675 SXS. CEMENT TO SURFACE. 5 1/2" @ 3849' W/1075 SXS. CEMENT TO SURFACE. PERFORATE: 2776'- 3483'(OA) IP=275 BOPD
HUDSON FEDERAL #12	2390'FNL & 475'FWL SEC 17-T17S-R31E EDDY COUNTY, NM	4/1/96	5/24/96	OIL PRODUCER	3852'/3806'	8 5/8" @ 433' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3851' W/1150 SXS. CEMENT TO SURFACE. PERFORATE: 2834'- 3732'(OA) IP=181 BOPD

WELL NAME	LOCATION	SPUD DATE	COMP DATE	WELL TYPE	DEPTH/PBTD	COMPLETION RECORD
C.A. RUSSELL #8	1650'FNL & 1650'FWL SEC 18-T17S-R31E	2/23/40	4/26/40	OIL PRODUCER	3497'/3497'	7" @ 2880' W/100 SXS
	EDDY COUNTY, NM		5/5/73			OPEN HOLE COMPLETION: 2880'- 3497' IP=250 BOPD TEMPORARILY ABANDONED
			5/5/73 1/18/97	WATER INJECTOR	3500/3460	TEMPORARILY ABANDONED 4 1/2" @ 3500' W/350 SXS. CEMENT TO SURFACE. PERFORATE: 2738'- 3457'(OA) CONVERT TO WATER INJECTION WELL
C.A. RUSSELL #9	660'FNL & 1980'FEL	5/4/40	7/11/40	OIL PRODUCER	3495'/3495'	8 5/8" @ 598' W/50 SXS
	SEC 18-T17S-R31E EDDY COUNTY, NM					7" @ 2850' W/100 SXS OPEN HOLE COMPLETION: 2850'- 3495' IP=51 BOPD
			5/12/69		3495'/3483'	4 1/2" @ 3484' W/250 SXS. TOC @ 1620'(TEMP SURVEY) PERFORATE: 3410'- 3465'(OA) - RETURN TO PRODUCTION
			10/28/70			PERFORATE: 2941'- 3110'(OA) - RETURN TO PRODUCTION
			12/20/96	WALERINJECIOR		COTOFF 4 1/2" CASING @ 1663" SET 4 1/2" CSG & 5 1/2" SLIP JT @ 1663" W/250 SXS. CEMENT TO SURFACE. PERFORATE: 2740"- 3452"(OA) CONVERT TO WATER INJECTION WELL
C.A. RUSSELL #10	2200'FNL & 2665'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	12/11/49	2/5/50	OIL PRODUCER	3510/3510'	8 5/8" @ 612' W/50 SXS 7" @ 3280' W/100 SXS OPEN HOLE COMPLETION: 3280'- 3510'
			10/28/53 4/29/67 12/2/96	WATER INJECTOR	3510/3459'	PERFORATE: 2896'- 2948'(OA) - RETURN TO PRODUCTION CONVERT TO WATER INJECTION WELL 4 1/2" @ 3508' W/325 SXS. CEMENT TO SURFACE.
						PERFORATE: 2752'- 3456'(OA) - RETURN TO INJECTION
C.A. RUSSELL #18	330'FNL & 1350'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	2/5/96	3/15/96	OIL PRODUCER	3800/3751'	13 3/8" @ 306' W/925 SXS. CEMENT TO SURFACE. 5 1/2" @ 3799' W/1500 SXS. CEMENT TO SURFACE. PERFORATE: 2808'- 3737'(OA) IP=158 BOPD

WELL NAME	LOCATION	SPUD DATE	COMP DATE	WELL TYPE	DEPTH/PBTD	COMPLETION RECORD
C.A. RUSSELL #19	1310'FNL & 2150'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	5/2/96	5/26/96	OIL PRODUCER	3820'/3778'	8 5/8" @ 386' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3819' W/975 SXS. CEMENT TO SURFACE. PERFORATE: 2761': 3712'(OA)
C.A. RUSSELL #21	2250'FNL & 2000'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	4/25/96	5/18/96	OIL PRODUCER	3800'/3752'	8 5/8" @ 393' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3799' W/1225 SXS. CEMENT TO SURFACE. PERFORATE: 2753'- 3463'(OA) IP=216 BOPD
TURNER "A" #10	1980'FSL & 1830'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	2/2/41	4/16/41	OIL PRODUCER	3465'/3465'	8 5/8" @ 554' W/50 SXS 7" @ 2980' W/100 SXS OPEN HOLE COMPLETION: 2980'- 3465'
			12/13/67 1/2/70 11/18/96	WATER INJECTOR	3465/3461	CONVERT TO WATER INJECTION WELL 4 1/2" @ 3463' W/200 SXS. TOC @ 1340'(TEMP SURVEY) PERFORATE: 3342'- 3453'(OA) - RETURN TO INJECTION PERFORATE: 2719'- 3386'(OA) - RETURN TO INJECTION
TURNER "A" #11	660'FSL & 660'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	1/27/41	8/1/41	OIL PRODUCER	3399'/3399'	8 5/8" @ 552' W/50 SXS 7" @ 2950' W/100 SXS OPEN HOLE COMPLETION: 2950'- 3390'
			6/17/44 12/19/67	WATER INJECTOR	3451'/3451'	DEEPEN OPEN HOLE TO 3451' - RETURN TO PRODUCTION CONVERT TO WATER INJECTION WELL
			1/5/70		3451'/3441'	4 1/2" @ 3451' W/200 SXS. TOC @ 800'(TEMP SURVEY) PERFORATE: 3330'- 3437'(OA) - RETURN TO INJECTION PERFORATE: 2717'- 3042'(OA) - RETURN TO INJECTION

WELL NAME	LOCATION	SPUD DATE	COMP DATE	WELL TYPE	DEPTH/PBTD	COMPLETION RECORD
TURNER "A" #52	1335'FSL & 110'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	3/25/96	5/8/96	OIL PRODUCER	3795'/3300'	8 5/8" @ 399' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3794' W/1200 SXS. CEMENT TO SURFACE. PERFORATE: 3364'- 3442'(OA) SET CIBP @ 3320' & CAP W/20' CEMENT PERFORATE: 2756'- 3232'(OA)
						PRODUCED 100% WATER - SHUT WELL IN
TURNER "A" #53	2630'FSL & 1620'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	2/8/96	3/20/96	OIL PRODUCER	3780'/3733'	8 5/8" @ 380' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3779' W/925 SXS. CEMENT TO SURFACE. PERFORATE: 2788'- 3645'(OA) IP=272 BOPD
TURNER "A" #55	2307'FSL & 330'FEL SEC 18-T17S-R31E EDDY COUNTY, NM	6/4/96	7/4/96	OIL PRODUCER	3770'/3727'	8 5/8" @ 464' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3769' W/1000 SXS. CEMENT TO SURFACE. PERFORATE: 2711'- 3691'(OA) IP=140 BOPD
TURNER "B" #2	660'FSL & 660'FWL SEC 17-T17S-R31E EDDY COUNTY, NM	4/12/41	6/6/41	OIL PRODUCER	3448'/3448'	8 5/8" @ 554' W/50 SXS 7" @ 2935' W/100 SXS OPEN HOLE COMPLETION: 2935'- 3448' IP=275 BOPD
TURNER "B" #5	1980'FSL & 660'FWL SEC 17-T17S-R31E EDDY COUNTY, NM	12/31/41	7/10/42	OIL PRODUCER	3461'/3461'	8 5/8" @ 525' W/50 SXS 7" @ 2952' W/100 SXS OPEN HOLE COMPLETION: 2952'- 3461'
			12/22/69	WATER INJECTION	3461'/3456'	4 1/2" @ 3456' W/150 SXS. TOC @ 1780'(TEMP SURVEY) PERFORATE: 3346'- 3450'(OA) CONVERT TO WATER INJECTION WELL
TURNER "B" #40	1650'FSL & 990'FWL SEC 17-T17S-R31E EDDY COUNTY, NM	2/21/53	3/23/53	OIL PRODUCER	1992'/1992'	8 5/8" @ 543' W/50 SXS 7" @ 1925' W/100 SXS 5 1/2" LINER @ 1912'- 1992' (LANDED, NOT CEMENTED) PERFORATE: 1951'- 1992'(OA) IP=26 BOPD

WELL NAME	<u>YME</u>	LOCATION 990'FSL & 1330'FWL SEC 17-T17S-R31E EDDY COUNTY, NM	<b>SPUD DATE</b> 3/17/96	<u>COMP DATE</u> 4/22/96	OIL PI	WELL TYPE OIL PRODUCER	COMPLETION RECOL  3800//3753' 8 5/8" @ 444' W/500 SXS. CEMENT TO SURFACE. 5 1/2" @ 3799' W/1500 SXS. CEMENT TO SURFACE. PERFORATE: 2795'- 3405'(OA) IP=130 BOPD  COMPLETION RECOL

WELL NAME	LOCATION	SPUD DATE	COMP DATE	WELL TYPE	DEPTH/PBTD	COMPLETION RECORD
FOSTER-EDDY FEDERAL #3 Marbob Energy Corporation	1980'FNL & 1980'FWL SEC 17-T17S-R31E	4/1/43	6/20/43	OIL PRODUCER	3520'/3520'	8 5/8" @ 543' W/50 SXS 7" @ 2913' W/100 SXS OPEN HOLE COMPLETION: 2913'- 3520'
	EDDY COUNTY, NM					OPEN HOLE COMPLETION: 2913 - 3520
FOSTER-EDDY FEDERAL #4 Orvx Energy Company	660'FNL & 1980'FWL	8/22/43	1/21/44	OIL PRODUCER	3505'/3505'	8 1/2" @ 532' W/50 SXS 7" @ 2908' W/100 SXS
Ciya Elielyy Company	EDDY COUNTY, NM					OPEN HOLE COMPLETION: 2908'- 3505' IP=50 BOPD
			9/11/82			PLUGGED & ABANDONED
FOSTER-EDDY FEDERAL #8	330'FNL & 1650'FWL SEC 17-T17S-R31E	9/13/89	12/5/89	OIL PRODUCER	6035'/4875'	8 5/8" @ 462' W/300 SXS. CEMENT TO SURFACE. 5 1/2" @ 6022' W/4400 SXS. CEMENT TO SURFACE.
9	EDDY COUNTY, NM					PERFORATE: 2888'- 3813'(OA) IP=70 BOPD
FOSTER-EDDY FEDERAL #10 Marbob Energy Corporation	2310'FNL & 1650'FWL SEC 17-T17S-R31E	11/11/91	1/11/92	OIL PRODUCER	5580/5542	13 3/8" @ 211' W/225 SXS 8 5/8" @ 1348' W/750 SXS
	COOM					PERFORATE: 2882'- 4509'(OA)
FOSTER FEDERAL #8 Weier Drilling Company	2342'FNL & 1682'FWL SEC 17-T17S-R31E EDDY COUNTY, NM	5/15/54	6/21/54	OIL PRODUCER	2081'/2081'	7" @ 518' W/50 SXS 5 1/2" @ 1962' W/100 SXS OPEN HOLE COMPLETION: 1962'- 2081'
			6/16/60			IP=9 BOPD PLUGGED & ABANDONED
SUPERIOR FEDERAL #2 Trinity University & Closuit	1980'FSL & 1980'FWL SEC 17-T17S-R31E	7/20/41	10/5/41	OIL PRODUCER	3492'/3492'	8 1/4" @ 555' W/50 SXS 7" @ 3040' W/100 SXS
	EDDY COUNTY, NM					OPEN HOLE COMPLETION: 3040'- 3492'

	DEVON ENEF		ATING CO		ON	
WELL NAME: HUDS	SON FEDERAL #4		FIELD: GRAYE	UBG- IACKSC	)NI	
	L & 330'FWL, SEC 17-T	17S-B31F	COUNTY: EDD		714	STATE: NM
ELEVATION: GL=37		TOTIOTE	SPUD DATE: 1		COMP DATE:	·
API#: 30-015-05180		BY: C.H. CARLE		1101741	DATE: 11/22/9	
A1 1#: 00-010 03100	DEPTH	SIZE	WEIGHT	GRADE	THREAD	HOLE SIZE
CASING:	0' - 649'	8 5/8"	28#	ari/ib_	Timexp	11022 0.22
CASING:	0' - 2803'	7"	20#			<u> </u>
CASING:						
TUBING:	<del></del>					† · · · · · · · · · · · · · · · · · · ·
TUBING:		<del>                                     </del>	1		<del>                                     </del>	<del>                                     </del>
		CEMENT PLU CEMENT RE 8 5/8" CASING PERFORATE	DEVON ENERG' GED: 04/19/79  JG: 0'- 50' TAINER @ 560'. F G, SET W/50 SXS 7" CASING @ 66	PUMP 100 SXS 5. TOC @ 410'(	BELOW & CAF	N
		7" CASING S	TAINER @ 2500', ET W/100 SXS. T COMPLETION: 28	OC @ 1480'(ca		AP WITH 2 SXS
		TD @ 3500'				

### **DEVON ENERGY OPERATING CORPORATION** WELLBORE SCHEMATIC FIELD: GRAYBURG-JACKSON WELL NAME: FOSTER-EDDY FEDERAL #4 LOCATION: 660'FNL & 1980'FWL, SEC 17-T17S-R31E STATE: NM COUNTY: EDDY ELEVATION: GL=UNK; KB=UNK; DF=3710' SPUD DATE: 08/22/43 COMP DATE: 01/11/44 API#: 30-015-05195 PREPARED BY: C.H. CARLETON DATE: 04/23/96 WEIGHT DEPTH SIZE GRADE THREAD HOLE SIZE CASING: 0' - 525' 8 5/8" 28# 0' - 2908' CASING 24# CASING: TUBING: **TUBING** CURRENT PROPOSED OPERATOR: ORYX ENERGY COMPANY DATE PLUGGED: 09/11/82 CEMENT PLUG: 0'- 80' CEMENT RETAINER @ 310', PUMP 100 SXS BELOW RETAINER. 8 5/8" CASING, SET W/50 SXS. TOC @ 290' (calculated) PERFORATE 7" CASING @ 550'- 551' CEMENT RETAINER @ 1018', PUMP 100 SXS BELOW & CAP W/10 SXS. PERFORATE 7" CASING @ 1350'-1351' CIBP @ 2850', CAP WITH 7 SXS. BAKER "AD-1" PACKER @ 2869' 7" CASING SET W/100 SXS. TOC @ 1980' (calculated) OPEN HOLE COMPLETION: 2908'- 3505' TD @ 3505'

### **DEVON ENERGY OPERATING CORPORATION** WELLBORE SCHEMATIC WELL NAME: FOSTER FEDERAL #8 FIELD: GRAYBURG-JACKSON LOCATION: 2342'FNL & 1682'FWL, SEC 17-T17S-R31E COUNTY: EDDY STATE: NM ELEVATION: GL=UNK; KB=UNK; DF=3721' SPUD DATE: 05/15/54 COMP DATE: 07/03/54 API#: 30-015-05207 PREPARED BY: C.H. CARLETON DATE: 04/23/96 SIZE WEIGHT THREAD DEPTH GRADE HOLE SIZE 7" CASING: 0' - 517' 20# CASING: 1100' - 1966' 5 1/2" 14# CASING: **TUBING** TUBING: CURRENT PROPOSED **OPERATOR: WEIER DRILLING COMPANY** DATE PLUGGED: 06/16/60 CEMENT PLUG: 0'- 10' CEMENT PLUG: 350'- 550' 7" CASING, SET W/50 SXS. TOC @ UNKNOWN CUT 5 1/2" CASING @ 1100' CEMENT PLUG: 1106'- 1200' CEMENT PLUG: 1900'- 1966' 5 1/2" CASING SET W/100 SXS. TOC @ UNKNOWN OPEN HOLE COMPLETION: 1966'- 2081' TD @ 2081'

# DEVON ENERGY OPERATING CORPORATION APPLICATION FOR AUTHORITY TO INJECT GRAYBURG-JACKSON WATERFLOOD

#### VII Proposed Operation Data:

- (1) Average daily injection rates 500 BWPD Maximum daily injection rates 600 BWPD
- (2) Type of injection system closed system
- (3) Average injection pressure 2000 psig Maximum injection pressures 2500 psig
- (4) Injection water will be reinjected produced water, plus makeup water from the Keel West fresh water system.
- (5) N/A

#### VIII Geological Data:

The proposed injection zone is in the Grayburg/San Andres formation from 2806'- 3717'. The Grayburg formation consists primarily of quartz sand with cementation. The San Andres formation consists primarily of dolomite with intermingled stringers of quartz sand with dolomite cementation.

Surface formation is Cretaceous and has no known source of drinking water. Additionally, there are no known underground sources of drinking water overlying or underlying the proposed injection interval.

#### IX Stimulation Program:

The proposed injection interval will be acidized with 15% NEFE acid prior to initial injection.

#### X Well Logs:

Copies of current well logs are on file with Oil Conservation Department.

# DEVON ENERGY OPERATING CORPORATION APPLICATION FOR AUTHORITY TO INJECT GRAYBURG-JACKSON WATERFLOOD

#### XI Chemical Analysis of Fresh Water:

There are no known producing fresh water wells within one mile of a proposed injection well.

#### XII Affirmative Statement of Open Faults:

Upon examination of the available geologic and engineering data, no evidence of open faults or any other hydraulic connection between the disposal zone and any underground source of drinking water was found.

#### XIII "Proof of Notice" and "Proof of Publication":

The Bureau of Land Management is the surface owner. They have been notified by letter with a copy of our application.

Devon Energy Operating Corporation operates the Grayburg-Jackson Unit in Section 18 of T17S-R31E. Offset operators in the "Area of Review" are as follows:

- (1) Marbob Energy Corporation P.O. Box 227 Artesia, NM 88210
- (2) Trinity University & Closuit P.O. Box 6A Loco Hills, NM 88255

Operator was provided a letter by certified mail. Proof of notice is attached.

"Proof of Publication" from the Carlsbad Current-Argus is attached.



20 North Broadway, Suite 1500 Telephone:405/235-3611 Oklahoma City, Oklahoma 73102-8260

August 18, 1997

Certified Mail Z 397 639 791

Marbob Energy Corporation P.O. Box 227 Artesia, NM 88210

RE: Devon Energy Corporation
Grayburg-Jackson Waterflood Project
Hudson Federal #9
2310'FNL & 110"FEL
Section 18 - T17S - R31E
Eddy County, NM

#### Gentlemen:

Please consider this letter as official notification that Devon Energy Corporation is in the process of filing an application to convert the Hudson Federal #9 to water injection in the above referenced section. Our records indicate that you are an offset operator. As an offset operator you must be notified by Devon and you must file any objections or requests for hearings of administrative applications with the Oil Conservation Division of New Mexico within fifteen (15) days of receiving this notification.

Please direct any questions regarding this matter to the undersigned at 405/552-4560.

Sincerely, Devon Energy Corporation

Randy Jackson District Engineer

/chc

xc: Well File

on the reverse side?	SENDEM:  Complete items 1 and/or 2 for additional services.  Complete items 3, 4a, and 4b.  Print your name and address on the reverse of this form so that we card to you.  Attach this form to the front of the mailpiece, or on the back if spacement.  Write 'Return Receipt Requested' on the mailpiece below the article.  The Return Receipt will show to whom the article was delivered and delivered.	e does not	I also wish to red following service extra fee):  1.	s (for an ee's Address ed Delivery
_	3. Article Addressed to:	4a. Article N	umber 17 <i>63</i> 9 79	] [
completed	MARBOB ENERGY CORPORATION P.O. BOX 227	4b. Service ☐ Registere	Туре	☐ Certified
ESS	ARTEGIA, NM BBZIO	☐ Express	Mail	☐ Insured
BDB	•	7. Date of De	ceipt for Merchandise elivery	COD
BNA	·		21.91	
ETU	5. Regeived By: (Print Name)	8. Addressee and fee is	e's Address (Only paid)	if requested
our F	6. Signature: (Addressee or Agent)		•• •	

Thank you for using Return Receipt Service.

Domestic Return Receipt



20 North Broadway, Suite 1500 Oklahoma City, Oklahoma 73102-8260 Telephone:405/235-3611 FAX 405/552-4550

September 9, 1997

Certified Mail P 240 501 957 (Second Notification)

Trinity University & Closuit P.O. Box 6A Loco Hills, NM 88255

RE: Devon Energy Corporation Grayburg-Jackson Waterflood Project Hudson Federal #9 2310'FNL & 110"FEL Section 18 - T17S - R31E Eddy County, NM

#### Gentlemen:

Please consider this letter as official notification that Devon Energy Corporation is in the process of filing an application to convert the Hudson Federal #9 to water injection in the above referenced section. Our records indicate that you are an offset operator. As an offset operator you must be notified by Devon and you must file any objections or requests for hearings of administrative applications with the Oil Conservation Division of New Mexico within fifteen (15) days of receiving this notification.

Please direct any questions regarding this matter to the undersigned at 405/552-4560.

Sincerely, Devon Energy Corporation

Randy Jackson
District Engineer

/chc

xc: Well File

on the reverse side?	SENDER:  Complete items 1 and/or 2 for additional services Complete items 3, 4a, and 4b.  Print your name and address on the reverse of title form so that we card to you.  Attach this form to the front of the mailpiece, or on the back if space permit.  Write 'Return Receipt Requested' on the mailpiece below the article The Return Receipt will show to whom the article was delivered and delivered.	e does not	† also wish to recifollowing services extra fee):  1.  Addresse 2.  Restricte Consult postmas	e (for an e 's Address d Delivery	eipt Service.
b	3. Article Addressed to:	4a. Article N			<b>B</b>
plet.	TRINITY UNIVERSITY & CLOSUIT		50195		Ę
COE	P.O. BOX GA	4b. Service ☐ Registere		☑ Certified	Ret
SS	LOCO HILLS, NM 88255	☐ Express		☐ Insured	Ë
离	The Mile Cocas	☐ Return Re	ceipt for Merchandise	□ COD	3 2
B		7. Date of Do			<u>د</u>
諨			-18-97		2
	5. Received By: (Print Name)	8. Addresse and fee is	e's Address (Only i   naid)	f requested	Thank
발	William Hope	and lee is	paiu)		Ę
'n	6. Signature: (Addressee or Agent)				
Š	X /N/11~////// -				
_	PS Form 3811. December 1994		Domestic Retu	urn Receipt	

## **Affidavit of Publication**

State of New Mexico,
County of Eddy, ss.
Amy McKay
being first duly sworn, on oath says:
being first dury sworn, on baur says.
That she is Business Manager
That she is Business Manager of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:
August 20 , 19 97
, 19
,19
,19
,19
That the cost of publication is \$23.36, and that payment thereof has been made and will be assessed as court costs.  Subscribed and sworn to before me this 215f day of liquid 116.714 p
My commission expires 8/1/98  Notary Public

#### August 20, 1997

Notice is hereby given that Devon Energy Corporation is applying to the New Mexico Oil Conservation Division to convert one producing well to water injection for secondary recovery purposes in:

#### Section 18 of T17S - R31E, Eddy County, NM

The intended purpose of this well is to inject produced waters into the Grayburg/San Andres Formations to enhance oil production through secondary recovery. Maximum injection rates of 600 bwpd and a maximum pressure of 2500 psig are expected.

Interested parties must file objections or requests for hearing within 15 days to the following commission:

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

Randy Jackson
District Engineer
Devon Energy Corporation
20 North Broadway,
Suite 1500
Oklahoma City, OK 73102
(405) 552-4560