STATE OF NEW MEXICO

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BRUCE KING

GOVERNOR

# ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION HOBBS DISTRICT OFFICE

7-16-91

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

OIL CONSERVATION DIVISION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

Scod 438

RE: Proposed: MC\_\_\_\_\_\_ DHC\_\_\_\_\_\_ NSL\_\_\_\_\_ NSP\_\_\_\_\_ SWD\_\_\_\_\_ WFX\_\_\_\_\_ PMX

Gentlemen:

I have examined the application for the:

4 27-7-37 Holly 27 Jederal # /-Lease & Nell No. Unit S-T-R Operator

and my recommendations are as follows:

Yours very truly, Jerry Sexton

Jerry Sexton Supervisor, District 1

/ed

	STATE OF NEW	MEXICO 👝
ENERGY	AND MINERALS	DEPARTME

OIL CONSERVATION DIVISION POST OFFICE BOX 2008 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 FORM C-108 Revised 7-1-81

	SANTA FE. NEW MEXICO 87501
APPLIC	ATION FOR AUTHORIZATION TO INJECT
Ι.	Purpose: Secondary Recovery Pressure Maintenance & Disposal Storage Application qualifies for administrative approval? Xyes Inc
Π.	Operator: H. L. Brown, Jr.
	Address: P. O. Box 2237, Midland, Texas 79702
	Contact party: Mark Gosch Phone: (915) 683-5216
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?
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:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</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 fluid and compatibility with the receiving formation if other than reinjected produced water; and</li> <li>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.).</li> </ol>
*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 avai≀able 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.

Title Production Engineer Mark A. Gosch Name: 2-20-91 Å Date: 71/ a ose Signature:

 If the information required 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.

N. J.

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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.

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Section III. Well Data

- Α. 1. Holly Federal 27 #1, located 1980' FSL, 1980' FEL, Unit J, Section 27, T-7-S, R-37-E. 2. Surface Casing: 13-3/8" @ 385', cemented w/385 sacks 17-1/2" hole. Cement was circulated. Intermediate Casing: 8-5/8" @ 3751', cemented w/1200 sacks 12-1/4" hole. TOC unknown. Production Casing: 4-1/2" @ 4626', cemented w/450 sacks 7-7/8" hole. TOC @ 3759' by CBL. Proposed tubing string: 2-3/8" EUE PC J-55 tubing 3. Baker Model AD-1 tension packer @ 4300'. 4. в. 1. Formation - San Andres Field - North Bluitt (San Andres)
  - Injection Interval Perforations from 4348' to 4500'.
  - 3. Original TD 9202' for the purpose of testing the Siluro-Devonian and Wolfcamp zones.
  - 4. The open hole was plugged back.

RECEIVED

**JUL 1** 5 193) HOBBS CALLE

## Holly Federal 27 H. L. Brown, Jr. OPERATOR LEASE 1980' FSL & 1980' FEL FOOTAGE LOCATION R-37-E T-7-S 27 WELL NO. TOWNSHIP RANGE SECTION Tabular Data Schematic Surface Casing " Cemented with 385 sx. Size \_\_\_\_\_13-3/8 TOC \_\_\_\_\_\_ Surface \_\_\_\_\_ feet determined by \_\_\_\_\_ Hole size $\frac{17-1}{2"}$ 385' - -Intermediate Casing Size 8-5/8 Cemented with 1200 sx. н TOC \_\_\_\_\_ Unknown \_\_\_\_\_ feet determined by \_\_\_\_\_ Hole size <u>12-1/4"</u> 3751 <u>Long string</u> TOC 3759 450 \_\_\_\_sx. Size \_\_\_\_\_4-1/2 "Cemented with \_\_\_ feet determined by \_\_\_\_\_\_CBL TOC 3759 Total depth 9202' Injection interval 4348 feet to 4500 (perforated or open hole, indicate which) \_ feet 4626 4632' 4700 6195' 6295' 7% HOLE 6**89**5 ' $>\!$ 7045 8170' 8320' Tubing size <u>2-3/8" J-55</u> lined with <u>Plastic Coating</u> set in a (material) 4300 feet Baker Model AD-1 Tension Packer \_\_\_\_\_ packer at \_\_\_\_ (brand and model) (or describe any other casing-tubing seal). Other Data 1. Name of the injection formation \_\_\_\_\_ San Andres 2. Name of Field or Pool (if applicable) \_\_\_\_\_ 3. Is this a new well drilled for injection? $\overline{/7}$ Yes $\overline{/X}$ No If no, for what purpose was the well originally drilled? <u>Devonian oil well - Dry &</u> plugged back to San Andres - dry. 4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No other perforated intervals. Bottom plugs - 45 sx 8170-8320', 45 sx 6895-7045', 35 sx 6195-6295 and 35 sx 4632-4700'. Give the depth to and name of any overlying and/or underlyimg oil or gas zones (pools) in 5. this area. Wolfcamp - 7972' Siluro Devonian - 8723'

INJECTION WELL DATA SHEET

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Section VI. Wells within 1/2 mile area of review.

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Section VII. Proposed Operation of SWD

Average injection rate 1 BPM Maximum Injection Rate 3 BPM Daily Fluid Volume less than 1000 BPD through a closed system Average Injection Pressure 200 psi Maximum Injection Pressure 1500 psi Source of Disposal Water Wells in North Bluitt (Siluro-Devonian) Field for H. L. Brown, Jr. Wells in Bluitt (Wolfcamp) Field for H. L. Brown, Jr.

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A typical water analysis for the San Andres zone is attached.

P O BOX 1468 MONAHANS TEXAS 79756 ** PH 943 3234 OR 553 1040			MIC	DLAND, TI PHONE 6
H 943 3234 OK 383 1040	RESULT OF WATER A			
	LÆ	ABORATORY NO		
Mr. Mark Gosc <del>a</del>	SA	MPLE RECEIVED		
TO: P. O. Box 2237, Midland	I, TX RE	ESULTS REPORTED	o <u>2-6-91</u>	
COMPANY H. L. Brown, Jr.	LEASE .			
FIELD OR POOL		· · · · · · · · · · · · · · · · · · ·		
FIELD OR POOL SURVEY	COUNTY RO	<u>osevelt</u> s	TATE <u>NM</u>	
SOURCE OF SAMPLE AND DATE TAKEN				
NO. 1 Typical San Andres wa	iter in southeast Ro	osevelt count	у.	
NO. 2				
NO. 3				
NO. 4				
REMARKS:				
	EMICAL AND PHYSICAL F	PROPERTIES	<del></del>	·
	NO. 1	NO. 2	NO. 3	N
Specific Gravity at 60° F.	1.1730		ļ	
pH When Sampled			L	1
pH When Received	6.5	- 14		<u> </u>
Bicarbonate as HCO3	500			<u> </u>
Supersaturation as CaCO3				<u> </u>
Undersaturation as CaCO3***				
Total Hardness as CaCO3	66,500			ļ
Calcium as Ca	19,600			<u> </u>
Magnesium as Mg	4,250			
Sodium and/or Potassium -	76,000			ļ
Sulfate as SO4	600			
Chloride as Cl-	163,600		<u> </u>	<u></u>
Iron as Fe	13.8			<b>.</b>
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	264,550			
Temperature °F.			· · · · · · · · · · · · · · · · · · ·	+
Carbon Dioxide, Calculated				+
Dissolved Oxygen,				+
Hydrogen Sulfide	135	<u>_</u>	+	+
Resistivity, ohms/m at 77° F.	0.049	·		+
Suspended Oil			+	+
Filtrable Solids as mg/1		_ <u>_</u>		+
Volume Filtered, ml			+	+
			+	+
				+
			<u> </u>	<u> </u>
	Results Reported As Milligram			
Additional Determinations And Remarks		<u> </u>		
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RECLOSED AUL 1 5 1990 OCA HORES OF ILL

Section VIII. GEOLOGIC DATA

The disposal zone is a dolomite in the San Andres formation from 4348-4500' (152' thick). The only known source of fresh water in the area is from the Ogallalla formation. This formation is not known to occur below a depth of 500' in this area.

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Section IX. Proposed Stimulation Program

Current Conditions:

4-1/2" casing @ 4626'. Cemented w/450 sacks cement. TOC 3759' Perfs 1 SPF @ 4348, 54, 58, 62, 66, 84, 88, 92, 96, 4424, 30, 33, 76, 78, 80, 84, 87, 94, 96, 98 and 4500' 2-3/8" tubing @ 4303' Baker Model R packer @ 4303'

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Proposed Completion:

- 1. TOOH w/tubing and packer.
- 2. Re-perf same interval w/4 SPF.
- 3. TIH w/2-3/8" PC tubing & Model AD-1 tension packer.
- 4. Acidize new perfs w/1000 gal. 15% NE FE acid.
- 5. Set packer @ 4300', circ inhibited water in annulus.
- 6. Install surface equipment and proceed to dispose of produced water.

Section X. Test Data

An injectivity test performed on 1-14-91 on the well into the perfs from 4348' to 4500' resulted in the following data:

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Volume Pumped	<u>Rate (BPD)</u>	<u>Pressure (psi)</u>
40 bbls. 70	1 1-1/2	0- 200 350- 700
70	2	700- 900
70 70	2-1/2 3	1050-1300 1100-1400
70	3-1/4	1500

18 hr. SITP 0 psi.

Section XI. Fresh Water Chemical Analysis

A water sample was obtained from the closest water well - a windmill located approximately 1-1/4 miles from the proposed SWD well.

PANT-CHS I		ORIES	5 MAR	KU
☐ P. O. BOX 2439 TEL. 806 669 ☐ P. O. BOX 3246 TEL. 806 797			66-243 452932	
SAMPLING DATA	ANALYTICAL DATA	1		CWN L
Lab #1214Customer	oH Soecific gravity @ 75 deg. Resistivity (oha-m) Filterable solids (mg/l) Carbon dioxide (CO2) mg/l. Sulfide (as H2S) mg/l Total hardness (as CaCO3)		NA NA	
REMARKS:	DISSOLVED SOLIDS  Cations	seo/l	#0/l	ODB
Clear No Odor No Visible Suspended Solids	Sodium (Na) Calcium (Ca) Magnesium (Mg) Iron (Fe). total Potassium (K) Barium (Ba)	3.3 3.1 2.3 0 NA	76 62 28 0 NA NA	76 62 28 0 NA NA
DISTRIBUTION 3-United Company: P 0 Box 10108. Lubbock.Tx 79408 Mr Jim Latch	Anions Chloride (Cl) Sulfate (SO4) Carbonate (CO3) Bicarbonate (HCO3) Hvdroxide (OH)	2.9 .4 3.3 0	71 139 12 201 0	71 139 12 201 0
1-H L Brown.Jr ; C/O 6.McWilliams P O Box 2237. Midland.Tx 79702	Total dissolved solids icalculated)	17.3	589	589

1-Fax # (915) 683 9814

Analysis by Steve Hopkins



Water Patterns (meq/l) Logarithmic

Section XII. It is affirmed that available geologic and engineering data has been examined and there is no evidence of an open fault of any kind nor other hydrologic connection, other than this wellbore, between the proposed disposal zone and the subsurface potable water zones.

Section XIII. Proof of Notice.

The attached certified mail receipts are our proof that the land owners, Mr. Arlon Perkins and Ms. Beverly Moore, were sent a copy of this application. H. L. Brown, Jr. is the leasehold operator for all the area within one-half mile of the wellsite location.

Also attached is a copy of the legal notice of our intentions for the subject well, as it appeared in the Portales News Tribune. A copy of the newspaper's affidavit of publication is also included.

#### LEGAL NOTICE

H.L. Brown, Jr. proposes to convert a shut-in gas well in Roosevelt County to a sait water disposal well. The Holly Federal 27 #1, located 1980' FSL, 1980" FEE, Unit J, Section 27, T-7-S, R-37-E, will dispose of saltwater into the San Andres formation from a depth of 4340' to 4600' at a maximum rate of 3 BPM and a maximum pressure of 1500 psi. Questions pertaining to this application should be directed to Mark A. Gosch, Production Engineer for H.L. Brown, J.R., P.O. Box 2237, Midland, Texas 79702; phone number (915) 683-5216. Interested parties should file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501, within fifteen (15) days. Published in the Portales News-

Tribune February 5, 1991. Legal #0053.

Affidavit of Publication

Marshall Stinnett

Business Manager \_\_\_\_\_ of

#### THE PORTALES NEWS-TRIBUNE

a newspaper of general paid circulation and entered under second class postal privilege in Roosevelt County, published daily, (except Saturday) at Portales, New Mexico, for the fiftytwo (52) consecutive weeks preceding this date, do solemnly swear that a copy of the above notice, as per clipping attached, was published weekly in the regular and entire issue of said

newspaper, and not in any supplement thereof for\_\_\_\_1

consecutive weeks commencing with the issue dated\_\_\_\_\_

February 5, 19 91

and ending with the issue dated February 5, 1991

All publication costs having been paid.

	5th	day of February 19.91
Subscribed and sworn to before me this		Notary Public

I. \_\_\_\_\_

My commission expires 4/3/93 19

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