

## POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 8/501

APPLICATION FOR AUTHORIZATION TO INJEC	<b>APPLICATION</b>	FOR	AUTHORIZATION	TO	INJEC
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1.	ATION FOR AUTHORIZATION TO INJECT  Purpose: Secondary Recovery Pressure Maintenance Disposal Storage
11.	Application qualifies for administrative approval?  yes no  Operator: PENROC OIL CORPORATION
	Address: P.O. BOX 5970 HOBBS. NEW MEXTCO 88241
	Contact party: M.Y. MERCHANT Phone: 505-397-3596
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?  yes y no If yes, give the Division order number authorizing the project
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. ATTACHED
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.  ATTACHED
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>
III.	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.  ATTACHED
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.  ATTACHED
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.  ATTACHED
111.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification ATTACHED
	I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	Name: M.Y MERCHANT Title President  Signature: December 14, 1987
	Signature: lotter of Date: December 14, 1987
submi	e information required under Sections VI, VIII, X, and XI above has been previously tted, it need not be duplicated and resubmitted. Please show the date and circumstance e earlier submittal.

#### 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.

    ATTACHED

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.

    ATTACHED

#### 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.

ATTACHED

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.

DEFORE EXAMINER CATANACH

OIL CONSERVATION DIVISION

CARCE EXHIBIT NO. 2

## STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

HO. OF COPIED RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
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LAND OFFICE	
OPERATOR .	

NO. OF COPIES RECEIVED	OIL CONSERVA	ATION DIVISION	
DISTRIBUTION	P. O. BO	X 2088	form .C-103 Revised 10-1-
SANTA FE	SANTA FE, NEV	V MEXICO 87501	VEL.1260 10-11-
V.S.G.S.		•	5a. Indicate Type of Lease
LAND OFFICE	•		State Fee X
OPERATOR -			5, State Oil & Gas Lease No.
SUNDRY NO LOSE THIS FORM FOR PROPOSAL USE MAPPLICATION FO	TICES AND REPORTS ON STORILL OR TO DEEPEN OR PLUG	WELLS BACK TO A DIFFERENT RESERVOIR. CH PROPOSALS.)	7. Unit Agreement Name
OIL GAS O	CONVERT TO DISPO	SAL STATUS	
2. Name of Operator	OTT CODDODAMICAL		8. Farm or Lease Name
3. Address of Operator	OIL CORPORATION		GEORGE MCGONAGILL  9. Well No.
P.O. BO	OX 5970 HOBBS, NEW M	EXICO 88241	1
4. Location of Well	37	000	10. Field and Pool, or Wildcat
UNIT LETTER A 330	FEET FROM THE N	LINE AND 990 FEET PROM	VACUUM GRBG SAN ANDRE
THE LINE, SECTION	2 18S	NANGE 35E NMPM	
mmmmmm	VV 15 51 11 161 1 1 1 1	DC DT CB I	
	15. Elevation (Show whether 389		12. County LEA
	774		
Check Appro	_	Nature of Notice, Report or Ot subsequen	her Data T REPORT OF:
PERFORM REWEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK	ALTERING CARING
TEMPORARILY ABANDON		COMMENCE DRILLING OPNS.	ALTERING CASING  PLUG AND ABANDONMENT
PULL OR ALTER CASING	CHANGE PLANS	CASING TEST AND CEMENT JQB	
-		OTHER	
CONVERT TO DISPOSA	T MEIT X		
17. Describe Proposed or Completed Operatio work) SEE RULE 1103.	ns (Clearly state all pertinent det	lails, and give pertinent dates, including	estimated date of starting any propos
2) Dri 3) Sel 479 4) Beg at	ill out BP @ 4970' an Lectively perforate a 90-5086, acidize perf	l and convert to disposal d tag BP @8600', and test dditional San Andres por orations with 5000 gal. 7/8" plastic lined tubing e data.	t. osity from 15% HCL + BS.
		OIL CON	EXAMINER CATANACH SERVATION DIVISION EXHIBIT NO. 3
18. I hereby certify that the information above	is true and complete to the best	of my knowledge and belief.	
SIGNED REAL OF	TITLE PT	resident	DATE 12/14/87
and the second second			

ATTACHMENT TO FORM C-108

PENROC OIL CORPORATION

GEORGE MCGONAGILL NO. 1

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
Paroc EXHIBIT NO. 4
CASE NO. 9287

### PART III A

- 1) PENROC OIL CORPORATION
  George McGonagill No. 1
  Section 2, T18S, R35E
  330' FNL and 990' FEL
- 2) See Attachment
- 3) 2 7/8" J-55 Plastic Coated Tubing set at about 4600'
- 4) A 5 1/2" Plastic Coated Baker AD-1 Packer will be used and set at about 4600'.

#### PART III B

- 1) The formation name is the San Andres in the Vacuum Grayburg San Andres Pool.
- 2) The injection interval is 4790 5086, and is perforated.
- 3) The well was originally drilled for oil in 1961.
- 4) See Attachment
- 5) The Queen sand is productive at about 4200' and the ABO at about 8700'.

#### PART VII

- 1) The proposed average daily rate is 2500 BWPD. The maximum will be 5000 BWPD.
- 2) The system will be open.
- 3) The average injection pressure will be on Vacuum. The maximum will be 500 PSI.
- 4) The sources will be mostly from San Andres and ABO water from the Vacuum field, some trucked water, and water from waterflows in the area during drilling of new wells.

#### PART VIII

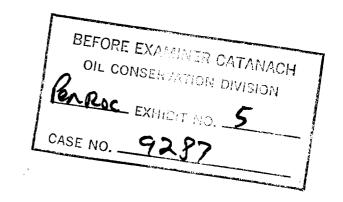
The lithology of the San Andres to be injected into is a limestone grading to a sand. The San Andres is approximately 800' thick in the area (4650-5450). The Ogallala is the only fresh water aquifer in the area, and is located between 200' to 250' below the surface.

#### PART IX

Propose to acidize injection zone with 5000 gallons 15% HCL + BS.

#### PART XII

PENROC OIL CORPORATION has examined the available geological and engineering data and finds no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.



Penroc Oil Corporation George McGonagill No. 1 Section 2 - T18S - R35E 330' FNL and 990' FEL Unit letter A

## Casing;

13 3/8" 48# set @ 320' with 330 sxs circulated 8 5/8" 24 & 32# set @ 3498' with 1365 sxs circulated 5 1/2" 15.5 & 17# set @ 9259' with 720 sxs TOC 3500' TS

5 1/2 shot and pulled at 2888'

## Record of perforations;

8780 - 9080 SQZD with 50 sxs 4832 - 4844 SQZD with 25 sxs 5060 - 5068 SQZD with 25 sxs 4832 - 4844 SQZD with 25 sxs 8780 - 8790, 8794 - 8808 set CIBP at 8600' + 2 sxs cmt set CIBP at 4970' + 2 sxs cmt 4790 - 4846 open

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION

Pearoc EXHIBIT NO. 6

## Penroc Oil Corporation George McGonagill No. 1

Current Wellbore Sketch

BEFORE EXAMINER CATANACH OIL CONSERVATION DIVISION

CASE NO.

13 3/8" 48# set @ 320' with 330 sxs circulated

Top of 5 1/2" casing stub @ 2888'

8 5/8" 24 & 32# set @ 3498' with 1365 sxs circ.

perfs. 4790 - 4846 open

perfs. 4832 - 4844 SQZD with 25 sxs

CIBP @ 4970' + 2 sxs cmt

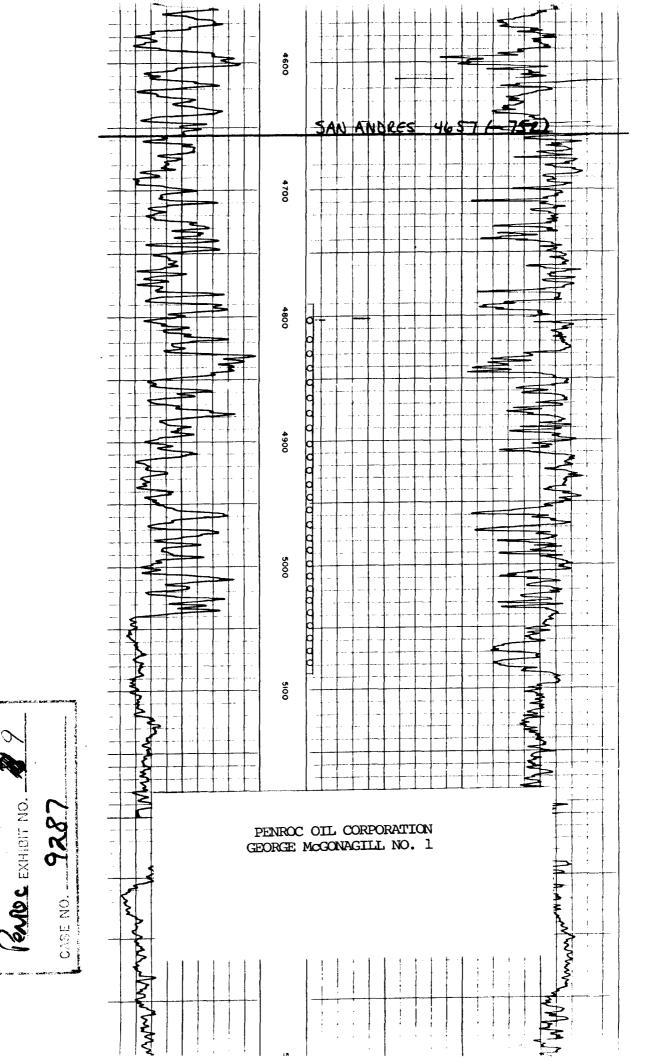
perfs. 5060 - 5068 SQZD with 25 sxs

CIBP @ 8600' + 2 sxs cmt

perfs. 8780 - 8808 open

perfs. 8780 - 9080 SQZD with 50 sxs

5 1/2" 15.5 & 17 # set @ 9259' with 720 sxs TOC 3500' TS



RETORE EXAMINER CATANACH OIL CONSERVATION DIVISION

Apollo Energy Inc. Lee No. 2 Section 2 - T18S - R35E 330' FNL 2310' FEL Unit letter B

## Casing;

13 3/8" 48# set @ 373' with 400 sxs circulated 8 5/8" 24 &32# set @ 3600' with 1250 sxs TOC 300' TS 4 1/2" 11.6 & 10.5# set @ 9010 with 1171 sxs TOC 2660' TS

## Record of perforations;

9010 - 9015 SQZD with 50 sxs 8936 - 8973 SQZD with 175 sxs 8967 - 8992 SQZD with 25 sxs 5082 - 5094 SQZD with 100 sxs 8650 - 8680 SQZD with 100 sxs 8510 - 8530, 8400 - 8420 SQZD with 100 sxs 4222 - 4232 set CIBP @ 4306' + 100' cmt

Cut 4 1/2" casing @ 2590' and recovered 100' plug @ 2650 - 2750 100' plug @ 1550 - 1650 10 sxs plug @ surface P&A

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION

Apollo Energy Inc. Lee No. 2 Current Wellbore Sketch

10 sx plug @ surface

13 3/8" 48# set @ 373' with 400 sxs circ.

100' plug @ 1550 - 1650

100' plug @ 2650 - 2750 4 1/2" casing cut and pulled @ 2590'

8 5/8" 24 &32# set @ 3600' with 1250 sxs TOC 2660' TS

perfs. 4222 - 4232 CIBP @ 4306 + 100' plug to 4200'

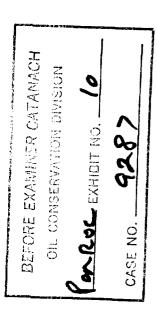
perfs. 5082 - 5094 SQZD with 100 sxs

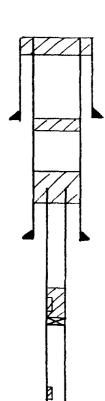
perfs. 8400 - 8420, 8510 - 8530 SQZD WITH 100 sxs

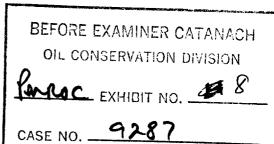
perfs. 8650 - 8680 SQZD with 100 sxs

perfs. 8936 - 8973 SQZD with 175 sxs perfs. 8976 - 8992 SQZD with 25 sxs plug 8800 - 8996

4 1/2" 11.6 & 10.5# set @ 9010 with 1171 sxs TOC 2660 TS perfs. 9010 - 9015 SQZD with 50 sxs







Penroc Oil Corporation George McGonagill No. 1

> Proposed Wellbore Sketch 13 3/8 " 48# set @ 320' with 330 sxs circulated Top of 5 1/2" casing stub @ 2888' 8 5/8" 24 & 32# set @ 3498' with 1365 sxs circ. 2 7/8" plastic coated tubing set @ approx. 4600'\_ 5 1/2" plastic coated Baker AD - 1 packer @ 4600' Perforate 4970-5086 (selective) Injection interval CIBP @ 8600' + 2 sxs cmt. perfs. 8780 - 8808 open perfs. 8780 - 9080 SQZD with 50 sxs 5 1/2" 15.5 & 17# set @ 9259' with 720 sxs

> > OC 3500' TS

Cities Service Oil and Gas Corporation State BJ No. 1 Section 35 - T17S - R35E 2310' FSL 990' FEL Unit letter I

13 3/8" 48# set @ 325' with 325 sxs + 1.5 yds pea gravel 8 5/8" 24 &32# set @ 3512' with 1485 sxs circulated 5 1/2" 15.5 & 17# set @ 9009' with 800 sxs TOC 5085 TS

perfs. 8793 - 8944 active producer Vacuum Abo Reef

Cities Service Oil and Gas Corporation State BJ No. 3 Section 35 - T17S - R35E 990' FSL 2310'FEL Unit letter O

13 3/8" 48# set @ 354' with 375 sxs circulated 8 5/8" 24 & 32# @ 3510' with 1850 sxs circulated 5 1/2" 15.5 & 17# set @ 9018' with 1170 sxs TOC 1050' TS

perfs. 8904 - 8952 active producer Vacuum Abo Reef

BEFORE TRANSMER CATAMACM
OIL COMSERVATION DIVISION

Hondo Oil and Gas Company Lea 946 State No. 3 Section 2 - T18S - R35E 660' FNL 1980' FWL Unit letter C

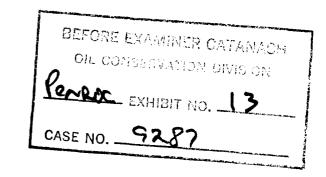
13 3/8" 48# set @ 375! with 375 sxs circulated 8 5/8" 24 & 32# set @ 3596' with 1300 sxs TOC 2460' TS 4 1/2" 9.5, 10.5 & 11.6 set @ 9000' with 1290 sxs TOC 3430' TS

perfs. 8937 - 8975 SQZD with 150 sxs 8805 - 8855 CIBP @ 8790' with 10' cmt 8681 - 8768 active producer Buckeye Abo

Penroc Oil Corporation Lee No. 1 Section 2 - T18S - R35E 2310 FEL 1980 FNL Unit letter G

13 3/8" 44# set @ 344' with 300 sxs circulated 8 5/8" 24 & 32# set @ 3585' with 231 sxs TOC 2800' 5 1/2" 15.5 &17# set @ 9200' with 1900 sxs circulated

perfs. 9126 - 9146 SQZD with 100 sxs 9010 - 9080 CIBP @ 8950' 8688 - 8710 active producer Vacuum Abo Reef



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## HALLIBURTON DIVISION LABORATORY

# HALLIBURTON SERVICES MIDLAND DIVISION HOBBS, NEW MEXICO 88240

## LABORATORY WATER ANALYSIS

No. WS-87-243

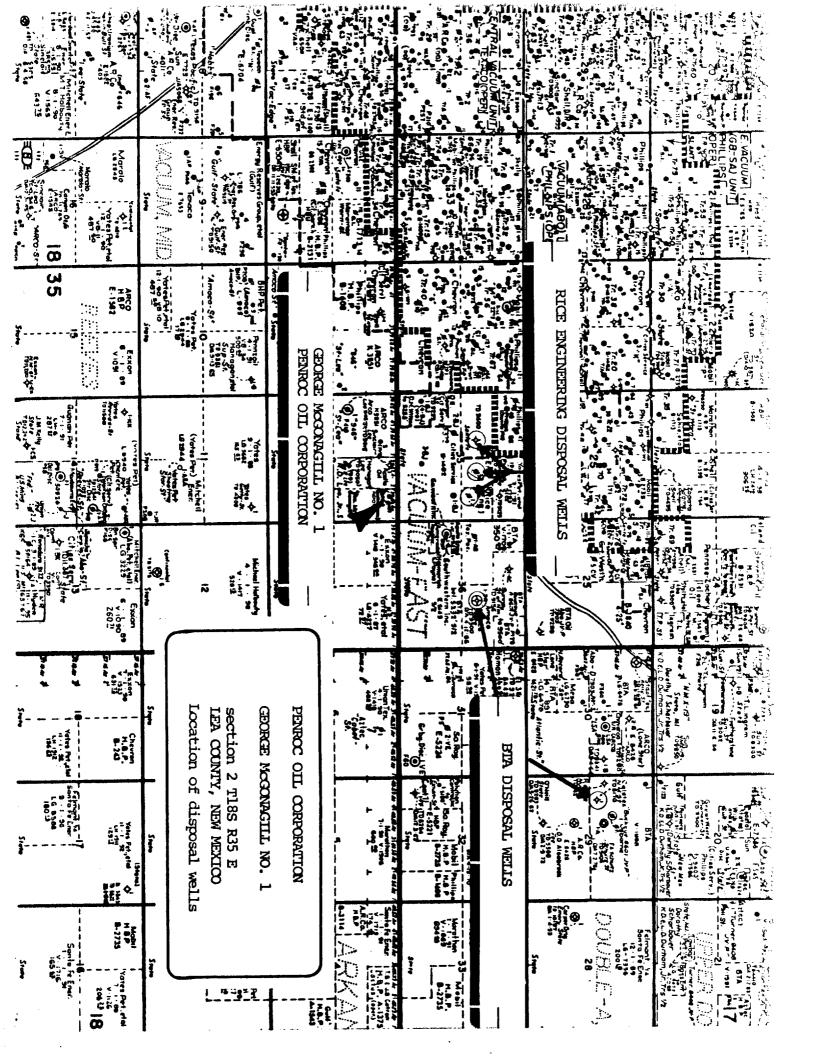
To Mr. M. Y. Merchant		Date	12-12-87
PENROC		it nor any part thereof	rty of Halliburton Company and neither nor a copy thereof is to be published
P. O. Box 5970		of laboratory managem	et securing the express written approvalent; it may however, be used in the second or concerned by any person or concerned to the security of
Hobbs NM 88240		and employees thereof Company.	receiving such report from Halliburton
Submitted by M.Y. Merch	ant	Date Rec	12-10-87
		Formatio	n
County Lea Co. NM	Field Buckeye	Area Source W	ater well / Devonian we
, _	water well	Devonian well	
Resistivity	3.41 @ 68°F	.09 @ 68 <sup>0</sup> F	
Specific Gravity		1.066	
pH		7.6	
Calcium (Ca)		2150	*MPL
Magnesium (Mg)		330	
Chlorides (Cl)		55000	
Sulfates (SO <sub>4</sub> )	nil	heavy	
Bicarbonates (HCO <sub>3</sub> )	240	1284	
Soluble Iron (Fe)		nil	
		•	EXAMINER CATANACH  NSERVATION DIVISION
Remarks: water taken : comparison p	from wells in the same	S /	*Milligrams per liter EXHIBIT NO.
		CASE NO.	9287
·	C. R. Moore	Charls Ray Moore	
	Respectfull	y submitted, /	
Analyst: erm		HALLIBURTO	N COMPANY
<b>cc</b> :		By crm	EMIST

# Disposal wells in the area of the George McGonagill No.1

- 1) Rice Engineering Corporation unit F sec. 35-T17S-R35E
  Injection interval: OH 4885-5855 San Andres
- 2) Rice Engineering Corporation unit G sec. 35-T17S-R35E Injection interval: perfs. 4973-5713 San Andres
- 3) Rice Engineering Corporation unit H sec. 35-T17S-R35E Injection interval: perfs. 5230-5755 San Andres
- 4) BTA #2 Buckeye B 8601 JV-P unit G sec.36-T17S-R35E Injection interval: OH 9300-9580 Abo
- 5) BTA #2 Buckeye B 8601 JV-P unit E sec. 29-T17S-R36E Injection interval: perfs. 5082-5130 San Andres

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION

PERROC EXHIBIT NO. 15



BEFORE EXAMINER CATANACH OIL CONSERVATION DIVISION

PORROC EXHIBIT NO.

CASE NO.

Form 3800, June 1985

Sent to Sheet Sheet Certified Fee Restricted Delivery Fee Special Delivery Fee Return Receipt showing to whom Date, and Address of Delivery Return Receipt showing to whom and Date Delivered Lovington, NM TOTAL Posinge and Febr œ̃ × ROX No Ö 363 Lee 88260 22 75 2

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PS Form 3800, June 1985

U.S.G.P.O. 153-506 Sent to Exxon Sirget and No Box 2100 P.O., State and ZIP Code Hobbs, NM 88 Company, NM 88240

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Return Receipt showing to whom and Date Delivered

Return Receipt showing to whom Date, and Address of Delivery

TOTAL Postage and Fees

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NO INSURANCE COMPANY OF THE MAIL character 3 HED WAIL RECEIPT FOR U. 445 ET8 542-9

PS Form 3800. POSTMBIN Zb June 1985 Return Receipt showing to we Refurn Receipt showing to whom and Date Delivered Restricted Delivery Fee Special Delivery Fee 97. Sentined Fee 72 U.S.G.P.O. 153-506 **a6**e150<sub>C</sub> FO State and ZIP Code STIT PROBUS Southwestern, Inc. (astatay aag)

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U.S.G.P.O. 153-506

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RECE PT FOR CERTIFIED MAIL
NO HISHRANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL Philipped 2 Trefas 79701 Return Receipt showing to whom. Date, and Address of Delivery (See Reverse) Return Receipt showing to whom and Date Delivered TOTAL Postage and Fees Sireet and No. Pecos Restricted Delivery Fee Special Delivery Fee Postmark or Date Certified Fee Sent to B T A Postage PS Form 3800, 808-681 .O.4.D.8.U