STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

4-26-89

GARREY CARRUTHERS
GOVERNOR

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

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

RE: Proposed:
MC
DHC
NSL
NSP
SWD X
WFX
PMX

Gentlemen:

I have examined the application for the:

Bledsoe Petro Corp. Bledsoe #1-H 11-6-33
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

had no data on P & A well or producing wells w/in ½ mi
No Recommendation

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Form C-108
Revised 7-1-81

J. B. Jordan
405-789-5053

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Bledsoe Petro Corporation

Address: 3908 N. Peniel, Bethany, Oklahoma 73008

Contact party: J.D. Rawdon Phone: (405) 789-5053

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? ☐ yes ☒ no
If yes, give the Division order number authorizing the project NA.

V. 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:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
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.).

*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.

Name: J.D. Rawdon Title Operations Manager

Signature: J.D. Rawdon Date: 4/18/89

* 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.

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

Application for Authorization to Inject

Bledsoe Petro Corporation

Bledsoe Well No. 1

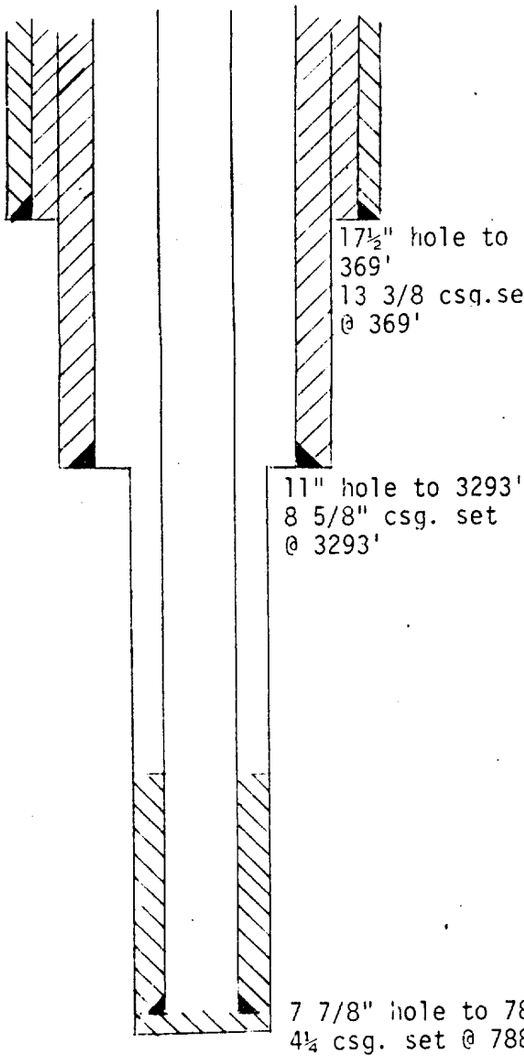
III WELL DATA
(schematic attached-see Item No. 1)

A.1.	Name and Location:	Bledsoe Well No. 1 H, 1874 FNL & 766 FEL Sec. 11, T-6-S, R-33-E Roosevelt County
2.	Casing	
	Surface	17½' hole with 13 3/8" OD 48#H40 set at 369'. Cemented w/350 sks. TOC at surface. Cement circulated
	Intermediate	11" hole with 8 5/8" OD 32# J55 set at 3293'. Cemented w/1400 sks. TOC at surface. Cement circulated
	Production	7 7/8" hole with 4½" OD 11.6# & 10.5# K55 set at 7880'. Cemented w/ 400 sks. TOC at 6816' by Temperture Survey. Tested to 1500 psig for 30 min.
3.	Tubing	2 3/8" OD 4.7# J55 set at 7500' (internally plastic coated)
4.	Packer	Baker Loc-Set Retrievable Packer. Set at 7500'.
B.1.	Formation & Field	Cisco-So. Peterson Penn. Assoc. Field Granite Wash-Tanneyhill Granite Wash Field
2.	Proposed Injection Internal	Selectively perforated the Cisco from 7577 to 7638'. Will perforate the Granite Wash from 7692-7702, 7722-32, 7785-95 feet.
3.	Original Purpose	Drilled as a producer
4.	Other Perforated Intervals	Tanneyhill Granite Wash selectively perforated from 7695 to 7859 with 18 holes. Squeezed with 75 sks below a cement retainer set at 7684.
5.	Productive Zones	Cisco 7563-7670 feet Granite Wash 7670-7899 feet (TD)

INJECTION WELL DATA SHEET

OPERATOR	LEASE			
Bledsoe Petro Corporation		Bledsoe		
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
1	1874 FNL & 766 FEL	11	6-S	33-E

Schematic



Tabular Data

Surface Casing Set at 369'

Size 13 3/8 " Cemented with 350 sx.

TOC Surface feet determined by Circulation

Hole size 17½"

Intermediate Casing Set at 3293'

Size 8 5/8 " Cemented with 1400 sx.

TOC Surface feet determined by Circulation

Hole size 11"

Long string Set at 7880

Size 4½ " Cemented with 400 sx.

TOC 6816 feet determined by temperture survey

Hole size 7 7/8"

Total depth 7890

Injection interval

7577 feet to 7795 feet

(perforated ~~or open hole, indicate which~~)

Tubing size 2 3/8 lined with plastic coating (material) set in a

Baker-Lok Set Retrievable (brand and model) packer at approximately 7500 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Cisco and Granite Wash

2. Name of Field or Pool (if applicable) So. Peterson Penn Assoc. and Tanneyhill Granite Wa

3. Is this a new well drilled for injection? ☐ Yes ☒ No

If no, for what purpose was the well originally drilled? As producing well

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) Originally completed in Granite Wash (7692-7795 feet). Granite Wash squeezed with 75 sks. below retainer at 7684 feet. Currently open in Cisco from 7577 to 7638 feet.

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. None in immediate area.

LEGAL NOTICE
NOTICE OF APPLICATION TO INJECT PRODUCED OIL FIELD BRINE

To Whom It May Concern: Please be advised that Bledsoe Petro Corporation, 3908 N. Peniel, Bethany, Oklahoma 73008 (Attn: J.D. Rawdon, AC 405-789-5053) is requesting administrative approval to convert the Bledsoe Well No. 1 located 1874 FNL and 766 FEL of Section 11, Twp 6-S Range 33-E, Roosevelt County, New Mexico from producing to disposal status for salt water disposal. The injection zones will be the Cisco formation from 7577 to 7638 foot and the Granite Wash formation from 7692 to 7795 feet. The maximum daily rate will not exceed 1000 barrels of produced brine and the maximum surface injection pressure will be 2000 psig. Any and all interested parties who may have objection(s) to this application should file such objections or request for hearing with The Oil Conservation Division, P.O. Box 2088, Santa Fe, New mexico 87501 within 15 days.

Published in the Portales News-Tribune April 7, 9, 11, 1989. Legal #0696.

Affidavit of Publication

—0—

I, 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 fifty-two (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 3 consecutive weeks commencing with the issue dated April 7 19 89

and ending with the issue dated April 11 19 89

All publication costs having been paid.

Marshall Stinnett

Subscribed and sworn to before me this 17th day of April 19 89

DeMaris Barnett

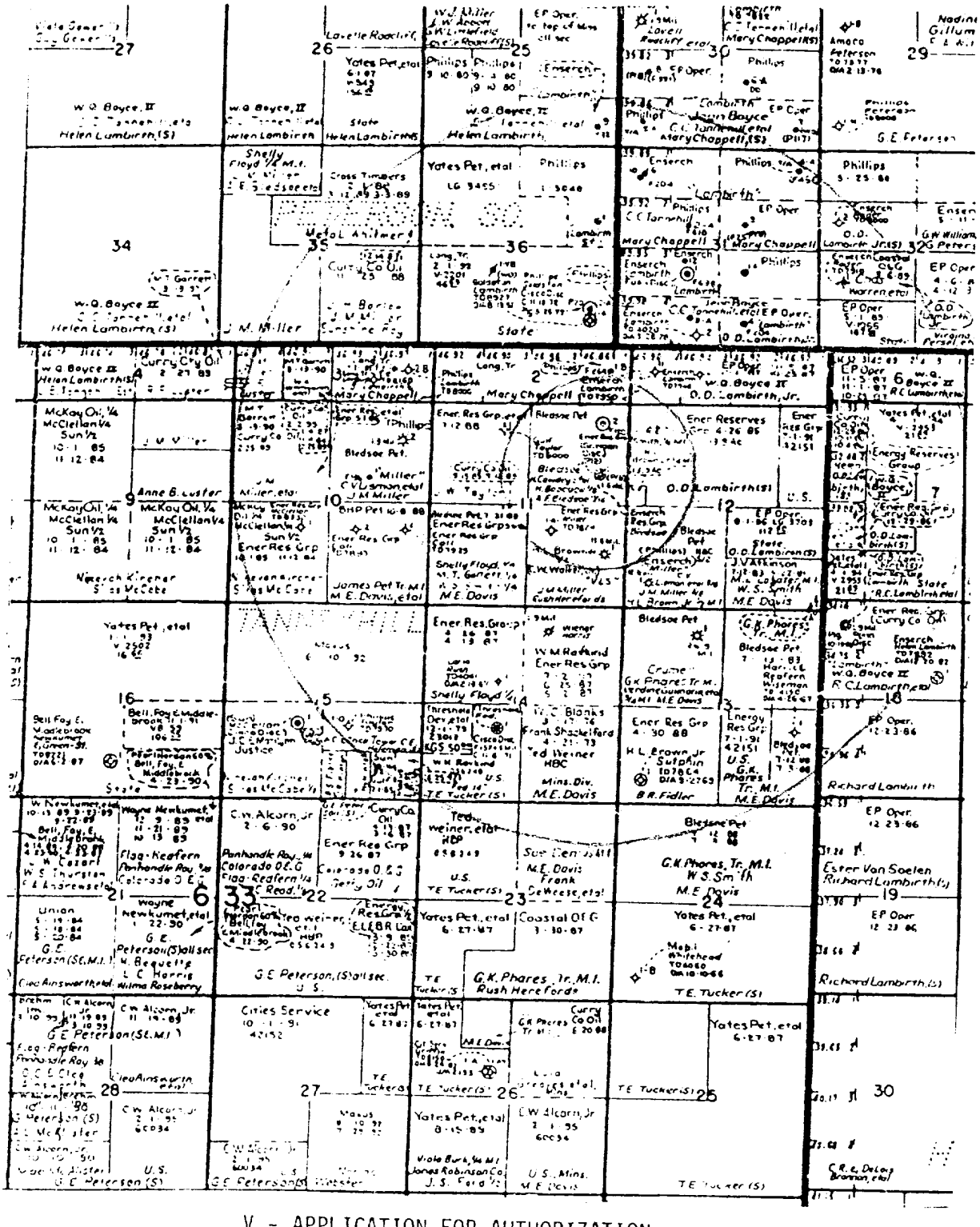
Notary Public

My commission expires 3/7/91 19

V IDENTIFICATION MAP - attached with ½ and 2 mile radii

VI WELLS WITHIN THE AREA OF REVIEW

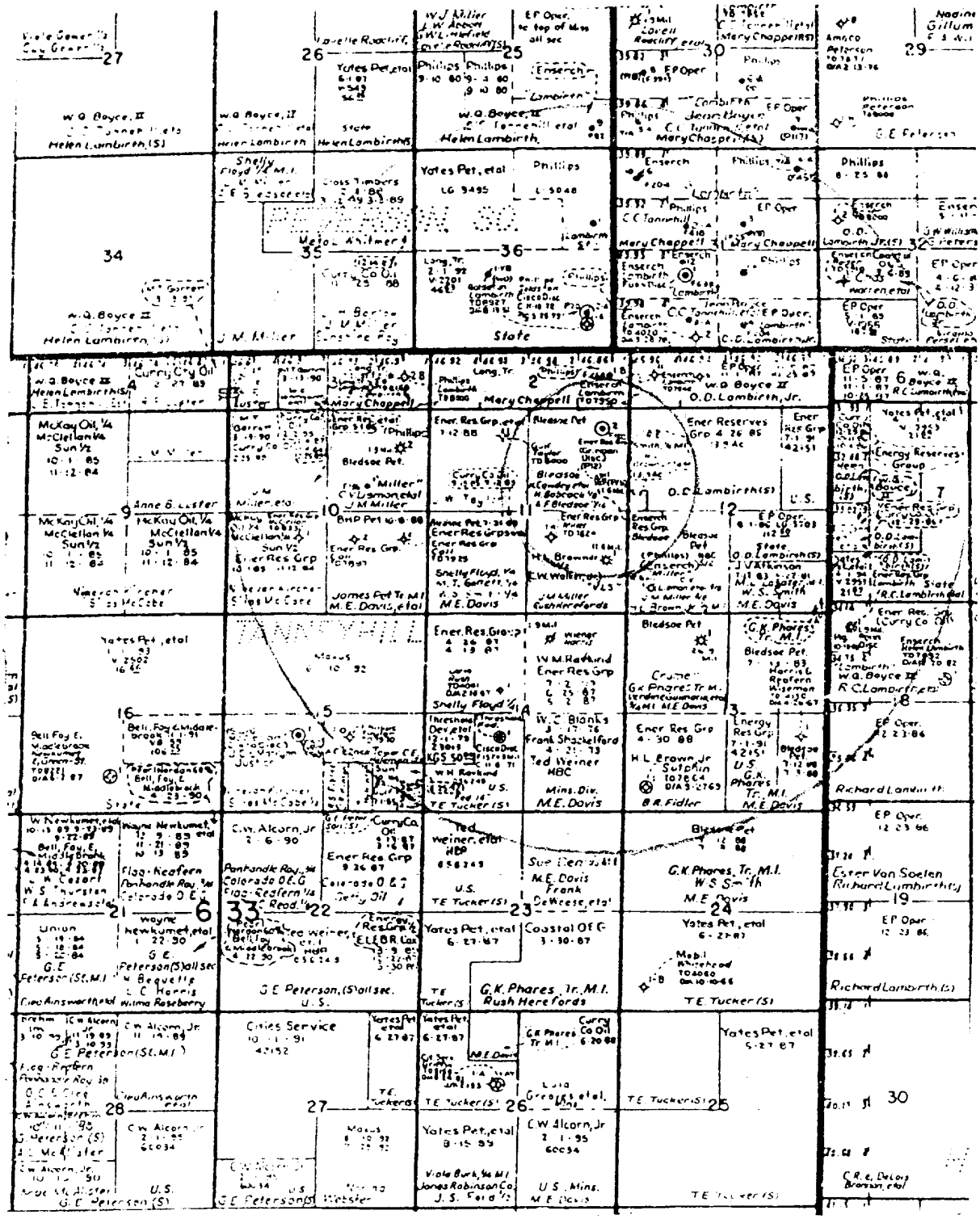
Operator	H.L. Brown, Jr.	Energy Res. Group	Bledsoe Petro Corp.
Lease Name & Well No.	VLS Well No. 1	Miller "A" No. 1	Bledsoe No. 2
Location	1300 FSL & 660 FEL Sec.11,T-6-S,R-33-E	1980 FSL & 1980 FWL Sec.11,T-6-S,R-33-E	500 FNL & 700 FEL Sec.11,T-6-S,R-33-E
Date Drilled	4/19 - 5/27/82	Unknown	12/11/80 - 2/23/81
Type	Producing	P&A	Producing
Total Depth A	7800	7824	7935
Casing			
Size, in.	13 3/8		13 3/8
Depth,ft.	400		364
Cement, sks	N/A		375
Size,inc.	8 5/8		8 5/8
Depth,ft.	3400		3310
Cement,sks	N/A		1680
Size, in.	5½"		4½"
Depth, ft.	7797		7927
Cement, sks	832		400
Completion	Gas	Abandoned	Gas



V - APPLICATION FOR AUTHORIZATION
TO INJECT

Bledsoe Petro Corporation
Bledsoe Well No. 1

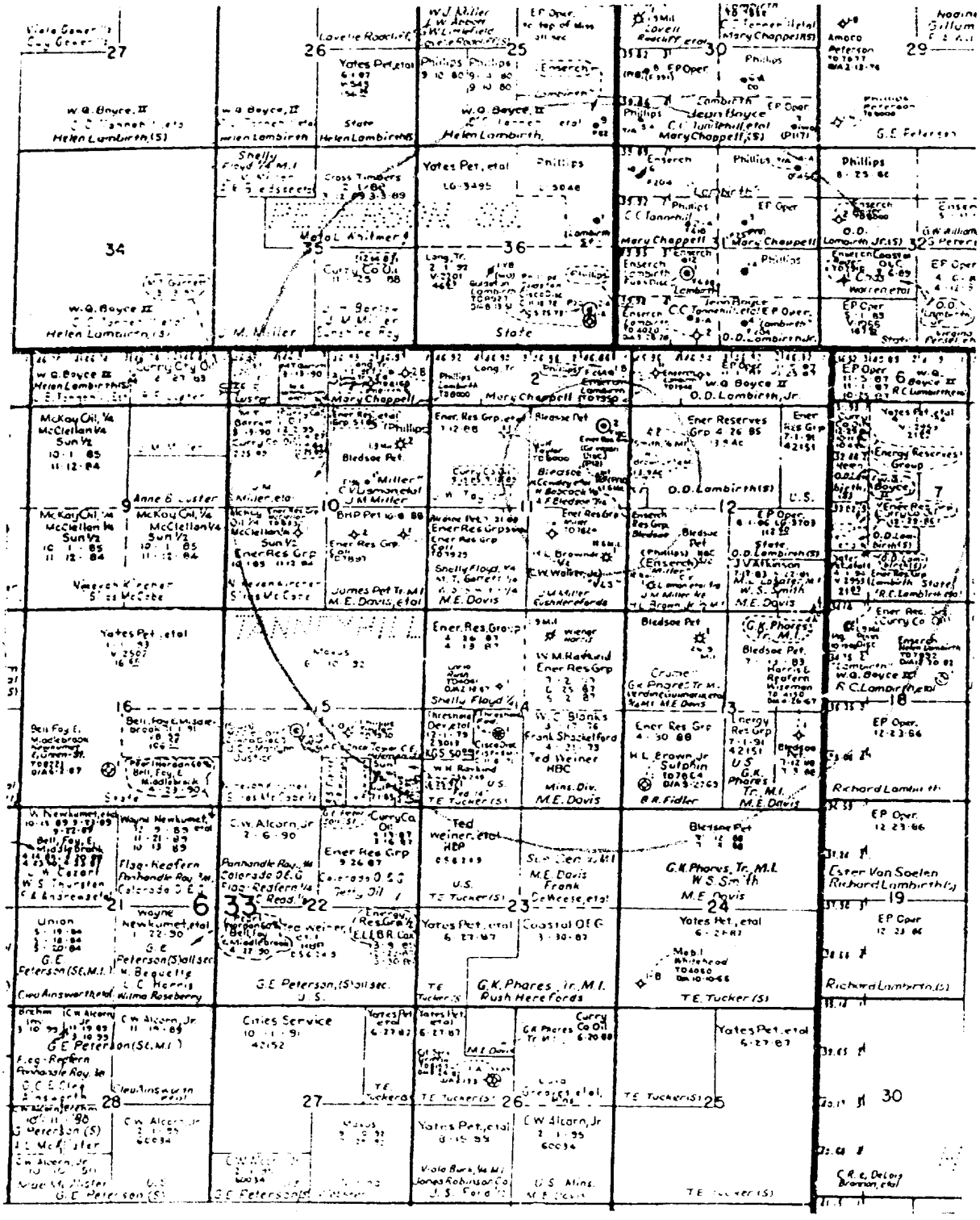
IDENTIFICATION MAP
T-6-S R-33-E
Roosevelt County
1": 4000



V - APPLICATION FOR AUTHORIZATION
TO INJECT

Bledsoe Petro Corporation
Bledsoe Well No. 1

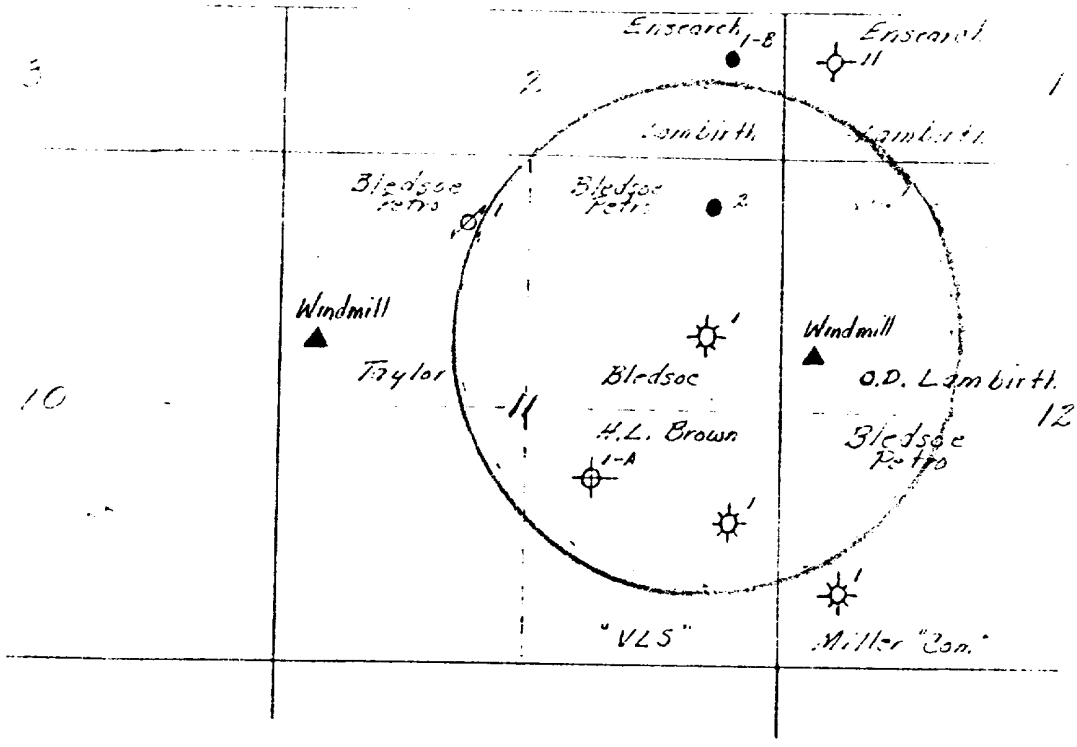
IDENTIFICATION MAP
T-6-S R-33-E
Roosevelt County
1": 4000



V - APPLICATION FOR AUTHORIZATION
TO INJECT

Bledsoe Petro Corporation
Bledsoe Well No. 1

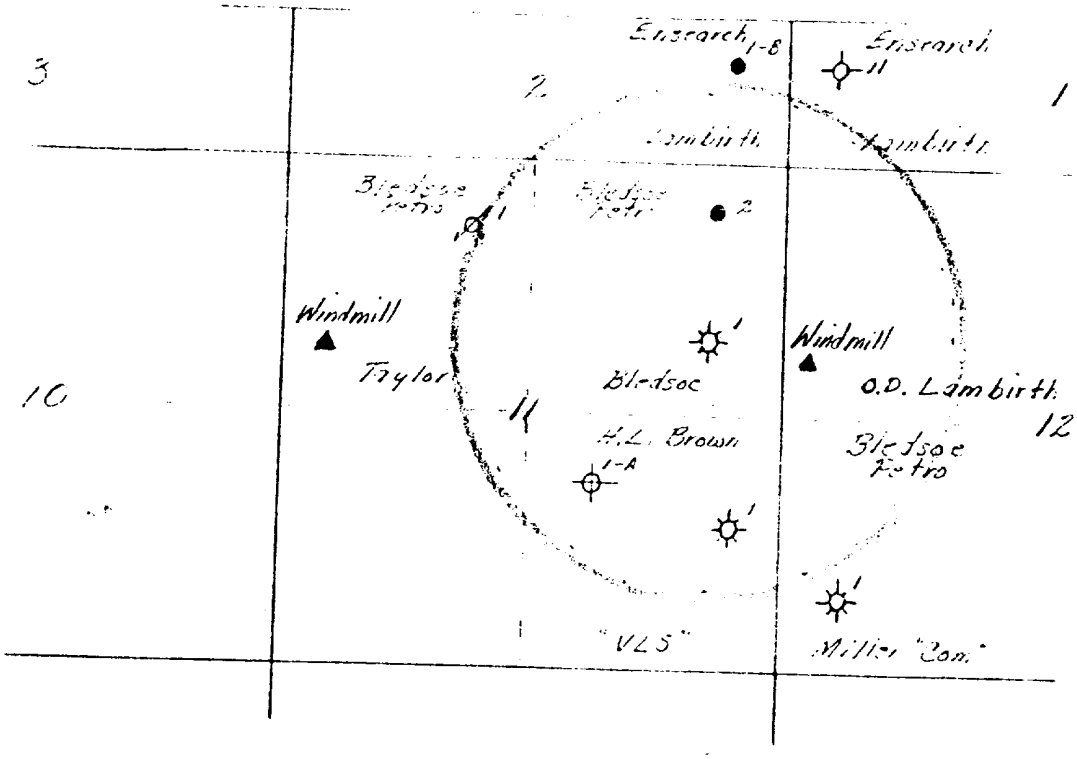
IDENTIFICATION MAP
T-6-S R-33-E
Roosevelt County
1": 4000



V-A APPLICATION FOR
AUTHORIZATION TO INJECT

EXPANDED IDENTIFICATION MAP
SHOWING HALF MILE RADIUS

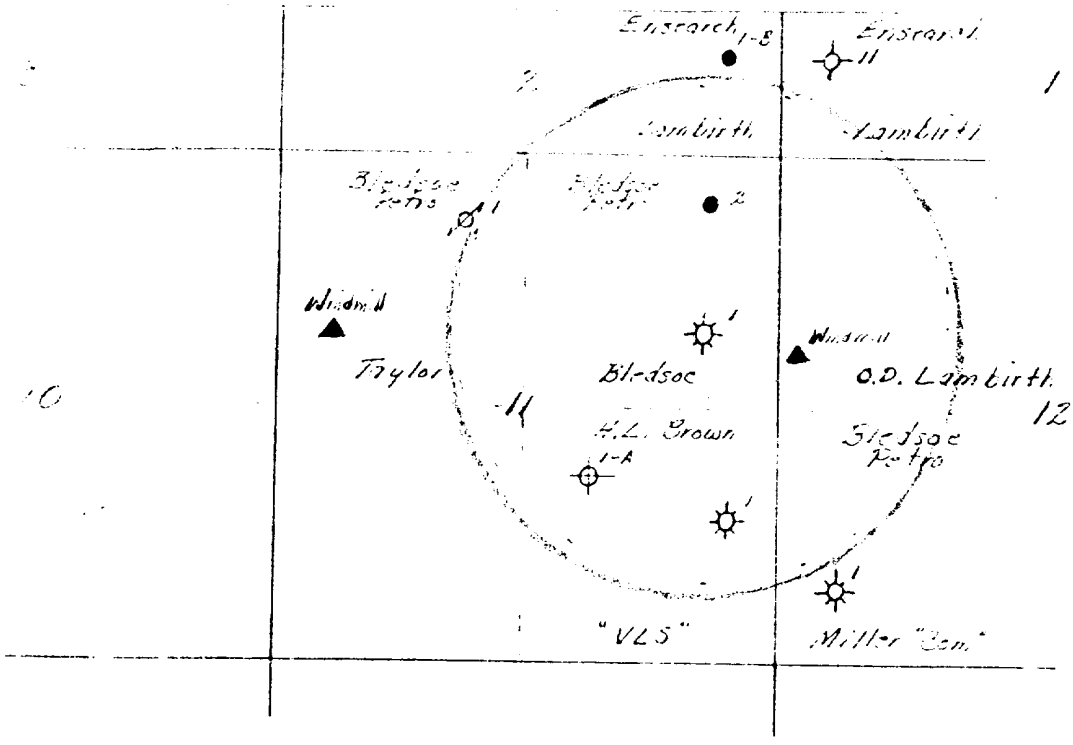
1" : 2000'



V-A APPLICATION FOR
AUTHORIZATION TO INJECT

EXPANDED IDENTIFICATION MAP
SHOWING HALF MILE RADIUS

1" : 2000'



V-A APPLICATION FOR
AUTHORIZATION TO INJECT

EXPANDED IDENTIFICATION MAP
SHOWING HALF MILE RADIUS

1" : 2000'

Application for Authorization to Inject
Bledsoe Petro Corporation
Bledsoe Well No. 1

VII PROPOSED INJECTION OPERATIONS

1.	Rates	average - 600 BWPD maximum - 1000 BWPD
2.	System	closed
3.	Pressures:	average - 1000 psig maximum - 1500 psig
4.	Fluid:	The Cisco-Granite Wash Disposal zone will be utilized to inject produced water from the Cisco formation.
5.	Disposal Zone:	The Cisco disposal zone is marginally productive within one mile of the proposed well.

Application for Authorization to Inject
Bledsoe Petro Corporation
Bledsoe Well No. 1

VIII GEOLOGICAL DATA

A. Injection Zone: The Cisco Formation in this well is perforated from 7577 to 7638 feet. The zone includes alternating units of lime mudstone, wakestone,jackstone and gainstone. The section is characterized by stylolites with gray-green shale laminations. The sequence is interpreted as a shallow marine bank or mound deposit. The Cisco reservoirs are zones of vugular porosity which are results of leaching. Trapping mechanism is a combination of structural and stratigraphic elements. The Granite Wash interval from 7692 to 7795 feet is not presently productive although it has previously produced. The zone is a conglomerate made up of reworked granite and is an unconformity below the Cisco zone.

B. Fresh Water Sources: The primary potentital for potable water in the area is from the surface to the Triassic Red Beds. There are no known potable water sources below these Red Beds which occur above 2000 feet.

RECEIVED

APR 25 1989

OCD
HOBBS OFFICE

Application for Authorization to Inject
Bledsoe Petro Corporation
Bledsoe Well No. 1

IX PROPOSED STIMULATION PROGRAM

The Cisco-Granite Wash perforations will be washed with 2000 gallons of 15% NEFE acid to insure all perforations are open. No other treatment is anticipated at this time. Maximum pressure should not exceed 3000-4000 psig and maximum rate will be less than 6 - 7 BPM.

X WELL LOGS

Well logs were filed with the Oil Conservation Division on completion of the well as a gas producer.

XI FRESH WATER ANALYSES

Attached are chemical analysis of water from fresh water wells within a mile of the proposed disposal well. Well locations are shown on the "V-A" Expanded Identification Map".

WATER ANALYSIS REPORT

SAMPLE

Location: East Well
Company : Bledsoe

Date An.: 20-April-1989
Ref.: Pro-Kem, Inc.

ANALYSIS

		MG/L	EQ. WT.	*MEQ/L
1.	*pH*	7.000		
2.	*Specific Gravity 60/60 F.*	1.003		
3.	*$CaCO_3$ Saturation Index @ 80°F.*	+0.007		
	@ 140°F.	+0.627		

DISSOLVED GASSES

4.	*Hydrogen Sulfide*	Not Present	
5.	*Carbon Dioxide*	Not Determined	
6.	*Dissolved Oxygen*	Not Determined	

CATIONS

7.	*Calcium*	*(Ca^{++})*	125	/ 20.1 =	6.22
8.	*Magnesium*	*(Mg^{++})*	70	/ 12.2 =	5.74
9.	*Sodium*	*(Na^{+})* Calculated	101	/ 23.0 =	4.39
10.	*Barium*	*(Ba^{++})*	Below 5		

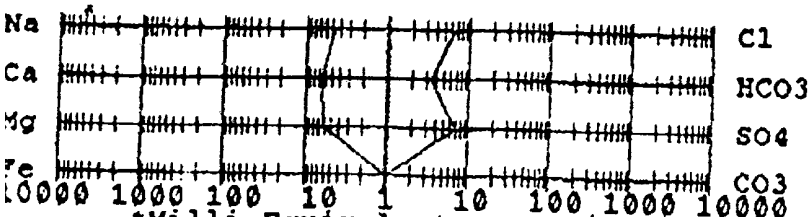
ANIONS

11.	*Hydroxyl*	*(OH^{-})*	0	/ 17.0 =	0.00
12.	*Carbonate*	*($CO_3^{=}$)*	0	/ 30.0 =	0.00
13.	*Bicarbonate*	*(HCO_3^{-})*	202	/ 61.1 =	3.31
14.	*Sulfate*	*($SO_4^{=}$)*	330	/ 48.8 =	6.76
15.	*Chloride*	*(Cl^{-})*	220	/ 35.5 =	6.20

16.	*Total Iron (Fe)*	0
17.	*Total Dissolved Solids*	1,048
18.	*Total Hardness As $CaCO_3$*	602
19.	*Resistivity @ 75°F. (Calculated)*	2.903 *Ohm-Meters*

LOGARITHMIC WATER PATTERN

*meq/L.



*Milli Equivalents per Liter

Calculated Calcium Sulfate Solubility in this brine is 2,121 mg/L.

Estimated Calcium Sulfate Scaling Potential: Nil

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	3.31	268
$CaSO_4$	68.07	2.91	198
$CaCl_2$	55.50	0.00	0
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	3.85	232
$MgCL_2$	47.62	1.89	90
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	4.31	252

stimated Temperature of Calcium Carbonate Instability is 79 Degrees F.
his water is slightly corrosive due to the pH observed on analysis.
he corrosivity is increased by the content of mineral salts in solution.

WATER ANALYSIS REPORT

SAMPLE

Location: Heat Well
Company : Bledsoe

Date An.: 20-April-1989
Ref.: Pro-Kem, Inc.

ANALYSIS

		MG/L	EQ. WT.	*MEQ/L
1.	*pH*	7.000		
2.	*Specific Gravity 60/60 F.*	1.001		
3.	*$CaCO_3$ Saturation Index @ 80°F.*	+0.210		
	@ 140°F.	+0.810		

DISSOLVED GASSES

4.	*Hydrogen Sulfide*	Not Present
5.	*Carbon Dioxide*	Not Determined
6.	*Dissolved Oxygen*	Not Determined

CATIONS

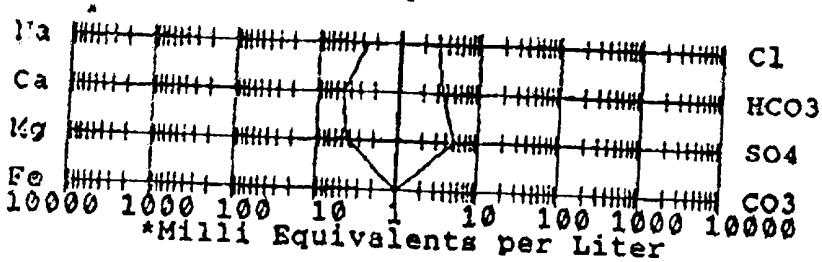
7.	*Calcium*	*(Ca^{++})*			
8.	*Magnesium*	*(Mg^{++})*	93	/ 20.1 =	4.58
9.	*Sodium*	*(Na^{+})* Calculated	50	/ 12.2 =	4.10
10.	*Barium*	*(Ba^{++})*	54	/ 23.0 =	2.35
			Below 5		

ANIONS

11.	*Hydroxyl*	*(OH^{-})*			
12.	*Carbonate*	*($CO_3^{=}$)*	0	/ 17.0 =	0.00
13.	*Bicarbonate*	*(HCO_3^{-})*	0	/ 30.0 =	0.00
14.	*Sulfate*	*($SO_4^{=}$)*	197	/ 61.1 =	3.22
15.	*Chloride*	*(Cl^{-})*	240	/ 48.8 =	4.92
			100	/ 35.5 =	2.82
16.	*Total Iron (Fe)*				
17.	*Total Dissolved Solids*		0		
18.	*Total Hardness As $CaCO_3$*		733		
19.	*Resistivity @ 75°F. (Calculated)*		433		
			2.711	*Ohm-Meters*	

LOGARITHMIC WATER PATTERN

*meq/L.



*Milli Equivalents per Liter

Calculated Calcium Sulfate Solubility in this brine is 2,045 mg/L.

Estimated Calcium Sulfate Scaling Potential: Nil

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT. X	*meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	3.22	261
$CaSO_4$	68.07	1.35	92
$CaCl_2$	55.50	0.00	0
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	3.57	215
$MgCL_2$	47.62	0.53	25
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	2.28	134

Estimated Temperature of Calcium Carbonate Instability is 67 Degrees F.
This water is slightly corrosive due to the pH observed on analysis.
The corrosivity is increased by the content of mineral salts in solution.

Application for Authorization to Inject
Bledsoe Petro Corporation
Bledsoe Well No. 1

XII AFFIRMATIVE STATEMENT

All available geologic and engineering data have been examined and there is no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

NOTICE OF APPLICATION TO INJECT PRODUCED
OIL FIELD BRINE

To Whom It May Concern:

Please be advised that Bledsoe Petro Corporation, 3908 N. Peniel, Bethany, Oklahoma 73008 (Attn: J.D. Rawdon, AC 405 789-5053) is requesting administrative approval to convert the Bledsoe Well No. 1 located 1874 FNL and 766 FEL of Section 11, Twp 6-S Range 33-E, Roosevelt County, New Mexico from producing to disposal status for salt water disposal. The injection zones will be the Cisco formation from 7577 to 7638 feet and the Granite Wash formation from 7692 to 7795 feet. The maximum daily rate will not exceed 1000 barrels of produced brine and the maximum surface injection pressure will be 2000 psig. Any and all interested parties who may have objection(s) to this application should file such objections or request for hearing with The Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

BLEDSOE PETRO CORPORATION
BLEDSOE WELL NO. 1
SURFACE OWNER AND OFFSET OPERATORS

Surface and Royalty Owner

Mr. & Mrs. Joe M. Miller
East Star Route, Box 609
Elida, New Mexico 88116

Offset Operators

Phillips Petroleum Company
4001 Penbrook Street
Odessa, Texas 79762
Attn: L.M. Sanders

H.L. Brown, Jr.
P.O. Box 2237
Midland, Texas 79702

EP Operating Company
Claydesta National Bank Bldg.
Suite 5250
6 Desta Drive
Midland, Texas 79705

Yates Petroleum Corporation
105 So. Fourth Street
Artesia, New Mexico 88210

BLEDSOE PARTNERS

April 10, 1989

Mr. & Mrs. J.M. Miller
East Star Route Box 609
Elida, New Mexico 88116

Dear Mr. and Mrs. Joe Miller:

As you are aware Bledsoe Petro has improved the producing capacity of the Miller Well No. 10-1. This increased capacity has resulted in an increase in both the oil and water production. Because of the increased water rate the Taylor SWD well in the NW/4 of Section 10 has pressured up and is no longer capable of legally disposing of high volumes of water. We have reviewed several alternatives and due to right-of-way problems the conversion of the Bledsoe Well No. 1 in NE/4 Section 10 is the most expedient solution to our problem.

With your concurance Bledsoe would like to extend our agreement with you on the Taylor SWD well to include the Bledsoe Well No. 1 after it is converted. A disposal line would be run from the disposal facilities at the Taylor well to the Bledsoe Well No. 1. We do not plan to install any other equipment at this time. However, a supplemental pump and holding tanks at the Bledsoe well site may be required at a later date.

After you have reviewed the proposal please advise so that we may proceed with the change in operations as soon as possible. Under the present conditions we are at the mercy of the weather and tank truck availability to move the water and to keep the wells producing. Perhaps I should also note that a successful conversion will reduce operating costs and enable us to produce the Miller "10" lease for a longer time.

Yours very truly,

J.D. Rawdon
Operations Manager

Bedford Bank Tower, 301 S.E. 3rd Street • Bedford, Oklahoma 73008 • 405 789 5053