STATE OF NEW MEXICO
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

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: BTA OIL PRODUCERS
Address: 104 South Pecos Midland, Texas 79701
Contact party: DOROTHY HOUGHTON Phone: 915/682-3753

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 _____.

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: DOROTHY HOUGHTON Title Regulatory Supervisor

Signature: Dorothy Houghton Date: 6-4-86

* 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

BEFORE EXAMINER STOGNER
Oil Conservation Division
BTA Exhibit No. 1
Case No. 8942

BTA OIL PRODUCERS
Buckeye, 8601 JV-P
Well No. 1-SWD
Form C-108 Attachment Data Sheet
-E-, Sec. 29, T-17-S, R-36-E
Lea County, New Mexico

V. The attached map identifies all wells and leases within two miles of our proposed injection well. See Exhibit -A-.

VI. Exhibit -B- is a tabulation on all wells of public record within the area of review (1/2 mile). Also attached are Exhibits -C- 1 through 6, a schemetic of each of the six plugged wells within the area of review.

VII. 1. Estimated average maximum daily rate will be 1,000 barrels per day.
2. The system will be closed.
3. The proposed average maximum injection pressure will be 750 psi. Request 1076 psi.
4. The source of produced water will be the Abo and San Andres formations.
5. Exhibit -D- 1 through 3 are water analyses of produced water from wells in the area.

VIII. Attached Exhibit -E- is a stratigraphic section of the "Permian San Andres" formation which we estimate to be a thickness of ±1,657' from the top of the San Andres to the base of the San Andres.

The source of drinking water in this area is the Ogallala Aquifer located from 50 feet to 250 feet.

IX. We propose to use 1,500 gal. of 15% HCl acid for a stimulation program.

X. Logs were previously furnished by Calatex Exploration on this well.

XI. We were not able to obtain chemical analysis of fresh water in this area.

XII. After examing available geologic and engineering data, I find no evidence of open faults in the "Permian San Andres" formation or any other hydrologic connection between the disposal zone and any underground source of drinking water.

Marvin Zoller

MARVIN ZOLLER
Chief Geologist
For BTA Oil Producers

XIII. We are having a legal notice published in the Lovington Daily Leader and will forward a copy of proof of publication as soon as available. A copy of our application has been furnished by certified mail to the surface leasee, State of New Mexico, Commission of Public Lands, and to each leasehold operator within one-half mile of the well location. See Exhibit -F-.

BTA OIL PRODUCERS

Buckeye, 8601 JV-P
Sec. 29, T-17-S, R-36-E
Lea County, New Mexico

Log properties indicate the San Andres interval (5,082' - 5,120') to be consistent, a dolomite zone having approximately 13% porosity and indicated permeability.

O. V. SIVAGE
Production Engineer
For BTA Oil Producers

Exhibit -A- BTA OIL PRODUCERS — Buckeye, 8601 JV-P Well No. 1, SWD

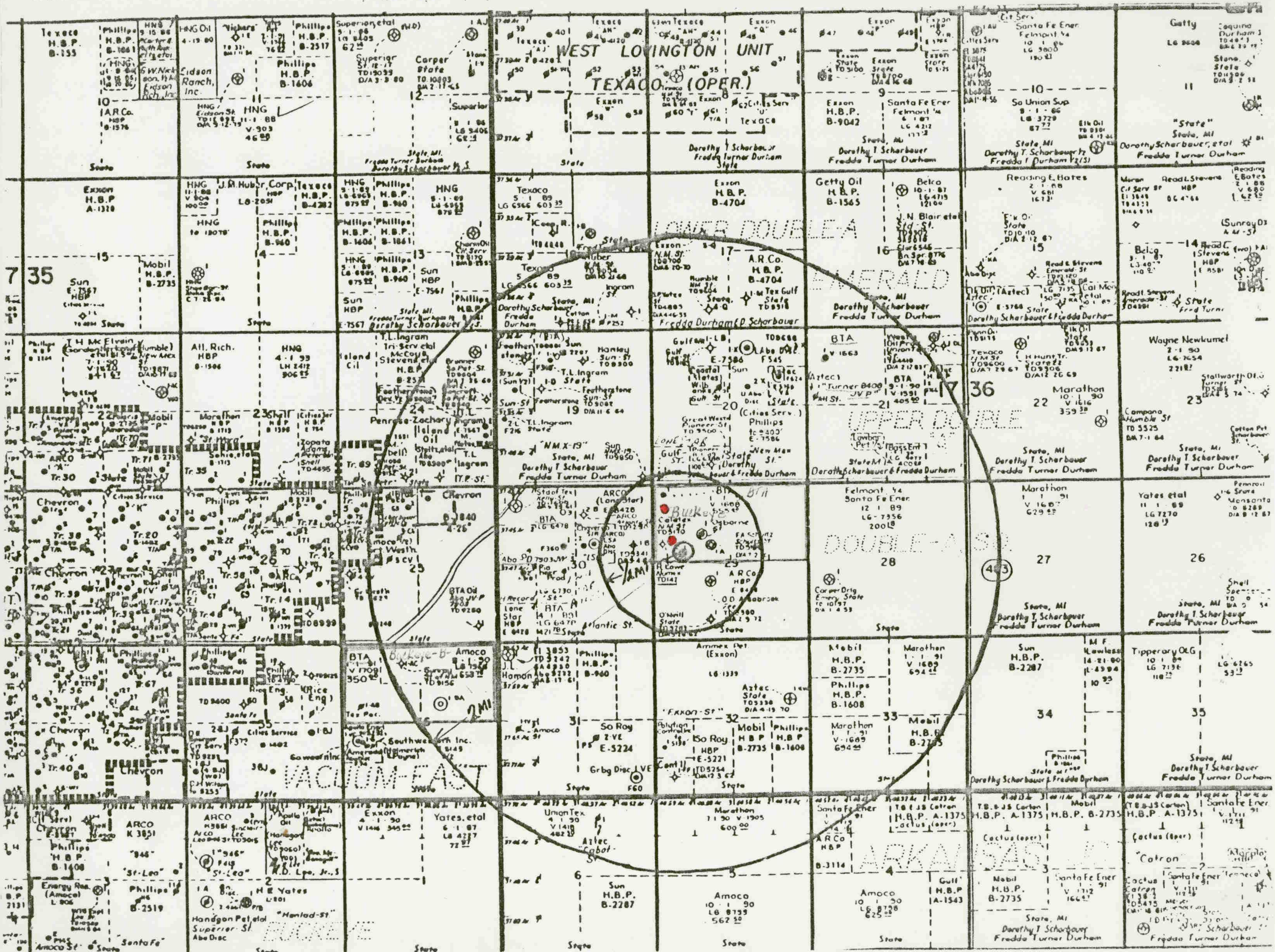


EXHIBIT -F-

List of Offset Operators
and Surface Owners

BTA Oil Producers
Buckeye, 8601 JV-P
Lea County, New Mexico

Chevron U.S.A., Inc.
P. O. Box 1150
Midland, Texas 79702

Chevroo

Pioneer Production Corp.
P. O. Box 2542
Amarillo, Texas 79189

Arco Oil and Gas Company
P. O. Box 1610
Midland, Texas 79702

Sun Exploration and Production Co.
P. O. Box 1861
Midland, Texas 79702

Surface Owner:
Giles M. Lee
West Star Route, Box 478
Lovington, New Mexico 88260

I hereby certify the above were mailed copies of our application on June 4, 1986.

Dorothy Houghton
DOROTHY HOUGHTON

List of Offset Operators
and Surface Owners

BTA Oil Producers
Buckeye, 8601 JV-P
Lea County, New Mexico

Chevron U.S.A., Inc.
P. O. Box 1150
Midland, Texas 79702

Pioneer Production Corp.
P. O. Box 2542
Amarillo, Texas 79189

Arco Oil and Gas Company
P. O. Box 1610
Midland, Texas 79702

Sun Exploration and Production Co.
P. O. Box 1861
Midland, Texas 79702

Surface Owner:
Giles M. Lee
West Star Route, Box 478
Lovington, New Mexico 88260

I hereby certify the above were mailed copies of our application on June 4, 1986.

Dorothy Houghton
DOROTHY HOUGHTON

Chaveroo Operating Co., Inc.
P. O. Box 763
Hobbs, New Mexico 88241

I hereby certify the above was mailed a copy of our application on July 7, 1986.

Dorothy Houghton
DOROTHY HOUGHTON

srs

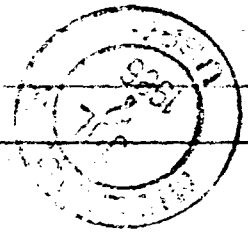
P 477 957 339

RECEIPT FOR CERTIFIED MAIL

Chaveroo Operating Co., Inc.

P. O. Box 763

Hobbs, NM 88241



INJECTION WELL DATA SHEET

OPERATOR	LEASE			
BTA OIL PRODUCERS	Buckeye, 8601 JV-P			
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
1-SWD	2310' FNL & 990' FWL	29	17-S	36-E

Schematic

See Attached

Tabular Data

Surface Casing

Size 8-5/8" @ 437' " Cemented with 300 sx.

TOC Circ feet determined by _____

Hole size 11"

Intermediate Casing

Size _____" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4-1/2" @ 5159' " Cemented with 1175 sx.

TOC Circ. to surface feet determined by _____

Hole size 7-7/8"

Total depth 5168'

Injection interval Perf @

5082 feet to 5120 feet

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

Tubing size 2-3/8" OD lined with Fiberglass (material) set in a

Baker Loc-Set (brand and model) packer at 5000 feet

(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) Vacuum, Grayburg

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

If no, for what purpose was the well originally drilled? Production - Drld by Calatex

as New Mexico State #1 - Spud: 11-26-83 P&A 2-22-84

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- See Above Perf's

1. 10 sx plug from 4910' - 5019' 2. 20 sx plug from 3000' - 3200' 3. 20 sx plug from 1850' - 2050' 4. 10 sx @ Surface

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Abo Detrital 8800'- 9200'

EXHIBIT -B-

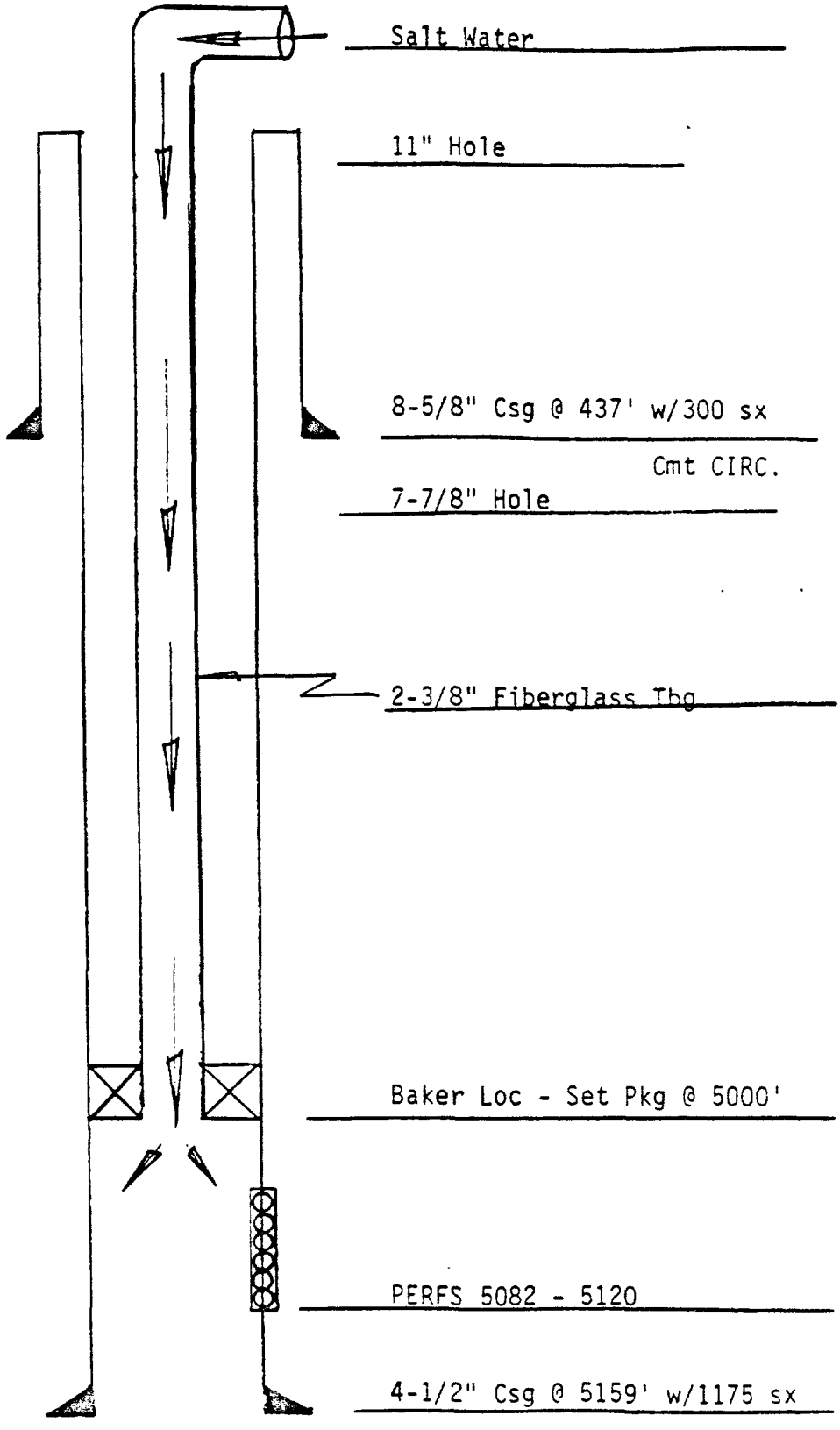
BTA Oil Producers
Buckeye, 8601 JV-P
Well No. 1, SWD

Company Name Lease Name, Well #	Well Type	Construction	Spud Date Completion	Location	Depth	Record of Completion
Homer C. Osborne State #1 (Exhibit C-1)	Oil	8-5/8 @ 1995 4-1/2 @ 5067	4-29-80 2-16-81	Unt. Ltr. F, Sec. 29 T-17-S, R-36-E	5,152'	OH-5067-5152 IPP-15 BO + 6 BW; P&A 3-23-84
Frank A. Schultz Schultz State #1 (Exhibit C-2)	Dry	8-5/8 @ 380 4-1/2 @ 5160	5-30-76 7-9-76	Unt. Ltr. F, Sec. 29 T-17-S, R-36-E	5,160'	Perf 5082-5138 Swb. 19 BO P&A 7-9-76
O. D. Alsabrook Alsabrook #1 (Exhibit C-3)	Dry	4-1/2 @ 5297	11-26-71 2-9-72	Unt. Ltr. K, Sec. 29 T-17-S, R-36-E	5,300'	Perf. 5136-5203 Swb. 100% wtr. P&A 2-9-72
BTA Buckeye #1	Oil	13-3/8 @ 402 8-5/8 @ 4395 5-1/2 @ 9900	3-15-86 completed 6/11/86	Unit. Ltr. D, Sec. 29 T-17-S, R-36-E	PB 5240 9,900'	Perf 5050-5163 IPP- (testing) 17 bo/ 90 wtr - San Andres
Joseph I. O'Neill State -K- #1 (Exhibit C-4)	Dry	13-3/8 @ 358 8-5/8 @ 3470	4-13-62 5-26-62	Unt. Ltr. N, Sec. 29 T-17-S, R-36-E	9,283'	2 DST's P&A 5-26-62
Lone Star Prod. Co. Atlantic State #1-B (Exhibit C-5)	Dry	10-3/4 @ 406 7-5/8 @ 3618	7-9-64 9-9-64	Unt. Ltr. H, Sec. 30 T-17-S, R-36-E	9,341'	Perf. 8705-9178 P&A 9-9-64
Lone Star Prod. Co. Gulf State #1 (Exhibit C-6)	Oil	10-3/4 @ 395 7-5/8 @ 3600 4-1/2 @ 9293	3-28-64 5-25-64	Unt. Ltr. M, Sec. 20 T-17-S, R-36-E	9,258' 9,322'	Perf. 9171-78; Flwd 123 BO; Perf. 8705-9083 P&A 7-25-68

BTA OIL PRODUCERS

Buckeye, 8601 JV-P

Well No. 1, SWD



BTA OIL PRODUCERS
Buckeye, 8601 JV-P
330' FN & WL Sec 29, T-17-S, R-36-E
Lea County, New Mexico

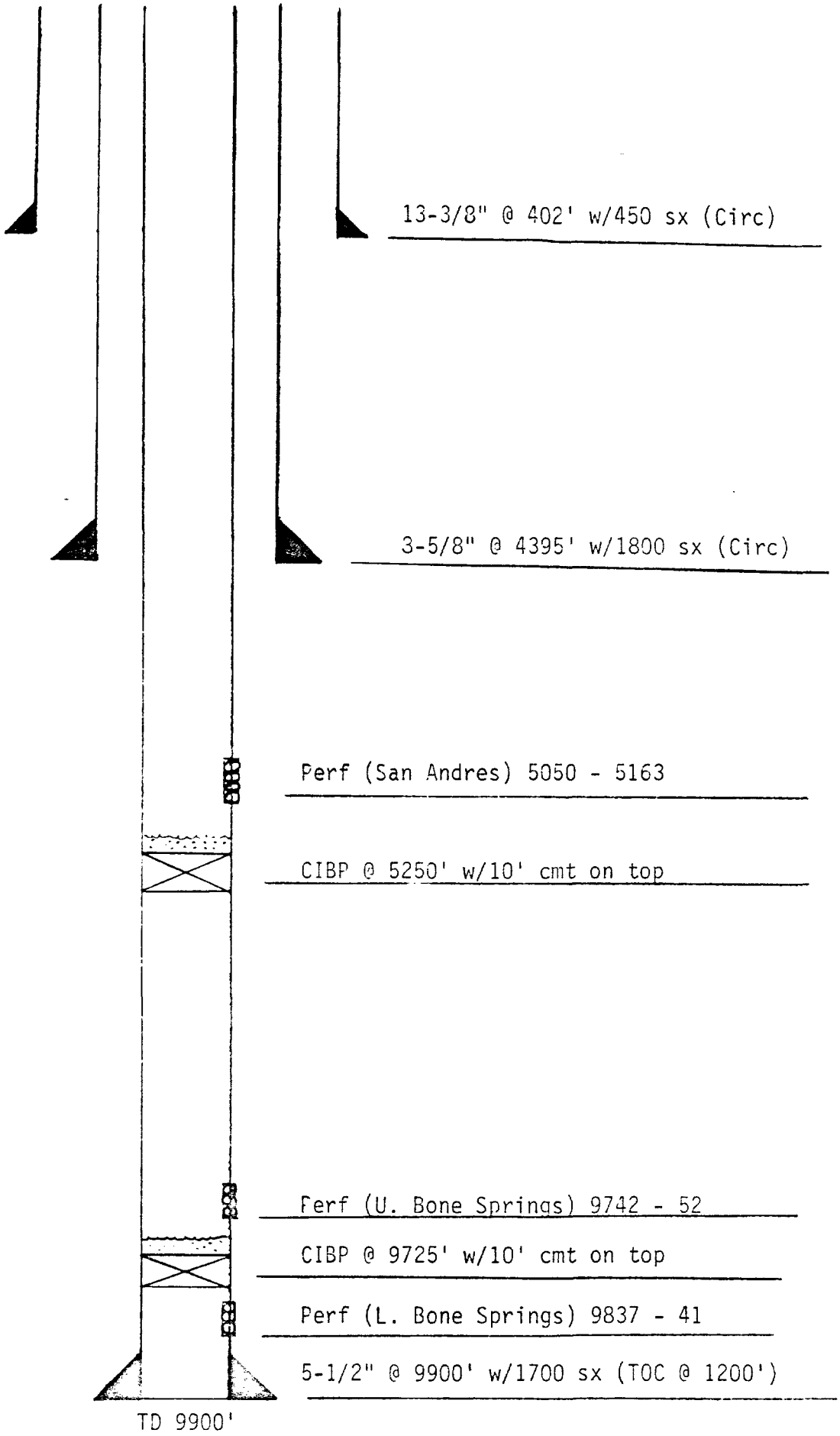
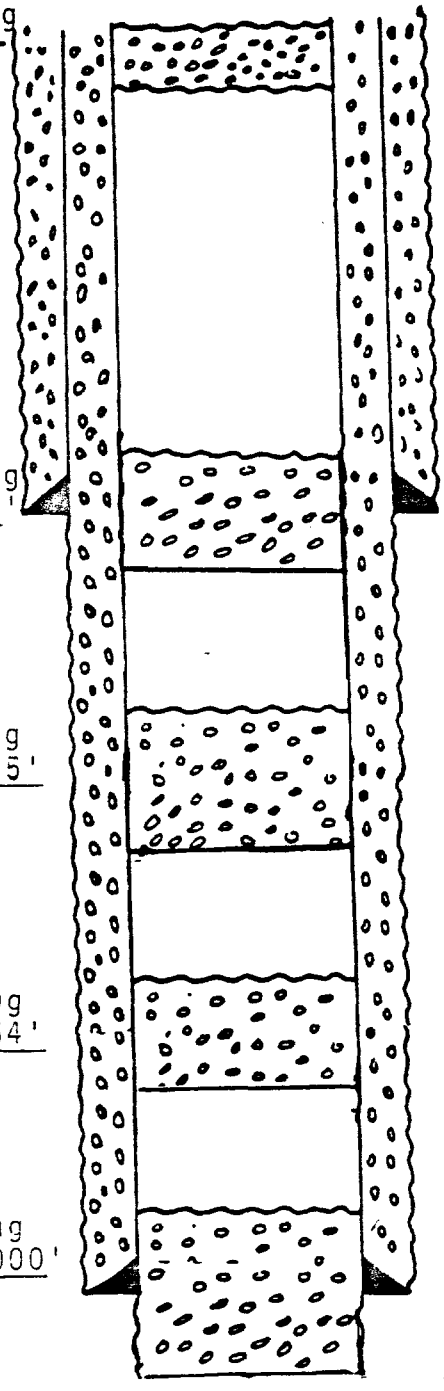


EXHIBIT C-1

Homer C. Osborne
State #1
-F-, Sec. 29, T-17-S, R-36-E



10 sx plug
SURFACE

12 1/4" hole

50 sx plug
@2055 - 1950'

8-5/8" @ 1995 w/ 1190 sx
Cement circulated

35 sx plug
@3175' -3065'

Shot 4-1/2" @ 4020'

35 sx plug
@ 4070'-3964'

7 7/8" hole

35 sx plug
@ 5130'-5000'

4-1/2" @ 5067' w/150 sx
Estimated top cement 4100'

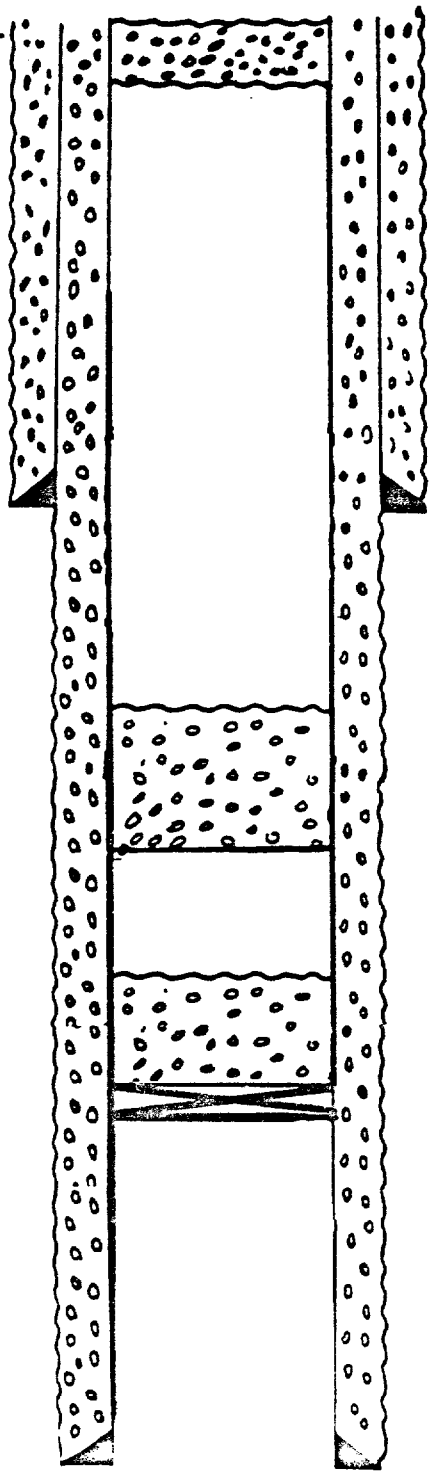
TD 5152'

Exhibit C-2

Frank A. Schultz

Schultz State #1

-F-, Sec. 29, T-17-S, R-36-E



3 sx plug
SURFACE

12 1/4" hole

8-5/8" @ 380 w/250 sx

Estimated cement circulated

8 sx plug
1964' - 2064'

35 sx plug
3379' - 3344'
CIBP @ 3370'

7 7/8" hole

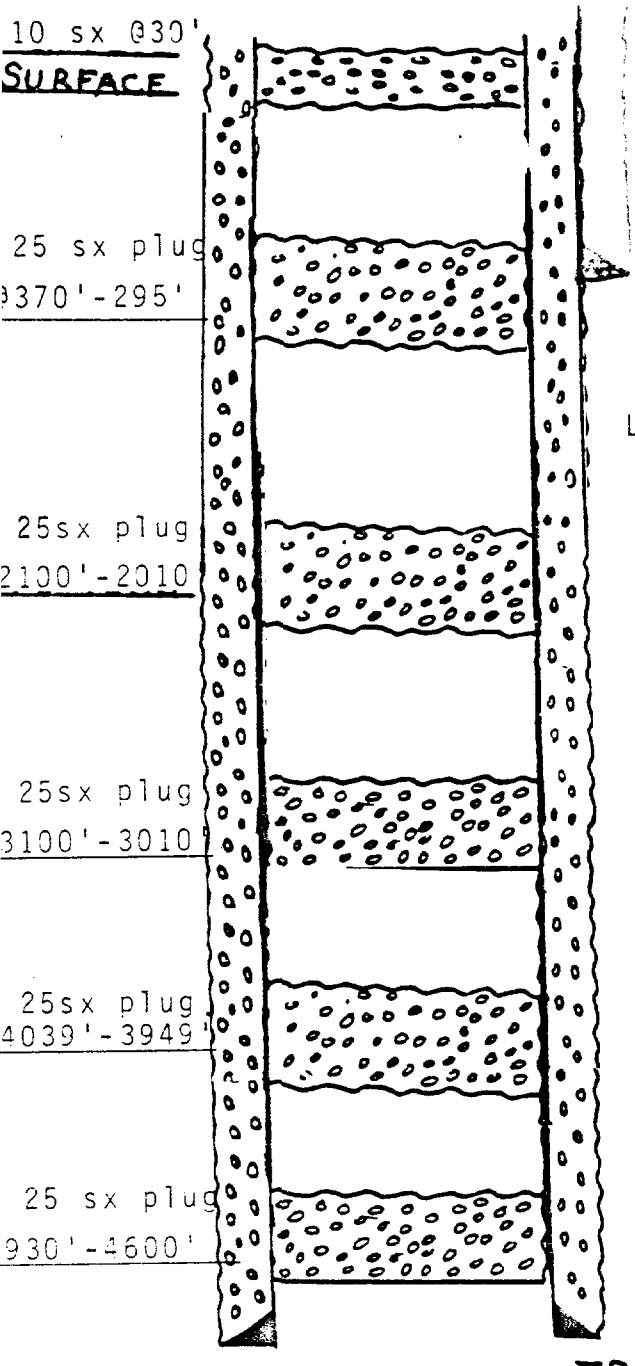
4-1/2" @ 5160' w/~~300 sx~~

TD 5160'

ILLEGIBLE

EXHIBIT C-3

O. D. ALSABROOK
Alsabrook #1
-K-, Sec. 29, 6-17-S, R-36-E



12 1/4" hole

8 5/8" @ 369 w/ 324 cu ft cement
Cement circulated

Left 1273' of 4-1/2" csg in hole.

Cut 4-1/2" csg @ 4024'

7 7/8" hole

4-1/2" @ 5297' w/200 sx. Top cement estimated @ 4050'

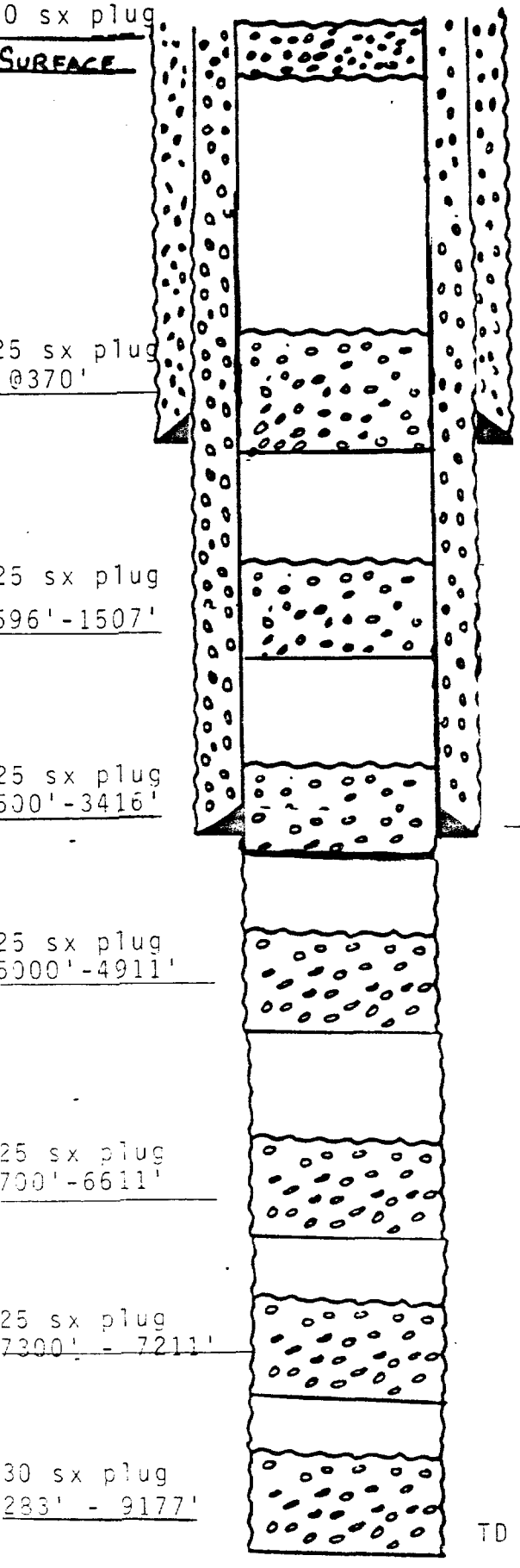
TD 5300'

EXHIBIT C-4

JOSEPH I. O'NEILL, JR.

State -K- #1

-N-, Sec. 29, T-17-S, R-36-E



17 1/4" hole

13-3/8" @ 358 w/400 sx Cement circulated

Pulled 1587' of 8-5/8" csg - Left 1901' in hole.

11" hole

8-5/8" @ 3470' w/300 sx

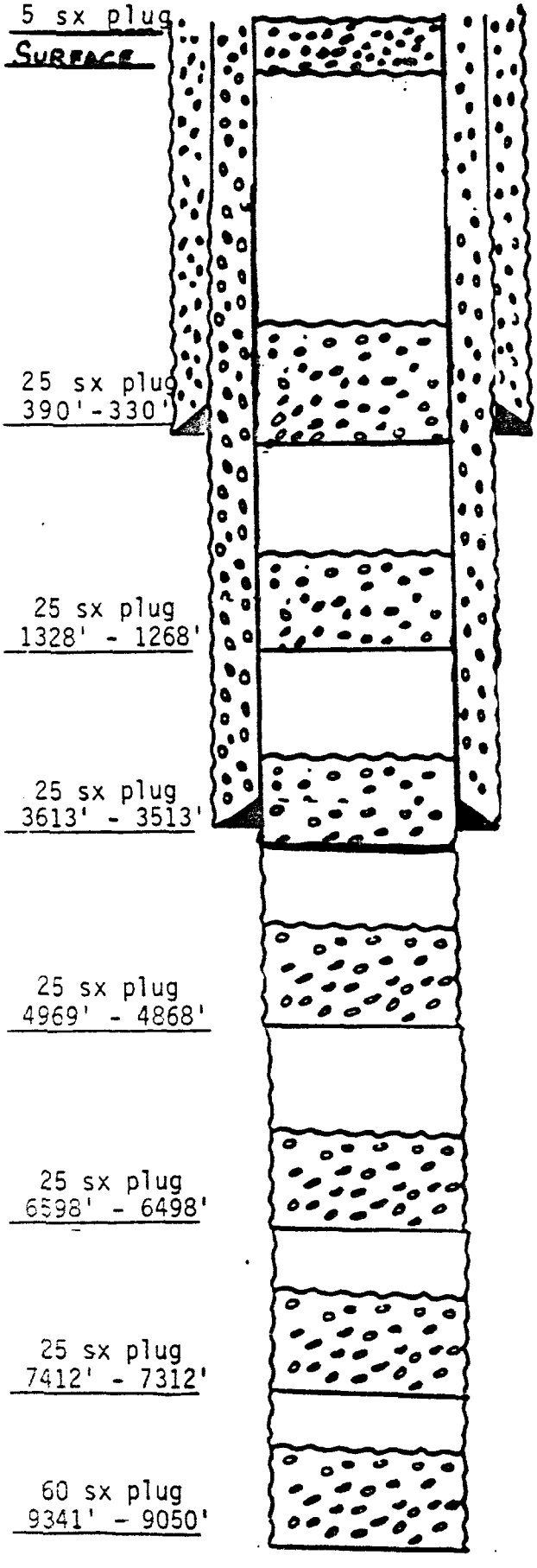
Estimated top cement 2000'

Exhibit -C- 5

Lone Star Producing Company

Atlantic State -B- #1

-H-, Sec. 30, T-17-S, R-36-E



15" hole

10-3/4" @ 406' w/350 sx Cement circulated

9 7/8" hole

Cut 7-5/8" csg @ 1600' Pulled 50 jts

7-5/8" @ 3618' w/600sx Top cement by temp survey @ 2560'

TD 9341'

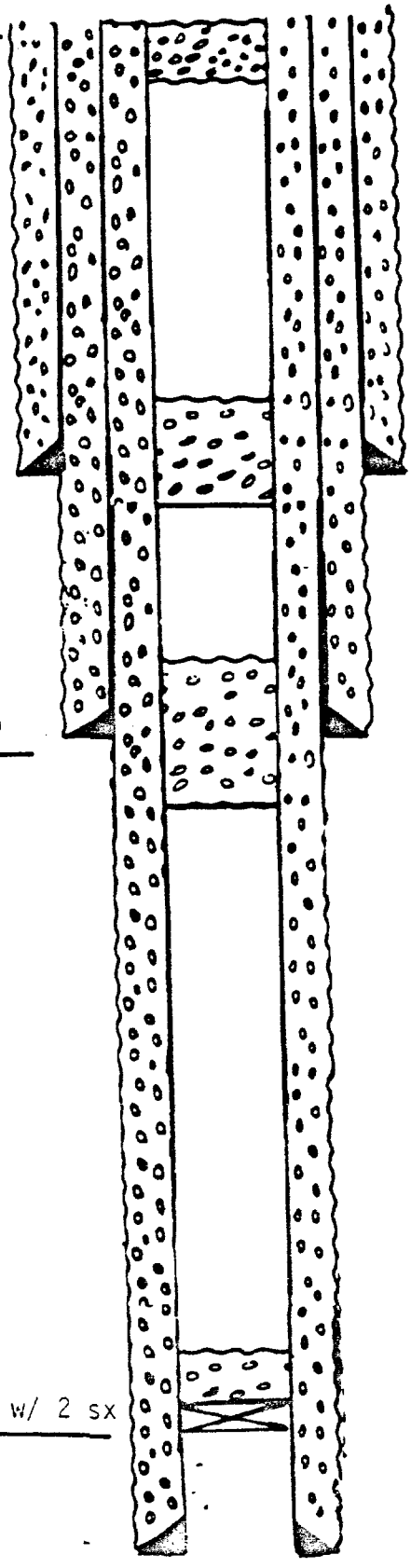
Exhibit C-6

Lone Star Prod. Company

Gulf State #1

-M-, Sec. 20, T-17-S, R-36-E

Not applicable over ½ mile from injection well



15 sx plug
SURFACE

40 sx plug
@ 425' - 365'

10-3/4" @ 395 w/325 sx
(Left in well.)

35 sx plug
@ 3650' - 3550'

7-5/8" @ 3600' w/1112 sx
(7-5/8" 2500' - Left in well.)

Cut 4-1/2" @ 5050'
Left:
4243' of 4-1/2" csg in well

PBP @ 8650 w/ 2 sx

4-1/2" @ 9293 w/200 sx

TD 9322'

P O BOX 1468
MONAHANS TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 78665

TO: Mr. Royce Boyce
104 South Pecos, Midland, Texas

SAMPLE RECEIVED 7-8-86

RESULTS REPORTED 7-10-86

COMPANY BTA Oil Producers LEASE Giles Lee

FIELD OR POOL Vacuum Unit Ltr. -E-

SECTION 29 BLOCK T17S SURVEY R36E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from Giles Lee water well. 7-7-86

NO. 2

NO. 3 Permit No. L-8266(5)

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0013			
pH When Sampled				
pH When Received	8.46			
Bicarbonate as HCO_3	117			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	18			
Calcium as Ca	6			
Magnesium as Mg	0			
Sodium and/or Potassium	73			
Sulfate as SO_4	42			
Chloride as Cl	18			
Iron as Fe	3.7			
Barium as Ba				
Total Electric				
Color as Pt				
Total Solids, Calculated	265			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0			
Resistivity ohms/m at 77° F.	32.00			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By

Waylan C. Martin, M. A.

P O BOX 1468
AHANS TEXAS 79756
43-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 78687

Ms. Dorothy Haugton — SAMPLE RECEIVED 7-10-86

South Pecos, Midland, Texas — RESULTS REPORTED 7-11-86

PANY BTA Oil Producers LEASE 8601 JV-P Buckeye

D OR POOL Vacuum Unit Ltr -D-

ON 29 BLOCK T17S SURVEY R36E COUNTY Lea STATE NM

RCE OF SAMPLE AND DATE TAKEN:

O. 1 Raw water - taken from Nolan Brunson irrigation well. 7-7-86

O. 2

O. 3

O. 4

ARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
ecific Gravity at 60° F.	1.0019			
When Sampled				
When Received	6.92			
arbonate as HCO_3	224			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
tal Hardness as $CaCO_3$	192			
lcium as Ca	72			
gnesium as Mg	3			
dium and/or Potassium	38			
fate as SO_4	53			
loride as Cl	26			
n as Fe	0.08			
um as Ba				
rbidity, Electric				
or as Pt				
tal Solics, Calculated	417			
mperature °F.				
rbon Dioxide, Calculated				
ssolved Oxygen, Winkler				
drogen Sulfide	0.0			
sistivity, ohms/m at 77° F.	22.50			
spended Solids				
rmable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

No. 3

By _____
Waylan C. Martin, M.A.

Exhibit D-1

P O BOX 1468
MONAHANS TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 1085221

TO: Mr. Steve Salmon — SAMPLE RECEIVED 10-15-85
104 South Pecos, Midland, Texas — RESULTS REPORTED 10-18-85

COMPANY BTA Oil Producers — LEASE 8408 JV-P Turner #1

FIELD OR POOL ~~Wildcat~~ Lower Double-A- (Abo)

SECTION 21 ~~BLOCK~~ T-17-S ~~SURVEY~~ R-36-E — COUNTY Lea — STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Pit sample. 10-13-85

NO. 2 Recovered water - middle. 10-13-85

NO. 3 Recovered water - bottom. 10-13-85

NO. 4 Recovered water - sampler. 10-13-85

REMARKS: DST #1 - Lower Abo - 9,220' - 9,240'

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0734	1.0736	1.0745	1.0739
pH When Sampled				
pH When Received	8.83	8.17	7.86	7.84
Bicarbonate as HCO_3	183	415	451	439
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	5,250	5,350	6,400	6,350
Calcium as Ca	1,780	1,760	2,060	2,020
Magnesium as Mg	194	231	304	316
Sodium and/or Potassium	36,996	36,101	36,008	35,929
Sulfate as SO_4	6,114	6,063	5,962	5,760
Chloride as Cl	56,105	54,685	55,395	55,395
Iron as Fe	2.5	2.5	9.3	12.7
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	101,408	99,303	100,180	99,859
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.095	0.097	0.096	0.096
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	36	48	0	0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks Sample from "top" - No water.

The above recovered waters appear to be pit water with no evidence of any influence from Abo formation water.

Form No. 3

By _____

cc: Permian Testers, Inc @ Odessa

Waylan C. Martin, M. A.

Exhibit D-2

P O BOX 1468
MONAHANS, TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 386346

TO: Mr. Steve Salmon
104 South Pecos, Midland, Texas 79701

SAMPLE RECEIVED 3-31-86
RESULTS REPORTED 4-3-86

COMPANY BTA Oil Producers LEASE Turner #2

FIELD OR POOL ~~South Lovington~~ Lower Double-A (Abo)

SECTION 21 ~~BLOCK~~ T-17-S ~~SURVEY~~ R-36-E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Pit sample, 3-29-86

NO. 2 Recovered water - top, 3-29-86

NO. 3 Recovered water-bottom, 3-29-86

NO. 4

REMARKS: DST #1 - Abo #2 (Lower) - 9,260' - 9,360'

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0099	1.0091	1.0202	
pH When Sampled				
pH When Received	7.98	7.64	6.82	
Bicarbonate as HCO_3	1,976	1,147	1,147	
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	2,900	2,000	7,200	
Calcium as Ca	1,060	700	2,200	
Magnesium as Mg	61	61	413	
Sodium and/or Potassium	1,530	1,882	6,211	
Sulfate as SO_4	2,551	2,304	2,441	
Chloride as Cl	1,385	1,953	12,215	
Iron as Fe	12.7	2.-	0.04	
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	8,563	8,046	24,628	
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	
Resistivity, ohms/m at 77° F.	0.940	0.900	0.320	
Suspended Oil				
Filtrable Solics as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: When we compare the above with our records in the area, we find the possibility that the bottom sample could involve as much as one-half Abo water. However, this is assuming that there is no other source of higher salts from waters that might have been lost in this interval. Also, we would expect the Abo to carry a substantial amount of hydrogen sulfide, therefore placing additional doubt on the probability of a significant amount of Abo being involved in the bottom sample.

Form No. 3

By

cc: Permian Testers, INc. @ Odessa

Waylan C. Martin, M. A.

Exhibit D-3

Martin Water Laboratories, Inc.

P O BOX 1468
MONAHANS, TEXAS 79756
PH 943-3234 OR 563-1040

709 W INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 386276

TO: Mr. Steve Salmon
104 South Pecos, Midland, Texas

SAMPLE RECEIVED 3-25-86
RESULTS REPORTED 3-27-86

COMPANY BTA Oil Producers LEASE 8601-JVP Buckeye #1
FIELD OR POOL Vacuum, Grayburg-SA Unit Letter -D-
SECTION 29 ~~BLOCK~~ 17-S ~~SURVEY~~ R-36-E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Pit sample. 3-24-86
NO. 2 Recovered water - middle. 3-24-86
NO. 3 Recovered water- bottom. 3-24-86
NO. 4 Recovered water - sampler. 3-24-86

REMARKS: DST #1 - San Andres - 5,050' - 5,090'

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0088	1.0072	1.0091	1.0105
pH When Sampled				
pH When Received	10.34	6.98	6.77	6.96
Bicarbonate as HCO_3	49	927	1,159	927
Supersaturation as $CaCO_3$				
ersaturation as $CaCO_3$				
roness as $CaCO_3$	1,115	1,830	2,350	2,550
Ca as Ca	440	656	850	870
Magnesium as Mg	4	46	55	91
Sodium and/or Potassium	2,313	1,099	2,193	3,139
Sulfate as SO_4	1,027	1,280	1,453	1,493
Chloride as Cl	3,444	1,509	3,302	5,007
Iron as Fe	3.4	1	1.7	1.7
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	7,365	5,518	9,013	11,527
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.6	1,125	1,950	1,050
Resistivity, ohms/m at 77° F.	0.510	1.13	0.750	0.570
Suspended Oil				
Filtrable Solics as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	103	0	0	0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks Sample from "top" - no water.

In comparing the above with our records in the immediate area, we find some concern in identifying the origin of the waters recovered in that there is only a relatively mild difference between the pit water and our San Andres water. Also, pit water can readily pick up hydrogen sulfide; therefore, we cannot rely on the high sulfide content. However, we do find some weak indicators herein that indicate the probability that the last water recovered is predominantly San Andres.

Form No. 3

By _____

cc: Permian Testers, Inc. @ Odessa

Waylan C. Martin, M. A.