PARTNERS
CARLTON BEAL
CARLTON BEAL, JR.
BARRY BEAL
SPENCER BEAL
KELLY BEAL
BARRY BEAL, JR.

BTA OIL PRODUCERS
104 SOUTH PECOS
MIDLAND TEXAS 79701-9988
AC 915-682-3753

July 7, 1987

Re: BTA - Application for Salt Water Disposal
Byers, 8605 JV-P, Well No. 2
Sec. 23, T20S, R35E
Lea Co., N.M.

STATE OF NEW MEXICO
Energy & Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

Attention: Mr. David Catanach

Mr. Catanach,

Enclosed please find an original and one copy of our Salt Water Disposal Application on the above referenced well.

Please have set for hearing at the earliest date available.

We will forward copies of the Certified Mail receipts as soon as they are returned to us.

Please advise if further information is required.

Sincerely,

Dorothy Houghton

DOROTHY HOUGHTON
For BTA Oil Producers

DH:ss

Enclosures

RECEIVED
JUL - 9 1987
OIL CONSERVATION DIVISION
SANTA FE

ENERGY AND MINERALS DEPARTMENT

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

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: 7/7/87

* 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.

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, 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.

BTA Oil Producers
Byers, 8605 JV-P
Well No. 2-SWD
Form C-108 Attachment Data Sheet
-G-, Sec. 23, T20S, R35E
Lea Co., N.M.

III. Well Data: See Attached Data Sheet, Exhibit A-1 and Schematic, Exhibit A-2

V. The attached map, Exhibit -B-, identifies all wells and leases within two miles of our proposed disposal well, also the one-half mile area of review.

VI. Well Data in Area of Review:

BTA - Byers, 8605 JV-P, Well No. 1
Type: Wolfcamp - gas well
Construction:
13-3/8" 54.5# @ 590' w/650 sx circulated to surface
8-5/8" 24 & 32# @ 4,394' w/1600 sx circulated to surface
5-1/2" 17# @ 11,820' w/2000 sx circulated to surface
Spud Date: 11-8-86
Completion Date: 12-29-86
Location: 1,830' FNL and 660' FEL
Sec. 23, T-20-S, R-35-E
Total Depth: 11,820'
Record of Completion: Producing through perforations @ 11,428'-11,440' A w/200 gals.

Amoco - Heller Co. Trust Com "A" #1
Type: Wolfcamp - oil producer
Construction:
16" @ 600' w/725 sx circulated to surface
10-3/4" @ 4,305' w/3500 sx circulated to surface
7-5/8" @ 11,830' w/2300 sx → DV Tool at 7595' 2nd stage 1400 sx. Circulated to surface OK
5-1/2" liner 11,529-12,714' w/300 sx
4" liner 12,360-13,387' w/350 sx
Spud Date: 5-15-85
Completion Date: 6-4-85
Location: 2,180' FNL and 660' FWL
Sec. 24, T-20-S, R-35-E
Total Depth: 13,400'
Record of Completion: Producing through perforations @ 11,326-11,436' A w/12,500 gals

Amoco - Best Gas Com #2
Type: Abandoned oil well

Construction:
13-3/8" @ 615' w/600 sx circulated to surface
8-5/8" @ 4,516' w/2800 sx circulated to surface
5-1/2" @ 11,803' w/825 sx
Spud Date: 7-20-83
Completion Date: 1-4-84
Location: 840' FSL and 660' FEL
Sec. 23, T20S, R35E
Total Depth: 11,803'
Record of Completion:
Perforation @ 11,322-11,552'
Set CIBP @ 11,250' w/35 sx
Perf'd 10,754-10,788'
Set CIBP @ 10,000'
Produced from perforations @ 9,744-9,832' (Bone Springs)
Plugging Record:
1. Set 5-1/2" CIBP @ 9,650' 35' cmt
2. Cut casing @ 7,400'
3. Spotted 100 sx @ 7,446'
4. Spotted 65 sx @ 4,566'
5. Spotted 30 sx @ 665'
6. Spotted 10 sx Surface
See Exhibit -C- Schematic

Amoco - Watkins -B- Gas Com #1
Type: Morrow - gas producer
Construction:
16" @ 431' w/425 sx circulated to surface
10-3/4" @ 4,319' w/4250 sx circulated to surface
7-5/8" @ 11,456' w/1725 sx → DV Tool at 7840'
4-1/2" liner 10,929-13,580' w/500 sx TOC at 9195 by TS
okay
Spud Date: 7-24-81
Completion Date: 2-7-82
Location: 1,980' FSL and 1,980' FWL
Sec. 23, T-20-S, R-35-E
Total Depth: 13,588'
Record of Completion: Producing through perforations @ 13,169-13,423' A/6500 gal.

VII. 1. Estimated average maximum daily rate will be 400 barrels per day.
2. The system will be closed.
3. The proposed average maximum pressure will be 2500 psi.
4. The source of produced water will be the Wolfcamp.
5. Exhibit D-1, Water analysis of produced water from Wolfcamp formation. Exhibit D-2, Water analysis from our Pearl #1 well, producing from the Pearl Queen field.

VIII. Geological Name: Queen
Lithological Detail: Red and grey sand and shale

Thickness: 726'
Depth: 4,290'-5,016'

Geological Data of Drinking Water zone: The underground source of drinking water overlying the zone of disposal is the Ogallala, which occurs from 50 to 250 feet and is approximately 200 feet thick.

IX. Proposed Stimulation program:

Acidize zone with 2500 gallons 15% HCl.

X. Logs were previously filed by Amoco on this well.

XI. There are no fresh water wells located within one mile of our proposed disposal well.

XII. After examining all available geological and engineering data, we find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. A copy of our application has been furnished by certified mail to the surface owner and to each leasehold operator within one-half mile of our proposed injection well. See listing on Exhibit -E-.

EXHIBIT A-1

BTA Oil Producers
Byers, 8605 JV-P
Well No. 2
1980' FNL & 1780' FEL
Unit Ltr G, Sec. 23, T20S, R35E
Lea Co., N.M.

INJECTION WELL DATA SHEET

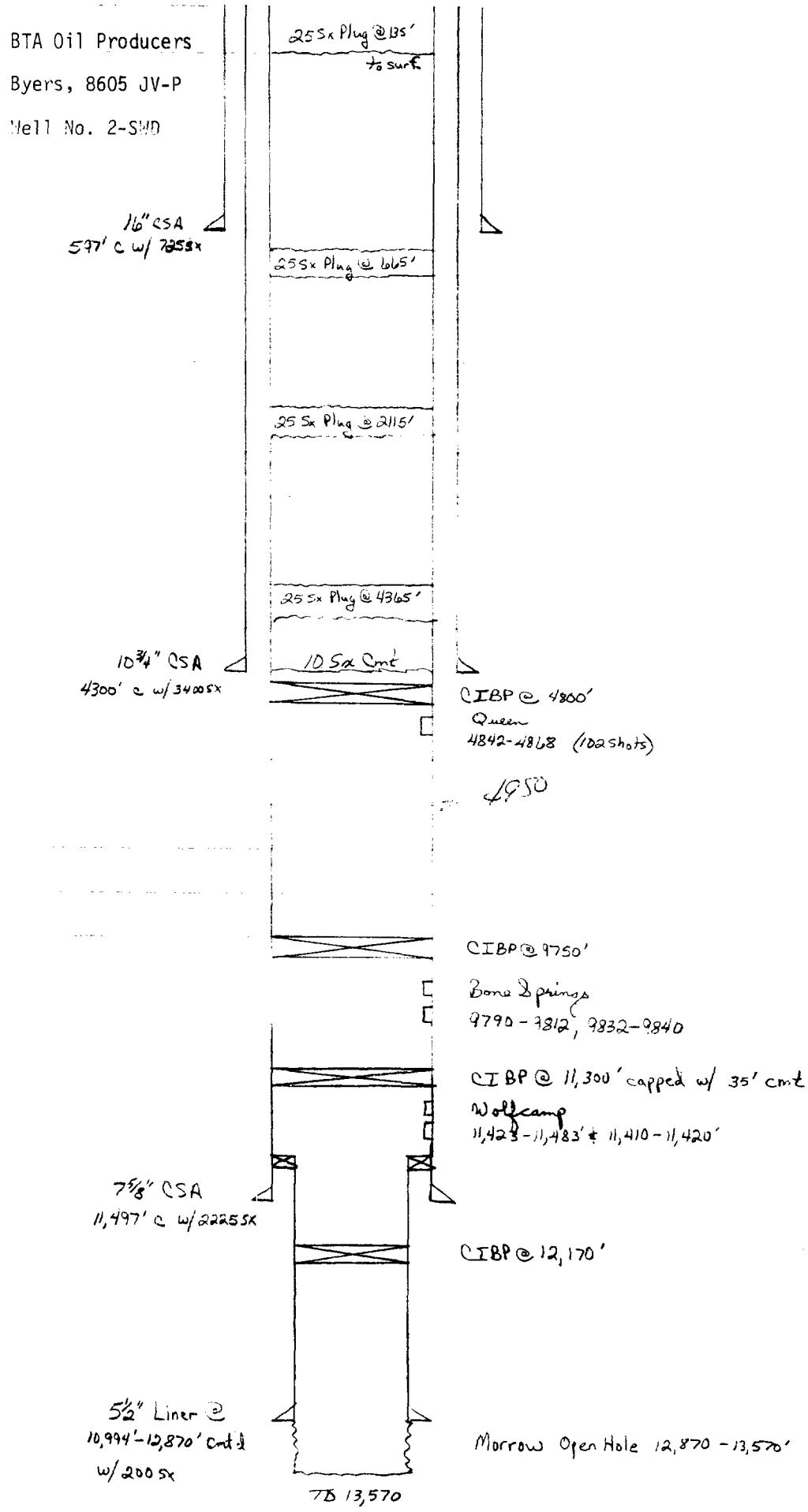
Surface Casing:	16" @ 597' w/725 sx circulated to surface
Intermediate Casing:	10-3/4" @ 4,300' w/3400 sx circulated to surface
Long String:	7-5/8" @ 11,479' w/2225 sx
Liner:	5-1/2" 10,994'-12,870' w/250 sx
Total Depth:	13,570'
Injection Interval:	4,842'-4,868'
Tubing:	2-7/8" fiberglass tubing Baker Loc-Set packer @ 4,800'
Name of injection formation:	Queen
Field:	Undesignated Queen
Purpose of well:	The well was drilled by Amoco Prod. Co. as Best Gas Com #1 in the Osudo (Morrow) field. Re-entered 7-30-85. Amoco attempted Wolfcamp and Queen re-completions.
Perforated Intervals:	CIBP @ 12,170' 11,423-11,483' CIBP @ 11,300' w/35 cmt 11,410-11,420' 9,790-9,840' CIBP @ 9,750' 4,842-4,868' CIBP @ 4,800'w/10 sx cmt

Depth and name of overlying and/or underlying oil or gas zones in this area:

Name	Depth
Bone Springs (Oil)	9,800'
Wolfcamp (Oil & Gas)	11,400'
Morrow (Gas)	12,800'

EXHIBIT A-2

(Amoco Best No.1) Sec 23, T-20-S, R-35-E



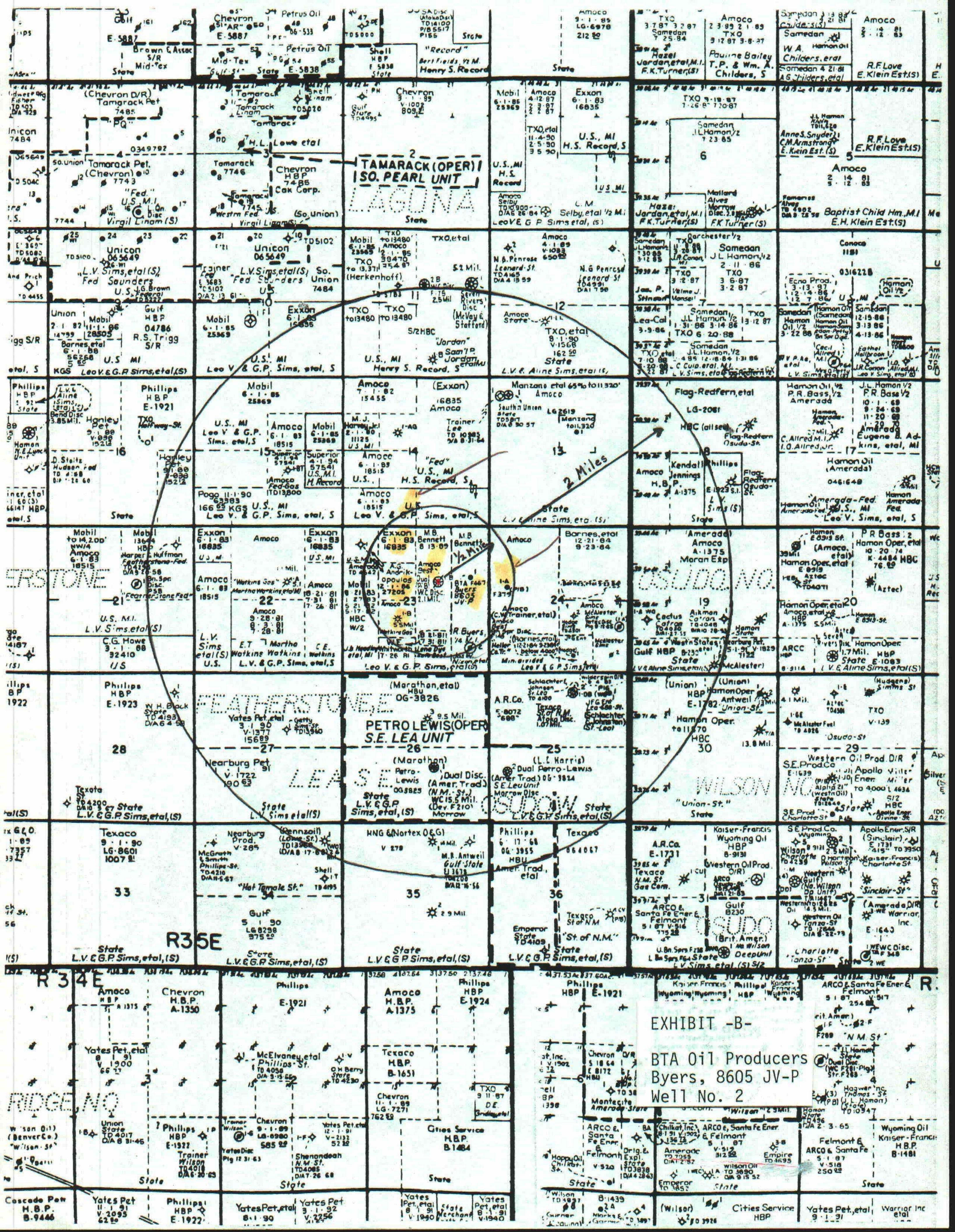


EXHIBIT -B-

BTA Oil Producers
Byers, 8605 JV-P
Well No. 2

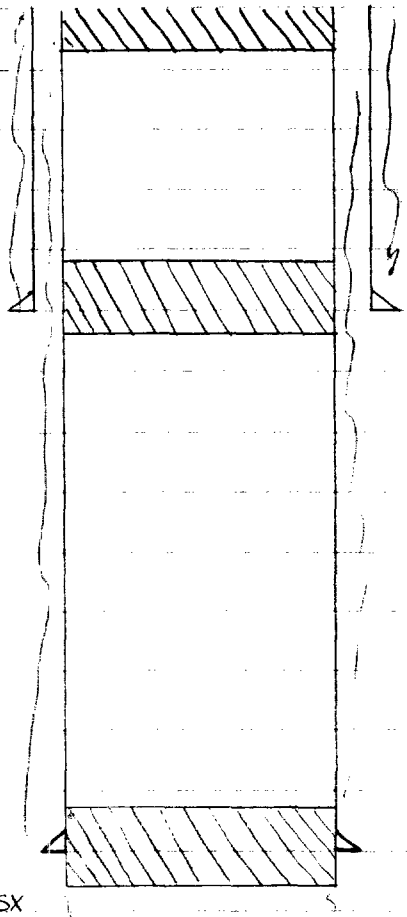
EXHIBIT -C-

Amoco Best No. 2 Sec 23 - T-20-S, R-35-E

BTA Oil Producers

Byers, 8605 JV-P

Well No. 2



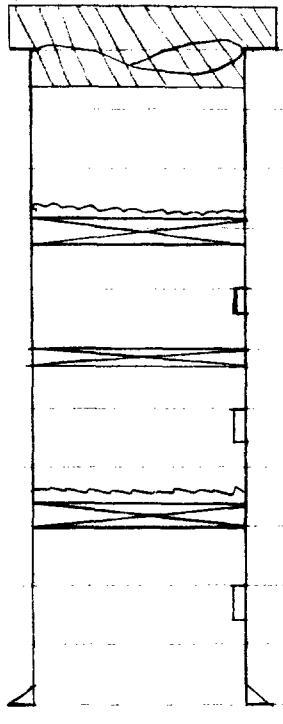
10 Sx Plug @ Surface

13 3/8" CSA
615' w/ 600 Sx

30 Sx Plug @ 665'

8 5/8" CSA
4516' w/ 2800 Sx

65 Sx Plug @ 4566'



100 Sx Plug @ 7446'

CIBP @ 9650' w/ 35' cmt

Bone Springs
9744 - 9832'

CIBP @ 10,000'

Wolfcamp
10,754 - 788

CIBP @ 11,250' w/ 35 sx

Wolfcamp
11,322 - 11,552

5 1/2" CSA
11,803' w/ 825'

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. 587314

TO: Mr. Tom Williams
104 South Pecos, Midland, Texas

SAMPLE RECEIVED 5-21-87

RESULTS REPORTED 5-22-87

COMPANY BTA Oil Producers LEASE 8605 JV-P Byers #1

FIELD OR POOL Osudo, Southwest (Wolfcamp) Gas

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Byers #1. 5-20-87

NO. 2

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0730			
pH When Sampled				
pH When Received	6.23			
Bicarbonate as HCO_3	451			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	10,600			
Calcium as Ca	3,240			
Magnesium as Mg	608			
Sodium and/or Potassium	41,050			
Sulfate as SO_4	2,246			
Chloride as Cl	68,883			
Iron as Fe	28.8			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	116,483			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.085			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks In comparing the above with the last water from this well reported on laboratory #1286208 (12-24-86), we see a very slight increase in all the dominant salts. However, the basic water characteristics still remain reasonably comparable to this previous analysis and also the water from this well that was reported on laboratory #1286194 (12-22-86). As previously stated, we do not have good record of Wolfcamp in the immediate area, but the consistency does imply the likelihood of natural Wolfcamp water.

Form No. 3

By _____
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. 7874

TO: Mr. Tom Williams
104 South Pecos, Midland, Texas

SAMPLE RECEIVED 7-2-87

RESULTS REPORTED 7-6-87

COMPANY BTA Oil Producers LEASE Pearl

FIELD OR POOL Pearl

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Pearl #1. 7-1-87

NO. 2

NO. 3

NO. 4

REMARKS: Queen

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1590			
pH When Sampled				
pH When Received	7.10			
Bicarbonate as HCO_3	234			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	53,000			
Calcium as Ca	10,600			
Magnesium as Mg	6,440			
Sodium and/or Potassium	81,225			
Sulfate as SO_4	1,029			
Chloride as Cl	161,923			
Iron as Fe	26.0			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	261,450			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.049			
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 Ronnie Tucker
Ronnie D. Tucker, B.S.

Martin Water Laboratories, Inc.

709 W. Indiana
Midland, Texas 79701
Phone 683-4521

P. O. Box [illegible]
Monahans, Texas 79756
Ph. [illegible]

RESULT OF WATER ANALYSES

To: [illegible] | Laboratory No. [illegible]
[illegible] | Sample Received 7-2-67
| Results Reported 7-6-67

Company [illegible] | Lease [illegible]
Field or Pool [illegible]
Section [illegible] Survey [illegible] County [illegible] State [illegible]
Source of Sample and Date Taken:
No. 1 Produced water - taken [illegible] 7-1-67
No. 2
No. 3
No. 4
Remarks: [illegible]

CHEMICAL AND PHYSICAL PROPERTIES

	No. 1	No. 2	No. 3	No. 4
Specific Gravity at 60° F.	1.1590			
pH When Sampled				
pH When Received	7.1			
Bicarbonate as HCO_3	[illegible]			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	52,000			
Calcium as Ca	[illegible]			
Magnesium as Mg	[illegible]			
Sodium and/or Potassium	[illegible]			
Sulfate as SO_4	[illegible]			
Chloride as Cl	[illegible]			
Iron as Fe	[illegible]			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	[illegible]			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	[illegible]			
Resistivity, ohms/m at 77° F.	[illegible]			
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.

By [signature]
[illegible]

EXHIBIT -E-

List of Offset Operators & Surface Owner

BTA Oil Producers
Byers, 8605 JV-P
Well No. 2
Lea Co., N.M.

Amoco Production Company
Box 3092
Houston, TX 77253

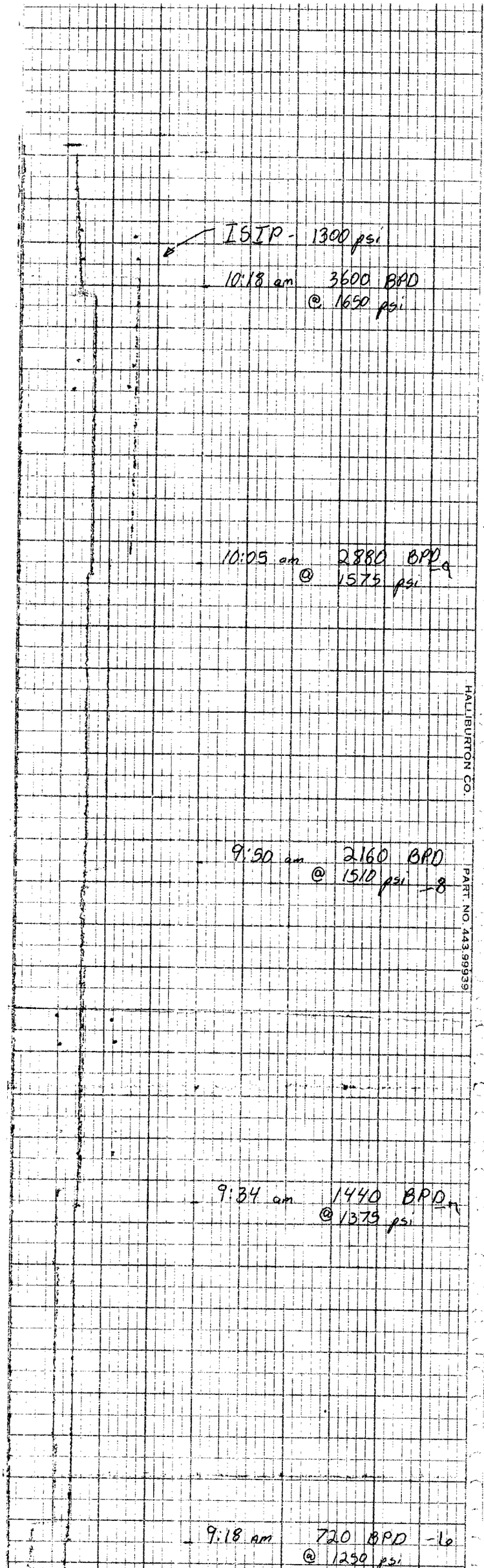
Exxon Company U.S.A.
Box 1600
Midland, TX 79702

A. G. Andrikopoulos
P. O. Box 788
Cheyenne, Wyoming 82002

Surface Owner:
Leo V. Sims
Sims Brothers Ranch
119 North Dalmont
Hobbs, NM 88240

I hereby certify the above were mailed copies of our application on July 7, 1987.

Dorothy Houghton
DOROTHY HOUGHTON


ISIP - 1300 psi
10:18 am 3600 BPD @ 1650 psi
10:05 am 2880 BPD @ 1575 psi
9:50 am 2160 BPD @ 1510 psi
9:34 am 1440 BPD @ 1379 psi
9:18 AM 720 BPD @ 1250 psi
HALLIBURTON CO.
PART. NO. 443.99939