



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

TONEY ANAYA
 GOVERNOR

POST OFFICE BOX 1980
 HOBBS, NEW MEXICO 88240
 (505) 393-6161



OIL CONSERVATION DIVISION
 P.O. BOX 2088
 SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Bliss Petroleum, Inc.	State AR SWD #1-K	2-11-37
Operator	Lease & Well No.	Unit
		S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
 Jerry Sexton
 Supervisor, District I

/bp

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Bliss Petroleum, Inc.

Address: P. O. Box 1817, Hobbs, New Mexico 88241

Contact party: Paul Bliss Phone: 505-393-7320

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: Donna Holler Title Agent

Signature: Donna Holler Date: March 22, 1985

* 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.

T. 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.

APPLICATION FOR AUTHORIZATION
For Disposal Well

Bliss Petroleum, Inc. - State "AR" No. 1

Statements of Compliance

Item III A. See Attachment III. A.

Item III B. (1) San Andres Formation, no applicable pool name
(2) 4255-4300, open hole
(3) Drilled for Devonian production, P & A 4/10/73
(4) Devonian perforations 11,428 to 11,473, squeezed with 100 sacks cement with cement retainer set at 11,290 and a 45 sack cement plug 4300 to 4520
(5) Next higher oil and gas zone in this area: None
Next lower oil and gas zone in this area: Devonian

Item V. See Attachment V. (a) and V. (b)

Item VI. See Attachment VI pages 1 thru 3 and Attachments VI Schematic 1 thru 10

Item VII. 1. Average daily rate: 300 barrels water per day
Maximum daily rate: 500 barrels water per day
2. System will be closed
3. Average injection pressure: 500 psig
Maximum injection pressure: 1000 psig
4. Water Source: Bliss Petroleum, Inc. State "AR" #4
Devonian water production
Compatibility: See Attachments VII.4. (1), (2) and (3)
showing water analysis of produced water
and typical San Andres water from Sawyer
Andres and West Sawyer San Andres
5. See Attachment VII.4. (2) and (3)

Item VIII. The San Andres was found at 4185 in the State "AR" No. 1, being approximately 1000 feet thick consisting of limestone and anhydrite. The only fresh water aquifer above the proposed injection zone is the Ogalalla. The State Engineers Office at Roswell advised that the depth to the bottom of the Ogalalla in this area varies from 75 to 250 feet. There is no fresh water below the proposed injection zone.

Item IX. The injection zone will be treated with 3,000 gallons of 15% HCL acid if necessary.

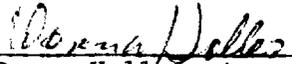
Item X. Electric logs and test data have been filed.

Item XI. There are no producing fresh water wells within a radius of one mile. There are two windmills within a radius of two miles. One is located in the northwest corner of Section 32, T10S, R37E, approximately 1 1/4 miles north of the State "AR" No. 1. The other is located in the southwest quarter of Section 11, T11S, R37E, approximately 1.6 miles south of the State "AR" No. 1. Water samples wer taken from these wells December 18, 1984. The two water analysis are identified as Attachments XI. (1) and (2).

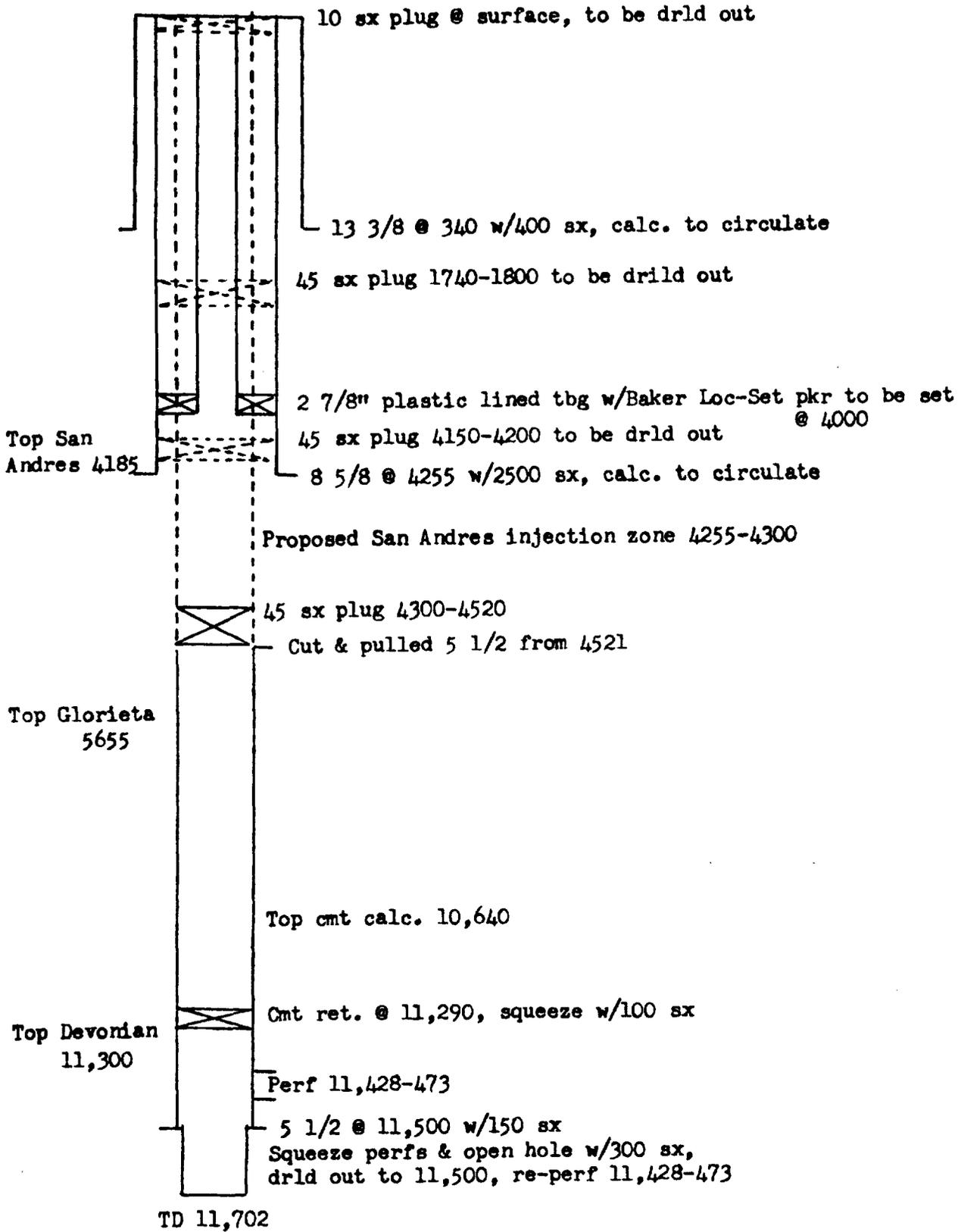
Item XII. Geological data acquired since 1951 indicate that there are no faults or other hydrologic connection between the proposed disposal zone and the Ogallala water formation. Shell Oil Company converted the State "A" No. 1, Unit N, Section 2, T11S, R37E to a water disposal well into the San Andres formation from 4249 to 5543 in August 1957. The well was taken over by Texaco in June 1962 and continued its use as a water disposal well until August 1970. A total of 9,017,370 barrels of water was reported to the Oil Commission as having been disposed into this zone during that time.

Item XIV Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

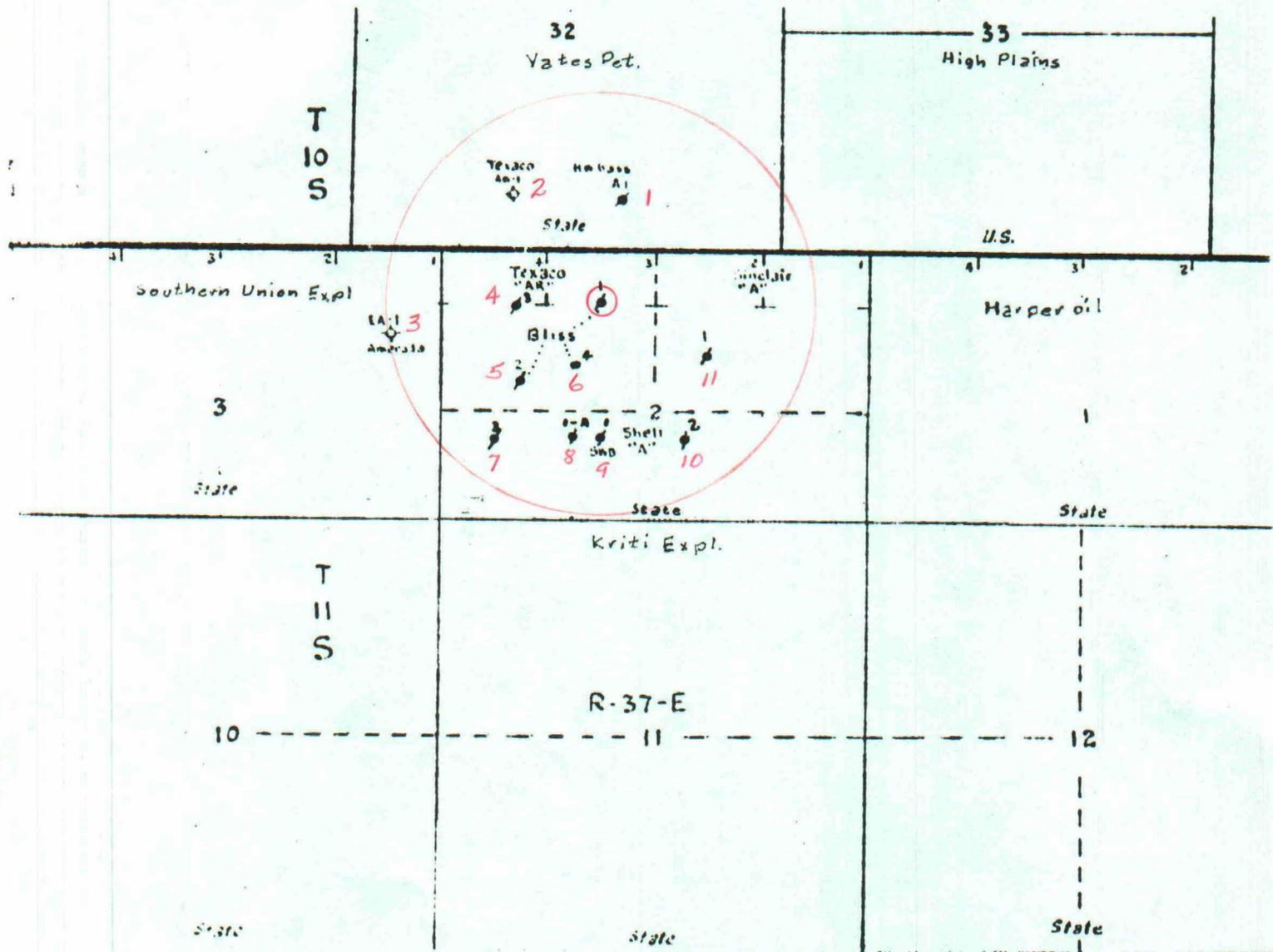


Donna Holler, Agent for
Bliss Petroleum, Inc.



Bliss Petroleum, Inc.
 State "AR" #1
 Proposed Re-entry & Conversion to SWD
 660' FNL & 1980' FWL
 Sec. 2, T11S, R37E

Form C-108
 Attachment III.A.



Form C-108
 Attachment V(b)
 Map Codes for
 Well Tabulation

Tabular Summary
 All Wells Within One-Half Mile
 Bliss Petroleum - State "AR" No. 1

Map Code
Well No.

Well Description

Section 32, T10S, R37E, Lea County, New Mexico

Harry Bass Drilling Co. & Champlin Oil & Refining Co. - State "A" #1 1
 660.2' FSL & 1979.6' FEL
 Spud 10/30/51, Comp. 3/29/52 Type: Oil Well
 Casing: 13 3/8" @ 367 with 375 sacks Top Cmt: Circulated
 8 5/8" @ 4271 with 2100 sacks Circulated
 5 1/2" @ 11,725 with 350 sacks 9705 Calc.
 TD 11,725, PBDT 11,721, Perfs 11,631-701 Formation: Devonian
 Potential: 460 BO, no wtr, 14 hrs, GOR 43
 P & A 9/16/57

The Texas Company - State of New Mexico "AW" #1 2
 660' FSL & 1980' FWL
 Spud 8/23/51, Comp. 12/20/51 Type: Dry Hole
 Casing: 13 3/8" @ 357 with 375 sacks Top Cmt: Circulated
 8 5/8" @ 4251 with 2500 sacks Circulated
 TD 11,875
 D & A 12/20/51

Section 3, T11S, R37E

Amerada Petroleum Corporation - State "EA" #1 3
 973.8' FNL & 660' FEL
 Spud 2/26/53, Comp. 5/13/53 Type: Dry Hole
 Casing: 13 3/8" @ 337 with 250 sacks Top Cmt: Circulated
 8 5/8" @ 4287 with 1500 sacks 1696 Temp. Surv.
 TD 11,685
 D & A 5/15/53

Section 2, T11S, R37E

Texaco Inc. - New Mexico "AR" State #3 4
 660' FNL & 990' FWL
 Spud 4/3/70, Comp. 6/10/70, Type: Oil Well
 Casing: 11 3/4" @ 353 with 350 sacks Top Cmt: Circulated
 8 5/8" @ 5000 with 1120 sacks Circulated
 5 1/2" @ liner 4799 to 11,500 with 900 sacks
 TD 11,500, PBDT 11,400, Perfs 11,343-365 Formation: Devonian
 Potential: 314 BO, 4 BW, Gas TSTM, 24 hrs
 Deepened to 11,580, no test reported
 P & A 5/5/73

Well DescriptionMap Code
Well No.Section 2, T11S, R37E Continued

Bliss Petroleum, Inc. - State "AR" #2 5
 Originally Texaco Inc.
 1650' FSL & 990' FWL
 Spud 11/13/52, Comp. 2/9/53 Type: Oil Well
 Casing: 13 3/8" @ 342 with 400 sacks Top Cmt: Circulated
 8 5/8" @ 4239 with 2500 sacks Circulated
 5 1/2" @ 11,697 with 450 sacks 9230 Calc.
 TD 11,698, PBD 11,695, Perfs 11,650-695 Formation: Devonian
 Potential: 414 BO, 12 hrs, 18/64" choke
 P & A by Texaco 4/21/73, cut & pull 5 1/2" csg from 4092
 Reentered by Bliss Petroleum, Inc. 9/12/83
 Unable to get inside 5 1/2" csg @ 4092
 TA 10/11/83

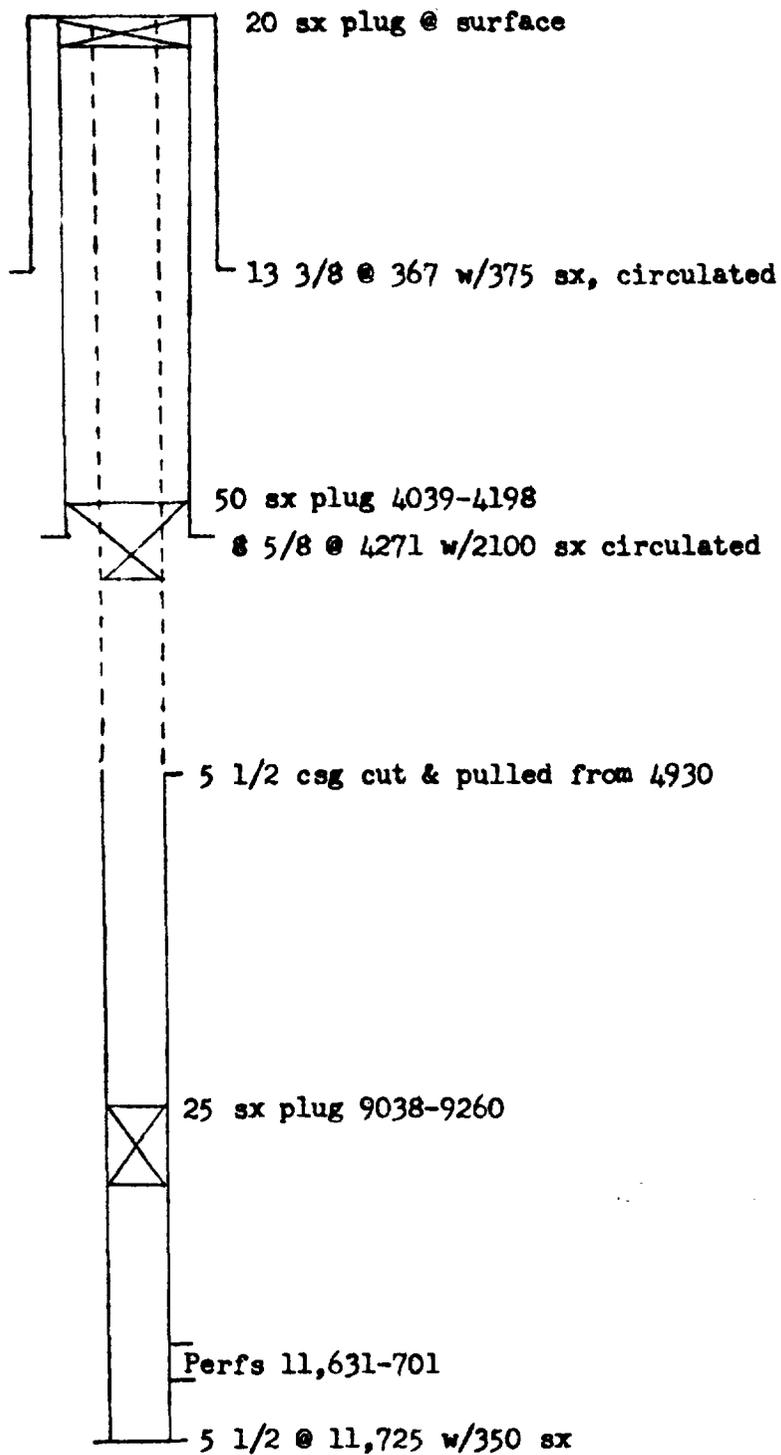
Bliss Petroleum, Inc. - State "AR" #4 6
 1950' FSL & 1650' FWL
 Spud 4/24/84, Comp. 7/28/84 Type: Oil Well
 Casing: 13 3/8" @ 368 with 400 sacks Top Cmt: Circulated
 9 5/8" @ 5035 with 1550 sacks Circulated
 5 1/2" @ 11,420 with 1075 sacks 5220 Calc.
 TD 11,580 Open Hole 11,420-580 Formation: Devonian
 Potential: 45 BO, 20 BW, 24 hrs.

Texaco Inc. - State "A" #3 7
 Originally Shell Oil Company
 990' FSL & 660' FWL
 Spud 3/3/53, Comp. 5/4/53 Type: Oil Well Converted to SWD
 Casing: 13 3/8" @ 362 with 325 sacks Top Cmt: Circulated
 8 5/8" @ 4298 with 2200 sacks Circulated
 5 1/2" @ 11,690 with 150 sacks 11,000 Calc.
 TD 11,750 Perfs 11,662-682 & open hole 11,690-750 Formation: Devonian
 Potential: 142 BO & 107 BW, 24 hrs Shut in by Shell 4/15/62
 Converted to SWD by Texaco 8/1/70
 P & A 4/16/73

Shell Oil Company - State "A" #1-A 8
 990' FSL & 1650' FWL
 Spud 9/6/57, Comp. 11/7/57 Type: Oil Well
 Casing: 13 3/8" @ 331 with 400 sacks Top Cmt: Circulated
 8 5/8" @ 4338 with 950 sacks Circulated
 5 1/2" @ 11,623 with 125 sacks 4965 Temp. Surv.
 TD 11,625 Perfs 11,598-622 Formation: Devonian
 Potential: 238 BO, 15 hrs, 20/64" choke
 P & A 7/3/62

Well DescriptionMap Code
Well No.Section 2, T11S, R37E Continued

Texaco Inc. - Shell SWD #1	9
Originally Shell Oil Company - State "A" #1	
990' FSL & 1980' FWL	
Spud 7/2/52, Comp. 10/20/52 Type: Oil Well Converted to SWD	
Casing: 13 3/8" @ 351 with 325 sacks Top Cmt: Circulated	
8 5/8" @ 4249 with 3000 sacks Circulated	
5 1/2" @ 11,617 with 350 sacks 9600 Calc.	
TD 11,756 Open Hole 11,617-756 Formation: Devonian	
Potential: 948 BOPD	
Shut in by Shell 8/10/57	
Converted to SWD by Texaco 6/10/62	
Pulled 5 1/2" casing from 8171	
PBTD 6300 SWD interval 4249-6300	
P & A 5/3/73	
Shell Oil Company - State "A" #2	10
990' FSL & 2310 FEL	
Spud 11/16/52, Comp. 2/24/53 Type: Oil Well	
Casing: 13 3/8" @ 360 with 350 sacks Top Cmt: Circulated	
8 5/8" @ 4277 with 3000 sacks Circulated	
5 1/2" @ 11,717 with 350 sacks 9700 Calc.	
TD 11,749, Perfs 11,650-711 & Open Hole 11,717-749 Formation: Devonian	
Potential: 307 BOPD	
P & A 12/31/53	
Sinclair Oil Corporation - State "A" #1	11
Drilled as Southern Production Co., Inc.	
1267' FNL & 1980' FEL	
Spud 10/18/51, Comp. 2/14/52 Type: Oil Well	
Casing: 13 3/8" 355 with 400 sacks Top Cmt: Circulated	
9 5/8" @ 4237 with 2400 sacks Circulated	
5 1/2" @ 11,817 with 150 sacks 10,950 Calc.	
TD 11,817, Perfs 11,608-798 Formation: Devonian	
Potential: 580 BO, 10 hours, 1/2" choke	
P & A 3/10/69 by Atlantic Richfield Company	

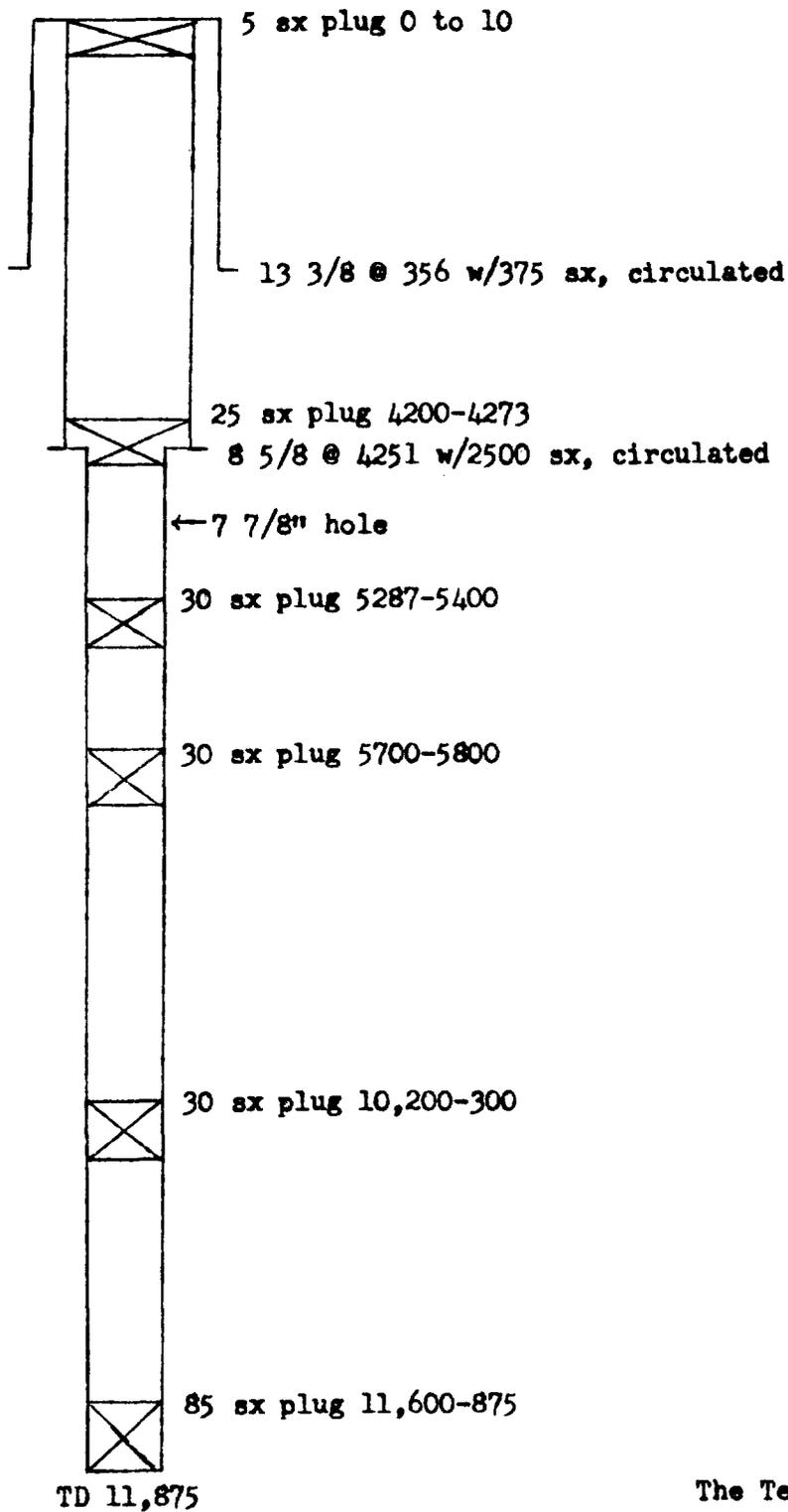


TD 11,725

Harry Bass Drilling Co. & Champlin
 Oil & Refining Co.
 State "A" #1
 660.2' FSL & 1979.6' FEL
 Sec. 32, T10S, R37E

P & A 9/16/57

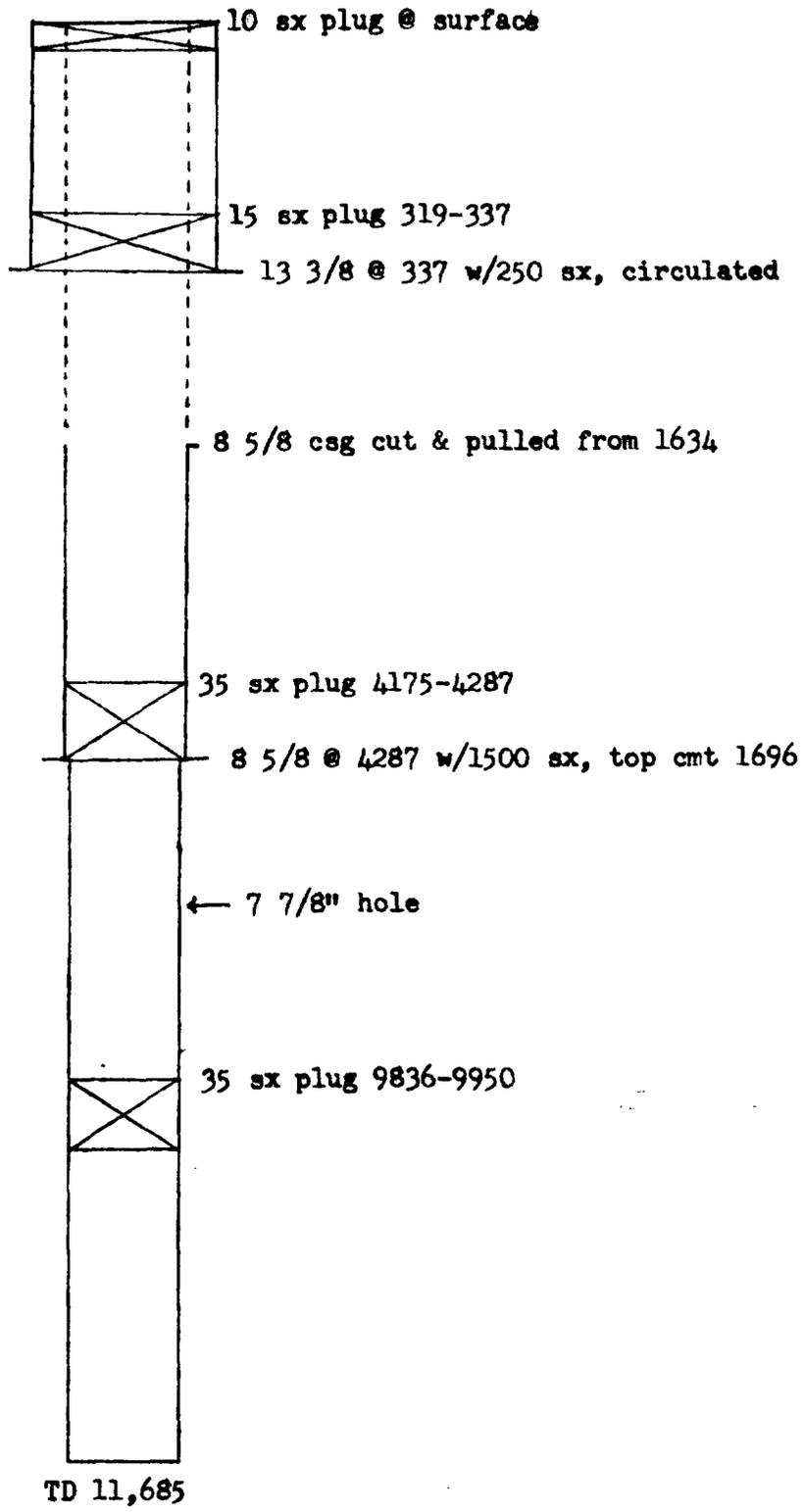
Form C-108
 Attachment VI Schematic 1
 Map Code Well #1



The Texas Company
 State of New Mexico "AW" #1
 660' FSL & 1980' FWL
 Sec. 32, T10S, R37E

Form C-108
 Attachment VI Schematic 2
 Map Code Well #2

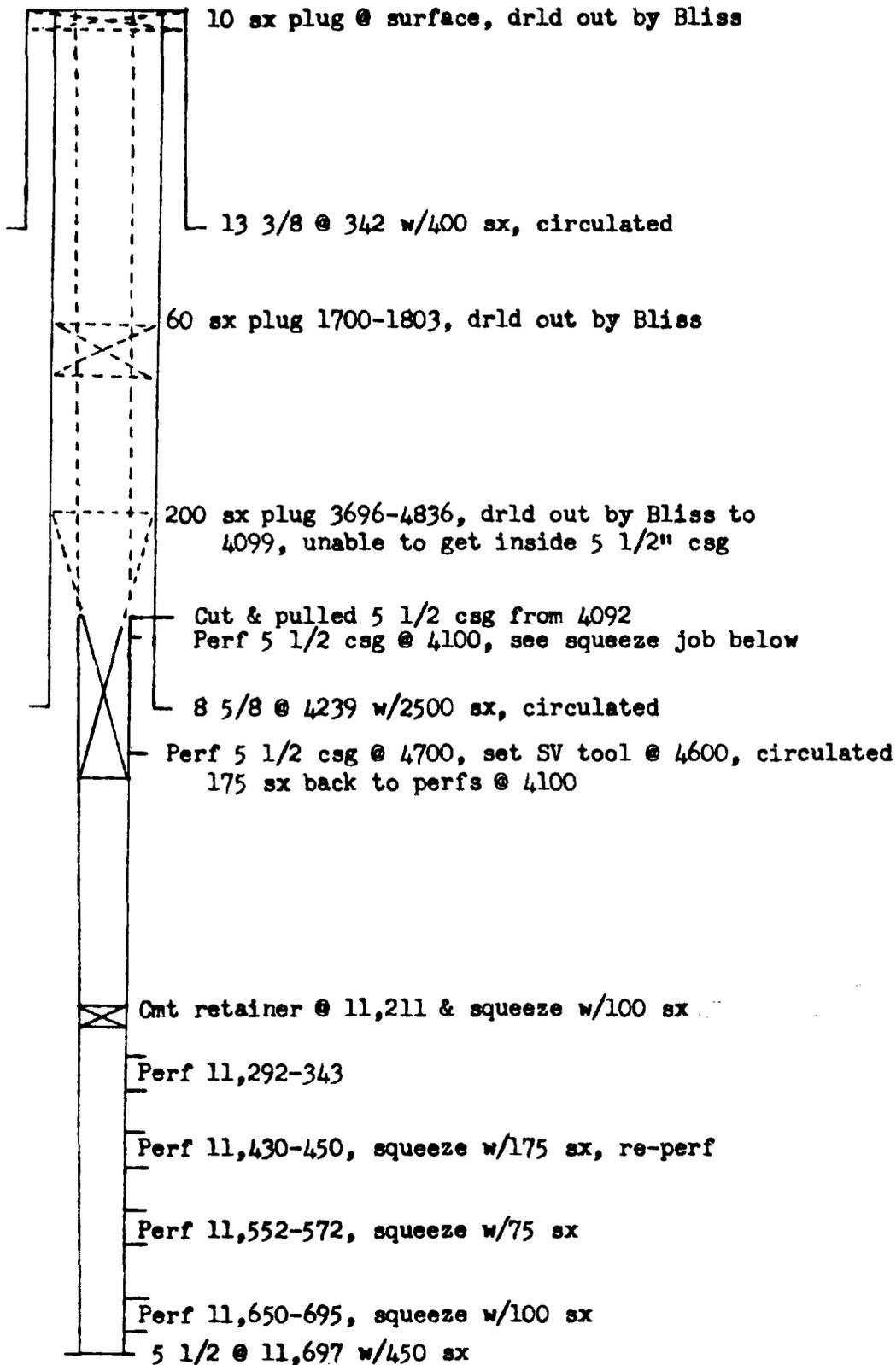
D & A 12/20/51



Amarado Petroleum Corp.
 State "EA" #1
 973.8' FNL & 660' FEL
 Sec. 3, T11S, R37E

D & A 5/15/53

Form C-108
 Attachment VI Schematic 3
 Well Code #3

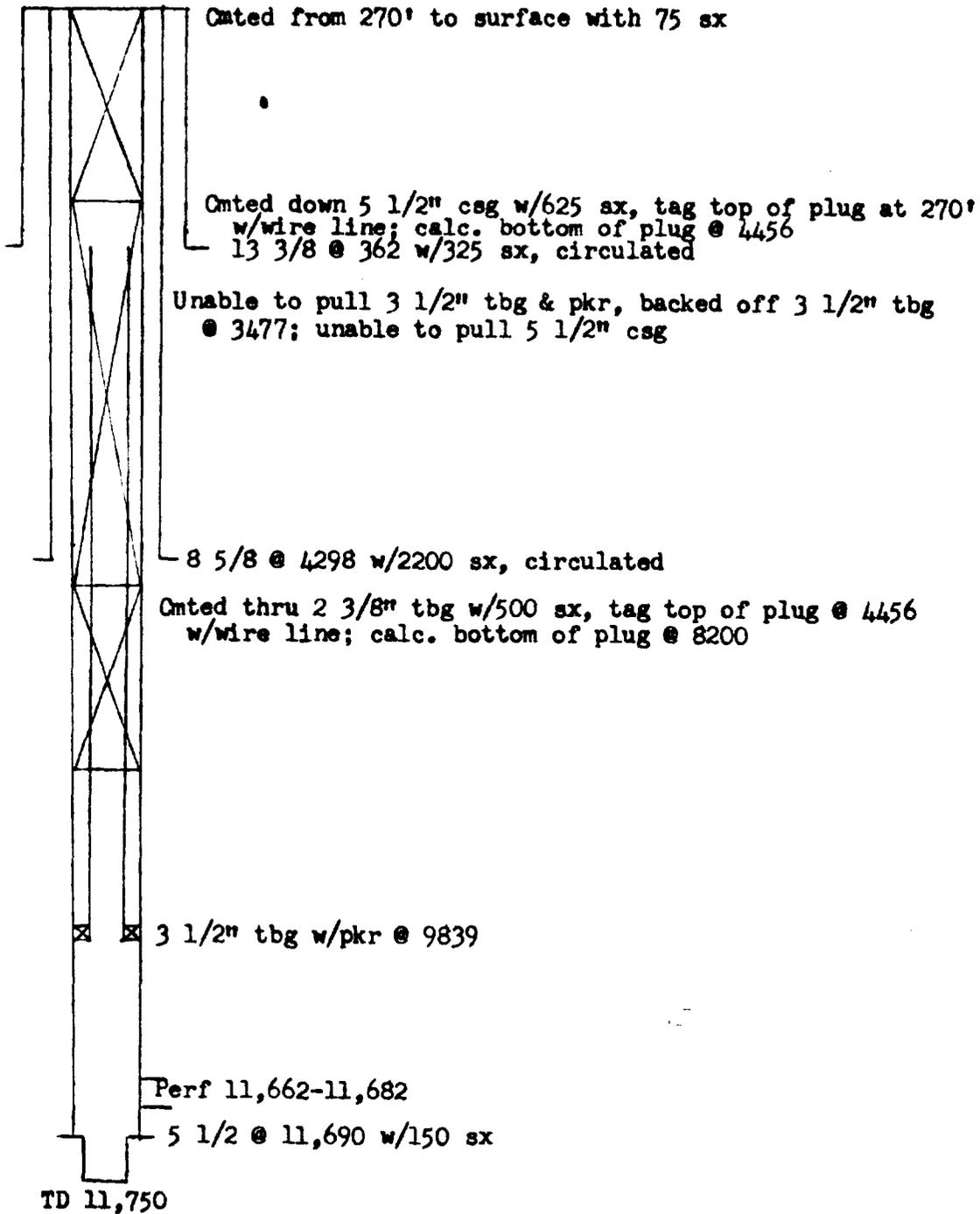


TD 11,698

Bliss Petroleum, Inc.
State "AR" #2
1650' FSL & 990' FWL
Sec. 2, T11S, R37E

P & A 4/21/73 by Texaco
Re-entered 9/12/83 by Bliss

Form C-108
Attachment VI Schematic 5
Map Code Well #5

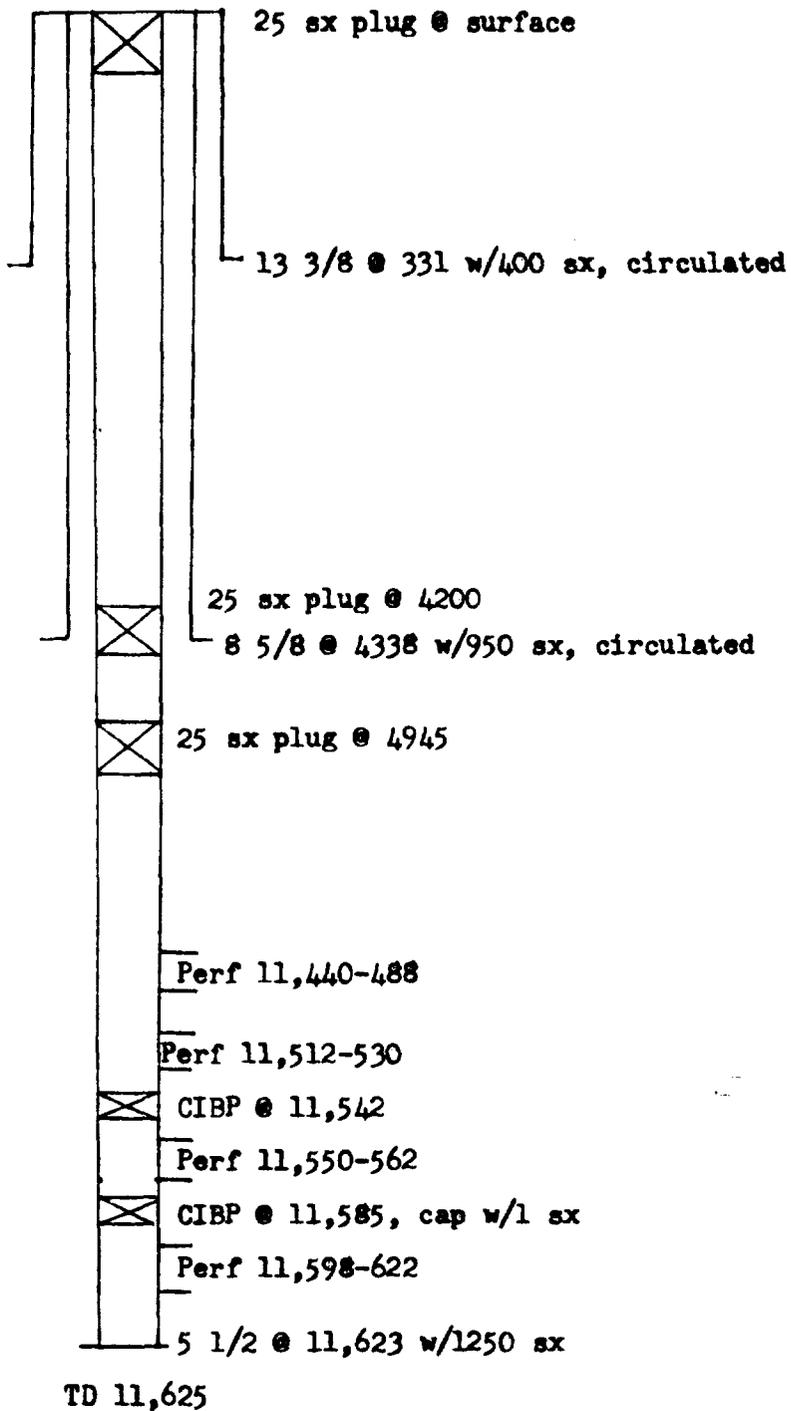


Note: In addition to plugging report filed by Texaco 4/24/73 data was obtained from field diary of Bill Jamison with Babar Well Service who plugged well.

Texaco Inc.
State "A" #3
990' FSL & 660' FWL
Sec. 2, T11S, R37E

P & A 4/16/73

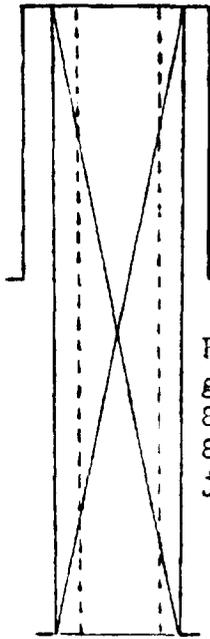
Form C-108
Attachment VI Schematic 6
Map Code Well #7



Shell Oil Company
 State "A" #1-A
 990' FSL & 1650' FWL
 Sec. 2, T11S, R37E

P & A 7/3/62

Form C-108
 Attachment VI Schematic 7
 Map Code Well #8



13 3/8 @ 351 w/325 sx, circulated

Plugging report by Texaco unclear. Reads "unable to get inside 3 1/2" tbg @ 507'; pumped 180 bbls cmt down 8 5/8" csg, top cmt @ 341'; pumped 300 sx cmt down 8 5/8" csg; 8 5/8" csg full of cmt. Assume left several jts 3 1/2" tbg & pkr in hole, depths unknown.

8 5/8 @ 4249 w/3000 sx, circulated

SWD interval 4249-5543

100 sx plug 5543-6300

180 sx plug 7880-8205

5 1/2" csg collapsed & pulled from 8171

Left pump, tbg anchor & 25 jts tbg in hole. Milled out of csg @ 8211 attempting to recover fish.

Perf 11,520-590

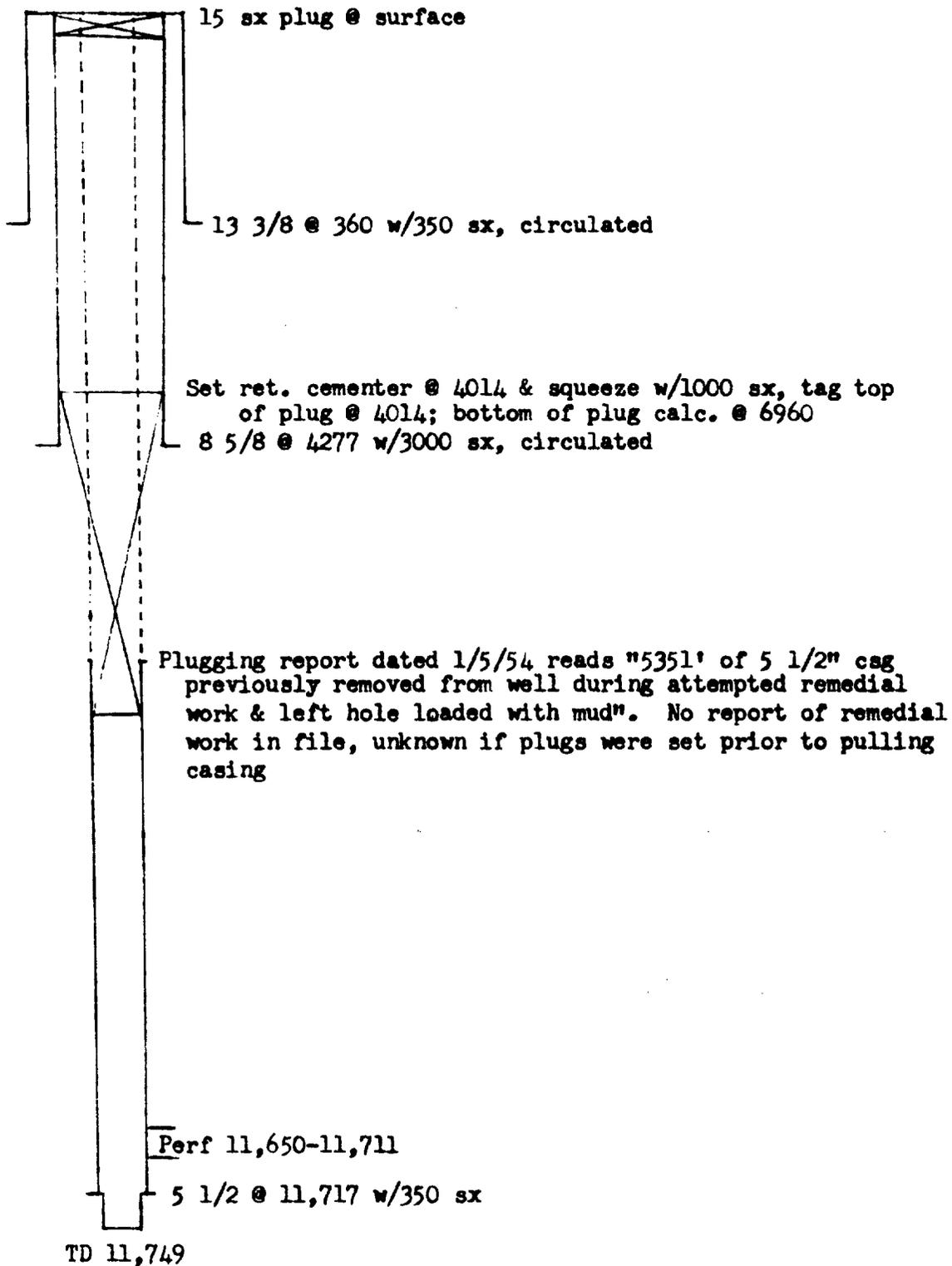
5 1/2 @ 11,617 w/350 sx
Squeeze open hole, sx not reported - PBTD 11,692

TD 11,756

Texaco Inc. - Shell SWD #1
Originally Shell Oil Co. - State "A" #1
990' FSL & 1980' FWL
Sec. 2, T11S, R37E

P & A 5/3/73

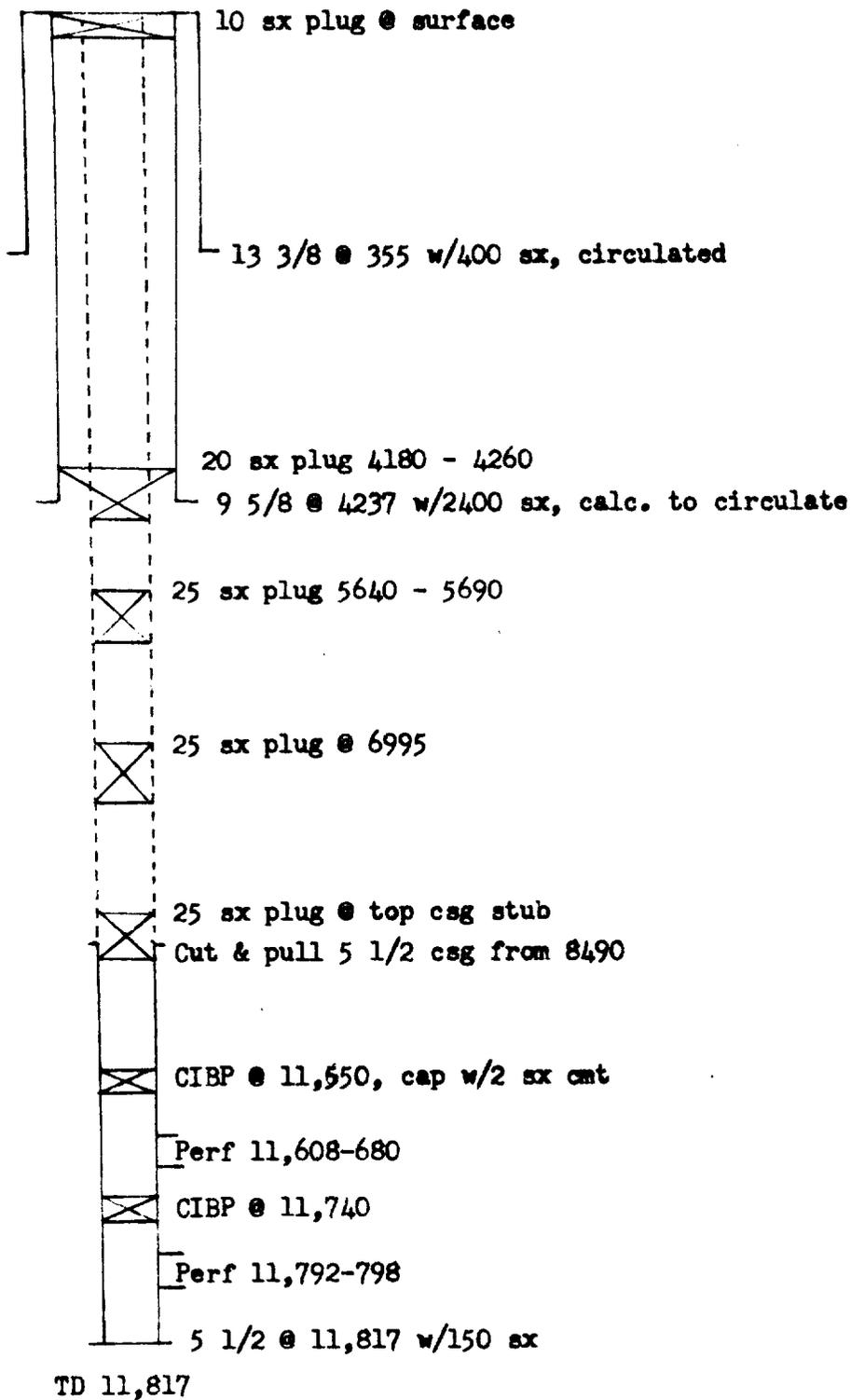
Form C-108
Attachment VI Schematic 8
Map Code Well #9



Shell Oil Company
 State "A" #2
 990' FSL & 2310' FEL
 Sec. 2, T11S, R37E

P & A 12/31/53

Form C-108
 Attachment VI Schematic 9
 Map Code Well #10



Sinclair Oil Corporation
 State "A" #1
 1267' FNL & 1980' FEL
 Sec. 2, T11S, R37E
 P & A 3/10/69

Form C-108
 Attachment VI Schematic 10
 Map Code Well #11

LOCATION

YOUR EXT. NO.

THE WESTERN COMPANY

WATER ANALYSIS

ANALYSIS NO. 5

GENERAL INFORMATION

OPERATOR <i>Bliss Blaine Inc</i>	DATE SAMPLED <i>8-11-54</i>
WELL <i>AR State # 4</i>	DATE RECEIVED <i>8-5-54</i>
FIELD	SUBMITTED BY
FORMATION <i>Quaternary</i>	WORKED BY <i>J</i>
COUNTY	SAMPLE DESCRIPTION: <i>water sample from</i>
STATE	
DEPTH	

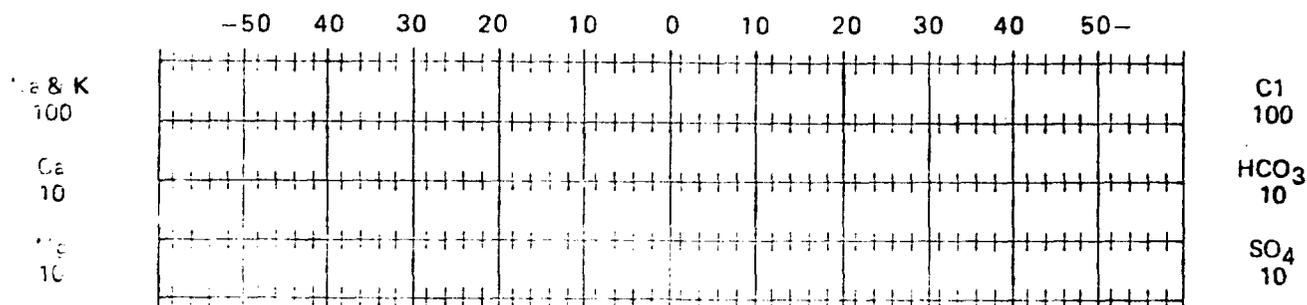
PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY <i>1.055</i> AT <i>67</i> °F	TOTAL DISSOLVED SOLIDS	PPM
PH <i>7.2</i>	RESISTIVITY <i>2125</i>	PPM
IRON <i>5.0</i> <i>Trace</i> <i>Tr.</i>	SULFATE <i>5275</i>	PPM
HYDROGEN SULFIDE <i>0</i> <i>Trace</i>	BICARBONATE <i>578</i>	PPM
HARDNESS <i>16,400</i>	CHLORIDE <i>76019</i>	PPM
CALCIUM <i>2540</i>	SODIUM CHLORIDE	PPM
MAGNESIUM <i>852</i> PPM	SODIUM	PPM
SODIUM & POTASSIUM <i>23,140</i> PPM	POTASSIUM	PPM
PHOSPHATE		

REMARKS:

*Sample did not appear to be saturated - maximum result
 is possible*

Stiff type plot (in meq./l.)



Form C-108

Attachment VII.4. (1)

ANALYST *J*

LOCATION

YOUR EXT. NO.

THE WESTERN COMPANY

WATER ANALYSIS

ANALYSIS NO. 6

GENERAL INFORMATION

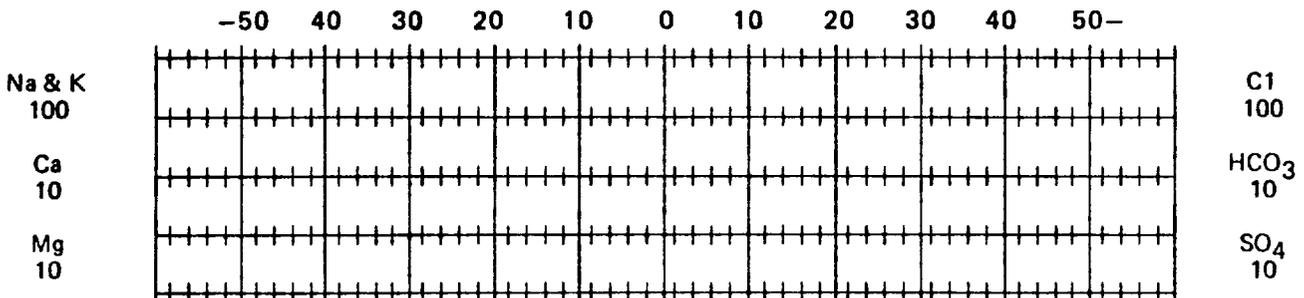
OPERATOR	DATE SAMPLED
WELL	DATE RECEIVED
FIELD <i>SAWYER</i>	SUBMITTED BY
FORMATION <i>SAN ANDRES</i>	WORKED BY
COUNTY <i>Lea</i>	SAMPLE DESCRIPTION:
STATE <i>NM</i>	
DEPTH	

PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY <i>1.155</i> AT <i>74</i> °F	TOTAL DISSOLVED SOLIDS	PPM
pH <i>6.0</i>	RESISTIVITY	PPM
IRON <i>None</i>	SULFATE <i>920</i>	PPM
HYDROGEN SULFIDE <i>STRONG</i>	BICARBONATE <i>732</i>	PPM
HARDNESS	CHLORIDE <i>125,000</i>	PPM
CALCIUM <i>14,750</i>	SODIUM CHLORIDE	PPM
MAGNESIUM <i>4870</i> PPM	SODIUM	PPM
SODIUM & POTASSIUM <i>55,020</i> PPM	POTASSIUM	PPM
PHOSPHATE		

REMARKS:

for Stiff type plot (in meq./l.)



Form C-108

Attachment VII.4. (2)

ANALYST

LOCATION

YOUR EXT. NO.

THE WESTERN COMPANY

WATER ANALYSIS

ANALYSIS NO. 7

GENERAL INFORMATION

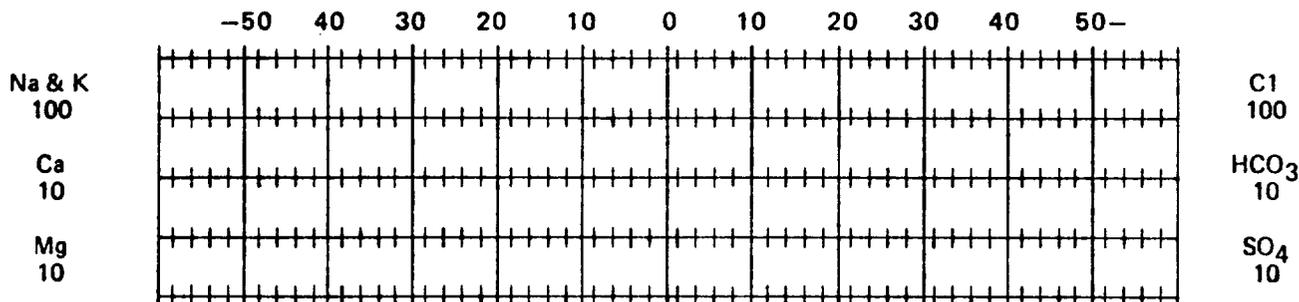
OPERATOR	DATE SAMPLED
WELL	DATE RECEIVED
FIELD <i>SAWYER, W.</i>	SUBMITTED BY
FORMATION <i>SAN ANTONIO</i>	WORKED BY
COUNTY <i>Roosevelt</i>	SAMPLE DESCRIPTION:
STATE <i>NM</i>	
DEPTH	

PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY <i>1.150</i> AT <i>85</i> °F	TOTAL DISSOLVED SOLIDS	PPM
pH <i>4.5</i>	RESISTIVITY	PPM
IRON <i>FAIR TRACE</i>	SULFATE <i>1020</i>	PPM
HYDROGEN SULFIDE <i>NONE</i>	BICARBONATE <i>171</i>	PPM
HARDNESS	CHLORIDE <i>130,800</i>	PPM
CALCIUM <i>20,400</i>	SODIUM CHLORIDE	PPM
MAGNESIUM <i>8980</i> PPM	SODIUM	PPM
SODIUM & POTASSIUM <i>45,200</i> PPM	POTASSIUM	PPM
PHOSPHATE		

REMARKS:

for Stiff type plot (in meq./l.)



Form C-108 Attachment VII.4. (3)

ANALYST

LOCATION

YOUR EXT. NO.

THE WESTERN COMPANY

WATER ANALYSIS

ANALYSIS NO. /

GENERAL INFORMATION

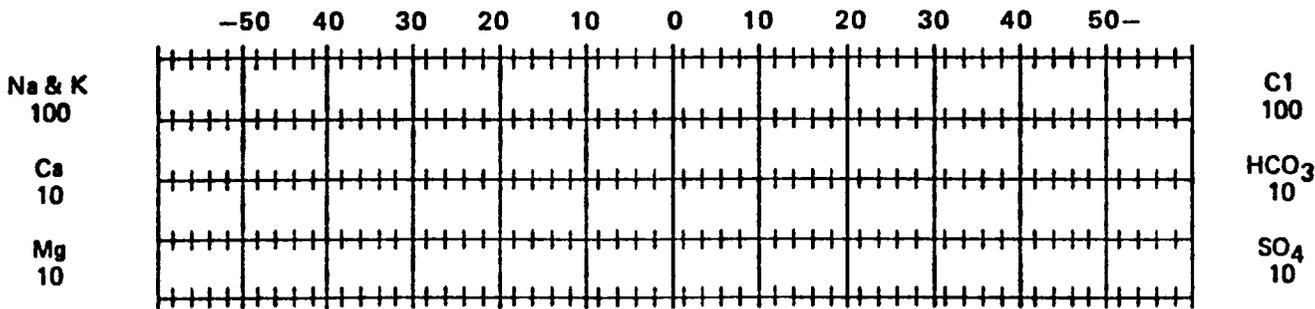
OPERATOR <i>Bliss Petroleum, Inc.</i>	DATE SAMPLED <i>12/18/84</i>
WELL	DATE RECEIVED <i>12/18/84</i>
FIELD	SUBMITTED BY
FORMATION	WORKED BY
COUNTY	SAMPLE DESCRIPTION:
STATE	<i>(1) North windmill from oil well</i>
DEPTH	

PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY <i>1.000</i> AT <i>72 °F</i>	TOTAL DISSOLVED SOLIDS	PPM
pH <i>6.5</i>	RESISTIVITY <i>8.0 at 72°F</i>	PPM
IRON <i>none</i>	SULFATE <i>. 220</i>	PPM
HYDROGEN SULFIDE <i>none</i>	BICARBONATE <i>268</i>	PPM
HARDNESS	CHLORIDE <i>280</i>	PPM
CALCIUM <i>25</i>	SODIUM CHLORIDE	PPM
MAGNESIUM <i>11</i> PPM	SODIUM	PPM
SODIUM & POTASSIUM <i>45</i> PPM	POTASSIUM	PPM
PHOSPHATE		

REMARKS:

for Stiff type plot (in meq./l.)



Form C-108 Attachment XI (1)

LOCATION

YOUR EXT. NO.

THE WESTERN COMPANY

WATER ANALYSIS

ANALYSIS NO. 4

GENERAL INFORMATION

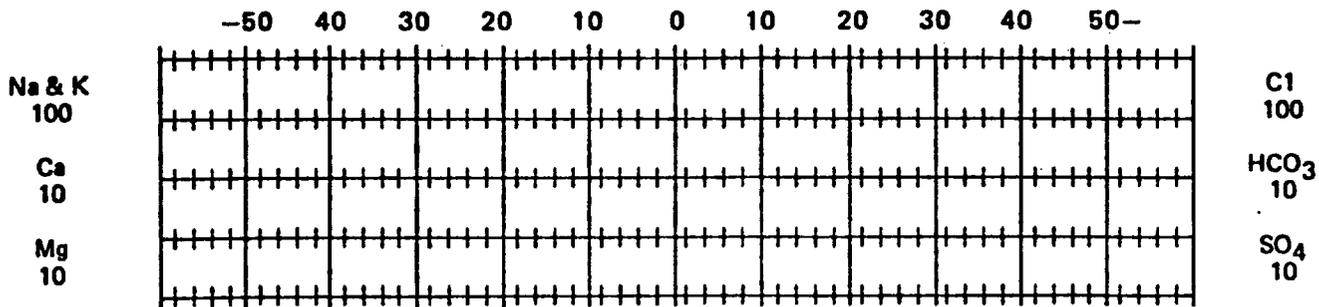
OPERATOR <i>Bliss Petroleum, Inc.</i>	DATE SAMPLED <i>12/18/84</i>
WELL	DATE RECEIVED <i>12/18/84</i>
FIELD	SUBMITTED BY
FORMATION	WORKED BY
COUNTY	SAMPLE DESCRIPTION:
STATE	<i>(4) south windmill from oil well</i>
DEPTH	

PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY <i>1.0000</i> AT <i>72</i> °F	TOTAL DISSOLVED SOLIDS	PPM
pH <i>6.5</i>	RESISTIVITY <i>5.5 at 72°F</i>	PPM
IRON <i>none</i>	SULFATE <i>660</i>	PPM
HYDROGEN SULFIDE <i>none</i>	BICARBONATE <i>256</i>	PPM
HARDNESS	CHLORIDE <i>240</i>	PPM
CALCIUM <i>171</i>	SODIUM CHLORIDE	PPM
MAGNESIUM <i>50</i> PPM	SODIUM	PPM
SODIUM & POTASSIUM <i>153</i> PPM	POTASSIUM	PPM
PHOSPHATE		

REMARKS:

for Stiff type plot (in meq./l.)



Form C-108 Attachment XI (2)

ANALYST

P 243 010 584
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO High Plains Exploration	
STREET AND NO. 3100 N. "A", Bldg. B	
P.O. STATE AND ZIP CODE Midland, Texas 79705	
POSTAGE	\$
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
CONSULT POSTMASTER FOR FEES	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 243 010 585
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Yates Petroleum Corp.	
STREET AND NO. 207 South 4th Street	
P.O. STATE AND ZIP CODE Artesia, New Mexico 88210	
POSTAGE	\$
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
CONSULT POSTMASTER FOR FEES	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 243 010 586
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Southern Union Expl of Tex	
STREET AND NO. Texas Fed. Bldg. Suite 400	
P.O. STATE AND ZIP CODE Dallas, Texas 75202	
POSTAGE	\$
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
CONSULT POSTMASTER FOR FEES	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 243 010 587
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Amoco Production Co.	
STREET AND NO. P. O. Box 68	
P.O. STATE AND ZIP CODE Hobbs, NM 88241	
POSTAGE	\$
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
CONSULT POSTMASTER FOR FEES	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 243 010 588
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO D A & S Oil Well Servicing	
STREET AND NO. P. O. Box 2524	
P.O. STATE AND ZIP CODE Hobbs, NM 88241	
POSTAGE	\$
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
CONSULT POSTMASTER FOR FEES	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 243 010 589
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO State Land Office	
STREET AND NO. P. O. Box 1148	
P.O. STATE AND ZIP CODE Santa Fe, NM 87501	
POSTAGE	\$
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
CONSULT POSTMASTER FOR FEES	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

Form 3811, Oct. 1985

SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
 Show to whom and date delivered —¢
 Show to whom, date, and address of delivery.. —¢

2. RESTRICTED DELIVERY (The restricted delivery fee is charged in addition to the return receipt fee.) —¢

TOTAL \$ _____

3. ARTICLE ADDRESSED TO:
 High Plains Exploration, Inc.
 3100 North "A", Building B
 Midland, Texas 79705

4. TYPE OF SERVICE: ARTICLE NUMBER
 REGISTERED INSURED
 CERTIFIED COD P 243 010 584
 EXPRESS MAIL

(Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE Addressee Authorized agent
[Signature]

5. DATE OF DELIVERY POSTMARK

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE: 7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

Form 3811, Oct. 1985

SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
 Show to whom and date delivered —¢
 Show to whom, date, and address of delivery.. —¢

2. RESTRICTED DELIVERY (The restricted delivery fee is charged in addition to the return receipt fee.) —¢

TOTAL \$ _____

3. ARTICLE ADDRESSED TO:
 Amoco Production Co.
 P. O. Box 68
 Hobbs, NM 88241

4. TYPE OF SERVICE: ARTICLE NUMBER
 REGISTERED INSURED
 CERTIFIED COD P 243 010 587
 EXPRESS MAIL

(Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE Addressee Authorized agent
[Signature]

5. DATE OF DELIVERY POSTMARK

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE: 7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

Form 3811, Oct. 1985

SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
 Show to whom and date delivered —¢
 Show to whom, date, and address of delivery.. —¢

2. RESTRICTED DELIVERY (The restricted delivery fee is charged in addition to the return receipt fee.) —¢

TOTAL \$ _____

3. ARTICLE ADDRESSED TO:
 Southern Union Expl. of Texas
 Texas Federal Bldg. Suite 400
 Dallas, Texas 75202

4. TYPE OF SERVICE: ARTICLE NUMBER
 REGISTERED INSURED
 CERTIFIED COD P 243 010 586
 EXPRESS MAIL

(Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE Addressee Authorized agent
[Signature]

5. DATE OF DELIVERY POSTMARK
 MAR 25 1985

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE: 7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

Form 3811, Oct. 1985

SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
 Show to whom and date delivered —¢
 Show to whom, date, and address of delivery.. —¢

2. RESTRICTED DELIVERY (The restricted delivery fee is charged in addition to the return receipt fee.) —¢

TOTAL \$ _____

3. ARTICLE ADDRESSED TO:
 D A & S Oil Well Servicing, Inc.
 P. O. Box 2524
 Hobbs, NM 88241

4. TYPE OF SERVICE: ARTICLE NUMBER
 REGISTERED INSURED
 CERTIFIED COD P 243 010 588
 EXPRESS MAIL

(Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE Addressee Authorized agent
[Signature]

5. DATE OF DELIVERY POSTMARK

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE: 7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

PS Form 3811, Dec. 1980

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
 Show to whom and date delivered —¢
 Show to whom, date, and address of delivery.. —¢

2. **RESTRICTED DELIVERY** —¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL \$ _____

3. **ARTICLE ADDRESSED TO:**
 Yates Petroleum Corp.
 207 South 4th Street
 Artesia, New Mexico 88210

4. TYPE OF SERVICE: <input type="checkbox"/> REGISTERED <input type="checkbox"/> INSURED <input checked="" type="checkbox"/> CERTIFIED <input type="checkbox"/> COD <input type="checkbox"/> EXPRESS MAIL	ARTICLE NUMBER P 243 010 585
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(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

R. Blount

5. DATE OF DELIVERY 3-25-85	POSTMARK
---------------------------------------	-----------------

6. **ADDRESSEE'S ADDRESS (Only if requested)**

7. UNABLE TO DELIVER BECAUSE:	7a. EMPLOYEE'S INITIALS
--------------------------------------	--------------------------------

PS Form 3811, Dec. 1980

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
 Show to whom and date delivered —¢
 Show to whom, date, and address of delivery.. —¢

2. **RESTRICTED DELIVERY** —¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL \$ _____

3. **ARTICLE ADDRESSED TO:**
 State Land Office
 P. O. Box 1148
 Santa Fe, New Mexico 87501

4. TYPE OF SERVICE: <input type="checkbox"/> REGISTERED <input type="checkbox"/> INSURED <input checked="" type="checkbox"/> CERTIFIED <input type="checkbox"/> COD <input type="checkbox"/> EXPRESS MAIL	ARTICLE NUMBER P 243 010 589
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(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

Don Olden

5. DATE OF DELIVERY	POSTMARK 
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6. **ADDRESSEE'S ADDRESS (Only if requested)**

7. UNABLE TO DELIVER BECAUSE:	7a. EMPLOYEE'S INITIALS
--------------------------------------	--------------------------------

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

I, _____

Robert L. Summers

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period

of _____

One weeks.

Beginning with the issue dated

March 27, 19 85

and ending with the issue dated

March 27, 19 85

Robert L. Summers
Publisher.

Sworn and subscribed to before

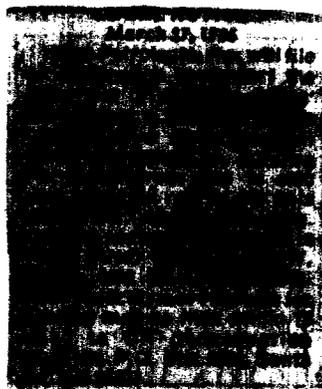
me this 28 day of

March, 19 85
Jane Paulowsky
Notary Public.

My Commission expires

3-24, 19 87

(Seal)



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

