ENERGY AND MINERALS DEPARTMENT

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

Revised 7-1-81

Case 11322

RECEIVED
JUN 6 1995
Oil Conservation Division

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Yates Petroleum Corporation

Address: 105 South 4th Street Artesia, New Mexico 88210

Contact party: _____ Phone: _____

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: Pinson McWhorter Title Reservoir Engineering Supervisor

Signature: Pinson McWhorter Date: June 1, 1995

* 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

C-108
Application for Authorization to Inject
Yates Petroleum Corporation
Chaves County, New Mexico

Trailblazer ANL State #2
Unit H Sec 11-8S-27E

I. The purpose of this well will be to reinject produced San Andres gas into the San Andres formation as part of a gas storage project in Acme San Andres Southeast.

II. Operator: Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210
Pinson McWhorter
(505) 748-1471

III. Well Data: See Attachment A

IV. This is not an expansion of an existing project.

V. See attached map, Attachment B.

VI. Area of Review Well Data: See Attachment C.

VII. 1. The proposed average daily injection volume will be approximately 400 MCFD.

The maximum daily injection volume is estimated to be 400 MCFD.

2. The system will be a closed system.

3. The proposed average injection pressure is estimated to be 500 psi.

The proposed maximum injection pressure is estimated to be 500 psi.

4. The source of injection gas will be produced gas from Acme San Andres Southeast.

VIII. 1. The injection zone will be the P1 of the San Andres. The San Andres dolomite is a finely crystalline, tan to light grey reservoir rock, sandy textured with porosity development consisting of small vugs and fractures. The average depth of the top of the P1 zone of the San Andres is 2140' with a thickness of approximately 55'. Fresh water zones overlay the San Andres at depths of approximately 300'.

IX. The proposed injection interval will have no further stimulation.

X. Well log data is on file with the Oil Conservation Division.

XI. No fresh water wells were located within one mile of the proposed injection well.

XII. Yates Petroleum has examined available geologic and engineering data and has found no evidence of open faults or other hydrologic connection between the injection zone and any underground source of drinking water

ATTACHMENT A

TRAILBLAZER GAS STORAGE PROJECT

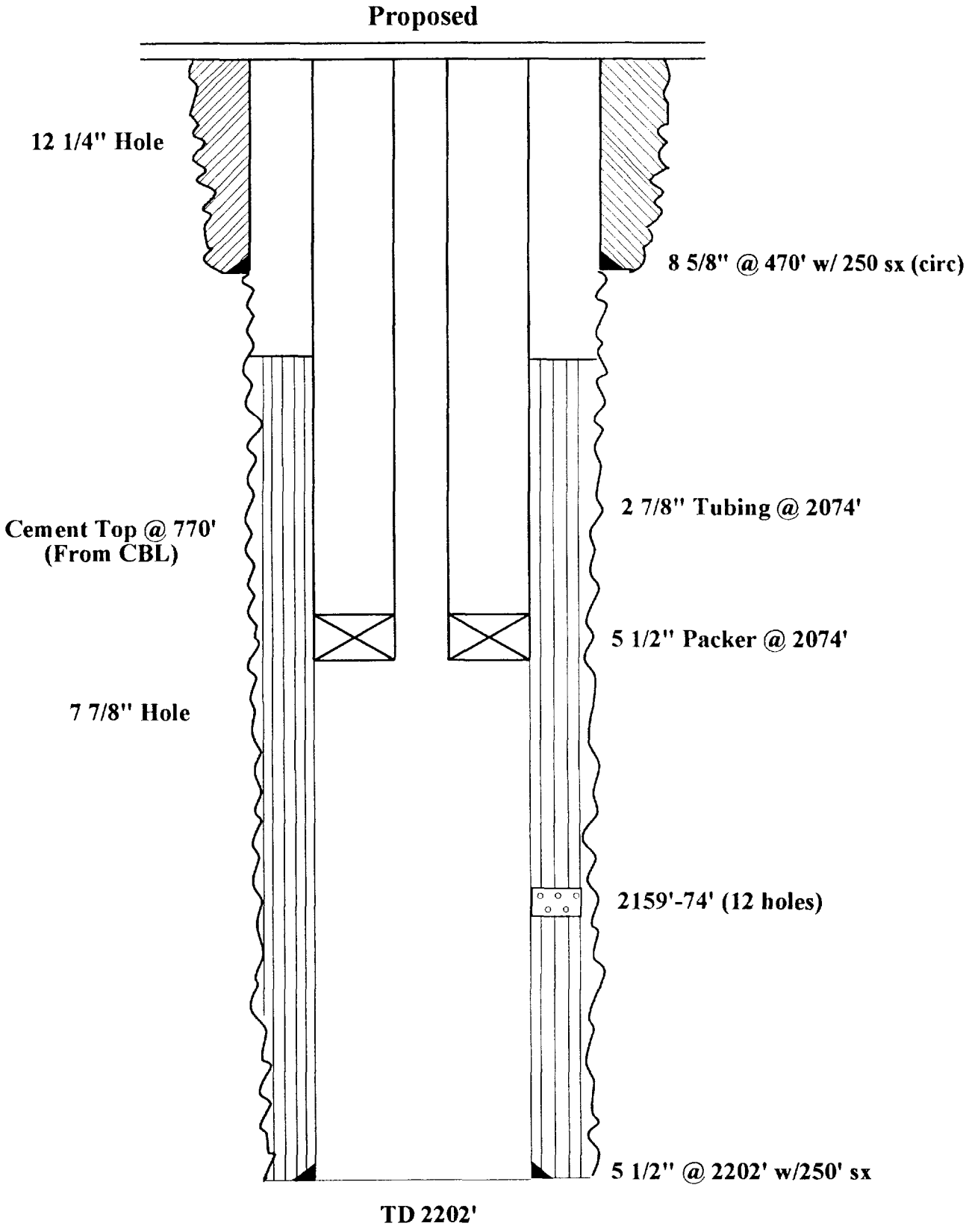
FORM C-108

WELL DATA

Lease Name & Location	Casing Tubing & Packer Data	Injection Formation	Injection Interval Perforation	1- Next Higher Oil/Gas Zone 2 - Next Higher Oil/Gas Zone
Trailblazer ANL State #2	8-5/8" @ 470' w/250 sx (circ)	San Andres	2159' - 2174'	1 - None
Unit H, Sec 11-8S-27E	5-1/2" @ 2202' w/250 sx (TOC 770' CBL)			2 - Ordovician
2310' FNL & 330' FEL	2-7/8" @ 2074'			
(Originally Oil Well Test)	Packer @ 2074'			

Attachment A

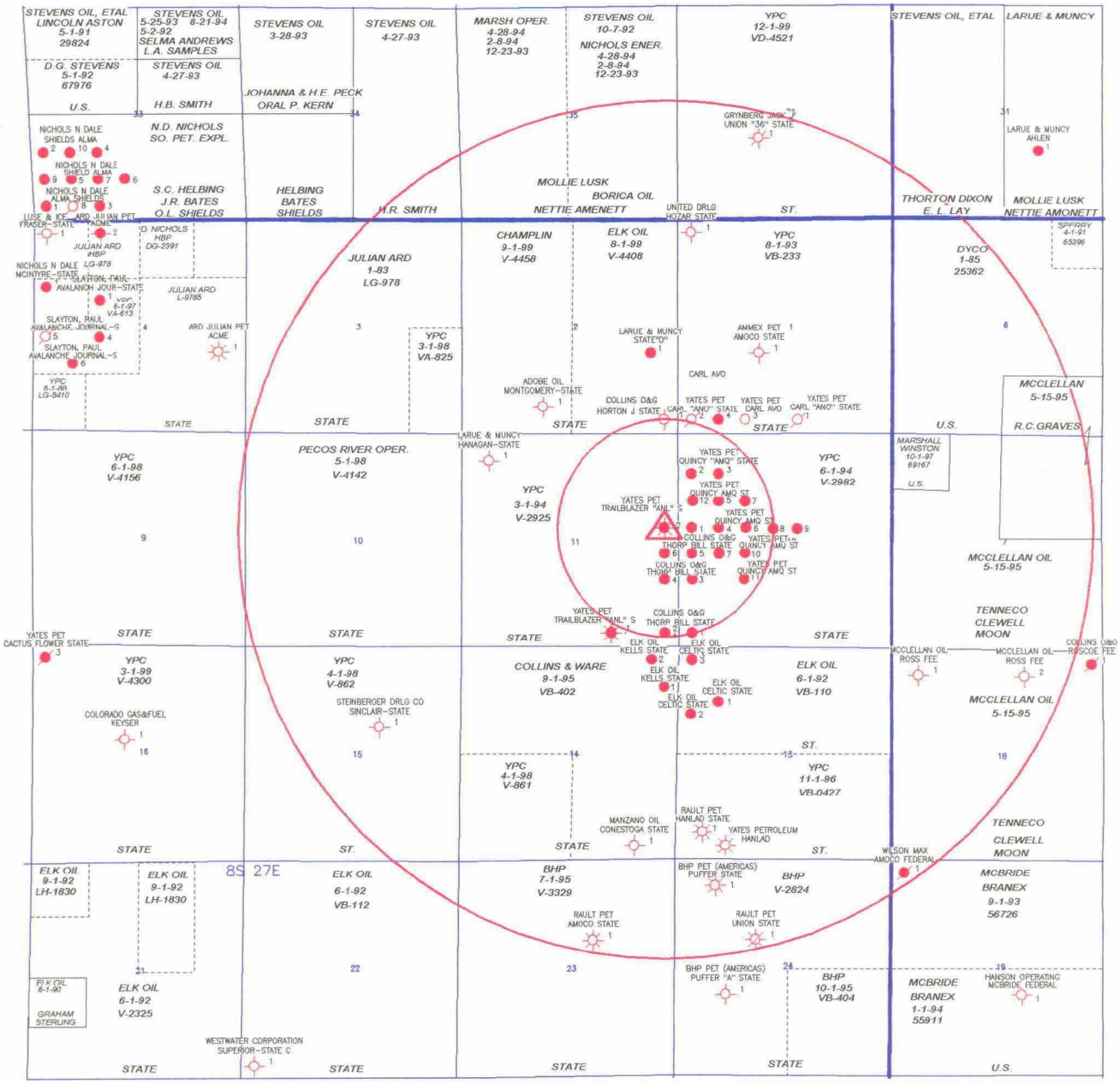
Trailblazer ANL State #2
H 11-8S-27E
2310' FNL & 330' FEL



R27E R28E

T 7 S

T 8 S



PROPOSED INJECTION WELL

Yates Petroleum Corporation		
PROPOSED INJECTION WELL TRAILBLAZER "ANL" ST. #2 SEC. 11-8S-27E UNIT H 2310'FNL & 330'FEL CHAVES COUNTY, NEW MEXICO		
JFC108-PLAT		6/1/95
JFTRLBZR.GPF	Scale 1:48000.	

ATTACHMENT B

TRAILBLAZER GAS STORAGE PROJECT
Form C-108
Tabulation of Data on Wells Within Area of Review

WELL NAME	OPERATOR	TYPE	SPUD	COMPLETED	TOTAL DEPTH	PRODUCING ZONE	PERFORATIONS	CASING & CEMENTING INFORMATION
Quincy AMQ State #1 Unit E, Sec 12-8S-27E 2310' FNL & 330' FWL	Yates Petroleum Corporation	Oil	07/26/93	08/06/93	2195'	San Andres	2143' - 2186'	13-3/8" @ 10' w/cement to surface 8-5/8" @ 475' w/250 sx (circulated) 5-1/2" @ 2195' w/250 sx (TOC 1100' CBL)
Quincy AMQ State #2 Unit D, Sec 12-8S-27E 990' FNL & 330' FWL	Yates Petroleum Corporation	Oil	08/02/93	08/14/93	2203'	San Andres	2172' - 2189'	13-3/8" @ 10' w/cement to surface 8-5/8" @ 450' w/250 sx (circulated) 5-1/2" @ 2203' w/250 sx (TOC 800' CBL)
Quincy AMQ State #3 Unit D, Sec 12-8S-27E 990' FNL & 990' FWL	Yates Petroleum Corporation	Oil	08/25/93	09/04/93	2220'	San Andres	2180' - 2199'	13-3/8" @ 6' w/cement to surface 8-5/8" @ 460' w/250 sx (circulated) 5-1/2" @ 2220' w/250 sx (TOC 1200' CBL)
Quincy AMQ State #4 Unit E, Sec 12-8S-27E 2310' FNL & 990' FWL	Yates Petroleum Corporation	Oil	01/13/95	01/27/95	2214'	San Andres	2150' - 2192'	13-3/8" @ 5' w/cement to surface 8-5/8" @ 448' w/280 sx (circulated) 5-1/2" @ 2214' w/350 sx (TOC 846' CBL)
Quincy AMQ State #5 Unit E, Sec 12-8S-27E 1650' FNL & 990' FWL	Yates Petroleum Corporation	Oil	01/18/95	02/01/95	2218'	San Andres	2157' - 2202'	13-3/8" @ 5' w/cement to surface 8-5/8" @ 447' w/250 sx (circulated) 5-1/2" @ 2218' w/300 sx (TOC 461' calc)
Quincy AMQ State #6 Unit F, Sec 12-8S-27E 2310' FNL & 1650' FWL	Yates Petrolem Corporation	Oil	02/08/95	02/21/95	2220'	San Andres	2154' - 2194'	8-5/8" @ 464' w/250 sx (circulated) 5-1/2" @ 2220' w/300 sx (TOC 463' calc)
Quincy AMQ State #7 Unit F, Sec 12-8S-27E 1650' FNL & 1650' FWL	Yates Petroleum Corporation	Oil	03/09/95	04/13/95	2225'	San Andres	2169' - 2197'	8-5/8" @ 460' w/250 sx (circulated) 5-1/2 @ 2225' w/350 sx (circulated)

TRAILBLAZER GAS STORAGE PROJECT
Form C-108
Tabulation of Data on Wells Within Area of Review

WELL NAME	OPERATOR	TYPE	SPUD	COMPLETED	TOTAL DEPTH	PRODUCING ZONE	PERFORATIONS	CASING & CEMENTING INFORMATION
Quincy AMQ State #10 Unit K, Sec 12-8S-27E 2310' FSL & 1650' FWL	Yates Petroleum Corporation	Oil	04/24/95	05/05/95	2225'	San Andres	2148' - 2200'	13-3/8 @ 5' Cement to surface 8-5/8" @ 459' w/250 sx - (circulated) 5-1/2" @ 2225' w/300 sx (TOC 704' calc)
Quincy AMQ State #11 Unit K, Sec 12-8S-27E 1650' FSL & 1650' FWL	Yates Petroleum Corporation	Oil	04/30/95	05/13/95	2221'	San Andres	2144' - 2198'	13-3/8" @ 5' Cement to surface 8-5/8" @ 460' w/250 sx - (circulated) 5-1/2" @ 2221' w/350 sx (TOC 940' CBL)
Quincy AMQ State #12 Unit E, Sec 12-8S-27E 1650' FNL & 330' FWL	Yates Petroleum Corporation	Oil	04/18/95	05/05/95	2215'	San Andres	2152' - 2196'	13-3/8" @ 5' Cement to surface 8-5/8" @ 462' w/225 sx - (circulated) 5-1/2" @ 2215' w/300 sx (TOC 694' calc)
Bill Thorp State #1 Unit M, Sec 12-8S-27E 330' FSL & 330' FWL	Collins Oil & Gas	Oil	04/22/93	05/10/93	2170'	San Andres	2120' - 2164'	8-5/8" @ 463' w/275 sx (circulated) 4-1/2" @ 2170' w/200 sx (TOC 1399' calc)
Bill Thorp State #2 Unit P, Sec 11-8S-27E 330' FSL & 330' FEL	Collins Oil & Gas	Oil	06/02/93	06/16/93	2160'	San Andres	2110' - 2140'	8-5/8" @ 470' w/225 sx (circulated) 4-1/2" @ 2160' w/200 sx (TOC 1389' calc)
Bill Thorp State #3 Unit L, Sec 12-8S-27E 1650' FSL & 330' FWL	Collins Oil & Gas	Oil	06/28/93	08/09/93	2185'	San Andres	2128' - 2160'	8-5/8" @ 470' w/245 sx (circulated) 4-1/2" @ 2185' w/200 sx (TOC 1414' calc)
Bill Thorp State #4 Unit I, Sec 11-8S-27E 1650' FSL & 330' FEL	Collins Oil & Gas	Oil	08/17/93	10/09/93	2181'	San Andres	2124' - 2156'	8-5/8" @ 446' w/245 sx (circulated) 4-1/2" @ 2181' w/200 sx (TOC 1410' calc)

TRAILBLAZER GAS STORAGE PROJECT

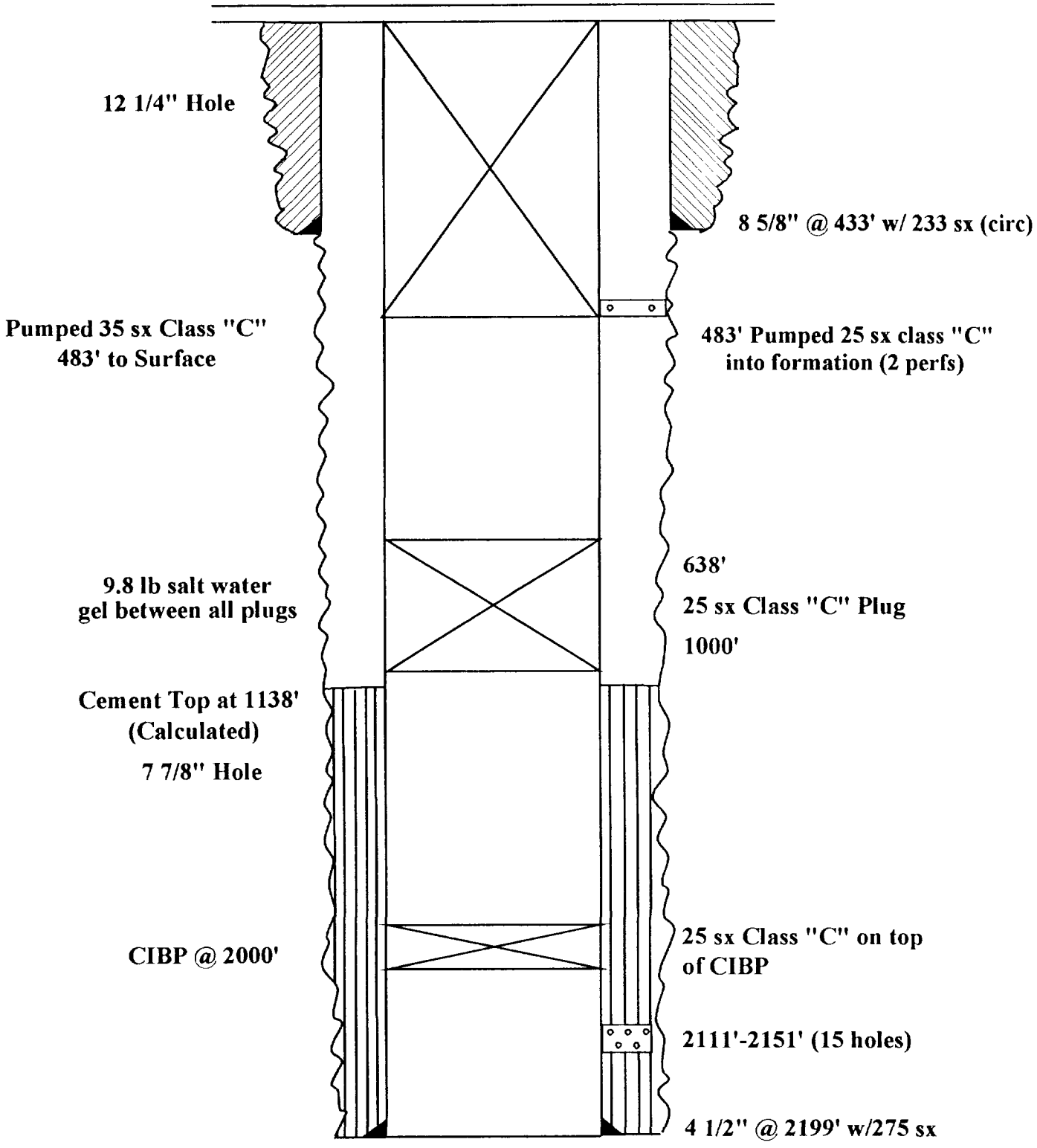
Form C-108

Tabulation of Data on Wells Within Area of Review

WELL NAME	OPERATOR	TYPE	SPUD	COMPLETED	TOTAL DEPTH	PRODUCING ZONE	PERFORATIONS	CASING & CEMENTING INFORMATION
Bill Thorp State #5 Unit L, Sec 12-8S-27E	Collins Oil & Gas	Oil	08/19/93	08/26/93	2195'	San Andres	2137' - 2181'	8-5/8" @ 450' w/245 sx (circulated) 4-1/2' @ 2195' w/200 sx (TOC 1424' calc)
Bill Thorp State #6 Unit I, Sec 11-8S-27E	Collins Oil & Gas	Oil	07/20/94	07/29/94	2197'	San Andres	2142' - 2184'	8-5/8" @ 458' w/260 sx (circulated) 4 -1/2" @ 2197' w/200 sx (TOC 1426' calc)
Bill Thorp State #7 Unit L, Sec 12-8S-27E 2310' FSL & 990' FWL	Collins Oil & Gas	Oil	02/02/95	02/13/95	2200'	San Andres	2138' - 2186	8-5/8" @ 450' w/200 sx (circulated) 4 1/2" @ 2200' w/200 sx (TOC 1429' calc)
J. Horton State #1 Unit P, Sec 2-8S-27E 330' FEL & 330' FSL	Collins Oil & Gas	Oil	02/26/94	Plugged 04/11/94	2199'	San Andres	2111' - 2151'	8-5/8" @ 433' w/233 sx (circulated) 4-1/2" @ 2199' w/275 sx (TOC 1138' calc) Plug @ 2000' 25 sxs Class "C" on top of CIBP Plug @ 638' - 1000' 25 sxs Class "C" Plug @ surface to 483' 35 sxs Class "C"

Attachment C

J. Horton State #2
P 2-8S-27E
330' FSL & 330' FEL
Chaves County, NM
Plugged & Abandoned



TD 2199'
Plugged 4/11/94

Wildcat Measurement Service
PO Box 8034
Roswell, New Mexico 88202
Office (505-623-5790
"Quality and Service is our first concern"

DOS 2.0

Run No. 950404-01
Date Run 04/04/95
Date Sampled 04/03/95

Analysis for YATES PETROLEUM CORPORATION
Field:
Well Name: QUINCY BATTERY
Sta. Number:
Purpose: SPOT
Sampling Temp: 61 DEG F
Volume/day:
Pressure on Cylinder: 25 PSIG

GPAMGL.L60

Producer: YATES PETROLEUM CORPORATION
County: CHAVES State: NM
Sampled By: KARL HAENY
Atmos Temp: 57 DEG F
Formation:
Line Pressure: 38.2 PSIA

GAS COMPONENT ANALYSIS

		Mol %	GPM
Carbon Dioxide	CO2	16.885	
Nitrogen	N2	1.887	
Hydrogen Sulfide	H2S	2.300	
Methane	C1	52.028	8.819
Ethane	C2	12.395	3.315
Propane	C3	8.425	2.322
Iso-Butane	IC4	1.130	0.370
Nor-Butane	NC4	2.591	0.817
Iso-Pentane	IC5	0.725	0.265
Nor-Pentane	NC5	0.687	0.249
Hexanes Plus	C6+	0.947	0.407
TOTAL		100.000	16.563

Pressure Base:	14.730
Real BTU Dry:	1200
Real BTU Wet:	1179
Real Calc. Specific Gravity:	0.992
Field Specific Gravity:	0.990
Standard Pressure:	14.696
BTU Dry:	1197
BTU Wet:	1176
I Factor:	0.9949
N Value:	1.2645
Avg Mol Weight:	28.5835
Avg CuFt/Gal:	53.4979
26 Lb Product:	1.3891
Methane+ GPM:	16.563
Ethane+ GPM:	7.744
Propane+ GPM:	4.429
Butane+ GPM:	2.108
Pentane+ GPM:	0.921

REMARKS:
H2S ON LOCATION: 2.300% = 23,000 PPM

Approved by: DON NORMAN

Tue Apr 04 07:29:32 1995

"Let your interest in measurement be our concern" DOS

s3B PRECISION SERVICE, INC.

s0B P.O. Box 3659 * Casper, Wyoming 82602 * (307) 237-9327 Run No. 930825-1

P.O. Box 2604 * Roswell, New Mexico 88201 * (505) 622-9874 Date Run 08/25/93

Analysis Results Summary Date Sampled 08/25/93

Analysis for YATES PETROLEUM CORPORATION GPANGL.L50

Field: BITTER LAKES

Well Name: TRAIL BLAZER ALN ST.#2 Producer: YATES PETROLEUM CORPORATION

Sta. Number: County: CHAVES State: NM

Purpose: SPOT Sampled By: JEFF DECK

Sampling Temp: DEG F Atmos Temp: 81 DEG F

Volume/day: Formation:

Pressure on Cylinder: 165 PSIG Line Pressure: 178.2 PSIA

GAS COMPONENT ANALYSIS

		Mol %	GPM
Carbon Dioxide	CO2	13.121	
Nitrogen	N2	5.926	
Hydrogen Sulfide	H2S	0.930	
Methane	C1	68.800	11.661
Ethane	C2	7.152	1.913
Propane	C3	2.795	0.770
Iso-Butane	IC4	0.283	0.093
Nor-Butane	NC4	0.568	0.179
Iso-Pentane	IC5	0.129	0.047
Nor-Pentane	NC5	0.123	0.045
Hexanes Plus	C6+	0.173	0.074
TOTAL		100.000	14.782

Pressure Base:	14.730
Real BTU Dry:	946
Real BTU Wet:	930
Real Calc. Specific Gravity:	0.796
Field Specific Gravity:	0.792
Standard Pressure:	14.696
BTU Dry:	944
BTU Wet:	928
Z Factor:	0.9972
N Value:	1.2951
Avg Mol Weight:	23.0075
Avg CuFt/Gal:	58.4487
26 Lb Product:	0.2509
Methane+ GPM:	14.782
Ethane+ GPM:	3.121
Propane+ GPM:	1.208
Butane+ GPM:	0.438
Pentane+ GPM:	0.166

REMARKS:

H2S ON LOCATION: 0.930 % = 9,300 PPM

Approved by: JEFF DECK

Wed Aug 25 11:06:43 1993