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ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

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TELEFAX (505) 982-2047

June 4, 1990

RECEIVED

JUN 05 1990

OIL CONSERVATION DIV.
SANTA FE

HAND DELIVERED

Mr. William J. LeMay
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504

9972

Re: Application of Gary L. Bennett
for Pressure Maintenance Project
Lea County, New Mexico

Dear Mr. LeMay:

On behalf of Gary L. Bennett, please find enclosed Division Form C-108 which constitutes an application for approval of a pressure maintenance project, Lea County, New Mexico, which we request be set for hearing on the next available Examiner's docket now scheduled for June 27, 1990.

The pressure maintenance project area is a lease project covering the following described acreage:

Township 18 South, Range 32 East, N.M.P.M.

Section 21: E/2SW/4 and SE/4

The injection well for the lease injection pressure maintenance project will be:

Cavalcade Federal 21 No. 4 Well
400 feet FSL and 660 feet FEL
Section 21, T18S, R32E

The potential producing wells for the project are:

- (1) Cavalcade Federal 21 No. 1 Well
1650 feet FEL and 660 feet FSL
Section 21, T18S, R32E
- (2) Cavalcade Federal 21 No. 3 Well
1980 feet FSL and 660 feet FEL
Section 21, T18S, R32E

William J. LeMay
June 4, 1990
Page 2

Please call me or Mr. Gary L. Bennett at (806) 794-3368
for further information.

Very truly yours,



W. Thomas Kellahin

WTK/tic
Enclosures

cc: Gary L. Bennett
Post Office Box 16844
Lubbock, Texas 79490

Certified mail return-receipt

Offset operators

Ingram Oil & Gas, 2828 Diamond Shamrock Tower,
Dallas, Texas 75225

Breck Operating Corp., P.O. Box 911, Breckenridge,
Texas 76024

Mewbourne Oil Co., 400 W. Illinois, Suite 1270,
Midland, Texas 79701

Chevron USA, Inc., P.O. Box 1150, Midland, TX 79702

Surface owner

United States of America, Bureau of Land Management,
P.O. Box 1857, Roswell, New Mexico 88201

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no
- II. Operator: GARY L. BENNETT
Address: P. O. Box 16844, Lubbock, Texas 79490
Contact party: Gary Bennett Phone: 806-794-3368
- 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: W. Thomas Kellahin Title: Attorney
Signature: [Signature] Date: 6/4/90
- * 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.

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

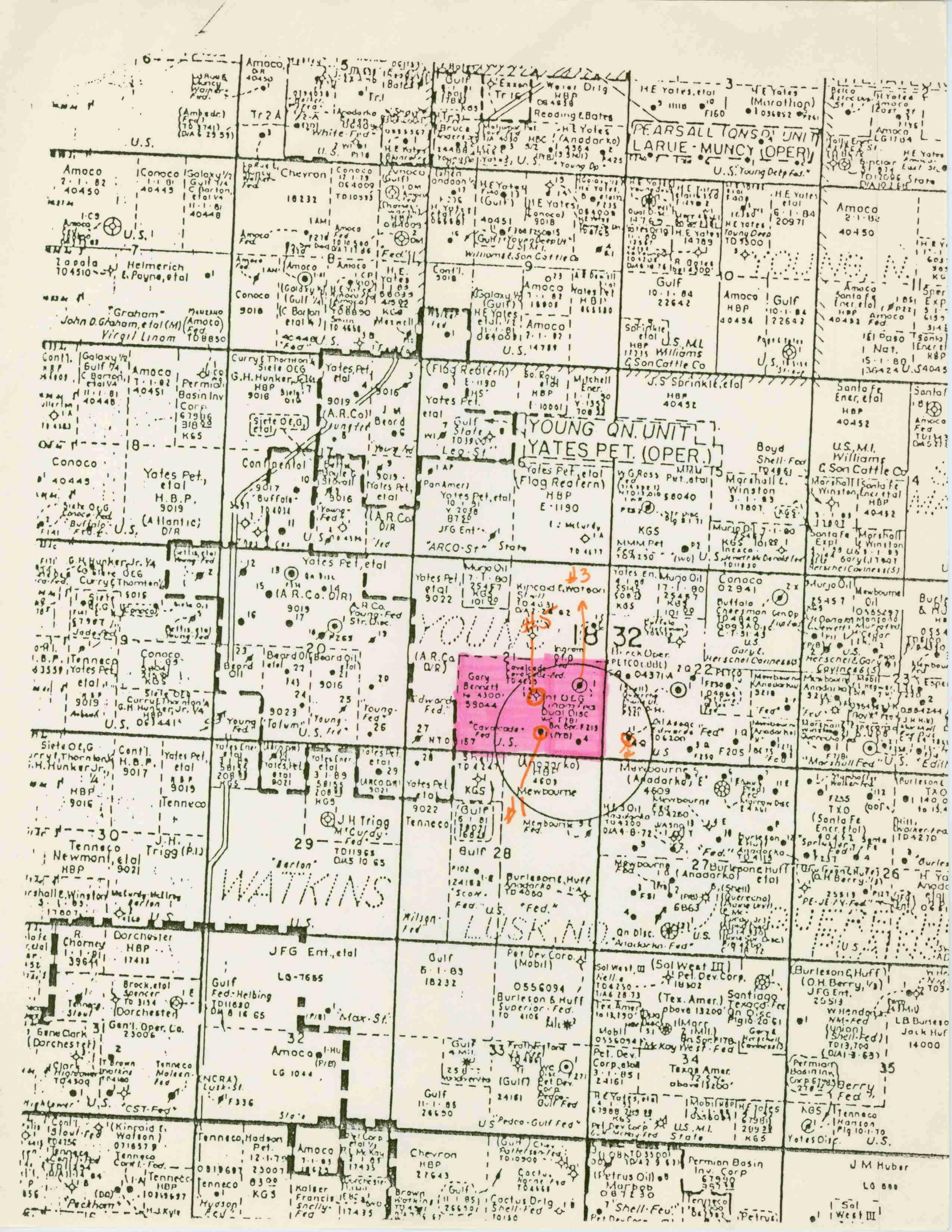
All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

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.



GARY BENNETT
Cavalcade Fed 21 No. 4
400' FSL & 660' FEL
Section 21, T18S, R32E
Querrecho Plains Queen Associated
Lea County, New Mexico

Proposed Pressure Maintenance Well

1. Proposed average daily rate: 10 bwpd
Proposed Maximum daily rate: 400 bwpd
2. Closed System
3. Proposed average injection pressure: 220lbs psi
Proposed maximum injection pressure: [REDACTED]
4. Sources of injected fluid: produced water Penrose and Queen
Compatibility: will be compatible with proposed injected zone
both being "Queen Associated".
5. No stimulation proposed, well currently takes fluid on vacuum.
Pump-in tracer shows total and complete isolation of zone.
6. Logs have been previously submitted to NMOCD.

Applicant states that he has examined available geologic and engineering data and finds no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

GARY BENNETT
Cavalcade Fed 21 No. 4
400' FSL & 660' FEL
Section 21, T18S, R32E
Querrecho Plains Queen Associated
Lea County, New Mexico

Proposed Pressure Maintenance well

Geological Data on Injection Zone:

The zone to be injected is the ~~Penrose formation encountered at 4080 feet to 4120 feet in the subject well~~, being approximately 42 feet in thickness. The Penrose is a sandstone, light grey, white, red, very fine to fine grained, consolidated, subrounded to subangular, some unconsolidated very fine, grained, fraible, traces of coarse large dolomite, very dolomitic, very anhydrite. There is no known source of drinking water underlying the proposed injected interval.

See attached for data on all wells within area of Review:

41M₂
52 0.0

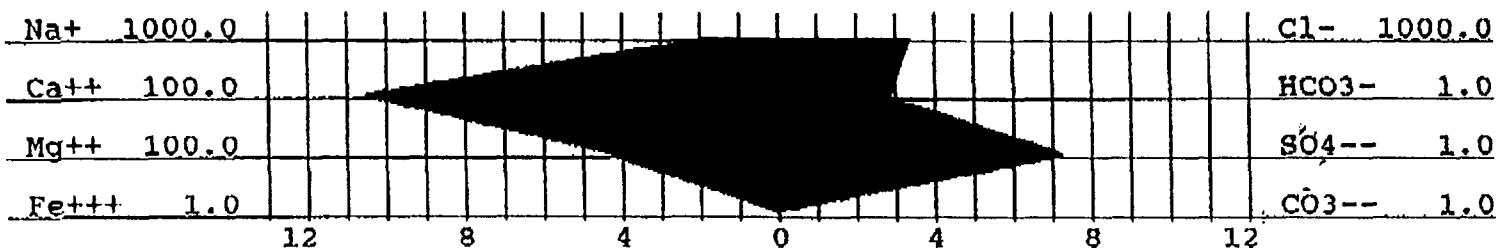


WATER ANALYSIS
for
GARY BENNETT

Date of Analysis: NOVEMBER 17, 1989
Company: GARY BENNETT
State:
Lease: FEDERAL 21
Oil (bbl/day): N/D
Type of Water:
Sample Source:
Representative: JOE LEWIS

Analysis #: 4426
Company Address:
Field:
Well #:
Water (bbl/day): N/D
Temp., C: 20
Date of Sampling: NOVEMBER 17, 1989
Analysis By: S. BOXLEY

WATER ANALYSIS PATTERN
(number beside ion symbol indicates me/l scale unit)



DISSOLVED SOLIDS

CATIONS	me/l	mg/l
Total Hardness	: 1520.00	
Calcium, (Ca++)	: 1080.00	21651.96
Magnesium, (Mg++)	: 440.00	5346.62
Iron, (Fe+++)	: 0.05	1.00
Barium, (Ba++)	: N/D	N/D
Sodium, Na+(calc)	: 2011.57	46266.06
Manganese, (Mn++)	: 0.00	0.00

ANIONS

Chloride, Cl-	: 3521.13	124995.73
Sulfate, SO4--	: 7.49	360.00
Carbonate, CO3--	: 0.00	0.00
Bicarbonate, HCO3--	: 3.00	183.04
Hydroxyl, OH-	: 0.00	0.00
Sulfide, S--	: 0.00	0.00
TOTAL SOLIDS (quant.)	: 199207.00	

DISSOLVED GASES

Hydrogen sulfide:	0.00	mg/l
Carbon dioxide	: 159.40	mg/l
Oxygen	: 1.00	mg/l

PHYSICAL PROPERTIES

pH	: 7.05
Spec Grav.	: 1.130
TDS (calc.)	: 198807.41

SCALE STABILITIES

Temp., C	CaCO3	CaSO4	BaSO4
10.0	N/D	754	2
20.0	N/D	836	2
30.0	N/D	917	2
Max entity, (calc.)		943	0

RESIDUAL HYDROCARBONS: N/D

N/D = not determined

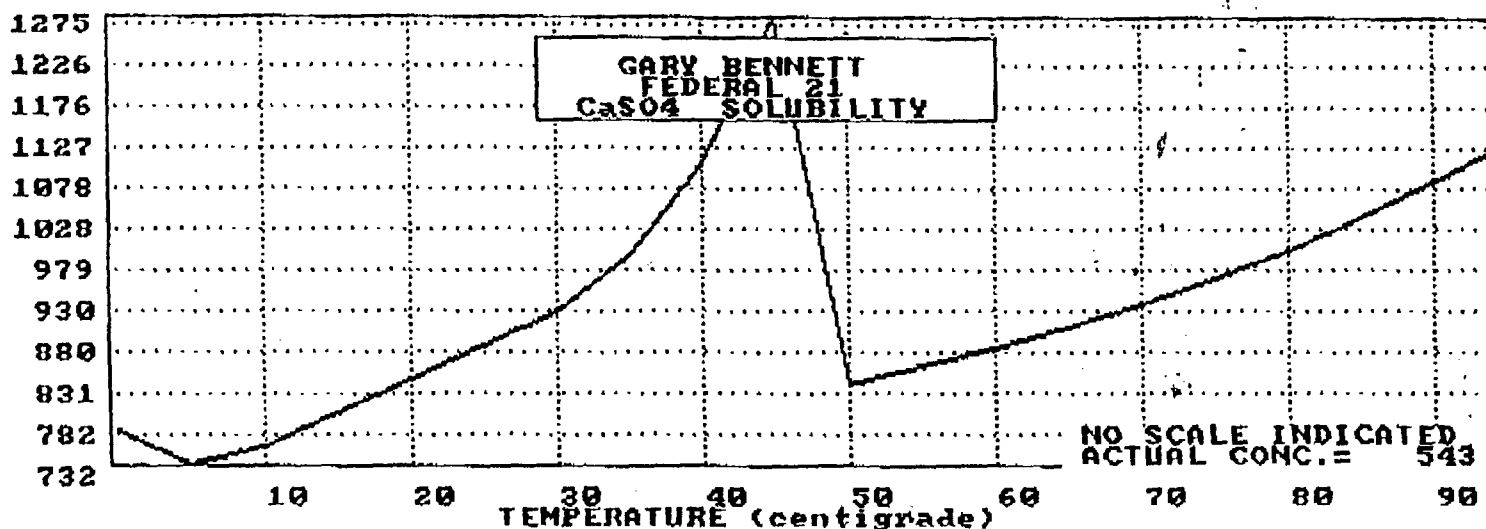
REMARKS: @ 20' C SEVERE CARBONATE SCALING

@ 20' C CALCIUM SULFATE SCALING IS UNLIKELY

NOV-20-1989 17:38 FROM BAKER OIL LOVINGTON TO 18067947719 P.02



1/93 8-11-1989



8-5/8" 23# CS6. set @ 420'
with 250 sx. cement

2-3/8" tubing set @ 4040'

Perforations: [REDACTED]

4-1/2" CS6 9.5# @ 4220'
1160 sx. cement circulated

CEMENT - CIRCULATED

CEMENT - CIRCULATED

Gauge: to be monitored to show no
communication between tubing and casing

Treated water between casing and tubing

Baker Packer @ 4040'

Penrose 4088'

GARY BENNETT
Cavalcade Fed 21 No. 4
400' FSL & 660' FEL
Section 21, T18S, R32E
Querrecho Plains Queen Associated
Lea County, New Mexico

TD: 4225'

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
HOBBS, NEW MEXICO 88201

Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1. TYPE OF WELL OIL WELL ☒ GAS WELL ☐ DRY ☐ Other ☐		2. NAME OF OPERATOR Cavalcade Oil Corporation		3. ADDRESS OF OPERATOR P. O. Box 16187, Lubbock, TX 79490		4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) At surface 400' FSL & 660' FEL At top prod interval reported below At total depth Same		14. PERMIT NO. DATE ISSUED		15. COUNTY OR PARISH Lea		16. STATE New Mexico													
5. TYPE OF COMPLETION NEW WELL ☒ WORK OVER ☐ DEEP ☐ PLUG BACK ☐ DIFF. REVD ☐ Other ☐		6. UNIT AGREEMENT NAME		7. FARM OR LEASE NAME Cavalcade "21" Federal		8. WELL NO. 4		9. FIELD AND POOL, OR WILDCAT Querrecho Plains - Queen		10. SEC. T. R. M. OR BLOCK AND SURVEY OR AREA Sec. 21, T18S, R32E		11. COUNTY OR PARISH Lea		12. STATE New Mexico											
13. DATE SPLICED 10/04/85		14. DATE T.D. REACHED 10/12/85		15. DATE COMPL. (Ready to prod.) 10/20/85		16. ELEVATIONS (OF. RKB, RT. CB, ETC.) 3750.8 GL		17. ELEV. CASINGHEAD		18. TOTAL DEPTH, MD & TVD 4225'		19. PLUG BACK T.D., MD & TVD 4156'		20. IF MULTIPLE COMPL., HOW MANY?		21. INTERVAL DRILLED BY 0-4225'		22. ROTARY TOOLS		23. CABLE TOOLS					
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD) 4096 - 4130' (Penrose Sand)										25. WAS DIRECTIONAL SURVEY MADE No				26. TYPE ELECTRIC AND OTHER LOGS RUN CNL/LDT, DLI/MSFL, CBL				27. WAS WELL CORED No							
28. CASING RECORD (Report all strings set in well)														29. LINER RECORD				30. TUBING RECORD							
CASING SIZE		WEIGHT, LB./FT.		DEPTH SET (MD)		HOLE SIZE		CEMENTING RECORD				AMOUNT PULLED													
8 5/8"		23#		420'		12 1/4"		250 sx Class "C" w/2% CaCl ₂				2													
4 1/2"		9.5#		4220'		7 7/8"		860 sx "Lite" + 300 sx Poz "C"																	
31. PERFORATION RECORD (Interval, size and number)														32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.											
4096-4102' - 2 SPF														DEPTH INTERVAL (MD)				AMOUNT AND KIND OF MATERIAL USED							
4108-4130' - 2 SPF														4096-4130				3000 gal NITRE Acid							
Total 56 holes																									
33. PRODUCTION														34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)				35. TEST WITNESSED BY							
DATE FIRST PRODUCTION 10/27/85		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing		WELL STATUS (Producing or shut-in) Producing		DATE OF TEST 10/26/85		HOURS TESTED 24		CHUCKS SIZE 10/64		PROD. FOR TEST PERIOD 7		OIL—BBL. 30		GAS—MCY 0		WATER—BBL. 0		GAS-OIL RATIO 4,285/1					
FLOW, TUBING PRESS 50#		CARTAGE PRESSURE 0		CALCULATED 24-HOUR RATE 7		OIL—BBL. 30		GAS—MCY 0		WATER—BBL. 0		OIL GRAVITY-API (CORR.) 30°													
36. LIST OF ATTACHMENTS Deviation Survey, N.M. Form C-104														37. I hereby certify that the foregoing and attached information is true and correct as determined from all available records				38. SIGNATURE Dr. J. & Prod. Manager				DATE 10/22/85			

*(See Instructions and Spaces for Additional Data on Reverse Side)

CAVALCADE 21 FEDERAL
PRODUCING OFFSETS TO CAVALCADE 21 FEDERAL WELL # 4 WITHIN ONE HALF MILE RADIUS (AREA OF REVIEW)

Operator Lease Well Number	Type	Construction	Date Drilled	Location	Depth	Completion Record
Gary L. Bennett Federal Q Well #4	Oil Well	Surface csg 8 5/8 @ 1172' 11" hole Circ. 600 sx to surface Production string 5 1/2" csg 4292' & 7/8 hole cemented w/1300 sx class "C"	5-22-83	660' FSL 710' FWL Section 22 185, 32E Lea Co. N.M.	4292	Perf 4088-4130 acidize w/1500 gal. 15% NE Perf 3846-3880 acidize w/1500 gal. 15% NE Frac'd w/30,000# 20/40, 17,500# 10/20 sd. Completed for 28BBLs oil, 55 MCF Gas trace of water

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved:
Budget Bureau No. 42-R355.5.

5. LEASE DESIGNATION AND SERIAL NO.

N.M.-04371-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal "Q"

9. WELL NO.

4

10. FIELD AND POOL, OR WILDCAT

Querecho Plains QA

11. REC. T. R. M., OR BLOCK AND SURVEY OR AREA

Section 22, 18S, 32E

12. COUNTY OR PARISH
Lea13. STATE
New Mexico

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DATE JUN 17 9 29 AM '83b. TYPE OF COMPLETION:
NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. REVS. ☐ BUR. OF LAND MGMT
ROSWELL DISTRICT2. NAME OF OPERATOR
Petroleum Corporation of Texas3. ADDRESS OF OPERATOR
Box 911, Breckenridge, Texas 76024

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 660' FSL & 710' FWL

At top prod. interval reported below Same

At total depth Same

14. PERMIT NO.

DATE ISSUED

3-31-83

15. DATE SPUDDED 4-21-83 16. DATE T.D. REACHED 4-29-83 17. DATE COMPL. (Ready to prod.) 5-25-83 18. ELEVATIONS (OF, RKB, RT, GR, ETC.)* 3757' GR 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 4300' 21. PLUG BACK T.D., MD & TVD 4277' 22. IF MULTIPLE COMPL., HOW MANY? 23. INTERVALS DRILLED BY 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 4088-4130' - Lower Queen; 3846-3880' - Upper Queen 25. WAS DIRECTIONAL SURVEY MADE no

26. TYPE ELECTRIC AND OTHER LOGS RUN Litho Density 27. WAS WELL CORED no

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	24	1200'	11"	700 sx. C1. C 2%CC	-0-
5-1/2"	15.5	4300'	7-7/8"	1300 sx. C1. C 2%CC	-0-

29. LINER RECORD				30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	BACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)
					2-3/8"	4274'

31. PERFORATION RECORD (Interval, size and number)		32. - ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
4088-4130' (1 spf)	.40	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
3846-3880' (1 spf)	.40	4088-4130'	Acidized w/5000 gal. 15% NE
		3846-3880'	Acidized w/1500 gal. 15% NE
			Frac'd w/30,000# 20/40, 17,500#
			10/20 sd.

33. PRODUCTION							
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flooding, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
5-25-83		Pumping 1-1/2" Insert Pump				Producing	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
6-15-83	24 hrs.	----	→	28	55	tr	1964
FLOW, TUBING PRESS.	CASINO PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
-----	25#	→	28	ACCEPTED FOR RECORD	tr	32	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold TEST WITNESSED BY Roy Turner

35. LIST OF ATTACHMENTS
Litho Density Logs

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

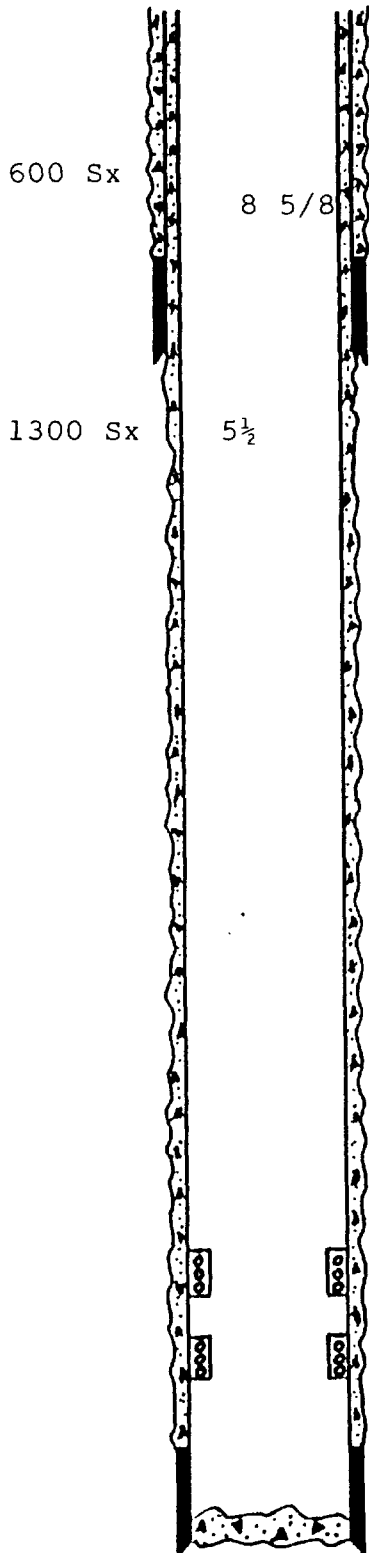
SIGNED Indean LaglandTITLE Production BlockDATE 6-16-83

*(See Instructions and Spaces for Additional Data on Reverse Side)

BAKER OIL TOOL S, INC.

SERVING THE WORLD

DATE MAY 24, 1989 WELL NO. 4 LEASE FEDERAL Q FIELD QUERRECHO PLAINS
QUEEN ASSOCIATED



WELL NAME : Gary L. Bennett
Federal Q Lease
Well #4

Location : 660' FSL & 710' FWL
Section 22 18S 32E

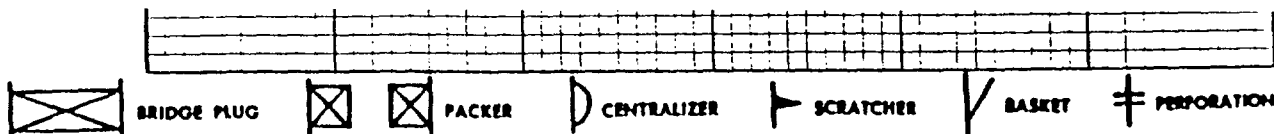
Spud Date : 5-22-83

WELL TYPE : Oil Well

Casing : 8 5/8" @ 1172' w/600sx circ to surface
5 1/2" @ 4292 W/ 1300 sx Class C cement

Perfs 3846-3880' (1 shot /ft) Upper Queen
4088-4130' (1 Shot /ft) Lower Queen Penrose
Stimulation : Upper Queen Acid w/1500 gal 15%
Frac W/30,000# 20/40 SD &
17500# 10/20 SD
Lower Queen Acid W/5000 gal 15%

Potential : 28 BOPD Trace BWPD 55 MCFPD Gas
On Production 6-15-83
T.A. 3-1-86 Last test



BAKER OIL TOOL .S, INC.

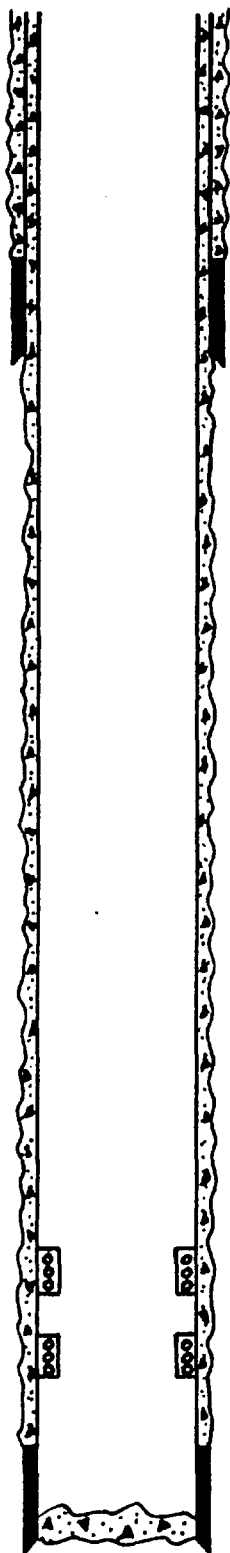
SERVING THE WORLD

DATE MAY 24, 1989

WELL NO. 4

LEASE FEDERAL Q

FIELD QUERRECHO PLAINS
QUEEN ASSOCIATED



CASING RECORD: 8- $\frac{5}{8}$ " 24# SET @ 1200' IN 11"

HOLE W/ 700SX "C" CIRC.

5- $\frac{1}{2}$ " 13.5# SET @ 4300' IN 7- $\frac{7}{8}$ "

HOLE W/ 1300 SX "C" CIRC.

TD: 4300'

PBTD: 4277'

PEEPS: 3846-3880' (1 SHOT/FR) - UPPER QUEEN

4088-4130' (1 SHOT/FR) - LOWER QUEEN

STIMULATION: UPPER QUEEN - AE W/ 1500 GAL 15% NE

FRAC W/ 30,000# 20/40 SD

\$ 17,500# 10/20 SD.

LOWER QUEEN - AE W/ 5000 GAL 15% NE

POTENTIAL: 28 BOPD TRACE BOPD 55 MUPD

PUMPING W/ 1- $\frac{1}{2}$ " INSERT PUMP

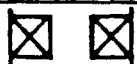
ON PRODUCTION 6/15/83

TA'd: 3/1/86

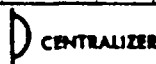
LAST TEST 0.9 BOPD 11.04 BOPD



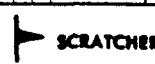
BRIDGE PLUG



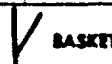
PACKER



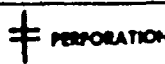
CENTRALIZER



SCRATCHER



BASKET



PERFORATION

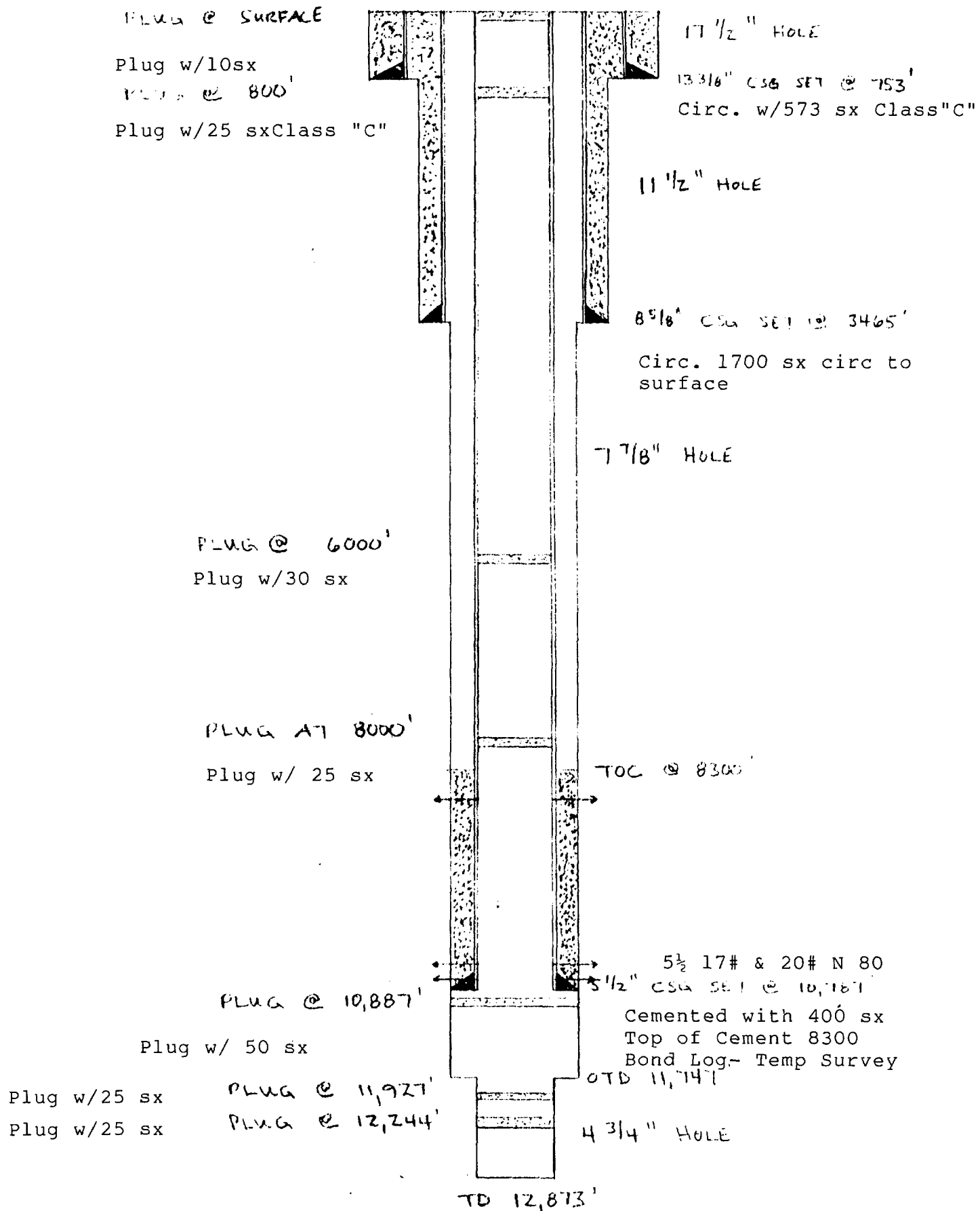
Plugged Wells

OFFSET WELLS TO CAVALCADE 21 WELL#4 WITHIN ONE HALF MILE RADIUS (area of review)

CAVALCADE 21 FEDERAL

Operator Lease Well Number	Type	Construction	Date Drilled	Location	Depth	Completion Record
Gary L. Bennett Cavalcade Federal Well #3	Re-Entered 21	Surf. csg 13 3/6" @753' W/575 sx circ. to surface Hole Size 17 1/2" 48.0# Pipe Intermed.csg 8 5/8 Hole size 11 1/2 @3465' 1700SX. Circ to Surface 7 7/8 hole size @ 11747' Prod csg. 5 1/2' 17# & 20#@ 10787' 400sx cement TOC 8300 Temp. Survey data. Cement bond log confirms 8000 TOC Perfs squeezed well Deepened to 12873' 4 5/8 hole size plugged and abandoned Set Plugs @ 12,244' 25 sxs	11-13-65	1980' FSL & 660' FEL Sec 21 T-18-S, R-32-E Lea Co. N.M.	12873'	Perf(Wolfcamp) 10685 to 10712' w/25 shots Perf(Wolfcamp)10502- to 10516' w/15 shots Perf(Bone Spring) 8708-16' w/9 shots Acidize (8708-16') 5000 gals. Acidize(10502-516) 2800 gals Acidize(10686-712) 5200 gals
		11,927' 25 sxs 10,887' 50 sxs 8,000' 25 sxs 6,000' 30 sxs 800' 25 sxs				Plugged and Abandon Set plug@12244' 25sx 11927' 25sx 10887' 50sx 8000' 25sx 6000' 30sx 800' 25sx 10sx
		surface 10 sxs w/dry hole marker Well re-entered 10-19-85 Drilled plugs #1 15' - 27' #2 504' -800' #3 976'-1046' #4 5697'-6026' #5 7806'-8072'			9900'	
		circ.hole clean to 9900 feet				T.D.9900'
						No completion

Gary L. Bennett
Cavalcade 21 Federal Lease
Well #3



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL ☐ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL
OIL WELL ☒ GAS WELL ☐ OTHER Re-Entry ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☒

2. NAME OF OPERATOR
Gary Bennett

3. ADDRESS OF OPERATOR
POB 16844, Lubbock, TX 79490

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface 1980' FSL & 660' FEL

At proposed prod. zone
Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
9 miles south from Maljamar, NM

16. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drilg. unit line, if any)
660'

18. NO. OF ACRES IN LEASE
240

17. NO. OF ACRES ASSIGNED
TO THIS WELL
40

19. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.
1650'

19. PROPOSED DEPTH
10,787'

20. ROTARY OR CABLE TOOLS
Reverse Pulling Unit

21. ELEVATIONS (Show whether DV, RT, GR, etc.)
3760' GR

22. APPROX. DATE WORK WILL START*
November 20, 1987

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48.0#	753'	575 sx circ to surface
11 1/2"	8 5/8"	24-32#	3465'	1700 sx circ to surface
7 7/8"	5 1/2"	17.0#	10,787'	400 sx t/cmt @ 8300'

Please refer to Cavalcade Oil Corporation permit dated 12/11/85, we propose to continue Cavalcades' operation in attempt to fully evaluate the Wolfcamp, Bone Spring and Queen formations.

All pertinent information pertaining to this APD is contained in the Cavalcade APD.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Randall C. Capps TITLE consultant DATE 11/5/87

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Completion

Plugged Dry Hole
P.A.

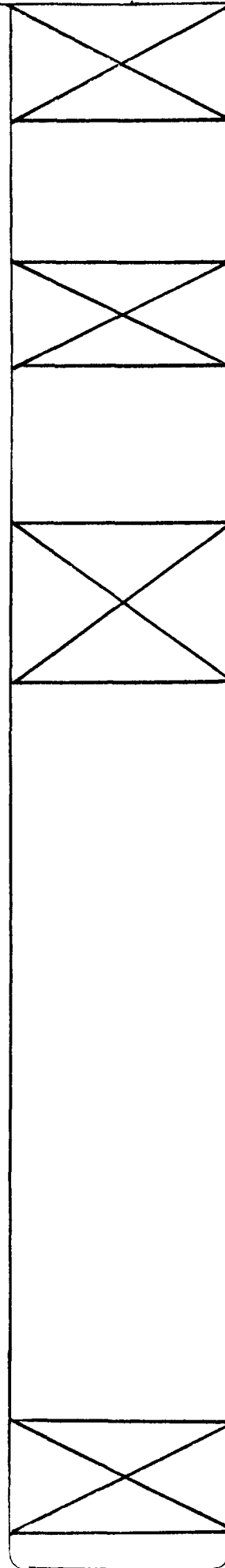
Plug#1 at 4150'
w/40 sx cement
Plug#2 at 1500'
w/90 sx cement
Plug#3 at 465'
w/25 sx cement
Plug#4 at surface
w/10 sx cement
Install dry hole marker

PLUG # 4 @ surface

PLUG # 3 @ 465'
25 sx cement-top @ 365'

PLUG # 2 @ 1500'
90 sx cement-top @ 1150'

PLUG # 1 @ 4150'
40 sx cement-top @ 4000'



CAVALCADE OIL CORPORATION
Fed 21 No. 5 (D&A)
1650' FSL & 1800' FEL
Section 21, T18S, R32E
Querrecho Plains Queen Associated
Lea County, New Mexico

TD: 4225'

PRODUCING OFFSETS TO CAVALCADE 21 FEDERAL WELL # 4 WITHIN ONE HALF MILE RADIUS (AREA OF REVIEW)

Operator Lease Well Number	Type	Construction	Date Drilled	Location	Depth	Completion Record
Gary L. Bennett Cavalcade 21 Federal Well Number 1	Oil Well	Surface csg 13 5/8 @ 405 17 1/3 hole 420 sx circ. to surface 8 5/8 csg @ 4175 11' hole 2550 sx cement circ. to Surface production String 5 1/2 csg @ 10980 7 7/8' hole cemented with 1100 sx cement TOC @ 5600 Set CIBP 10483 cut off @5575' Set cement plug @ 6932' w/11 sx class "C" Second plug across 5 1/2" stub cemented w/50 sx class "C" neat @5650' Tag Plug 48hrs @ 5485' Plug Back to 4165'	9-23-84	660' FSL 1650' FEL Sec 21 18S 32E Lea Co. N.M.	10980'	Perf (Wolfcamp) 10758'-10808' Perf (Wolfcamp) 10565'-10581' Perf (Bone Spring) 9760'-9768' Acidize 10758'-10808' 13000gal 20% HCL 16000gal Waterfloc 40 and 11,900gal CO2 Acidize 10565'-10581' w/1500gal HCL Acidize 9760'-9768' w/4000 gal 15% HCL

7 Queen 3851
 4098
 Bone 4384
 CB - 4508
 PA - 4632
 201 - 4632
 835-
 8357

Perforate 4103-4108 and 4115-
 4138' 56 holes 2 SPF Acidized
 well with 2000 gals- 15% NEEF
 acid. well completed for 27.5
 barrels oil 601 MCF gas
 0 water Cum. production to
 5-1-1990 approx. 40,000 bbls
 oil 1100 bbls water

DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT

 INSTRUCTIONS ON
 REVERSE SIDE

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL:		OIL WELL ☒	GAS WELL ☐	DRY ☐	Other ☐
b. TYPE OF COMPLETION:		NEW WELL ☐	WORK OVER ☐	DEEP EN ☐	PLUG BACK ☒
		DIFF. REPAIR ☐	Other: <u>Recompletion</u>		
2. NAME OF OPERATOR Cavalcade Oil Corporation					
3. ADDRESS OF OPERATOR P.O. Box 16187, Lubbock, TX 79490					
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements): At surface 660' FSL & 1650' FEL At top prod. interval reported below At total depth Same					
14. PERMIT NO.		DATE ISSUED			
15. DATE SPUDDED 9/23/84		16. DATE T.D. REACHED 10/31/84		17. DATE COMPL. (Ready to prod.) 12/6/84	
18. ELEVATIONS (OF, RKB, RT, GR, ETC.): 3778.6' KB		19. ELEV. CASINGHEAD 3760.8			
20. TOTAL DEPTH, MD & TVD 10,980'		21. FLUG. BACK T.D., MD & TVD 4165'		22. IF MULTIPLE COMPL. HOW MANY?	
23. INTERVALS DRILLED BY 0-10,980'		24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD): 4103 - 4138 (Penrose - Queen)		25. WAS DIRECTIONAL SURVEY MADE No	
26. TYPE ELECTRIC AND OTHER LOGS RUN CNL/LDI, DLL/MSFL, CBL		27. WAS WELL CORED No			
28. CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT, LB/FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8	54.5#	405	17 1/2"	420 sx. Circ. to surface	0
8 5/8	24 - 32 #	4175	11"	2550 sx. Circ. to surface	0
5 1/2	17#	10980	7 7/8"	1100 sx. cmt. @ 5600'	5575
29. LINER RECORD					
SIZE	TOP (MD)	BOTTOM (MD)	PACKER CEMENT*	SCREEN (MD)	
30. TUBING RECORD					
SIZE	DEPTH SET (MD)	PACKER SET (MD)			
2 3/8	4082	4082			
31. PERFORATION RECORD (Interval, size and numbers)					
4103 - 4108					
4115 - 4138 w/2 shots/ft.					
Total 56 shots					
0.375" holes					
32. ACID, SHOT, FRACTURE, CEMENT SQUELZE, ETC.					
DEPTH INTERVAL (MD)			AMOUNT AND KIND OF MATERIAL USED		
4103-4138			2000 gals., 15% NEFE		
33. PRODUCTION					
DATE FIRST PRODUCTION 6/26/85		PRODUCTION METHOD (Flooding, gas lift, pumping—size and type of pump) Flowing			WELL STATUS (Producing or shut-in) Producing
DATE OF TEST 6/27/85	HOURS TESTED 24	CHOKER SIZE 22/64	PROD'N FOR TEST PERIOD 27.5	GAS MCF 601	WATER BBL. 0
FLOW. TUBING PRESS. 180	CASING PRESSURE 0	CALCULATED 24-HOUR RATE 27.5	GAS—MCF 601	WATER—BBL. 0	GAS-OIL RATIO 21.854/1
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold to Phillips Petroleum					
35. LIST OF ATTACHMENTS Sundry Notice, N.M. Form C-104					
36. I hereby certify that the foregoing and attached information is complete and correct as furnished through available records					
SIGNED		TITLE		DATE	
[Signature]		Vice President - Land		7/1/85	

ILLEGIBLE

ACCEPTED FOR RECORD

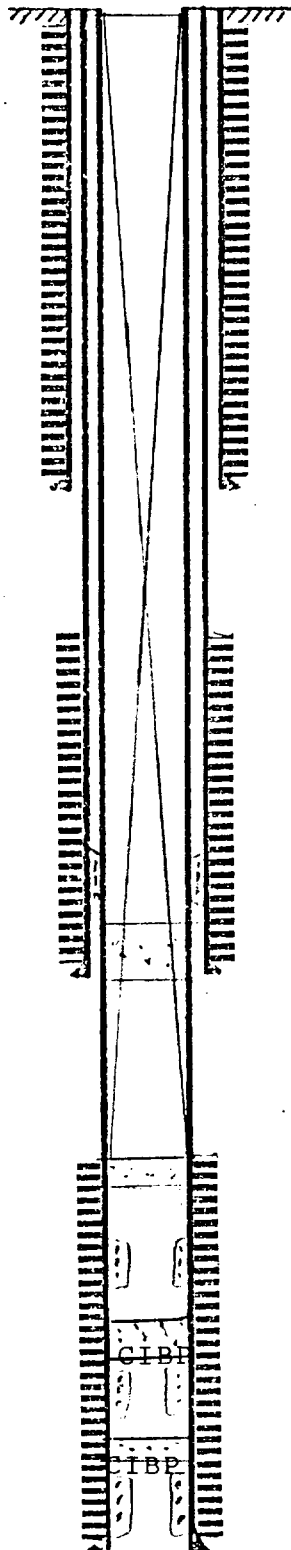
JUL 3 1985

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

OPERATOR Gary L. Bennett		DATE 12-6-84 5-15-80
LEASE CAVALCADE 21 FEDERAL	WELL No 1	LOCATION 660' FSL & 1650 FEL 21 18S, 32E

Lea Co. N.M.



Currently Producing from Penrose Lower Queen

13 3/8" casing set at 405 ' with 420 sx of Class "C" cement
Hole size 17 1/2 "

Perforated 4103-4108 and 4115-4138' Acis 200 gal
Completed in 8 5/8 pulled 5575' of 5 1/2"

8 5/8" casing set at 4175 ' with 2550 sx of Class C cement
Hole size 11 "

8 5/8" casing plugged back to 4175

Plug@ 5650' w/50 sx across 5 1/2 stub taged top 5485'

Perforated 9760'-9768 Acidized w/4000 gal 15% HCL

CIBP set at 10483' 25 sx cement on CIBP

Perforated 10565'-10581 Acidize W/ 1500 gal HCL

CIBP set at 10750' 35 sx cement on CIBP

Perforated 10758-10808' Acidized w/13000 gas 20% HCL

5 1/2 " casing set at 10980 ' with 1100 sx of Class C cement

Total depth 10980 ' Hole size 7 7/8 "

PLUG # 4 @ surface

SX CEMENT

Surface 8 5/8" @ 415'
Cemented 80 sx cement
circ to pit total w/250
sx

PLUG # 3 @ 465'

25 sx cement-top @ 365'

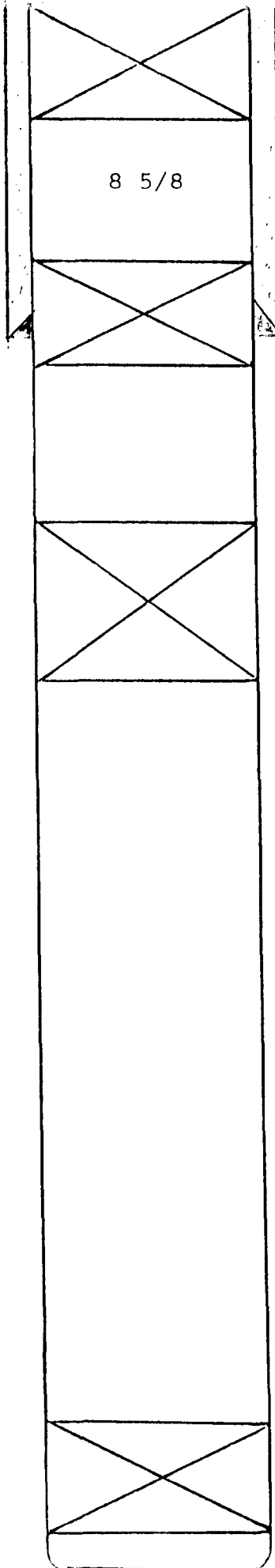
PLUG # 2 @ 1500'

90 sx cement-top @ 1150'

PLUG # 1 @ 4150'

40 sx cement-top @ 4000'

Completion : N/A
P&A



Gary L. Bennett
Cavalcade 21 Federal Lease

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