

Mobil Producing Texas & New Mexico Inc.

October 16, 1985

P.O. BOX 633
MIDLAND, TEXAS 79702

Oil Conservation Division (2)
Post Office Box 2088
Santa Fe, New Mexico 87051

7.01
WATER INJECTION WELLS
MOBIL PRODUCING TX. &
N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98,112,116,
136,137,138,156,205,
210 & 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Tx. & N.M. Inc. (MPTM) respectfully requests authority to inject fresh water into the Abo formation in the subject wells.

Conversion of these wells to water injection wells is necessary to complete an efficient production and injection pattern for the North Vacuum Abo Unit.

The supporting information for this application is organized in accordance with Form C-108.

MPTM has examined the available geological and engineering data and finds no evidence of open faults or any other hydrological connection between the Abo zone and any underground source of drinking water.

Yours very truly,



G.E. Tate
Env. & Reg. Manager

CCS/tm

Attachments

cc: Offset Operators
New Mexico State Land Office
County Clerk, Loving, New Mexico
District Director OCD - Hobbs

A:M526631A.CCS

INDEX OF ATTACHMENTS
ORGANIZED IN ACCORDANCE WITH FORM C-108

PROPOSED WATER INJECTION WELLS
NORTH VACUUM ABO UNIT
WELLS NO. 98,112,116,136,137,138,
156,205,210 AND 211
LEA COUNTY, NEW MEXICO

1. Form C-108
2. III. A. Well Data for each well proposed for injection and schematic for "Typical Proposed Injector".
3. V. A. Map of area of review with two mile radius circle drawn.
B. Map of area of review with one-half mile radius circle drawn.
4. VI. Tabulation of data on all wells of public record within area of review and schematics and/or completion reports.
5. IX. Stimulation program.
6. XI. Chemical analysis of fresh water.
7. XIII. Proof of Notice:
 - A. List of surface owner and offset operators.
 - B. Copies of letters with proof of notice attached.
 - C. Copy of legal advertisement which was published in the Lovington Daily Leader, and affidavit.
 - D. Copy of letter to County Clerk.

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Mobil Producing Texas & New Mexico, Inc.
Address: P.O. Box 633 Midland, Texas
Contact party: C.C. Smith Phone: (915) 688-1773
- 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: G.E. Tate Title Env. & Regulatory Manager
Signature: C.C. Smith Date: 9/24/85
- * 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. Order No. R4430 - 10-27-72

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Wells
North Vacuum Abo Field
Lea County, New Mexico

Well Data

- III A. 1. North Vacuum Abo Unit #98
1980' FSL & 1780' FEL, Unit J, Sec 26, 17-S,34-E
2. 13-3/8" @ 362' circ., 10-3/4" @4400'circ.,
4-1/2" @ 10,217' circ., 2-7/8" @ 11,656' circ.
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model NB Packer @8550'
- B. 1. Abo
2. 8474-8558'perforated
3. Originally drilled for production
4. Glorieta perfs 6056-6091' sqzd w/50 sx
cmt. Blinebry perfs 6446-6539'sqzd w/50
sx cmt. Blinebry perfs 6619-6686 sqzd w/300
sx cmt.
5. Next higher perfs, Blinebry; next lower perfs,
Wolfcamp.
- VII 1. Maximum 600 BBL/day/well avg 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi
4. Ogallala water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

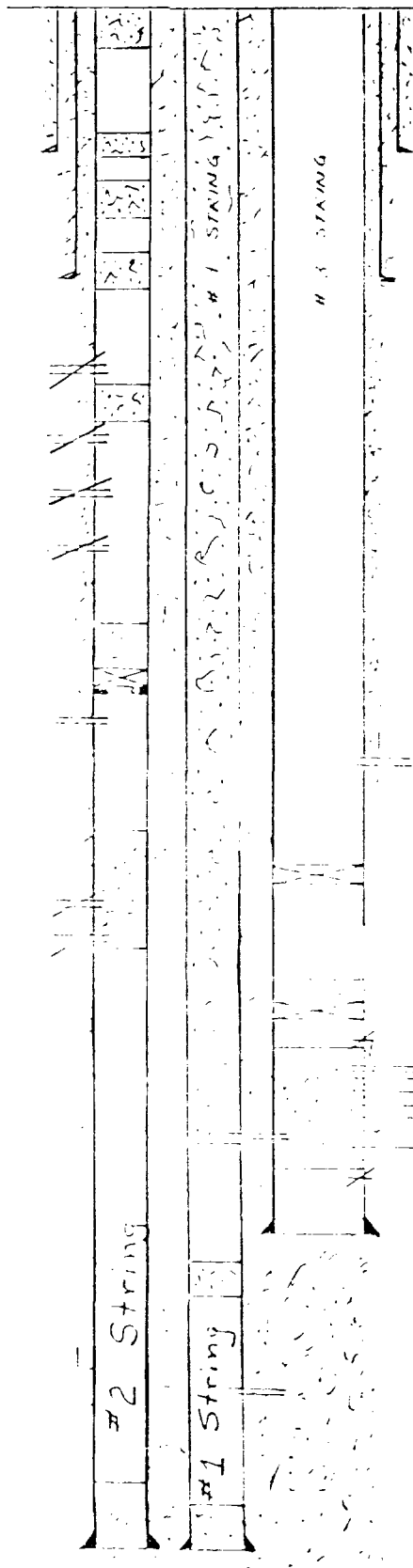
FIELD VACUUM

LEA CS, V.M

R. W. Petty

ZERO 17' AGL

PROPOSED



- 14657 2 STRINGS OP 2^{7/8} CSG SET 4/1 325 SY CNT

6.5 $\frac{1}{5}$ but:ress

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Wells
North Vacuum Abo Field
Lea County, New Mexico

Well Data

- III. A. 1. North Vacuum Abo Unit #112
660' FNL & 860' FWL, Sec. 25
Unit D, 17-S, 34-E
2. 13-3/8" @ 380' w/350 sx circ.
9-5/8 @5000' w/2600 sx.
TOC @ 475' (Temp Survey)
7" @ 10,230' w/1450 sx, TOC @4718'(TOL)
3. 2-3/8 N-80 Buttress Tubing
4. Baker Model N.B. Packer @ 8850'
- B. 1. Abo
2. 8392'-8433' perforated
3. Originally drilled for production
4. Glorieta perfs 6009'-6038'sqzd w/200 sx cmt.
Re-perf 6011'-6036'sqzd w/100 sx cmt.
Wolfcamp perfs 9823'-9991' sqzd w/200 sx cmt.
5. Next higher perfs, Blinbry; next lower perfs,
Wolfcamp
- VII 1. Maximum 600 BBL/day/well avg 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg 4150 psi
4. Ogalalla water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

DATE 8-2-85 WELL NO. 112 LEASE NVAU FIELD VACUUM

LOCATION D 25 - T 10 - 4 34 E
LEA CO. N M

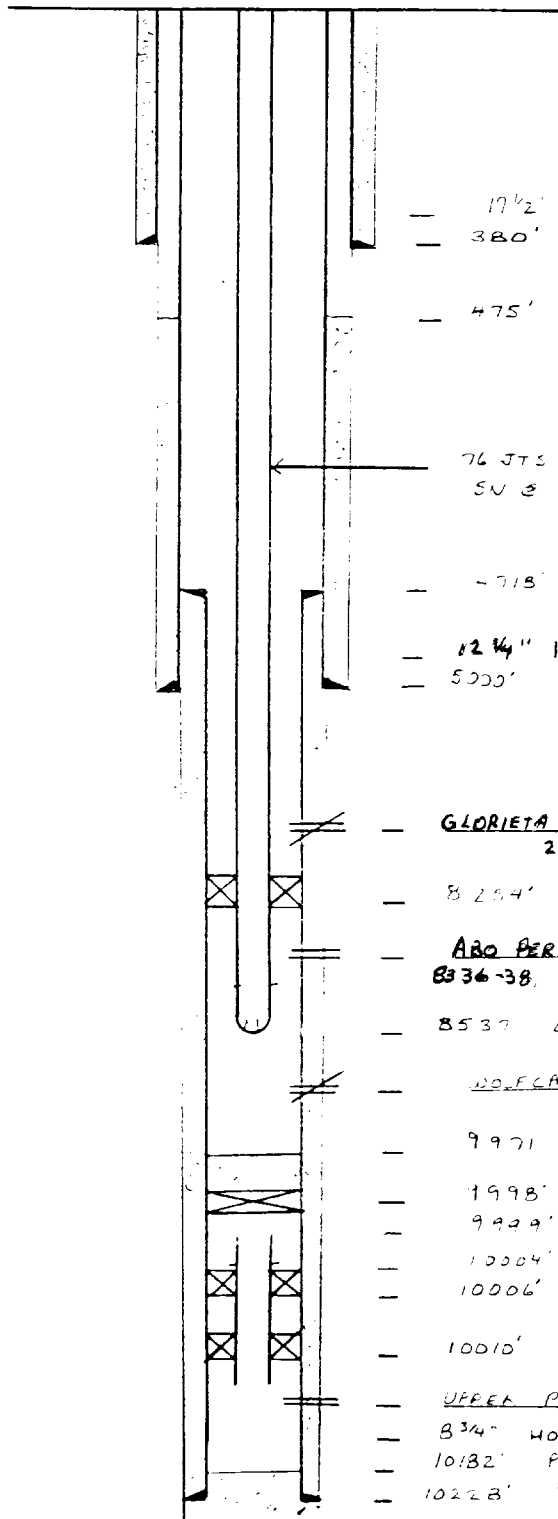
SIGNED M. E. VANCE

G.L. 4011
D.F. 4021
K.B. 4022
ZERO 11 AUG

RE ID

AUG 11 1985

G. E. TATE



Current

— 17 1/2' HOLE
— 380' 13 3/8" 48# CSG SET W/ 350 SX CMT 2-52
— 475' TOP OF CEMENT (T.S.)

76 JTS 2 3/8" JES TEL + 189 JTS 2 3/8" N-80 TEL +
SN @ 8534 + PERF 8534-54 - DEPTH 8537

— 4718' TOP OF LINER
— 12 1/4" HOLE
— 5000' 9 5/8" 36#-40# CSG SET W/ 2600 SX CMT

— GLORIETA PERFS 6009, 11, 13, 15, 19, 21, 23, 28, 30, 32, 34, 36, 38 (13 HOLES) SQZD W/
200 SX CMT. RE PERF 6011, 13, 15, 19, 21, 23, 30, 32, 36 (11 HOLES) SQZD W/ 100 SX CMT

— 8254' TA SET W/ 14 P/B, T

— ARO PERFS W/ 1 SSPF 8392, 93, 96, 97, 8400, 01, 10, 11, 15, 17, 21, 32, 27, 29-33,
8336-38, 40, 42, 44, 46-48, 50, 52

— 8537 DEPTH

— DOFLANE PERFS 9823, 28, 34, 39, 41, 69, 73, 75, 77, 96, 98, 9905,
07, 09, 11, 13, 15, 17, 19, 33, 35, 37, 39, 81, 83, 85, 87, 89, 9991 (29 HOLES)
SQZD W/ 200 SX

— 9971 P/BTD

— 9998' CIBP

— 9999' TOP OF FISH 2 3/8" TEL

— 10004' SN

— 10006' GUID TYPE A PER

— 10010' GUID TYPE A PER

— UPPER PENN PERFS 10043, 45, 47, 61, 67, 69, 77, 79, 81, 83, 85, 92, 94, 96,
834" HOLE 10101, 103, 106, 109, 113, 117, 119, 121

— 10182' PETD

— 10228' 7" 23# S-95 LINER SET W/ 1000 SX CMT C-52

10230 TD

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Wells
North Vacuum Abo Field
Lea County, New Mexico

Well Data

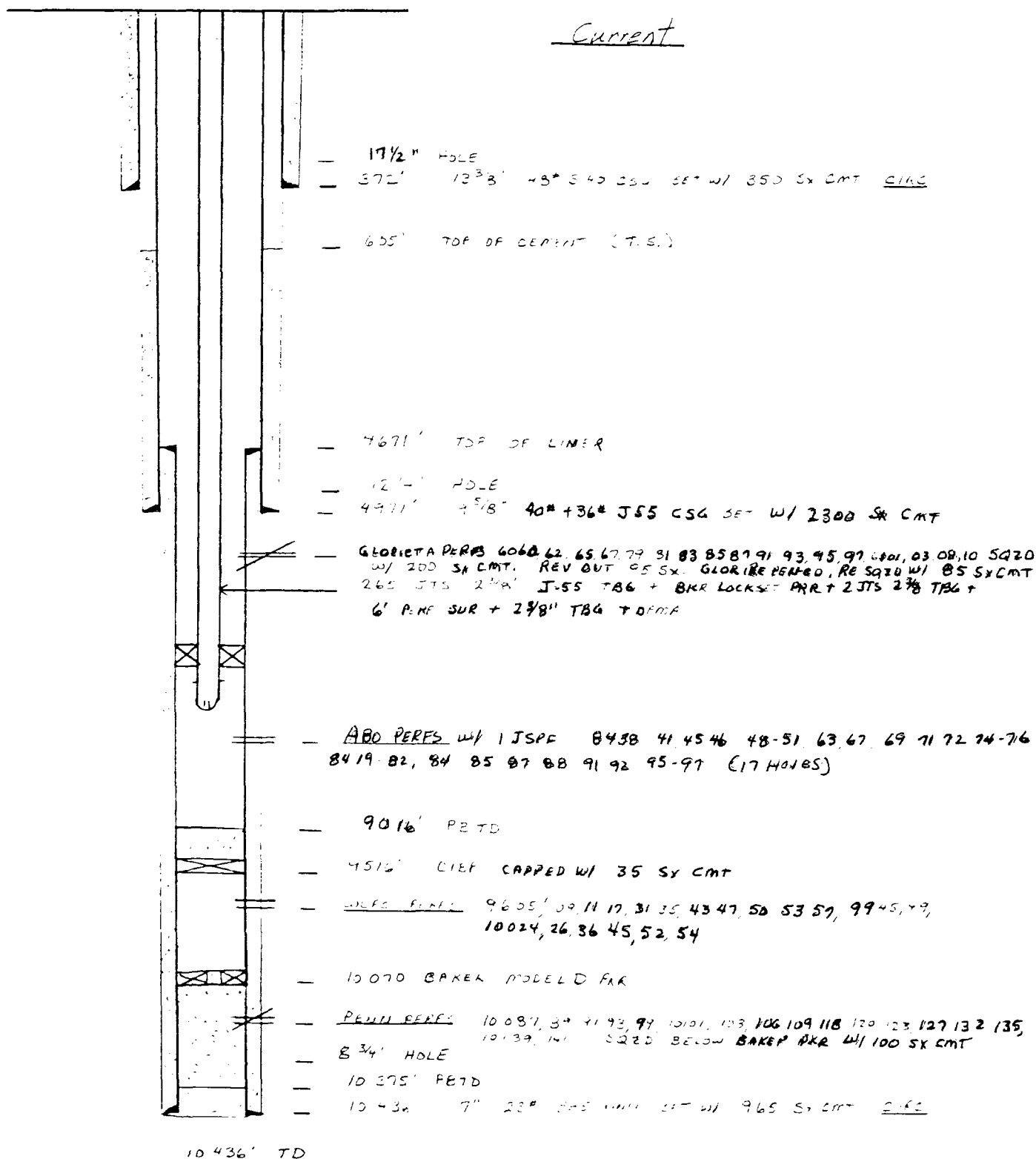
- III A. 1. North vacuum Abo Unit #116
1880' FSL & 510' FWL
Sec. 24, Unit L, 17-S, 34E
2. 13-3/8" @372' w/350 sx circ.
9-5/8" @ 4971' w/2300 sx
TOC 605' (Temp Survey)
7" @ 10,436' w/365 sx
TOC 8195' (Temp Survey)
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model N.B. Packer @8550'
- B. 1. Abo
2. 8438'-8497' perforated
3. Originally drilled for production
4. Glorieta perms 6060-6110' sqzd w/200 sx cmt.
5. Next higher formation, Blinberry; next lower
formation, Wolfcamp
- VII 1. Maximum 600 BBL/day/well, avg 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg 4150 psi
4. Ogallala water will be injected because of
the adverse affects of produced water on the
tight formation of the Abo zone.

DATE 8-2-85 WELL NO. 110 LEASE NVAU FIELD NACUUM

LOCATION 24 TMS - F 34E
LEA CO., N.M.

SIGNED M.E. VASICEK

G.L. 4013
D.F. 4020
K.B. 4036
ZERO 12 AG



Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Well
North Vacuum Abo Field
Lea County, New Mexico

Well Data

- III A. 1. North Vacuum Abo Unit #136
660' FNL & 860' FWL, Unit D,
Sec. 26, 17-S, 34-E
2. 8-5/8" @ 1725' w/1300 sx circ.
5-1/2" @ 8700' w/3850' sx circ.
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model N.B. Packer @ 8550'
- B. 1. Abo
2. 8545'-8595' perforated
3. Originally drilled for production
4. None
5. Next higher formation, Blinberry; next lower
formation, Wolfcamp
- VII 1. Maximum 600 BBL/day/well, avg 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi.
4. Ogallala water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

FIELD	Vacuum, Aba, North	OPERATOR	Mobil Oil Corp	DATE	5-12-76
LEASE	North Vacuum Aba Unit	WELL No	136	LOCATION	D. Sec 26, T17S, R21E

77" - 8 5/8" - 5 1/2" Annulus cemented w/ 750 sx. neat

8 5/8" casing set at 1725' with 1300 sx of chA+gel cement
Hole size 12 1/2" cement circ

cement top - 2675' Temp Survey

2 7/8" tubing } tapered tubing string
2 3/8" tubing }

Johnston Packer - 8485'

Aba Perf - 8545' - 8595'

5 1/2" casing set at 8700' with 3100 sx of TILW cement
Total Depth 8700' Hole size 7 7/8"

5-12-76
JHS

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Well
North Vacuum Abo Field
Lea County, New Mexico

Well Data

- III A. 1. North Vacuum Abo Unit #137
660'FNL & 2130' FEL, Unit B,
Sec. 26, 17-S, 34-E
2. 8-5/8" @ 1655' w/1100 sx circ.
5-1/2" @ 8700' w/2900 sx circ.
TOC 2620 (Bond log)
3. 2-3/8" N-80 Buttress tubing
4. Baker Model NB Packer @ 8550'
- B. 1. Abo
2. 8481'-8525 perforated
3. Originally drilled for production
4. None
5. Next higher formation, Blinbry; next
lower formation Wolfcamp
- VII 1. Maximum 600 BBL/day/well, avg. 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi
4. Ogallala water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

DIAGRAMMATIC WELLBORE SKETCH.

LEASE NVAU

FIELD NORTH VACUUM ABO

WELL 137

COMPLETION DATE 7/27/70

LOCATION 26/T175/R34E

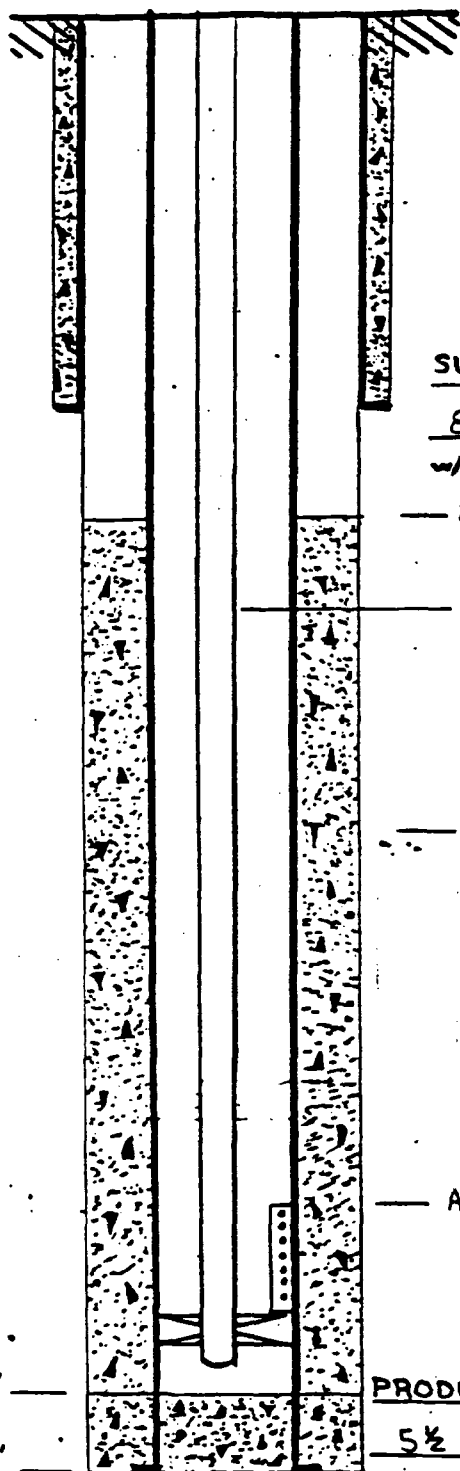
COUNTY & STATE LEA N.M.

ELEVATION GL = 4022' O = 15' + 64

DRAWN BY: S.L. MUNSELL

DATE 7/1/82

PRESENT



SURFACE

8 5/8" 23 lb at 1655'

w/ 1100 sz cmt. Cmt top CIRCULATED

2620' TOP OF CEMENT (BOND LOG)

64 JTS. 2 3/8" + 212 JTS. 2 3/8"

TA @ 8561'

SN @ 8564'

7 7/8" hole

ROOFS:

191-34"

84-7/8"

63-1"

PUMP 2"x1 1/2"x24'

ABO PERFS: (WELEX CASED HOLE 7/16/70)

8481; 83; 89; 95; 97; 8504; 09; 13; 15; 19; 23; + 8525

w/ 2 JSPP (TOTAL OF 24 HOLES)

PRODUCTION

5 1/2" 17415.5 lb at 8700'

w/ 2900 sz cmt. Cmt top 2620'

T.D. 8700' P.B.T.D. 8600'

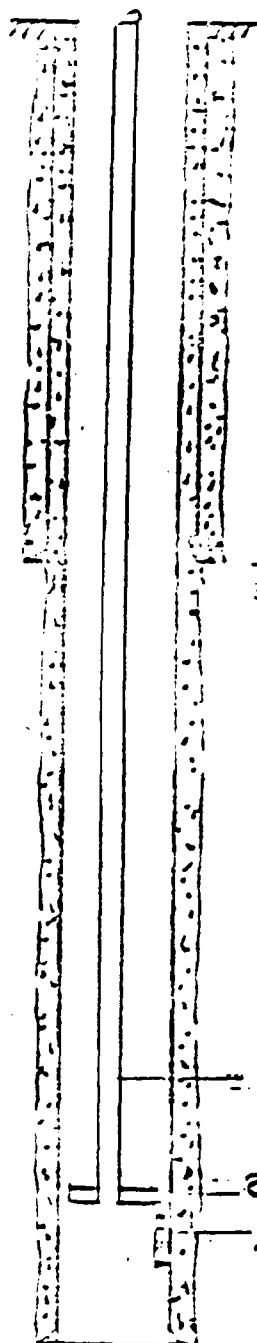
MWB

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Well
North Vacuum Abo Field
Lea County, New Mexico

Well Data

- III A. 1. North Vacuum Abo Unit #138
1980' FSL & 860' FEL, Unit L
Sec. 26, 17-S, 34-E
2. 8-5/8" @ 1615' w/1200 sx circ.
5-1/2" @ 8700' w/3100 sx circ.
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model N-B Packer @ 8550'
- B. 1. Abo
2. 8508'-8600' perforated
3. Originally drilled for production
4. None
5. Next higher formation, Blinbry; next
lower formation Wolfcamp
- VII 1. Maximum 600 BBL/day/well avg. 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi.
4. Ogallala water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

FIELD	Vacuum, Aba North	OPERATOR	Abba Oil Corp	DATE	5-12-76
LEASE	North Vacuum Aba Unit	WELL NO	138	LOCATION	1- Sec 26, T17S, R21E



8 5/8 " casing set at 1615 ' with 1200 sx of CLH + gel cement
Hole size 12 1/4 " cement circ.

2 3/8 " Tubing

Baker Anchor Catcher - 8430'

Aba-Perf. - 8508' - 8600'

5 1/2 " casing set at 8700 ' with 2100 sx of CLH cement
Total Depth 8702 ' Hole size 7 7/8 " cement circ.

5-12-76
JMS

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Well
North Vacuum Abo Field
Lea County, New Mexico

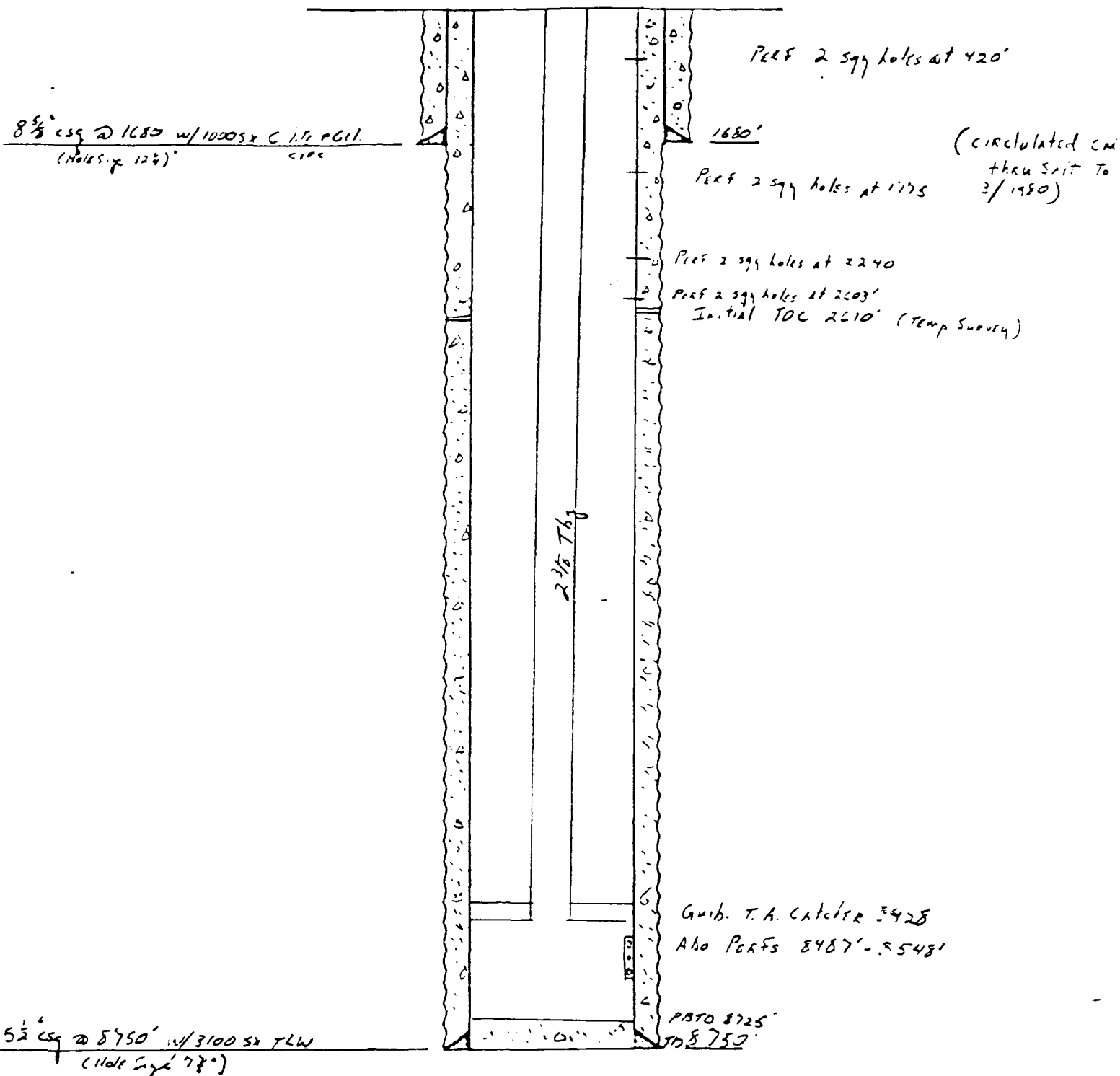
Well Data

- III A. 1. North Vacuum Abo Unit #156
1893' FSL & 1800' FEL, Unit J
Sec. 23, 17-S, 34-E
2. 8-5/8" @ 1680' w/1000 sx circ.
5-1/2" @ 8750' w/3100 sx circ.
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model NB Packer @ 8550'
- B. 1. Abo
2. 8487'-8548' perforated
3. Originally drilled for production
4. After circulating cement and running a Temp. Survey, it was determined the top of cement was 2610'. In order to circulate to surface, squeeze holes had to be perforated @ 420', 1175', 2240', & 2603'. (See attached well sketch.)
5. Next higher formation, Blinbry, next lower formation Wolfcamp
- VII 1. Maximum 600 BBL/day, avg 250 BBL/day
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi
4. Ogallala water will be injected because of the adverse affects of produced water on the tight formation of the Abo zone.

DIAGRAMIC Well Sketch

AVAU 156

- 23 - 175 - 242



MAV 4/10/80

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Wells
North Vacuum Abo Field
Lea County, New Mexico

Well Data

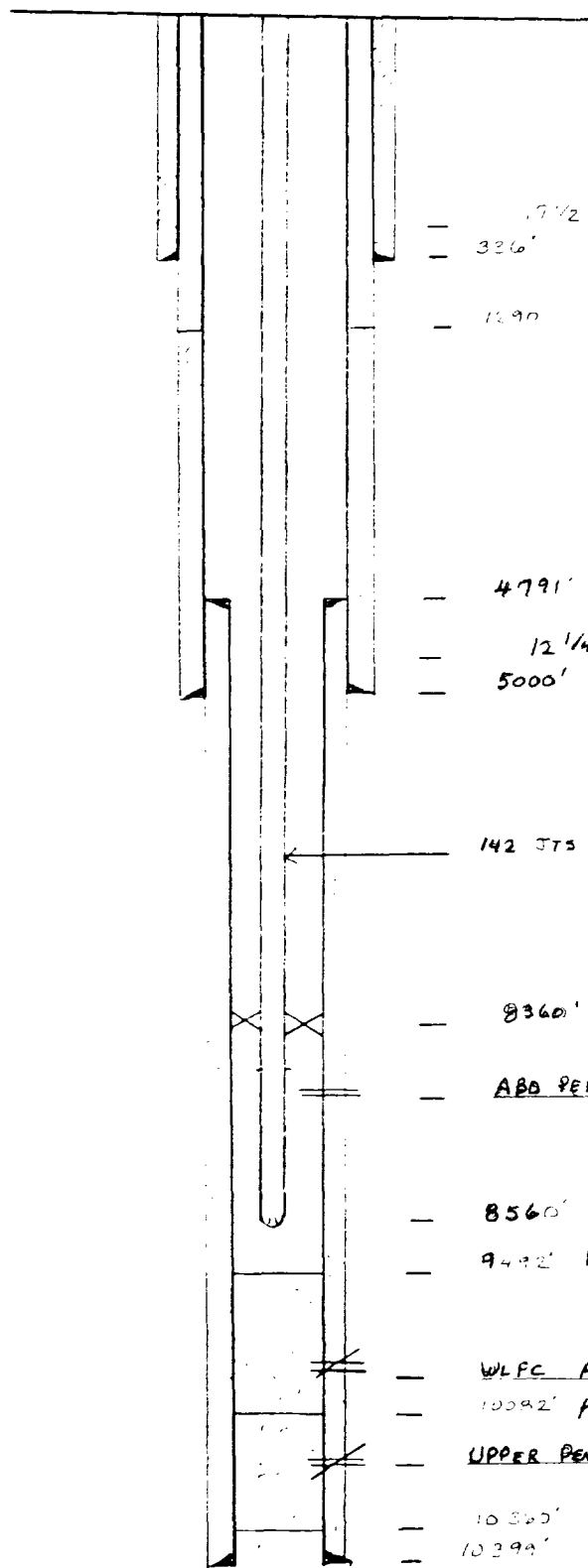
- III A. 1. North Vacuum Abo Unit #205
660' FNL & 1980' FEL, Sec. 24,
Unit B, 17-S, 34-E
2. 13-3/8" @ 336' w/350 sx circ.
9-5/8" @ 5000' w/2160 sx
TOC @ 1290' (calc)
7" liner @ 10,401' w/900 sx
TOC @ 4791' (TOL)
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model N.B. Packer @ 8550'
- B. 1. Abo
2. 8523'-8570' perforated
3. Originally drilled for production
4. None
5. Next higher perfs, Blinbry; next
lower perfs, Wolfcamp
- VII 1. Maximum 600 BBL/day/well, avg. 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi
4. Ogallala water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

DATE 8-2-85 WELL NO. 235 LEASE VACUUM FIELD VACUUM

LOCATION C 24 - T 15 - R 34
LEA 20011 - 13 N

SIGNED W. A. L.

G.L. 50
D.F.
K.B.
ZERO



Current

— 1 7/8" HOLE
— 326' 1 3/8" CSQ SET W/ 350 SX CMT CIRC
— 1290 TOP CEMENT (CALL)

— 4791' LINER TOP
— 12 1/4" HOLE
— 5000' 2 5/8" 40# + 34# J55 CSQ SET W/ 2260 SX

← 142 JTS 2 7/8" J55 T&G + 127 JTS 2 7/8" J55 T&G SN & 8490

— 8360' BAKER T&C
— ABO PERFS W/ 158PF 8513-29 34 46-50 56 60 68, 70 (20 HOLES)

— 8560' OFMA
— 9492' PBTD

— WLFC PERFS 9671-73, 75-79, 9708-10, 10010-14 (16 HOLES)
— 10082' PBTD SQ 2D W/ 100 SX CMT

— UPPER PENN PERFS 10334, 36, 38, 40, 42, 44, 46, 48, 50, 52 (10 HOLES)
— SQ 2D W/ 100 SX CMT

— 10360' PBTD
— 10399' 7" 23# CAS + NSD LINER SET W/ 900 SX INDOOR NEAT CIRC
8 3/4" HOLE

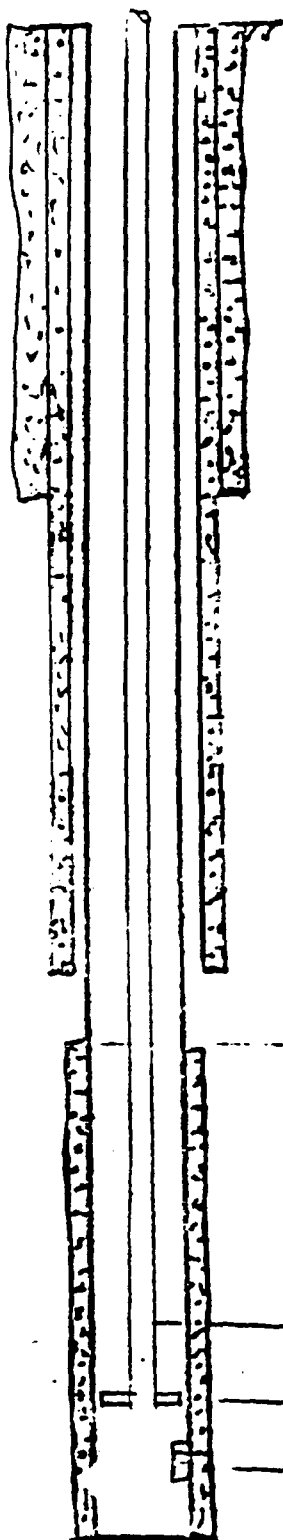
10401 TD

Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Well
North Vacuum Abo Field
Lea County, New Mexico

Well Data

- III A. 1. North Vacuum Abo Unit #210
1840' FSL & 800' FWL, Unit L,
Sec. 23, 17-S, 34-E
2. 12-3/4" @290' w/450 sx circ.
8-5/8" @ 3045' w/1400 sx circ.
5-1/2" @ 8800' w/ 2300 sx circ.
TOC 3050 (temp survey)
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model NB Packer @ 8550'
- B. 1. Abo
2. 8539-8609' perforated
3. Originally drilled for production
4. None
5. Next higher formation, Blinbry; next
lower formation, Wolfcamp
- VII 1. Maximum 600 BBL/day/well, avg. 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi
4. Ogallala water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

VACUUM, Abo North		OPERATOR	Mobil Oil Corp	DATE	5-17-76
LEASE	North Vacuum Abo Unit	WELL NO	210	LOCATION	N. Sec 23 T17S R34E



2 3/4" casing set at 290' with 450 sx of CLC cement
Hole size 17 1/2" cement circ

3 1/2" casing set at 3045' with 1400 sx of T1W cement
Hole size 11" cement circ

Cement Top - 3050' - Temp Survey

2 3/8" Tubing

Daher Anchor Cat. - 8447'

Abo Perf. - 8539-8609 (17 holes)

5 1/2" casing set at 8800' with 2300 sx of T1W cement
Total Depth 8800' Hole size 7 7/8"

17 #/ft

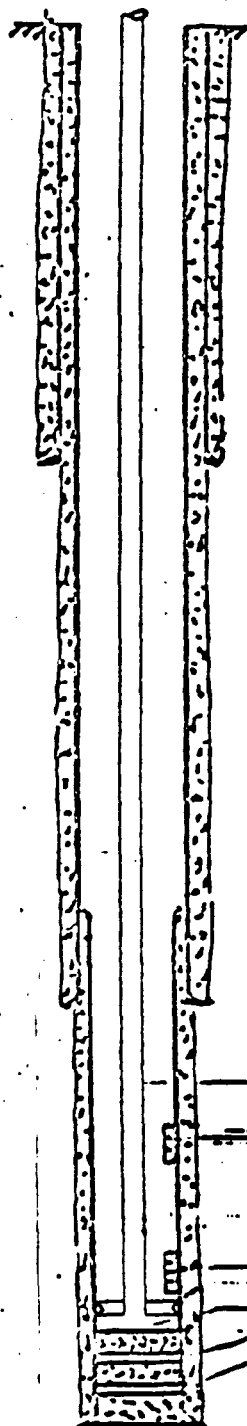
Mobil Producing Texas & New Mexico Inc.
Proposed Water Injection Well
North Vacuum Abo Field
Lea County, New Mexico

Well Data

- III A. 1. North Vacuum Abo Unit #211
2054' FSL & 2162' FEL, Unit J,
Sec. 24, 17-S, 34-E
2. 11-3/4" @ 397' w/400 sx circ.
8-5/8" @ 5000' w/1550 sx circ.
5-1/2" @ 9386' w/750 sx circ.
3. 2-3/8" N-80 Buttress Tubing
4. Baker Model NB Packer @8550'
- B. 1. Abo
2. 8475'-8509' perforated
3. Originally drilled for production
4. Perfs 6097'-6159' sqzd w/100 sx cement.
PBD 9356' cement plug w/50 sx @ 9475'
cement plug w/25 sx @ 10,025'
cement plug w/25 sx @ 10,200'
5. Next higher formation, Blinberry; next
lower formation, Wolfcamp
- VII 1. Maximum 600 BBL/day/well, avg. 250 BBL/day/well
2. Closed system
3. Maximum pressure 4350 psi, avg. 4150 psi
4. Ogallala water will be injected because of the
adverse affects of produced water on the tight
formation of the Abo zone.

FIELD	Vacuum, Abu North	OPERATOR	Arabia Oil Corp	DATE	5-17-76
LEASE	North Vacuum Abu Unit	WELL NO	211	LOCATION	J. Sec 24 T17S R31E

(Formerly MALLARD-Sub A #1)



11 3/4" casing set at 397' with 400 sx of CLW cement
Hole size 15" cement circ.

4203' Liner top

8 7/8" casing set at 5000' with 1550 sx of LU cement
Hole size 11" cement circ

2 7/8" tubing

Perf. 6097'-6159' Sqzd. w/100 sx Cement

Baker Mod. B. Anch. Cat- 8540'

Abu Perf. - 8475'-8509'

PSTD - 9356' Cement Plug w/500 sx at 9475'

Cement Plug w/25 sx at 10025'

Cement Plug w/25 sx at 10200'

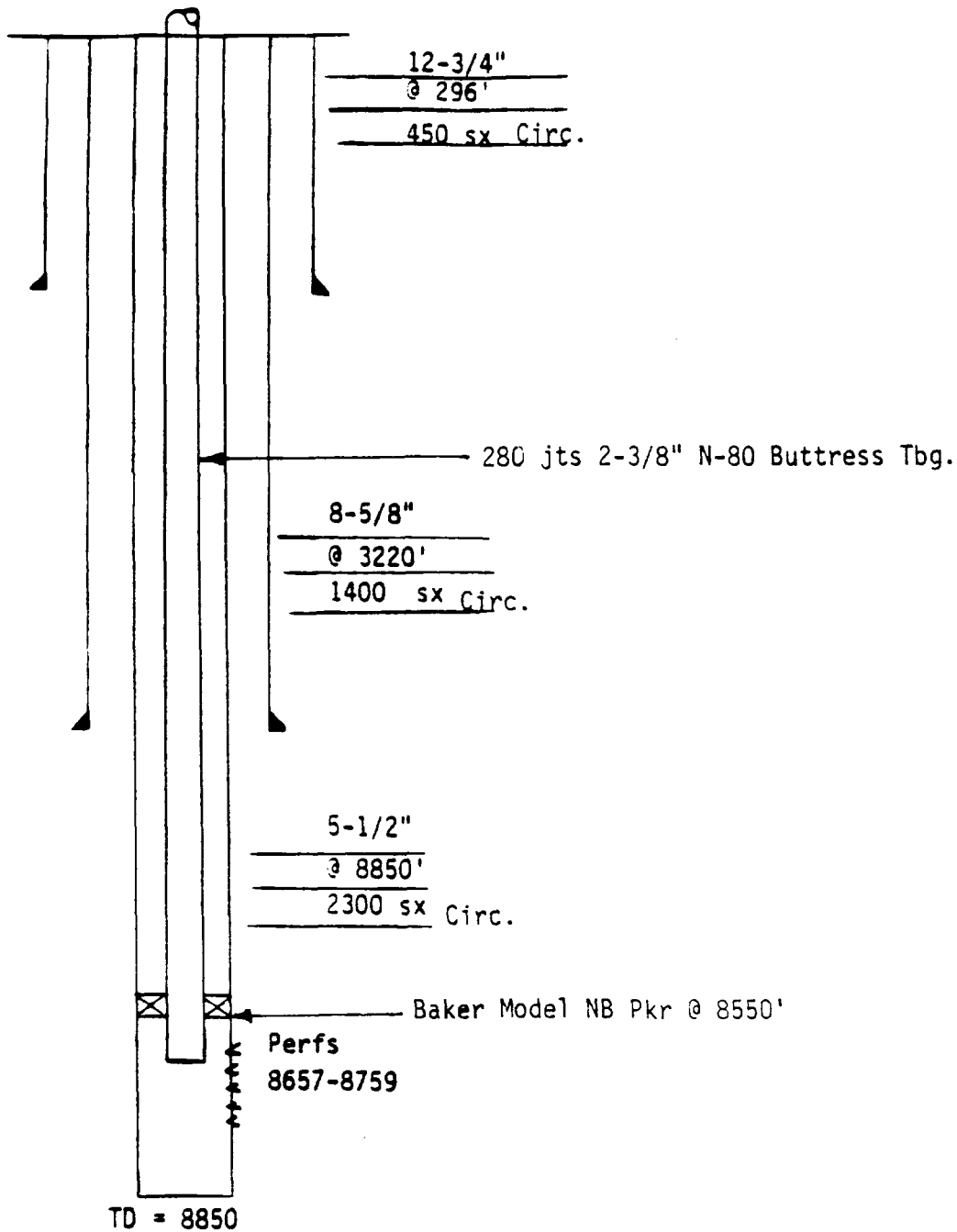
5 1/2" liner set at 9386' with 750 sx of HLW cement
Total Depth 10,200' Hole size 7 7/8" cement circ

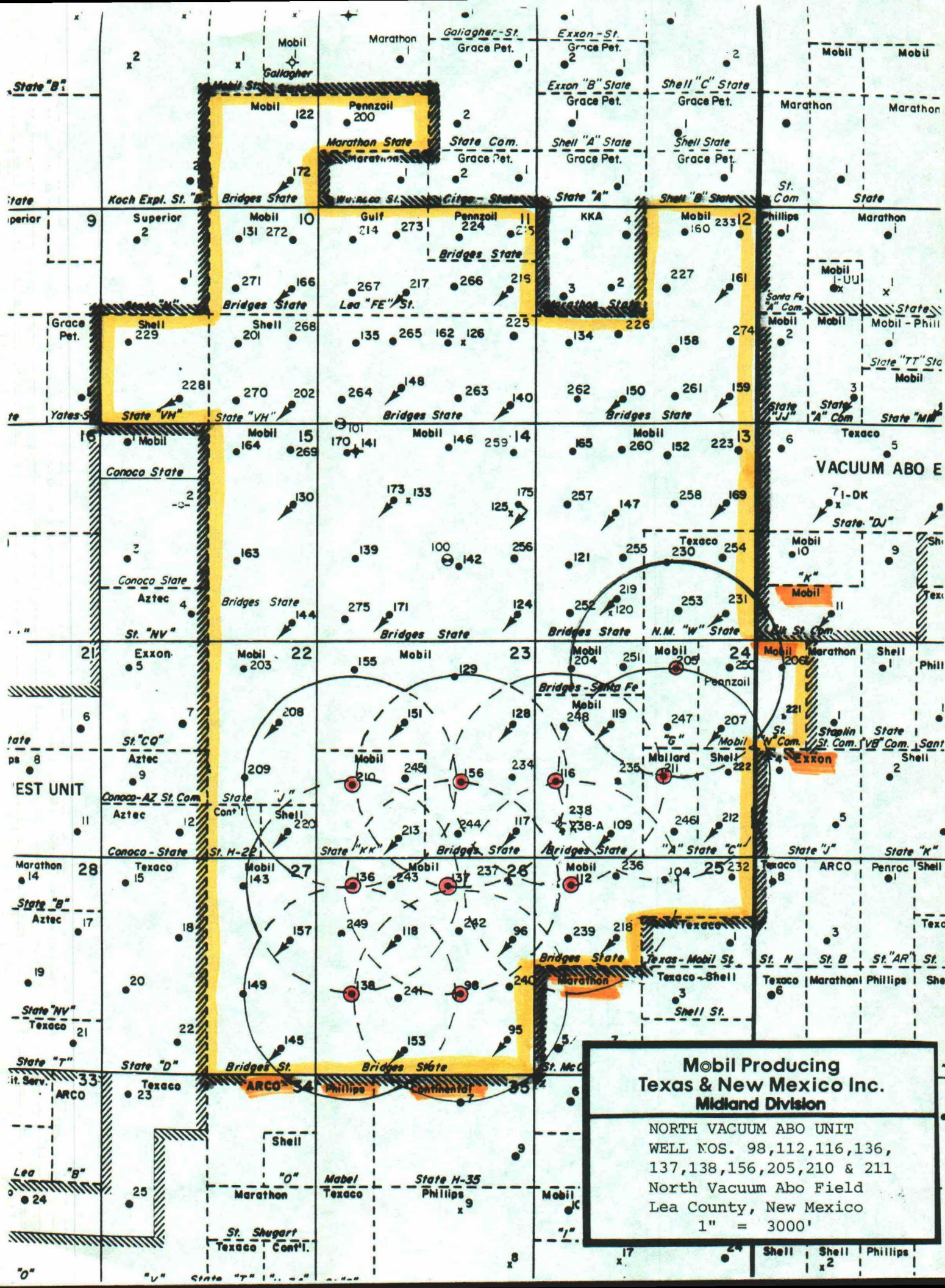
5-13-76
JHS

Typical Proposed Injector

North Vacuum Abo Unit

Lea County, New Mexico





MORILL, PRODUCING TEXAS & NEW MEXICO INC.
NORTH VACUUM ABO UNIT
PROPOSED WATER INJECTION
WELL NO. 98, 112, 116, 136, 137,
WELL NO. 138, 156, 205, 210, & 211
TWP 17-S, R-34-E
LEA COUNTY, NEW MEXICO

Tabulated data of all wells on public record within area of review.

OPERATOR LEASE	WELL NO.	LOCATION	WELL TYPE	DATE DRILLED	DEPTH	COMPLETION INTERVAL
OPERATOR - MOBIL, PRODUCING TEXAS & NEW MEXICO INC.						
North Vacuum Abo Unit	95	860' FSL & 660' FEL, Sec. 26, Unit P	I	3/64	13,816'	N Vacuum Abo 8362-8451'
"	96	1980' FNL & 510' FEL, Sec. 26, Unit H	I	4/66	12,390'	N Vacuum Abo 8397-8459'
"	104	520 FNL & 2120' FEL, Sec. 25, Unit B	P	4/67	10,200'	Abo 9212-9300' U-Penn
"	109	660' FSL & 1830' FWL, Sec. 24, Unit N	I	5/66	12,470'	10,016-10,116' N Vacuum Abo 8427-8484'
"	117	660' FSL & 460' FEL, Sec. 23, Unit P	I	10/66	10,414'	N Vacuum Abo 8445-8497'
"	118	1980' FNL & 1980' FWL, Sec. 26, Unit F	I	7/70	8,700'	N Vacuum Abo 8485-8567'
"	119	2030' FNL & 1830' FWL, Sec. 24, Unit F	I	12/66	12,391'	N Vacuum Abo 8486-8508' U-Penn
"	120	660 FSL & 1780 FWL, Sec. 13, Unit N	P	6/67	10,400'	10,107-10,148' N Vacuum Abo 8473-8525'
"	128	2005 FNL & 535 FEL, Sec. 23, Unit H	I	2/69	8,580'	N Vacuum Abo 8499-8558'
"	129	860' FNL & 1980 FEL, Sec. 23, Unit B	P	5/69	8,600'	N Vacuum Abo 8605-8680'
"	143	660' FNL & 1780' FEL, Sec. 27, Unit B	P	10/70	8,745'	N Vacuum Abo 8575-8657'
"	145	660' FSL & 860' FEL, Sec. 27, Unit B	I	10/70	8,750'	N Vacuum Abo 8628-8673'
"	149	2180 FNL & 660' FEL, Sec. 27, Unit B	P	2/71	8,750'	

MOBIL PRODUCING TEXAS & NEW MEXICO INC.
 NORTH VACUUM ABO EAST UNIT
 WELL NOS. 98, 112, 116, 136, 137, 138,
 156, 205, 210 & 211
 TWP 17-S, R-34E
 LEA COUNTY, NEW MEXICO

<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>	<u>WELL TYPE</u>	<u>DATE DRILLED</u>	<u>DEPTH</u>	<u>COMPLETION INTERVAL</u>
OPERATOR - MOBIL PRODUCING TEXAS & NEW MEXICO, INC. (cont'd)						
North Vacuum Abo Unit	151	1980' FNL & 2130' FWL Sec. 23, Unit F	I	3/71	12,180'	Abo 8550-8601'
"	153	610' FSL & 2130' FWL Sec. 26, Unit F	I	1/72	8,700'	Abo 8455-8528'
"	157	2180' FNL & 660' FEL Sec. 27, Unit H	I	8/71	12,500'	Abo 8585-8640'
"	204	660' FNL & 860' FEL Sec. 24, Unit D	P	6/67	10,359'	Abo 8487-8537'
"	206	660' FNL & 660' FWL Sec. 19, Unit D	P	6/71	8,800'	Abo 8597-8659'
"	207	2121' FNL & 801' FEL Sec. 24, Unit H	I	9/68	8,653'	Abo 8527-8587'
"	208	1980' FNL & 860' FEL Sec. 22, Unit H	I	1/71	8,800'	Abo 8642-8704'
"	209	1980' FSL & 1780' FEL Sec. 22, Unit J	P	6/71	8,800'	Abo 8654-8718'
"	212	795' FSL & 795' FEL Sec. 24, Unit P	I	4/68	10,200'	Abo 8503-8579'
"	213	460' FSL & 1980' FWL Sec. 23, Unit N	I	1/72	8,800'	Abo 8509-8565'
"	218	1880' FNL & 1975' FWL Sec. 25, Unit F	I	1/74	8,600'	Abo 8388-8428'
"	219	1030' FSL & 1973' FWL Sec. 13, Unit N	I	2/74	8,650'	Abo 8500-8535'
"	220	660' FSL & 860' FEL Sec. 22, Unit P	I	6/74	8,800'	Abo 8613-8664'
"	222	2100' FSL & 660' FEL Sec. 24, Unit I	P	1/75	8,660'	Abo 8511-8576'
"	230	1880' FSL & 2130' FEL Sec. 13, Unit J	P	12/67	10,600'	Abo 8546-8587'
"	231	660' FSL & 660' FEL Sec. 13, Unit P	I	9/71	8,800'	Abo 8584-8730'
"	234	1980' FSL & 545' FEL Sec. 23, Unit I	P	12/83	8,700'	Abo 8470-8622'

MOBIL PRODUCING TEXAS & NEW MEXICO INC.
NORTH VACUUM ABO EAST UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 & 211
TWP 17-S, R-34E
LEA COUNTY, NEW MEXICO

<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>	<u>WELL TYPE</u>	<u>DATE DRILLED</u>	<u>DEPTH</u>	<u>COMPLETION INTERVAL</u>
OPERATOR - MOBIL PRODUCING TEXAS & NEW MEXICO, INC. (cont'd)						
North Vacuum Abo Unit	235	1880' FSL & 2000' FWL Sec. 24, Unit K	P	12/83	8,675'	Abo 8431-8610'
"	236	460' FNL & 1980' FWL Sec. 25, Unit C	P	10/83	8,700'	Abo 8400-8454'
"	237	530' FNL & 660' FEL Sec. 26, Unit A	P	11/83	8,700'	Abo 8425-8584'
"	238	660' FSL & 780' FWL Sec. 24, Unit M	P & A	10/83	5,000'	P & A'd
"	238-A	780' FWL & 643' FSL Sec. 24, Unit M	P	11/83	8,700'	Abo 8459-8479'
"	239	1992' FNL & 810' FWL Sec. 25, Unit E	P	3/84	8,700'	Abo 8374-8514'
"	240	2131' FSL & 665' FEL Sec. 26, Unit I	P	4/84	8,700'	Abo 8387-8564'
"	241	1882' FSL & 2001' FWL Sec. 26, Unit K	P	6/84	8,700'	Abo 8494-8666;
"	242	1980' FNL & 2100' FWL Sec. 26, Unit G	P	7/84	8,700'	Abo 8472-8608'
"	243	657' FNL & 1839' FWL Sec. 26, Unit C	P	4/84	8,700'	Abo 8494-8672'
"	244	589' FSL & 1859' FEL Sec. 23, Unit O	P	5/84	8,700'	Abo 8470-8608'
"	245	1932' FSL & 2155' FWL Sec. 23, Unit K	P	5/84	8,711'	Abo 8549-8684'
"	246	660' FSL & 1980' FEL Sec. 24, Unit O	P	3/84	8,700'	Abo 8444-8499'
"	247	2094' FEL & 2081' FNL Sec. 24, Unit G	P	4/84	8,710'	Abo 8493-8673'
"	248	2100' FNL & 659' FWL Sec. 24, Unit E	P	5/84	8,700'	Abo 8485-8509'
"	249	1850' FNL & 660' FWL Sec. 26, Unit E	P	7/84	8,720'	Abo 8534-8681'
"	250	650' FNL & 620' FEL Sec. 24, Unit A	P	6/84	9,100'	Abo 8568-8710'

MOBIL PRODUCING TEXAS & NEW MEXICO INC.
 NORTH VACUUM ABO EAST UNIT
 WELL NOS. 98, 112, 116, 136, 137, 138,
 156, 205, 210 & 211
 TWP 17-S, R-34E
 LEA COUNTY, NEW MEXICO

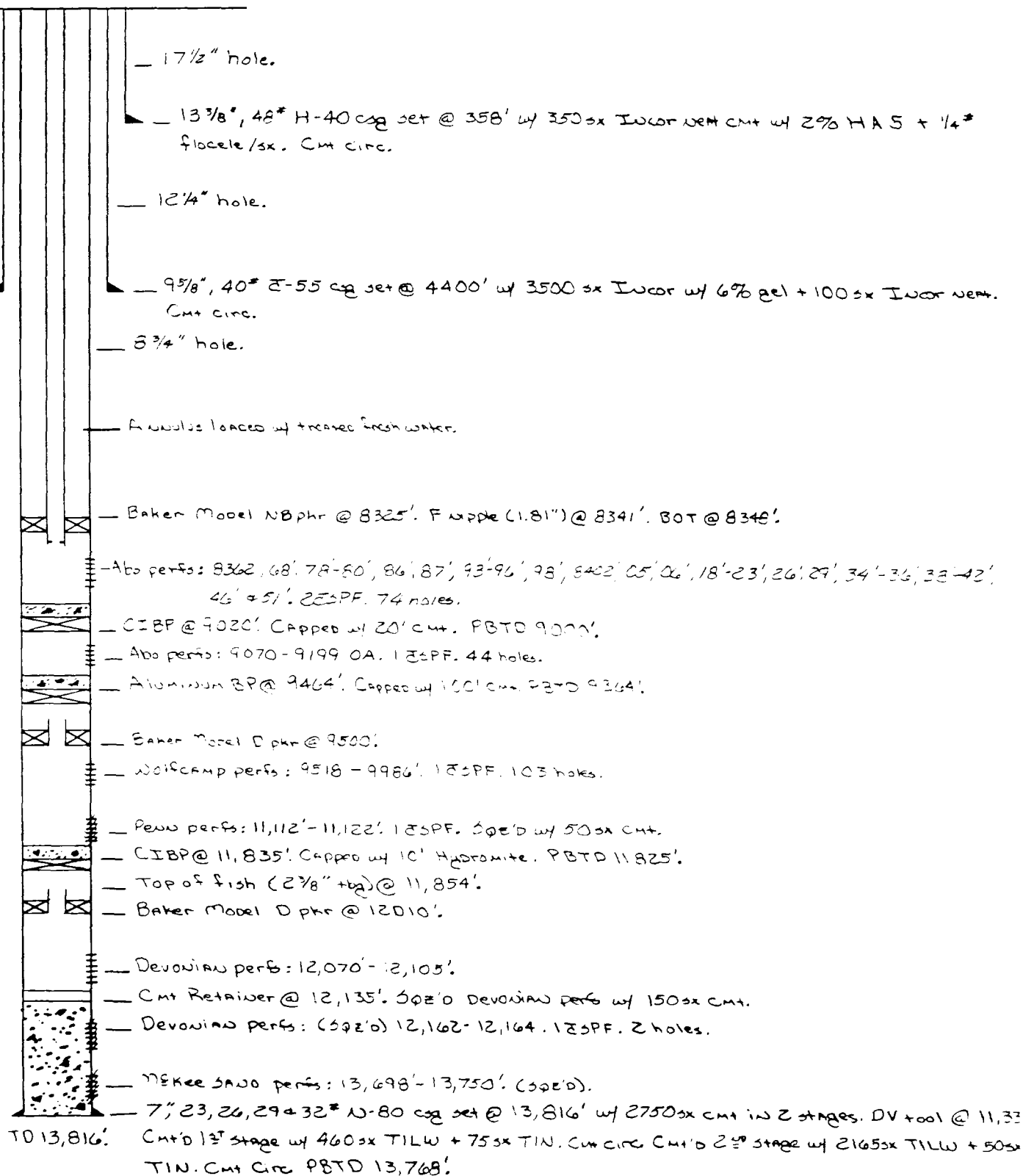
<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>	<u>WELL TYPE</u>	<u>DATE DRILLED</u>	<u>DEPTH</u>	<u>COMPLETION INTERVAL</u>
OPERATOR - MOBIL PRODUCING TEXAS & NEW MEXICO, INC. (cont'd)						
North Vacuum Abo Unit	251	660' FNL & 2110' FWL Sec. 24, Unit C	P	7/84	8,700'	Abo 8501-8540'
"	253	761' FSL & 1823' FEL Sec. 13, Unit D	P	8/84	8,700'	Abo 8562-8569'
OPERATOR - CONTINENTAL OIL CO.						
State H-35	7	660' FNL & 1780' FEL Sec. 35, Unit B	P	6/63	12,413	Abo 9154-9256'

DATE 3-22-83 WELL NO. 95 LEASE No Vacuum Abo Unit FIELD Lacium Abo Martin

LOCATION P-26-175-34 E
860' FSL AND 660' FEL
Lea County, New Mexico

SIGNED M.W. DEER

G.L. 4003'
D.F. 4013'
K.B. 4016'
ZERO 13' AGL

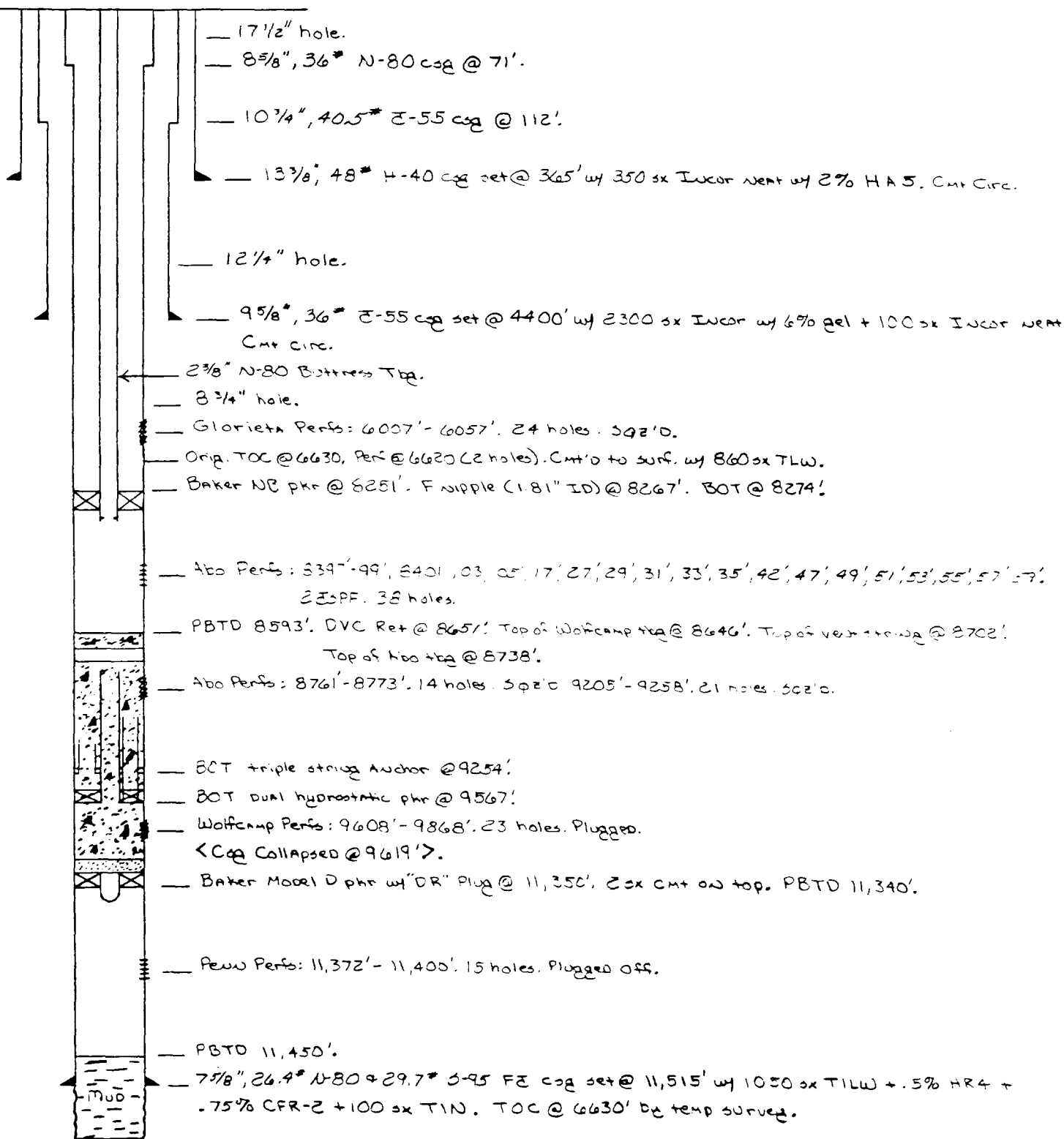


DATE 3-22-83 WELL NO. 96 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION H-26-175-34E
1980' FNL AND 510' FEL
Lea County, New Mexico

SIGNED M. W. DEER

G.L. 4013'
D.F. 4030'
K.B. 4031'
ZERO 18' AG



TD 12,390'

FE 10-11-83

WELL NO. 104

BRIDGES STATE AND
LEASE North Vacuum Add Unit FIELD VACUUM Upper Pe
VACUUM ADD NOR

LOCATION B-25-175-34E

SIGNED M. P. Maurin

G.L. 3998'
D.F. 4008'
K.B. 4009'
ZERO 11' AGL

Before Workover

— 17 1/2" hole.

— TOC @ 305' (Temp. survey).

— 13 3/8", 48" H-40 csg set @ 365' w/ 300sx Incon vent. cnt w/ 2% HA5 + 1/4" Flocele/sx. Cnt Circ.

Upper Pess: 2 3/8" GST + b to 10,005 w/ Guib seals 9956-66, RUC Phr @ 9483', SN @ 9483', PA @ 9392'.

Abo: 163' to 2 3/8" FUE + b to 137' to 2 3/8" Seal-Loc 255 + b to 9392'; Top Perfs 9350'-3 SN 9399'.

— Top of Lwn @ 4824'.

— 12 1/4" hole.

— 9 5/8", 40" 255 (820') + 36" 255 (1664') + 32.5" H40 (2516') set @ 5000' w/ 5025sx Incon 6% gel + 1/4" Flocele + 100sx Incon vent. Cnt o/d not circ. TOC @ 305' (Temp survey).

— 8 3/4" hole.

— Abo Perfs: 9212, 15, 60, 63, 72, 74, 96, 9300. 125PF. 8 holes. + 8444, 47, 49, 64, 66, 70, 74 + 80. 125PF. 9 holes. 17 holes total.

— Guib Parallel Anchor @ 9392'.

— Guib Type RUC-1 Dual Phr @ 9483'

— Wolfcamp Perfs: 9784, 97, 96, 9800, 07, 63, 9908, 33, 40, + 44. 125PF. 10 holes. + 9552, 84, 9612, 14, 26, 29, 32, 35, 39, 41 + 43. 125PF. 11 holes. 21 holes total.

— Guib Type A Phr @ 9958'.

— Upper Pess Perfs: 10016, 21, 27, 35, 53, 59, 74, 85, 89, 91, 94, 97, 101, 104, 109, 113, + 116. 125 17 holes.

— 7", 26" N80 (2398') + 23" N80 (2978') set @ 10,192 w/ 875sx TLW + 500sx T11J Top of Lwn @ 4824'.

PB 10193'
TD 10,200'

DATE 3-23-83 WELL NO. 109 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION N-24-175-34E

SIGNED M. W. DEER

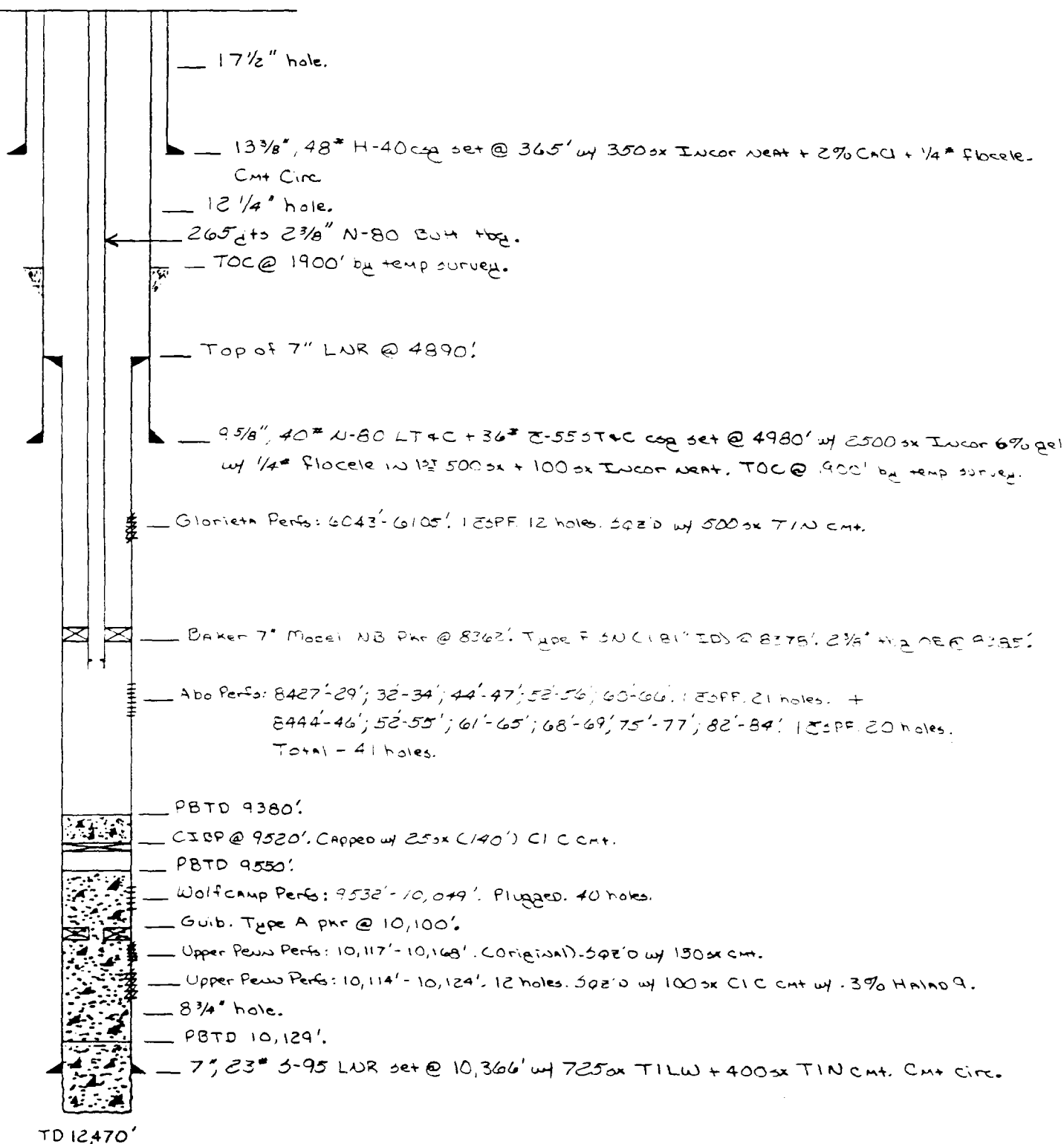
G.L. 4006.8'

D.F.

K.B. 4019'

ZERO 12.2' AGL

660' FSL and 1830' FWL
Lea County, New Mexico

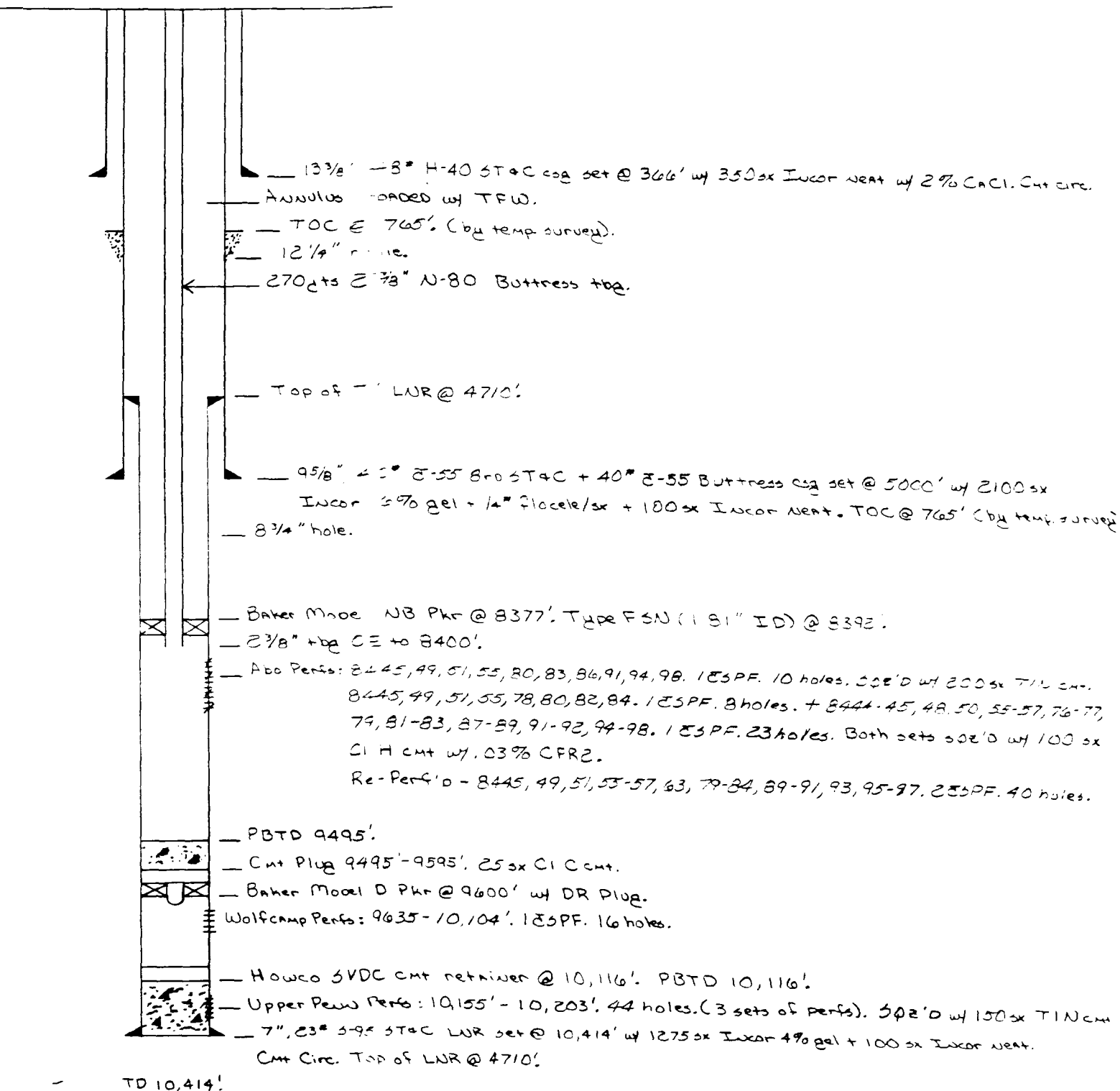


DATE 3-23-83 WELL NO. 117 LEASE No. Vacuum Abu Unit FIELD Vacuum Abu North

LOCATION P-23-175-34E
660' FSL and 460 FEL

SIGNED M. W. DEER

G.L. 4023'
D.F. 4035'
K.B. 4036'
ZERO 12' AGL



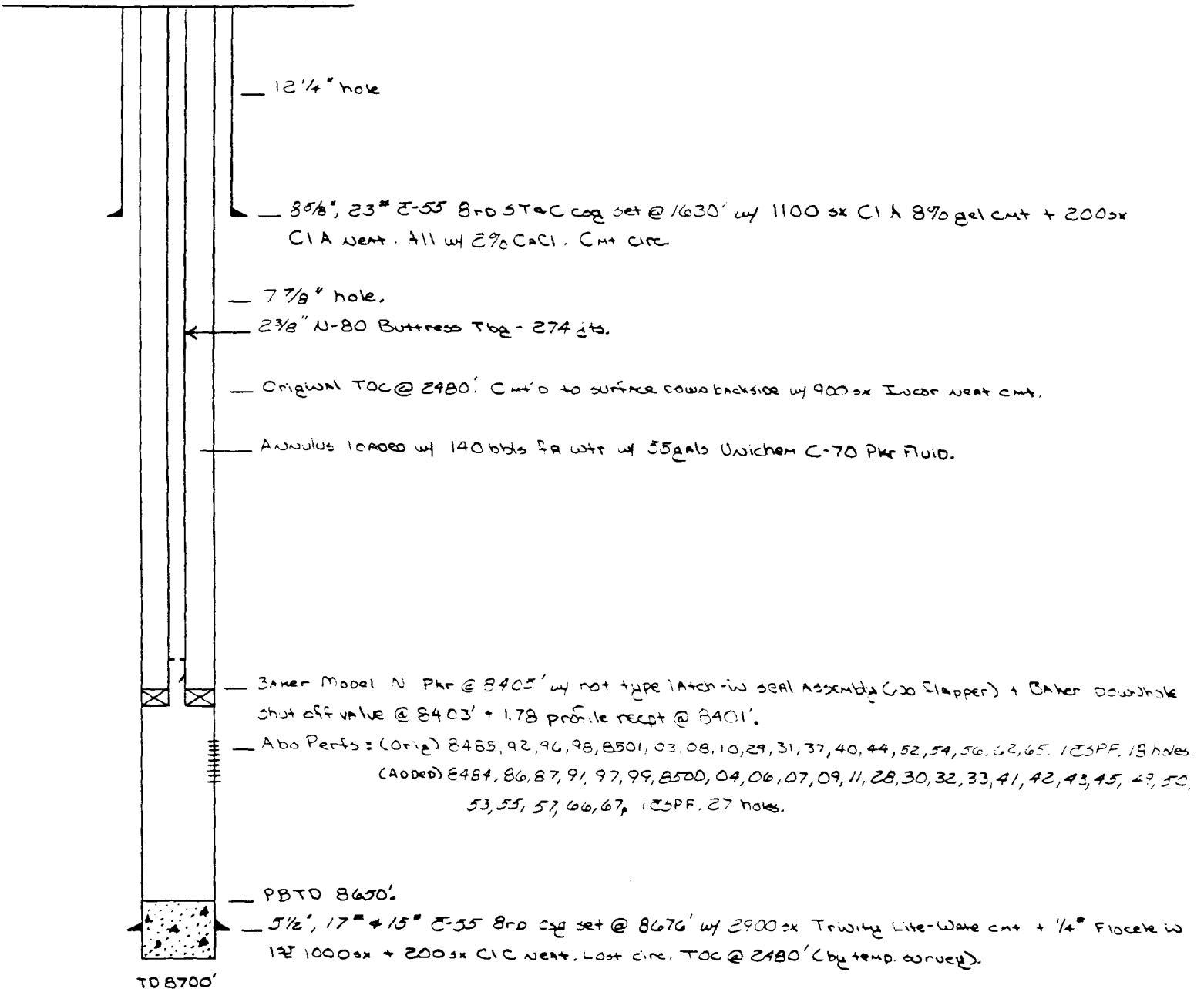
DATE 3-23-83 WELL NO. 118 LEASE No. VACUUM Abo Unit FIELD VACUUM Abo North

LOCATION F-26-175-34E
1980' FNL no 1980' FWL
Lea County, New Mexico

SIGNED M.W. DEER

G.L. 4030'
D.F. 4044'
K.B. 4045'
ZERO 14' AG

Updated 1-23-84 MWD

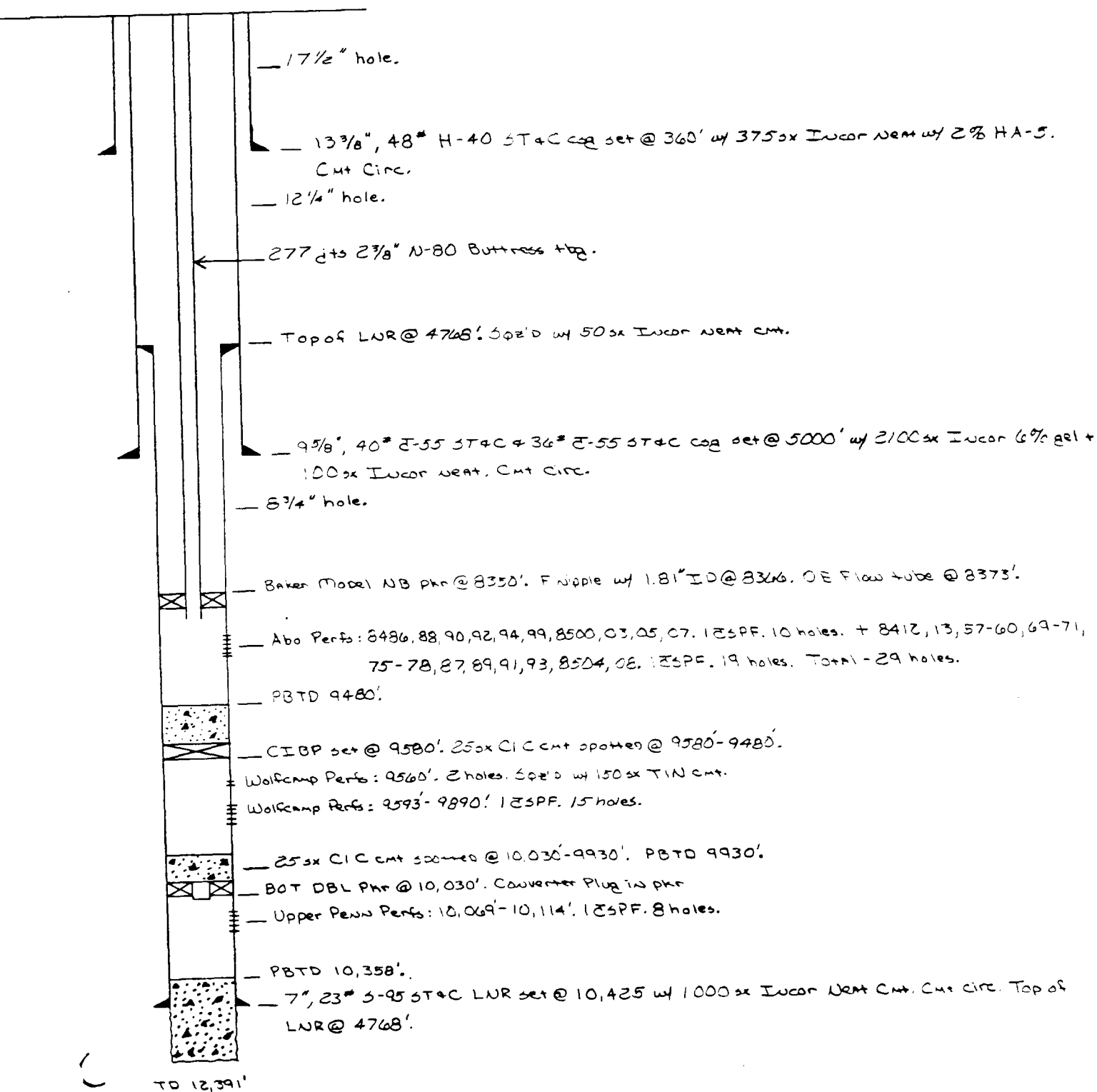


DATE 3-23-83 WELL NO. 119 LEASE No. Vacuum Abd Unit FIELD Vacuum Abd North

LOCATION F-24-175-34E
1980' FWL and 1780' FWL
Len County, New Mexico

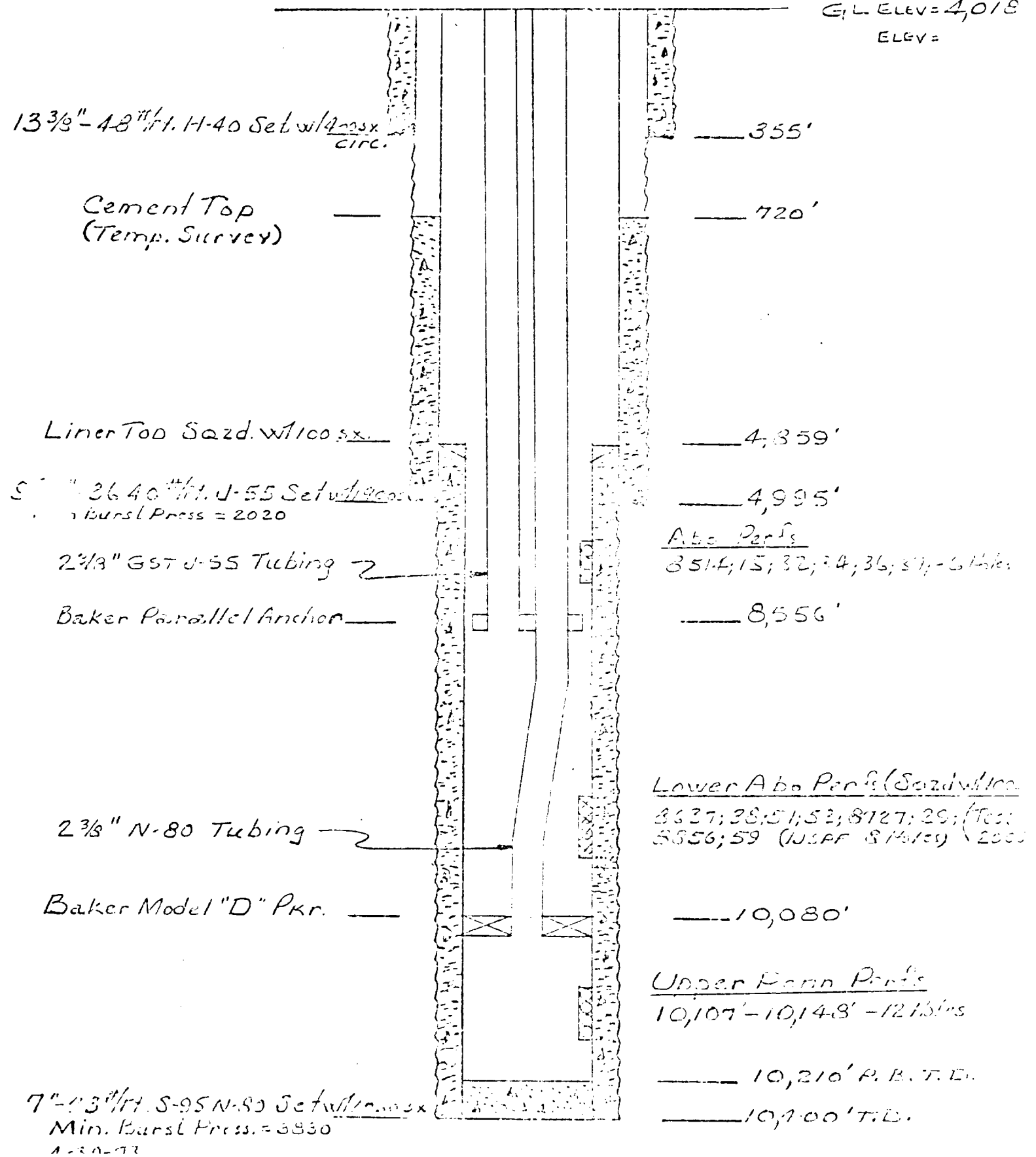
SIGNED M. W. DEER

G.L. 4012.7'
D.F. 4023'
K.B. 4024'
ZERO 11.3' AGL



DIAGRAMMATIC WELL SKETCH
NORTH VACUUM AREA (WIT Well No. 120)
NORTH VACUUM (APC) PAD
LEA COUNTY, NEW MEXICO

G.L. ELEV = 4,018'
 ELEV =

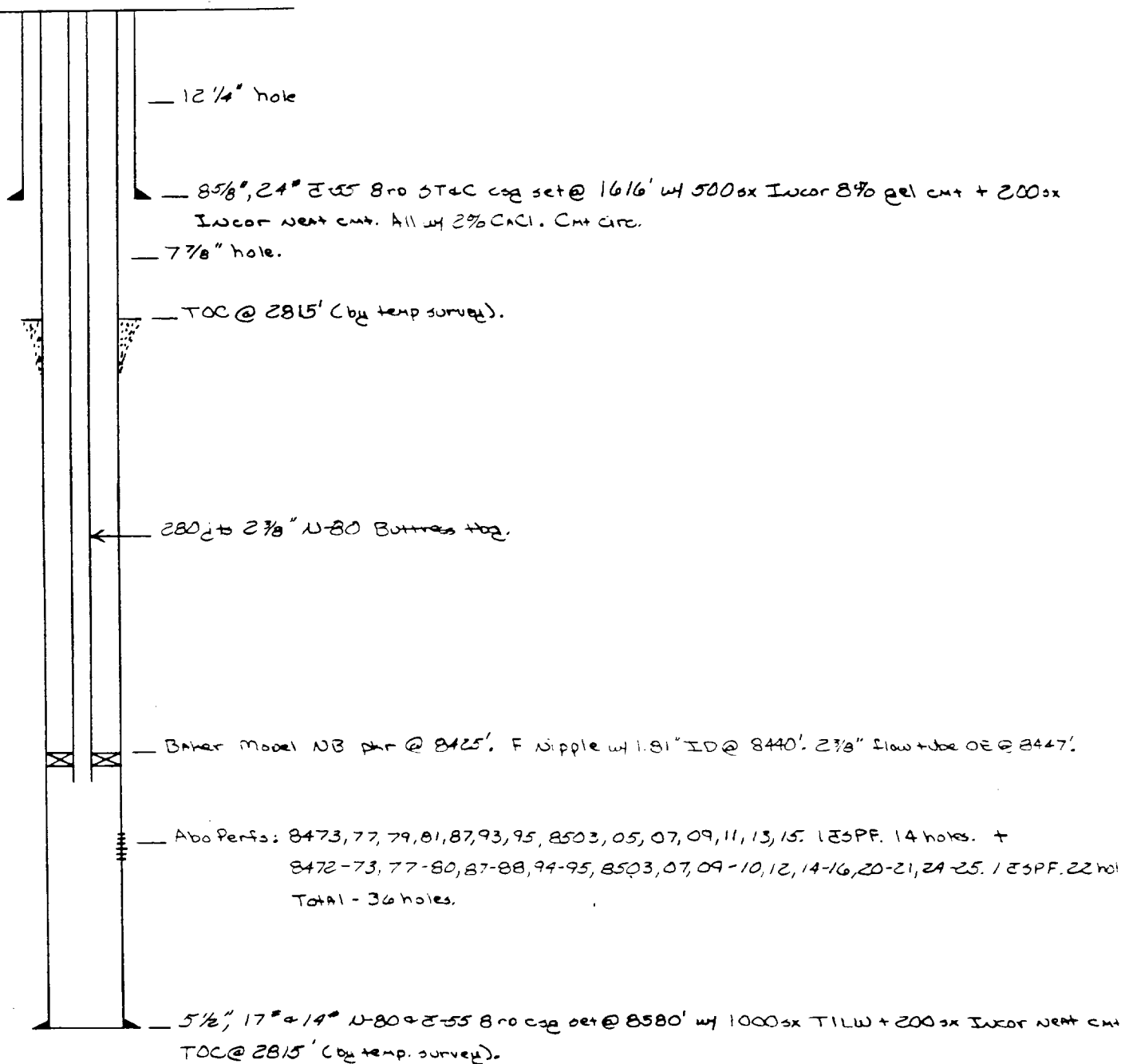


DATE 3-23-83 WELL NO. 128 LEASE No. VACUUM Abo Unit FIELD VACUUM Abo North

LOCATION H-23-172-34E
2005' FAUL AND 535' FEL
Lea County, New Mexico

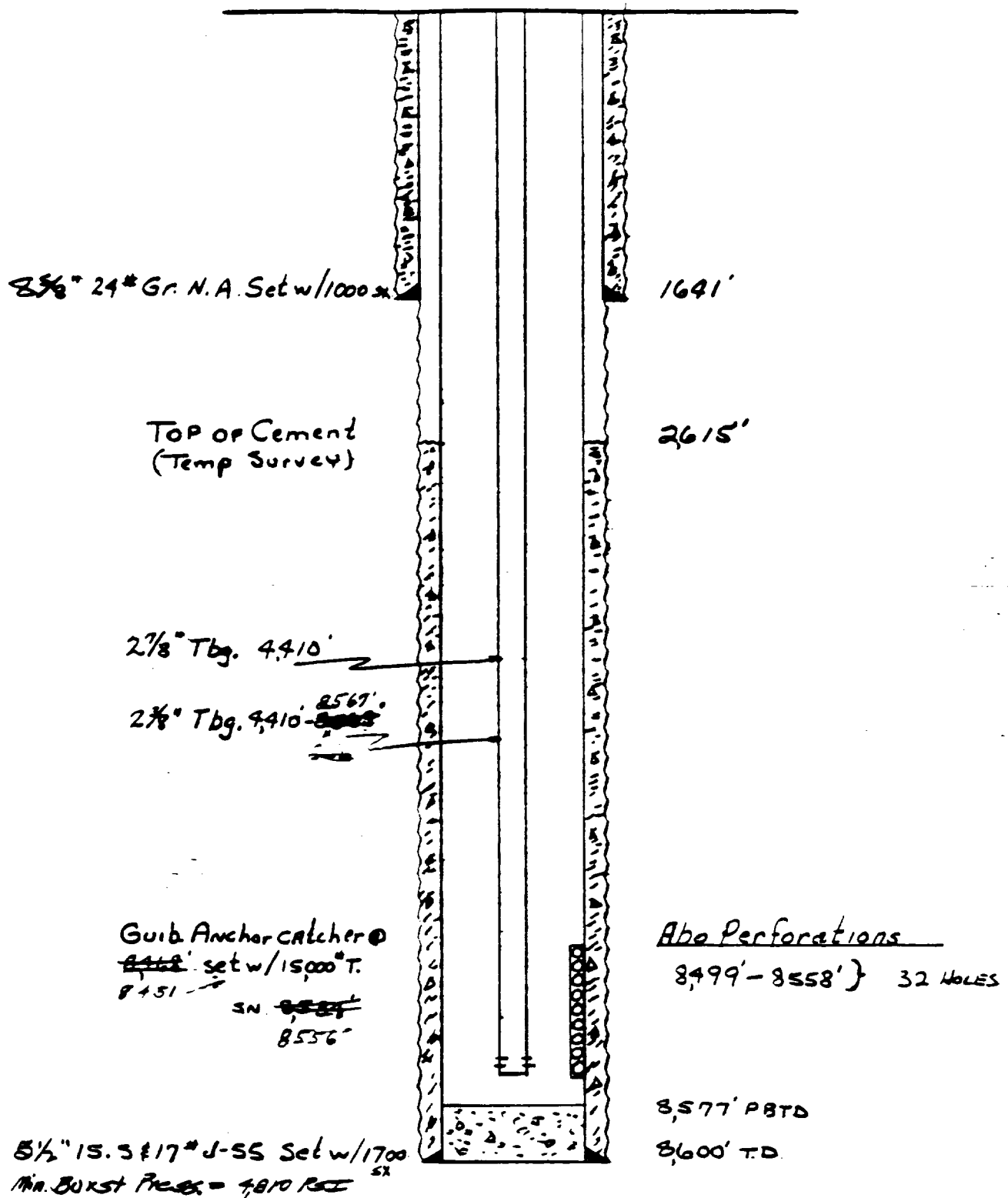
SIGNED M. W. DEER

G.L. 4024'
D.F. 4036'
K.B. 4037'
ZERO 13' AGL



TD 8580'

Diagrammatic Well Sketch
 Bridges State Well No. 129
 Vacuum (North Abo) Field
 Lea County, New Mexico



— 19925 State 143 —
North Vacuum Field
Lea County New Mexico

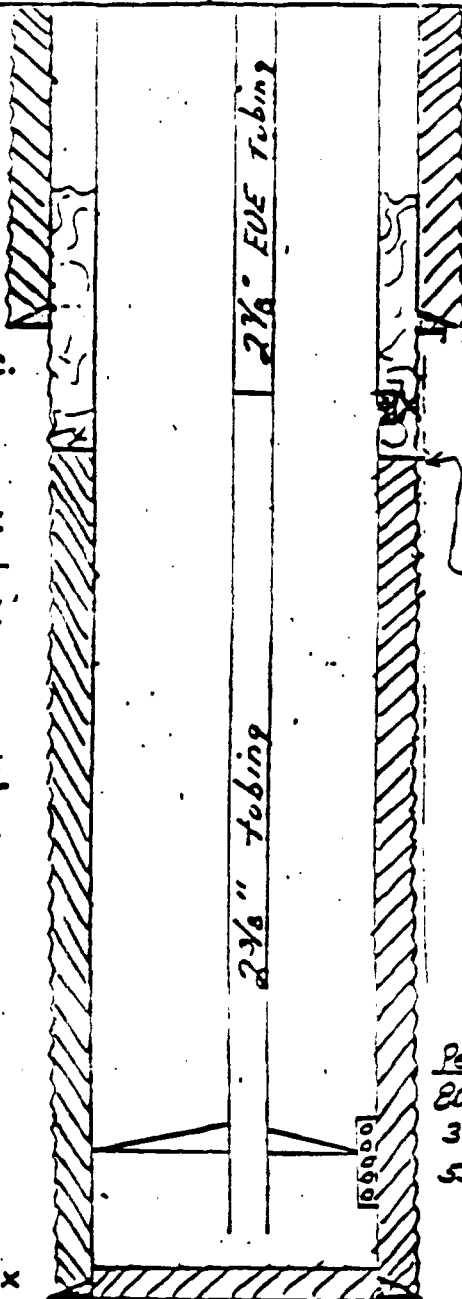
8 5/8", 23 1/4" set
 w/ 1000 sx. circ.

Down hole Equipment

Baker Tubing A-8651
 Tubing Perfs - 8706-09
 SN - 8703

2 1/8" tubing - Sur. to 1885
 2 3/8" tubing - 1885 to 8721

5 1/2", set w/ 3100 sx



1655'

Perforated w/ 4 holes
 @ 2300' - squeezed
 w/ 525 sx. cmt.
Did not circulate.

Top of Cmt. 2340'
 Temp. Survey - original
 cementing work.

Perforations - ABO

8605, 08, 10, 11, 25, 27, 31, 37,
 39, 43, 45, 47, 49, 51, 53,
 55, 59, 64, 67, 73, 75, 8620.
 22 holes.

8730' - PBTD
 8745' - TD

DATE 3-23-83 WELL NO. 145 LEASE No. VACUUM Abo Unit FIELD VACUUM Abo North

LOCATION P-27-172-34E

SIGNED M.W. DEER

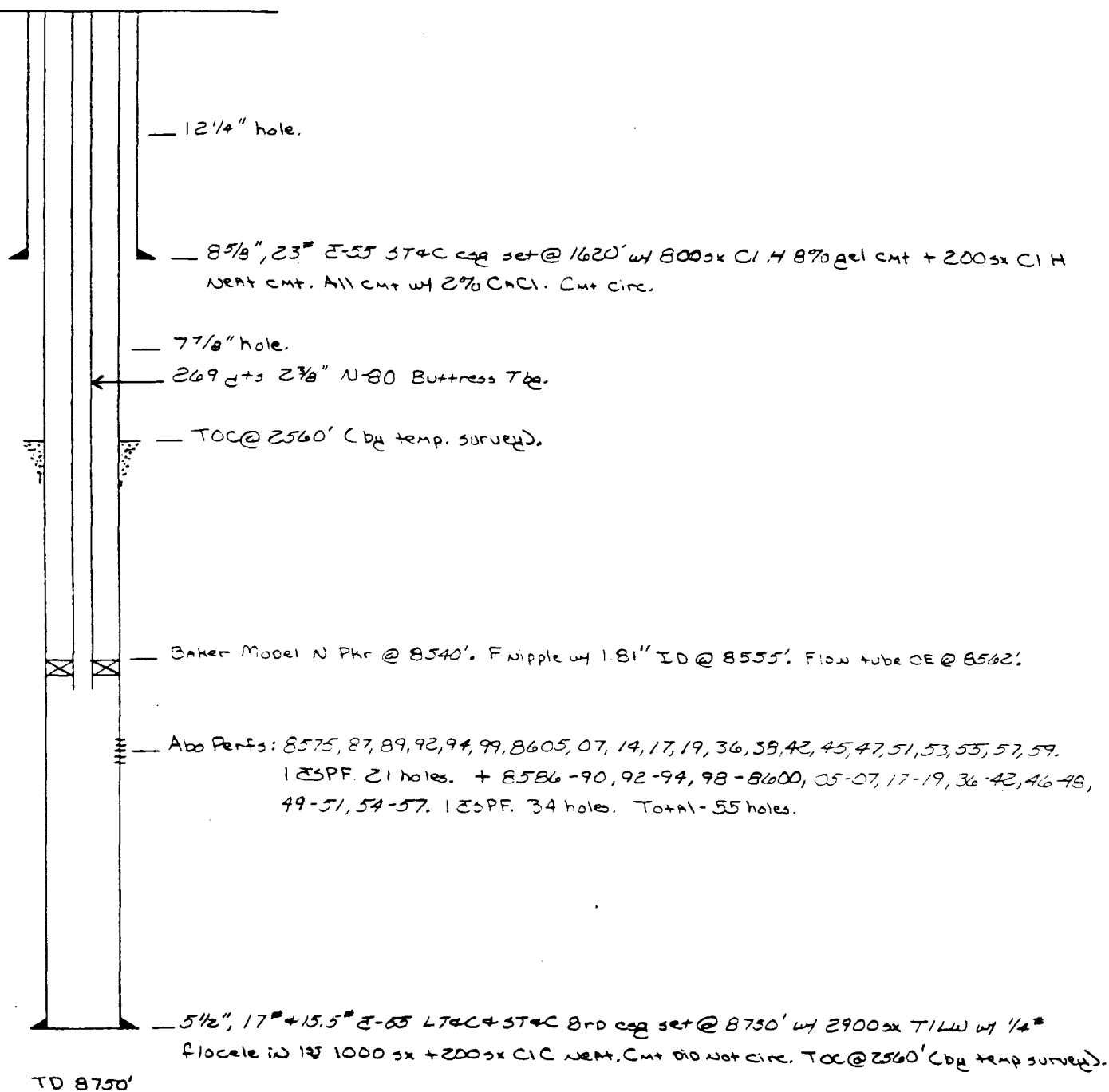
G.L. 4035'

D.F. 4048'

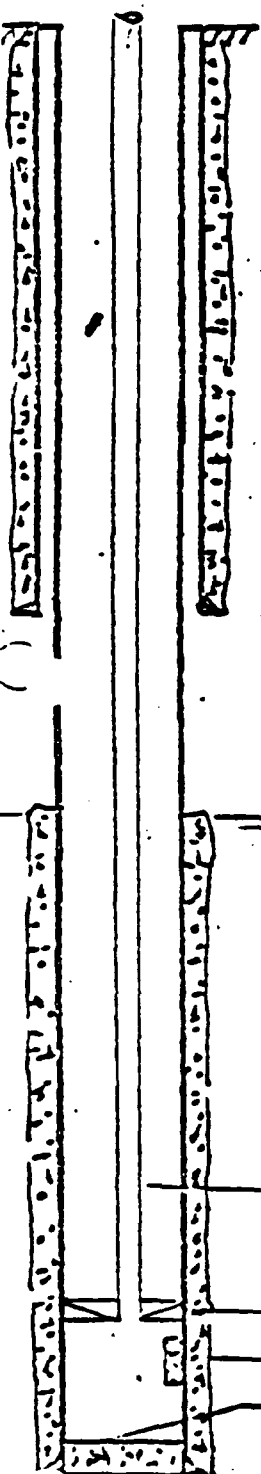
K.B. 4049'

ZERO 14' AGL

660' FSL AND 860' FEL
LEA County, New Mexico



FIELD	Vacuum Abo North	OPERATOR	Mobil Oil Corp	DATE	5-13-76
EASE	North Vacuum Abo Unit	WELL NO	149	LOCATION	J. Sec 27 T17S R34E



8 5/8 " casing set at 1630 ' with 1000 sx of cl. H+gd cement
Hole size 12 1/4 " Cement Circ

Cement Top - 2610' - Temp Surv.

2 3/8" Tubing

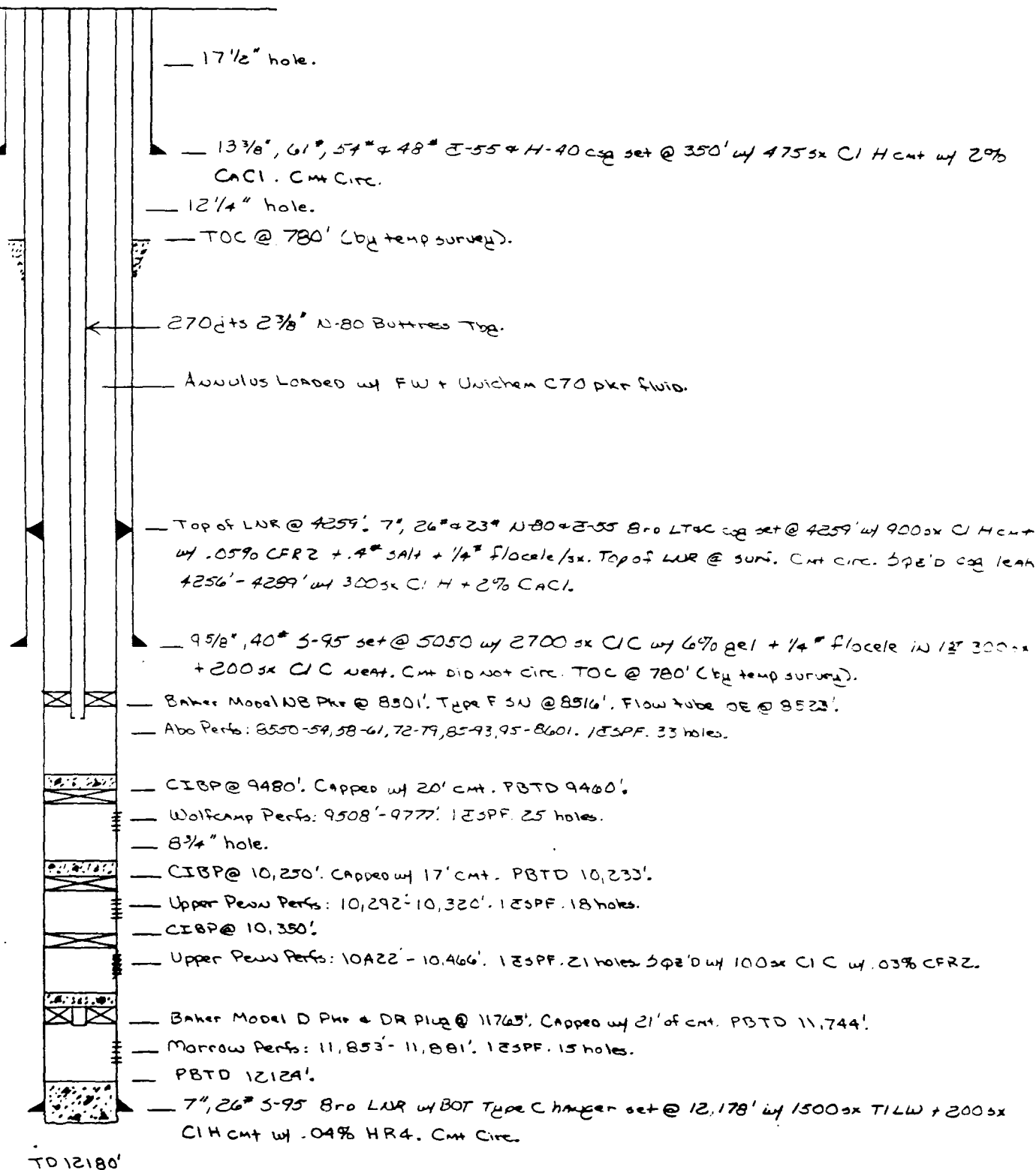
Baker T.A. Catcher - 8561' w/ 12,000 lbs T.

Abo Perf. 8628' - 8673'

PBTD - 8708' 16.5 x 17 1/2" ID 8rd J55.

5 1/2 " casing set at 8750 ' with 3100 sx of TLW cement
Total Depth 8750 ' Hole size 7 7/8 "

G.L. 4030'
D.F. 4042
K.B. 4044'
ZERO 14' AGL

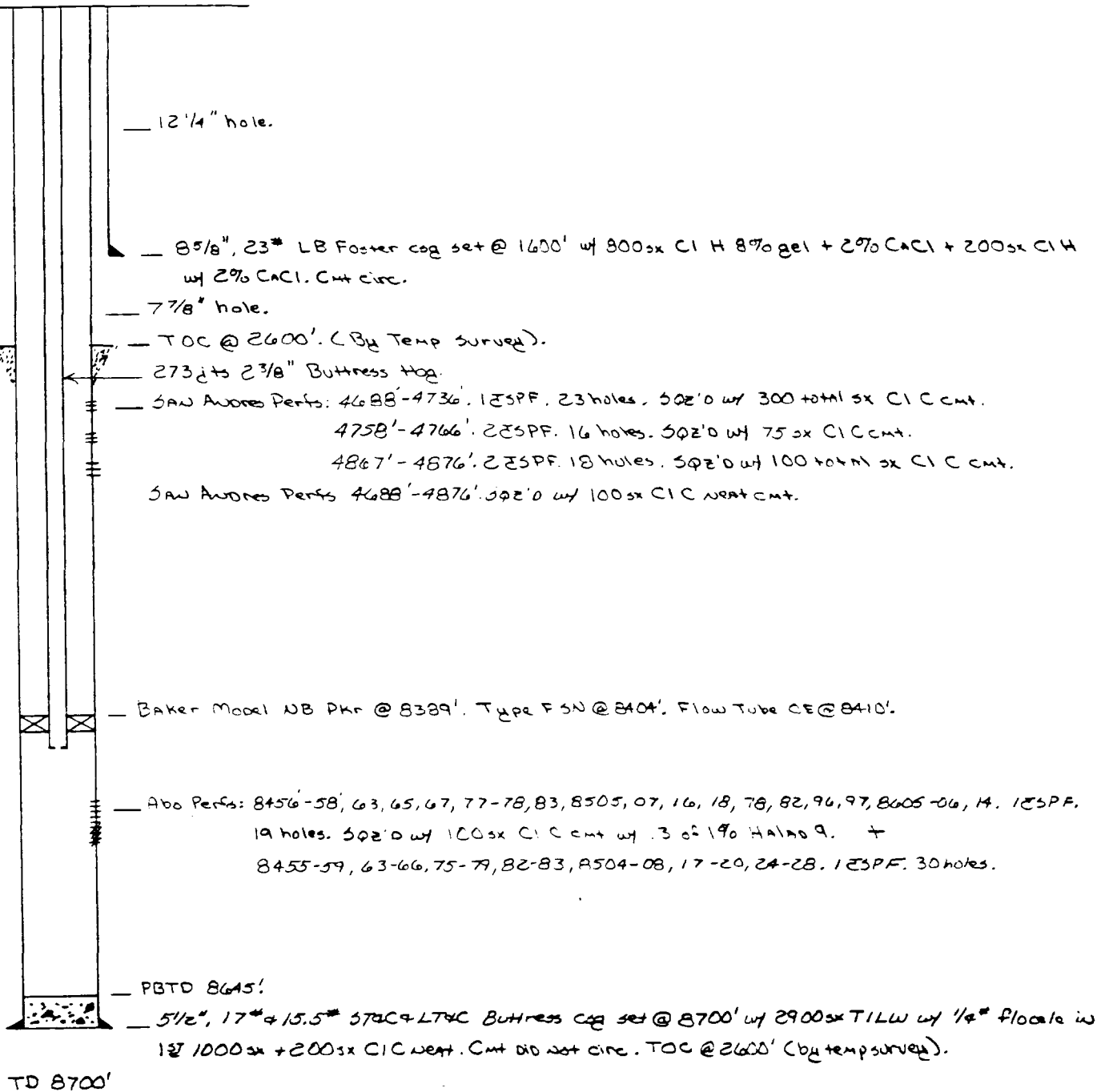


DATE 3-24-83 WELL NO. 153 LEASE No. Vacuum Abu Unit FIELD Vacuum Abu North

LOCATION N-26-173-34 E
660' FSL and 2180' FWL
Lea County, New Mexico

SIGNED M.W. DEER

G.L. 4009'
D.F. 4021'
K.B. 4023'
ZERO 14' AGL

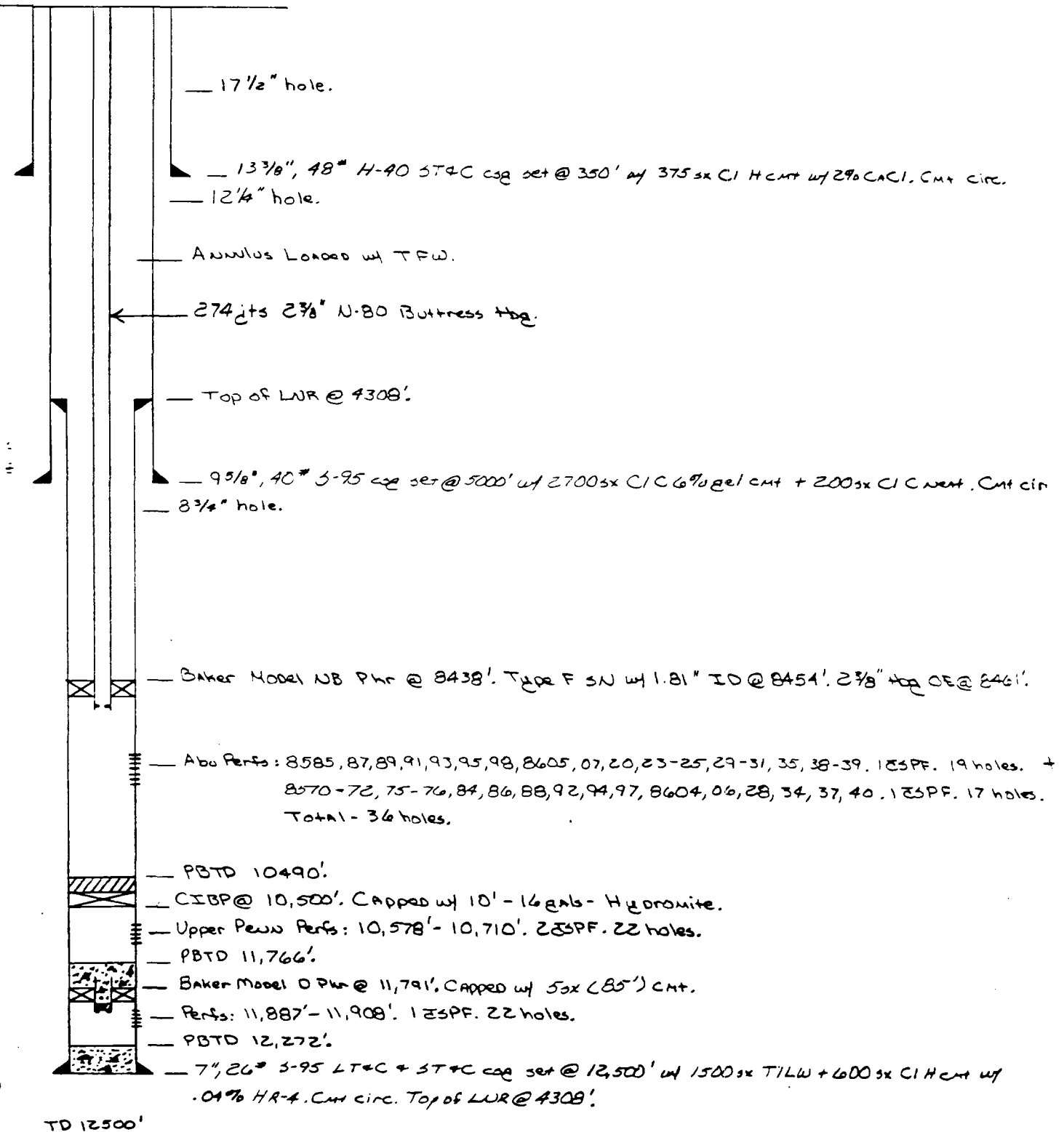


DATE 3-24-82 WELL NO. 157 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION H-27-173-34E
2180' FAL AND 660' FEL
Lea County, New Mexico

SIGNED M. W. DEER

G.L. 4035'
D.F. 4049'
K.B. 4049'
ZERO 14' AGL



DIAGRAMMATIC WELL SKETCH

BRIDGES SANTA FE STATE COM NO. 1

VACUUM (ABO) (PENN) FIELD # 204

LEA COUNTY, NEW MEXICO

GL ELEV. = 4020'
KB ELEV. =

1 3/8" - 48 #/FT H-40 SET W/ 1350 SX
CIRC

370'

LINEAR TOP S&ZD W/ 100 SX.

4,813'

5/8" - 36 #/FT J-55 SET W/ 12400 SX.

4,975'

MIN. BURST PRESS. = 3520

CIRC

ABO PERFORATIONS

8487'-89'; 8513'; 15; 17; 19; 21; 23;
25; 35; 8537' (1 SPINT 11-HOLES)

UPPER PENN PERFORATIONS

10091'-10149' - 13 HOLES

GUIB. ANCHOR CAT. 10137'

2 3/8" TUBING 10152'

10,177' ABTD

7" - 23 #/FT N-80 SET W/ 1090 SX.

MIN. BURST PRESS. = 6340

10,359' T.D

11-13-72

1 EW

FIELD	Vacuum Abo, North	OPERATOR	Mobil Oil Corp	DATE	5-17-76
LEASE	North Vacuum Abo Unit	WELL NO	206	LOCATION	D-See 12, T17S, R35E

3 5/8" casing set at 1795' with 900' sx of C.C.H. cement
Hole size 12 1/4" cement circ.

- 400sx C.C.H. cement + 2% CaCl₂ pumped down 8 5/8" x
5 1/2" annulus to 1850' by tracer survey.

cement top - 2170' - Temp. Survey

RE ID

SEP 1985

G. E. TATE

2 3/8" tubing

Acid Anch. 5529'

Abo Perfs: 8597, 8609, 11, 16, 17, 22, 23, 27, 45, 48, 51, 57,
8658' 2 JSPP 26 holes + 8608'-10', 12, 15'
8621, 24, 28, 30, 44, 46, 47, 49, 50, 53, 56, 59' JSPP
16 holes;
17 and 19.5 WHH 555 ITIC and 5THC

5 1/2" casing set at 8800' with 3100' sx of T.L.W. cement
Total Depth 8800' Hole size 7 7/8"

R.W. Petty
5-12-85

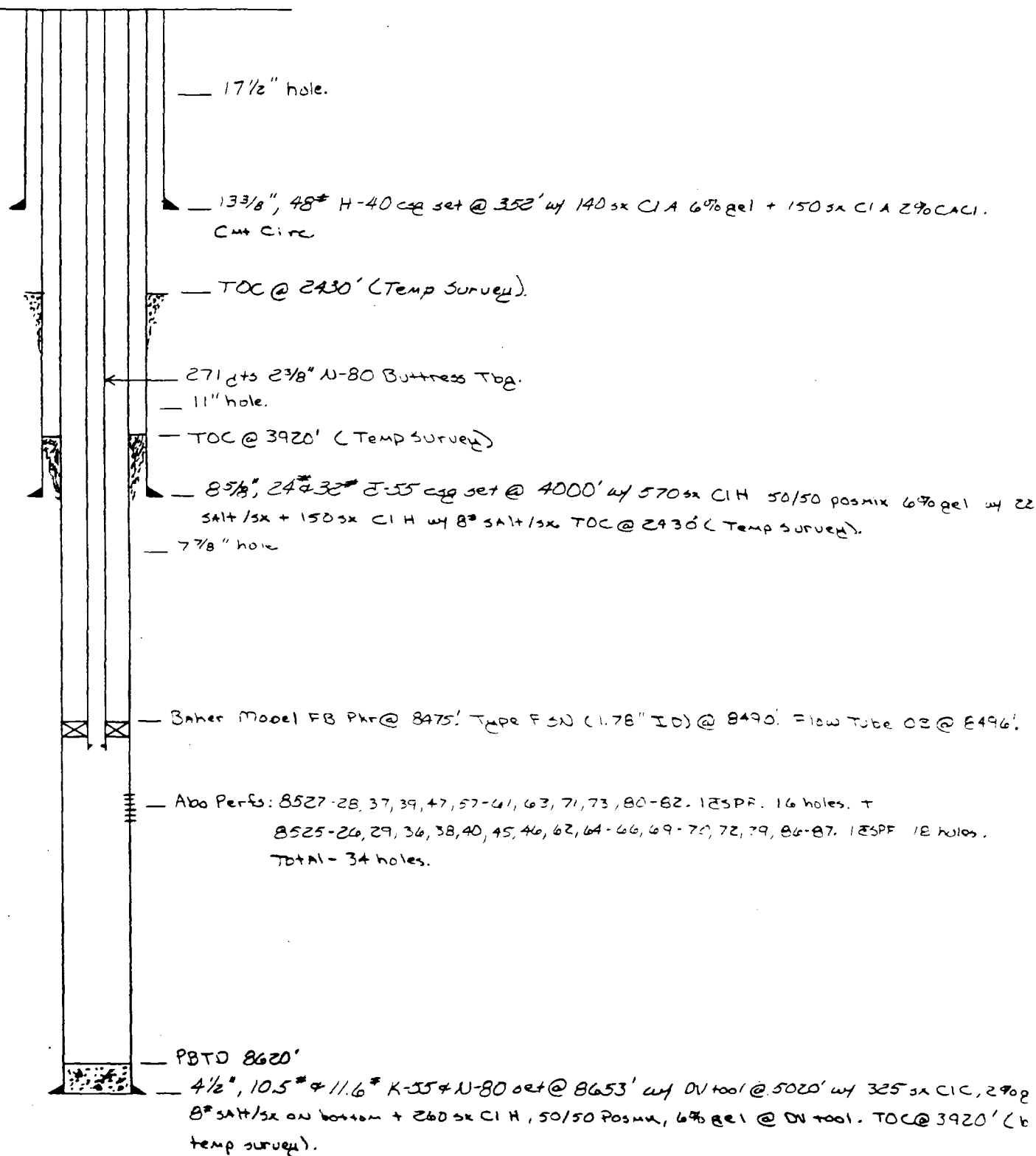
5-17-76

DATE 3-29-83 WELL NO. 207 LEASE No. Vacuum Abn Unit FIELD Vacuum Abn North

LOCATION H-24-175-34E
421' FNL AND 801' FEL
Lea County, New Mexico

SIGNED M. W. DEER

G.L. 4015'
D.F. 4025'
K.B. 4026'
ZERO 11' AGL



TD 8653'

DATE 4-4-83 WELL NO. 208 LEASE No Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION H-22-173-34E

SIGNED M.W. DEER

G.L. 4035'

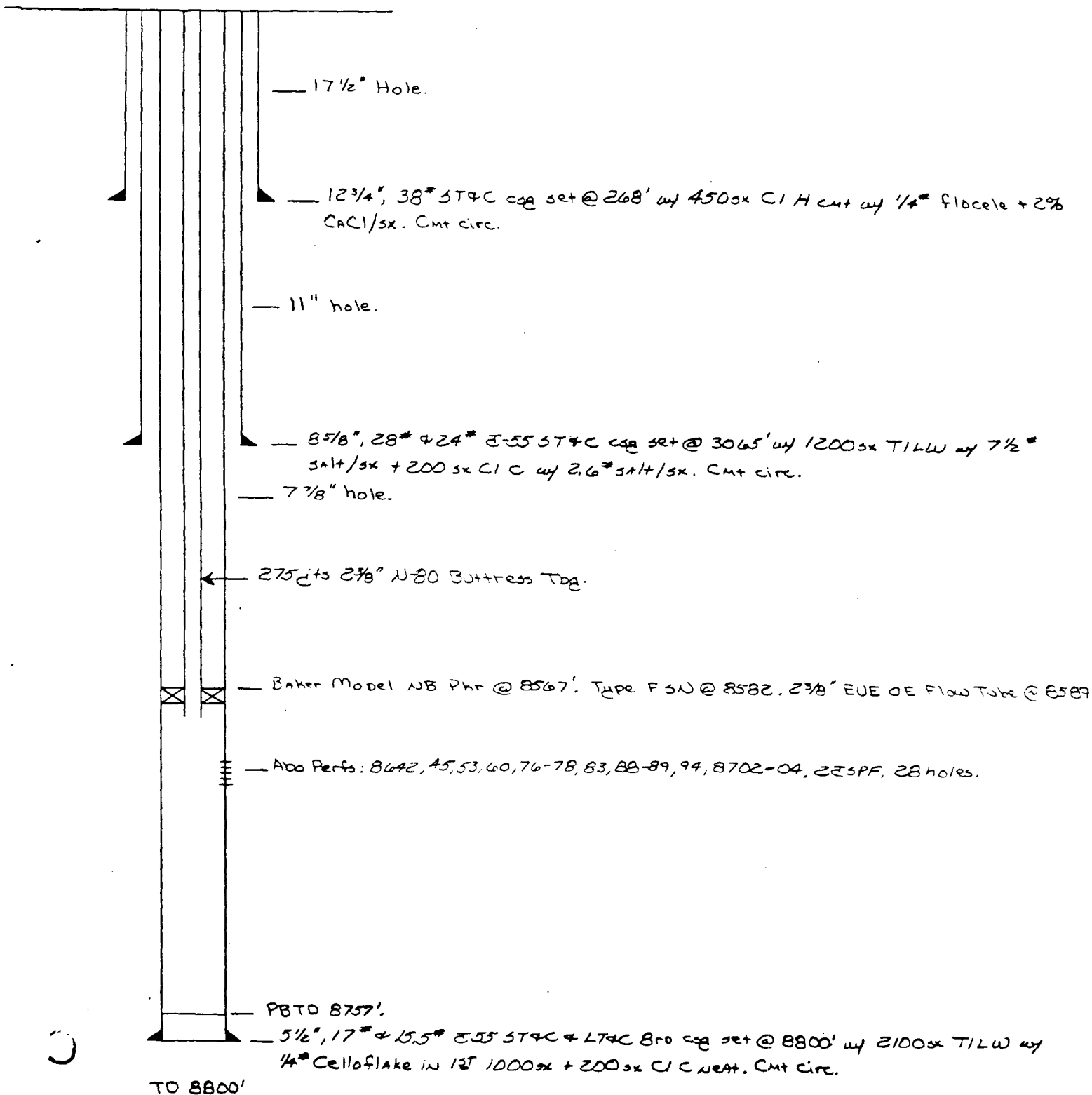
D.F. 4048'

K.B. 4049'

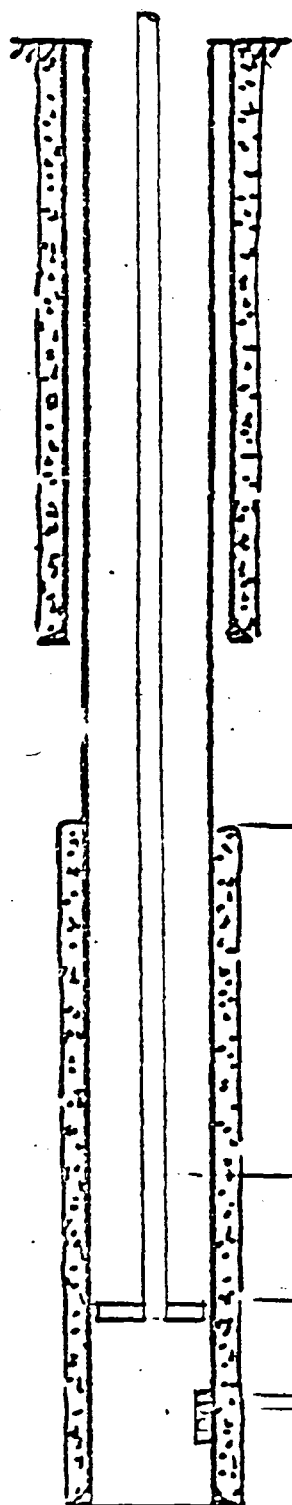
ZERO 14' AGL

1980' FNL AND 860' FEL

Lea County, New Mexico



FIELD	Vacuum Abo North	OPERATOR	Mobil Oil Corp	DATE	5-17-76
LEASE	North Vacuum Abo Unit	WELL NO	209	LOCATION	J - Sec 22, T17S, R34E



8 5/8 " casing set at 1675 ' with 900 sx of CLH + gel cement
Hole size 12 1/4 " cement circ.

Cement Top - 2340' - Temp Survey

2 3/8" tubing

Baker T.A. 8593'

Abo Perf. - 8654' - 8718' (Proposed 8654' - 8720')

5 1/2 " casing set at 8800 ' with 3100 sx of TLU cement
Total Depth 8800 ' Hole size 7 7/8 "

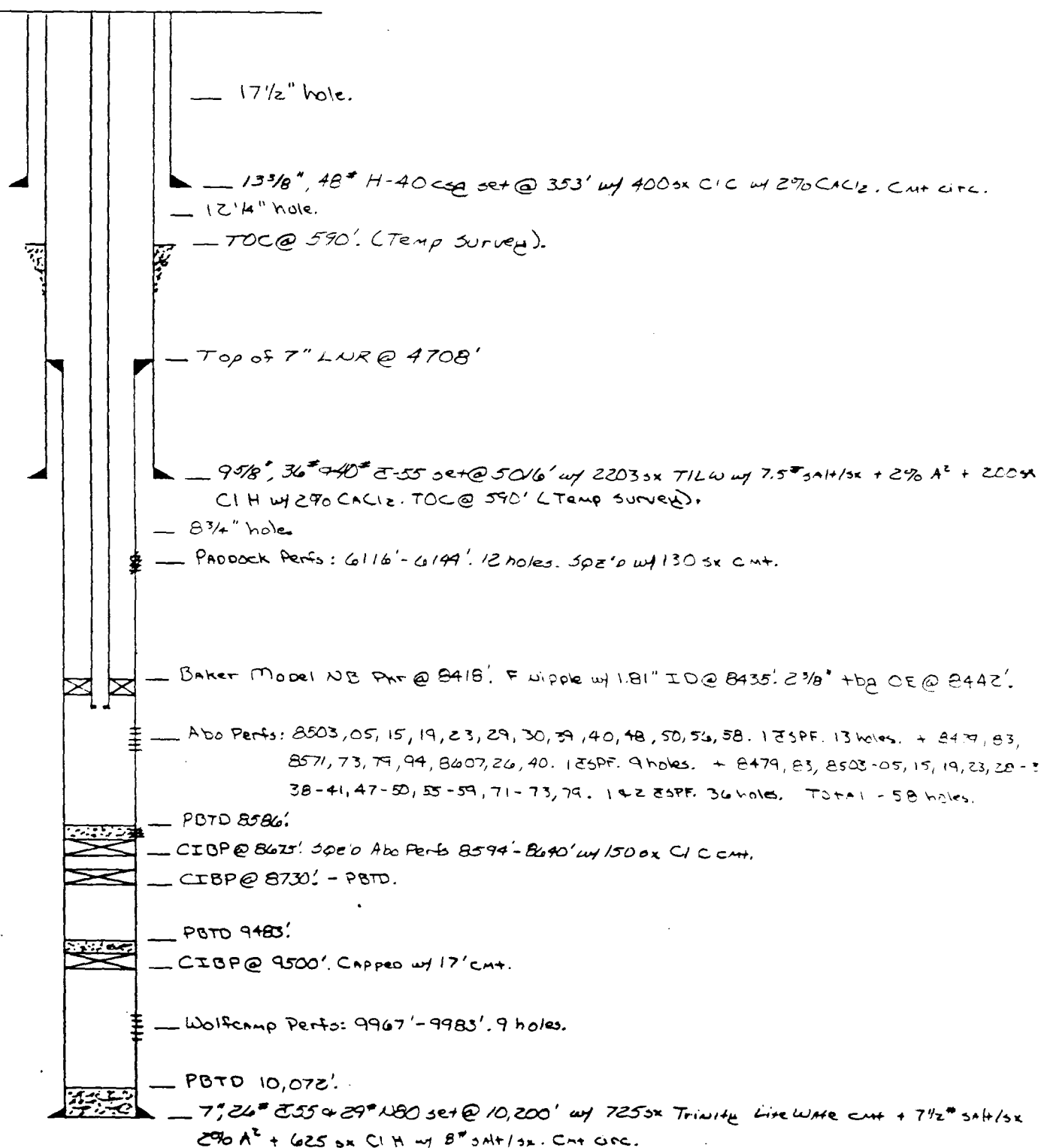
5-17-76
JHS

DATE 4-4-83 WELL NO. 212 LEASE No Vacuum Abo Unit FIELD VACUUM Abo North

LOCATION P-24-175-34E
795' FSL AND 795' FEL
Lea County, New Mexico

SIGNED M.W. DEER

G.L. 3997'
D.F. 4013'
K.B. —
ZERO 16' AGL



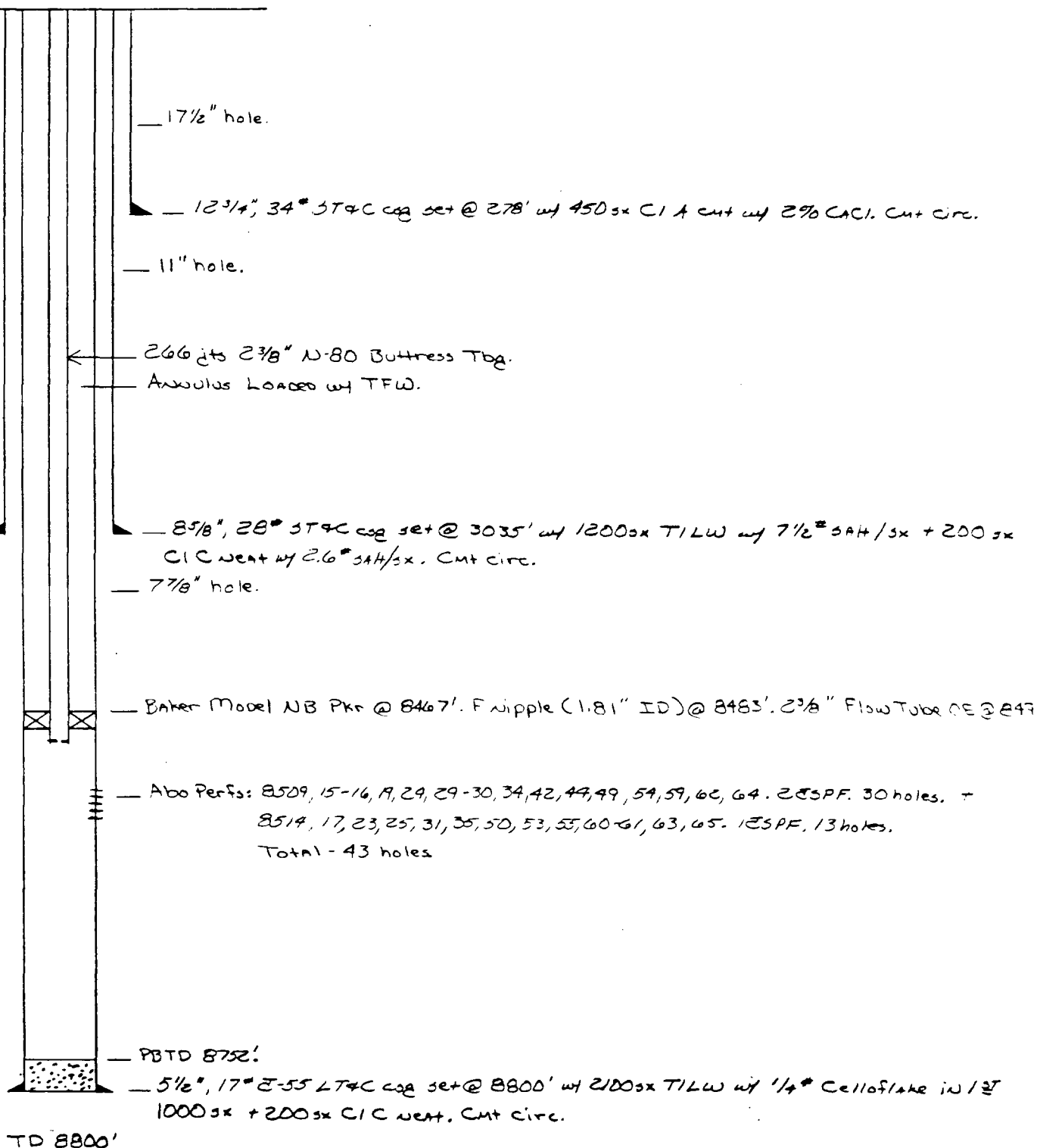
TD 10,200'

DATE 4-4-83 WELL NO. 213 LEASE NO. VACUUM ADD UNIT FIELD VACUUM ADD UNIT

LOCATION 11-23-175-34E
460' FSL AND 1980' FWL
Lea County, New Mexico

SIGNED M.W. DEER

G.L. 4028'
D.F. 4042'
K.B. 4044'
ZERO 16' AGL

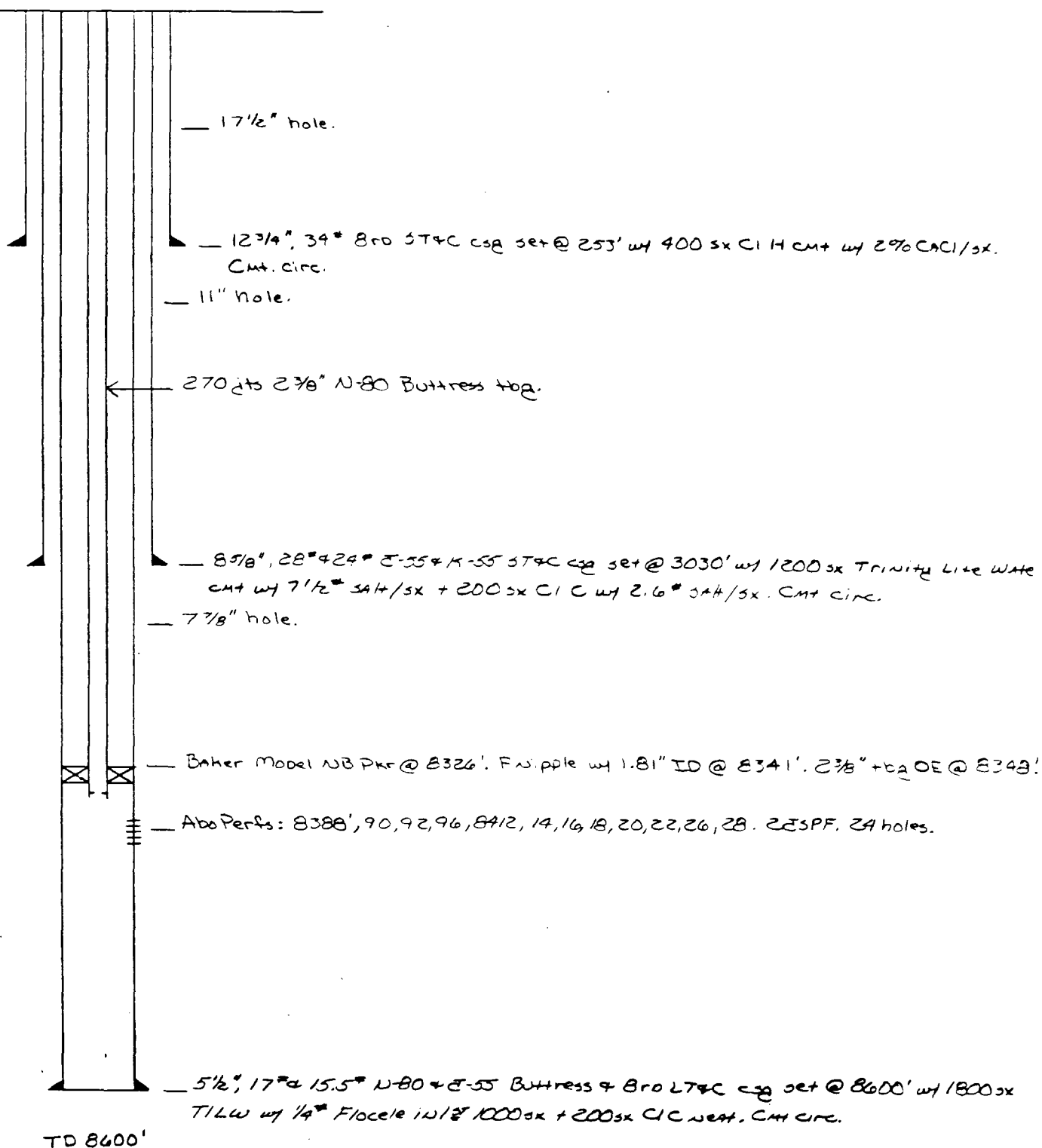


DATE 4-4-83 WELL NO. 218 LEASE No Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION F-25-175-34E
1880' FWL and 1974' FWL
Lea County, New Mexico

SIGNED M.W. DEER

G.L. 4010'
D.F. —
K.B. 4020'
ZERO 10' Agb



DATE 4-4-83 WELL NO. 219 LEASE No Vacuum Abo Unit FIELD Vacuum Abo North

WELL NO. 219

LEASE No Vacuum Abo Unit

FIELD Vacuum 460 North

LOCATION N-13-175-34E

SIGNED M. W. DEER

G.L. 4016'

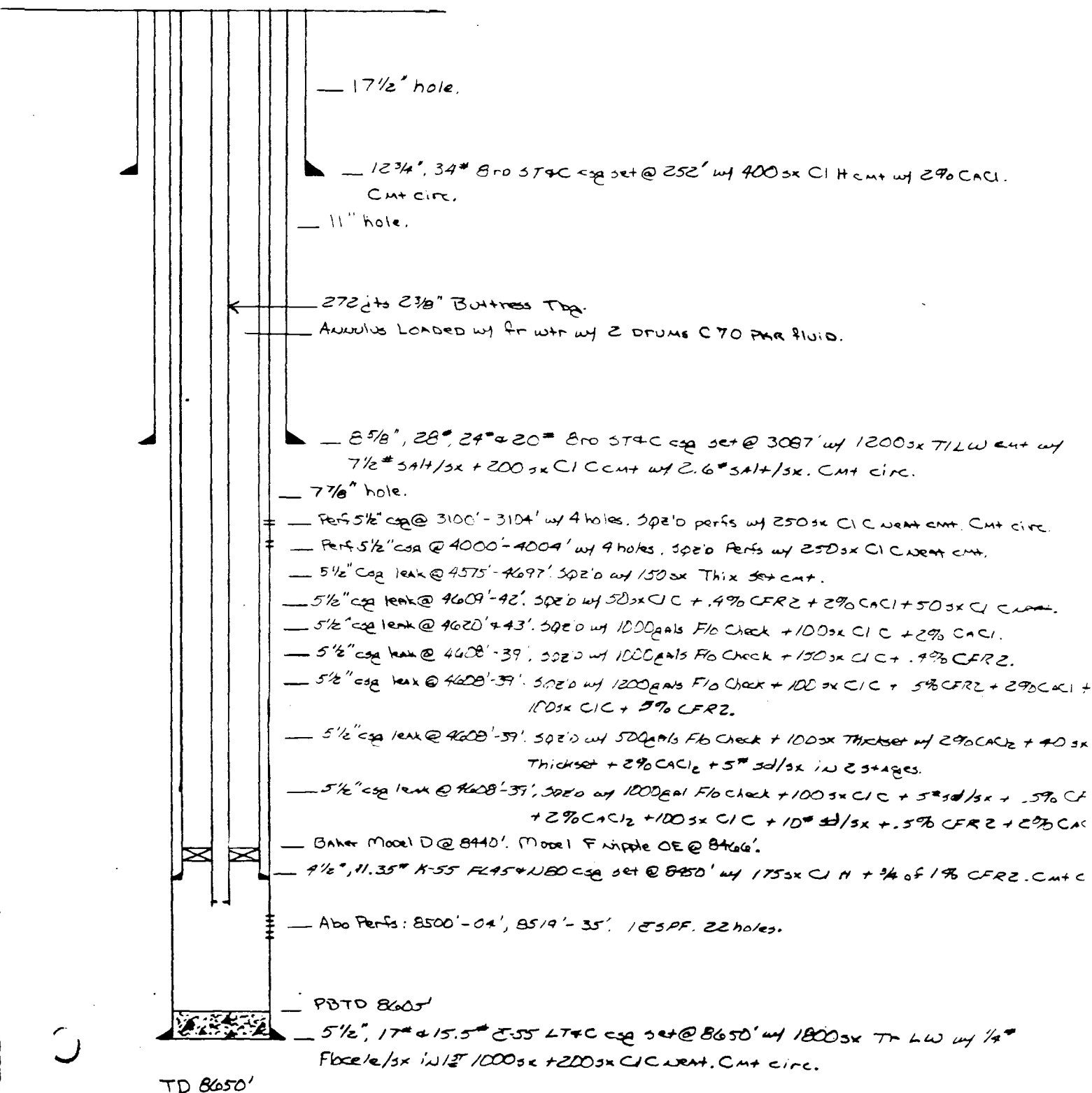
D.F. 4025'

К.В. 4026'

ZERO 10' AGL

1973' FWL AND 1030' FSL

Lea County, New Mexico

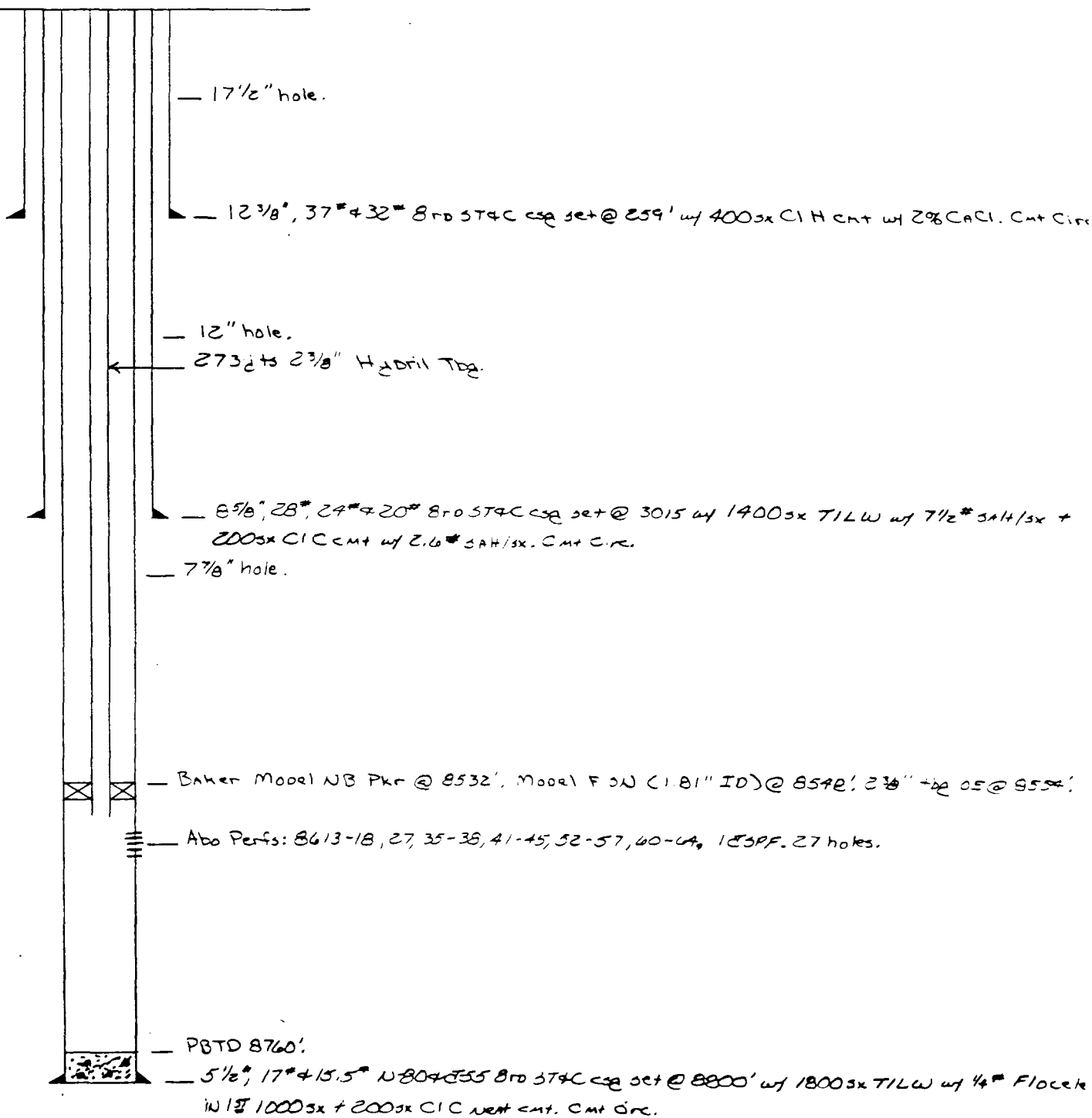


DATE 4-4-83 WELL NO. 220 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION P-22-175-34E
660' FSL AND 860' FEL
Lea County, New Mexico

SIGNED M. W. DEER

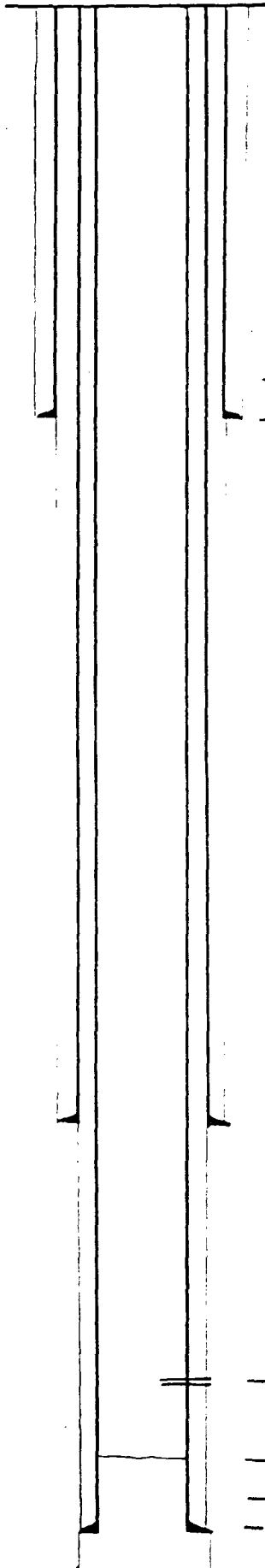
G.L. 4035'
D.F. —
K.B. 4044'
ZERO 9' AGL



DATE 7-16-85 WELL NO. 222 LEASE NVAU FIELD N VACUUM

LOCATION 2100' FSL 660' FEL, Sec 24, T-17-S, R-34-E SIGNED M.E. VASICER
LEA CO N.M.

G.L. _____
D.F. _____
K.B. _____
ZERO _____



— 17 1/2" HOLE
— 250' 12 3/4" 34# H40 CSG SET W/ 400 S₂ CMT CIRC

— 12 1/4" HOLE
— 3072' 8 5/8" 20# 24# 28# CSG SET W/ 1765 S₂ CMT CIRC

— 860 PERFS 8511-518, 530-534, 539-540, 549-558, 562-564, 568-576
W/ 1 JSPP (38 HOLES)

— 8619' 7BTD

— 7 7/8" HOLE

— 8650' 5 1/2" 15.5# + 17# K55 CSG SET W/ 1600 S₂ CMT CIRC

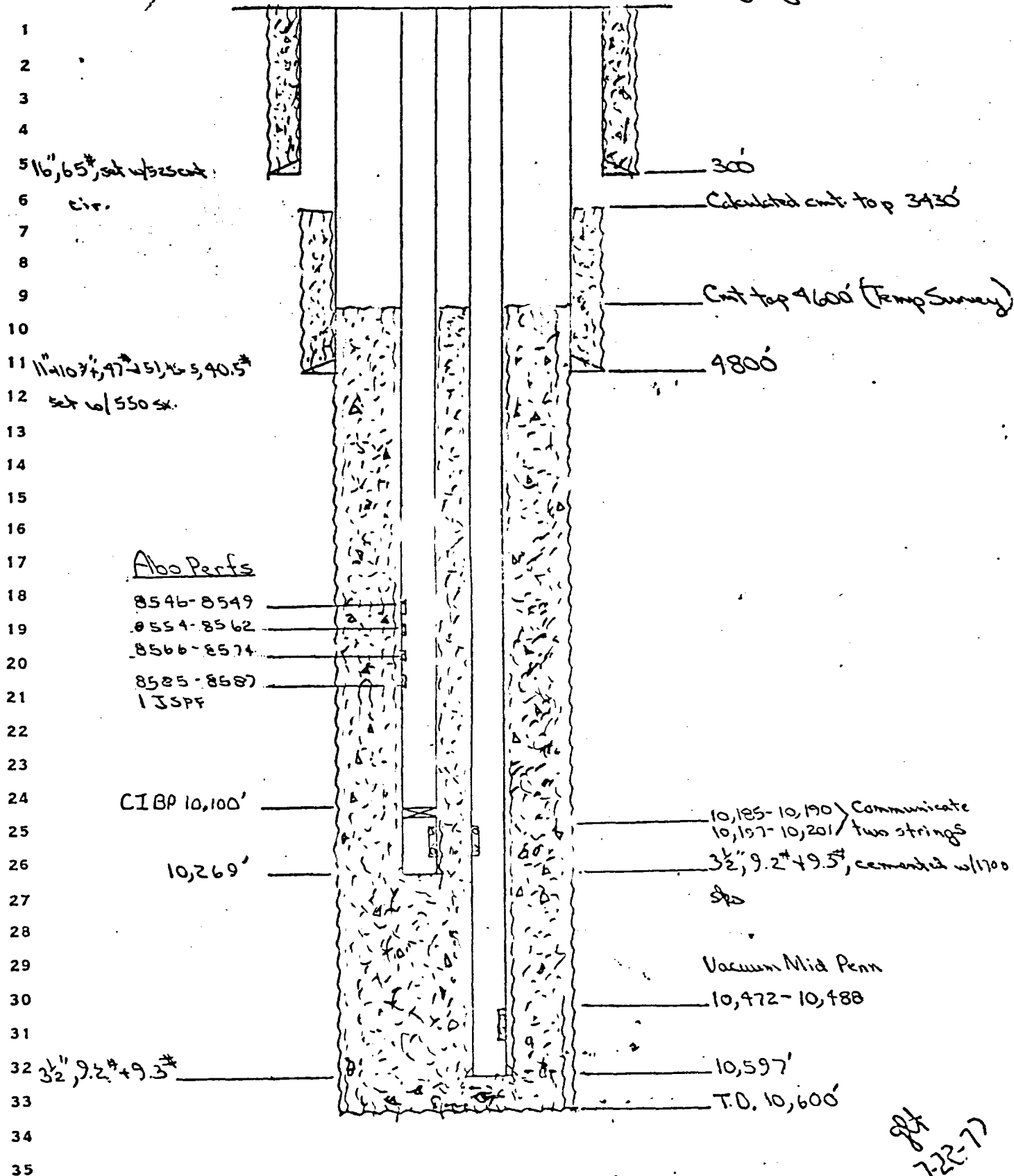
— 8660' TD

CALCULATION AND DATA SHEET

50 7-22-77

UNIT North Vac in Abo
 FOR North Vacuum Abo
 LOCATION J-13-11-S34-E, Lea County, New Mex
 SUBJECT North Vacuum Abo Unit # 230

FILE NO. _____
 JOB OR AUTH. NO. _____
 PAGE _____
 DATE 7-22-77
 BY aguy timlinson



DATE 4-4-83 WELL NO. 231 LEASE No. Vacuum Abu Unit FIELD Vacuum Abu North

LOCATION P-13-175-34E

SIGNED M. W. DEER

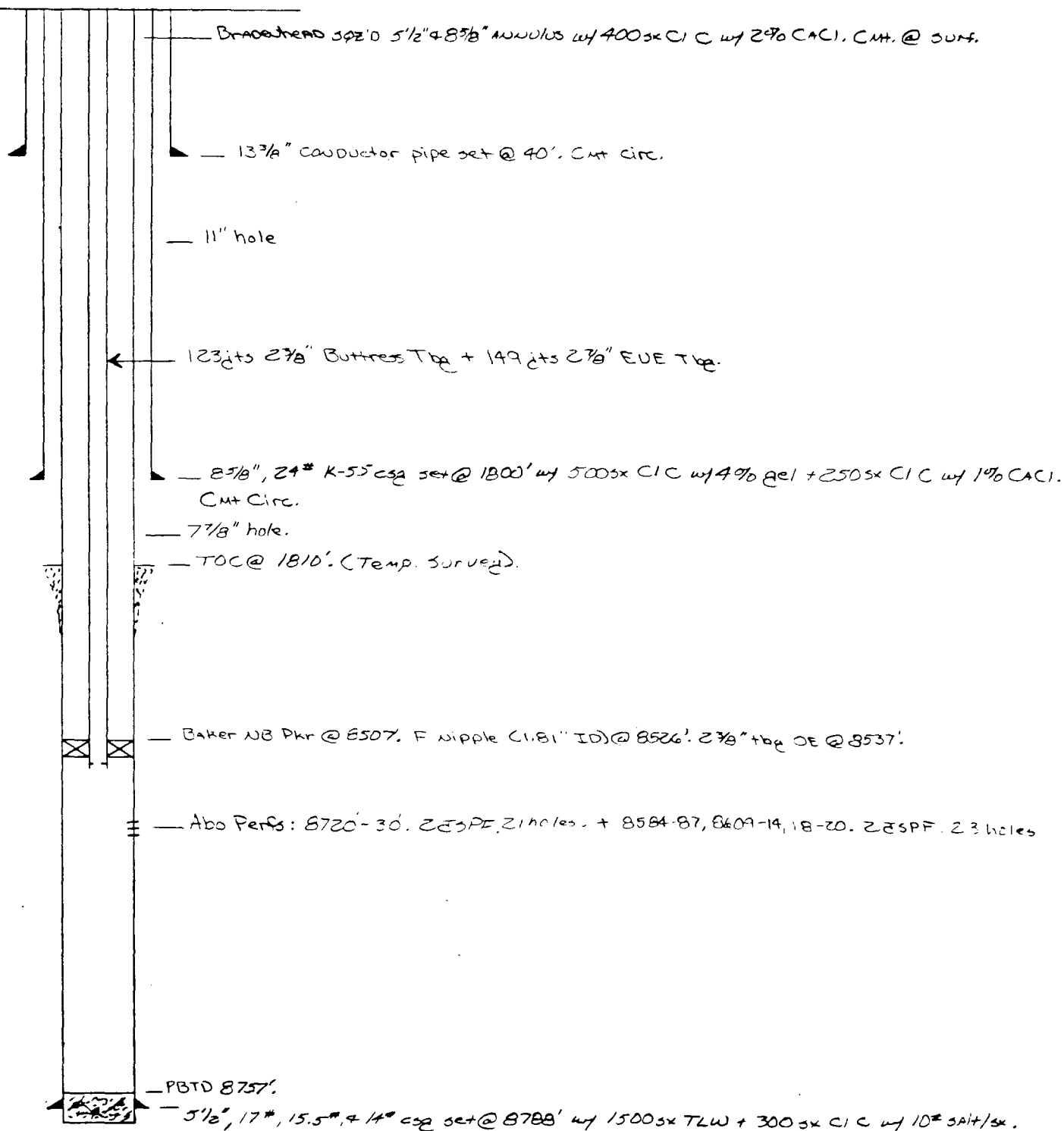
G.L. 4005'

D.F. 4015'

K.B. 4016'

ZERO 13.6' Above Csg Head
Flange.

660' FSL AND 660' FEL
Lea County, New Mexico



TD 8800'

DATE 3-23-84 WELL NO. 234 LEASE No. Vacuum Abo Unit FIELD VACUUM Abo North

LOCATION I-23-175-34E
545' FEL + 1980' FSL
Lea County, New Mexico

SIGNED MW DEER

G.L. 4024'
D.F. 4035'
K.B. 4036'
ZERO 12' AGL

— 17 1/2" hole.

— 13 3/8" 48" H40 ST+C csg set @ 400' w/ 400 sx CIC w/ 290 CaCl₂ + 1/4" FC/sx.
Cmt Circ.

— 12 1/4" hole.

— TOL @ 4174'.

— 8 5/8", 32" 580 ST+C csg (13 jts) + 8 5/8", 32" 255 ST+C csg (22 jts) + 8 5/8", 32" K55 ST+C (88 jts) set @ 5000' w/ 3900 sx CIC w/ 7% gel + 15" salt/sx + 5" Ellisonite/sx + 1/4" F + 200 sx CIC w/ 290 CaCl₂ + 1/4" FC/sx. Did not circ. TOL by TS @ 1635'. Circ cmt + surf behind 8 5/8" csg w/ 1" w/ 1000 sx CIC went cmt.

— 7 7/8" hole.

← 31' x 2 7/8" OPMA (8639-8670) + 2 7/8" x 4' + bg perf (8635-8639) + 5N (8634) + 10 jts 2 7/8" 255 + bg + 5 1/2" x 2 7/8" Guide TAC (8317-14,000" T) + 275 jts 2 7/8" 255 + bg

— Abo Perfs: 8576, 79, 90-94, 99-8602, 04-06, 08-10, 19-22, 1E5PF, 23 holes. +
8470-72, 79-81, 84-88, 96-8505, 10-13, 19-21, 23-27, 1E5PF. 33 holes.
Total—56 holes.

— PBTD 8680'.

TD 8700'

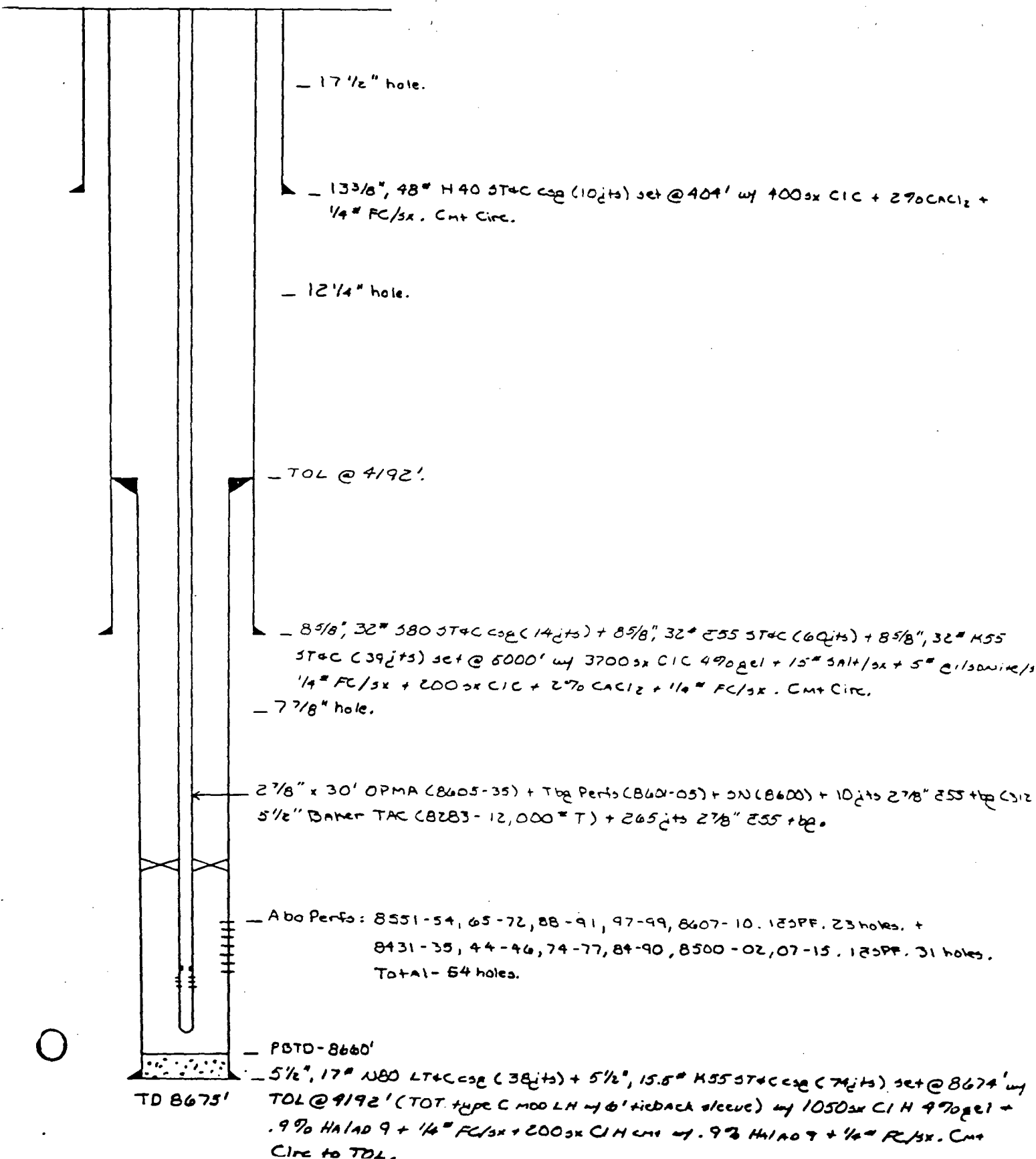
— 5 1/2", 17" N80 LT+C csg (38 jts) + 5 1/2", 15.5" K55 ST+C csg (66 jts) set w/ BOT MOD LH w/ 6' tieback sleeve (TOL @ 4174') w/ 1125 sx CI H 490 gel w/ .3 of 1% HALAO9 + 1/4" FC/sx + 200 sx CI H cmt w/ .3 of 1% HALAO9 + 1/4" FC/sx. Cmt Circ to TOL

DATE 3-23-84 WELL NO. 235 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION K-24-175-34E
2000' FWL + 1880' ESL
Lea County, New Mexico

SIGNED MWD DEER

G.L. —
D.F. —
K.B. —
ZERO 12' AGL

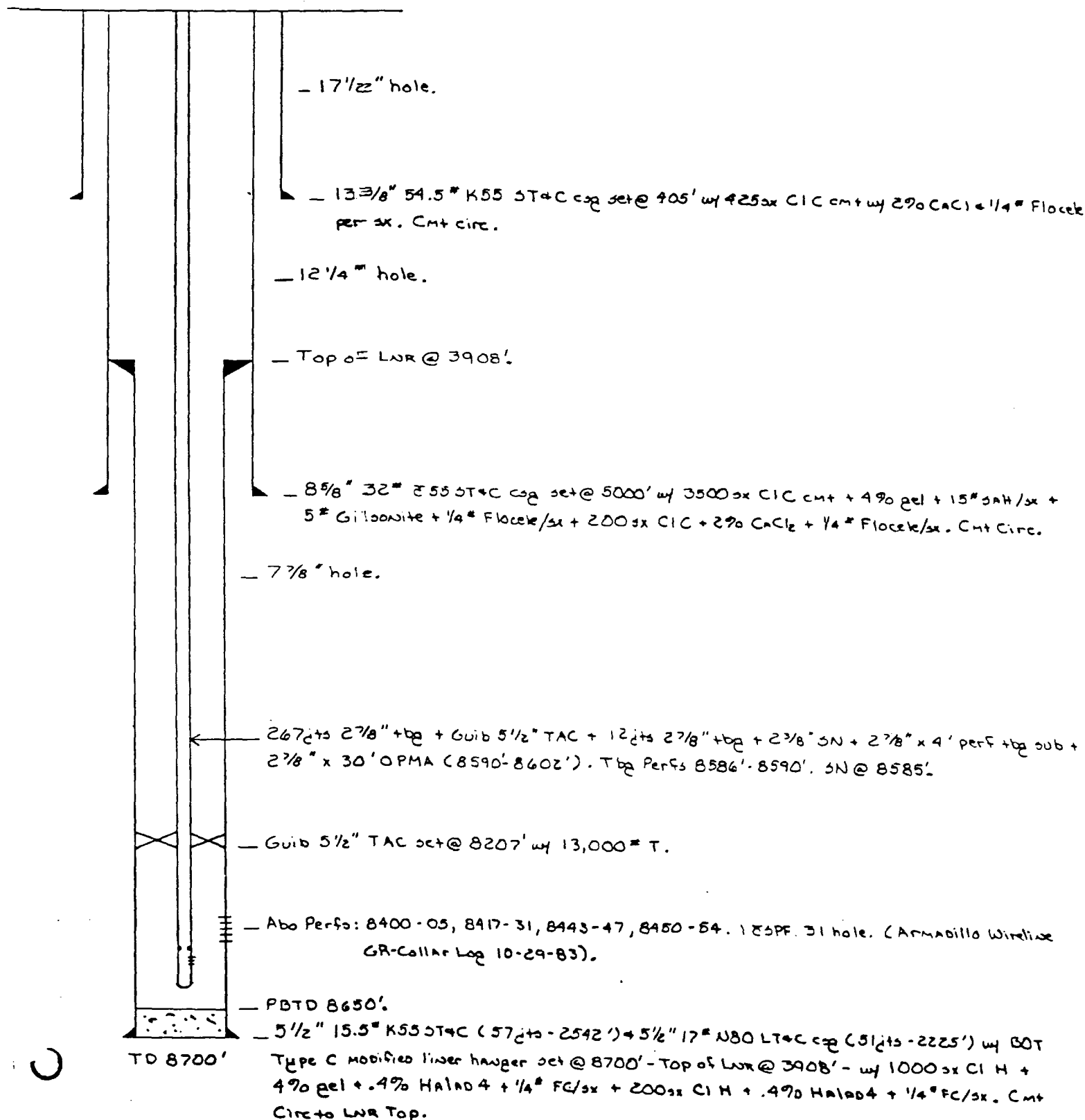


DATE 3-23-84 WELL NO. 236 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION C-25-T175-B34FE
460' FNL + 1980' FWL
Lea Co., New Mexico

SIGNED MWD DEER

G.L. 4000'
D.F. 4012'
K.B. 4013'
ZERO 13' AGL

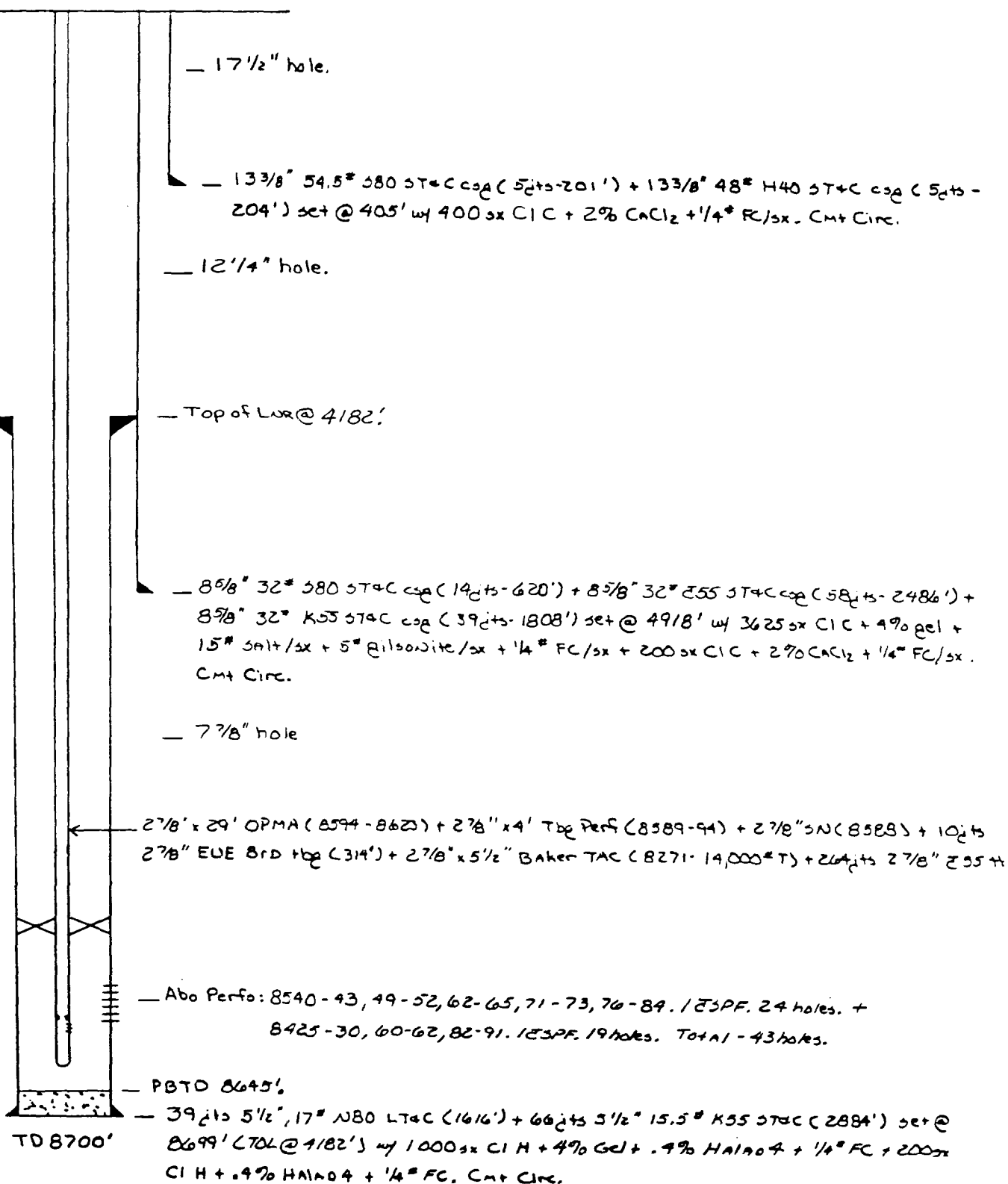


DATE 3-23-84 WELL NO. 237 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION A-26-T175-B34E
530' FNL + 660' FEL
Lea Co., New Mexico

SIGNED MWD DEER

G.L. 4026'
D.F. 4035'
K.B. 4036'
ZERO 10' AGL

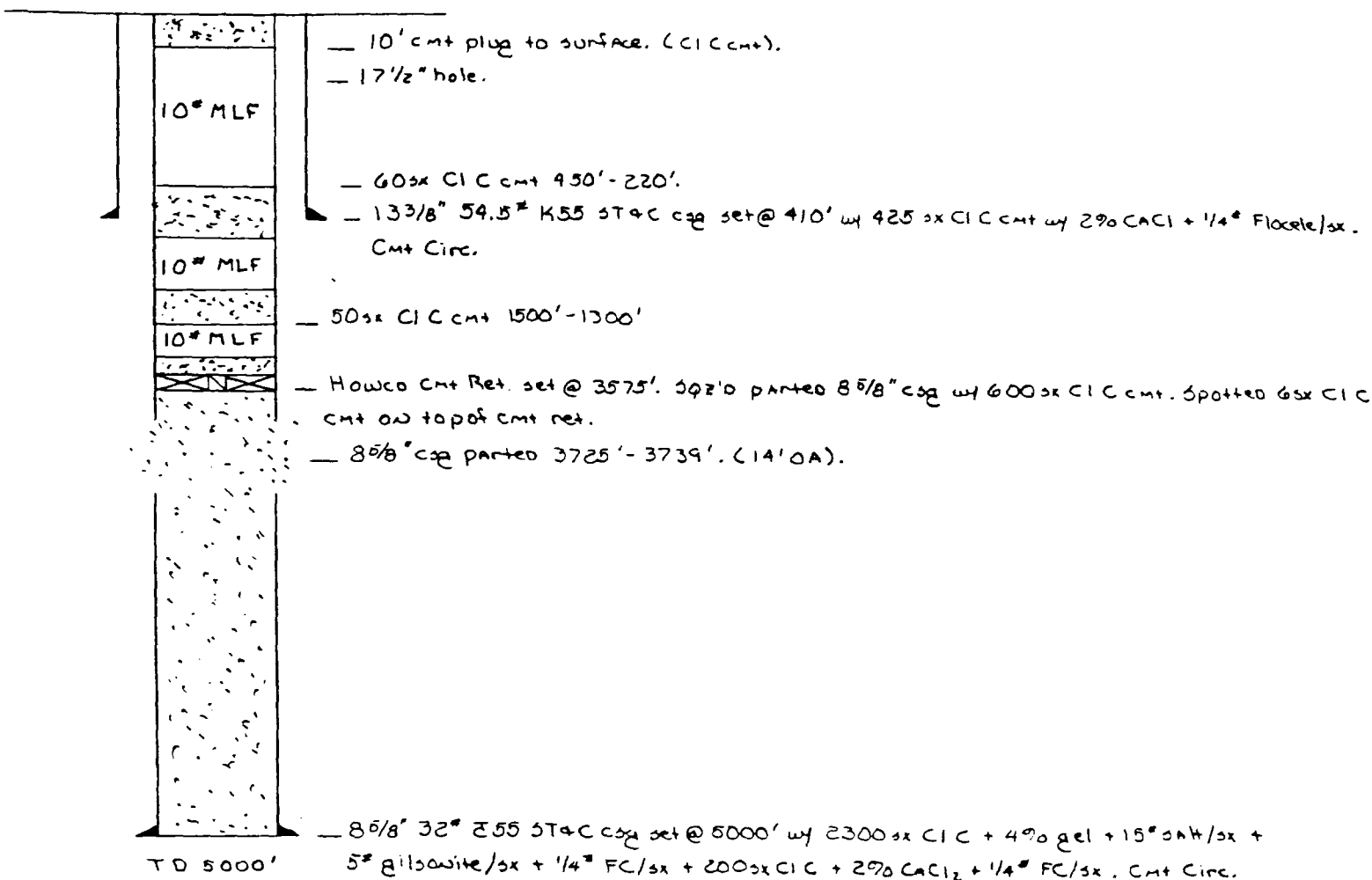


DATE 3-23-84 WELL NO. 238 LEASE No. Vacuum Abo Unit FIELD Vacuum Abo North

LOCATION N-24-T175-R34E
780' FWL & 660' FSL
Lea Co., New Mexico

SIGNED MLW DEER

G.L. N/A
D.F. N/A
K.B. N/A
ZERO N/A

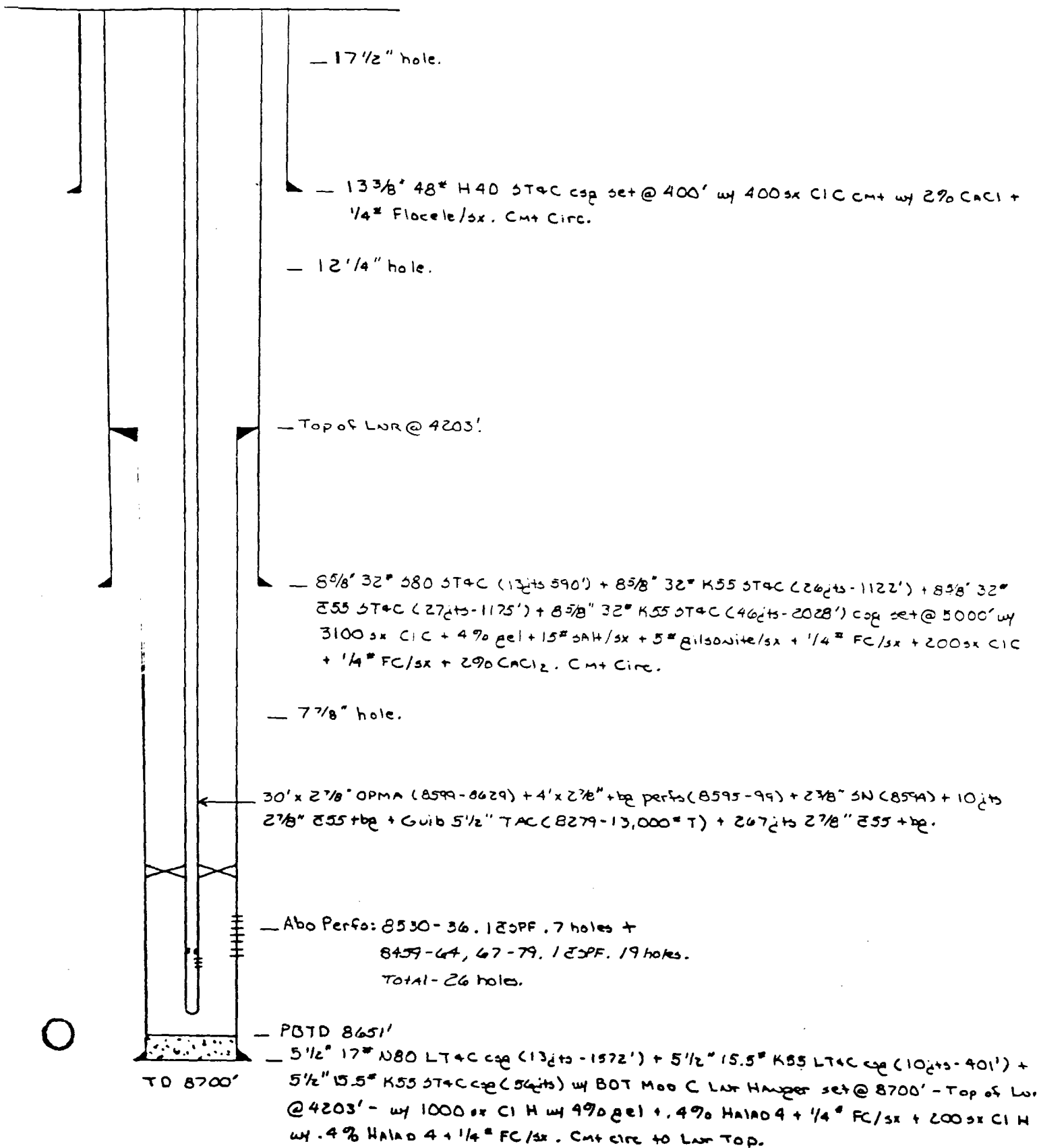


DATE 3-1-23-84 WELL NO. 238-A LEASE No. VACUUM Abo Unit FIELD VACUUM Abo North

LOCATION: ON M-24-T175-R34E
780' FWL + 643' FSL
Lea Co., New Mexico

SIGNED M. J. DEER

G.L. 4000'
D.F. 4009'
K.B. 4010'
ZERO 10' AGL



DATE 11-27-84 WELL NO. 239 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North

LOCATION 1992' FNL & 810' FWL
Sec 25, T17S, R34E
Lea County, New Mexico

SIGNED R. W. Petty

G.L. 4000' EST
D.F. 4014' EST
K.B. 4015' EST
ZERO 15' AGL

— 17 1/2" hole

— 13 3/8", 48#, H40, STFC set @ 400 w/400 SK Cl. C cmt,
2% CaCl₂, 1/4 #/sk FC. Circ 100 SK cmt.

— 12 1/4" hole

— TOL @ 4180'

— 8 5/8", 32#, S80# K55, STFC set @ 5000' w/3200 SK Cl. C cmt,
4% gel, 15 #/sk Salt, 5 #/sk gilsonite; 1/4 #/sk FC + 300 SK Cl. C cmt,
2% CaCl₂ + 1/4 #/sk FC. Circ 33 SK cmt.

— 7 7/8" hole

— 2 7/8" tbg: OPMA @ 8575' + 4' perf sub + 2 7/8 SN
TAC @ 8320' set w/14,000# Ten.

— Abo Perfs: 8374'-76', 90'-92', 8425'-29, 34'-41', 45'-50', 52'-56', 80'-83',
86'-90', 8502'-05', 08'-10', 12'-14'. 1 TSPF. 49 holes.

— 5 1/2", 17# & 15.5# K55, STFC set @ 8699' w/700 SK Cl. H cmt, 4% gel,
PBTD 8650' .3% HA9, 1/4 #/sk FC + 300 SK Cl. H cmt, .3% HA9, 1/4 #/sk FC.
TD 8700'

DATE 11-27-84 WELL NO. 240 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North
LOCATION 2131' FSL 665' FEL SIGNED R.W. Petty G.L. 4022'
Sec 26, T17S, R34E D.F. NA
Lea County, New Mexico K.B. 4039'
ZERO 17' AGL

— 17½" hole

— 13⅜", 48[#], H40, STFC set @ 427' w/ 400 sk Cl. C cmt,
2% CaCl₂, ¼[#]/sk FC. Circ 75 sk cmt.

— 12¼" hole

— TOL @ 4190'

— 8⅝", 32[#], S80' K55, STFC set @ 5000' w/ 2800 sk Cl. C cmt,
4% gel, 15[#]/sk Salt, 5[#]/sk gilsonite; ¼[#]/sk FC + 300 sk Cl. C cmt,
2% CaCl₂ + ¼[#]/sk FC. Circ 300 sk cmt.

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8609' + 4' perf sub + 2⅞" SN + 2⅞" SN
TAC @ 8265' set w/ 12,000[#] Ten.

— Abo Perfs: 8509'-11', 26'-31', 34'-37', 62'-64'. 1JS PF. 16 holes.

8387'-90', 8404'-09', 14'-18', 26'-29', 56'-59'. 1JS PF 23 holes.

— 5½", 17[#] / 15.5[#], K55, STFC set @ 8699 w/ 750 sk Cl. H cmt, 4% gel,
PB TD 8691' .3% HA9, ¼[#]/sk FC + 300 sk Cl. H cmt, .3% HA9, ¼[#]/sk FC
TD 8700'

DATE 11-27-84 WELL NO. 241 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North
 LOCATION 1882' FSL & 2001' FWL SIGNED R. W. Petty G.L. 4025'
Sec 26, T17S, R34E D.F. 4039'
Lea County, New Mexico K.B. 4040'
ZERO 15' AGL

— 17½" hole

— 13⅜", 48[#], H40, STFC set @ 400' w/400 sk C.I.C cmt,
 2% CaCl₂, ¼[#]/sk FC. Circ 70 sk cmt.

— 12¼" hole

— TOL @ 4197'

— 8⅝", 32[#], S80[#] K55, STFC set @ 5000' w/3000 sk C.I.C cmt,
 4% gel, 15[#]/sk Salt, 5[#]/sk gilsonite; ¼[#]/sk FC + 300 sk C.I.C cmt,
 2% CaCl₂ + ¼[#]/sk FC. Circ 250 sk cmt.

— 7⅞" hole

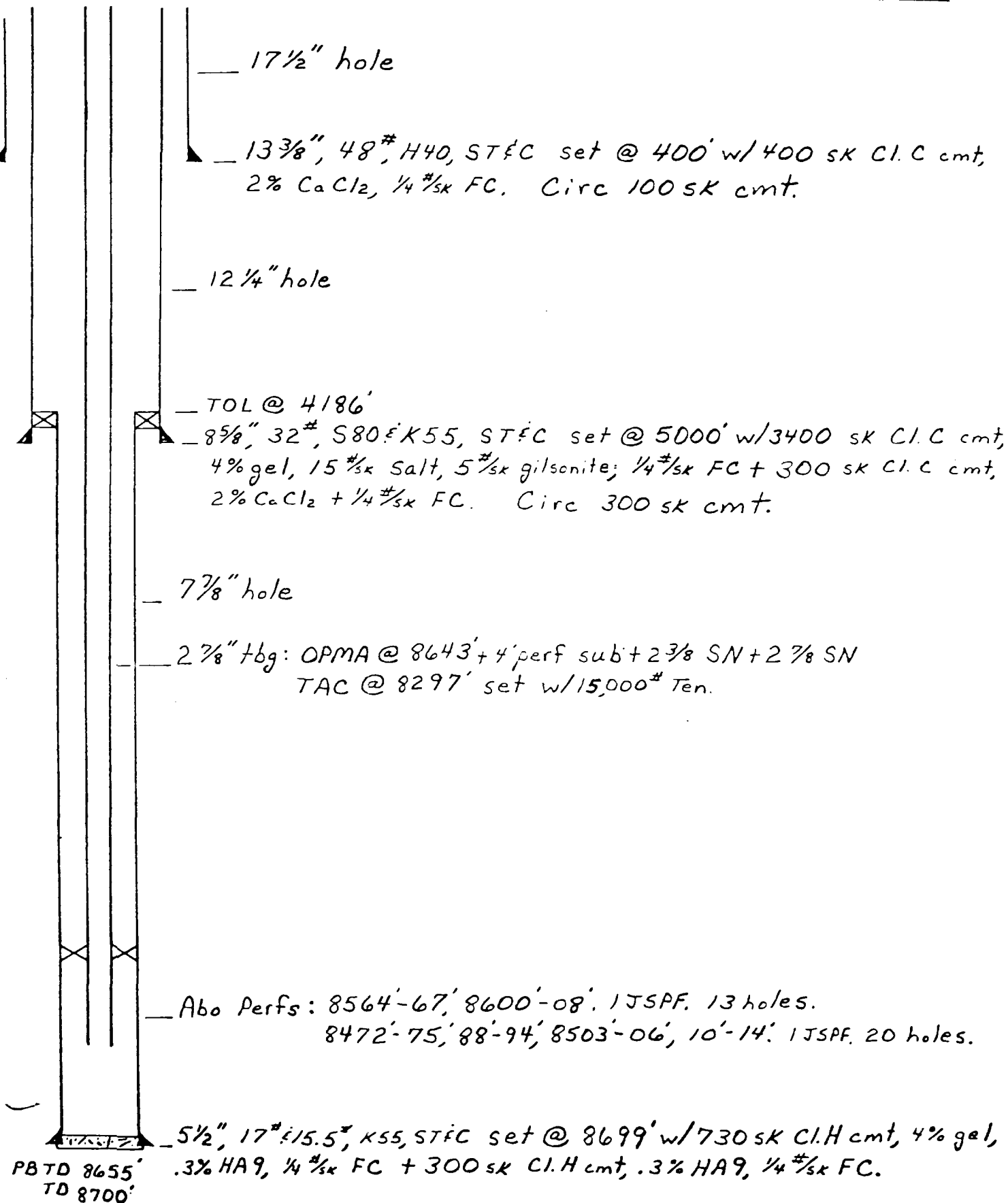
— 2⅞" tbg: OPMA @ 8695' + 4' perf sub + 2⅞" SN + 2⅞" SN
 TAC @ 8371 set w/15,000[#] Ten.

— Abo Perfs: 8609'-26', 61-66. 1 JS PF. 24 holes.

8494'-99', 8506'-11', 25'-41'. 1 JS PF. 29 holes.

— 5½", 17[#] 15.5[#], K55, STFC set @ 8699' w/750 sk C.I.H cmt, 4% gel,
 .3% HA9, ¼[#]/sk FC + 300 sk C.I.H cmt, .3% HA9, ¼[#]/sk FC
 PB TD 8695'
 TD 8700'

DATE 11-27-84 WELL NO. 242 LEASE North Vacuum Field Vacuum Abo
Abo Unit North
 LOCATION 1809' FNL & 1890' FEL SIGNED R.W. Petty G.L. 4019'
Sec. 26, T17S, R34E D.F. NA
Lea County, New Mexico K.B. NA
ZERO 16' AGL



DATE 11-27-84 WELL NO. 243 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North

LOCATION 1839'FWL & 657'FNL SIGNED R. W. Petty
Sec. 26, T17S, R34E
Lea County, New Mexico

G.L. 4000'EST
D.F. 4016'EST
K.B. 4017'EST
ZERO 17'AGL

— 17½" hole

— 13⅜", 48#, H40, STFC set @ 400' w/400 sk Cl. C cmt,
2% CaCl₂, ¼#_{sk} FC. Circ 100 sk cmt.

— 12¼" hole

— TOL @ 4153'

— 8⅝", 32#, S80#K55, STFC set @ 5000' w/2300 sk Cl. C cmt,
4% gel, 15#_{sk} Salt, 5#_{sk} gilsonite; ¼#_{sk} FC + 300 sk Cl. C cmt,
2% CaCl₂ + ¼#_{sk} FC. Circ 375 sk cmt.

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8692' + 4' perf sub + 2⅞" SN + 2⅞" SN
TAC @ 8367' set w/12,000# Ten.

— Abo Perfs: 8622'-25', 46'-50', 68'-72'. 1 JS PF. 14 holes
8494'-8508', 8524'-28', 31'-37', 50'-52', 54'-57', 59'-66'
8574'-76'. 1 JS PF. 45 holes.

— 5½", 17# & 15.5# K55, STFC set @ 8699' w/625 sk Cl. H cmt, 4% gel,
PBTD 8695' .3% HA9, ¼#_{sk} FC + 300 sk Cl. H cmt, .3% HA9, ¼#_{sk} FC.
TD 8700'

DATE 11-27-84 WELL NO. 244 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North

LOCATION 1859' FEL & 589' FSL
Sec. 23, T17S, R34E
Lea County, New Mexico

SIGNED R. W. Petty

G.L. 4000' EST
D.F. 4016' EST
K.B. 4017' EST
ZERO 17' AGL

— 17½" hole

— 13⅜", 48#, H40, STFC set @ 422' w/ 400 sk Cl. C cmt,
2% CaCl₂, ¼#_{sk} FC. Circ 59 sk cmt.

— 12¼" hole

— TOL @ 4175'

— 8⅝", 32#, S80# K55, STFC set @ 5000' w/ 2200 sk Cl. C cmt,
4% gel, 15#_{sk} salt, 5#_{sk} gilsonite; ¼#_{sk} FC + 300 sk Cl. C cmt,
2% CaCl₂ + ¼#_{sk} FC. Circ 5 sk cmt.

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8650' + 4' perf sub + 2⅞" SN + 2⅞" SN @ 8615',
TAC @ 8296' set w/ 15,000# Ten.

— Abo Perfs: 8544'-47', 56'-61', 82'-85', 8606'-08'. 1 JS PF. 17 holes.
8470'-84', 90'-92', 8508'-12', 14'-17', 23'-31'. 1 JS PF. 36 hole

— 5½", 17# F15.5, K55, STFC set @ 8699' w/ 700 sk Cl. H cmt, 4% gel,
PBTD 8650' .3% HA9, ¼#_{sk} FC + 300 sk Cl. H cmt, .3% HA9, ¼#_{sk} FC.
TD 8700'

DATE 11-27-84 WELL NO. 245 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North
LOCATION 2174'FWL & 1930'FSL SIGNED R.W. Petty G.L. 4027'
Sec. 23, T17S, R34E D.F. NA
Lea County, New Mexico K.B. 4042'
ZERO 15'AGL

— 17½" hole

— 13⅜", 48#, H40, STFC set @ 402' w/ 400 sk Cl. C cmt,
2% CaCl₂, ¼ #/sk FC. Circ 30 sk cmt.

— 12¼" hole

— TOL @ 4185'

— 8⅝", 32#, S80#K55, STFC set @ 5000' w/ 2100 sk Cl. C cmt,
4% gel, 15 #/sk Salt, 5 #/sk gilsonite; ¼ #/sk FC + 300 sk Cl. C cmt,
2% CaCl₂ + ¼ #/sk FC. Did not circ. TOC @ 965' temp surv. Cmt 96
to surface w/ 1" w/ 600 sk Cl. C neat cmt.

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8703' + 4' perf sub + 2⅞" SN + 2⅞" SN @ 8686'
TAC @ 8475' set w/ 14000# Ten.

— Abo Perfs: 8549'-51', 76'-78', 81'-84', 95'-98', 8627'-29', 55'-57'
8681-84. 1 JS PF. 24 holes.

— 5½", 17# & 15.5# K55, STFC set @ 8710' w/ 750 sk Cl. H cmt, 4% gel,
PBTD 8705' .3% HA9, ¼ #/sk FC + 300 sk Cl. H cmt, .3% HA9, ¼ #/sk FC.
TD 8711'

DATE 11-27-84 WELL NO. 246 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit
 LOCATION 1980' FEL 660' FSL SIGNED R.W. Petty North
Sec. 24, T17S, R34E G.L. 3996'
Lea County, New Mexico D.F. NA
K.B. 4009'
ZERO 13' AGL

— 17½" hole

— 13⅜", 48", H40, STFC set @ 410' w/ 400 sk Cl. C cmt,
 2% CaCl₂, ¼ #/sk FC. Circ 75 sk cmt.

— 12¼" hole

— TOL @ 4170'
 — 8⅝", 32", S80' K55, STFC set @ 5000' w/ 2000 sk Cl. C cmt,
 4% gel, 15 #/sk Salt, 5 #/sk gilsonite; ¼ #/sk FC + 300 sk Cl. C cmt,
 2% CaCl₂ + ¼ #/sk FC. Did not circ. TOC @ 410 temp surv. Cmt
 519' to surface w/ 1" w/ 200 sk Cl. C cmt.

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8546' + 4' perf sub + 2⅞" SN
 TAC @ 8366' set w/ 12,000# Ten.

— Abo Perfs: 8444'-47', 52'-64', 75'-80', 83'-90', 93'-99', 1JSPP. 38 holes.

— 5½", 17" #15.5", K55, STFC set @ 8699' w/ 800 sk Cl. H cmt, 4% gel,
 .3% HA9, ¼ #/sk FC + 300 sk Cl. H cmt, .3% HA9, ¼ #/sk FC.
 PBTD 8654'
 TD 9700'

DATE 11-27-84 WELL NO. 247 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit
 LOCATION 2094' FEL & 2081' FNL SIGNED R.W. Petty North
Sec. 24, T17S, R34E G.L. 4017'
Lea County, New Mexico D.F. NA
K.B. 4032'
ZERO 15' AGL

— 17½" hole

— 13⅜", 48[#], H40, STFC set @ 415' w/400 sk Cl. C cmt,
 2% CaCl₂, ¼[#] FC Circ 161 sk cmt.

— 12¼" hole

— TOL @ 4186'

— 8⅝", 32[#], S80' K55, STFC set @ 5000' w/3000 sk Cl. C cmt,
 4% gel, 15[#] Salt, 5[#] gilsonite, ¼[#] FC + 300 sk Cl. C cmt,
 2% CaCl₂ + ¼[#] FC. Circ 285 sk cmt.

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8675' + 4' perf sub + 2⅞" SN + 2⅞" SN @ 8651',
 TAC @ 8342' set w/14,000[#] Ten.

— Abo Perfs: 8574'-78', 86'-89', 8599'-8602', 8619'-21', 32'-40',
 8670-73. 1 JS PF. 29 holes. 8493'-97', 99'-8503',
 8506'-09', 14'-17', 25'-40', 45'-54'. 1 JS PF. 43 holes.

— 5½", 17[#] 15.5[#], K55, STFC set @ 8709' w/900 sk Cl. H cmt, 4% gel,
 .3% HA9, ¼[#] FC + 200 sk Cl. H cmt, .3% HA9, ¼[#] FC.
 PB TD 8705'
 TD 8710'

DATE 11-27-84 WELL NO. 248 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North
LOCATION 2100' FNL & 659' FWL SIGNED R. W. Petty G.L. 4009'
Sec. 24, T17S, R34E K.B. 4023'
Lea County, New Mexico ZERO 15' AGL

— 17½" hole

— 13⅜", 48#, H40, STFC set @ 400' w/400 sk Cl. C cmt,
2% CaCl₂, ¼#_{sk} FC. Circ 75 sk cmt.

— 12¼" hole

— TOL @ 4020'
— 8⅝", 32#, S80# K55, STFC set @ 5000' w/4175 sk Cl. C cmt,
4% gel, 15#_{sk} Salt, 5#_{sk} gilsonite; ¼#_{sk} FC + 300 sk Cl. C cmt,
2% CaCl₂ + ¼#_{sk} FC. Did not circ. Toc @ 1260' temp surv. Cmt
695' to surf w/1" w/500 sk Cl. C cmt.

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8650' + 4' perf sub + 2⅞ SN + 2⅞ SN @ 8625'
TAC @ 8439' set w/12,000# Ten.

— Abo Perfs: 8485'-87', 91'-95', 8502'-04', 07'-09'. 1 JSAPF. 14 holes.

— 5½", 17# 15.5#, K55, STFC set @ 8696' w/850 sk Cl. H cmt, 4% gel,
PBTD 8683' .3% HA9, ¼#_{sk} FC + 300 sk Cl. H cmt, .3% HA9, ¼#_{sk} FC.
TD 8700'

DATE 11-27-84 WELL NO. 249 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North

LOCATION 1850' FNL & 660' FWL
Sec. 26, T17S, R34E
Lea County, New Mexico

SIGNED R. W. Petty

G.L. 4033'
D.F. 4050'
K.B. 4051'
ZERO 18' AGL

— 17 1/2" hole

— 13 3/8", 48#, H40, STFC set @ 400' w/ 400 sk C.I.C cmt,
2% CaCl₂, 1/4 #/sk FC. Circ 100 sk cmt.

— 12 1/4" hole

— TOL @ 4154'
— 8 5/8", 32#, S80# K55, STFC set @ 5000' w/ 2500 sk C.I.C cmt,
4% gel, 15 #/sk Salt, 5 #/sk gilsonite; 1/4 #/sk FC + 300 sk C.I.C cmt,
2% CaCl₂ + 1/4 #/sk FC. Circ 300 sk cmt.

— 7 7/8" hole

— 2 7/8" tbg: OPMA @ 8708' + 4' perf sub + 2 3/8 SN + 2 7/8 SN @ 8672'
TAC @ 8432' set w/ 12,000# Ten.

— Abo Perfs: 8678'-81'. 2JSPF. 8 holes. 8534'-44', 50'-54', 82'-89',
8608'-10'. 1JSPF. 27 holes.

— 5 1/2", 17# & 15.5# K55, STFC set @ 8719' w/ 800 sk C.I.H cmt, 4% gel,
.3% HA9, 1/4 #/sk FC + 300 sk C.I.H cmt, .3% HA9, 1/4 #/sk FC.
PBTD 8710'
TD 8720'

DATE 12-20-84 WELL NO. 250 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit North

LOCATION 650' FNL & 620' FEL
Sec. 24 T17S, R34E
Lea County, New Mexico

SIGNED KS OWER

G.L. 4007'
D.F. N/A
K.B. 4020.5'
ZERO 13.5' AGL

— 17 1/2" hole

— 13 3/8", 48#, H40, STFC set @ 420' w/ 400 SK Cl. C cmt,
2% CaCl₂, 1/4 #/sk FC

— 12 1/4" hole

— TOL @ 4217'

— 8 5/8", 32#, S80# K55, STFC set @ 5000' w/ 1920 SK Cl. C cmt,
4% gel, 15 #/sk Salt, 5 #/sk gilsonite; 1/4 #/sk FC + 300 SK Cl. C cmt,
2% CaCl₂ + 1/4 #/sk FC

— 7 7/8" hole

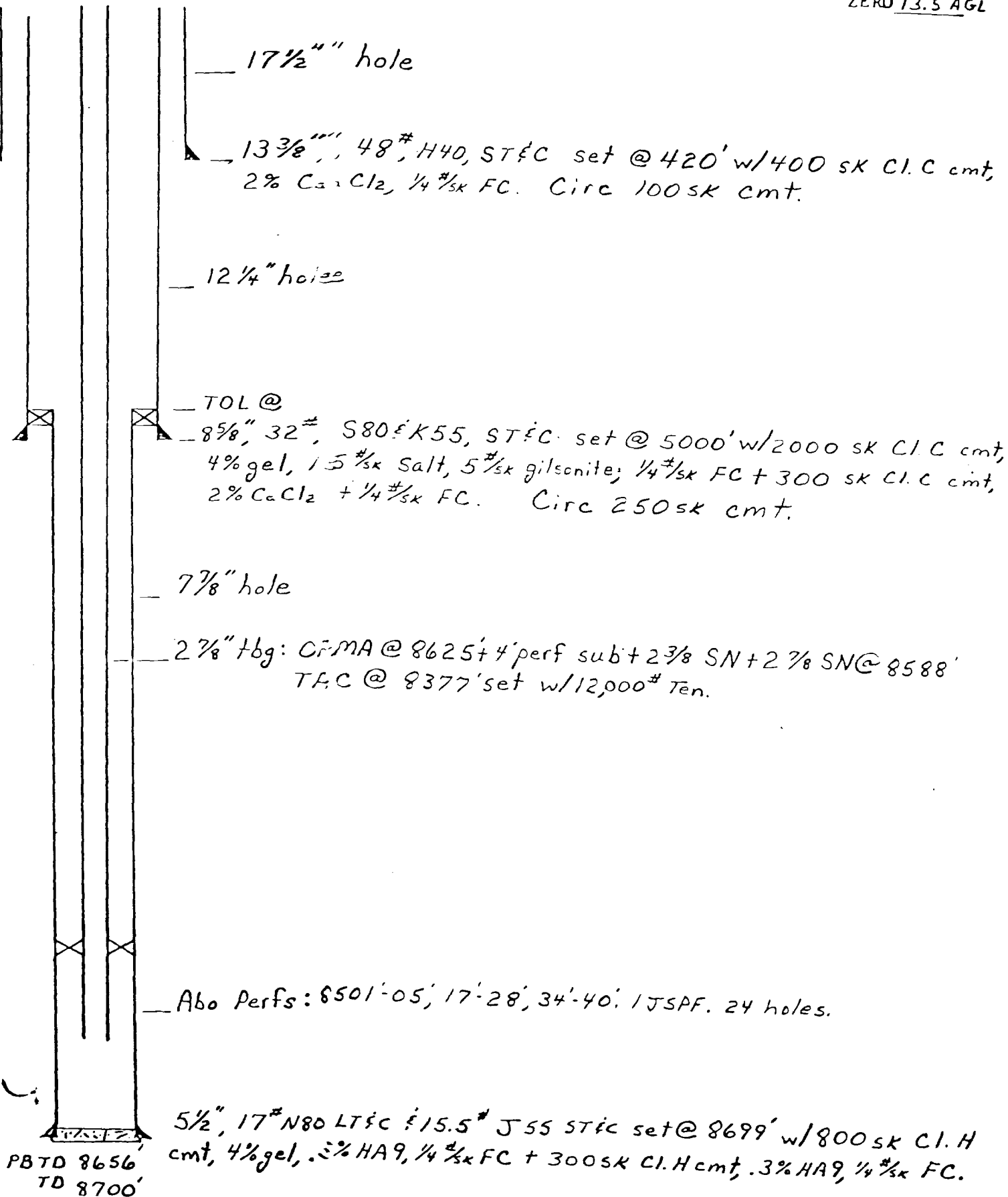
— 2 7/8" tbg: OPMA @ 8760' + 4' perf sub + 2 3/8 SN + 2 7/8 SN
TAC @ 8479 set w/ 14,000# Ten.

— Abo Perfs: 8568-72, 75-78, 91-95, 8600-05, 8702-10. 1 JSPP. 29 holes.

— 5 1/2", 17 #/15.5#, K55, STFC set @ 9099' w/ 1030 SK Cl. H cmt, 4% gel,
.3% HA9, 1/4 #/sk FC + 300 SK Cl. H cmt, .3% HA9, 1/4 #/sk FC.

PBTD 9059'
TD 9100'

DATE 11-28-84 WELL NO. 251 LEASE North Vacuum FIELD Vacuum Abo
 LOCATION 660 FNL E 2110 FWL Abo Unit North
Sec. 24, T17S, R34E SIGNED R.W. Petty G.L. 4022'
Lea County, New Mexico K.B. 4034.5'
 ZERO 13.5' AGL



DATE 12-20-84 WELL NO. 253 LEASE North Vacuum FIELD Vacuum Abo
Abo Unit
LOCATION 761' FSL, 1223' FEL SIGNED KS OGIER North
Sec. 13 T17S, R34E G.L. 4011'
Lea County, New Mexico D.F. 4022'
K.B. 4023'
ZERO 12' AGE

— 17½" hole

— 13⅝", 48#, H40, STFC set @ 406' w/ 400 SK Cl. C cmt,
2% CaCl₂, ¼#_{SK} FC

— 12¼" hole

— TOL @ 4195'

— 8⅝", 32#, S80#K55, STFC set @ 5000' w/ 2200 SK Cl. C cmt,
4% gel, 15#_{SK} Salt, 5#_{SK} gilsonite; ¼#_{SK} FC + 300 SK Cl. C cmt,
2% CaCl₂ + ¼#_{SK} FC

— 7⅞" hole

— 2⅞" tbg: OPMA @ 8624' + 4' perf sub + 2⅞" SN + 2⅞" SN
TAC @ 8298 set w/ 12,000# Ten.

— Abo Perfs: 8562'-69'. 2 JSPF. 16 holes.

— 5½", 17#K55, STFC set @ 8699' w/ 700 SK Cl. H cmt, 4% gel,
.3% HA9, ¼#_{SK} FC + 300 SK Cl. H cmt, .3% HA9, ¼#_{SK} FC.

PBTD 8650'
TD 8700'

COUNTY	Lea	FIELD	Vacuum	STATE	N.M.	NO
OPR	Continental Oil Company	MAP				
NO	7	LSE	State H-35			
SEC	35	T	17S	BLK.	34E	SJR
LOC	660' fr N Line & 1780' fr E Line of Sec.					
MI	FROM 10-28-63 (Abo)			CLASS	EL. 4029	
SPUD	2-6-63	COMP	6-5-63 (Wolfcamp)	DATUM	FORMATION	DAT
TRT	LOG: Yates 2804					
	Queen 3716					
CSG. & SX	SA 4403					
13 3/8"	375'	375	Glor 5843			
9 5/8"	4950'	300	Abo 7930			
7"	12413'	1750	Strwn 10852			
TBG. DEPTH	SIZE Miss 11478					
LOGS EL GR RA IND HC A	Wdfd 12100					
	12413'			PB	10468'	
PROD INT.	DAILY RATE	BS&W	GH	GOR	GTY	C P T P T
9154-9256'	Pmpd 32 BO + 57 BW			344	38	24
(Abo)						
9620-10066'	Flwd 150 BO + 5 BW 22/64"	1800	42	225#	75#	24
(Wolfcamp)						

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CONT	Sharp Drlg. Co.	PROP DEPTH	12,200'	TYPE
DATE				

F.R. 2-7-63
PD 12,200' - Abo, Wolfcamp & Devonian
Contractor - Sharp Drlg. Co.

2-11-63 Drlg. 3034' anhy.
2-18-63 Drlg. 4451'.
2-25-63 TD 4950', WOC.
Cored 4882-4911', rec 29' being:
15' dolo., w/scatt. PP & Vuggy Poro., scatt. BO&G,
poor to fair show, 14' dolo., w/scatt. bldg. sul.
wtr & oil, poor show.

3-4-63 TD 6018', on DST.
Cored 5260-5327', rec 66' being:
33' sdy dolo., w/PPP, stain & sat., fair show,
3' sd., & dolo., w/poor show, 15' sd. & dolo.,
W/PPP, poor show, 15' sdy dolo., NS.

3-4-63 -cont-
DST (Paddock) 5835-5942', open 1 hr,
rec 281' salt wtr & GCM,
45 min ISIP 2308#, FP 116-256#,
45 min FSIP 1733#.

3-11-63 Drlg. 7532' dolo. & lm.
DST (Paddock) 5958-6018', open 3 hrs 45 mins,
OTS 1 hr 32 mins, flwd 20 BO/2 hrs.
Rev out 33 bbls oil,
45 min ISIP 2245#, FP 375-892#,
1 hr FSIP 2106#.
DST (Blaine) 6410-62', open 25 mins,
rec 60' DM,
45 min ISIP 120#, FP 35-35#,
30 min FSIP 120#.

3-18-63 Drlg. 8740' lm. & sh.
3-25-63 Drlg. 9416'.
Cored 9073-9115', rec 42' being:
27' dense dolo., w/NS, 9' dolo., w/scatt.
poro. & frags., sli. stain & bldg., fair show,
6' dolo., NS.
Cored 9115-9158', rec 42' being:
3' dolo., w/sli. poro., poor show, 15' dolo.,
w/sh. stringers, NS, 11' dolo., sli. poro.,
BO & Some Wtr, fair show, 13' dolo., dense, NS.
Cored 9158-9203', rec 45' being:
19' dolo., w/scatt. frags., poor to fair show,
26' dolo., w/sh. stringers, NS.

4-1-63 Drlg. 9936' lm. & sh.
Cored 9610-39', rec 28' being:
3.5' sh., 1' lm., w/ch. incl., NS, 3' lm., w/

4-1-63 -cont-
DST 9607-9668', open 1 hr 20 mins,
Rec 120' DM,
45 min ISIP 1990#, FP 93-140#,
1 hr FSIP 1990#.
4-8-63 Drlg. 10652' lm., sh. & ch.
DST 9968-10030', open 2 hrs,
GTS in 17 mins,
Rec 90' DM + 300' GCM, w/tr. oil,
45 min ISIP 3565#, FP 109-109#,
1 hr 30 min FSIP 3857#.
4-15-63 Drlg. 11293' lm. & sh.
DST 11129-201', pkr failed.
4-22-63 Drlg. 11666' lm. & ch.
4-29-63 Drlg. 12162' sh.

5-6-63 TD 12413', lm. & dolo., prep to run casing.
DST 12247-270', pkr failed.
DST 12085-270', open 2 hrs, rec 280' DM,
45 min ISIP 1325#, FP 1009-1009#,
2 hr FSIP 1235#.
5-13-63 TD 12413', prep to treat.
Perf (Devonian) 12255-275' W/1 SPF
5-20-63 TD 12413', prep to plug back.
Attempted to treat, would not take.
Re-Perf (Devonian) 12255-275' W/1 SPF.
Ac. 1000 gals MA + 1500 gals reg. Ac.,
swbd dry, swbd load & 12 BNW/no time.
Set BP @ 12252', Perf 12226-250' W/1 SPF,
Ac. 2000 gals MA
swbd 82 BLW + 38 BNW/12 hrs. Set ret. @ 12173'.
5-27-63 TD 12413', PB 10541', prep to ac.
Perf (Atoka) 11331-345' W/1 SPF.

5-27-63 -cont.-
Set BP @ 11135'.
Perf 11026-045', 11070-086' W/1 SPF,
Ac. 2000 gals, swbd dry.
Set BP @ 10550',
Perf (Wolfcamp) 9948-60', 10,000-066' W/1 SPF
6-3-63 TD 12413', PB 10541', tstg.
Ac. 4000 gals, flwd 64 BLO + 55 BNO & 24 BAW/
14 hrs, flwd 177 BO + 15 BAW/24 hrs thru
17/64" chk., TP 450#.
Perf (Wolfcamp) 9620-40', 9730-50', 9800-08' &
1 SPF
Set BP @ 9879', Ac. 4000 gals.
Swbd & Flwd 48 BLO + 108 BNO & 90 BAW/19 hrs.
Flwd 129 BO + 5 BAW/21 hrs.

6-10-63 Re-Set BP @ 10,110',
swbd 370 BLW + 105 BO/40 hrs.
TD 12413', PB 10541', swbg.
Wolfcamp-flwd 177 BO + 5 BW/20 hrs thru 22/64
chk., TP 25-200#,
Set BP @ 9520',
Perf (Abo) 9154-70', 9193-9210', 9228-56',
W/1 SPF, Ac. 10,000 gals.
Flwd & swbd 60 BLO + 36 BNO & 144 BAW/43 hrs.
6-17-63 TD 12413', PB 10541', swbg.
Re-Ac. Perfs 9154-9256' W/20,000 gals acidfra
Swbd 64 BLO + 125 BNO & 210 BAW/18 hrs.
6-24-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 160 BO in 24 hrs.
7-1-63 TD 12413', PB 10541', tstg. on pump.
Pmpd. 65 BO in 24 hrs.

7-8-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 75 BO + 59 BW/24 hrs.

7-15-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 92 BO + 100 BW/45 hrs.

7-22-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 51 BO + 51 BW/24 hrs.

7-29-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 35 BO + 46 BW/24 hrs.

8-5-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 122 BO + 133 BW/72 hrs.

8-12-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 112 BO + 75 BW/72 hrs.

8-19-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 24 BO + 14 BW/24 hrs.

8-26-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 9 BO + 14 BW/10 hrs.

9-3-63 TD 12413', PB 10541', tstg. on pump.
Ppd. 28 BO + 18 BW/24 hrs.
(Final posting until status changes)

9-23-63 TD 12413', PB 10468', swbg Wolfcamp.
Pushed BP @ 9520' to 10468', Set Pkr @ 9499',
Swbd (Wolfcamp 9620-10066') 66 BO + 194 BLW/20
hrs.

9-30-63 TD 12413', PB 10468', SI for BHP.
Swbd & flwd 101 BO + 4 BW/10 hrs.

10-7-63 TD 12413', PB 10468', tstg. on pump.
Ppd. 70 BO + 201 BW/24 hrs.

10-14-63 TD 12413', PB 10468', tstg. on pump.
Abo Perfs 9154-9256', pmpd 35 BO + 35 BW/10 hrs.

10-21-63 TD 12413', PB 10468', tstg. on pump.
(Final posting until well potentialled).

11-4-63 TD 12413', PB 10468', COMPLETED.

COUNTY LEA FIELD Vacuum STATE NM OWWO
OPR CONTINENTAL OIL COMPANY MAP

7 State H-35

Sec. 35, T-17-S, R-34-E CO-ORD

660' FNL & 1780' FEL of Sec.

Re-Spd 9-30-65 CLASS owd/p EL

Re-Cmp 10-21-65 FORMATION DATUM FORMATION D.

CSG & SX TUBING

13 3/8" 375' 375

9 5/8" 4950' 300

7" 12413' 1750

LOGS EL GR RA IND HC A

TD 12413', PBD 9500'

IP Glorieta Perfs 5982-96' Propd 96 BOPD + 40 BW. Pot. Based on
24 hr test, gravity 36., GOR 365.

Abn Perfs 9154-9256' - NO CHANGE

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CONT PROP DEPTH TYPE WO
DATE

F.R.C. 12-9-65; OWWO

(Orig. comp from Abn perfs 9154-9256' &
Wolfcamp perfs 9620-10066', OID 12413')

Elev. 4029' DF, Orig.

12-9-65 TD 12413', PBD 9500', COMPLETED.

Set CIBP @ 5945' in Wolfcamp String

Perf (Glorieta) @ 5982', 5984-88', 5996'

W/1 SPF

Ac. 1500 gals. 5982-96'.

MOBIL PRODUCING TEXAS & NEW MEXICO, INC.
NORTH VACJUM ABO UNIT
WELLS NO. 98,112,116,136,137,138,
156, 205, 210 AND 211
LEA COUNTY, NEW MEXICO

IX. Stimulation Program

Acidize with 5000 gals of 15% NE FE HCl Acid + 5% by volume of mutual solvent + ball sealers. The acid will be displaced with fresh water.

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : MOBIL PRODUCING TX & NM

DATE : 08/13/85

FIELD, LEASE & WELL : BRIDGES STATE

SAMPLING POINT: WELL #11-W - SE4 SE4, Unit P, Sec. 22

DATE SAMPLED : 08/07/85

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 544

PH = 7.31

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	3.8	76.1
MAGNESIUM	(MG)+2	1.6	19.4
SODIUM	(NA)+CALC.	2.7	62.0

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO3)-1	4	244.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	1.1	53
CHLORIDES	(CL)-1	3	90

		ME/L	MG/L
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	

		ME/L	MG/L
IRON(TOTAL)	(FE)		.4
BARIUM	(BA)+2	0	.2
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .011

SCALING INDEX	TEMP
	300
	86F
CARBONATE INDEX	1.97
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-17.
CALCIUM SULFATE SCALING	UNLIKELY

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : MOBIL PRODUCING TX & NM

DATE : 08/13/85

FIELD, LEASE & WELL : BRIDGES STATE

SAMPLING POINT: WATER SOURCE WELL #1 W-50 - NE4 NW4, Unit C, Sec. 25

DATE SAMPLED : 08/07/85

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 453

PH = 7.02

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	2.6	52.1
MAGNESIUM	(MG)+2	2.6	51.6
SODIUM	(NA), CALC.	1.9	43.1

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO3)-1	3	183.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	1.1	53
CHLORIDES	(CL)-1	3	90

DISSOLVED GASES		
CARBON DIOXIDE	(CO2)	NOT RUN
HYDROGEN SULFIDE	(H2S)	NOT RUN
OXYGEN	(O2)	NOT RUN

IRON(TOTAL)	(FE)	.3
BARIUM	(BA)+2	.2
MANGANESE	(MN)	NOT RUN

IONIC STRENGTH (MOLAL) = .01

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	1.53
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-18.
CALCIUM SULFATE SCALING	UNLIKELY

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : MOBIL PRODUCING TX & NM

DATE : 08/13/85

FIELD, LEASE & WELL : BRIDGES STATE - Phillips WSW

SAMPLING POINT: WATER SOURCE WELL #2 - SE4 NE4 Unit H, Sec. 24

DATE SAMPLED : 08/07/85

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 427

PH = 7.46

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	1.2	24.0
MAGNESIUM	(MG)+2	2	24.3
SODIUM	(NA), (CL)	3.5	61.1
ANIONS			
BICARBONATE	(HCO3)-1	2.2	134.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	1.5	73.3
CHLORIDES	(CL)-1	3	90
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.8
BARIUM	(BA)+2	0	.1
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = 95-03

SCALING INDEX	TEMP
	80C
	86F
CARBONATE INDEX	1.65
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-18.
CALCIUM SULFATE SCALING	UNLIKELY

MOBIL PRODUCING TEXAS & NEW MEXICO INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138
156, 205, 210 and 211
LEA COUNTY, NEW MEXICO

This application was sent to the surface owner of the land on which these wells are located and to each lease operator within one-half mile radius of the well location.

OFFSET OPERATORS:

Arco Oil & Gas Co.
Post Office Box 1610
Midland, Texas 79702

Conoco, Inc.
Post Office Box 1959
Midland, Texas 79702

Exxon
Post Office Box 1600
Midland, Texas 79702

Marathon Oil Co.
Post Office Box 2409
Hobbs, New Mexico 88240

Phillips Petroleum Co.
4001 Penbrook
Odessa, Texas 79762

Texaco, Inc.
Post Office Box 728
Hobbs, New Mexico 88240

SURFACE OWNER:

New Mexico State Land Office
Post Office Box 1148
Santa Fe, New Mexico 87501

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

PO BOX 611
MIDLAND TEXAS 79702

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Arco Oil & Gas Co.
P.O. Box 1610
Midland, Texas 79702

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Tx. & N.M., Inc. (MPTM) has made application to the Oil Conservation Division of New Mexico for authority to inject fresh water into a reservoir productive of oil or gas in the above captioned wells.

A copy of this application is furnished to you for your information.

Yours very truly,

C.C. Smith for

gulatory Manager

SENDER: Complete items 1, 2, 3 and 4.
Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Arco Oil & Gas Co.
P.O. Box 1610
Midland, TX 79702

4. Type of Service:
☐ Registered ☐ Insured ☐ COD
☐ Certified ☐ Express Mail
Article Number
TX 7380673

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
X *Smith* ?
6. Signature - Agent
X *Smith* ?
7. Date of Delivery
SEP 26 1985

Address's Address (ONLY if requested and fee paid)
MIDLAND, TX
SEP 26 1985
USPO

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

40 BOX RD
MIDLAND, TEXAS 79702

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Conoco, Inc.
Post Office Box 1959
Midland, Texas 79702

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Tx. & N.M., Inc. (MPTM) has made application to the Oil Conservation Division of New Mexico for authority to inject fresh water into a reservoir productive of oil or gas in the above captioned wells.

A copy of this application is furnished to you for your information.

Yours very truly,

SENDER: Complete items 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.	
1. ☐ Show to whom, date and address of delivery.	Article Number <i>9547384671</i>
2. ☐ Restricted Delivery.	
3. Article Addressed to: <i>Conoco Inc. P.O. Box 1959 Midland, Texas 79702</i>	
4. Type of Service: ☐ Registered ☐ Insured ☐ Certified ☐ COD ☐ Express Mail	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature - Addressee <i>X</i>	6. Signature - Agent <i>X</i>
7. Date of Delivery <i>SEP 25 1985</i>	8. Addressee's Address (ONLY if requested and fee paid) <i>TX</i>

gulatory Manager

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

P.O. BOX 1600
MIDLAND, TEXAS 79702

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Exxon
Post Office Box 1600
Midland, Texas 79702

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Tx. & N.M., Inc. (MPIM) has made application to the Oil Conservation Division of New Mexico for authority to inject fresh water into a reservoir productive of oil or gas in the above captioned wells.

A copy of this application is furnished to you for your information.

Yours very truly,

Don Link

ulatory Manager

1b. For return receipt after mailing ATTACH appropriate fee as shown in Section 932.2 of the DMM.

• CUSTOMER:—Complete items 1 or 2 and 3 through 9 below. Add your address in the "RETURN TO" space on reverse.

1st AFTER MAILING: provide name of person who signed for article and date delivered.
2nd DUPLICATE: provide name of person who signed for article and date of delivery.
3rd DUPLICATE: provide name of person who signed for article, date of delivery, and place of delivery.

3. MAILING DATE 9-25-85 4. COD NO.

5. REGISTERED NO. 6. CERTIFIED NO. R547380669 7. INSURED NO. 8. EXPRESS MAIL NO.

9. ARTICLE ADDRESSED TO Exxon PO Box 1600 Midland, Tx 79702

10. TO K. Dave

11. DATE OF DELIVERY 9-26-85

12. ADDRESS (Complete only if requested)

13. CLERK'S INITIALS

14. POSTMARK OF DELIVERY OFFICE

POSTAL RECORDS SHOW DELIVERY

Do not process if Section 1b above is not completed.

PS Form 3841-A-2

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group and the experimental group. The control group was divided into two subgroups: the control group and the control group. The experimental group was divided into two subgroups: the experimental group and the experimental group. The control group was divided into two subgroups: the control group and the control group. The experimental group was divided into two subgroups: the experimental group and the experimental group.

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Marathon Oil Co.
Post Office Box 2409
Hobbs, New Mexico 88240

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Tx. & N.M., Inc. (MPIM) has made application to the Oil Conservation Division of New Mexico for authority to inject fresh water into a reservoir productive of oil or gas in the above captioned wells.

A copy of this application is furnished to you for your information.

Yours very truly,

1b. For return receipt after mailing ATTACH appropriate fee as shown in Section 932.2 of the DMM.		• CUSTOMER:—Complete items 1, 2 and 3 through 9 below. Add your address in the "RETURN TO" space on reverse.	
1 st AFTER MAILING provide name of person who signed for article and date delivered. 2 nd ATTACH appropriate fee as shown in Section 932.2 of the DMM. 2 nd DUPLICATE provide name of person who signed for article and date of delivery. 2 nd DUPLICATE provide name of person who signed for article, date of delivery, and place of delivery.		3. MAILING DATE 4. COD NO.	
5. REGISTERED NO. OR CERTIFIED NO. 6. INSURED NO.		7. EXPRESS MAIL NO.	
9. ARTICLE ADDRESSED TO			
10. TO			
11. DATE OF DELIVERY			
12. ADDRESS (Complete only if requested)			
13. CLERK'S INITIALS			
14. POSTMARK OF DELIVERY OFFICE			

Regulatory Manager

Do not process if
Section 1b above is not
completed.

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

PO BOX 83
MIDLAND TEXAS 79701

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Phillips Petroleum Co.
4001 Penbrook
Odessa, Texas 79762

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

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Mailing post office mark to indicate fee previously paid for item 2.		1. AFTER MAILING: provide name of person who signed for article and date delivered. (Attach appropriate fee as shown in Section 932.2 of the DMM)	
		2. DUPLICATE: provide name of person who signed for article and date of delivery. 2. DUPLICATE: provide name of person who signed for article, date of delivery, and place of delivery.	
5. REGISTERED NO. 6. CERTIFIED NO.		3. MAILING DATE	4. COD NO.
1547380672		9-25-85	
9. ARTICLE ADDRESSED TO Phillips Petroleum 4001 Penbrook Odessa, TX 79762		8. EXPRESS MAIL NO.	
10. TO Charles Freeman		14. POSTMARK OF DELIVERY OFFICE	
11. DATE OF DELIVERY 9-26-85		13. CLERK'S INITIALS	
12. ADDRESS (Complete only if requested)		Do not process if Section 1b above is not completed.	
POSTAL RECORDS SHOW DELIVERY		RECEIVED OCT 1 1985 OFF. OF PERSONNEL ODessa, TX 79600	

Regulatory Manager

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

POST OFFICE
MOBILE AND TEXAS 1985

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Texaco, Inc. Co.
Post Office Box 728
Hobbs, New Mexico 88240

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

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Yours very truly,

Regulatory Manager

SENDER: Complete items 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivering to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.	
1. ☐ Show to whom, date and address of delivery.	
2. ☐ Restricted Delivery.	
3. Article Addressed to: <i>Texaco, Inc. P.O. Box 728 Hobbs, N.M. 88240</i>	
4. Type of Service: ☐ Registered ☐ Insured ☐ Certified ☐ COD ☐ Express Mail	Article Number
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee <i>[Signature]</i>	
6. Signature - Agent <i>[Signature]</i>	
7. Date of Delivery SEP 26 1985	
8. Addressee's Address (ONLY if requested and not paid)	

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

P.O. BOX 433
MIDLAND, TEXAS 79701

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

New Mexico State Land Office
Post Office Box 1148
Santa Fe, New Mexico 87501

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELL NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

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ulatory Manager

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1^a AFTER MAILING: provide name of person who signed for article and date delivered. (Attach appropriate fee as shown in Section 932.2 of the DMM.) 2^a DUPLICATE: provide name of person who signed for article and date of delivery. 2^b DUPLICATE: provide name of person who signed for article, date of delivery, and place of delivery.		3. MAILING DATE 9-25-85	
		4. COB NO.	
5. REGISTERED NO.	6. CERTIFIED NO. 547380670	7. INSURED NO.	8. EXPRESS MAIL NO.
9. ARTICLE ADDRESSED TO New Mexico State Land Office Santa Fe, N.M. 87501			
POSTAL RECORDS SHOW DELIVERY	10. TO		14. POSTMARK OF DELIVERY OFFICE
	11. DATE OF DELIVERY		
	12. ADDRESS (Complete only if requested)		
		13. CLERK'S INITIALS	Do not process if Section 1b above is not completed.

This form must be completed at the PO and compared against the customer's receipt. Do not furnish this form to customers.

RECEIPT FOR RETURN RECEIPT (AFTER MAILING)

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled Application For Authorization To Inject

and numbered in the Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for one (1) consecutive weeks, beginning with the issue of October 1, 1985 and ending with the issue of 19.....

And that the cost of publishing said notice is the sum of \$ 15.84

which sum has been (Paid) ~~XXXXXX~~ as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 14th day of October, 1985

John H. Davis
Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 1986

LEGAL NOTICE APPLICATION FOR AUTHORIZATION TO INJECT

1. Mobil Producing Tx. & N.M. Inc, P.O. Box 633, Midland, Texas 79702

Attention: A.D. Bond, 915/685-1776 will apply for permission to inject Fresh water into the following well/wells for the purpose of: Secondary Recovery

2. Well Name and Number:
APPLICATION FOR AUTHORIZATION TO INJECT ITEM NUMBER TWO

North Vacuum Abo Unit #96
1980' FSL & 1780' FEL
Sec. 26, Unit J, 17-S, 34-E

North Vacuum Abo Unit #112
660' FNL & 860' FWL
Sec. 25, Unit D, 17-S, 34-E

North Vacuum Abo Unit #116
1880' FSL & 510' FWL
Sec. 24, Unit L, 17-S, 34-E

North vacuum Abo Unit #136
660' FNL & 860' FWL
Sec. 26, Unit D, 17-S, 34-E

North Vacuum Abo Unit #137
660' FNL & 2130' FEL
Sec. 26, Unit B, 17-S, 34-E

North Vacuum Abo Unit #138
1980' FSL & 860' FEL
Sec. 26, Unit L, 17-S, 34-E

North Vacuum Abo Unit #156
1893' FSL & 1800' FEL
Sec. 23, Unit J, 17-S, 34-E

North Vacuum Abo Unit #205
660' FNL & 1980' FEL
Sec. 24, Unit B, 17-S, 34-E

North Vacuum Abo Unit #210
1840' FSL & 800' FWL
Sec. 23, Unit L, 17-S, 34-E

North Vacuum Abo Unit #211
2054' FSL & 2163' FEL
Sec. 24, Unit J, 17-S, 34-E

County: Lea

3. Formation Name: North Vacuum Abo

Injection Interval: 8657' to 8759'

Maximum Injection Rate: 600 BBL/day/well

Maximum Pressure: 4,350 psi

4. Interested parties, who can show that they are adversely affected by this application, must file objections or requests for hearing with the Energy and Minerals Department, Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days after this publication.

Published in the Lovington Daily Leader October 1, 1985.

RECEIVED

OCT 16 1985

G. E. TATE

Mobil Producing Texas & New Mexico Inc.

September 25, 1985

FILED
MILLAND TEXAS 1985

County Clerk
Ms. Pat Snipes
P.O. Box 1507
Lovington, New Mexico 88260

7.01
NOTICE OF APPLICATION FOR
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WELLS NOS. 98, 112, 116, 136, 137, 138,
156, 205, 210 and 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

Dear Ms. Snipes:

Mobil Producing Tx. & N.M., Inc. (MPIM) has made application to the Oil Conservation Division of New Mexico for authority to inject fresh water into a reservoir productive of oil or gas in the above captioned wells.

The Oil Conservation Division requires that the enclosed application be sent to you for public information notice in the county in which the wells are located. Please post the attached application as you desire.

Yours very truly,


G.E. Tate
Environmental & Regulatory Manager

CCS/njc
Attachments

cc: Oil Conservation Division (w/attach)



TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

50 YEARS



1935 - 1985

POST OFFICE BOX 2686
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

November 26, 1985

Mobil Producing Texas & New Mexico
P. O. Box 633
Midland, Tx 79702

Attention: G. E. Tate

RE: Amendment of Administrative
Order PMX -138

Dear Sir:

Reference is made to your request of November 19, 1985 to amend the requirements contained in Administrative Order PMX-138 which directed the use of plastic lined tubing in your North Vacuum Abo Unit injection wells. It is our understanding that you are currently injecting fresh water in these wells. Since corrosion should not present a problem in these wells, your request to dispense with the use of plastic lined tubing will be granted.

You are hereby authorized to use non-lined tubing for injection into the Abo formation in the following wells:

North Vacuum Abo Unit
Well Nos. 98, 112, 116, 136, 137,
138, 156, 205, 210, & 211
North Vacuum Abo Field
Lea County, New Mexico

This authorization shall terminate if the composition of the injection water ever exceeds 10,000 PPM Total Dissolved Solids, at which time you shall notify the Division of this change.

Sincerely,

R. L. Stamets
Director

cc: OCD - Hobbs
✓File PMX-138

RLS/DC/bok

Mobil Producing Texas & New Mexico Inc.

November 19, 1985

P.O. BOX 633
MIDLAND TEXAS 79702

Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87051

Attn: David Catanack

7.01
WATER INJECTION WELLS
MOBIL PRODUCING TX. & N.M., INC
NORTH VACUUM ABO UNIT
WELL NOS. 98,112,116,136,137,
138,156,205,210 & 211
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO
ORDER NO. PMX-138

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM), was authorized to inject water into the Abo formation in the subject wells, provided injection be through plastic-lined tubing. The water to be injected is fresh water from the Ogalalla aquifer and has been injected into our North Vacuum Abo Unit waterflood wells for thirteen years with no problems of corrosion, therefore, MPTM requests permission to use 2-3/8" EUE-J-55 tubing for our water injection wells in the North Vacuum Abo Field.

Yours very truly,



G. E. Tate
Env. & Reg Manager

CCS/mcs

A:M532336A.CCS