STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 SOUTH PACHECO
SANTA FE, NEW MEXICO 87505

FORM C-108
Revised 4-1-98

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: ________Secondary Recovery __XX__Pressure Maintenance ________Disposal ________Storage
Application qualifies for administrative approval? __XX__Yes ________No

II. OPERATOR: EOG Resources, Inc.

ADDRESS: 4000 N. Big Spring Ste. 500; P.O. Box 2267 Midland, Texas 79705

CONTACT PARTY: Randy Cate PHONE: (915)686-3600

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 __XX__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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources 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 sources 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: Randy S. Cate TITLE: Project Reservoir Engineer

SIGNATURE: ________________ DATE: April 10, 2000

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.
...nces of the earlier submittal: X: Submitted January 1994

...o Santa Fe with one copy to the appropriate District Office

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case No. 12399 & 12329 Exhibit No. 11
Submitted by:
EOG Resources, Inc.
Hearing Date: May 18, 2000

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 the 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, 2040 South Pacheco, Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

APPLICATION FOR AUTHORIZATION TO INJECT
VACA "13" FEDERAL NO.2

III. WELL DATA

A. (1) Lease Name: Vaca "13" Federal
Well No.: 2
Location: Section 13-T25S-R33E
660' FNL & 1980' FEL
Total Depth: 12,600'

(2) Surface Casing: 14-3/4" Hole
11-3/4" 42# H-40 ST&C set @ 657'
351sx CL "C"
Circulated 52sx of cement to pit

Intermediate Casing: 11" Hole
8-5/8" 32# S-80/K-55 ST&S set @ 5,035'
1487sx PSL/CL "C"
Circulate 195sx of cement to pit

Production Casing: 7-7/8" Hole
5-1/2" 17# P110 LT&C set @ 12,475'
2225sx 50/50 POZ/CL "H"
TOC @ 3,800' (temp. svy.)

(3) Injection Tubing String: 2-3/8" 4.7# J-55 EUE 8rd set @ 12,200'
tubing to be internally plastic coated

(4) Injection Packer: 5-1/2" Baker AD-1 packer set @ 12,200'
packer to be plastic coated

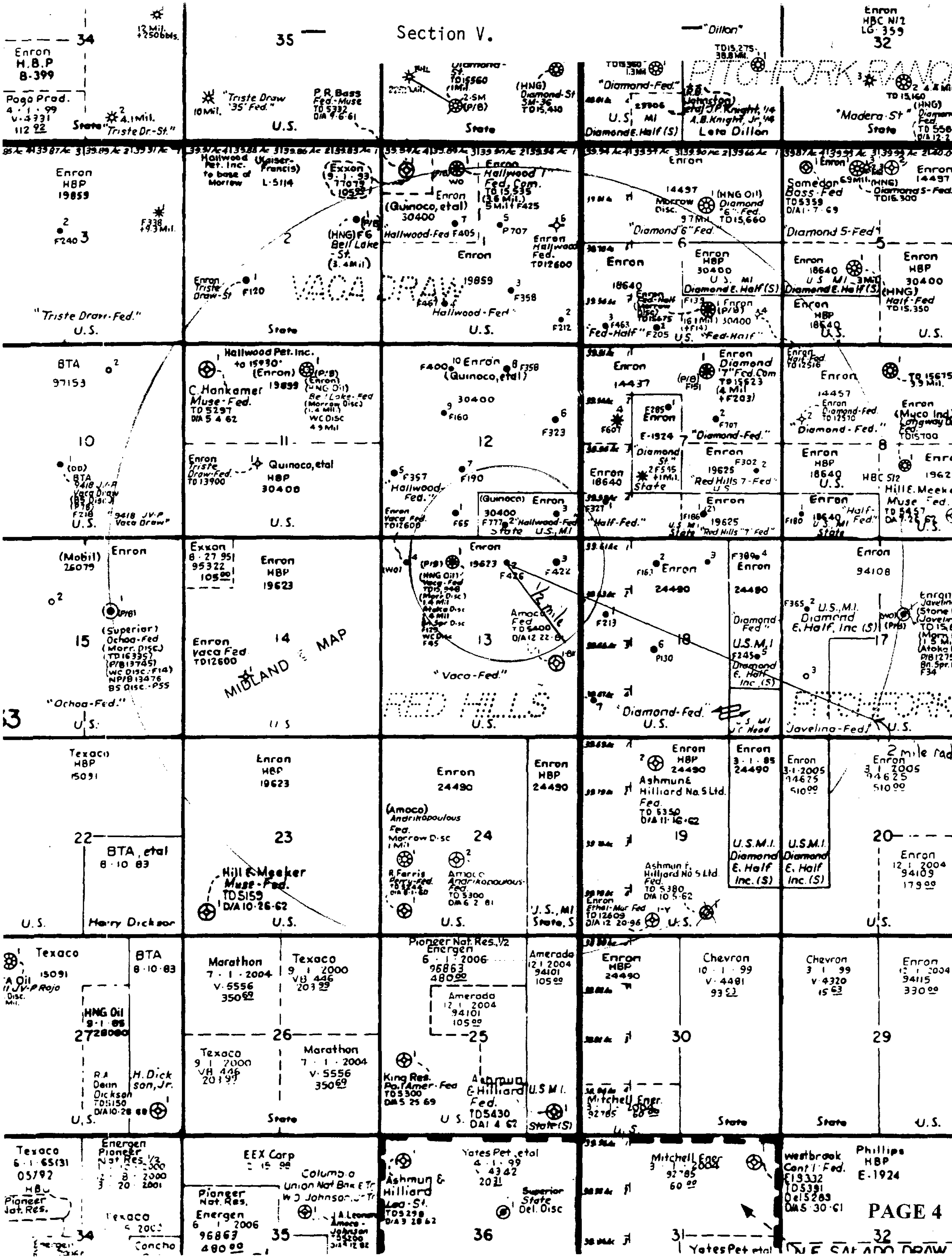
B. (1) Name of Injection Formation: 3rd Bone Spring
Pool or Field Name: Red Hills

(2) Injection Interval: 12,240' - 12,264'
Perforated or Open Hole: Perforated

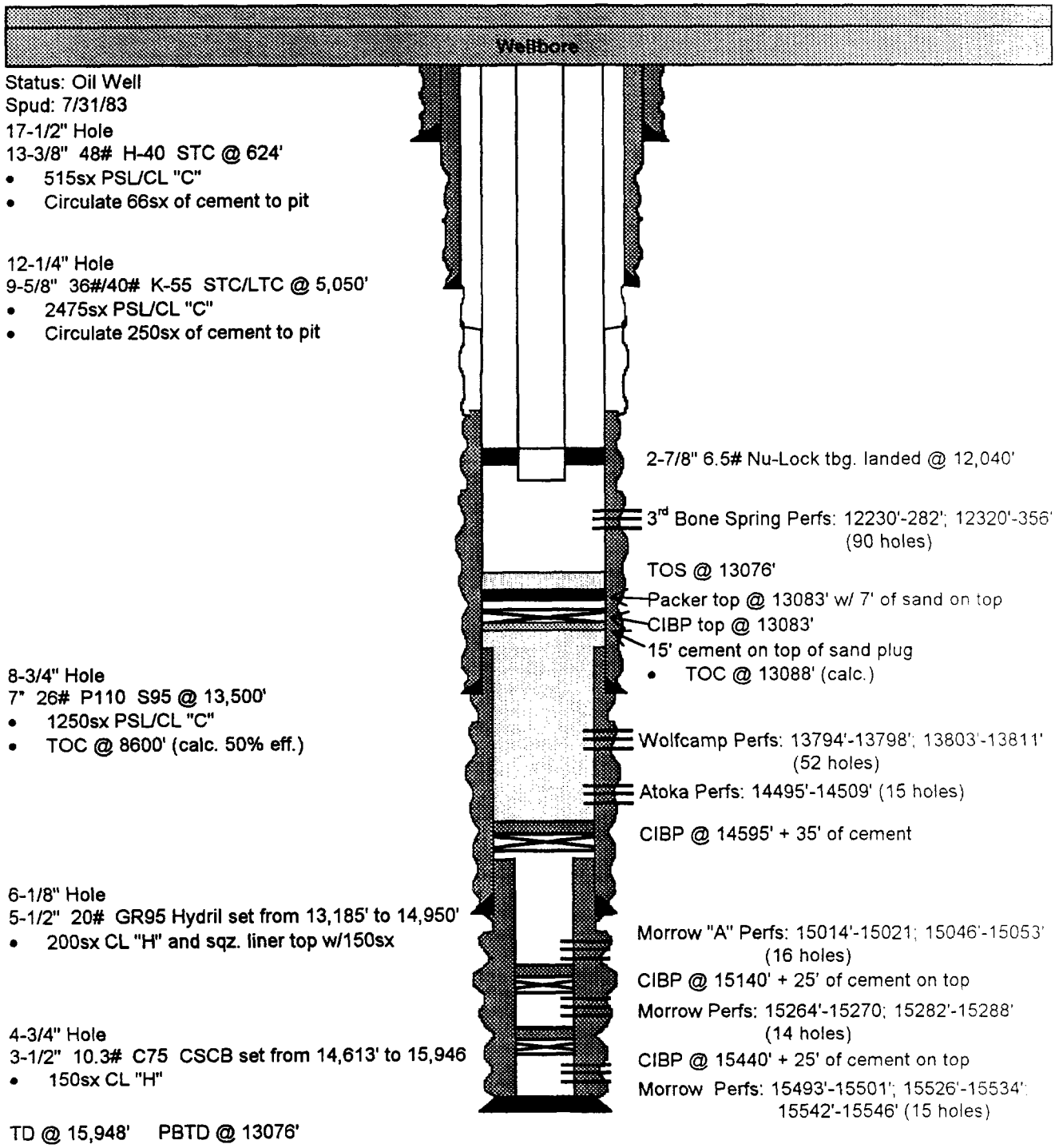
(3) Original Purpose of Drilling Well: Bone Spring Test

(4) Other Perforations: None

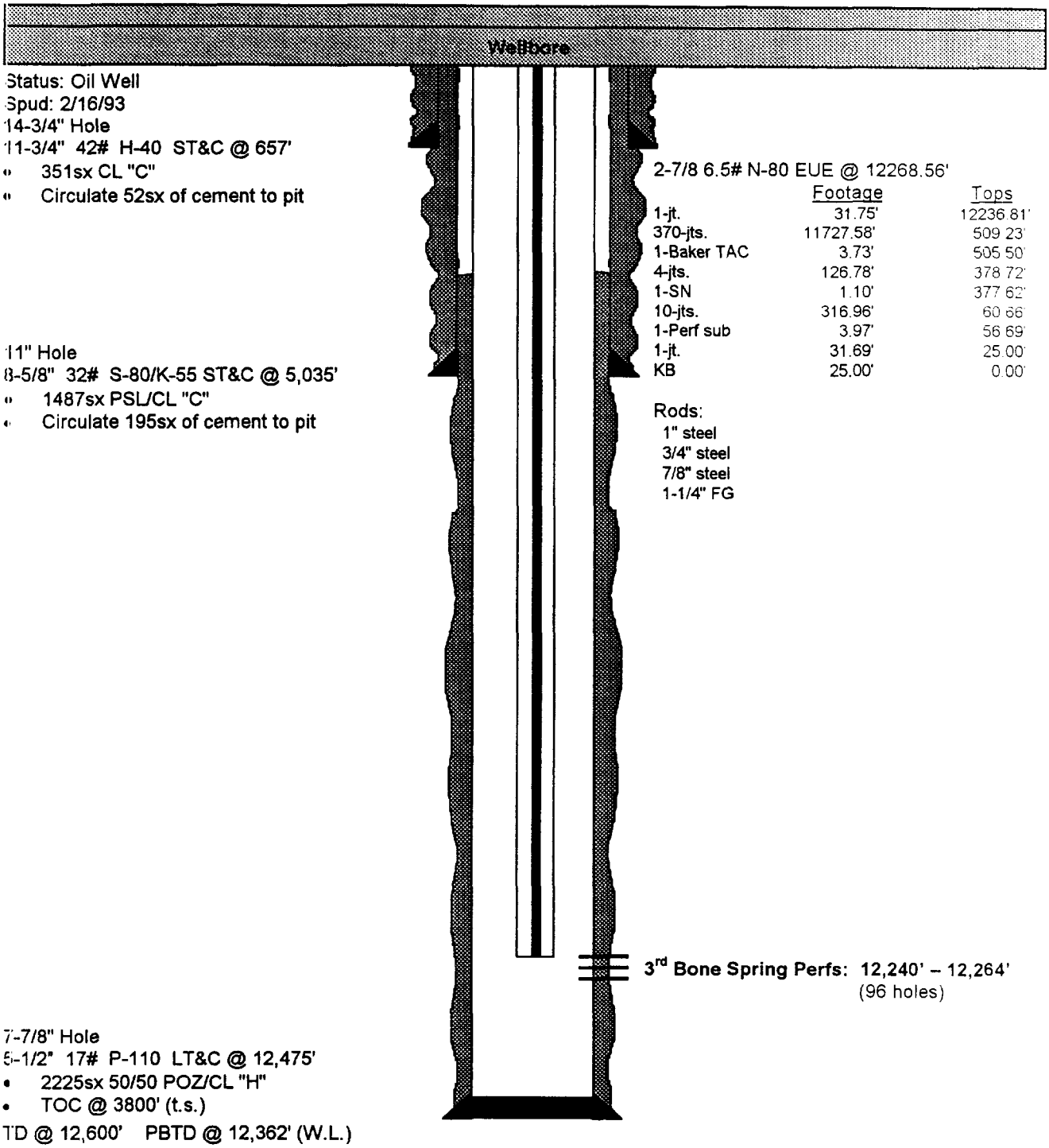
(5) Oil or Gas Productive Zones:
Next Higher: Delaware (5,183'-9,260')
Next Lower: Wolfcamp (12,284'-≈13,800')


Section V.
PITCHFORK RANCH
VACA DRAW
RED HILLS
PITCHFORK
MIDLAND MAP
"Triste Draw 35 Fed."
"Triste Dr-St."
"Diamond-Fed."
"Madera St"
Hallwood Fed. Com.
Bell Lake St.
"Diamond 6" Fed.
Diamond 5-Fed
"Triste Draw-Fed."
Hallwood-Fed
"Fed-Half"
C. Hankamer Muse-Fed.
"Diamond-Fed."
"Red Hills 7-Fed"
"Half-Fed."
"Ochoa-Fed."
"Vaca-Fed."
"Diamond-Fed."
"Javelina-Fed"
2 mile rad.
1/2 mile
Hill & Meeker Muse-Fed.
Ashmun & Hilliard No. 5 Ltd. Fed.
Andrikopoulous Fed.
King Res. Pa. Amer. Fed
Ashmun & Hilliard Fed.
Ashmun & Hilliard Lea St.
Mitchell Ener.
Westbrook Cont'l Fed.
N.E. SALADO DRAW
Enron
Texaco
Marathon
Chevron
Amerada
Energen
Phillips
BTA
EEX Corp
Yates Pet. etal
U.S.
State

WELL SCHEMATIC



WELLBORE SCHEMATIC



Status: Oil Well
Spud: 2/16/93
14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 657'
- 351sx CL "C"
- Circulate 52sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,035'
- 1487sx PSL/CL "C"
- Circulate 195sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,475'
- 2225sx 50/50 POZ/CL "H"
- TOC @ 3800' (t.s.)

TD @ 12,600' PBTD @ 12,362' (W.L.)

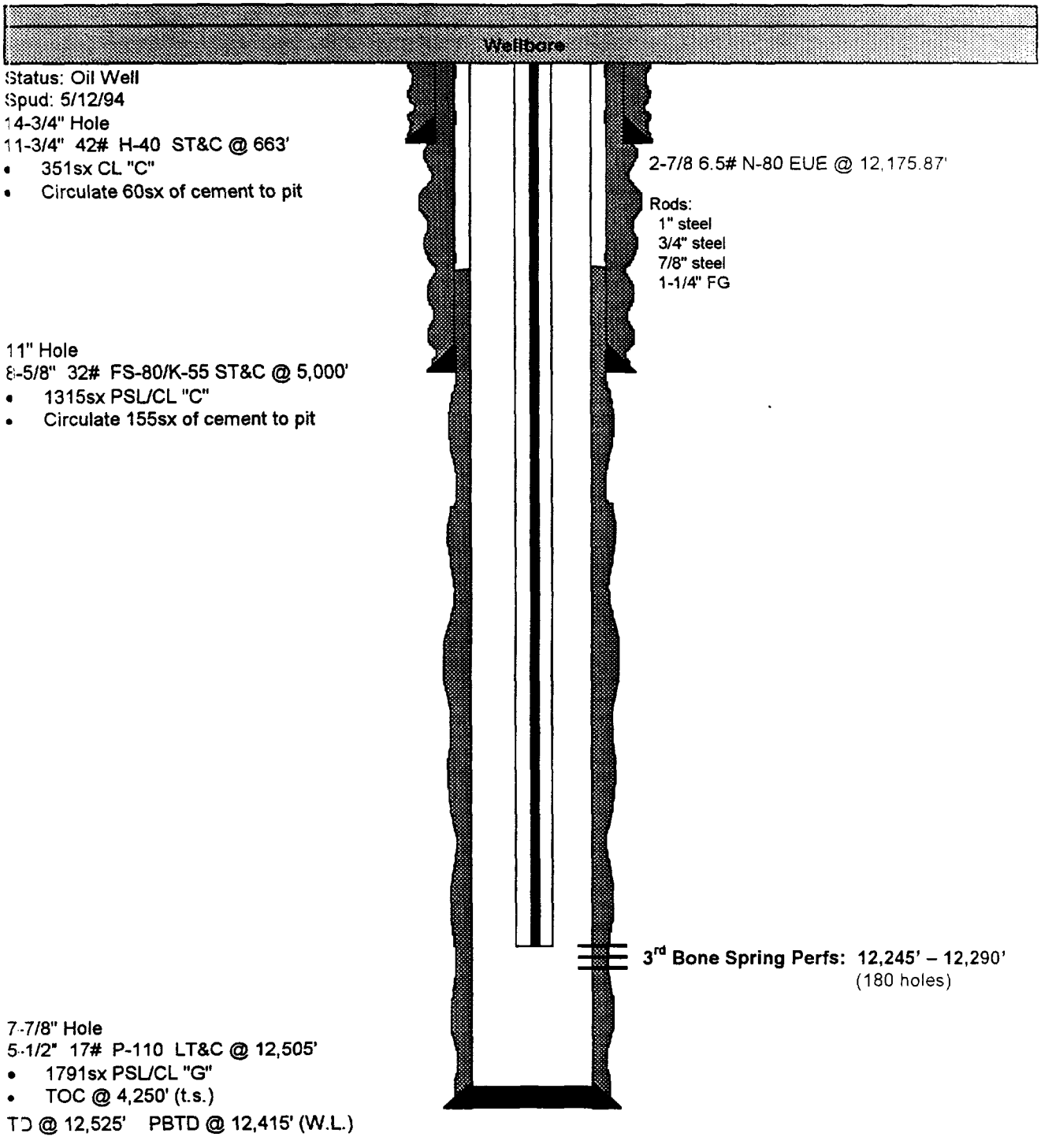
2-7/8 6.5# N-80 EUE @ 12268.56'

	Footage	Tops
1-jt.	31.75'	12236.81'
370-jts.	11727.58'	509.23'
1-Baker TAC	3.73'	505.50'
4-jts.	126.78'	378.72'
1-SN	1.10'	377.62'
10-jts.	316.96'	60.66'
1-Perf sub	3.97'	56.69'
1-jt.	31.69'	25.00'
KB	25.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel
1-1/4" FG

3rd Bone Spring Perfs: 12,240' – 12,264'
(96 holes)

WELLBORE SCHEMATIC



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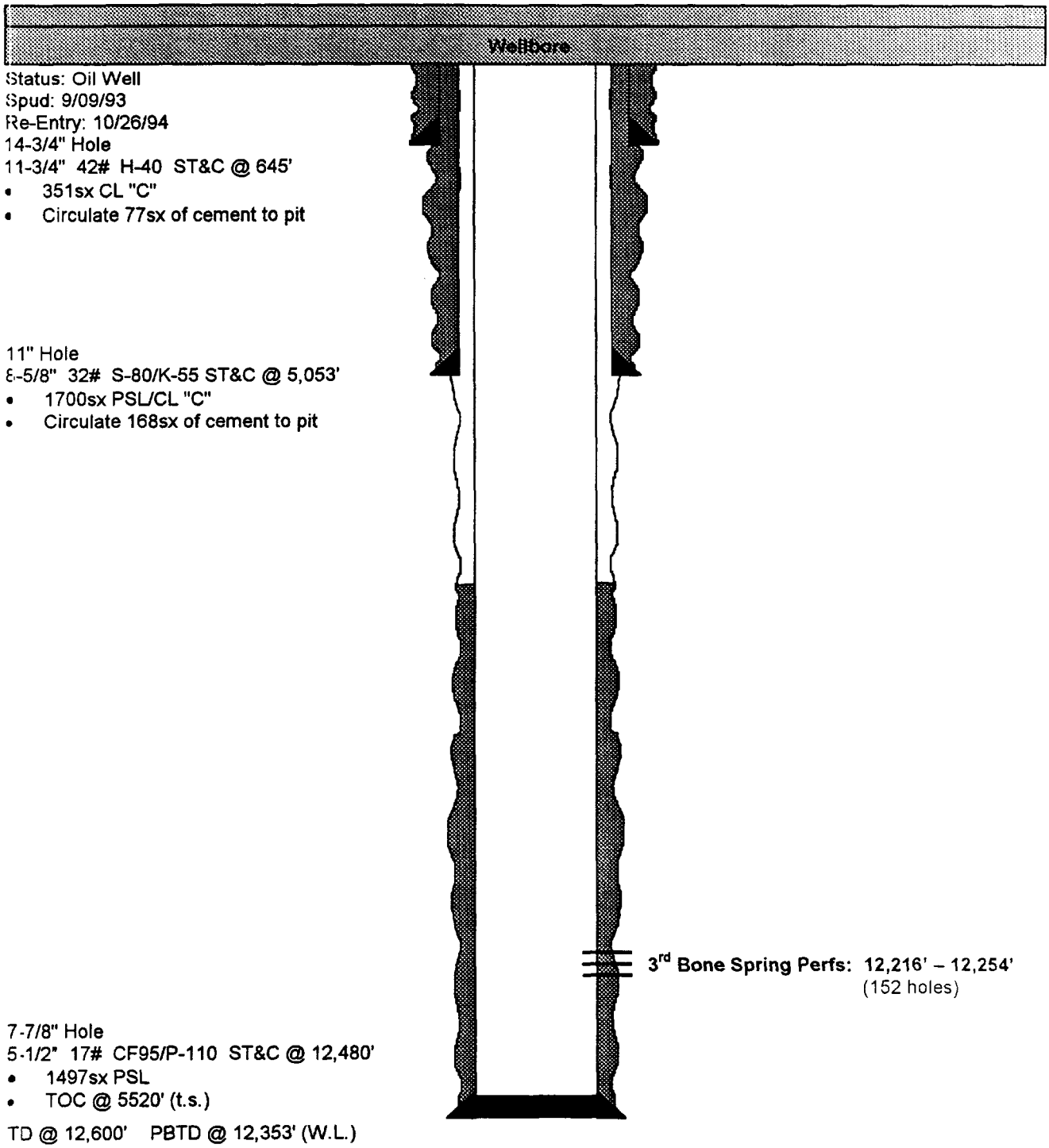


Status: Oil Well
Spud: 9/09/93
Re-Entry: 10/26/94
14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 645'
- 351sx CL "C"
- Circulate 77sx of cement to pit

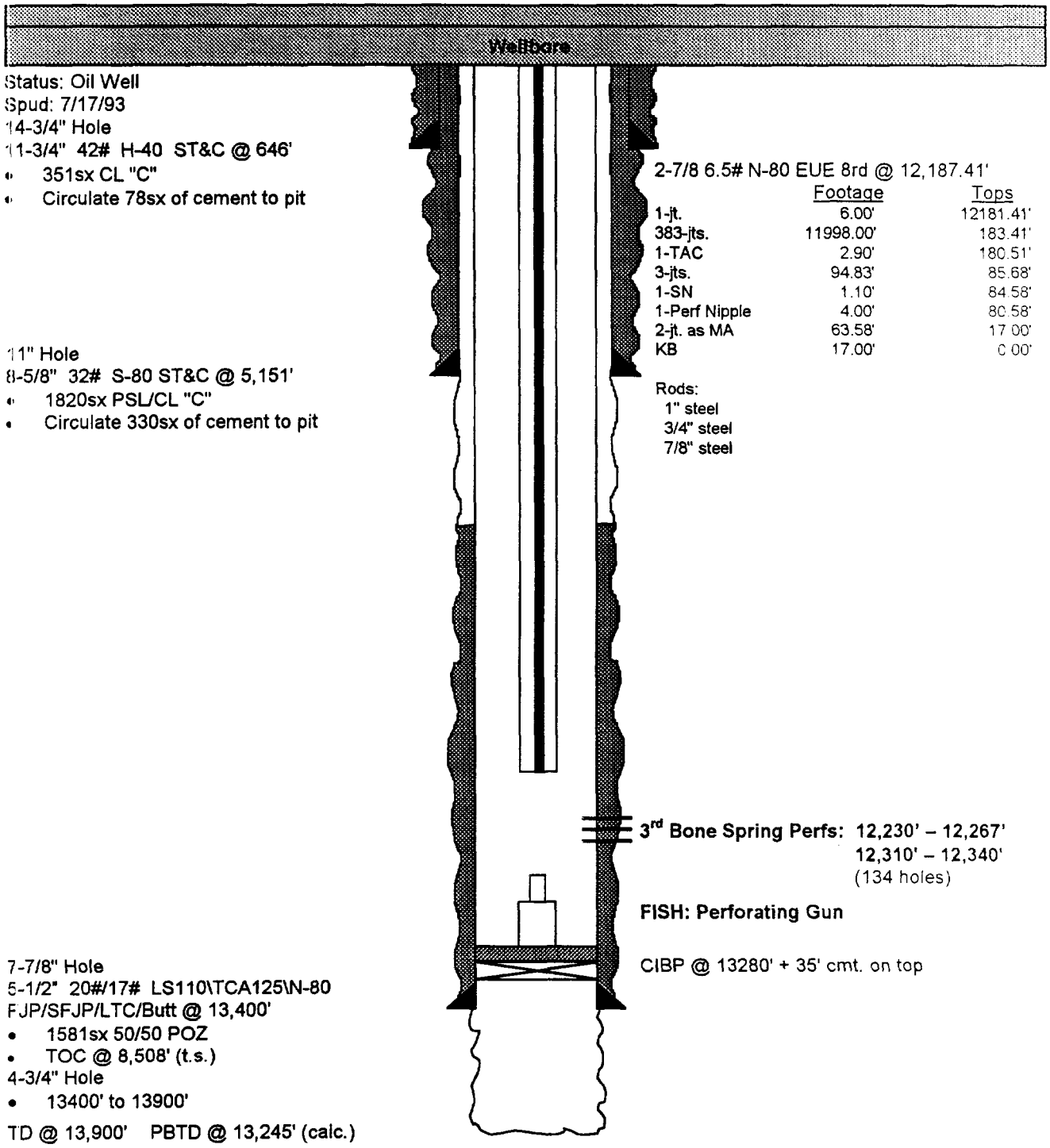
11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,053'
- 1700sx PSL/CL "C"
- Circulate 168sx of cement to pit

3rd Bone Spring Perfs: 12,216' – 12,254'
(152 holes)

7-7/8" Hole
5-1/2" 17# CF95/P-110 ST&C @ 12,480'
- 1497sx PSL
- TOC @ 5520' (t.s.)

TD @ 12,600' PBTD @ 12,353' (W.L.)

WELLBORE SCHEMATIC



Status: Oil Well
Spud: 7/17/93
14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 646'
- 351sx CL "C"
- Circulate 78sx of cement to pit

11" Hole
8-5/8" 32# S-80 ST&C @ 5,151'
- 1820sx PSL/CL "C"
- Circulate 330sx of cement to pit

7-7/8" Hole
5-1/2" 20#/17# LS110\TCA125\N-80
FJP/SFJP/LTC/Butt @ 13,400'
- 1581sx 50/50 POZ
- TOC @ 8,508' (t.s.)

4-3/4" Hole
- 13400' to 13900'

TD @ 13,900' PBTD @ 13,245' (calc.)

2-7/8 6.5# N-80 EUE 8rd @ 12,187.41'

	Footage	Tops
1-jt.	6.00'	12181.41'
383-jts.	11998.00'	183.41'
1-TAC	2.90'	180.51'
3-jts.	94.83'	85.68'
1-SN	1.10'	84.58'
1-Perf Nipple	4.00'	80.58'
2-jt. as MA	63.58'	17.00'
KB	17.00'	0.00'

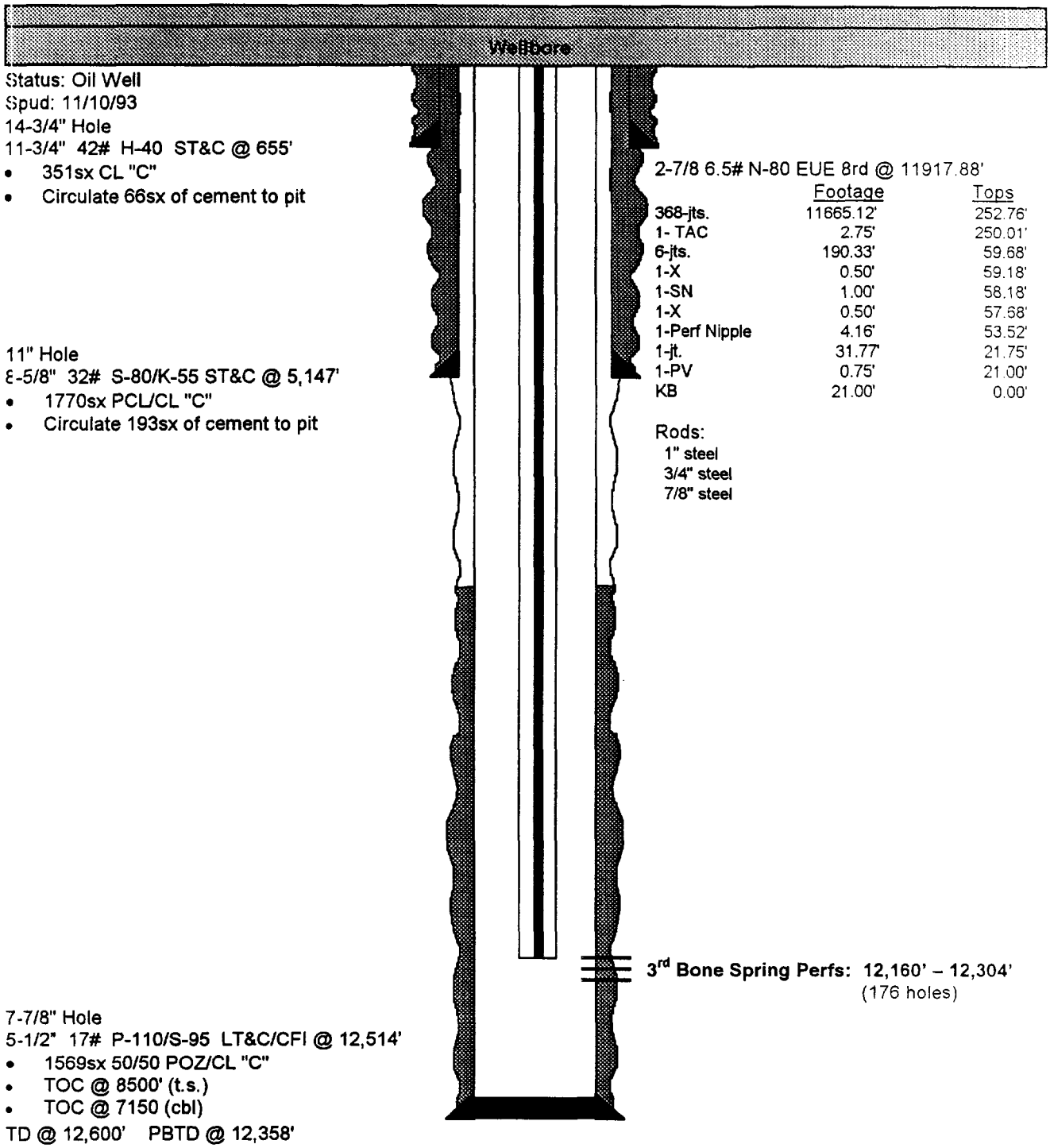
Rods:
1" steel
3/4" steel
7/8" steel

3rd Bone Spring Perfs: 12,230' – 12,267'
12,310' – 12,340'
(134 holes)

FISH: Perforating Gun

CIBP @ 13280' + 35' cmt. on top

WELLBORE SCHEMATIC



Status: Oil Well
Spud: 11/10/93
14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 655'
- 351sx CL "C"
- Circulate 66sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,147'
- 1770sx PCL/CL "C"
- Circulate 193sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110/S-95 LT&C/CFI @ 12,514'
- 1569sx 50/50 POZ/CL "C"
- TOC @ 8500' (t.s.)
- TOC @ 7150 (cbl)

TD @ 12,600' PBTD @ 12,358'

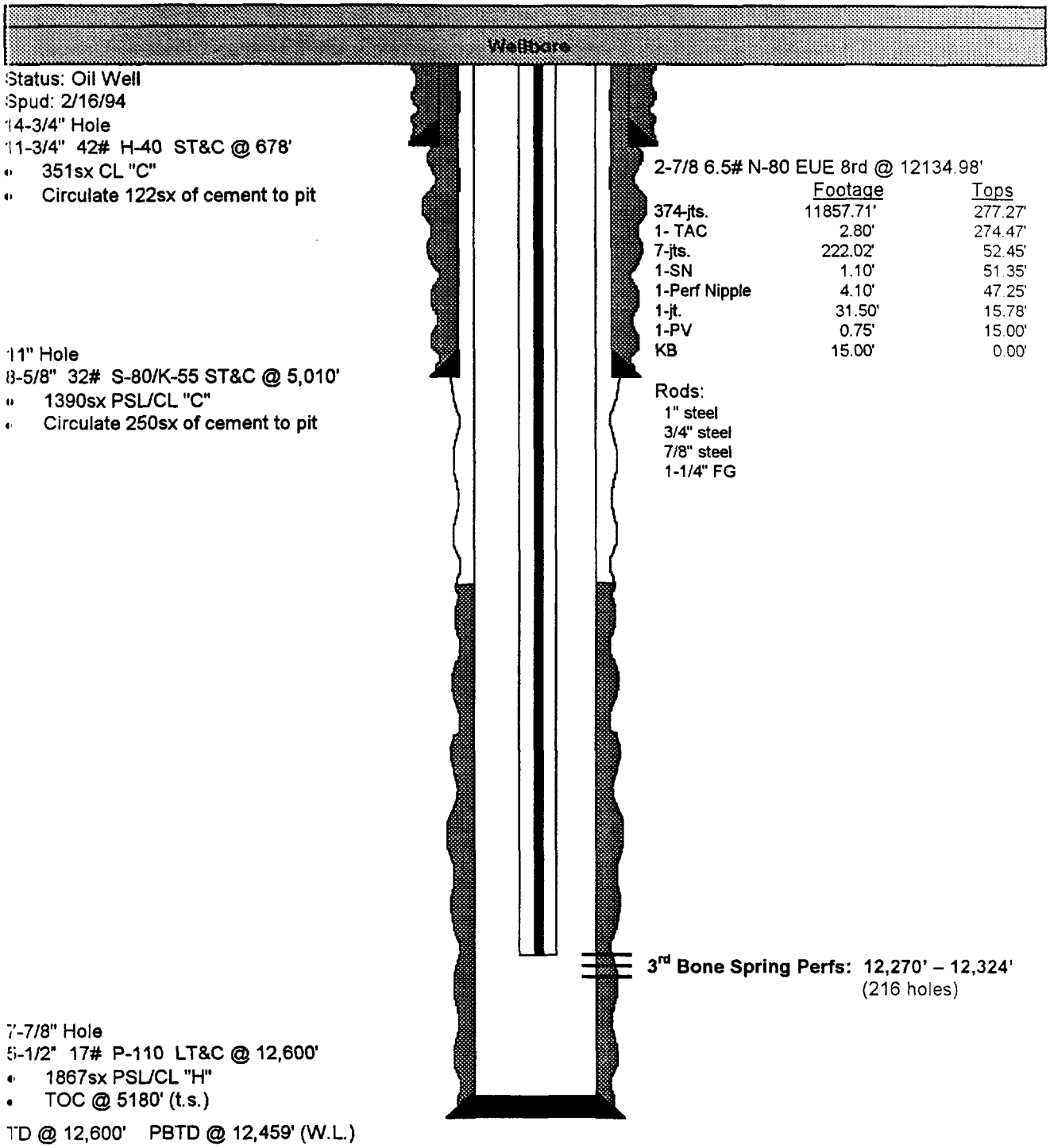
2-7/8 6.5# N-80 EUE 8rd @ 11917.88'

	Footage	Tops
368-jts.	11665.12'	252.76'
1- TAC	2.75'	250.01'
6-jts.	190.33'	59.68'
1-X	0.50'	59.18'
1-SN	1.00'	58.18'
1-X	0.50'	57.68'
1-Perf Nipple	4.16'	53.52'
1-jt.	31.77'	21.75'
1-PV	0.75'	21.00'
KB	21.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel

3rd Bone Spring Perfs: 12,160' – 12,304'
(176 holes)

WELLBORE SCHEMATIC



Status: Oil Well
Spud: 2/16/94
14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 678'
- 351sx CL "C"
- Circulate 122sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,010'
- 1390sx PSL/CL "C"
- Circulate 250sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,600'
- 1867sx PSL/CL "H"
- TOC @ 5180' (t.s.)

TD @ 12,600' PBTD @ 12,459' (W.L.)

2-7/8 6.5# N-80 EUE 8rd @ 12134.98'

	Footage	Tops
374-jts.	11857.71'	277.27'
1- TAC	2.80'	274.47'
7-jts.	222.02'	52.45'
1-SN	1.10'	51.35'
1-Perf Nipple	4.10'	47.25'
1-jt.	31.50'	15.78'
1-PV	0.75'	15.00'
KB	15.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel
1-1/4" FG

3rd Bone Spring Perfs: 12,270' – 12,324'
(216 holes)

APPLICATION FOR AUTHORIZATION TO INJECT
VACA "13" FEDERAL NO.2

VII. PROPOSED OPERATION

(1) Proposed Average Daily Rate and Volume: 200 BPD
Proposed Maximum Daily Rate and Volume: 500 BPD

(2) Open or Closed System: Closed

(3) Proposed Average Injection Surface Pressure: 3000 psi.
Proposed Maximum Injection Surface Pressure: 3700 psi.
Note: Original Bone Spring formation BHP 9500 psi.

(4) Produced Bone Spring formation water: 250-300 BPD from Red Hills Field (Bone Spring) (see attached analysis)

(5)N/A

VIII. GEOLOGIC DATA ON INJECTION ZONE

Injection Zone: 3rd Bone Spring

Lithologic Detail: Fine grain sandstone

Geological Name: 3rd Bone Spring

Thickness: Bone Spring - 3,204'
3rd Bone Spring - 384'

Depth: Bone Spring 9,260' to 12,284'
3rd Bone Spring 11,900' to 12,284

Underground Sources of Drinking Water:
Geological Name: Triasic
Base: 600'

IX. PROPOSED STIMULATION PROGRAM

2500 gals. of 15% HCL acid

X. LOGGING AND TESTING DATA ON INJECTION WELL

Previously submitted (DLL,MLL,GR,CZDN)

XI. CHEMICAL ANALYSIS OF WATER FROM FRESH WATER WELLS WITHIN ONE MILE OF INJECTION WELL

No chemical analysis or fresh water wells within one mile of the proposed injection well can be found (as per phone conversation with Fred McMinn of the State Engineers Offices, State of New Mexico @ 3:55 p.m. on 4/4/2000).

XII. I have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.

XIII. See attached proof.