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

1-22-90

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

Swd-386

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:
MC
DHC
NSL
NSP
SWD X
WFX
PMX

Gentlemen:

I have examined the application for the:

Smith & Marrs Inc. Casa Pet. Inc. Pogo Mapa # 1-L 14-16-33
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

J. W. MULLOY ASSOCIATES, INC.
Engineering & Consulting
1110 North Big Spring
Midland, Texas 79701
(915) 687-0323

JOHNNY MULLOY
President

HUDSON ROUTH
Vice President

January 17, 1990

Mr. David Catanach
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Salt Water Disposal
Smith & Marrs, Inc.
Pogo Napa No 1, Unit L
Section 14, T-16-S, R-33-E
Lea County, N. M.

Dear Mr. Catanach:

Attached is a New Mexico Oil Conservation Commission Form C-108 and all related data, requesting administrative approval to inject produced water into the captioned well. The proposed injection zone is the perforations 3,931' to 3,946' in the Queens Formation.

The formation is productive of oil and gas in the section to the west where Smith & Marrs, Inc. operate two wells that produce from the Queen Interval. These wells currently produce an average of 6 barrels oil and 2 barrels water per day and have an accumulative production of approximately 90,000 barrels. It is anticipated that some response in oil production will result because of the water injection.

Included are schematics, logs, water analysis, maps, advertisement, notices, etc., as required for approval.

It is respectfully requested that approval be granted administratively because there are no other operators that have production in the West Hume Queen Field, nor are there any offset operators with production from any other field or formation.

Yours very truly,

J. W. Mulloy

cc:Jerry Sexton

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Engineering & Consulting
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Midland, Texas 79701
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J. W. Mulloy

cc:Jerry Sexton

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Smith & Marrs, Inc.

Address: 1110 N. Big Spring Midland, Texas 79701

Contact party: Johnny W. Mulloy Phone: 915-687-0323

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

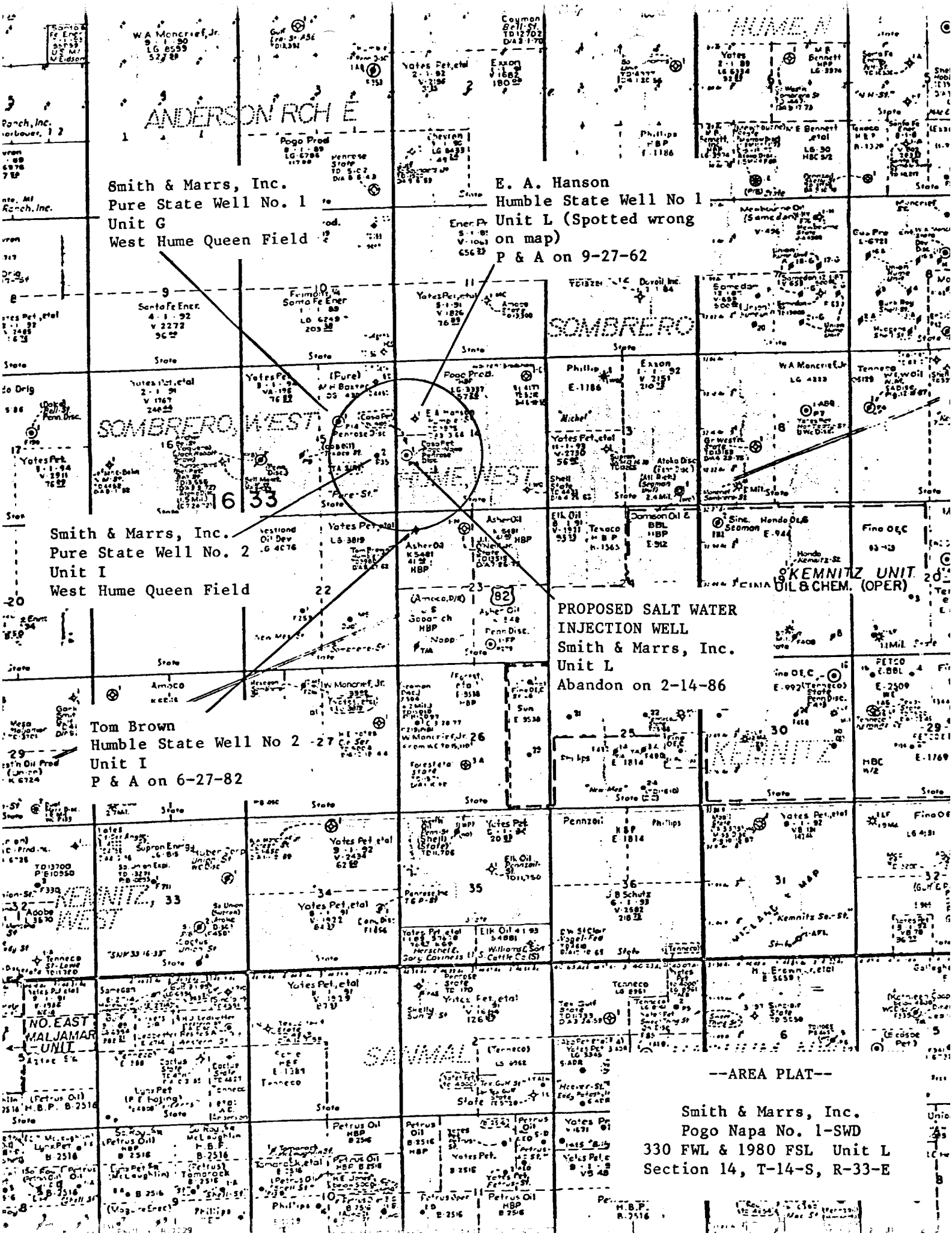
I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: J. W. Mulloy Title Agent

Signature: J Mulloy Date: 1-17-90

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.


Smith & Marrs, Inc.
Pure State Well No. 1
Unit G
West Hume Queen Field
E. A. Hanson
Humble State Well No 1
Unit L (Spotted wrong
on map)
P & A on 9-27-62
Smith & Marrs, Inc.
Pure State Well No. 2
Unit I
West Hume Queen Field
PROPOSED SALT WATER
INJECTION WELL
Smith & Marrs, Inc.
Unit L
Abandon on 2-14-86
Tom Brown
Humble State Well No 2
Unit I
P & A on 6-27-82
ANDERSON RANCH E
SOMBRERO
SOMBRERO WEST
HUME WEST
KEMNITZ
KEMNITZ WEST
NO. EAST MALJAMAR UNIT
SAUNAL
KEMNITZ UNIT
--AREA PLAT--
Smith & Marrs, Inc.
Pogo Napa No. 1-SWD
330 FWL & 1980 FSL Unit L
Section 14, T-14-S, R-33-E

WELL SUMMARY

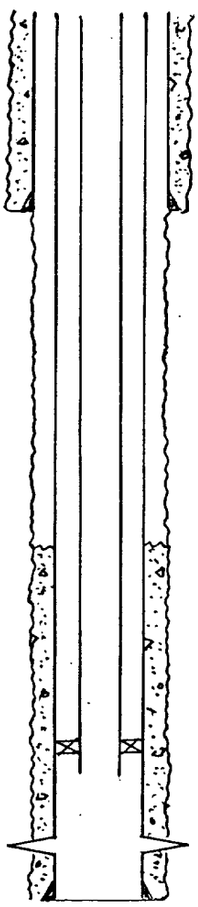
OPERATOR	LEASE & WELL	TYPE	DATE DRILLED	LOCATION	DEPTH	COMPLETION RECORD
Smith & Marrs, Inc.	Pure State Well #1	Oil	5-7-62	Unit G 15-16-33	3972	3927-3945
Smith & Marrs, Inc.	Pure-State Well #2	Oil	9-13-62	Unit I 15-16-33	4519	3924-3931
E. A. Hanson	Humble-State Well No 1	Oil (P&A)	9-3-64	Unit L 14-16-36	3975	P & A
Tom Brown	Humble-State Well No 1	Oil (P&A)	6-27-62	Unit D 23-16-36	3980	P & A

INJECTION WELL DATA SHEET

Smith & Marrs, Inc. (OPERATOR) Pogo Napa (LEASE)

1- SWD	330' FWL & 1980'FSL	14	16-S	33-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 200 sx.

TOC surface feet determined by circulate

Hole size 12 1/4

Intermediate Casing

Size none" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4 1/2" Cemented with 200 sx.

TOC 3370 feet determined by calculated

Hole size 7 7/8

Total depth 4,002

Injection interval

3931 feet to 3946 feet
(perforated or open-hole, indicate which)

Tubing size 2 7/8" lined with plastic (material) set in a

Baker AD-1 Tension packer (or equiv) (brand and model) packer at ± 3900' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Queens

2. Name of Field or Pool (if applicable) West Hume

3. Is this a new well drilled for injection? ☐ Yes ☒ No

If no, for what purpose was the well originally drilled? Drilled as a producer and abandoned

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) perforated 3931-46. Well abandon but not plugged.

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. There are currently no zone of production either above or below the proposed injection zone.

Affidavit of Publica on

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

Legal Notice

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

January 5, 19 90

and ending with the issue of

January 5, 19 90

And that the cost of publishing said notice is the sum of $ 5.98

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

Joyce Clemens

Subscribed and sworn to before me this 10th day of January, 19 90

Mrs Jean Klemen

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 19 90

LEGAL NOTICE
NOTICE

It is the intent of Smith & Marrs, Inc., 1110 N. BIg Spring, Midland, Texas, 79701-687-0323, to re-enter and convert to saltwater disposal a well located in NW/4 of SW/4, Section 14, T-16-S, R-33-S, Lea County, New Mexico. It is anticipated that water will be injected into the Queens Formation from approximately 3931' to 3946'. Injection volume will be approximately 80 bbls. per hour at a pressure not to exceed 2000 psia.

Any interested parties must file objections or request for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

Published in the Lovington Daily Leader January 5, 1990.

DATA SHEET

I. Proposed Daily Injection:
   A. Maximum - 3000 barrels produced water
   B. Average - 2000 barrels produced water

II. System will be open.

III. Produced Injection Pressure:
   A. Maximum - 1000 psia
   B. Average - 500 psia

IV. Source of injection water:

The initial source of water will be the produced water from the West Hume Queen Field from wells owned by Smith & Marrs, Inc. and located one half mile west in Section 15. Other injection water will be from commerical trucks hauling produced water from various wells located in the Kemnitz Wolfcamp and Sombrero Wolfcamp Fields. Random analysis of water from these formations is attached.

V. Geological data on injection zone:

Injection will be into the Queens Formation thru perforation from 3,931' to 3,946'. The Queen Formation is a sandstone section of Middle Permian Age which is overlain by the Seven Rivers Formation and overlays the Greyburg Formation. Neither of these formations is considered productive in the area. The maximum thickness is approximately 20' thick and has an average porosity of 17 percent. Fresh water occurs in the area from shallow Tertiary Sands that do not occur below a depth of 300'. Blackish and highly mineralized water could occur at a depth of approximately 2,000' from the Santa Rosa Formation of Triassic Age, but would not be suitable for domestic use. There are no fresh water zones underlying the proposed injection interval.

VI. Stimulation Program:

Additional stimulation will not be required because the perforated interval from 3,931' to 3,946' has been treated with 800 gallons of 15% acid, followed by 40,000 gallons of gelled water carrying 120,000# of 10/20 and 20/40 mesh sand.

VII. Well log is attached.

VIII. Fresh Water Wells:

Chemical analysis of fresh water from a windmill located 2 miles east, and one located 3/4 of mile southwest of the proposed injection well is attached. Samples were taken on January 4, 1990.

IX. All geologic and engineering data available has been examined and there is no evidence that open faults or any other hydrologic connection exists between the disposal zone and any underground source of drinking water.

ALLIBURTON DIVISION LABORATOR
HALLIBURTON COMPANY
MIDLAND DIVISION

LABORATORY WATER ANALYSIS No. W90-009

To J.W. Mulloy + Assoc. Date 1-4-90

1110 N. Big Spring
Midland TX 79701
Johnny Mulloy

Submitted by Dennis Page - Hbtn- Midland Tx Date Rec. 1-9-90

Well No. Listed Depth _____ Formation Listed

County Lea N.M Field Listed Source _____

	Sample #1 Kemnitz field Wolfcamp formation	Sample #2 Sombrero field Wolfcamp formation	Sample #3 Hume field Queen formation
Resistivity	0.166 ohms/m²/m @ 60°	0.329 ohms/m²/m @ 60°	0.062 ohms/m²/m @ 60°
Specific Gravity	1.040 @ 60° °F	1.020 @ 60 °F	1.120 @ 60 °F
PH	5.9	7.2	6.4
Calcium (Ca)	6670 mpl	2730 mpl	5990 mpl
Magnesium (mg)	2960 mpl	825 mpl	4770 mpl
Chlorides (Cl)	29,800 mpl	14,900 mpl	107,000 mpl
Sulfates (SO_4)	35 mpl	30 mpl	500 mpl
Bicarbonates (HCO_3)	870 mpl	340 mpl	90 mpl
Soluble Iron (Fe)	moderate mpl	nil mpl	nil mpl

Remarks:

Respectfully submitted,

Analyst: DT

cc:

HALLIBURTON SERVICES

By Richard Dunnam
DIVISION CHEMIST

ALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISION

LABORATORY WATER ANALYSIS No. W90-010

To J. W. Mulloy + Assoc.
1110 N. Big Spring
Midland Tx 79701
Johnny Mulloy

Date 1-4-90

Submitted by Dennis Page - Hlbtn - Midland Tx Date Rec. 1-4-90

Legal ~~Well No.~~ Sec 14, T-16-S, R-33-E Depth _____ Formation _____

County Lea N.M. Field _____ Source _____

Windmill samples 2mi. E of legal 3/4 mi. sw. legal

Resistivity	17.09 ohms/m²/m 60	20.49 ohms/m²/m 60	_____ ohms/m²/m
Specific Gravity	1.003 @ 60 °F	1.002 @ 60 °F	_____ @ _____ °F
PH	7.0	7.0	_____
Calcium (Ca)	60 mpl	70 mpl	_____ mpl
Magnesium (mg)	70 mpl	20 mpl	_____ mpl
Chlorides (Cl)	70 mpl	55 mpl	_____ mpl
Sulfates (SO_4)	35 mpl	30 mpl	_____ mpl
Bicarbonates (HCO_3)	190 mpl	175 mpl	_____ mpl
Soluble Iron (Fe)	nil mpl	nil mpl	_____ mpl
_____	_____	_____	_____
_____	_____	_____	_____

Remarks:

Respectfully submitted,

Analyst: DT

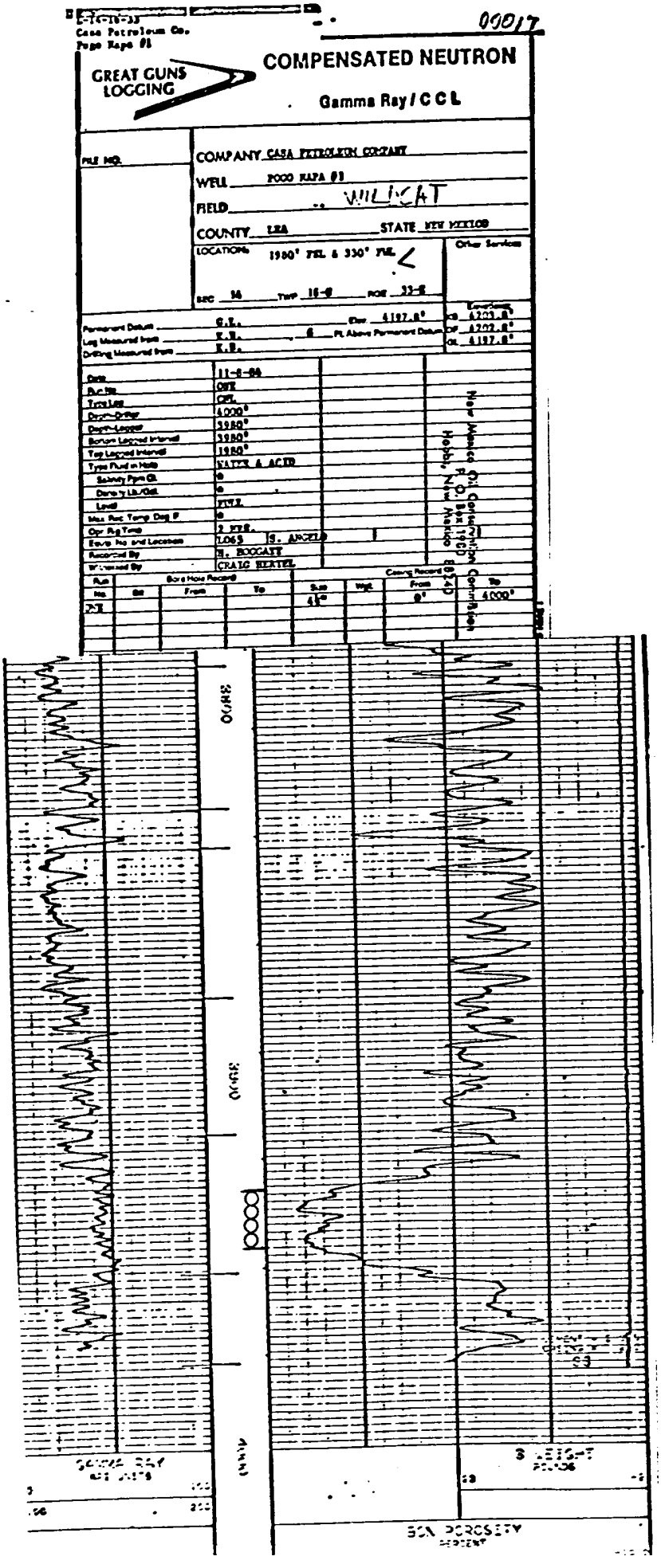
cc:

HALLIBURTON SERVICES

By Richard Dunman
DIVISION CHEMIST

TUBULAR SUMMARY

OPERATOR	LEASE & WELL	SURFACE CASING	SURFACE CEMENT	SURFACE TOC	INTER. CASING	INTER. CEMENT	INTER. TOC	PROD. CASING	PROD. CEMENT	PROD. TOC	TOTAL DEPTH	PRODUCING INTERVAL
Smith & Marrs, Inc.	Pure-State Well No 1	8 5/8" @ 290'	275	Circulated	-- --	-- --	-- --	4 1/2" @ 3,972'	195	3172' (calc)	3,972'	3,927'-3,945'
Smith & Marrs, Inc.	Pure -State Well No 2	8 5/8" @ 298'	200	Circulated	--	--	--	5 1/2" @ 4,519'	225	3369' (calc)	4,519'	3,924'-3,931'
E. A. Hanson	Humble-State Well No 1	8 5/8" @ 336'	200	Circulated	--	--	--	None	None	None	3,975'	P & A
Tom Brown	Humble-State Well No 1	8 5/8" @ 330'	200	Circulated	--	--	-	None	None	None	3,980'	P & A

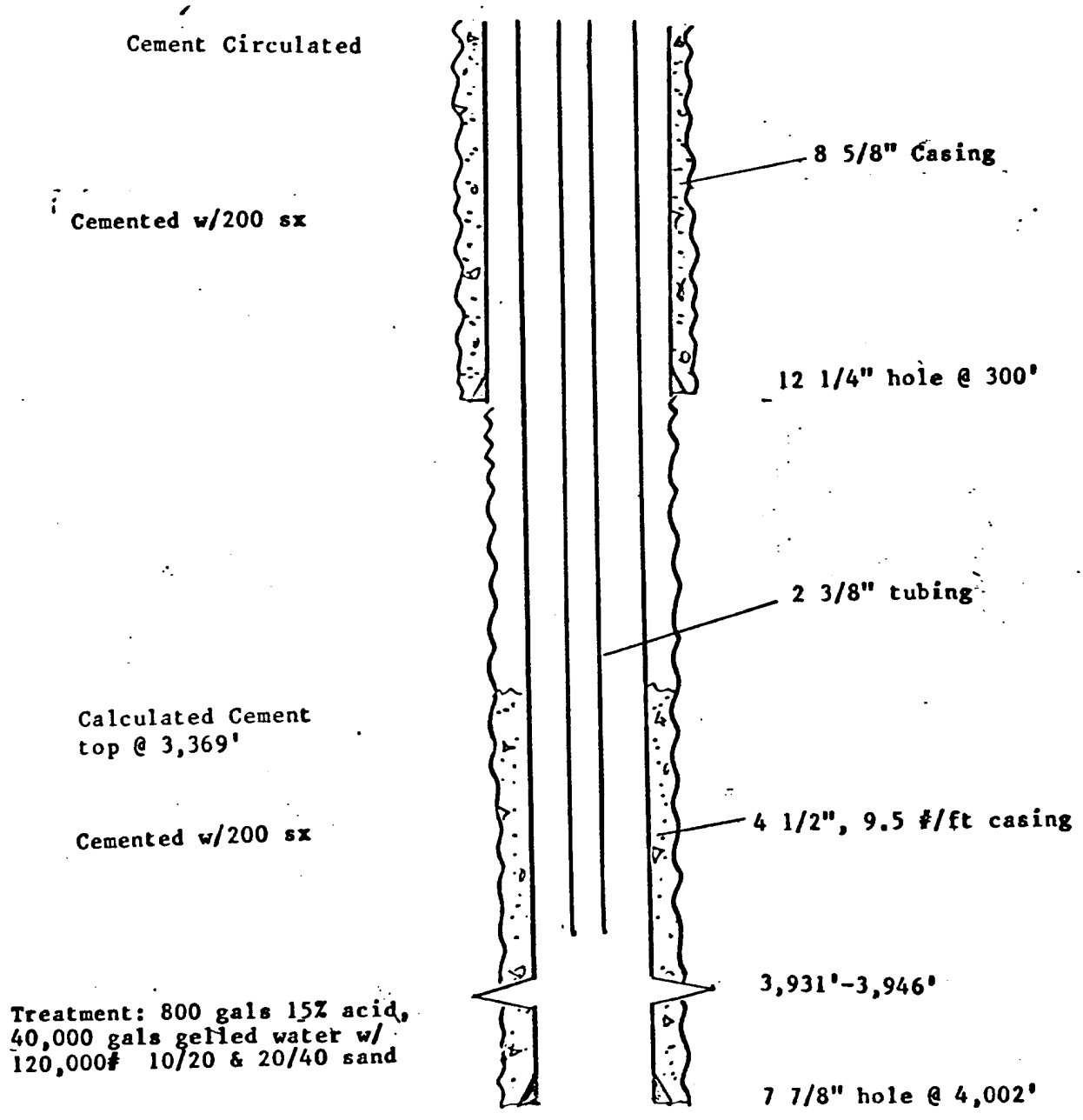


Proposed Injection
Zone: 3,931'-3,946'

Stimulated with 800 gals
15% Acid, 40,000 gals gelled
water w/120,000 # sand

Initial Potential Test:
1-2-85
15 oil, 5 water, TSTM gas

--WELL LOG--
Smith & Marrs, Inc.
Pogo Napa Well No 1
(Casa Petroleum Company)



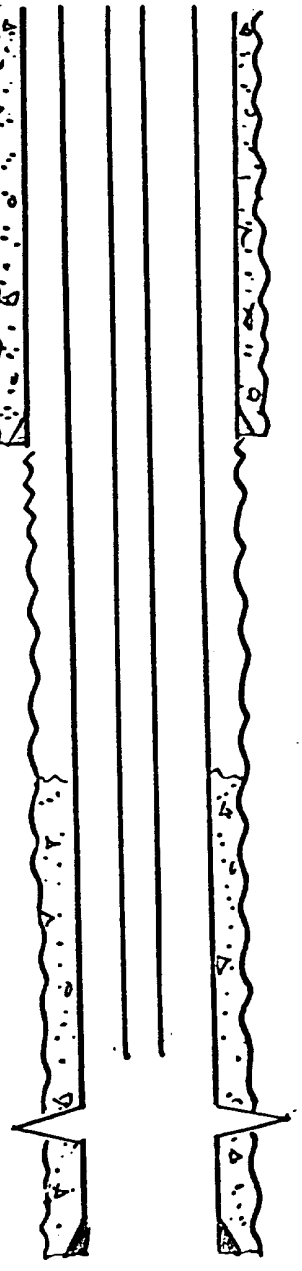
Marrs & Smith, Inc.
Existing
Pogo Napa Well No. 1-SWD
330 FWL & 1980 FSL Unit L
Section 14, T-16-S, R-33-E
Lea County, New Mexico

Cement Circulated

Cemented w/275 sx.

Calculated cement top @ 3,172'

Cemented w/ 195 sx.



8 5/8", 24#/ft, J-55 Casing

12 1/4" hole @ 290'

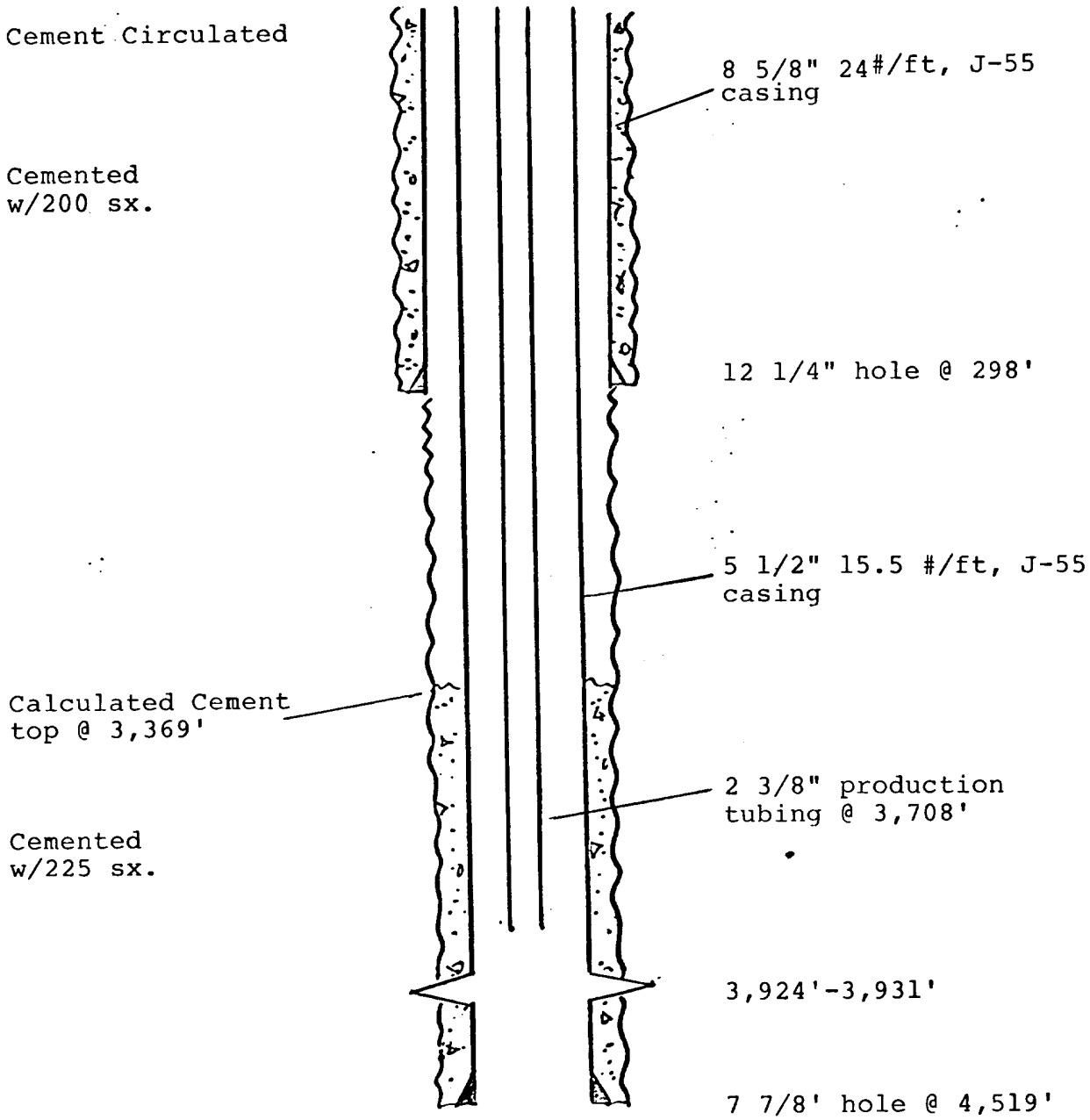
4 1/2" 11.6#/ft, J-55 casing

2 3/8" production tubing @ 3,859'

3,927-3,945'

7 7/8" hole @ 3,972'

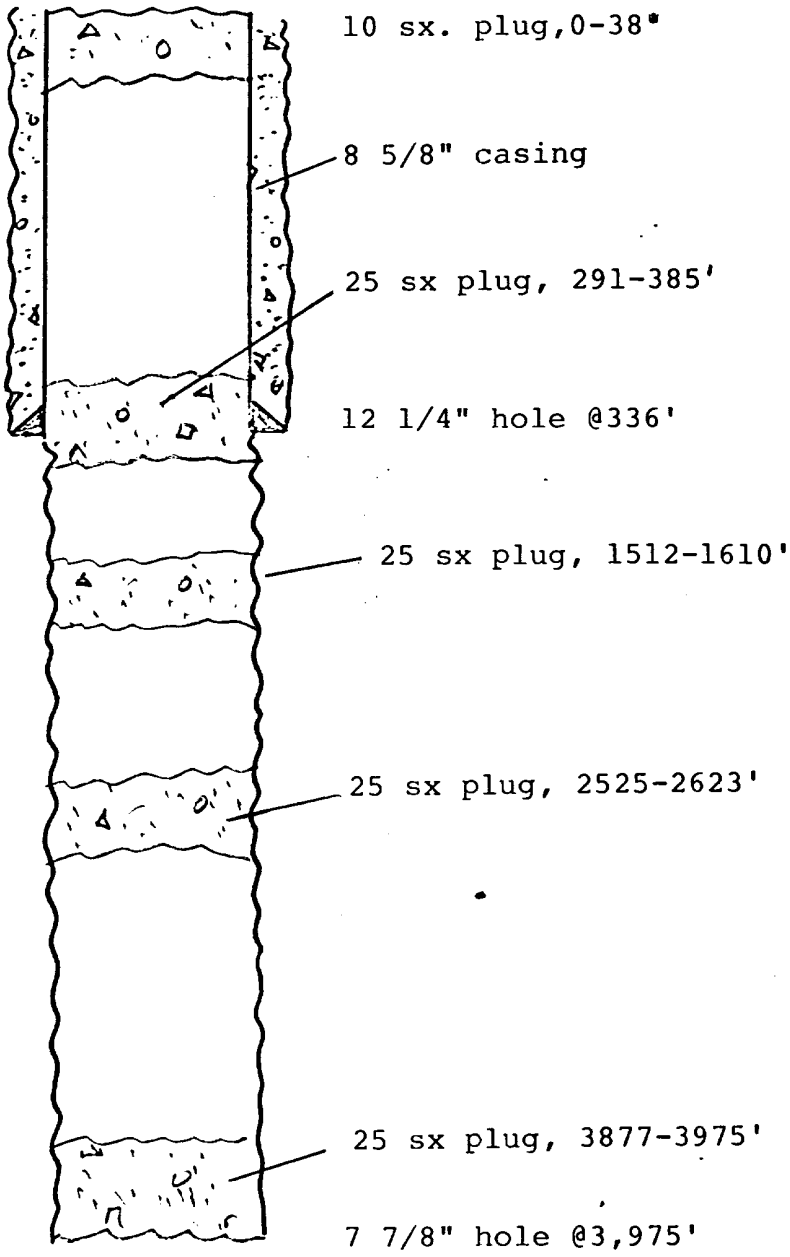
Smith & Marrs, Inc.
Pure State Well No 1
West Hume-Queen Field
1980' FEL & 1980' FNL Unit G
Section 15, T-16-S,R-33-E
Lea County, N. M.



Smith & Marrs, Inc.
Pure State Well No 2
West Hume Queen Field
660 FEL & 1980 FSL Unit I
Section 15, T-16-S,R-33-E
Lea County, N. M.

Cement Circulated

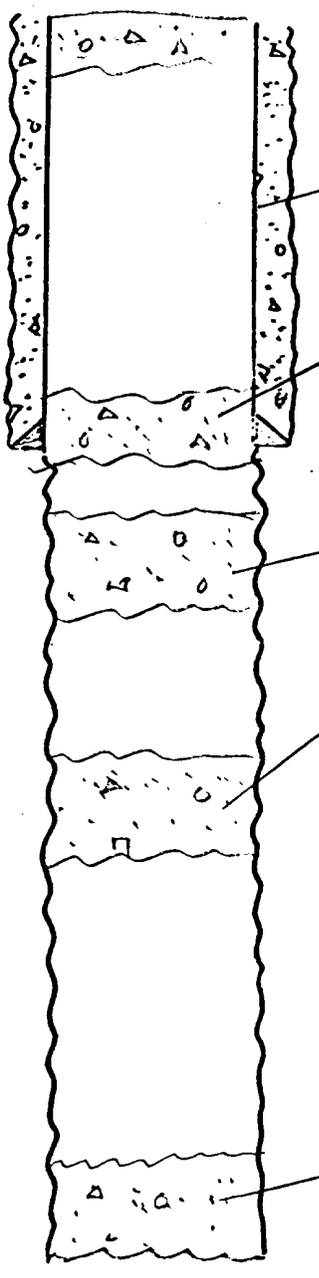
Cemented w/200 sx.



E. A. Hanson
Humble-State Well No 1
1980' FSL & 660' FWL - Unit L
Section 14, T-16-S,R-32-E
Lea County, N. M.

Cement circulated

Cemented
W/200 sx.



10 sx surface plug

8 5/8: 20#.ft/
casing

25 sx across 8 5/8"
shoe @ 330'

11" hole @330'

25 sx plug, 1600'-1700'

25sx plug, 2700'-2800'

25 sx plug, 3,880'-3980'

7 7/8" hole @ 3,980'

Tom Brown
Humble-State Well No 1
660' FWL & 660' FNL - Unit D
Section23, T-16-S,R-33-E
Lea County, N. M.

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 1990