1R - 245

REPORTS

DATE:

1978

MRS. SMITH
WATER CONTAMINATION PROBLEM
JAL, NEW MEXICO

A PRELIMINARY REPORT

FEBRUARY 26, 1978

MRS. SMITH
WATER CONTAMINATION PROBLEM
JAL, NEW MEXICO

On February 17, 1978, the Oil Conservation Commission received a call from Mrs. Smith, who lives 7 miles east of Jal (Unit C-21-25-38). She reported that she thought her only water well for house and stock use was contaminated.

On February 20, 1978, an OCC representative went to her house and took a water sample. The water sample was analyzed on February 21, 1978, and was found to be 951 ppm chlorides. Further search revealed that additional water analysis has been run by the State Engineers in the past on her water well as follows:

1965 -- chlorides = 53.0 ppm (St. Engineers)
1976 -- chlorides =314.0 ppm (St. Engineers)
Feb. 8, 1978 -- chlorides =899.0 ppm (St. Engineers)
Feb.20, 1978 -- chlorides =951.0 ppm (N.M.O.C.C.)

As shown above, Mrs. Smith does have a water problem and the chloride content is rapidly increasing.

The nearest and only oil well (P&A) in New Mexico that could possibly contaminate Mrs. Smith's water well is the Leonard Federal #3 located in Unit C, Section 21, T25S, R38E. This well was plugged in 1954 (never produced), the plugging program on this well is questionable. Schematic diagram enclosed as well as plugging records, topographic map of area, location plat and ownership plat.

All the oil pools and P&A wells in the area of interest in New Mexico are practically eliminated as suspect because the surface topography shows that contaminated water could not reach the Smith water well.

The Dollarhide pool is located 2 miles north of the Smith's well and the contaminated water would have to pass through one large low area and over two high areas and the surface dips down to the west into Monument Draw. The complex of oil pools to the west of the area are located 2½ miles west across

Monument Draw from Smith's well and the surface dips southwest from oil pools into Monument Draw.

The surface topographical map does reflect the top of the redbeds in the area. The plestocene fill carries the ground water in area and ground water does not presist over entire area of interest; it is mainly concentrated west of Monument Draw and in the draw proper. The Plestocene fill in the area ranges from 50 to 140 feet thick.

There is a good possibility that the contaminated water could be coming in from the northeast from Texas. There is a large area of production about one-half mile northeast of the Smith's well and the dip of the surface is from this producing area in a southwesterly direction to Mrs. Smith's area.

If the Leonard well is not the problem, then the contamination is almost certainly coming from the Texas side.

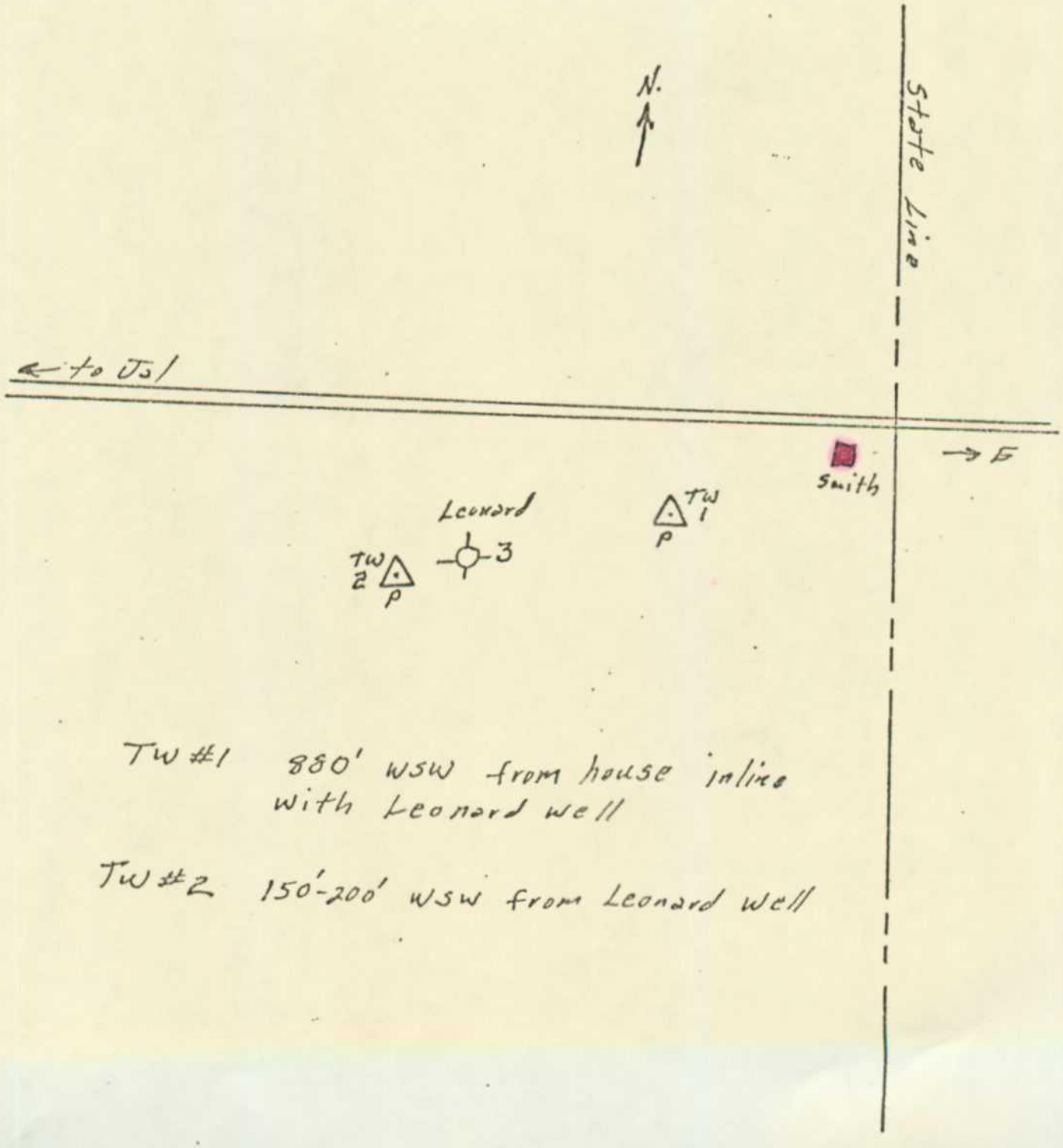
It will be necessary to drill two test wells to prove or disprove that the Leonard well is the problem. One test well between the Smith well and the Leonard well and one well WSW of the Leonard well.

Respectfully submitted,

John W. Runyan

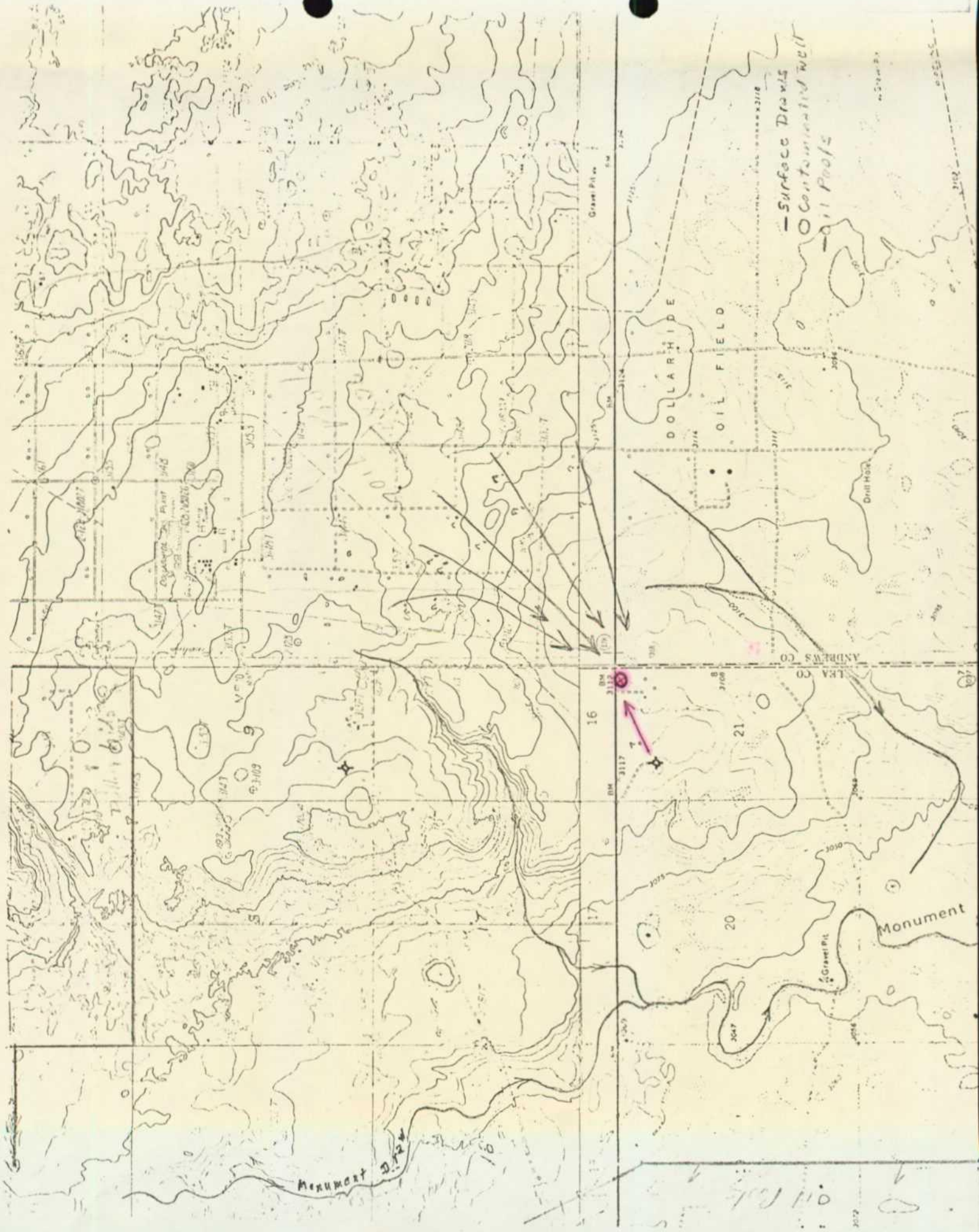
John W. Runyan, Geologist
Oil Conservation Commission

PROPOSED
TEST WELLS

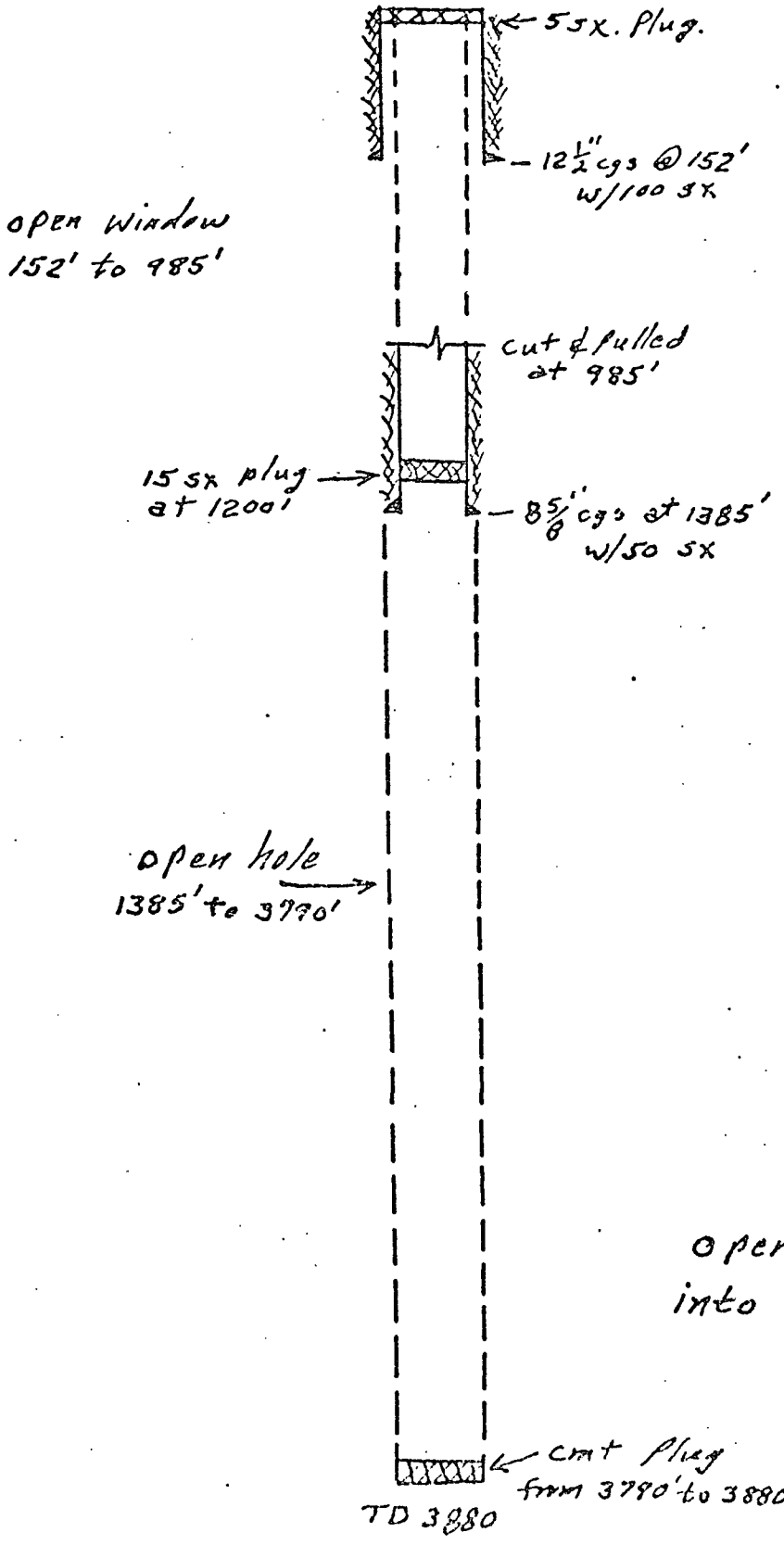


TW #1 880' WSW from house inline with Leonard well

TW #2 150'-200' WSW from Leonard well


Surface Drawls
Continental Well
Oil Pools
DOLLARHIDE
OIL FIELD
LEA CO
ANDREWS CO
Monument
Monument Draw
16
21
20
10

LEONARD OIL Co.
Federal #3
660/N & W - 21-25-38
Plugged 1954



Casing Program

12¼" @ 152' w/100 sx
10¾ @ 759' pulled
8⅝ @ 1385' w/50 sx
Cut & pulled at 985'
T.D. @ 3880'
Plug 3790 to 3880
Plug 1200 w/15 sx
Plug surface w/5 sx.

Formations

Top Redbed 120'
Top Anhy @ 1208'
Top Salt @ 1300'
Base Salt @ 2160'
Yates @ 2228'
Seven Rivers @ 2560'
Queen @ 3110'
Grayburg @ 3430'
San Andres @ 3820'

Open hole from top salt into San Andres.

Form 9-331a
(Feb. 1951)

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office New Mexico
Lease No. 0569
Unit

RECEIVED

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL		Subsequent Report of Temporary Abandonment	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Roswell, New Mexico, May 6, 1954

Well No. Ginsberg #4 is located 660 ft. from {N} line and 660 ft. from {E} line of sec. 21

NE/4 Sec. 21 (¼ Sec. and Sec. No.) — 25S (Twp.) — 38E (Range) — N.M.P.M. (Meridian)

Wildcat (Field) — Lea (County or Subdivision) — New Mexico (State or Territory)

The elevation of the derrick floor above sea level is .... ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

(Per Telephone Conversation, H. A. Dupont--R. J. Leonard, 5-3-54)

Ran cement plug from TD 3880' to 3790' - 30 sx cement;
Mudded hole from 3790' to surface - 65 sx Aqua-jel.

Temporary abandonment requested for a period of approximately two years.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

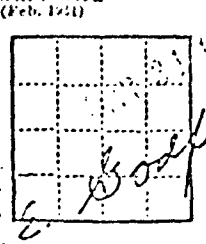
Company LEONARD OIL COMPANY

Address Box 708
Roswell, New Mexico

By Robert J. Leonard

Title President

Form 9-331 a
(Feb. 1951)



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Approval expires 12-31-60.

Land Office New Mexico

Lease No. 0569

Unit

RECEIVED
MAR 30 1954
U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	X
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
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NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Roswell, New Mexico March 29, 1954

Ginsberg #4
Well No. ..... is located 660 ft. from {N/S} line and 660 ft. from {E/W} line of sec. 21

Unit J 21 | 25S | 38E | N.M.P.M.
(¼ Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Wildcat | Lea | New Mexico
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 3119 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

As Per "Notice of Intention to Test Water Shut-off" dated 3-26-54, and telephone conversation (J. M. Owen and your office) following work was done:

3-27-54 - 7:00 P.M. Bailed hole dry and waited until Midnight - no water entered; Drilled plug and waited until 5:00 A.M, 3-28-54 - no water entered. Cement job considered satisfactory; drilling ahead.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company LEONARD OIL COMPANY

Address Box 739, Roswell, New Mexico.

By Robert J. [illegible]

Title Petroleum Engineer

U. S. GOVERNMENT PRINTING OFFICE 16—8437-8

Form 9-331a
(Feb. 1951)

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Approval expires 12-31-55.

Land Office New Mexico
Lease No. 0569
Unit

RECEIVED
JUL 1 4 1954
U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
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NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	X
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

July 13, 19 54

Ginsberg #4
Well No. ..... is located 660 ft. from {N/S} line and 660 ft. from {E/W} line of sec. 21

Unknown 21 | 25S | 38E | N.M.P.M.
(¼ Sec. and Sec. No.) | (Twp.) | (Range) | (Meridian)

Wildcat | Lea | New Mexico
(Field) | (County or Subdivision) | (State or Territory)

The elevation of the derrick floor above sea level is 3119 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

(Approval for following work obtained 6-24-54 - Telephone Conversation between H. A. Dupont--R. J. Leonard)

Recovered 985' of 8-5/8" Casing; used 15 sx cement at 1200' in 8-5/8" left in hole. Used 5 sx in 12-1/2" surface pipe. Set 4" Marker extending 4' above surface.

Work done by Hobbs Pipe & Supply Company, Hobbs, New Mexico.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company LEONARD OIL COMPANY

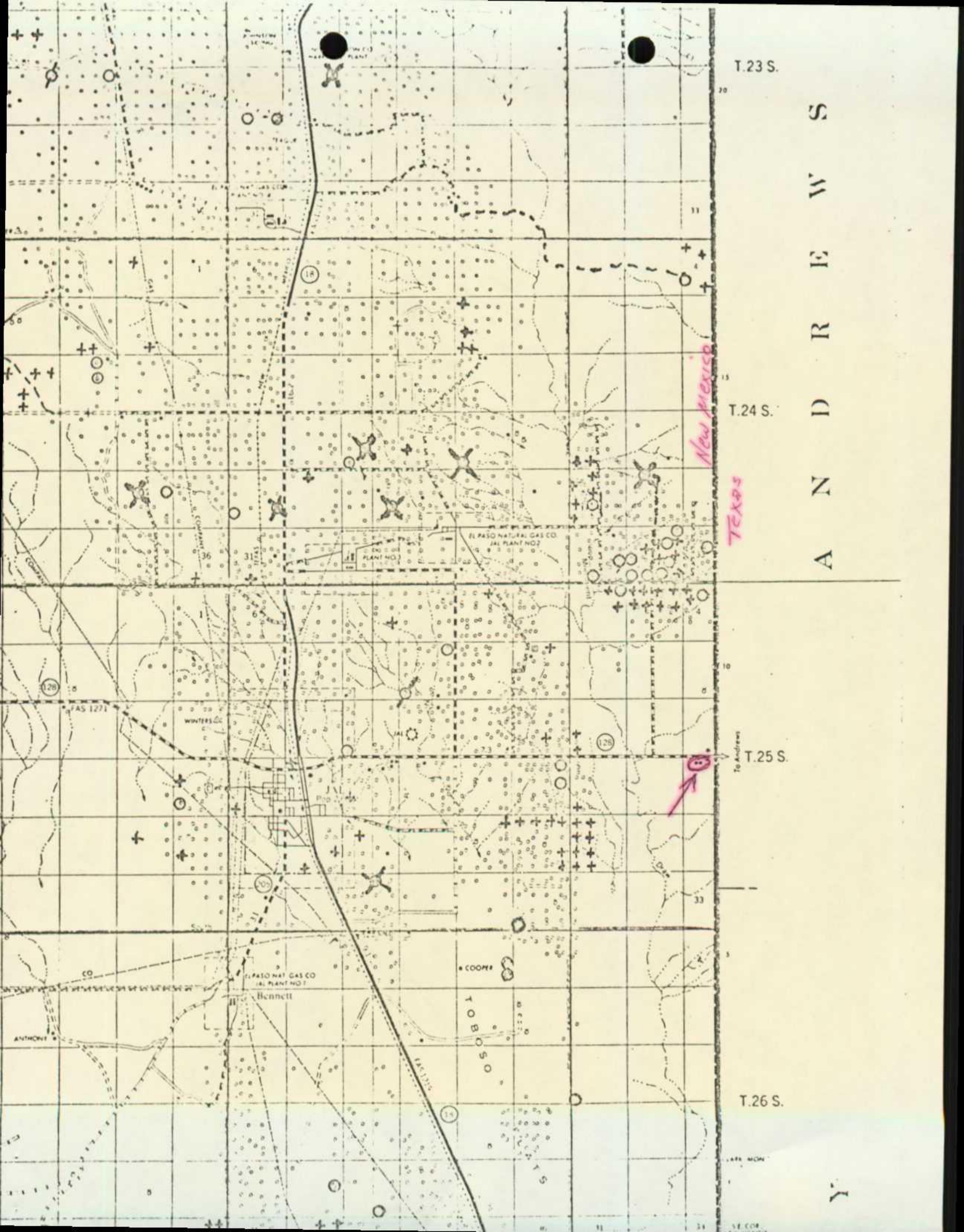
Address Box 708

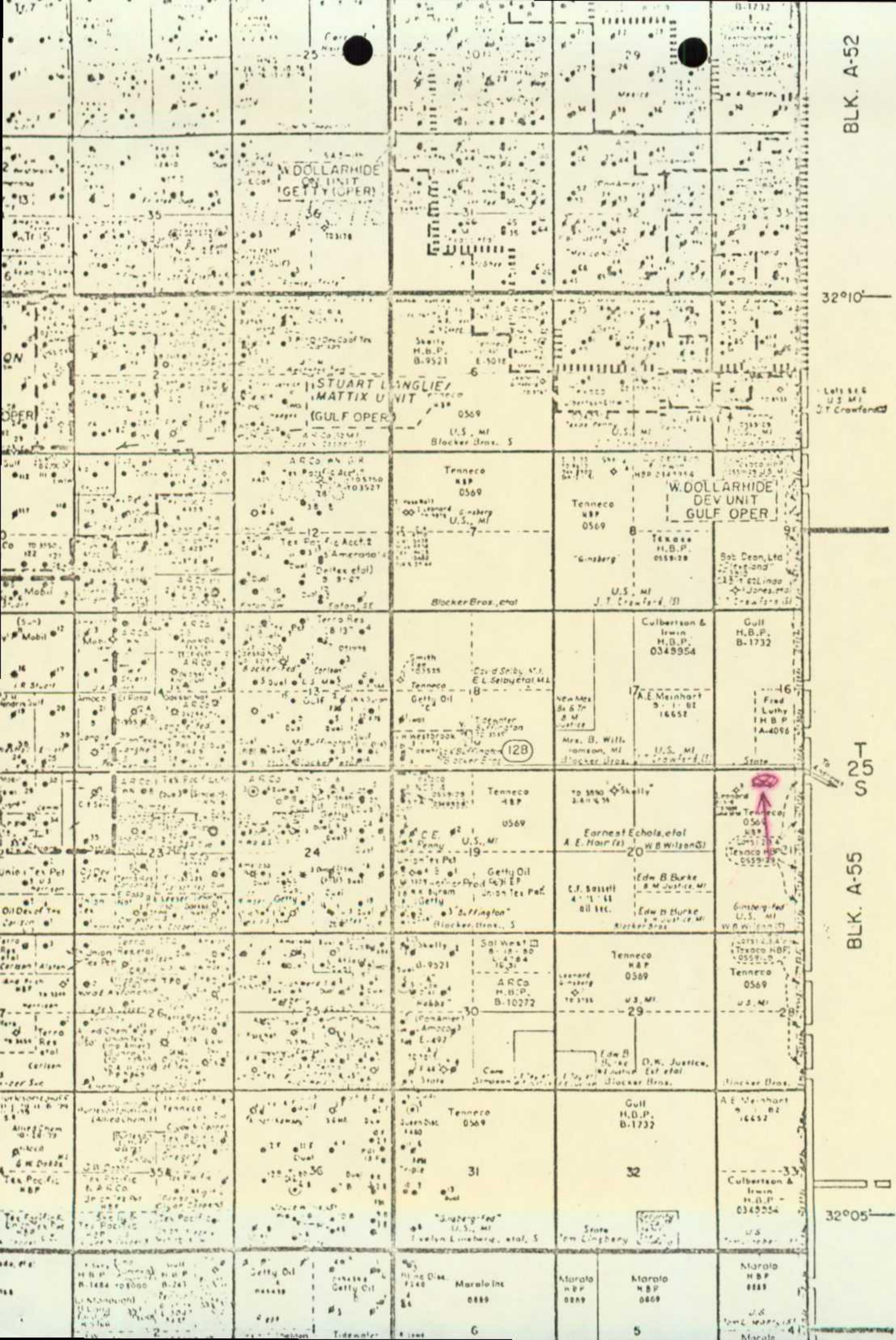
Roswell, New Mexico

By Robert J. Leonard
Robert J. Leonard, Vice President

Title

U. S. GOVERNMENT PRINTING OFFICE 16—51137-5


T.23 S.
T.24 S.
T.25 S.
T.26 S.
ANDREWS
New Mexico
Texas
EL PASO NATURAL GAS CO. JAL PLANT NO.2
EL PASO NATURAL GAS CO. JAL PLANT NO.1
EL PASO NAT GAS CO JAL PLANT NO 1
FAS 1271
WINTERS GC
Bennett
COOPER
TOBOSO
ANTHONY
To Andrews


BLK. A-52
32°10'
W. DOLLARHIDE
GETTY (OPER)
STUART LANGLIE/
MATTIX UNIT
(GULF OPER)
Skelly
H.B.P.
B-9521
U.S., MI
Blocker Bros., S
Tenneco
HBP
0569
W. DOLLARHIDE
DEV UNIT
GULF OPER
Texaco
H.B.P.
U.S., MI
J. T. Crawford
Blocker Bros., etal
Culbertson &
Irwin
H.B.P.
0349954
Gulf
H.B.P.
B-1732
A.E. Meinhart
16652
Fred
Luthy
H B P
A-4096
Mrs. B. Williamson, MI
Blocker Bros.
Getty Oil
128
State
T
25
S
Tenneco
HBP
0569
Earnest Echols, etal
A. E. Hair
W. B. Wilson
Edw. B. Burke
C.J. Bassett
Getty Oil
Union Tex Pet
Blocker Bros., S
BLK. A-55
Tenneco
HBP
0569
A R Co
H.B.P.
B-10272
D.W. Justice,
Blocker Bros.
Gulf
H.B.P.
B-1732
A.E. Meinhart
16652
Culbertson &
Irwin
H.B.P.
0349954
Tenneco
0569
Evelyn Lineberg, etal, S
32°05'
Marolo Inc
Marolo
HBP
0889
Getty Oil
Tidewater
24
36
31
32
33
6
5
4

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Smith (395-3263) Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit C, Section 21, T 25 S - R 38 E _____

Loc. 7 miles East of Jal

Type Well: water well Depth: ____ feet.

Well Use: Domestic - House

Sample Number: #1 Date Taken: 2/21/78

Specific Conductance: _____ m/n

Total dissolved Solids: _____ PPM.

Chlorides: 951.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 2/22/78 By: John W. Runyan
N.M.O.C.C.

Remarks: _____

25 ml Sample = 142 factor X 6.7 titration = 951.4