



**ARCO Permian**  
600 North Marienfeld  
Midland TX 79701-4373  
PO Box 1610  
Midland TX 79702-1610  
Telephone 915 688 5200

September 28, 1998

Bryan Arrant  
District Geologist, NMOCD District II  
811 South First Street  
Artesia, New Mexico 88210

Re: Surface casing requirement for ARCO's Washington "33" State #2  
990 FNL and 930 FEL, Sec 33, T17S R28E  
Eddy Co, NM

Dear Bryan:

ARCO Permian requests that the surface casing requirement to protect fresh water in the cited well be modified from 500' to 430'. We intend to Elog and sidewall core the entire Yates sand in this well, the top of which will be at about 449' measured depth (+3235'SS), and we want to make one Elog run instead of two to fully evaluate the oil potential of the Yates Sand. Mudlog shows in the Yates in other new wells, plus oil or saltwater indicators in older wells in Section 33, indicate that this Yates interval is not potable water, and may be oil-productive. Section 28 just north of us, with 15 productive wells in the Empire East (Yates-Seven Rivers) Pool, already recognizes the oil potential of the Yates sand, although only the Seven Rivers appears perforated in any of these producers.

Attached mudlogs from ARCO's Washington 9 and 14 indicate oil sands as shallow as 568 feet. Top of Yates on each of these wells is behind surface casing. Elog calculations (attached) indicate Yates oil potential, which we will plan to test in nearby wells as soon as we can validate the pay potential to the top of the Yates with sidewall cores in proposed well #2, to be drilled around October 20. A structure map of the top of the Yates Sand has also been included.

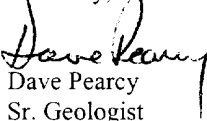
Sinclair's Martin Yates State #1, drilled in 1926 in unit letter J of Section 33, noted red sand with salt water at the top of Yates at 370' MD (+3280') on the attached completion form. We believe this driller's log condemns the possibility of any usable water in the Yates Sand, and would justify our request to run surface casing to only 430'.

An August 1954 letter from our files (attached) documents a single domestic water well in Sec 33, producing from down to 190'. Ken Fresquez at the State Engineer's Office has told me he could find no water wells below the base of Rustler in this area. We request a thorough search be completed by the State Engineer's Office, so that our request to run surface casing to 430' can be approved.

ARCO will cement 5-1/2" casing at 4200' for a San Andres or deeper completion, by circulating cement to surface. Even if the Yates has no oil and is water bearing, the zone will be protected from oil and gas contamination.

Please contact me at 915-688-5355 (email: [dpearcy@mail.arco.com](mailto:dpearcy@mail.arco.com)) if other information is necessary. Thank you for your consideration of this request.

Sincerely,

  
Dave Percy  
Sr. Geologist

DP:lc

Attachments



ARCO Permian  
600 North Marienfeld  
Midland TX 79701-4373  
PO Box 1610  
Midland TX 79702-1610  
Telephone 915 688 5200

September 28, 1998

Ken Fresquez  
NM State Engineer's Office  
1900 West Second Street  
Roswell, New Mexico 88201

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Sincerely,

Dave Percy  
Sr. Geologist

DP:lc

Attachments

Submit 3 Copies  
to Appropriate  
District Office

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-103  
Revised 1-1-89

**OIL CONSERVATION DIVISION**

DISTRICT I

P.O. Box 1980, Hobbs NM 88241-1980

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

2040 Pacheco St.  
Santa Fe, NM 87505

WELL API NO.

015-30187

5. Indicate Type of Lease

STATE ☒

FEE ☐

6. State Oil & Gas Lease No.

**SUNDRY NOTICES AND REPORTS ON WELLS**

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"  
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

2. Name of Operator

ARCO Permian

8. Well No.

2

3. Address of Operator

P.O. Box 1610 Midland, TX 79702

9. Pool name or Wildcat

ARTESIA; GLORIETA-YESO

4. Well Location

Unit Letter A : 990 Feet From The NORTH Line and 930 Feet From The EAST Line

Section

33

Township

17S

Range

28E

NMPM

EDDY

County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)

3677'

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

**NOTICE OF INTENTION TO:**

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☒

PULL OR ALTER CASING ☐

OTHER: CHANGE CASING SETTING LOC. ☒

**SUBSEQUENT REPORT OF:**

REMEDIAL WORK ☐

ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐

PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

12. Describe Proposed or Completed Operation (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

THIS SUNDRY WILL SERVE AS NOTIFICATION (ALONG WITH SUPPORTING DOCUMENTATION)  
OF A CHANGE OF PLANS REGARDING THE DEPTH THAT CASING WILL BE SET. MODIFY  
ORIGINALLY APPROVED PLANS TO SET SURFACE CASING @ 500' TO A NEW DEPTH OF 430'.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

*Laurie Cherry*

TITLE REGULATORY COMPLIANCE

DATE 9/25/98

TYPE OR PRINT NAME LAURIE CHERRY

TELEPHONE NO. 915-688-5532

(This space for State Use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:





AND ASSOCIATES, INC.  
GEOLOGICAL CONSULTING / SURFACE LOGGING VICES  
P.O. BOX 61150 P.O. BOX 2993  
MIDLAND, TX 79711 ROCK SPRINGS, WY 82902  
OFFICE (915) 561 9808 - 24 HOURS 800 578 1006

Well: WASHINGTON 33 STATE #9  
Field: ARTESIA  
Location: 1650 FNL & 2270 FWL SEC.33 T17S R28E  
County: EDDY  
State: NEW MEXICO  
Logger: T. RODGERS  
Interval: -500 540  
Date: 5/4/98  
Unit: 19  
Well#: 1897  
Phone: (915) 528-5819

#9 Peary

ANHYDRITE CONGLOMERATE SALT  
CHERT DOLOMITE SHALE  
COAL X GRANITE WASH SAND  
GRANITE LIMESTONE SILTSTONE

POROSITY - % CUT - FLUOR

TRACE FAIR GOOD

C-1 METH (PURPLE) C-4 BUT (BROWN)  
C-2 ETH (GREEN) C-5 BENT (LT BLUE)  
C-3 PROP (DK BLUE)

TOTAL GAS

HOTWIRE (RED)

Drill Rate (min) (1000#)

Depth

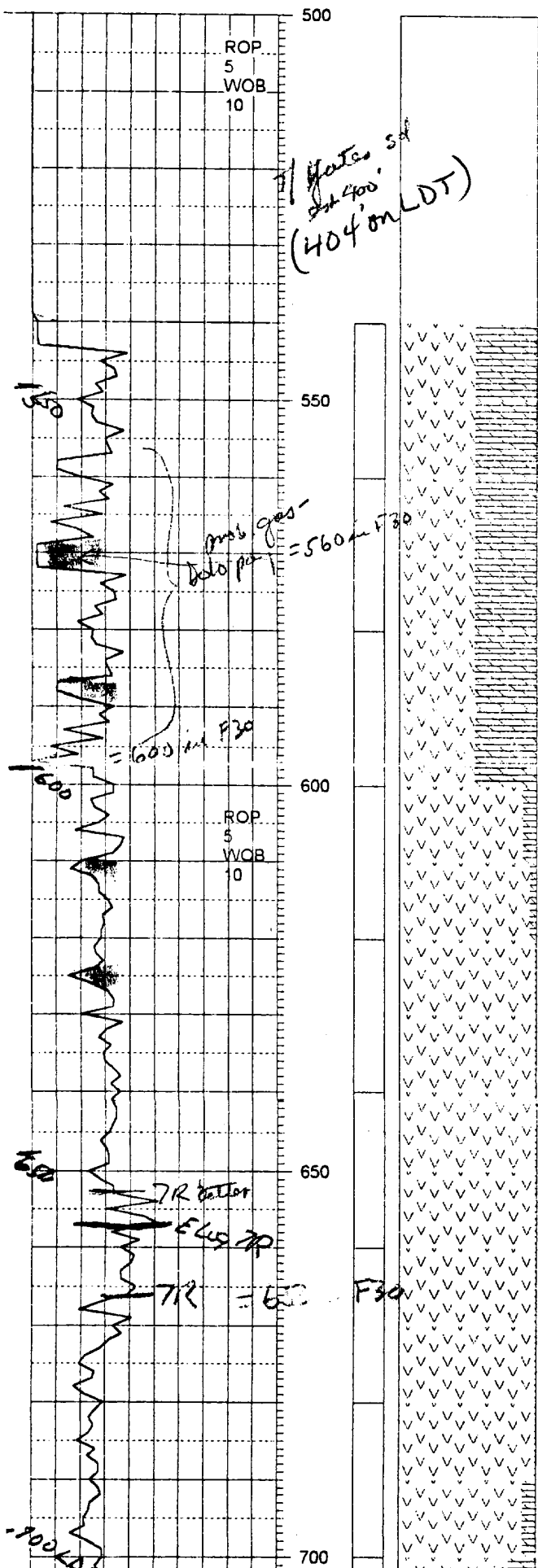
POR

CUTTINGS

%Cut  
Fluor

LITHOLOGY

Gas Analysis  
(unit)



START ONE MAN LOGGING 5/4/98  
DRLG 7 7/8 HOLE W/ BIT NO.2 W/M 637Y  
8 5/8 CSG SET AT 540 KB UNITED  
DRILLING RIG NO.7

ANHYDRITE: WH OFFWH CLR VF/XLN  
SFT/FM IP TRNSL/ TRNPL SL/CALC  
DOLOMITE: TN LT/TN VF/FI XLN IP  
SFT/SL/FM CALC IP PAL ORNG FLU  
TR/CUT

ANHYDRITE: WH OFFWH CLR VF/XLN  
SFT/FM IP TRNSL/ TRNPL SL/CALC  
DOLOMITE: TN LT/TN VF/FI XLN IP  
SFT/SL/FM CALC IP PAL ORNG FLU  
TR/CUT

ANHYDRITE: WH OFFWH CLR RD  
GLAUC IP VF/XLN SFT/ FM IP  
TRNSL/TRNPL SL/ CALC DOLOMITE: TR  
TN LT/TN VF XLN IP SFT/SL/FM CALC IP

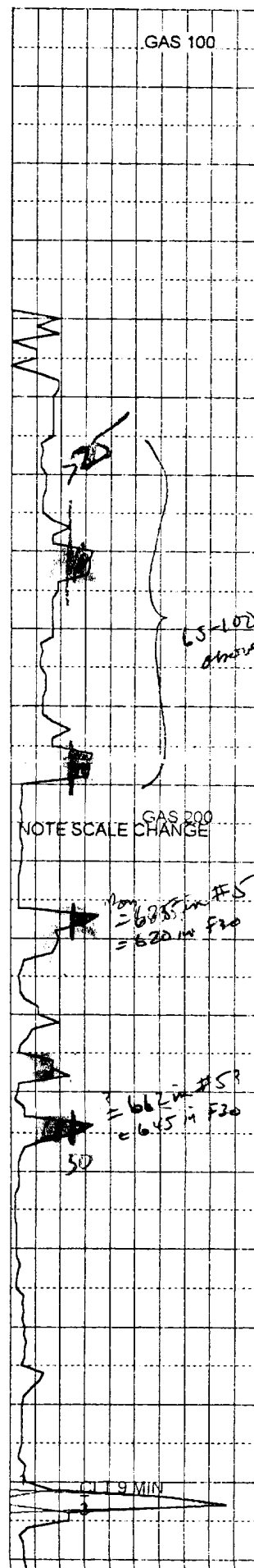
ANHYDRITE: WH OFFWH CLR RD  
GLAUC IP VF/XLN SFT/ FM IP  
TRNSL/TRNPL SL/ CALC DOLOMITE: TR  
TN LT/TN VF XLN IP SFT/SL/FM CALC IP

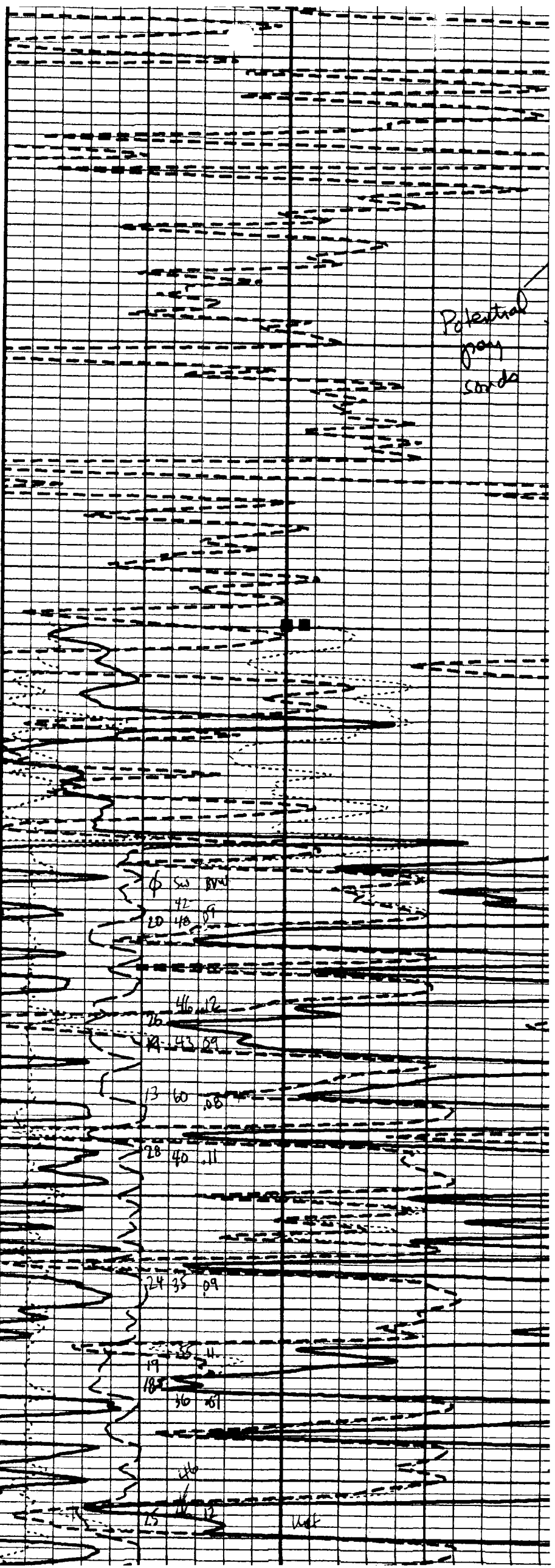
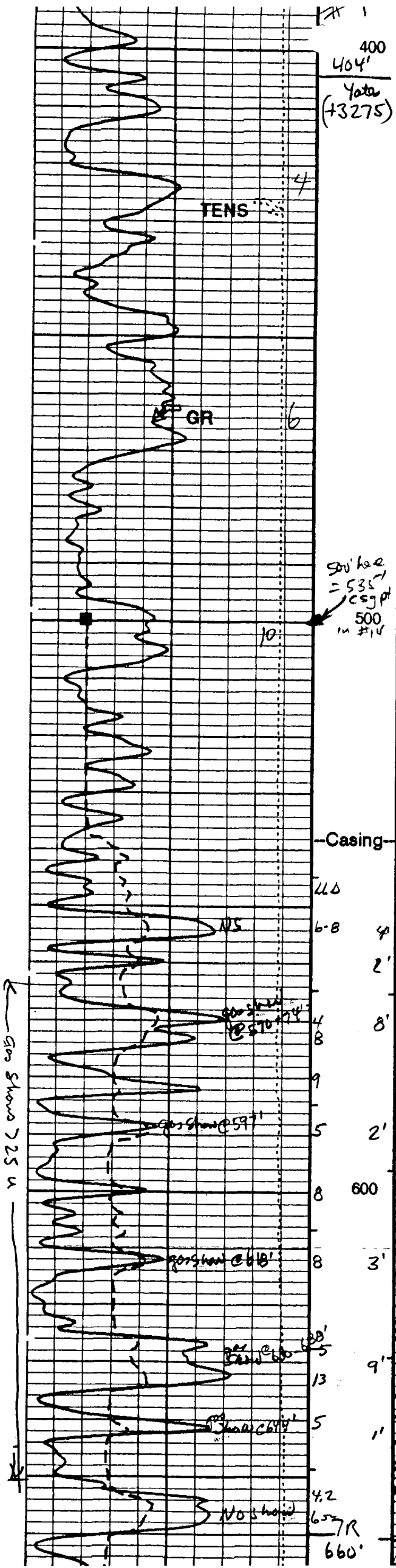
ANHYDRITE: WH OFFWH CLR RD  
GLAUC IP VF/XLN SFT/ FM IP  
TRNSL/TRNPL SL/ CALC DOLOMITE: TR  
TN LT/TN VF XLN IP SFT/SL/FM CALC IP

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ANHYDRITE: WH OFFWH CLR RD





**SELMAN**

AND ASSOCIATES, INC.

GEOLOGICAL CONSULTING / SURFACE LOGGING SERVICES

P.O. BOX 61150

P.O. BOX 2993

MIDLAND, TX 79711

ROCK SPRINGS, WY 82902

OFFICE (915) 561 9808 -- 24 HOURS 800 578 1006

☒ ANHYDRITE ☒ CONGLOMERATE ☒ SALT

☒ CHERT ☒ DOLOMITE ☒ SHALE

☒ COAL ☒ GRANITE WASH

☒ GRANITE ☒ LIMESTONE ☒ SILTSTONE

POROSITY - % CUT - FLUOR

☒ TRACE ☒ FAIR ☒ GOOD

Company: ARCO PERMIAN

Well: WASHINGTON 33 STATE #14

Field: ARTESIA

Location: 2282 FNL & 970 FEL SEC.33 T17S R28E

County: EDDY

State: NEW MEXICO

Logger: T. RODGERS

Interval: -500

To: -4199

Date: 5/14/98

To: 5/20/98

Unit: 19

Kelly Bushing 3673'

Well#: 1908

Ground Level: 3666'

Phone: (915) 528-5819

30-015-30194

C-1 METH (PURPLE) C-4 BUT (BROWN)  
C-2 ETH (GREEN) C-5 PENT (LT BLUE)  
C-3 PROP (DK BLUE)

TOTAL GAS (Red)

Drill Rate  
(min)

Wob  
(1000#)

Depth  
ft

%  
ROP

CUTTINGS

%Cut  
Fluor

LITHOLOGY

Gas Analysis

(unit)

(1% = 100 units = 10,000 ft)

GAS 200

DRLG W/BRINE

ROP  
5  
WOB  
10

WOB=40

RPM=55

PP=600

SPM=47

550

ROP  
5  
WOB  
10

600

650

: START ONE MAN LOGGING JOB 5/14/98  
8 5/8 CSN SET AT 535 KB BIT NO.2 7 7/8 HT  
44C UNITED DRILLING RIG NO.7 DRLG  
W/BRINE

: SANDSTONE: RD LT/RD GY TN OFFWH  
VF/FGR FRI W/CMT UNCONS IP CHKY IP  
RD BED IMD'D NO FLU NO VIS POR  
ANHYDRITE: WH OFFWH CLR RD VF/XLN  
FM/SFT TRNSL TRNPL MUSHY IP

: DOLOMITE: GRM LTTN WH OFFWH  
VF/XLN FM/SFT DNS SUCRO IP CHKY IP  
TR M/YL FLU TR CUT TR XLN POR  
ANHYDRITE: WH OFFWH CLR RD VF/XLN  
FM/SFT TRNSL TRNPL MUSHY IP

: ANHYDRITE: WH OFFWH CLR RD  
VF/XLN SFT/FM TRNSL/ TRNPL SUCALC  
DOLOMITE: LTTN GRM TN IP VF/F/XLN IP  
SFT/SL/FM SUCRO DNS IP TR M/YL FLU  
TR CUT TR INTER XLN POR

: ANHYDRITE: WH OFFWH CLR RD  
VF/XLN SFT/FM TRNSL/ TRNPL SUCALC  
DOLOMITE: LTTN GRM TN IP VF/F/XLN IP  
SFT/SL/FM SUCRO DNS IP TR M/YL FLU  
TR CUT TR INTER XLN POR

: ANHYDRITE: WH OFFWH CLR RD  
VF/XLN SFT/FM TRNSL/ TRNPL SUCALC  
DOLOMITE: LTTN GRM TN IP VF/F/XLN IP  
SFT/SL/FM SUCRO DNS IP 50% M/YL FLU  
TR CUT F/CUT CRUSH TR INTER XLN  
POR

: DOLOMITE: LTTN GRM TN IP VF/F/XLN  
IP SFT/SL/FM SUCRO SDY IP 10% M/YL  
FLU TR CUT F/CUT CRUSH TR INTER XLN  
POR

: DOLOMITE: LTTN GRM TN IP VF/F/XLN  
IP SFT/SL/FM SUCRO SDY IP 50% M/YL  
FLU TR CUT F/CUT CRUSH TR INTER XLN  
POR POSS LT/STN

CLT 5 MIN

GAS 200

lost  
yates  
pore

T/Yates  
440' LOT  
(+3233)

600' LOT

700' LOT 7R LOT

Lease Name : STATE  
API Number : 300150 250000  
Section or Equiv : SEC 30  
Township : S017  
Range : E028  
Spot :  
Base Meridian : NEW MEXICO (21)  
Geologic Province: PERMIAN BASIN  
Formation at TD :  
Oldest Age Pen :

NOTE DIRECTION : VERTICAL  
Init Lahee Class : WF  
Final Lahee Class: WFD  
Permit Number :  
Elevation : 00000 ()

Producing Formation:

----- Additional Location Information -----  
Footage Location : 330FNL 330FWL SEC LN  
Location Narrative:

Latitude : 32.81143                      Latitude (Bot) :  
Longitude : 104.22205                  Longitude (Bot) :

Latitude & Longitude Source: SUPERBASE

----- Initial Potential Tests -----

Test Form	Top	Base	Oil Rate	Gas Rate	Wtr Rte	FTP	BHP	Ck	M	BHT
0001	84	420	90 BOPD						P	

(Yates-7 Rivers)

----- Production Tests -----

Test Form	Top	Base	Oil Rate	Gas Rate	Wtr Rte	FTP	BHP	Ck	M	BHT
0001	384	420	24 BO						F	
0002	384	420	16 BO						F	

----- Casing Data -----

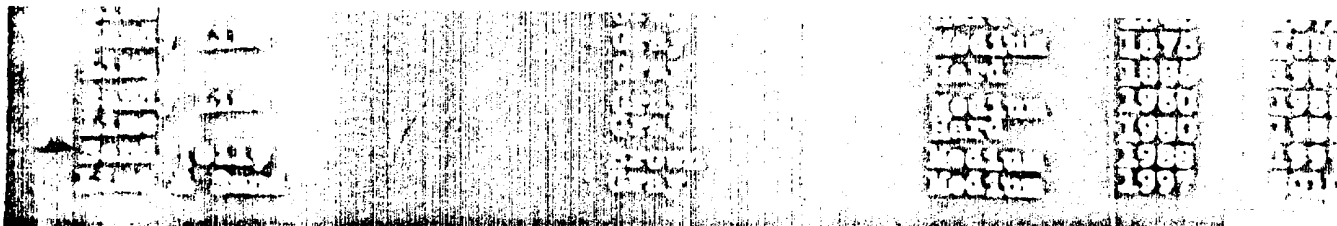
Size	Depth	Cement
7	384	

----- Actual Bottom Hole From Surface Location -----

Meas Depth	True Vert Depth	Closure Ft Deg Min	N/S Footage	E/W	State Code	County Code
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----- Actual Bottom Hole Narrative -----

I Est T/yates ~ 240' here. JBP



August 9, 1954

(BLD) STATE OF NEW MEXICO  
STATE OF NEW MEXICO,  
WATER LEASE  
Eddy County, New Mexico

CMH	_____
NMB	_____
RFS	_____
WTB	_____
AMC	_____
JSF	_____
GDL	8-11
JWC	8-10
JWE	8-10
PERM	_____
DESTROY	_____

New Mexico State Land Office  
Santa Fe, New Mexico

Attention: Mr. Zane Spiegel

Gentlemen:

Acknowledging receipt of your letter of July 28, 1954, addressed to our Mr. George W. Lederer, requesting information regarding our Yates Lease Water Well No. 1.

We have one water well on this lease. Location of well is Southwest Corner of Southwest Quarter of Southeast Quarter of Section 33, Township 17 South, Range 28 East. Well was drilled in December 1928.

Although we have no log record of this water well the formation would be similar to log of the Yates Well No. 2 (oil well) which is located ten feet North of water well. Log of the Yates No. 2 through the water sand is as follows:

0	-	3	Redbed
3	-	123	Redbed and Sand
123	-	160	Red Rock
160	-	165	Brown Sand
165	-	175	Gravel (Water)
175	-	190	Redbed

10-3/4" casing is mudded in water well at 165 feet. There is 60 feet of 4 1/2" slotted liner on bottom with canvas packer at top of liner, pumping through 2 1/2" tubing.

Water well is currently pumping 150 barrels per month. Water is used for domestic purposes only, furnishing water for use at lease house.

Yours very truly,

NMB:me

N. M. Baird

bcc: GWL CAS