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OIL CONSERVATION DIVISION  
NOV 5 1990 9 13

LAW OFFICES

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300 YATES PETROLEUM BUILDING  
P. O. DRAWER 239  
ARTESIA, NEW MEXICO 88211-0239

TELEPHONE  
(505) 746-3508  
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(505) 746-6316

November 2, 1990

Mr. William J. LeMay, Director  
New Mexico Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Application of Yates Petroleum Corp. for  
Commingling of Production from Wolfcamp and  
Canyon Formations, Eddy County, New Mexico,  
Case No. 10132

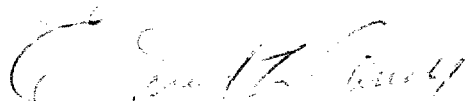
Dear Mr. LeMay:

Enclosed for filing, please find three copies of the Affidavit of Pinson McWhorter and attachments, whereby we request that the above-referenced Application be considered and approved administratively. If the Commission requires any further information, please advise.

Also, by this request for administrative approval we would expect that this case would be continued from the docket. If that is not the case, please advise. Thank you for your consideration.

Very truly yours,

LOSEE, CARSON, HAAS & CARROLL, P.A.

  
Ernest L. Carroll

ELC:kth  
Enclosures

cc: Pinson McWhorter

**AFFIDAVIT OF PINSON McWHORTER**

STATE OF NEW MEXICO )  
 : ss.  
COUNTY OF EDDY )

PINSON McWHORTER, being first duly sworn, upon his oath,  
states:

I am a Reservoir Engineer for Yates Petroleum Corporation, and I have previously testified as an expert witness before the Oil Conservation Commission.

Yates Petroleum Corporation has prepared and filed an Application for Commingling of Production from the Wolfcamp and Canyon Formations in their Hillview AHE Federal Com #3, Unit N, Section 23, Township 20 South, Range 24 East in the South Dagger Draw Upper Penn, Eddy Undesignated Wolfcamp pools. A plat of the acreage is attached hereto as Attachment "A".

At the present time a 24-hour production test showing the amount of oil, gas and water being produced is only available for the commingled zones. A current (within 30 days) 24-hour productivity test showing the amount of oil, gas and water produced from each zone is not available at this time. Yates does not propose to obtain such productivity test for each zone because of the undue cost involved because of the electric submersible pump. It would cost approximately \$9,000.00 just to round trip the pump in preparation to make the tests.

A production decline for the South Dagger Draw-Upper Penn zone is attached (see Attachment "B"). The well was originally completed as the Penny Federal #1 on May 24, 1971. From May, 1971 to May, 1982 it produced 8,124 barrels of oil, 532050 MCF of gas and 1,372,722 barrels of water from the South Dagger Draw Upper Penn. The well was produced with gas lift.

This well was recompleted to the Eddy Undesignated Wolfcamp on March 10, 1983; however, production from the Wolfcamp zone was not recorded. The Wolfcamp was perforated at 6676' - 6683' and 6704' - 6718' and potentialized for 1 BOPD, 220 MCFD and 13 BWPD (See Attachment C). In June of 1983 the Wolfcamp was stimulated with a hydraulic fracture treatment at which time it tested for 0 BOPD, 176 MCFD and 18 BWPD (See Attachment "D"). In summary, the Wolfcamp zone never produced at economic rates even after a significant stimulation treatment.

Subsequently, Yates Petroleum Corporation took over operation of this well and renamed it the Hillview AHE Federal Com #3. In August and September of 1990, Yates re-entered this well and pulled the bridge plug that was set over the Upper Penn. A


packer was set at 7600' and perforations at 7696' - 7800' were treated with 23,000 gallons 20% HCL acid. Additional Upper Penn perforations were added at 7655' - 7666' and stimulated with 3,000 gallons 20% HCL acid. The load was swabbed back and the Upper Penn was put on submersible pump. Currently, the Wolfcamp and Upper Penn are open in the wellbore. A Recompletion Report and daily chronological report for this work is shown in Attachment "E". The Upper Penn is producing through the submersible pump into the tubing and the Wolfcamp is producing in the casing annulus. In this configuration the well potentialled for 89 BOPD, 216 MCFD and 2083 BWPD.

No bottom hole pressures were obtained prior to placing the electric submersible pump in the hole. The cost to obtain such pressure tests now are prohibitive, as noted above.

Analyses of the formation water for the original Upper Penn completion and the current completion are included. The water analysis of the current completion, which has Wolfcamp and Upper Penn open in the wellbore, is almost identical in character to analysis from the original Upper Penn completion, which suggests there will be no compatibility problem (see Attachment "F").

It is proposed to combine the Upper Penn production with the Wolfcamp production to achieve production levels above the economic limit. This commingling will extend the production life of the operation and recover gas in the Wolfcamp that would not be economical to recover if it were produced by itself. The volume lift capacity of the submersible pump will insure there will be no migration of the oil or gas from one zone to the other zone. Therefore, the commingled production strategy will not decrease the value of either stream.


Yates Petroleum Corporation further proposes that 100% of the oil production and 90% of the gas production be credited to the Upper Penn and remaining the 10% of gas production be credited to the Wolfcamp. The formula is based on the history of the two zones and anticipated performance. In the event future data indicate the need to alter the formula, Yates Petroleum Corporation will submit a formal request to the New Mexico Oil Conservation Commission.

  
Pinson McWhorter

SUBSCRIBED AND SWORN TO before me this November 1, 1990  
by PINSON MCWHORTER.

My commission expires:

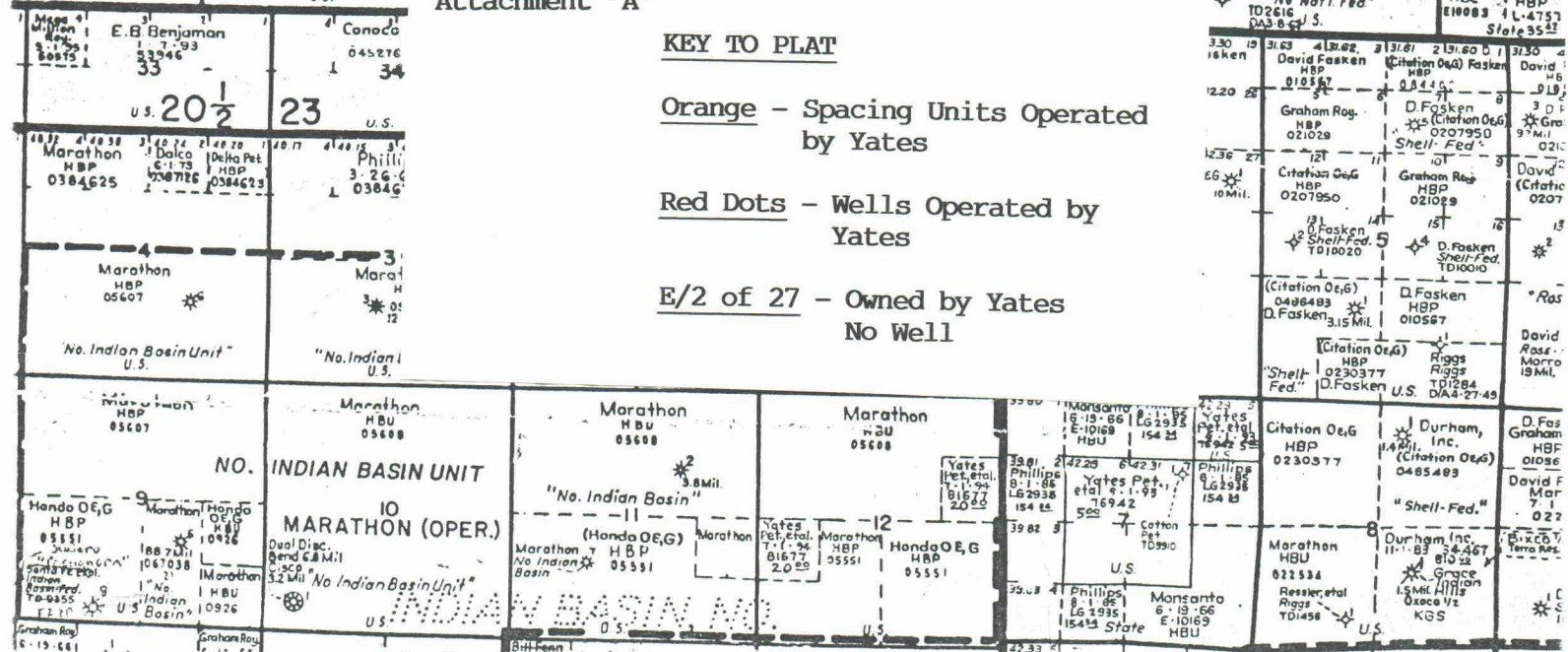
11-17-93

  
Randy J. Haldeman  
Notary Public





E/2 of 27 - Owned by Yates  
No Well

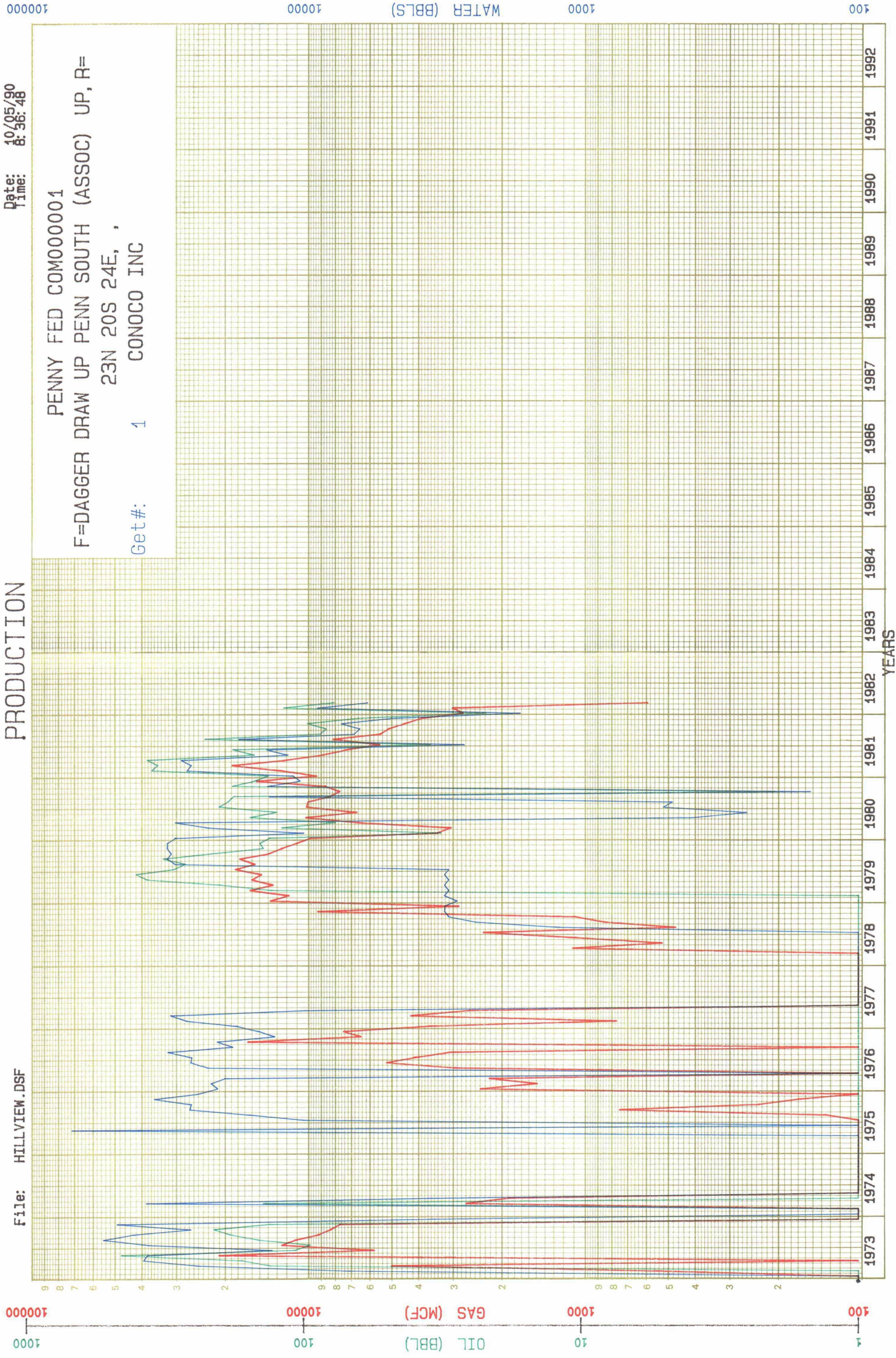


Attachment B

Upper Penn Decline Curve



PENNY FED COM000001  
F=DAGGER DRAW UP PENN SOUTH (ASSOC) UP, R=  
23N 20S 24E, ,  
Get #: 1 CONOCO INC





Attachment C

Recompletion Reports, C-102, Sundry  
Notices, and daily chronologicals  
for recompletion from Upper Penn  
to Wolfcamp in March, 1983.

OPERATOR'S COPY  
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See back for In-  
structions on  
reverse side)

Form approved.  
Budget Bureau No. 42-R555.5.

FILE

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> Other _____		5. LEASE DESIGNATION AND SERIAL NO. NM 045274	
b. TYPE OF COMPLETION: NEW WELL <input type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input checked="" type="checkbox"/> Other <u>Recomplete</u>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR CONOCO INC.		7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR P. O. Box 450, Hobbs, N.M. 88240		8. FARM OR LEASE NAME PENNY FEDERAL	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) At surface 660' FSL & 1980' FWL At top prod. interval reported below <input checked="" type="checkbox"/> At total depth <input checked="" type="checkbox"/>		9. WELL NO. 1	
14. PERMIT NO.		10. FIELD AND POOL, OR WILDCAT UNDESIGNATED WOLFCAMP	
DATE ISSUED		11. SEC. T. R., M., OR BLOCK AND SURVEY OR AREA Sec. 23, T-20S, R-24E	
15. DATE SPUNDED 4-17-71		12. COUNTY OR PARISH EDDY	
16. DATE T.D. REACHED 5-17-71		13. STATE NM	
17. DATE COMPL. (Ready to prod.) 3/8/83		18. ELEVATIONS (DF, RKB, RT, G, ETC.) 3682' DF	
19. ELEV. CASINGHEAD		20. TOTAL DEPTH, MD & TVD 7919'	
21. PLUG, BACK T.D., MD & TVD 6720' BP		22. IF MULTIPLE COMPL., HOW MANY*	
23. INTERVALS DRILLED BY All		24. ROTARY TOOLS NONE	
25. CABLE TOOLS NONE		26. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 6704'-6718' w/2 JSF WOLFCAMP 6676'-6683' w/2 JSF "	
27. TYPE ELECTRIC AND OTHER LOGS RUN CBL, SP, SNP, IES		28. WAS DIRECTIONAL SURVEY MADE YES	
29. WAS WELL COBED NO		30. ACCEPTED FOR RECORD PETER W. CHESTER MAR 23 1983 MINERALS MANAGEMENT SERVICE ROSWELL, NEW MEXICO	
31. CASING RECORD (Report all strings set in well) Casing Size Weight, LB./FT. Depth Set (MD) Hole Size NO CHANGE			
32. LINER RECORD Size Top (MD) Bottom (MD) Sacks Cement* Screen (MD) NONE			
33. TUBING RECORD Size Depth Set (MD) Packer Set (MD) 2 7/8" 6080' 6665'			
34. PERFORATION RECORD (Interval, size and number) Perf w/2 JSF 6704'-6718' and 6676'-6683' w/2 JSF Total 46 HOLES			
35. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. Depth Interval (MD) Amount and Kind of Material Used 6704'-6718' 54 lbs. 15% HCL-NE-FE 6676'-6683' and 7+ lbs TFW.			
36. PRODUCTION Date First Production 3/10/83 Production Method (Flowing, gas lift, pumping—size and type of pump) FLOWING Well Status (Producing or shut-in) PRODUCING Date of Test 3-10-83 Hours Tested 24 Choke Size NA Prod'n. for Test Period 1 Oil—BBL 220 Gas—MCF 13 Water—BBL 220,000 Gas-Oil Ratio Flow. Tubing Press. NA Casing Pressure NA Calculated 24-Hour Rate 1 Oil—BBL 220 Gas—MCF 13 Water—BBL NA Oil Gravity-API (CORR.) 37. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) SOLD TEST WITNESSED BY L. LEHMAN 38. LIST OF ATTACHMENTS 39. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records SIGNED [Signature] TITLE Administrative Supervisor DATE 3/14/83			

\*(See Instructions and Spaces for Additional Data on Reverse Side)



NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

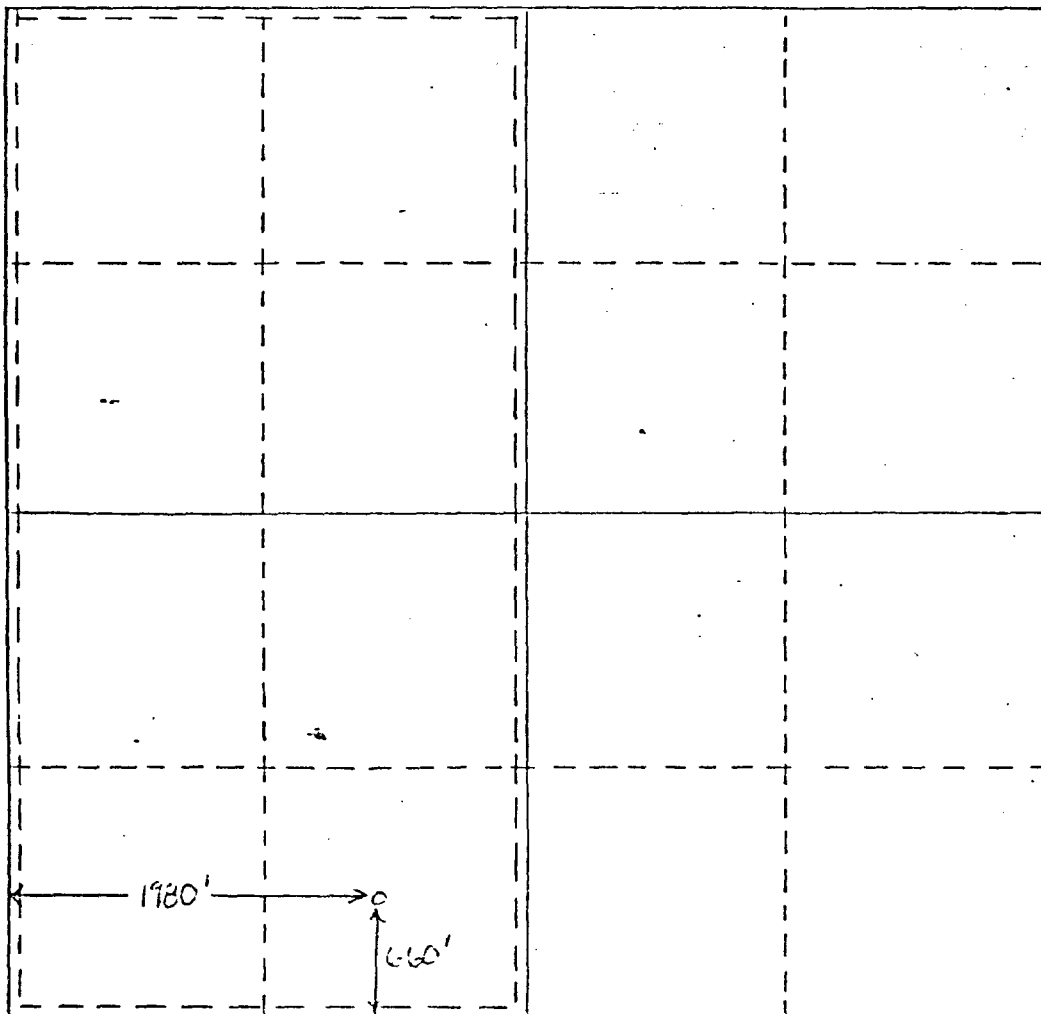
Operator <b>CONOCO Inc.</b>			Lease <b>PENNY FEDERAL</b>		Well No. <b>1</b>
Unit Letter <b>N</b>	Section <b>23</b>	Township <b>20-S</b>	Range <b>24-E</b>	County <b>EDDY</b>	
Actual Footage Location of Well: <b>660</b> feet from the <b>South</b> line and <b>1980</b> feet from the <b>West</b> line					
Ground Level Elev. <b>3670'</b>	Producing Formation <b>WOLF CAMP</b>		Pool <b>UNDESIGNATED WOLF CAMP</b>	Dedicated Acreage: <b>320</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

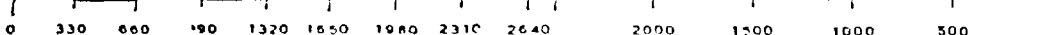
Name  
**Wm A. Butterfield**  
Position  
**Administrative Supervisor**  
Company  
**Conoco Inc.**  
Date  
**3/14/83**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed \_\_\_\_\_

Registered Professional Engineer and/or Land Surveyor

Certificate No. \_\_\_\_\_



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☒ other ☐  
2. NAME OF OPERATOR  
CONOCO INC.  
3. ADDRESS OF OPERATOR  
P.O. Box 460, Hobbs, N.M. 88240  
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)  
AT SURFACE: 660' FSL & 1980' FWL  
AT TOP PROD. INTERVAL: ☒  
AT TOTAL DEPTH: ☒

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO: SUBSEQUENT REPORT OF:  
TEST WATER SHUT-OFF ☐ ☐  
FRACTURE TREAT ☐ ☐  
SHOOT OR ACIDIZE ☐ ☐  
REPAIR WELL ☐ ☐  
PULL OR ALTER CASING ☐ ☐  
MULTIPLE COMPLETE ☐ ☐  
CHANGE ZONES ☐ ☒  
ABANDON\* ☐ ☐  
(other) Recomplete ☒

5. LEASE NM - 045274  
6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
7. UNIT AGREEMENT NAME  
8. FARM OR LEASE NAME PENNY FEDERAL  
9. WELL NO. 1  
10. FIELD OR WILDCAT NAME UNDESIGNATED WOLFCAMP  
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 23, T-20S, R-24E  
12. COUNTY OR PARISH EDDY 13. STATE NM  
14. API NO.  
15. ELEVATIONS (SHOW CF, KDB, AND WD)

RECEIVED  
MAR 16 1983

(NOTE: Report results of multiple completion or zone change on Form 9-331-C.)

OIL & GAS  
MINERALS MGMT. SERVICE  
ROSWELL, NEW MEXICO

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

MIRU 2-28-83. Set RBP @ 7600'. Log from 6800' to 4800'. Pert. w/2 JSPP @ 6704'-6718'. TOTAL 30 SHOTS. Set PKR. @ 6650'. Acidize Wolfcamp w/ 36 BBL. 15% HCL-NE-FE acid and 36 BBL TFW. Swab. Rel. PKR. Reset RBP @ 6695'. Pert. w/2 JSPP @ 6676'-6683'. TOTAL 16 SHOTS. Set PKR. @ 6547'. Acidize Wolfcamp w/ 14 BBL 15% HCL-NE-FE acid and 38 BBL TFW. Swab. Rel. RBP @ 6695'. Set PKR. @ 6665'. Run Production Equipment. Tested 3-10-83 1 BD, 13EW, & 220 MCF in 24 Hrs.

Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_\_\_\_\_ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED W. A. Butterfield TITLE Administrative Supervisor DATE 3/14/83

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY: CHESTER

APR 12 1983



APRIL 14, 1983  
FINALS ON REMEDIAL WORK

11/11/84  
11/11/84  
| NMFU - HARE SIMPSON - LEA COUNTY, NEW MEXICO - 25%

AFE NO: NONE

HAWK B-3 NO. 4 - OBJECTIVE: OPEN ADDITIONAL PAY, CO & TEST PUMP

LOCATION: 2130' FSL & 660' FEL OF SECTION 3, T-21S, R-37E

BEFORE:

EST. COST: \$51,200

TD: 7845' PBTD 7830'

PERFS: 7612' - 7820'

DF ELEV: 3474'

CSG: 5-1/2" set at 7844'

FORMATION: HARE SIMPSON

TESTED: Shut-in

AFTER:

EST. COST: \$68,012

TD: N/C

PERFS: 7479'-7820'

DF ELEV: N/C

CSG: N/C

FORMATION: N/C

TESTED: Pmpd 37 BO, 0 BW & 33  
MCF in 24 hrs on 3-25-83

WORK STARTED: 10-22-82

WORK COMPLETED: 3-5-83

WORK DONE: Pulled out of hole with rods & pump. Top of fill at 7380'. Clean out to 7830' using 9# brine. Pkr set at 7531'. Acidized Lower McKee intervals with 1680 gals 15% HCL-NE-FE, 265 gals 10#/brine w/10 bbls guar gum & 400 bbls rocksalt, 840 gals 15% HCL-NE-FE & 2100 gals TFW for flush. Swbd well. Set RBP at 7604'. Spot 3 bbls 15% HCL-NE-FE acid. Perf Hare Simpson w/1 JSPF at 7479', 86', 93', 98', 7507', 16', 32', 39', 46', 62', 68', 76' & 7582'. Set pkr at 7280'. Swbd well. Acidize w/1100 gals 15% HCL-NE-FE acid. Rel pkr. Land tbg at 7562' w/SN at 7529'. Swbd well. Rel RBP. Fill at 7732'. (98' of fill). Clean out to TD. Set SN at 7556'. OPSMA at 7587'. Tbg anchor at 7339'. Ran producing equipment and place well on test. III

PENNY/1  
NNY/1  
| DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

AFE NO: 40-61-3623

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

LOCATION: 660' FSL & 1980' FWL OF SECTION 23, T-20S, R-24E

BEFORE:

EST. COST: \$85,000

TD: 7919'

PERFS: 7696'-7800'

GL ELEV: 3682'

CSG: 5-1/2" SET AT 7919'

FORMATION: CISCO

TESTED: SHUT-IN 5-1-82

AFTER:

EST. COST: \$31,722

TD: N/C

PERFS: 6676'-6718'

GL ELEV: N/C

CSG: N/C

FORMATION: WOLFCAMP

TESTED: Flwd 2 BO, 2 BW &  
23 MCF in 24 Hrs on  
3-17-83

WORK STARTED: 3-1-83

WORK COMPLETED: 3-9-83

WORK DONE: Load hole with 150 BTFW. Pulled tbg & pkr. Set RBP at 7600'. Perf w/2 JSPF at 6704'-6718'. Set pkr at 6650'. Acidize Wolfcamp w/1500 gals 15% HCL-NE-FE acid & 1500 gals of TFW. Swbd well. Spot 2 sxs sand-on-RBP at 7600'. Rel pkr. Set RBP at 6695'. Spot 100 gals acid. Perf w/2 JSPF at 6676'-6683'. Pkr set at 6547'. Acidize w/800 gals 15% HCL-NE-FE acid & 1600 gals TFW. Swbd well. Kill well w/TFW. Rel RBP and placed well on production. III

4  
DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

AFE NUMBER: 40-61-3632

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

LOCATION: 660' FSL & 1980' FWL of Section 23, T-20S, R-24E

3-1-83 Load hole w/150 BTFW. MIRU DA&S derrick. NUBOP. POOH w/2-7/8" tbg & pkr.  
LD single grip model "R" pkr & 5 gals lift mandrels. RIH w/RBP & pkr on  
2-7/8" tbg. Set RBP at 7600'. Test to 2000 psi, held okay. Load hole w/TFW.  
Press csg to 1000 psi, held okay. SION.

AUTHORIZED COST: \$85,000

COST TO DATE: \$5,460 III

PENNY/1  
DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: CONVERT TO INJECTION

3-2-83 POOH w/tbg & pkr. RU Gearhart Ind. Ran CBL from 6800' - 4800'. TOC at 5900'.  
Perf w/2 JSPF at 6704' - 6718', 30 holes. RIH w/2 jts tailpipe model "R" pkr  
on 2-7/8" tbg. Set pkr at 6650' w/TP at 6721'. Spot acid across perfs.  
Acidize Wolfcamp w/1500 gals 15% HCL-NE-FE acid & 1500 gals of TFW. AIR 3 BPM.  
AIP 2250 psi. ISIP 2100 psi. After 15 mins 740 pis. SION.

AUTHORIZED COST: \$85,000

COST TO DATE: \$12,716 III



DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-3-83 (Wolfcamp) SITP slight vacuum. IFL 800' from surface. Made 3 runs w/swab. Well kicked off & flwd 1 hr 45 mins. Cont swbd & flwg for 10 hrs. Rec 113 bbls wtr. Rec all load plus 39 bbls. 4:00 p.m. - 5:00 p.m. flwd 3-1/2 BW & 2% oil w/slight trace H<sub>2</sub>S. Flwg tbg press 40-60 psi. Chk open. Left well flwg to frac tank.

AUTHORIZED COST: \$85,000

COST TO DATE: \$15,416 III

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-4-83 (Wolfcamp)

Flwd 14 BF, 20% oil cut in 6 hrs on 26/64" chk. FTP 180 psi. Last sample at wellhead indicated 20% oil. Last hr flwd gas at 430 MCFD rate. Kill well w/TFW. Spot 2 sxs sd on RBP at 7600'. POOH w/pkr. RIH w/RBP & pkr on 2-7/8" tbg. Set RBP at 6695'. Test to 2000 psi. SION.

AUTHORIZED COST: \$85,000

COST TO DATE: \$17,864 III

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

(Wolfcamp)

3-5-83 Spot 100 gals acid. POOH w/2-7/8" tbg. RU Gearhart. Perf w/2 JSPT at 6676' - 6683' (16 holes). RIH w/Baker model "R" pkr & set at 6547'. RU BJ acidize w/800 gal 15% HCL-NE-FE acid & 1600 gals TFW. AIR 3 BPM. AIF 1900 psi. ISIP 1760 psi. After 15 mins 420 psi. Rig to swab. Swbd 42 BW in 1-1/2 hrs. Well kicked off flwg. Flwd 47 BW in 3-1/2 hrs. Last hr flwd 14 BW (3% oil) FTP 225 psi. Gas 700 MCFD on 3/4" chk. Left flwg overnight. Rec 60 bbls load plus 29 BW at 8:00 p.m. on 3-4-82.

3-6-83 8:00 p.m. on 3-4-82 to 7:00 a.m. on 3-5-82 flwd 32 BW (10% oil) FTP 175 psi. Flwg gas at 400 MCFD rate. Open well to frac tank. FTP 40 psi. Flwd 1-1/4 BPH 3-10% oil. Switch well thru test separator. FTP 80 psi. Rate 400 MCFD. Left well flwg overnight.

3-7-83 Flwd 34 BF in 24 hrs. Wellhead sample 10:00 a.m. on 3-6-83 indicated 20% oil. Flwg gas at 268 MCFD rate. Left well flwg.

AUTHORIZED COST: \$85,000

COST TO DATE: \$26,526 III

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-8-83 Well flwd 24 BW in 21 hrs. Wellhead sample indicated 20% oil. Flwd gas at 242 MCF/D rate avg. Kill well w/TFW. Rel RBP at 6684'. POOH. Lost RBP on trip. RIH w/retr head. Engage plug. POOH. RIH w/Baker model (SG) pkr, 70 jts 2-7/8" tbg, gas lift mandrel & 144 jts 2-7/8" tbg. Circ well 4 times during trip in hole. Well unloading wtr. Set pkr at 6665' w/GL valve at 4485'. Landed tbg in 25 pts compression. Lack 186 BTFW to rec. Swab 49 BW. Well flwg. Flwd 9 BW w/trace of oil in 1 hr thru 24/64" chk. FTP 320 psi. Flow rate 350 MCFD. Left flwg overnight.

AUTHORIZED COST: \$

COST TO DATE: \$30,824 III

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-9-83 Well flwd 101 BW & 9-1/2 BO in 19 hrs. Flwg gas at 283 MCFD rate. Rig down. RR. Turn well to production.

AUTHORIZED COST: \$85,000

COST TO DATE: \$31,724 III

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-10-83 1" choke & 80% flwg tbg press. Pmpd 8 BO, 34 BW & 234 MCF in 24 hrs.

AUTHORIZED COST: \$85,000

COST TO DATE: \$31,724 III

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-11-83 Pmpd 1 BO, 13 BW & 220 MCF in 24 hrs.

AUTHORIZED COST: \$85,000

COST TO DATE: \$31,722 III

PENNY/1

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-12-83 Pmpd 3 BO, 48 BW & 216 MCF in 24 hrs.

3-13-83 Pmpd 4 BO, 22 BW & 107 MCF in 24 hrs.

3-14-83 Pmpd 5 BO, 19 BW & 106 MCF in 24 hrs.

AUTHORIZED COST: \$85,000

COST TO DATE: \$31,722 III

PENNY/1

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-15-83 Flwd 3 BO, 36 BW & 84 MCF in 24 hrs.

AUTHORIZED COST: 85,000

COST TO DATE: \$31,722 III

PENNY/1

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-16-83 Flwd 0 BO, 8 BW & 117 MCF in 24 hr.

AUTHORIZED COST: \$85,000

COST TO DATE: \$31,722 III

PENNY/1

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-17-83 Flwd 2 BO, 2 BW & 23 MCF in 24 hrs.

AUTHORIZED COST: \$85,000

COST TO DATE: \$31,722 III

PENNY/1

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: RECOMPLETE

3-18-83 Flwd 0 BO, 0 BW & 73 MCF in 24 hrs.

AUTHORIZED COST: \$85,000

Final Report

COST TO DATE: \$31,722 III



Attachment D

Sundry Notice and daily  
chronological reports for  
hydraulic fracture stimulation  
treatment of Wolfcamp zone in  
June, 1983.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY RECEIVED

OPERATOR'S COPY

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 Form 9-331-C for such proposals.)

ROSWELL DISTRICT

1. oil ☐ gas ☒ other

2. NAME OF OPERATOR  
CONOCO INC.

3. ADDRESS OF OPERATOR  
P. O. Box 460, Hobbs, N.M. 88240

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)  
AT SURFACE: 660' FSL + 1980' FWL  
AT TOP PROD. INTERVAL: ✓  
AT TOTAL DEPTH: ✓

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF ☐  
FRACTURE TREAT ☐  
SHOOT OR ACIDIZE ☐  
REPAIR WELL ☐  
PULL OR ALTER CASING ☐  
MULTIPLE COMPLETE ☐  
CHANGE ZONES ☐  
ABANDON\* ☐  
(other) ☐

☒  
☐  
☐  
☐  
☐  
☐  
☐  
☐

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

MIRU ON 6/15/83. SET PKR @ 6665'. TREAT PERFS 6683'- 6704' w/46 BBLs 15% HCL-NE-FE. FLUSHED w/2% KCL TFW. REL PKR. FRAC WOLFCAMP 6683'- 6704' w/A TOTAL OF 52,950 GALS GEL + 31,000 LBS 20/40 SAND. FLUSHED w/97 BBLs TFW. SWABBED. RAN PRODUCTION EQUIPMENT. TESTED @ 130, 18 BW, + 176 MCF IN 24 HRS ON 6/29/83.

Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_\_\_\_\_ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED W. A. Butterfield TITLE Administrative Supervisor DATE 7/26/83

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED FOR RECORD

SEP - 9 1983

\*See Instructions on Reverse Side



PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-18-83 SICP 1425 psi. Back flwd well to tank. Flwd 175 BW. RIH w/5-1/2"

Baker model "R" SG pkr, 2-7/8" tbg. Attempt to set pkr. Tried several times at different intervals, would not set. POOH w/50 jts, SION. (Note: Test tbg 6000 psi above slips, found 15 collar leaks).

6-19-83 SICP 150 psi. Blew tbg down. POOH w/remaining 2-7/8" tbg & pkr. RIH w/5-1/2" Baker model "R" DG pkr & w/on-off tool, 70 jts 2-7/8" tbg, gas lift mandrel w/check valve, 144 jts 2-7/8" tbg. Removed EOP. Landed tbg at 6665' w/18 pts compression on pkr. Hooked up wellhead equipment & injection gas. Open gas down csg. Tbg flwg. Rigged down & cleaned location.

6-20-83 Shut down for Sunday.

AUTHORIZED COST: \$85,000

COST TO DATE: \$78,821 | III

PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-21-83 Swbd 40 BW. Kick well off at 11:00 a.m. Gas lift 170 BW. Gas in 470.

Gas out 680. Produced 210. Lack 1090 BLW to rec.

AUTHORIZED COST: \$85,000

COST TO DATE: \$78,821 | III

PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-22-83 Swbd 105 MCF & 19 BW.

AUTHORIZED COST: \$85,000

COST TO DATE: \$78,821 | III

PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-23-83 Swbd 0 BO, 23 BW & 149 MCF. Gas in 449 & gas out 598.

AUTHORIZED COST: \$85,000

COST TO DATE: \$78,821 | III

PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-24-83 Swbd 0 BO, 31 BW & 158 MCF. Gas in 446 & gas out 604.

AUTHORIZED COST: \$85,000

COST TO DATE: \$78,821 | III

PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-25-83 Swbd 0 BO, 39 BW & 162 MCF in 24 hrs. Gas in 446 & 608 out.

6-26-83 Swbd 0 BO, 44 BW & 160 MCF in 24 hrs. Gas in 448 & 608 out.

6-27-83 Swbd 2 BO, 17 BW & 175 MCF in 24 hrs. Gas in 448 & 623 out.

AUTHORIZED COST: \$85,000

COST TO DATE: \$78,821 | III

PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-28-83 Produced 1 BO, 18 BW & 176 MCF. Gas in 448 & 624 gas out.

AUTHORIZED COST: \$85,000

COST TO DATE: \$73,821 || ||

PENNY/1 | DAGGER DRAW - WOLFCAMP - LEA COUNTY, NEW MEXICO - 75%

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

6-29-83 Produced 0 BO, 18 BW & 176 MCF in 24 hrs. Gas in 448 & 624 gas out.

AUTHORIZED COST: \$85,000

Final Report

COST TO DATE: \$73,821 || ||

PAGE 2  
HOBBS DIVISION  
DAILY DRILLING REPORT  
JULY 15, 1983

FINALS ON REMEDIAL WORK

DAGGER DRAW - SOUTH DAGGER DRAW PENN - EDDY COUNTY, NEW MEXICO - 75%  
AFE NUMBER: 40-61-3623

PENNY FEDERAL NO. 1 - OBJECTIVE: SAND FRAC

LOCATION: 660 FSL & 1980 FWL OF SECTION 23, T-20S, R-24E

BEFORE:

EST. COST: \$85,000

TD: 7919'

PERFS: 6676 - 6718'

GL ELEV: 3682'

CSG: 5-1/2" SET AT 7919'

FORMATION: WOLFCAMP

TESTED: 2 BO, 2 BW &  
23 MCF in 24 hrs

AFTER:

EST. COST: \$78,821

TD: N/C

PERFS: N/C

DF ELEV: N/C

CSG: N/C

FORMATION: N/C

TESTED: PRODUCED 1 BO, 18 BW &  
176 MCF in 24 hrs on  
6-28-83

WORK STARTED: 6-16-83

WORK COMPLETED: 6-19-83

WORK DONE: Attempt to kill well w/2% KCL TFW w/mutual solvent & filtered through 5 micron filters (55 bbls) would not stay dead. Pmpd 25 bbls 10# filtered brine down tbg. Rel pkr at 6665'. Circ 100 bbls 10# filtered brine wtr down tbg oit csg. Set pkr at 6665'. Displace tbg w/2% KCL TFW & filtered. Acidized Wolfcamp perfs 6704'-6683' w/46 bbls 15% HCL-NE-FE acid shooting 30 ballsealers, starting after the first 6 bbls pmpd, 2 ballsealers after each 3 bbls. Flushed w/2% KCL TFW w/mutual solvent & filtered for flush & circ. SI for 1-1/2 hrs. Rel pkr at 6665'. Sand frac Wolfcamp perfs 6704'-6683' w/crosslinked 2% KCL wtr w/25# Halliburton Pur-Set/1000 gals, 5% diesel, 1 gal/1000 gals Halliburton. Frac Low II, 1 gal/1000 gals Adocide Bactericide as follows (A) 20,000 gals pad (B) 9,000 gals crosslinked gel containing 1# gal 20/40 sand (C) 8,000 gals crosslinked gel containing 2#/gal 20/40 sand & (D) 2,000 gals crosslinked gel containing 3#/gal 20/40 sand. Flushed w/97 bbls TFW & filtered. Total gel 52,950 gals & 31,000# sand. Landed tbg at 6665'. Ran producing equipment and place on test. III



Attachment E

Recompletion Report and daily  
chronological reports for current  
completion (Wolfcamp & Upper Penn).

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CONTACT RECEIVING  
OFFICE FOR NUMBER  
OF COPIES REQUIRED

(See other In-  
structions on  
reverse side)

MM Roswell District  
Modified Form No.  
BMD60-3160-3

RECEIVED  
5. LEASE DOCUMENT AND SERIAL NO.

NM 045274

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SEP 10 8 47 AM '90

7. UNIT AGREEMENT NAME

CARLSON

8. FIRST OR LAST NAME

Hill View AHE Federal Com

9. WELL NO.

3

10. FIELD AND POOL, OR WILDCAT

South Dagger Draw Upper Penn

11. NECL, T. R. M., OR BLOCK AND SURVEY  
OR AREA

Unit N, Sec. 23-T20S-R24E

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other \_\_\_\_\_

b. TYPE OF COMPLETION:

NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. REVER. ☒ Other RECOMPLETION

2. NAME OF OPERATOR

YATES PETROLEUM CORPORATION

3a. Area Code & Phone No.

505/748-1471

3. ADDRESS OF OPERATOR

105 South 4th St., Artesia, NM 88210

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*

At surface 660' FSL & 1980' FWL, Sec. 23-20S-24E

At top prod. interval reported below

At total depth

9a. API Well No.

30-015-20426

14. PERMIT NO.

DATE ISSUED

12. COUNTY OR PARISH

Eddy

13. STATE

NM

15. DATE SPUNDED

RECOMPLETION

7-31-90

16. DATE T.D. REACHED

-

17. DATE COMPL. (Ready to prod.)

8-25-90

18. ELEVATIONS (DV, HKB, RT, IB, ETC.)\*

3682' GR

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

7936'

21. FLUID, BACK T.D., MD & TVD

7919'

22. IF MULTIPLE COMPL.,  
HOW MANY\*

23. INTERVAL  
DRILLED BY

—PART—THOLE

CABLE TOOLS

→ Pulling Unit

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

7696-7800'; 7655-7666' Canyon

ACCEPTED FOR RECORD

SEP 11 1990

25. WAS DIRECTIONAL  
SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

None for recompletion

27. WAS WELL CORED

No

28.

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	32#	1580'	11"	CASING SET IN PLACE	
5 1/2"	17#	7919'	7-7/8"	725 sx (in place)	
				400 sx (in place)	

29.

LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	BACKER CEMENT*	SURFEN (MD)

30.

TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	7600'	-

31. PERFORATION RECORD (Interval, size and number)

7696-7800' (existing perfs)  
7655-7766' w/12 .40" Holes (1 SPF)  
6676-6718' (tested non-productive)

32.

ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
7696-7800'	w/23000g. 20% NEFE acid.
7655-7666'	w/3000g. 20% NEFE acid.

33.\*

PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flooding, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
8-9-90		Pumping				Producing	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
8-25-90	24	2"	→	89	216	2083	2427
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
250	300	→	89	216	2083	41°	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Sold - Connected to Yates Gas Gathering 8-9-90.

TEST WITNESSED BY

Norbert McCaw

35. LIST OF ATTACHMENTS

None

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

*Francis J. Soderstrom*

TITLE

Production Supervisor

DATE

9-7-90

\*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.

38.

GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
San Andres	515	
Clarieta	2025	
Abo	4810	
Wolfcamp	5460	
Cisco	7550	

Yates Petroleum - Hill View "AHE" Fed Com #3 (Unit N) 23-20S-24E

\*\*\*\*\* Eddy Co., NM \*\*\*\*\*

7-31-90 Move in and rig up pulling unit. Prep to POH with RBP and packer.

8-2-90 WIH and washed frac, ball sealers, and sand from 6900' to 7600'. Cleaned off top of RBP. latched onto RBP. TOH with RBP and tubing. Rig up wireline and run GR/CCL/CBL. Shut well in overnight. Prep to acidize.

8-3-90 TIH with packer to 7600'. Rig up and acidized perfs 7696-7800' with 23000 gals 20% NEFE acid and scale inhibitor in 3 stages with 1500# Block between each stage. AIR 15 BPM, Max 4000, Avg 3480. ISDP 850, 7 min vacuum. TOH with packer. Rig up wireline. WIH with 4" casing gun and perforated 12 - 1/2" holes from 7655-7666' (1 SPF). Rig down wireline. TIH with RBP and packer. Straddled perfs 7655-7666'. Acidized with 3000 gals 20% NEFE acid, scale inhibitor and ball sealers. AIR 5 BPM, Max 1780, Avg 1000 psi, ISDP 0. Moved tools and astraddles perfs 7655-7800'. Nipple down BOP. Nipple up wellhead. Rig up swab. Initial fluid level 1000'. Swabbed back 125 bbls water, 774 bbls load water to recover. Continue swabbing.

8-4-90 Continue swabbing. Recovered 464 bbls fluid in 24 hours with trace of oil and show of gas. Fluid level at 1800-2000'. 310 bbls load water to recover.

8-5-90 Continue swabbing. Recovered 437 bbls fluid in 24 hours with trace of oil and show of gas. Fluid level 1800-2000'. 127 bbls water overload.

8-6-90 Continue swabbing. Recovered 475 bbls fluid in 24 hours with trace of oil and show of gas. Fluid level at 1800-2000'. Continue swabbing. 602 bbls water overload.

8-7-90 Swab back 75 bbls with rainbow of oil. Final fluid level 1500-1800'. Rig down pulling unit. Prep to run sub pump.

8-8-90 No report.

8-9-90 No report.

8-10-90 No report.

8-11-90 Produced 287 bbls oil and 2576 bbls water. (MCF 60 MCF for Hill View #3 only).

8-12-90 Produced 206 bbls oil and 3451 bbls water. (MCF 601 MCF for Hill View #3 only).

8-13-90 Produced 116 bbls oil and 3050 bbls water. (MCF 710 MCF with TP 210# and CP 300# for Hill View #3 only).

8-14-90 Produced 83 bbls oil, 2396 bbls water. (MCF 352 for #3 only).

COMBINED PRODUCTION WITH HILL VIEW #4:

8-15-90 Produced 179 bbls oil and 2213 bbls water. (MCF 299 for #3 only -- down since midnight).

8-16-90 Down for repairs.

COMBINED PRODUCTION WITH HILL VIEW #2 and #4:

8-17-90 Down for repairs.

8-18-90 Down for repairs.

8-19-90 Produced 159 bbls oil and 3032 bbls water. (MCF 328 for Hill View #3 only).

8-20-90 Produced 242 bbls oil and 3471 bbls water. (MCF 547 with TP 200# for Hill View #3 only).

8-21-90 Produced 253 bbls oil and 4093 bbls water. (MCF 602 MCF with TP 200# for Hill View #3 only).

8-22-90 Produced 63 bbls oil and 820 MCF for Hill View #3 only. Combined water produced = 4307 bbls.

8-23-90 Produced 124 bbls oil, 1960 bbls water and 741 MCF with TP 240# and CP 300#.

PRODUCTION FOR HILLVIEW #3 ONLY:

8-24-90 Produced 83 bbls oil, 2130 bbls water and 741 MCF.

8-25-90 Produced 89 bbls oil, 2083 bbls water and 216 MCF.

8-26-90 Produced 69 bbls oil, 1944 bbls water and 440 MCF.

8-27-90 Shut in. Made 518 MCF.

8-28-90 Shut in. Made 549 MCF.

8-29-90 Shut in. Made 518 MCF.



CDR - RECOMPLETION

Page 2

Yates Petroleum - Hillview "AHE" Fed Com #3 (Unit N) 23-20S-24E Eddy, NM  
\*\*\*\*\*

8-30-90	Produced 141 bbls oil and 2238 bbls water. (MCF 481 for Hill View #3 only).
8-31-90	Produced 157 bbls oil and 2307 bbls water. (MCF 450 for Hill View #3 only).
9-2-90	Produced 3 bbls oil, 539 bbls water. (MCF 372 for Hill View #3 only).
9-3-90	Produced 3 bbls oil and 581 bbls water. (MCF 492 for Hill View #3 only).
9-4-90	Produced 6 bbls oil and 528 bbls water. (MCF 345 for Hill View #3 only).
9-5-90	Produced 6 bbls oil and 484 bbls water. (351 MCF for Hillview #3 only)
9-6-90	Combined oil and water production with Hillview #2: 3 bbls oil and 625 bbls water. MCF 317 on Hillview #3 only.
9-7-90	Produced 3 bbls oil and 522 bbls water. MCF 329 for Hill View #3 only.

TD 7936'; PBTD 7919'. On a 24 hour Official Potential test taken 8-25-90, pumped 89 BOPD, 216 MCFGPD and 2083 BWPD at a GOR of 2427 and Gravity 41 deg, through peris 7696-7800', 7655-7666' Canyon. WELL ON PRODUCTION. FINAL REPORT.  
\*Casinghead gas connected to Yates Gas Gathering 8-9-90.

Attachment F

Water Analysis

# WATER ANALYSIS REPORT

Company : YATES PETROLEUM	Date : 8-28-90
Address : ARTESIA, NM	Date Sampled : 8-23-90
Lease : HILLVIEW "AHE" FED	Analysis No. : 2
Well : #3	
Sample Pt. : WELLHEAD	

ANALYSIS	mg/L	* meq/L
-----	-----	-----
1. pH	7.4	
2. H2S	250 PPM	
3. Specific Gravity	1.005	
4. Total Dissolved Solids	4991.7	
5. Suspended Solids	NR	
6. Dissolved Oxygen	NR	
7. Dissolved CO2	NR	
8. Oil In Water	NR	
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 1220.0	HCO3 20.0
12. Chloride	Cl 344.0	Cl 9.7
13. Sulfate	SO4 2000.0	SO4 41.6
14. Calcium	Ca 560.0	Ca 27.9
15. Magnesium	Mg 146.1	Mg 12.0
16. Sodium (calculated)	Na 721.6	Na 31.4
17. Iron	Fe 0.0	
18. Barium	Ba 0.0	
19. Strontium	Sr 0.0	
20. Total Hardness (CaCO3)	2000.0	

## PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
+-----+	+-----+	+-----+	+-----+
28 *Ca <----- *HCO3	Ca (HCO3) 2	81.0 20.0	1621
----- /----->	CaSO4	68.1 7.9	541
12 *Mg -----> *SO4	CaCl2	55.5	
----- <----- /	Mg (HCO3) 2	73.2	
31 *Na -----> *Cl	MgSO4	60.2 12.0	723
+-----+	MgCl2	47.5	
Saturation Values Dist. Water 20 C	NaHCO3	84.0	
CaCO3 13 mg/L	Na2SO4	71.0 21.7	1540
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4 9.7	567
BaSO4 2.4 mg/L			

REMARKS:

Petrolite Oilfield Chemicals Group

Respectfully submitted,  
R. MILLER

## SCALE TENDENCY REPORT

-----

Company	: YATES PETROLEUM	Date	: 8-28-90
Address	: ARTESIA, NM	Date Sampled	: 8-23-90
Lease	: HILLVIEW "AHE" FED C	Analysis No.	: 2
Well	: #3	Analyst	: R. MILLER
Sample Pt.	: WELLHEAD		

### STABILITY INDEX CALCULATIONS (Stiff-Davis Method) CaCO<sub>3</sub> Scaling Tendency

S.I. =	1.3	at	60 deg.	F or	16 deg.	C
S.I. =	1.4	at	80 deg.	F or	27 deg.	C
S.I. =	1.4	at	100 deg.	F or	38 deg.	C
S.I. =	1.4	at	120 deg.	F or	49 deg.	C
S.I. =	1.5	at	140 deg.	F or	60 deg.	C

\*\*\*\*\*

### CALCIUM SULFATE SCALING TENDENCY CALCULATIONS (Skillman-McDonald-Stiff Method) Calcium Sulfate

S =	1709	at	60 deg.	F or	16 deg	C
S =	1781	at	80 deg.	F or	27 deg	C
S =	1804	at	100 deg.	F or	38 deg	C
S =	1797	at	120 deg.	F or	49 deg	C
S =	1782	at	140 deg.	F or	60 deg	C

Petrolite Oilfield Chemicals Group

Respectfully submitted,  
R. MILLER





# TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119  
(314) WD 1-3500/TWX 910-760-1660/Telex 44-2417

REC-1012

JUN 27 1975

## WATER ANALYSIS REPORT

COMPANY Roger C. Hanks ADDRESS Hobbs, N.M. DATE 6-24-75  
SOURCE Penny Fed. #1 DATE SAMPLED 6-12-75 ANALYSIS NO. 9726  
Analysis Mg/L \*Meq/L

1. PH	<u>7.5</u>			
2. H <sub>2</sub> S (Qualitative)	<u>Pos.</u>			
3. Specific Gravity	<u>1.000</u>			
4. Dissolved Solids		<u>6,793</u>		
5. Suspended Solids				
6. Phenolphthalein Alkalinity (CaCO <sub>3</sub> )				
7. Methyl Orange Alkalinity (CaCO <sub>3</sub> )		<u>950</u>		
8. Bicarbonate (HCO <sub>3</sub> )		<u>1,159</u>	<u>÷ 61</u>	<u>19.0</u> HCO <sub>3</sub>
9. Chlorides (Cl)		<u>1,600</u>	<u>÷ 35.5</u>	<u>45</u> Cl
10. Sulfates (SO <sub>4</sub> )		<u>1,800</u>	<u>÷ 48</u>	<u>38</u> SO <sub>4</sub>
11. Calcium (Ca)		<u>452</u>	<u>÷ 20</u>	<u>23</u> Ca
12. Magnesium (Mg)		<u>73</u>	<u>÷ 12.2</u>	<u>6</u> Mg
13. Total Hardness (CaCO <sub>3</sub> )		<u>1,430</u>		
14. Total Iron (Fe)		<u>4.0 ppm</u>		
15. Barium (Qualitative)				
16.				

\*Milli equivalents per liter

### PROBABLE MINERAL COMPOSITION

				Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
23	Ca	←	HCO <sub>3</sub>	Ca (HCO <sub>3</sub> ) <sub>2</sub>	81.04		19		1,539
6	Mg	←	SO <sub>4</sub>	Ca SO <sub>4</sub>	68.07		4		272
73	Na	←	Cl	Ca Cl <sub>2</sub>	55.50				
				Mg (HCO <sub>3</sub> ) <sub>2</sub>	73.17				
				Mg SO <sub>4</sub>	60.19		6		361
				Mg Cl <sub>2</sub>	47.62				
				Na HCO <sub>3</sub>	84.00				
				Na <sub>2</sub> SO <sub>4</sub>	71.03		28		1,988
				Na Cl	58.46		45		2,633

Saturation Values	Distilled Water 20°C
Ca CO <sub>3</sub>	13 Mg/L
Ca SO <sub>4</sub> • 2H <sub>2</sub> O	2,090 Mg/L
Mg CO <sub>3</sub>	103 Mg/L

REMARKS Hanks - Cone

CC (3) Saltzman - Worsham - Nix - File

Respectfully submitted  
TRETOLITE COMPANY

Ray Shaffner