



PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79761
PHILLIPS BUILDING

NATURAL RESOURCES GROUP
Exploration and Production



September 23, 1977

C. D. Woolworth #19
(F-26-24S-36E)
Application to Inject
Water into a Porous
Formation--Lea County,
New Mexico

File: W4-Ta-474-77

SEP 27 1977
117 117

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Joe D. Ramey,
Secretary-Director

Gentlemen:

We respectfully request administrative approval of the enclosed "Application to Dispose of Salt Water by Injection into a Porous Formation"--Form C-108 as it applies to Phillips' C. D. Woolworth Well Number 19, located in Unit F, Section 26, Township 24 South, Range 36 East, Lea County. Disposal will be in the approximate interval of 3,230 feet to 3,270 feet in the Jalmat Yates-Seven Rivers pool. Subject approval, at the Commission's discretion, may be as a new project or as an expansion of Order Number R-3667 which granted authority for the disposal of produced water in the C. D. Woolworth Well Number 9, located in Unit B, Section 27, Township 24 South, Range 36 East, Jalmat Yates-Seven Rivers, Lea County. The installation of large-volume lift equipment on this lease has necessitated the need for increased disposal capacity.

In support of this application, copies of Forms C-108 have been forwarded to the surface owner and to all lease offset operators. In addition, we enclose the following exhibits:

1. Well schematic on C. D. Woolworth #19.
2. Well bore perforations and treatments summary.

To: New Mexico Oil Conservation Commission
From: T. Harold McLemore
Date: September 23, 1977
Page: 2

3. Produced water analysis.
4. Neutron-density log of the subject well with formation tops and proposed disposal interval noted.
5. Area plat reflecting leases and wells within a two mile radius.
6. Summary listing of all wells within a one-half mile radius which details pertinent well completion data.
7. Schematics of all plugged and abandoned wells within a one-half mile radius.

Your consideration and approval will be appreciated. It is understood that action on this application will be subject to the usual fifteen day waiver waiting period.

Very truly yours,

PHILLIPS PETROLEUM COMPANY



T. Harold McLemore

HM:db
Enclosure

cc: New Mexico Oil Conservation Commission
Hobbs, New Mexico
Surface Owner
Offset Operators (per Form C-108)

3000
0.2
2500

3000
0.2
2500

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Phillips Petroleum Company		ADDRESS Phillips Bldg., Odessa, TX 79761	
LEASE NAME C. D. Woolworth	WELL NO. 19	FIELD Jalpat Yates - Seven River	COUNTY Lea
LOCATION UNIT LETTER F ; WELL IS LOCATED 1650 FEET FROM THE North LINE AND 2310 FEET FROM THE West LINE, SECTION 26 TOWNSHIP 24S RANGE 36E NMPM.			

CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8-5/8"	1333'	700	Surface	Circulation
INTERMEDIATE					
LONG STRING	5-1/2"	3350'	400	2550'	Temp. Survey
TUBING	3-1/2"	3200'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker AD-1 Tension Packer @ 3200'		

NAME OF PROPOSED INJECTION FORMATION Seven Rivers		TOP OF FORMATION 3150'	BOTTOM OF FORMATION Below T.D. (3350')
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing	PERFORATIONS OR OPEN HOLE? Perforations	PROPOSED INTERVAL(S) OF INJECTION 3230-3235' Perf 3245-3270' Perf	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Oil		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes

LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 2920-38', 2958-78', 2999-3008', 3022-26', 3097-3101', 3154-62' est. 100 sx cmt.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 700'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA Yates @ 3150'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Queen @ 3350+'	
ANTICIPATED DAILY INJECTION VOLUME (GALLONS) 2000	MINIMUM 5000	MAXIMUM 5000	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 100 psi
ARE THERE ANY ADJUTANT WATERS ARE MIN- ERALS TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, INDUSTRIAL, IRRIGATION, OR OTHER GENERAL USE? Yes			WATER TO BE DISPOSED OF Yes		
NATURAL WATER IN DISPOSAL ZONE Yes			ARE WATER ANALYSES ATTACHED? Yes		

NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Trustees of Jal Public Library Fund, Box 178, Jal, NM 88252			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Texas Pacific Oil Company, Box 1069, Hobbs, NM 88240; Mobil Oil Company, Box 1800, Hobbs, NM 88240; Reserve O. & G., 301 1st Savings Bldg., Midland, TX 79701; Amoco, Box 3092, Houston, TX 77001; S. Lanier, Box 3262, Midland, TX 79701; Amerada Hess Corp., Dr. 817, Seminole, TX 79360; Continental, Box 460, Hobbs, NM 88240			
Merchandise National Bank of Dallas- Trustee # 3238, and Co-Trustee Mary M. Horne Trust 3533, Trust Dept., and Mary Horne Hodge, Co-Trustee Mary M. Horne Trust 3533, Box 5415, Dallas, Tx 75222			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes	SURFACE OWNER Yes	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes	PLAT OF AREA Yes	ELECTRICAL LOG Yes	DIAGRAMMATIC SKETCH OF WELL Yes

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

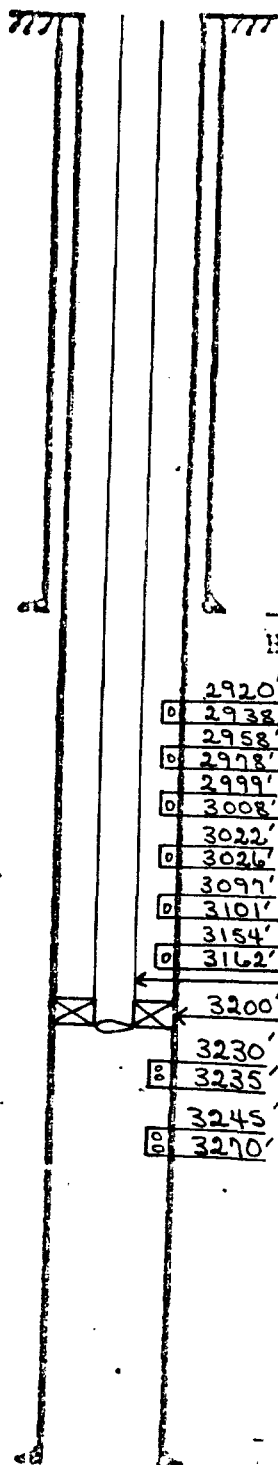
Bill Berry
Bill Berry
(Signature)

Reservoir Engineer
(Title)

August 15, 1977
(Date)

NOTE: Should owners from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application to the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

FIELD <u>Jalmat Yates</u>	OPERATOR <u>Phillips Petroleum Company</u>	DATE <u>Aug 31, 1977</u>
LEASE <u>C.D. Woolworth</u>	WELL NO. <u>19</u>	LOCATION <u>1650' FN and 2310' FW lines F-26-245-36E, Lea County, New Mexico</u>



28.55 # X-42

8 5/8 " casing set at 1333 ' with 700 sx of Class "H" cement
Hole size 11 " 100 sx cmt circ.

2920'
2938'
2958'
2978'
2999'
3008'
3022'
3026'
3097'
3101'
3154'
3162'

squeezed off

3200' ← 3 1/2" OD, 9.3#/ft J-55, 8nd EUE
pkr
3230'
3235'
3245'
3270'

15.5 # K-55

5 1/2 " casing set at 3350 ' with 400 sx of Class "H" cement
Total Depth 3350 ' Hole size 7 7/8 " TOC 2550' by T.S.

Phillips
C. D. Woolworth #19
Unit F, 26, 24S, 36E
Lea County

Intervals Perforated,
Treatments and Test Results

Interval	Date	Type	Gals.	MP	ISDP	IR	Down
3230-3235'	3-76	15% HCl	500	800	Vac.	1/2	tbg.
Swbd 2-1/2 hrs, rec 20 BLW, 12 BAW, 80 BSW, no show oil, FL 1000'.							
3154-3162'	3-76	15% HCl	500	2000	Vac.	1/2	tbg.
Swbd 2-1/2 hrs, rec 20 BLW, 12 BAW, 46 BSW, small show gas, no oil, FL 2100'.							
Swbd 9 hrs, 200 BSW, trace oil, FL 1000'.							
Swbd 8 hrs, 170 BSW, trace oil, FL 1000'.							
3097-3101'	3-76	15% HCl	500	2500	Vac.	1/2	tbg.
Swbd 1/2 hr, 20 BLW, 12 BAW, flwd 1-1/2 hrs, 6 BO, 12 BW.							
Swbd 10 hrs, 20 BO, 176 BW, FL 1800'.							
Swbd 9 hrs, 4 BO, 179 BSW, FL 1800'.							
Swbd 3 hrs, 1/2 BO, 60 BSW.							
2920-3026'	3-76	15% HCl	2500	1325	500	3.5	tbg.
Swbd 7 hrs, 25 BLW, 10 BAW, no oil.							
Swbd 3 hrs, rec 2 BAW, swbd dry.							



TRETOLITE DIVISION

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

WATER ANALYSIS REPORT

COMPANY Phillips Petroleum Co. ADDRESS Hobbs, N. M. DATE 8-26-77

SOURCE C.D.U. Woolsworth Holding Tank DATE SAMPLED 8-26-77 ANALYSIS NO. 14507

Analysis

Mg/L

*Meq/L

1. PH 7.1
2. H₂S (Qualitative) 460 ppm
3. Specific Gravity 1.005
4. Dissolved Solids 11,289
5. Suspended Solids
6. Phenolphthalein Alkalinity (CaCO₃)
7. Methyl Orange Alkalinity (CaCO₃) 1,010
8. Bicarbonate (HCO₃) HCO₃ 1,232 ÷ 61 20 HCO₃
9. Chlorides (Cl) Cl 3,511 ÷ 35.5 99 Cl
10. Sulfates (SO₄) SO₄ 2,850 ÷ 48 59 SO₄
11. Calcium (Ca) Ca 540 ÷ 20 27 Ca
12. Magnesium (Mg) Mg 333 ÷ 12.2 27 Mg
13. Total Hardness (CaCO₃) 2,720
14. Total Iron (Fe) 14.0 ppm
15. Barium (Qualitative)
16.

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04	<u>20</u>			<u>1,620</u>
Ca SO ₄	68.07	<u>7</u>			<u>477</u>
Ca Cl ₂	55.50				
Mg (HCO ₃) ₂	73.17				
Mg SO ₄	60.19	<u>27</u>			<u>1,625</u>
Mg Cl ₂	47.62				
Na HCO ₃	84.00				
Na ₂ SO ₄	71.03	<u>25</u>			<u>1,775</u>
Na Cl	58.46	<u>99</u>			<u>5,792</u>

Saturation Values Distilled Water 20°C

Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

REMARKS McGee - Summerwell - Davis
Brewer - Roberts - Gray - file

Respectfully submitted
TRETOLITE COMPANY

Ray Shaffner

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE

Phillips Petroleum Company
C. D. Woolworth #19 Unit F Sect. 26, T24S, R-36E
Proposal to Convert to SWD

Wells Within 1/2 Mile Radius		Surface Csg.		Intermediate Csg.		Production Csg.		Total Depth	Producing Interval
Operator Lease & Well	Location # U S T R	Casing Size & Depth Set	Sacks of Cmt/Top	Csg. Size & Depth	Sacks of Cmt/Top	Csg. Size & Depth Set	Sacks of Cmt/Top		
Phillips Petroleum Co. C. D. Woolworth	6D26-24S-36E	12.5" @ 215'	175/circ.	9-5/8" @ 1375'	350/NR	7" @ 3460'	300/NR	3495'	P&A
	10C26-24S-36E	12.5" @ 215'	150/circ.	9-5/8" @ 1337'	350/NR	7" @ 3476'	400/NR	3494'	P&A
	11F26-24S-36E	12.5" @ 214'	150/circ.	9-5/8" @ 1338'	350/NR	7" @ 3468'	400/NR	3498'	P&A
	12K26-24S-36E	12.5" @ 205'	150/cir.	9-5/8" @ 1343'	350/NR	7" @ 3461'	400/NR	3490'	3005'-3174'
	13E26-24S-36E	12.5" @ 217'	150/circ.	9-5/8" @ 1363'	350/NR	7" @ 3434'	400/NR	3468'	P&A
	14L26-24S-36E	12.5" @ 200'	150/circ.	9-5/8" @ 1370'	350/NR	7" @ 3439'	400/NR	3464'	3108'-3176'
	18C26-24S-36E	8-5/8" @ 403'	100/circ.	7-5/8" @ 2900'	700/2767'	5-1/2" @ 3310'	400/2000'	3310'	3137'-3152'
	7N23-24S-36E	12.5" @ 213'	150/circ.	9-5/8" @ 1392'	300/NR	5-1/2" @ 3472'	100/NR	3500'	3156'-3173'
	4M23-24S-36E	12-1/2" @ 325'	200/circ.			7" @ 3460'	300/NR	3509'	P&A
	WI								
Reserve Oil & Gas Co. Cooper Jal Unit	237O23-24S-36E	13-3/8" @ 325'	130/circ.	9-5/8" @ 2789'	800/NR	7" @ 3400'	175/NR	3602'	3057'-3154', (Water Inj.)
ARCO									
C. D. Woolworth	1G26-24S-36E	12-1/2" @ 222'	150/circ.	8-5/8" @ 1349'	500/NR	5-1/2" @ 3452'	1000/NR	3481'	P&A
Johnson & French Oil Co. Woolworth	1H26-24S-36E	8-5/8" @ 274'	100/circ.			5-1/2" @ 2928'	400/1219'	3240	P&A
Sidney Lanier Woolworth	1J26-24S-36E	15-1/2 @ 185'	225/circ.	9-5/8" @ 1350'	250/NR	7" @ 3453'	400/NR	3505'	3016'-3040'
Amoco (Stanolind O&G Co.) A. H. Meyers B	1B26-24S-36E	NO	Information @ NMOCC						P&A

FIELD <u>Talmat</u>	OPERATOR <u>Phillips Petroleum</u>	DATE <u>Sept. 16, 1977</u>
LEASE <u>C.D. Woolworth</u>	WELL NO. <u>11</u>	LOCATION <u>1981' FNL + 1981' FWL, Sec 26-24S-36E, Sea County, NM</u>

P+A - 2/23/77

RKB @ 3223'

cut off 7" csg 2' below ground elevation

2' top of 7"

12 1/2" casing set at 214' with 150 sx of _____ cement

Hole size _____" cmt circ

265' to surface 50 sx cmt

9 5/8" casing set at 1338' with 350 sx of _____ cement

Hole size _____"

1565' - 1685' spotted 100 sx cmt

2600' - 3050' spotted 100 sx cmt

2864'

3050'

CIBP @ 3056' + 1 1/2 sx cmt

3145'

3240'

3295' - 3305'

3332' cmt retainer w/ 100 sx cmt

3345' - 3354'

3390' cmt retainer w/ 65 sx cmt

3411'

3455'

3458' cmt retainer w/ 75 sx cmt

7" casing set at 3468' with 400 sx of _____ cement

Total Depth 3498' Hole size _____"

FIELD Cooper	OPERATOR Atlantic Oil Producing Co.	DATE Sept 20, 1977
LEASE C. D. Woolworth	WELL NO 1	LOCATION NE 1/4 Sec 26, 24 S, 36 E, 1920, F&M Co. Survey, RM

P&A - NMOCC approved proposal
1/23/42. Proposed to: salvage
all recoverable csg + tbg
(excluding surface csg); entire
producing formation will
be covered by cmt plug;
cmt plug in top + bottom
of surface csg.

No information at NMOCC

12 1/2" casing set at 221'6" with 150 sx of _____ cement
Hole size _____"

8 5/8" casing set at 1348'6" with 500 sx of _____ cement
Hole size _____"

5 1/2" casing set at 3432' with 1000 sx of _____ cement
Total Depth 3481' Hole size _____"

FIELD Cooper	OPERATOR Phillips Petroleum	DATE Sept. 20, 1977
LEASE C.D. Woolworth	WELL NO. 4	LOCATION SW/4 SW/4 Sect 23, T24S, R-36-E, Lea, New Mexico

P & A: January 1942

Recovered 2479' of 7" cog
" 709' of 9 5/8" cog

10' to surface cmted

12 1/2" casing set at 324.7' with 200 sx of _____ cement
Hole size _____" circ

709' top of 9 5/8" cog

1380' spotted 35 sx cmt

2479' top of 7" cog
9 5/8" casing set at 1392' with 300 sx of _____ cement
2570' Hole size _____"
2547' w/5 sx cmt

3195' - 3244' spotted 35 sx cmt

3244' cmt retainer w/125 sx cmt displaced +75 sx, 10 sx circ
3250' - 3265'
3270' cmt retainer w/50 sx cmt circ. 1/2 sx
3276'
3284' cmt retainer w/50 sx cmt circ. 2 1/2 sx.
3312' cmt retainer w/50 sx cmt circ 2 sx.
3350' cmt retainer w/100 sx cmt circ. 15 sx

3400'

PB 3420'

3425' - 3448'

PB 3448'

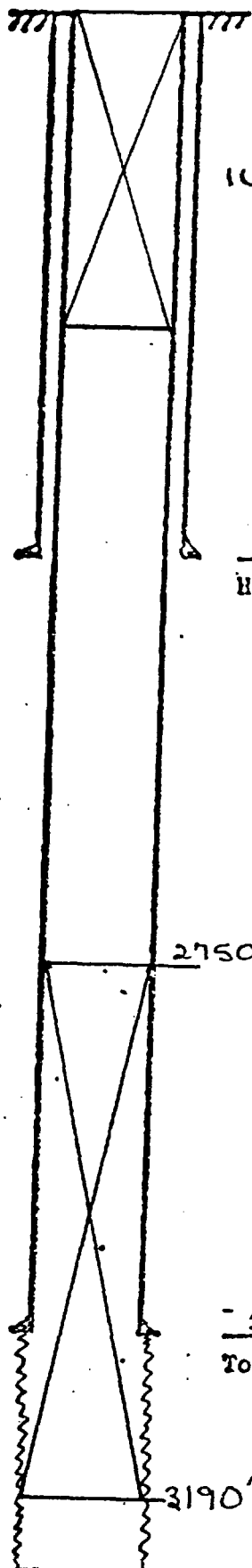
3435' - 3450'

7" casing set at 3460' with 300 sx of _____ cement
Total Depth 3509' Hole size _____"

FIELD Cooper - 3a1	OPERATOR Johnson & French Oil Co.	DATE Sept 20, 1977
LEASE Woolworth	WELL NO. 1	LOCATION SE 1/4 NE 1/4 of Sect 26, T24S, R36E, Lea County, NM

PPA: July, 1973

No csg recovered



160' to surface spotted 20 sx cmt

8 5/8" casing set at 274' with 100 sx of _____ cement
Hole size _____" cmt circ.

2750' spotted 55 sx cmt to 3190'

5 1/2" casing set at 2928' with 400 sx of _____ cement
Total Depth 3240' Hole size _____" TO c 1219'

3190'

FIELD Salmat Yates 7-River	OPERATOR Phillips Petroleum Co.	DATE Sept 15, 1977
LEASE C.D. Woolworth	WELL NO 13	LOCATION 659.3' FSL + 659.1' FWL of NW/4 of Sec 26-24S-36E, Lea County, NM

P+A-7/23/46

recovered 10 yds of 7" csq (305'8")
" 4 yds of 9 5/8" csq (114'5")

capped w/10' cmt

114'5" top of 9 5/8" csq

160'-180' spotted 30 sx cmt

12 1/2" casing set at 217' with 150 sx of _____ cement
Hole size _____" cmt circ.

305'8" top of 7" csq

9 5/8" casing set at 1363' with 350 sx of _____ cement
Hole size _____"

3265'-3340' spotted 125 sx cmt

3300'
3330'

3340' cmt retainer w/200 sx cmt; 14 sx washed out

3351'-3366'

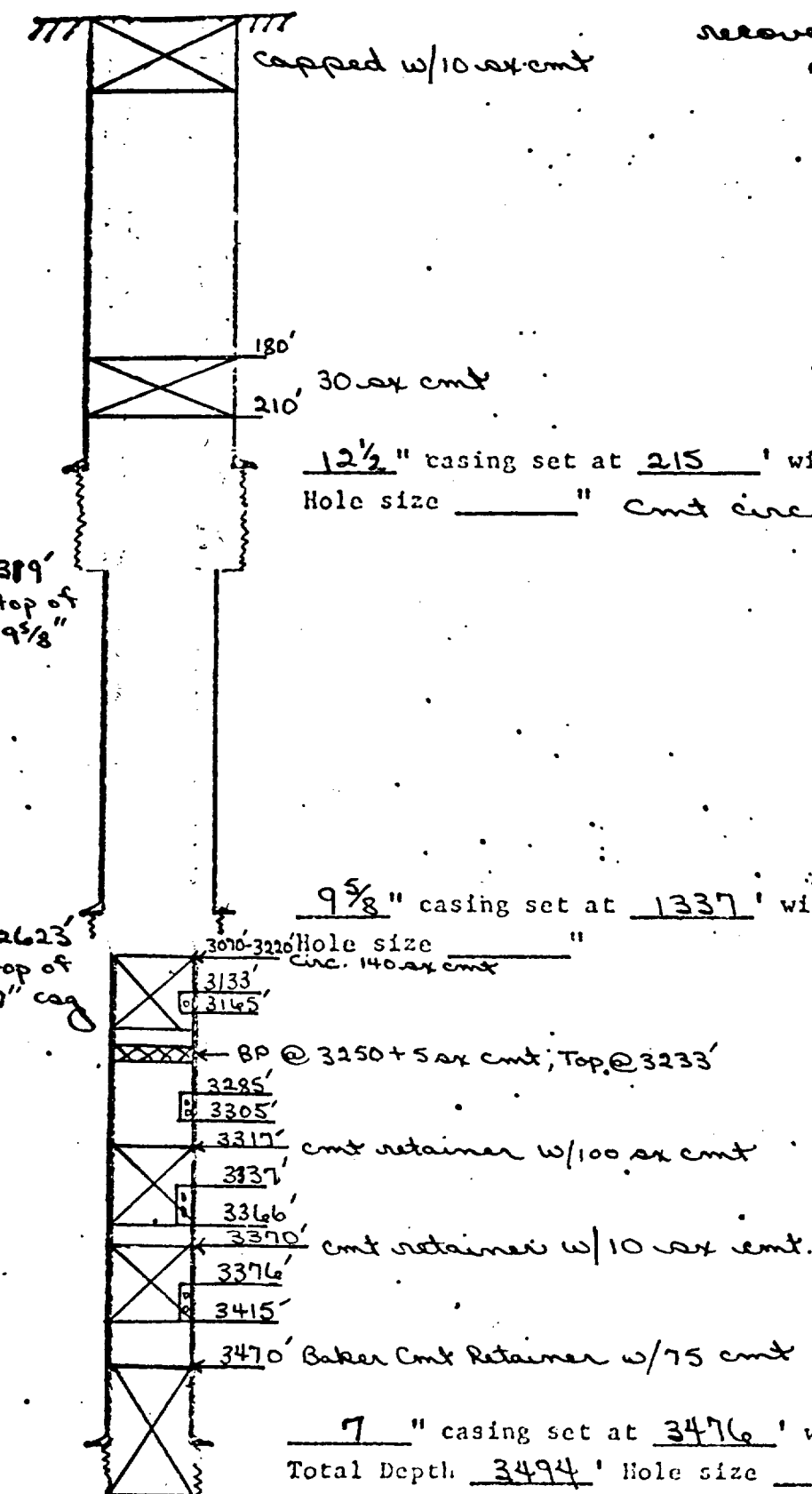
3366' cmt retainer w/100 sx cmt; 2 sx circ

7" casing set at 3434' with 400 sx of _____ cement
Total Depth 3468' Hole size _____"

FIELD Jalmat Yates Seven Rivers	OPERATOR Phillips Petroleum Co.	DATE Sept 14, 1977
LEASE C.D. Woolworth	WELL NO. 10	LOCATION 659.4' FNL & 659.3' FEL, NW/4 Sec 26, T24S, R36E, San County, N.M.

P & A - 7/15/46

recovered 88 yds 7" csg (2623')
" " yds of 9 5/8" csg. (319')



FIELD Jalmat Yates Seven Rivers	OPERATOR Phillips Petroleum Co.	DATE 9-15-77
LEASE C.D. Woolworth	WELL NO. 6	LOCATION T 24S, R 36E, Lea County, New Mexico

Plugged & abandoned 3/12/46

recovered 2737' 5" of 7" csg.
" 435' 5" of 9 5/8" csg.

10' cmt plug

12 1/2" casing set at 215' with 175 sx of linear cement
Hole size _____" cmt circ.

435' 5" top of 9 5/8" csg

923' 50 sx cmt

1000'

1300'

9 5/8" casing set at 1375' with 350 sx of linear cement
Hole size _____"

1400' - spotted 40 sx cmt failed to bridge

2737' 5" top of 7" csg.

3100'

3205'

3247'

3255'

3285'

3295'

3300'

3357'

3450'

3453'

spotted 30 sx cmt. between 3100-3250
3250' cmt retainer w/ 700 sx cmt

Baker cmt Retainer w/ 200 sx cmt

Baker cmt Retainer w/ 60 sx cmt

125 sx cmt (Baker cmt Retainer)

7" casing set at 3460' with 300 sx of linear cement
Total Depth 3495' Hole size _____"