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: George D. Riggs

Address: P. O. Box 116 Carlsbad, N.M. 88220

Contact party: Bill Taylor, 1106 N. Country Club, Carlsbad, NM 88220 Phone: 505-887-2570

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.
SEE EXHIBIT A, INJECTION WELL DATA SHEET.

IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project SWD-95.

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. EXHIBITS B-1 & B-2

* 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. EXHIBITS C-1 to C-10.

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: Bill Taylor Title Lease Agent

Signature: Bill Taylor Date: 4/11/91

* 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. _____

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

SUPPLEMENT TO APPLICATION FOR AUTHORIZATION TO INJECT
(George D.) Riggs #7

V. Two-mile and One-half mile Maps are attached as Exhibits B-1 & B-2.

VI. Offset Well Data is supplied on attached schematics as Exhibits C-1 through C-10.

C-1:	Exxon 19C;	Gas Producer,	NW Sec. 4
C-2:	Exxon 31C;	Gas Producer, S.I.,	SE Sec. 5
C-3:	Humble N;	Water Observation,	NE Sec. 5
C-4:	Riggs #3	Oil Producer, S.I.,	NE Sec. 5
C-5:	Riggs #4	Dry Hole, Plugged,	NW Sec. 4
C-6:	Riggs #5;	Plugged Oil/Water Disposal,	SE Sec. 5
C-7:	Welch #3;	Plugged Oil,	SE Sec. 5
C-8:	Welch #4;	Plugged Oil,	SE Sec. 5
C-9:	Welch #5;	Dry Hole, Plugged,	SE Sec. 5
C-10:	Welch-Stephens #6;	Dry Hole, Plugged,	SE Sec. 5

VII. Proposed Operation Data:

1. Average daily rate - 750 BPD,
   Maximum daily rate - 1250 BPD,
   Volume of fluid to be injected - 3,000,000 Bbls.

2. The system is open.

3. Average injection pressure - 0 to 125 psig.
   Maximum injection pressure - 125 psig.

   It is hoped the injection will be on vacuum as the Riggs #5 was, however application is made to permit 125 psig injection pressure.

4. Yates Formation produced water from the NM 01119 (Welch-Yates
& C Federal) lease is the source , and will be returned to
5. the Yates Formation, same lease.

   An OLD produced water analysis, made when production (oil and water) was consistant, is attached as Exhibit D.

VIII. 1. The Yates formation consists of interbedded carbonates, siliciclastics (siltstones/sandstone), and evaporites.

2. The Commonly accepted top of the Yates is expected at 401'; the Capitan Reef is below 738';

3. The proposed injection zone is Yate's sand intervals bedded between 515' and 675'; a lower five foot siliciclastic (sandstone) strata is anticipated at approximately 625'.

4. a. Two possible water stratas are shown on Exhibit A at 268' & 334'; total disolved solids of these is unknown; however:
   b. Shallow (less than 100' deep) wells outside the one-mile radius provide water for stock and human utilities, but drinking water is hauled (analysis of these are filed with Exxon's C-22, R-8050).

IX. No stimulation is anticipated if the disposal zones of the now plugged Riggs #5 are encountered;
If adequate porosity is not available naturally, approval of and method to stimulate will be sought based upon learned data.

X. The well will be completed/sampled by Cable Tool, therefore electric logs are not planned; however the location is midway between Exxon's C-31, 1830' FSL & 1980 FEL, Sec. 5, T21S, R27E, and Exxon's C-22, 5940' FSL & 660' FWL, Sec. 4, T21S, R27E, NMPM, whose electric logs provide anticipated formation data.

If electric logs are made, they will be appropriately filed.

XI. There are no fresh water wells within one mile of the proposed location; see VIII. 4b. hereof.

XII. There are no indications of open faults or other hydrological connections between the proposed disposal interval and fresh water zones, above nor below;
Supportive prior findings of this by the NMOCD are Exxon's C-22 Disposal Well (R-8050), .5+ miles to the North-Northeast; and the Riggs #5 (SWD-95), .4 miles to the Southwest.

XIII. A signed statement of mailing of notice is attached, along with proof of publication.

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

For George D. Riggs,

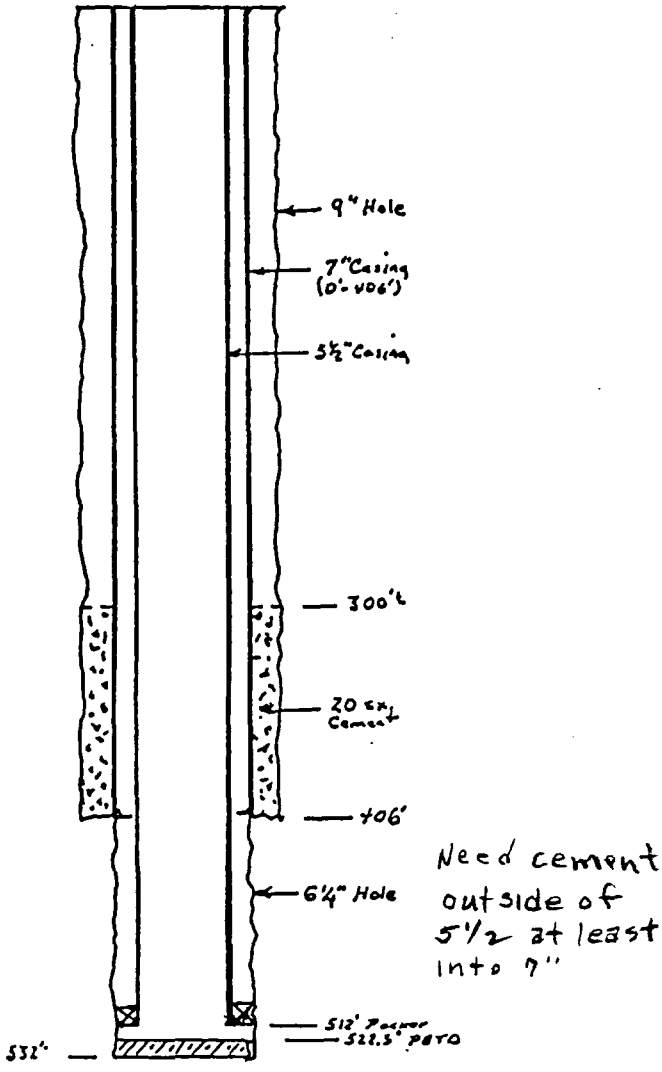
Bill Taylor

Date: 4/11/91

Bill Taylor,
Lease Agent

EXHIBIT C-4

PRODUCING OIL WELLS: 1/2 MILE RADIUS



WELL: Riggs (Welch Fed.) Well #3

LEGAL: 2970' FSL;, 990' FEL, Sec. 5, T-21S, R-27E, NMPM

FIELD: Cedar Hills

OPERATOR: George D. Riggs

ELEV.: 3250'

DATES:
Spudded: 1/31/1952

T.D. 5/8/1952

Plugged:

CASING:	Size	Amount	Cement	Left?
	7"	406'	20 sx	406'
	5 1/2"	512'	Packer	512'

WATER Zones: ~~355~~ 256-270'; 320-370' Fresh
532' Sulphur Water

TOP OF YATES: 381'

OIL/GAS Zones: S/G 435'; Oil 482-484'

Production: 20240 Accumulated Oil
83913+ " Wtr.

REMARKS: Well shut-in, temporarily abandoned, waiting disposal well; Casing pressure tested and approved for one-year to 3/1/92.

'WELL' DATA SHEET

****

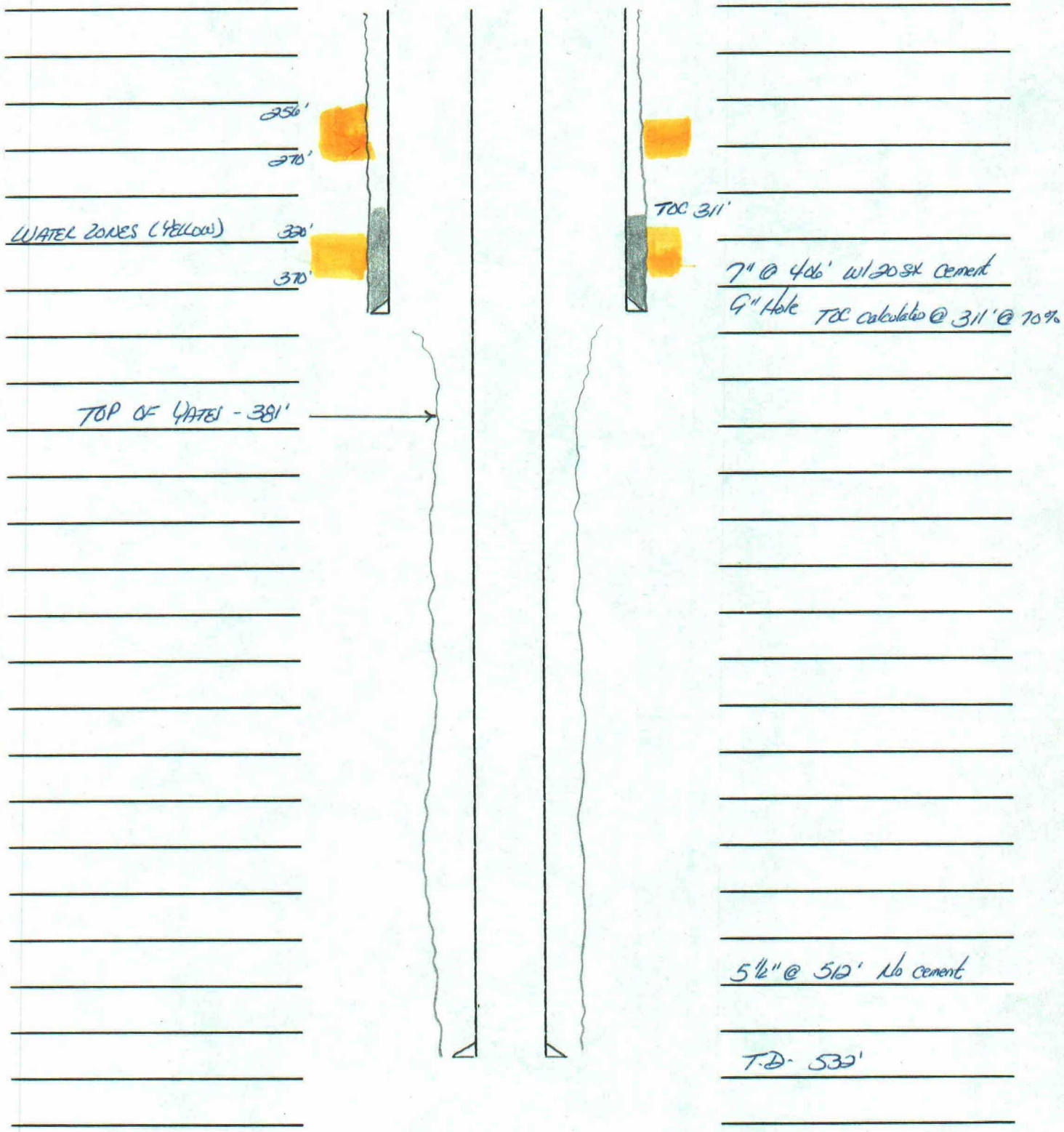
OPERATOR: WELL NAME & NO: Riggs Welch Federal No. 3

LOCATION: 2970 FEET FROM THE South LINE AND 990 FEET FROM THE East LINE

of SECTION 5, TOWNSHIP 21 South, RANGE 27 East, NMPM, Eddy COUNTY, N.M.

****

SCHEMATIC



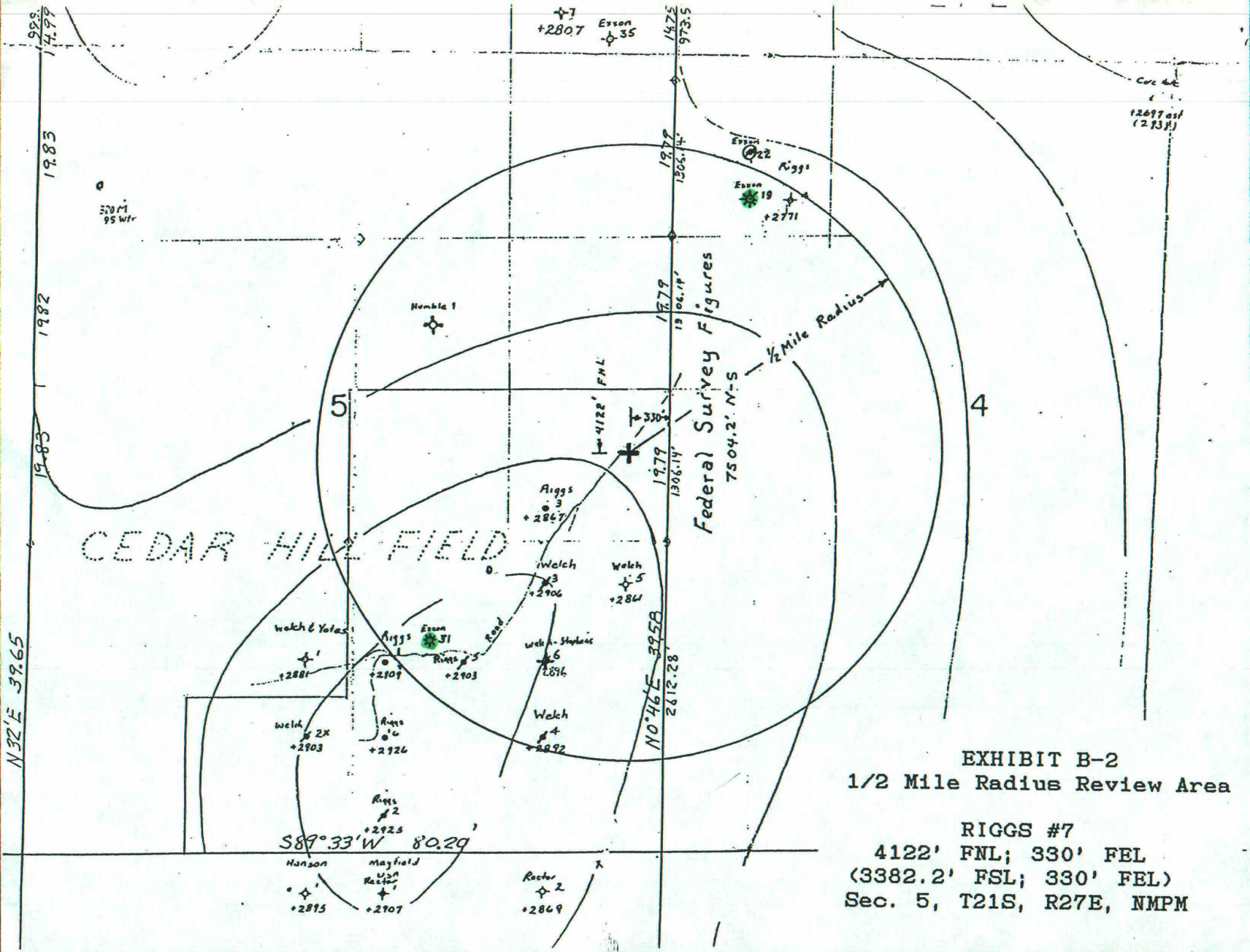


EXHIBIT B-2
1/2 Mile Radius Review Area

RIGGS #7
4122' FNL; 330' FEL
(3382.2' FSL; 330' FEL)
Sec. 5, T21S, R27E, NMPM

EXHIBIT A

10 POINT EXHIBIT 10-A
DRILLING & COMPLETION PROGNOSIS

George D. Riggs
Welch-Yates C Federal Lse.

Riggs #7 Well; 4122' FNL & 330' FEL
Sec. 5, T21S, R27E, NMPM

Surface Casing:
8 5/8" in 12¼ hole to 407'
Cement to be circulated
to surface

5 1/2" in 7 7/8" hole to 515'
Cement to be circulated
to surface

510' of 2 7/8" Tubing,
cement or plastic lined

Baker lokset Packer at 510'

Injection Interval:
515' to 675' +/-, Open Hole

Targeted: Porous Sand layers in
Dolomite as the plugged Riggs #5

Formation Stimulation: None expected

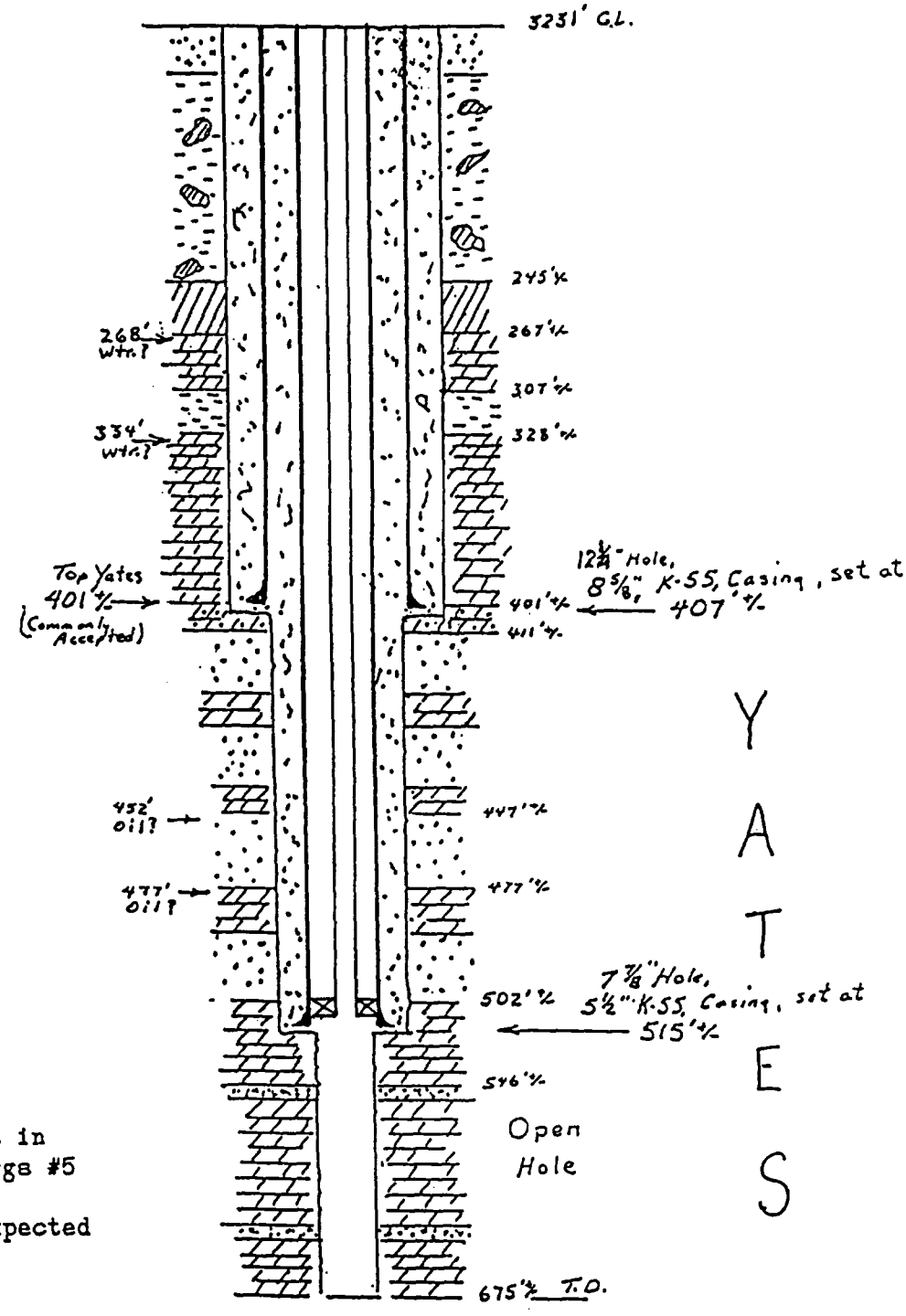
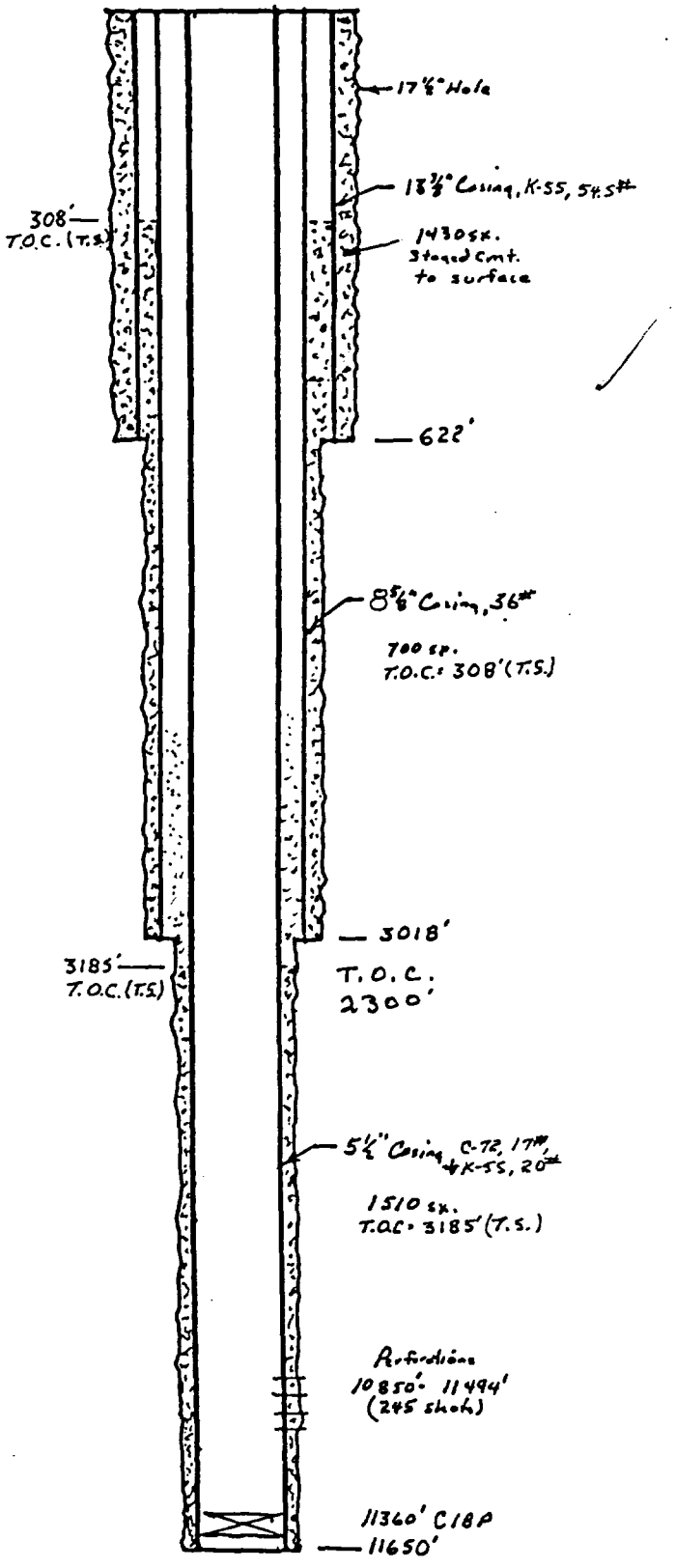


EXHIBIT C-1

PRODUCING WELLS: 1/2 MILE RADIUS



WELL: Exxon Yates C Fed. #19

LEGAL: 1949' FNL; 660' FWL, Sec. 4, T-21S, R-27E, NMPM

FIELD: Burton Flats, Morrow

OPERATOR: Exxon Corporation

ELEV.: 3198'

DATES:

Spudded: 11/22/1982

T.D. 1/16/1983

Plugged:

CASING:	Size	Amount	Cement	Left?
	13 3/8	622'	1430 sx	622'
	9 5/8	3018'	700 sx	3018'
	5 1/2	11650'	1510 sx	11650'

WATER Zones: None Reported

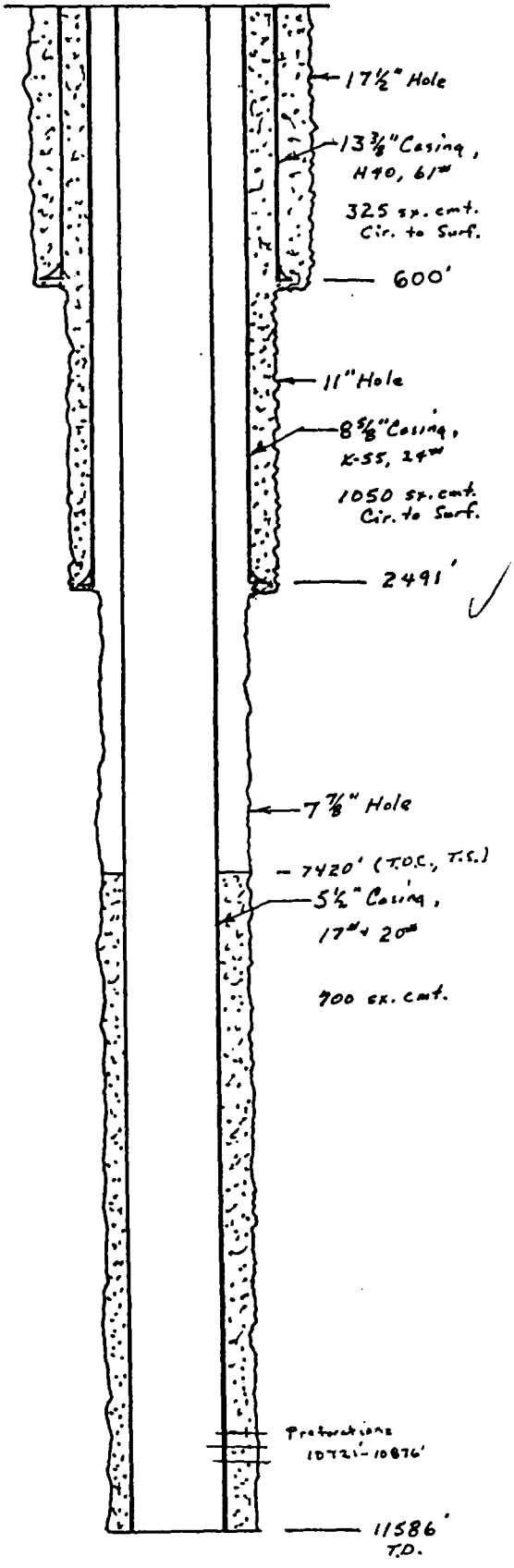
OIL/GAS Zones: Gas: 10850'-11494'

Production: Gas: 28800 MCFD

REMARKS:

EXHIBIT C-2

PRODUCING WELLS: 1/2 MILE RADIUS



WELL: Exxon Yates C Fed. #31

LEGAL: 1830 FSL; 1980 FEL, Sec.5-T21S-R27E, NMPM

FIELD: Alacran Hills Atoka

OPERATOR: Exxon Corporation

ELEV.: 3258'

DATES:

Spudded: 9/16/83

T.D. 12/25/84

Plugged:

CASING:

Size	Amount	Cement
13 3/8	600'	325 sx
8 5/8	2491'	1050 sx
5 1/2	11586'	700 sx

WATER Zones: None Reported

TOP OF YATES:

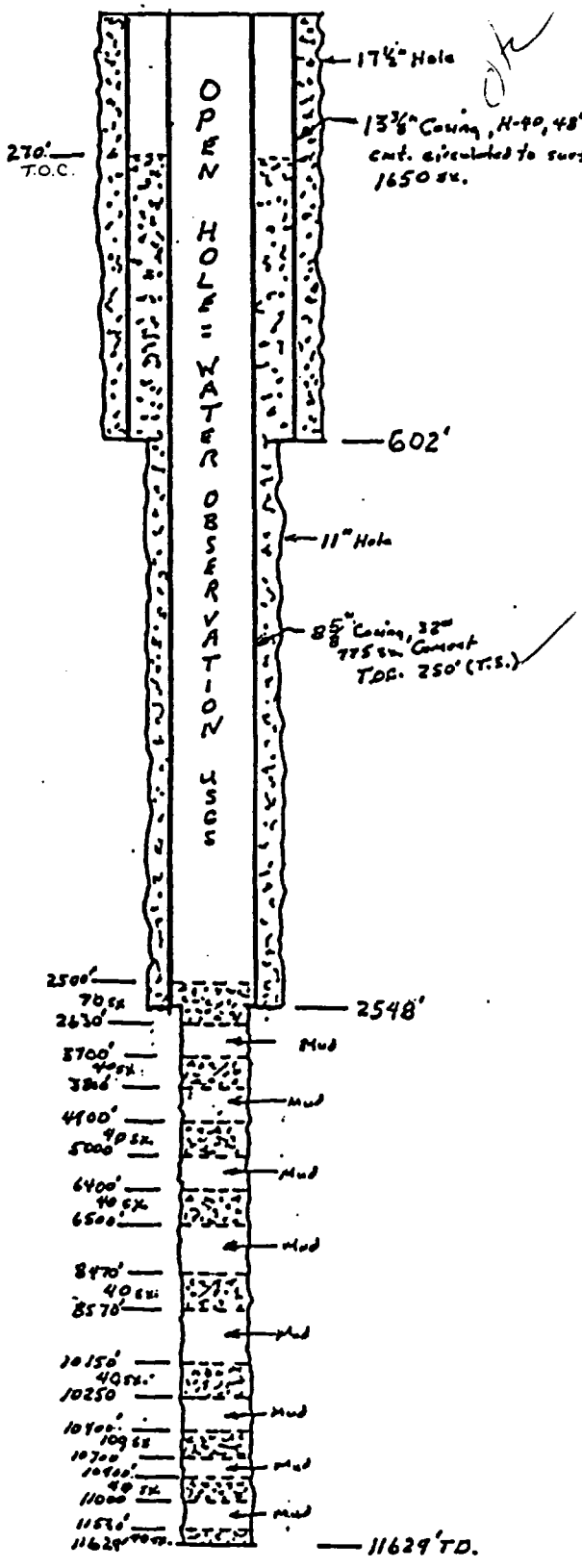
OIL/GAS Zones: Gas: 10721'-10876'

Production:

REMARKS:

EXHIBIT C-3

WATER OBSERVATION WELL
PLUGGED & ABANDONED WELLS: 1/2 MILE RADIUS



WELL: Humble N. Cedar Hills Unit

LEGAL: 3060' FNL; 1993' FEL, Sec. 5, T-21S, R-27E, NMPM

FIELD: North Cedar Hills Unit

OPERATOR: Humble Oil & Refining Co.

ELEV.: 3296' DF

DATES:
Spudded: 5/20/1966
T.D. 7/29/1966
Plugged: 8/4/1966 See Remarks

CASING:	Size	Amount	Cement	Left
	13 3/8	602'	1650 sx	602'
	8 5/8	2548'	775 sx	2548'

WATER Zones: None Reported

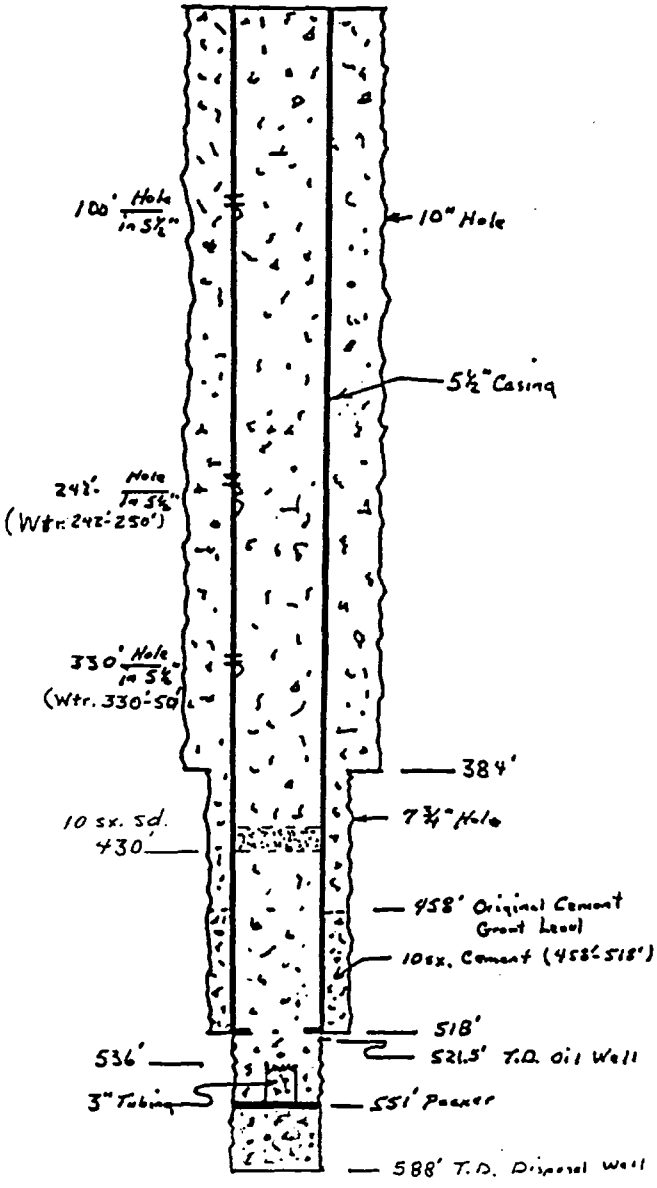
OIL/GAS Zones: None Reported

Production: DRY HOLE: no production

REMARKS: USGS took well over to make Capitan Reef water observation well.

EXHIBIT C-6

PLUGGED & ABANDONED WELLS: 1/2 MILE RADIUS



WELL: Riggs (Welch Fed.) Well #5
OIL TO WATER DISPOSAL CONVERSION

LEGAL: 1650' FSL; 1650' FEL, Sec. 5, T-21S, R-27E, NMPM

FIELD: Cedar Hills

OPERATOR: George D. Riggs

ELEV.: 3270'

DATES:
Spudded: 3/4/1953

T.D. 3/15/1953

Plugged: 1/9/1990

CASING:	Size	Amount	Cement	Left?
	7"	384'	0	0
	5 1/2"	518'	10 sx.	518'
Disposal:	3"	551'	Packer	536-51'

WATER Zones: 242-50'; 330-50' Fresh Wtr.
Sulp. Wtr: 562'; 583-588'

TOP OF YATES: 360'

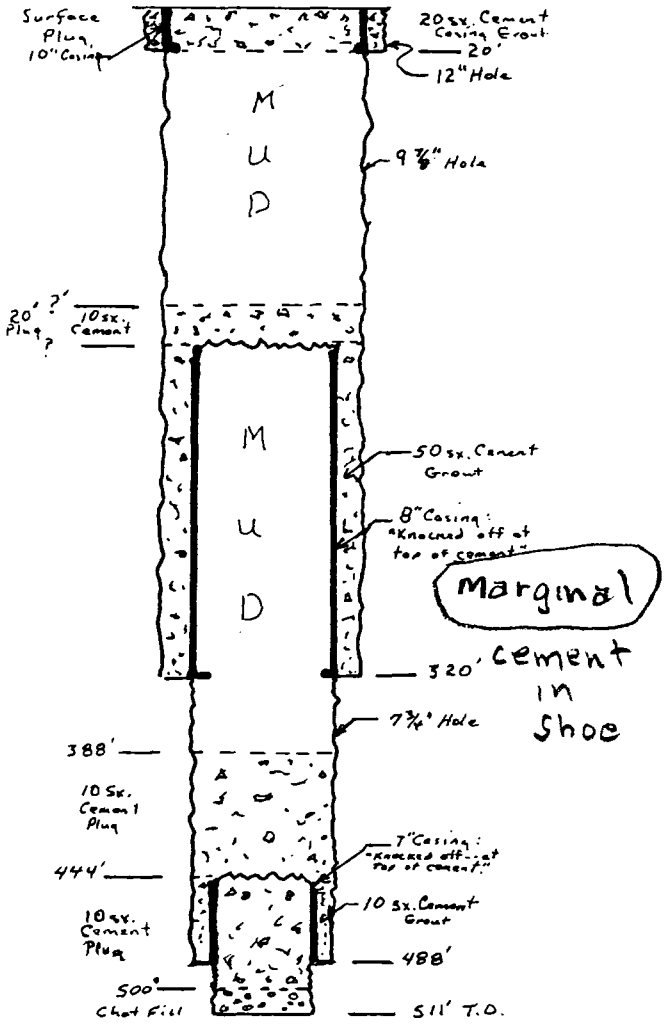
OIL/GAS Zones: 520-521'

Production: 2774 Accum. B. O.
5630 Accum. B. Wtr.

REMARKS: Halliburton cemented back to surface in 4 stages, tagging cement at 430' & 150' in process.

EXHIBIT C-7

PLUGGED & ABANDONED WELLS: 1/2 MILE RADIUS



WELL: Welch (Federal) #3

LEGAL: 2310' FSL; 990' FEL, Sec. 5, T-21S, R-27E, NMPM

FIELD: Cedar Hills

OPERATOR: Welch & Yates

ELEV.: 3257'

DATES:
Spudded: 12/13/1951
T.D. 1/24/1952
Plugged: 9/30/1958 Report

CASING:	Size	Amount	Cement	Left?
	10"	20'	20 sx.	20'
	8"	320	50 sx.	Part
	7"	488'	Packer-10sx	Part

WATER Zones: None Reported on 9-330

TOP OF YATES:

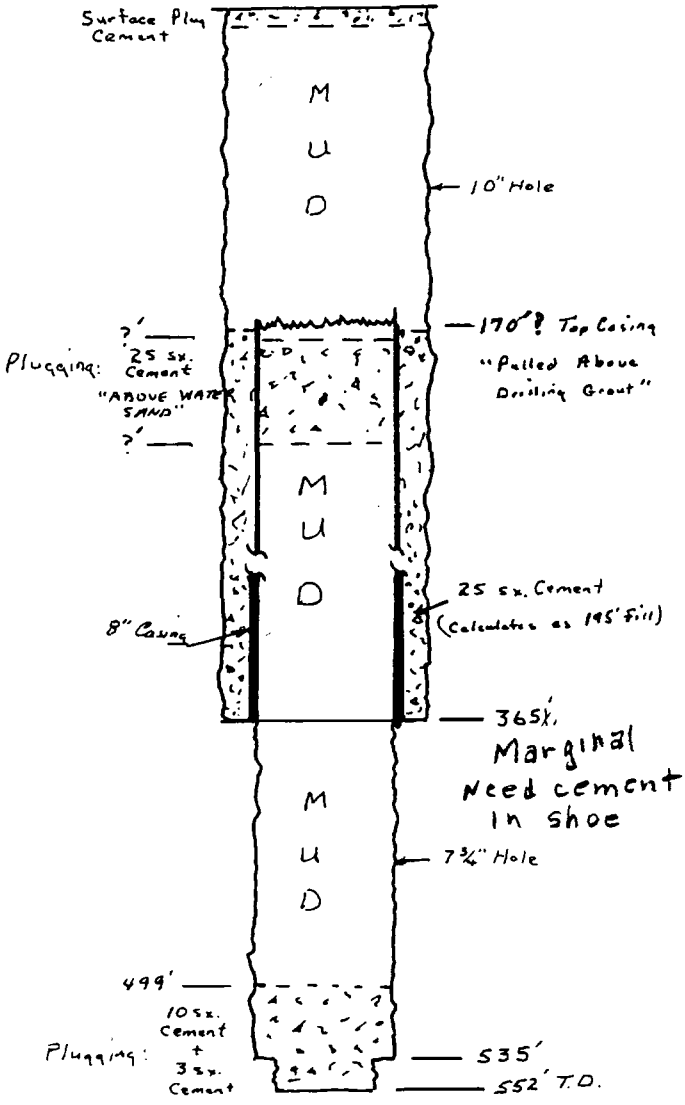
OIL/GAS Zones: SG/ 408-410'
SG/ 426'
Oil/ 510-511'

Production: 14041 Accumulated BO.
? " BWtr.

REMARKS:

EXHIBIT C-8

PLUGGED & ABANDONED WELLS: 1/2 MILE RADIUS



WELL: Welch (Federal) #4

LEGAL: 990' FSL; 990' FEL, Sec. 5, T-21S, R-27E, NMPM

FIELD: Cedar Hills

OPERATOR: V. S. Welch

ELEV.: 3289'

DATES:
Spudded: 1/25/1952
T.D. 6/16/1952
Plugged: 9/1/1958 Report

CASING:	Size	Amount	Cement	Left?
	8"	365'	25 sx.	Part
	7"	535'	Packer	0

WATER Zones: None Reported on 9-330

TOP OF YATES:

OIL/GAS Zones: 551-552'

Production: 10295 Accumulated BO.
? " BWtr.

REMARKS:

Budget Bureau 42-R358.4
Approval expires 12-31-53

Form 9-331a
(Feb. 1951)

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Santa Fe
Lease No. NM 0112?
Unit

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 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)

April 1, 1953, 19

Well No. 4 (Welch, et al) is located 5610 ft. from S line and 990 ft. from W line of sec. 4

Lot 5, Sec. 4 (¼ Sec. and Sec. No.) 21 S (Twp.) 27 E (Range) NMPM (Meridian)

Wildcat (Cedar Hills Est.) (Field) Eddy (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)

Hole was filled with heavy mud to 630', where 5 sack cement plug was set. Hole was than filled to 435' with mud. 6-5/8" pipe was pulled in two and 130'. Cement plug then set from 435' to 410' through bottom of pipe. Hole was filled with mud to 110' and cement plug set to 110'. The hole was then filled to the surface with mud, a ~~xxxxxx~~ marker was cemented at surface, and location cleared.

MAY 8 1953

RECEIVED
APR 1 0 1953
ARTESIA, N. MEX.

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

Company George D. Riggs

Address Box 3

Carlsbad, N. M.

By George D. Riggs

Title

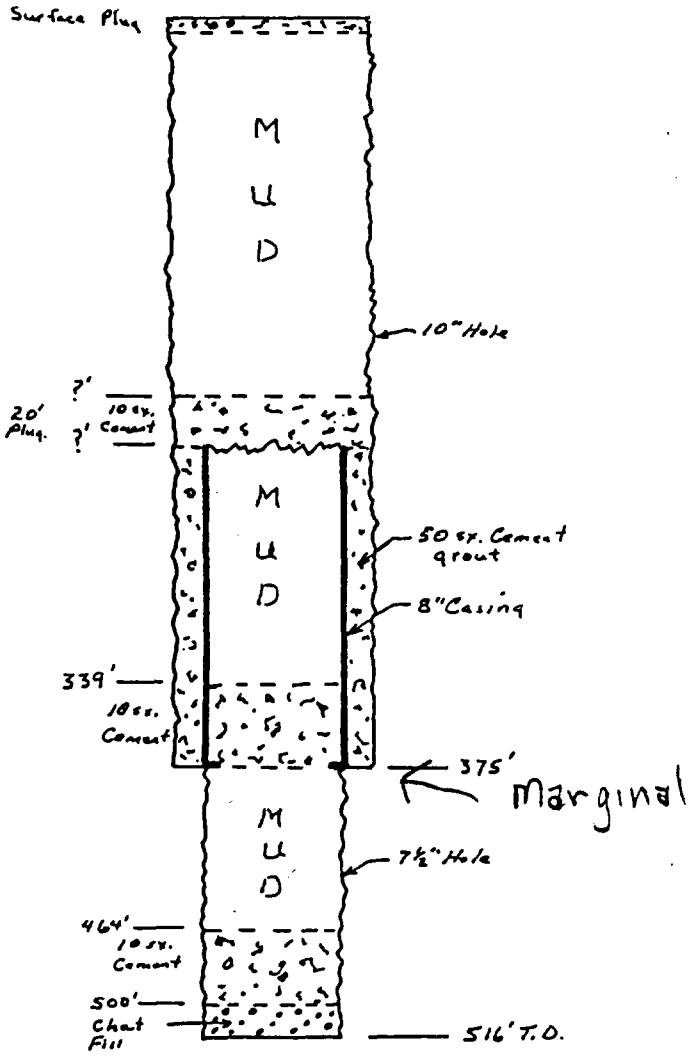
U. S. GOVERNMENT PRINTING OFFICE 16-84...

ILLEGIBLE

EXHIBIT C-10

DRY HOLE: NO OIL/GAS PRODUCTION

PLUGGED & ABANDONED WELLS: 1/2 MILE RADIUS



WELL: Welch (Federal)-Stephens #6

LEGAL: 1650' FSL; 990' FWL, Sec. 5, T-21S, R-27E, NMPM

FIELD: Cedar Hills

OPERATOR: V. S. Welch

ELEV.: 3259' (Scout Report)

DATES:
Spudded: 4/9/1955

T.D. 4/20/1955

Plugged: 9/30/1958 Report

CASING:	Size	Amount	Cement	Left?
	8"	375'	50 sx.	Part

WATER Zones: None Reported on 9-330

TOP OF YATES:

OIL/GAS Zones: 515-516'

Production: NO PRODUCTION

REMARKS: DRY HOLE; P & A

Geological Survey (Experimental) 4W-gw (1966)

EXHIBIT D

UNITED STATES DEPARTMENT OF THE INTERIOR
Ground Water Analysis

Water Resources Division

State N.Mex. (36) County Eddy (ED) Latitude 32° 30' 36" N Longitude 104° 12' 01" Seq. No. Date coll. D 02 Y 02 67

PC: Gun barrel

Local well No.[a] 21.27.5.000 Owner[b] George D. Riggs Collected by Jerry Davidson Lab. Anal. Cl, Density, Kx10⁶ Project No. NM-28-C

Well No.: Welch No. 3 - North of Carlsbad Source: Oil well Depth: 532'

WBF Capitan Reef Appearance Wc gassy Wa Lab. No. 61188 Sampling depth Type[c]

		ppm	epm
Kx10⁶	16,500	16500	
pH	6.3	6.3	
Temperature °F			
SiO₂	f ml Abs		
Ca	25-500-25 ml 748	748	64.80
Mg	ml 334	334	27.47
Subtotal cations (Ca, Mg)			
Na	ml 2890	2890	125.51
K	ml		
Subtotal cations (Ca, Mg, Na, K)			
CO₃	46.80 50 ml 931	931	15.26
HCO₃	ml 0	0	0.00

		ppm	epm
SO₄	10-500-10 ml 2,280	2270	47.26
Cl	150-1000-20 ml 4530	4530	127.79
	mg		
Mg · AgNO₃	1.0		
Source of data[d]	Card Q	Q	
F	ml Abs		
NO₃	ml Abs		
PO₄	10 ml f Abs		
	Abs 0.010 % Curve B → Concentration = 0.00		
	HPO₄ % H₂PO₄ Curve C → Concentration = 1.24		
Total anions			190.31
B	f ml Abs		
Al	ml Abs (Al + Fe)		

Remarks and explanation on other side

		ppm	epm
Fe	f 1.84 ml		
Total	ml Abs		
Dissol.	25 ml Abs	0.00	
Mn	f ml		
Total	ml Abs		
Dissol.	ml Abs		
Density (g/ml @ 20°C)		1005	
Pb	ml		
Zn	ml		
Subtotal cations (Al, Fe, Mn, Cu, Pb, Zn)			
Subtotal cations (Ca, Mg, Na, K)			
Total cations			
Dissolved solids	11,700	11700	
Residue at 180°	16 ml		
Dish No.			
Calculated	11,200	11200	
Hardness	25-500-50 8.15	3240	
Ca, Mg	8.00 ml 8.15		
Noncarbonate	2480	2480	
Color	Card R	R	

61188

State	County	Lat.	Long.	Seq. No.	Date	Samp. depth	c

Remarks:

Source: Oil well
Depth: 532'
PC: Gun barrel

DENSITY AT 20°C (G/ML)

2.8745 50 #26
2.6509 temp 23.9
5.2236
1.0045 (1.0009) = 1.0054

D.S. 45.2047 10
45.0872
0.1175
(117.5)(100) = 11,750 / 1.005 = 11,700
Loss on ignition

45.2047 (8.0)(100) = 800 / 1.005 = 796
45.1967
0.0080

Water changed from greenish color colorless with with precip. on bottom

pH 7.2 3-6-67

pH 7.3 3-7-67

E. F. WILLIAMS

Chemist LEWIS ALARY Checked by _____

Date be SEP 20 1967 Date transmitted _____

Punched by _____ Verified _____

Br	_____ ml (26–28)
I	_____ ml (29–31)
Alk. as $CaCO_3$	(32–35)
Free CO_2	(36–38)
SAR	22 (39–41)
RSC	(42–44)
Organics	
MBAS (ABS)	_____ ml (45–47)
	(48–50)
	(51–54)

a Master card A (21-34)
b Master card A (52-66)
c Type:
1. Pumped 4. Spigot
2. Bucket 5. Bailer
3. Forest 6. Special
d Source of data:
1. USGS 5. Industrial
2. UPHS 6. Private
3. State Health 7. Recreational
4. State

Radiochemical

Alpha (pc/l)	(55–57)
Beta (pc/l)	(58–60)
Ra (pc/l)	(61–63)
U (ug/l)	(64–66)

Other data (67-79)[e]

Fe^{+3} O.D

0.0125 = 0.287 = 0.044
0.0250 = 0.555 = 0.045
0.0500 = 1.040 = 0.043
0.046 × 400 = 18.

spl 5-50-25
Col = 0.000

PO_4	O.D	mg/ad
0.005	0.295	0.017
0.010	0.460	0.022
0.020	0.790	0.025
0.050	1.800	0.028

e Indicate constituent and card columns

Card S 80 S

Form 3160-3
(July 1989)
(formerly 9-331C)

OPERATOR'S COPY

CONTACT RECEIVING OFFICE FOR NUMBER OF COPIES REQUIRED
(Other instructions on reverse side)

BLM Roswell District
Modified Form No.
NM060-3160-2

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Lease Water Disposal SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. NAME OF OPERATOR: George D. Riggs

3a. Area Code & Phone No.:

3. ADDRESS OF OPERATOR: P.O. Box 116 Carlsbad, NM 88221

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 4122' FNL & 330' FEL
At proposed prod. zone:

5. LEASE DESIGNATION AND SERIAL NO.: NM 01119

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Welch-Yates C Fed.

9. WELL NO.: Riggs #7

10. FIELD AND POOL, OR WILDCAT: Cedar Hills

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 5-T21S-R27E, NMPM

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 7 Miles

12. COUNTY OR PARISH: EDDY

13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 3386' (North Line)

16. NO. OF ACRES IN LEASE: 2261.75 NM01119; 640+/-, Riggs

17. NO. OF ACRES ASSIGNED TO THIS WELL: Yates Water, 640 +/-

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 780'

19. PROPOSED DEPTH: 675'

20. ROTARY OR CABLE TOOLS: Rotary &/or Cable Tool

21. ELEVATIONS (Show whether DF, RT, GR, etc.): GR. 3231'

22. APPROX. DATE WORK WILL START*: Upon BLM/NMOCD approval

23. PROPOSED CASING AND CEMENTING PROGRAM

HOLE SIZE	CASING SIZE	WEIGHT/FOOT	GRADE	THREAD TYPE	SETTING DEPTH	QUANTITY OF CEMENT
~~12 1/4"~~ 8 5/8"	~~8 5/8"~~	~~24#~~	K-55 CIRCULATE	STC/Welded	407' +/-	See Below
~~7 7/8"~~	~~5 1/2"~~	~~14#~~	K-55 CIRCULATE	STC/Welded	515' +/-	" "

8 5/8" CASING: Set 8 5/8" six foot, +/-, into the Yates formation at 407', +/-; Circulate cement using 110 sacks (circulate 26 sx); initial cementing stage will use pump-plug through 8 5/8" casing, thereafter the cement will be tagged outside the 8 5/8" with tubing and any void filled to the surface in multiple stages, using 25 sacks per stage.

5 1/2" CASING: Set casing in Yates Dolomite at 515' +/-; Circulate cement using 105 sacks Cl "C" (circulate 21 sx); initial cementing stage will use pump-plug through 5 1/2" casing, thereafter the cement will be tagged outside the 5 1/2" with tubing and any void filled to the surface in multiple stages, using 25 sacks per stage.

Flocele &/or CaCl may be added to aid cementing if drilling reveals the need.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED: Bill Taylor TITLE: Lease Agent DATE: 2/11/91

(This space for Federal or State office use)

PERMIT NO.: APPROVAL DATE:

APPROVED BY: Tom Hall TITLE: Actg Area Manager DATE: 4-5-91

CONDITIONS OF APPROVAL, IF ANY:
APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS

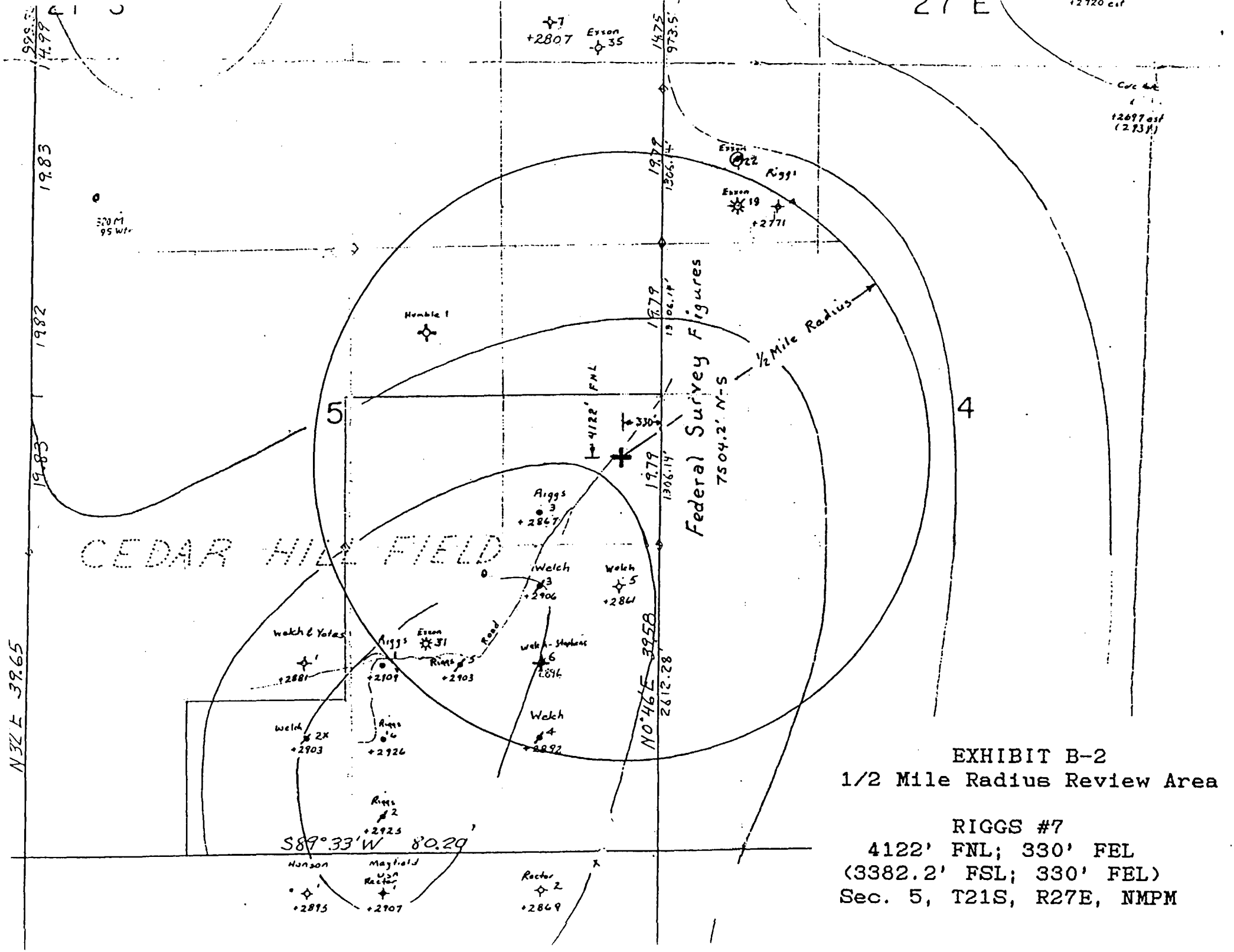


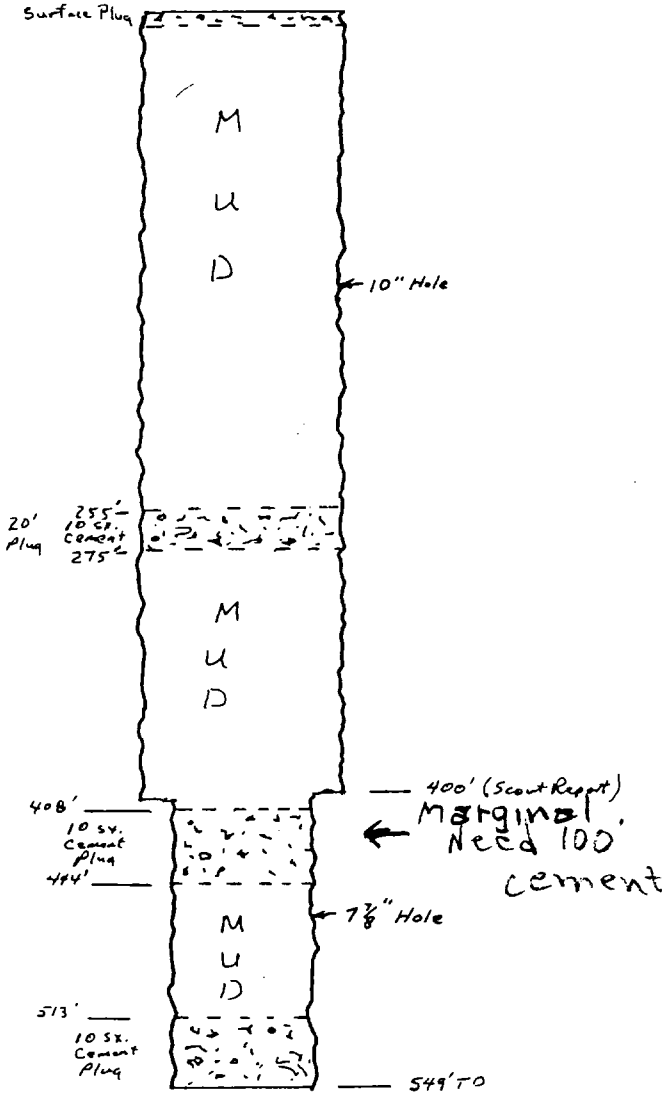
EXHIBIT B-2
1/2 Mile Radius Review Area

RIGGS #7
4122' FNL; 330' FEL
(3382.2' FSL; 330' FEL)
Sec. 5, T21S, R27E, NMPM

EXHIBIT C-9

DRY HOLE: NO OIL/GAS PRODUCTION

PLUGGED & ABANDONED WELLS: 1/2 MILE RADIUS



WELL: Welch (Federal) #5

LEGAL: 2310' FSL; 330' FEL, Sec. 5, T-21S, R-27E, NMPM

FIELD: Cedar Hills

OPERATOR: V. S. Welch

ELEV.: 3254' (Topog Map)

DATES:
Spudded: 3/4/1953

T.D. 3/15/1953

Plugged: 3/17/1953 Report

CASING:

Size	Amount	Cement	Left?
8"	400'	0	0
7"	525'	0	0

WATER Zones: None Reported on 9-330

TOP OF YATES:

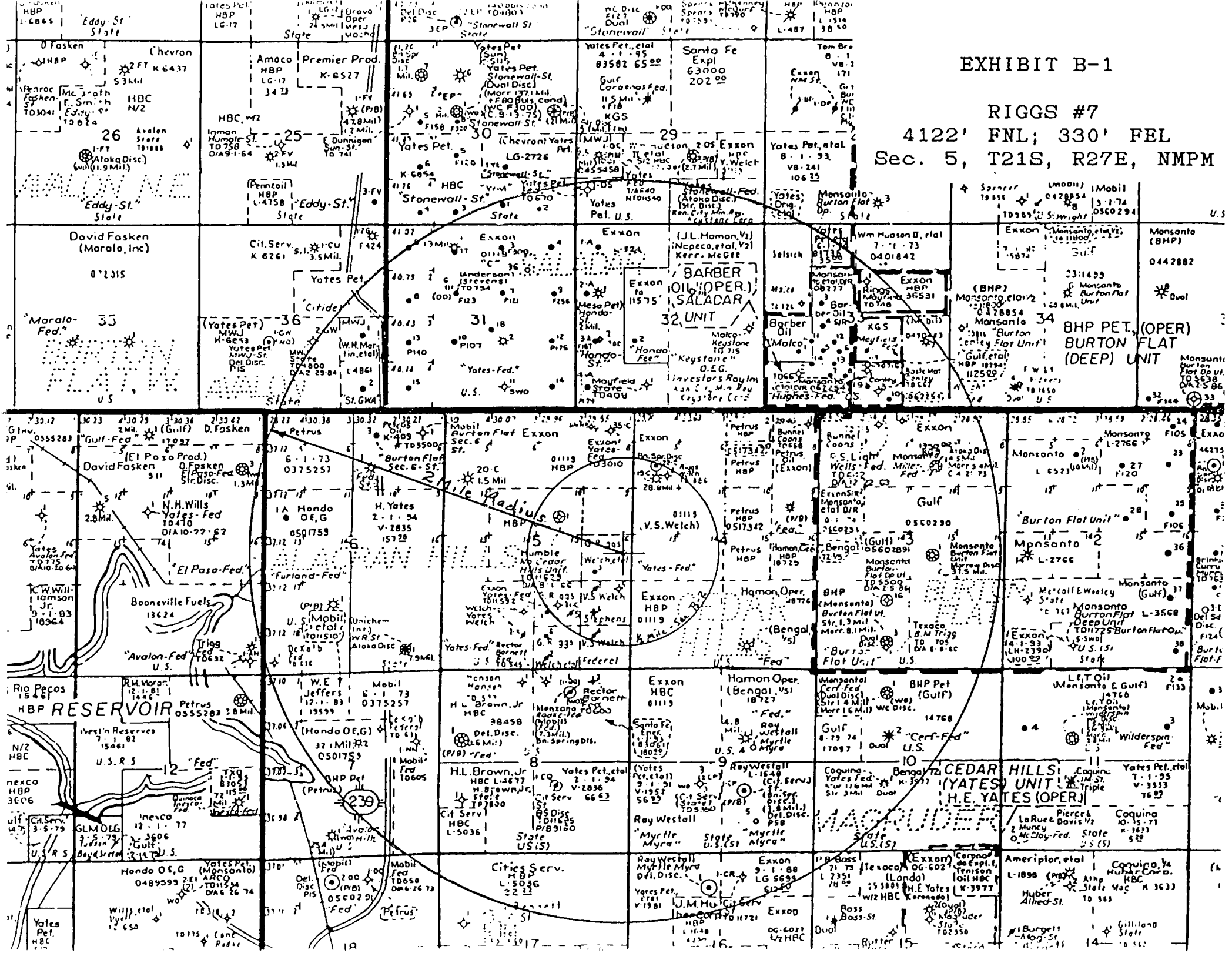
OIL/GAS Zones: NONE

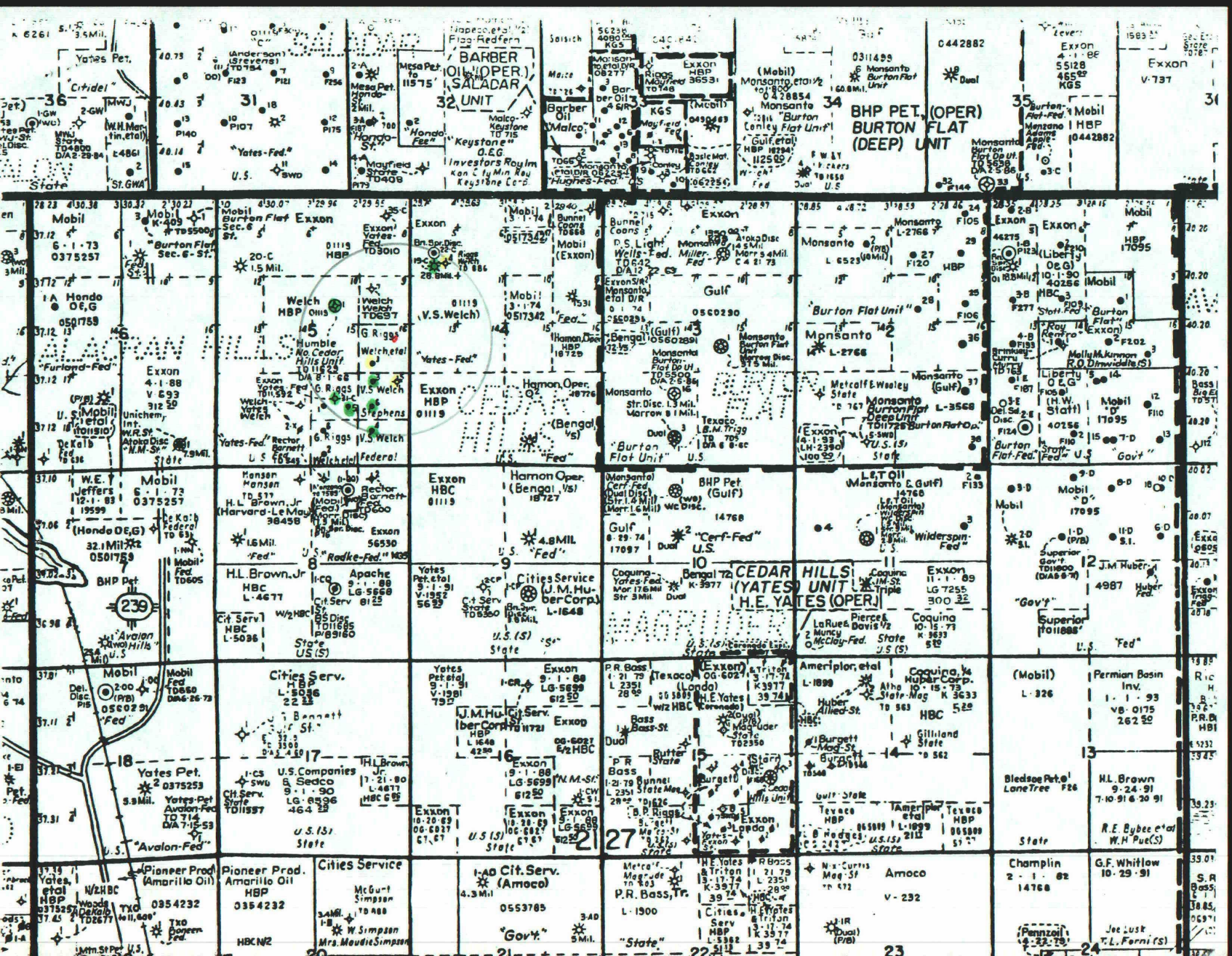
Production: NO PRODUCTION

REMARKS: DRY HOLE; P & A

EXHIBIT B-1

RIGGS #7
4122' FNL; 330' FEL
Sec. 5, T21S, R27E, NMPM




BARBER OIL (OPER.) SALADAR UNIT
BHP PET. (OPER) BURTON FLAT (DEEP) UNIT
CEDAR HILLS (YATES) UNIT
H.E. YATES (OPER)
ALACRAN HILLS
CEDAR HILLS
BURTON FLAT
MORITA
Yates Pet.
Citidel
Mesa Pet. to 11575'
Mesa Pet. Hondo-St.
Hondo Fee
Mayfield State TD408
Keystone O.E.G.
Investors Royl
Kan City Min Roy
Keystone Corp.
Barber Oil Malco
Monsanto, etal DR 05225-4
Hughes-Fed.
Riggs Mayfield TD746
KGS
Mayfield Fed.
Basic Mat. Conley TD662
Monsanto Burton Flat Unit
Monsanto Burton Conley Flat Unit
Gulf, etal HBP 18294
Monsanto Burton Flat Op. Ut. TD 5658 D/A 2-5-86
Exxon 4-1-88 55128 465 KGS
Mobil HBP 0442882
Mobil 6-1-73 0375257
Burton Flat Sec. 6-St.
Mobil K-409 TD5500
Mobil Burton Flat Sec. 6 St.
Exxon Yates-Fed. TD3010
Hondo OE,G 0501759
Welch HBP
Welch TD697
Humble No. Cedar Hills Unit TD11629
Exxon Yates-Fed TD11,592
Welch-Yates Welch
G. Riggs
V.S. Welch
Stephens
Federal
Furland-Fed
Exxon 4-1-88 V 693
Unichem, Int. W.R.St.
Atoka Disc N.M.St.
Mobil, etal (TD11510)
De Kalb Fed TD 636
Exxon HBP 01119
Harmon Oper. 18726
(Bengal, 1/5)
Yates-Fed.
Rector Barnett
Mobil 3-1-74 0517342
Mobil (Exxon)
Bunnel Coons TD668
D.S. Light Wells-Fed. TD642 D/A 12-2-63
Miller-Fed
Gulf 0560290
(Gulf) 0560289
Bengal 72-1/5
Monsanto Burton-Flat Op Ut TD5500 D/A 2-5-86
Str. Disc. 1.3 Mil. Morrow 8 Mil.
Texaco L.M. Trigg TD 705 D/A 6-8-66
Burton Flat Unit
Monsanto Burton Flat Unit Morrow Disc. 3.5 Mil.
Monsanto L-2766
Metcalf & Wesley State TD 767
Monsanto Burton Flat Deep Unit TD11726 Burton Flat Op.
Exxon 14-1-93 (LH-2390) 100 29
Liberty O.E.G. 10-1-90 40256
Mobil HBP 17095
Mobil "D" 17095
Molly M. Kurman R.O. Dinwiddie (S)
Liberty O.E.G. (H.W. Statt) 40256
Burton Flat-Fed.
Statt-Fed
Govt
W.E. Jeffers 12-1-83 19599
Mobil 6-1-73 0375257
(Hondo OE,G) 32.1 Mil 0501759
BHP Pet
Avalon (Wo) Hills
Hanson Hanson TD 577
H.L. Brown, Jr (Harvard-Le May) 38458
Rector Barnett Fed TD600
Radke-Fed.
Exxon 56530
Harmon Oper. (Bengal, 1/5) 18727
4.8 MIL
Fed
(Monsanto) Cerf-Fed (Dual Disc) (Str. 1.4 Mil) (Morr. 1.6 Mil)
Gulf 8-29-74 17097
BHP Pet (Gulf) 14768
Cerf-Fed
L.E. Toll (Monsanto & Gulf) 14768
Wilderspin-Fed
Superior Gov't TD11800 (D/A 6-7-)
J.M. Huber 4987
Gov't
H.L. Brown, Jr HBC L-4677
Apache 9-1-88 LG-5668
Cit. Serv. HBC L-5036
Yates Pet. etal 9-1-91 V-1952 5693
Cit. Serv. State TD5360
Cities Service (J.M. Huber Corp.) L-1648
Coquina-Yates-Fed. Mor. 1.76 Mil Str. 3 Mil.
Bengal 72 K-3977
Coquina J.M.St. Triple
Exxon 11-1-89 LG 7255 300 32
LaRue & Pierce & Davis 1/2 Muncy McClay-Fed.
Coquina 10-15-73 K 3633 5 29
Superior TD11888
Mobil Fed TD650 D/A 6-26-73
Del. Disc. (P/B) 0560291
Cities Serv. HBP L-5036 22 25
J.M. Huber Corp. HBP L 1648 42 50
Cit. Serv. TD 11721
Exxon OG-6027 E/2 HBC
Yates Pet. etal 9-1-91 V-1981 79
Exxon 9-1-88 LG-5699 612 50
P.R. Bass 1-21-79 L 2351 28 29
(Texaco) (Londo) OG 5809 W/2 HBC
(Exxon) OG-6027
H.E. Yates (Coronado)
Triton 3-17-74 K 3977 39 74
Ameriplor, etal L-1899
Coquina, Huber Corp. Atho State-Mag K 3633 5 29
Huber Allied-St.
HBC
Burgett Mag-St.
Gilliland State
(Mobil) L-326
Permian Basin Inv. 1-1-93 V8-0175 262 50
Bledsoe Pet. Lone Tree F26
H.L. Brown 9-24-91 7-10-91 6-20-91
R.E. Bybee etal W.H. Pue (S)
Yates Pet. 0375253
Yates-Pet Avalon-Fed TD 714 D/A 7-15-53
Avalon-Fed
U.S. Companies & Sedco 9-1-90 LG-8596 464 29
H.L. Brown, Jr. 7-21-80 L-4677 HBC
Cit. Serv. State TD11597
Exxon 9-1-88 LG-5699 612 50
Exxon 10-20-69 OG-6027
Exxon 9-1-88 LG-5699 612 50
Bunnel State Mag
B.P. Riggs
Exxon Londo
Texaco HBP 065809
Amer. Plor. etal L-1899 2112
Texaco HBP 065809 51 27
Yates, etal HBP 0375253
Pioneer Prod. (Amarillo Oil)
N/2 HBC
Woods Dekalb TD2677
TXO 0354232
TXO Pioneer Fed.
Pioneer Prod. Amarillo Oil HBP 0354232
HBC N/2
Cities Service
McGurt Simpson TD 488
W. Simpson
Mrs. Maudie Simpson
Cit. Serv. (Amoco) 0553785
Gov't.
P.R. Bass, Tr. L-1900
Cities Serv HBP L-5362
H.E. Yates & Triton 3-17-74 K 3977 39 74
State
Nix-Curtis Mag-St TD 572
Amoco V-232
Champlin 2-1-82 14768
G.F. Whitlow 10-29-91
Pennzoil 4-22-79
Joe Lusk T.L. Forni (S)

BARBER (OPER) SALADAR 32 UNIT

BHP PET. (OPER) BURTON FLAT (DEEP) UNIT

CEDAR HILLS (YATES) UNIT H.E. YATES (OPER)

LA HUERTA SUB'D. CITY OF CARLSBAD

BELCO

CARLSBAD

GEORGE D. RIGGS
P. O. Box 116
Carlsbad, NM 88220

April 11, 1991

Application for SWD Well,
Welch Federal Riggs #7,
Eddy County, New Mexico,
Replacement for P&A SWD-95

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

George D. Riggs respectfully requests administrative approval of the enclosed application to drill the Welch-Federal Riggs #7 and inject lease produced water, as a replacement for the Plugged and Abandoned Riggs #5, SWD-95. Form C-108 and all its attachments are enclosed. Also included is proof of publication of the legal notice in the CARLSBAD CURRENT-ARGUS newspaper. Copies of this application are being sent by certified mail to leasehold operators within one-half mile, and the Bureau of Land Management in Carlsbad is being notified as surface owner.

If you have any questions or require further information regarding this submittal, please contact Mr. Bill Taylor at 1106 N. Country Club, Carlsbad, NM 88220, or at 505-887-2570.

Sincerely,

for George D. Riggs,

Bill Taylor

Bill Taylor,
Lease Agent

Attachments

xc: New Mexico Oil Conservation Division,
District 2 Office, Artesia NM
Offset Operators
BLM, Carlsbad, NM

Copies of NMOCD Form C-108 were sent to the following by certified mail on April 11, 1991, 1991:

Offset Operators

Exxon Corporation
P. O. Box 1600
Midland, Tx. 79702-1600

J. M. Welch
P. O. Box 4596
Artesia, NM 88210

Surface Owner

Bureau of Land Management
Carlsbad Area Resource Office
P. O. Box 1778
Carlsbad, NM 88220

For George D. Riggs,

Bill Taylor

Bill Taylor,
Lease Agent

LEGAL NOTICE as published in the Regular Daily Publication of the CARLSBAD CURRENT-ARGUS, April 10, 1991, page B-6:

CARLSBAD CURRENT-ARGUS
(ISSN-USPS 090-860)

An independent newspaper published by Carlsbad Current-Argus, Inc. Monday thru Friday evenings and Sunday morning at 620 S. Main, Carlsbad New Mexico, 88220, P.O. Box 1629.

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Outside Eddy County, N.M.
Per Month $10.00
One Year $120.00

April 10, 1991

NOTICE OF APPLICATION FOR FLUID INJECTION WELL PERMIT

Applicant: George D. Riggs, P.O. Box 116, Carlsbad, NM 88220
Contact Party: Bill Taylor, 505-887-2570.

Application is made to the New Mexico Oil Conservation Division for a permit to inject lease produced water from the Yates formation back into the Yates formation. The well is located 4122' FNL and 330' FEL of Section 5, Township 21S, Range 27E, Eddy County, New Mexico. The proposed disposal zone will be from 515' to 675'. The maximum injection rate will be 1250 barrels per day; the maximum pressure will be 125 psig. Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, NM 87501 within 15 days.