

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 ☐ Lease Water

PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☐

OTHER

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

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

7 Miles

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 +/-

13. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

780'

10. 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

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"	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" Set 8 5/8" six foot, +/-, into the Yates formation at 407', +/-;
CASING: 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" Set casing in Yates Dolomite at 515' +/-;
CASING: 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 Lease Agent

TITLE

DATE 2/11/91

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY 113
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE 4-5-91

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS

*See Instructions On Reverse Side

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

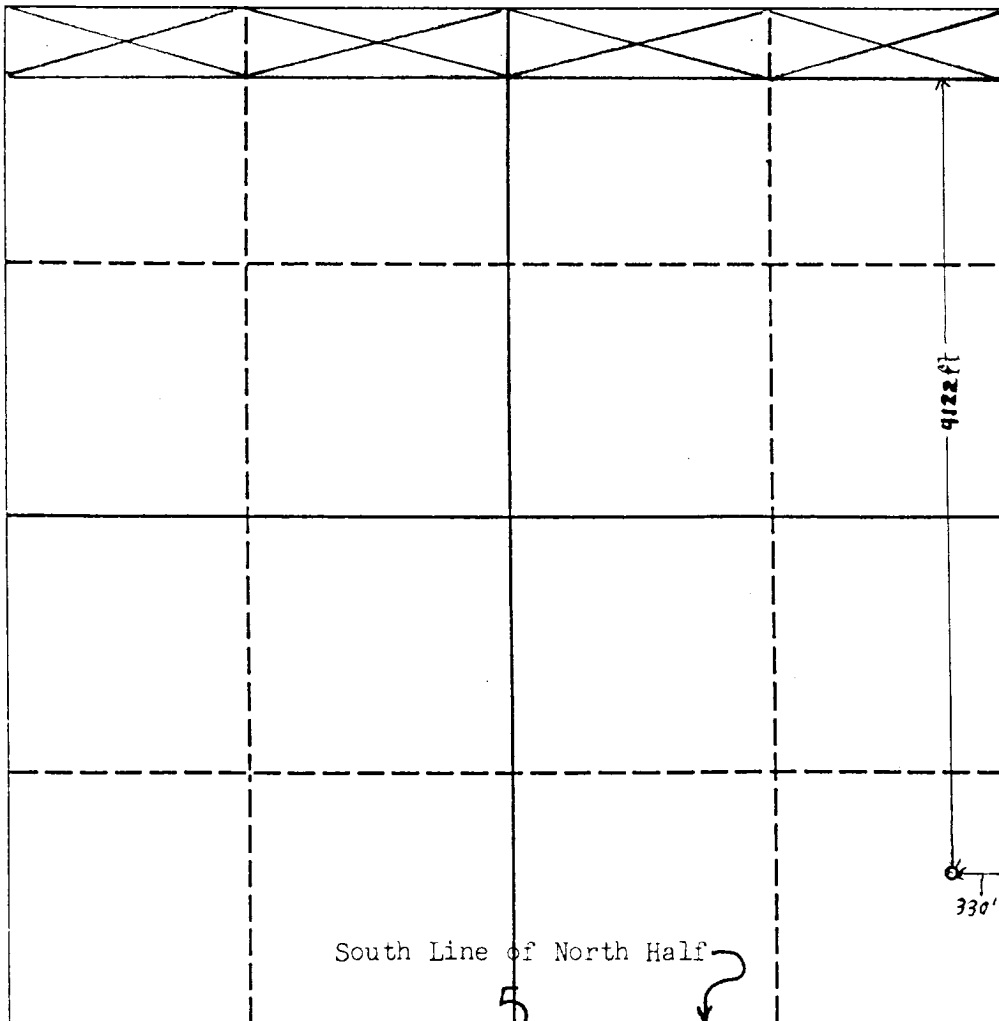
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator George D. Riggs			Lease Welch-Yates Federal NM 01119		Well No. Riggs ?
Unit Letter P	Section 5	Township 21S	Range 27E	County NMPM Eddy	
Actual Footage Location of Well: 4122 feet from the North line and 330 feet from the East line					
Ground level Elev. 3231	Producing Formation Yates		Pool Cedar Hills	Dedicated Acreage: 40+ 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 interest 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 interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature
George D. Riggs
Printed Name
George D. Riggs
Position
Owner
Company
Date
2/11/91

SURVEYOR CERTIFICATION

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
11-24-90
Signature & Seal of
Professional Surveyor
George D. Riggs
Certificate No.
707

10 POINT PLAN
WELCH-YATES C FEDERAL
RIGGS #7
4122' FNL & 330' FEL
Sec. 5, T21S, R27E; NMPM

1. The geologic surface formation: Recent.
2. Estimated tops of geological markers are:
Yates @ 401' (See Exhibit 10-A).
3. The estimated depths at which water, oil, or gas formations are expected to be encountered:
Possible Water: 268' & 334';
Possible Oil Shows: 452' & 477'.
4. Proposed Casing & Tubing Program: see Form 3160-3 and Exhibits 10-A & 10-B.
5. Pressure Control Equipment: see Exhibit 10-C.
No gas is anticipated however a BOP consistant with cable tool operations will be used after setting the surface string.
6. Mud Program:
To 407' +/-, Surface:

If drilled with Cable Tools: Fresh water with bentonite &/or lime as formations require.

If drilled with Rotary: Spud with fresh water gel. Lime and/or Bentonite will be added as needed to maintain circulation and good cuttings. Paper and other non-toxic LCM will be added if needed to combat lost circulation and/or seepage.

Below 407' +/-, Subsequent:
Drill to total depth with Cable Tool Rig; using fresh water and/or Bentonite/Lime as needed to progress and obtain good cuttings.
7. Auxilliary Control Equipment:
 - A. Relief Valve, full opening and closing with anchored line to mud pit;
 - B. Fill valve, full opening and closing.
8. A. Testing; B. Logging; C. Completion Program:
 - A. The ability of the formation to take or yield water will be tested by free flow, pumping, bailing, or swabbing casing or tubing with a packer downhole.

- B. Samples caught and compared with other Cable Tool logs will be evaluated.
 - C. No stimulation or fracing is anticipated:
Cement or plastic lined 2 7/8" tubing will be run to 510' and a Baker lokset packer set, to dispose through:
Yates formation, lease produced water, will be reinjected back into the lower Yates Dolomite and Sands, open hole. See Exhibit 10-A.
9. Abnormal pressure and other possible hazards:
- A. No abnormal or other pressure is anticipated per prior cable-tooled wells reports, files, and logs;
 - B. The shallowest high-pressure gas would be in the Delaware at 2700', +/-, per prior BLM findings (10/28/83, BLM Memorandum of James G. Pettergill, & the Yates C Federal #35 file, 563' FNL & 560' FEL, Sec. 5, T21S, R27E, NMPM).
 - C. Any loss circulation in the Surface is not expected to be a problem but will be overcome using non-toxic loss circulation materials and multi-staged cementing.
 - D. H2S is not an expected problem, judging from prior well files.
10. Anticipated starting date:
- As soon as possible after approval of this application and subsequent approval by the NMOCD for this replacement disposal well.

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 12 1/4" 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

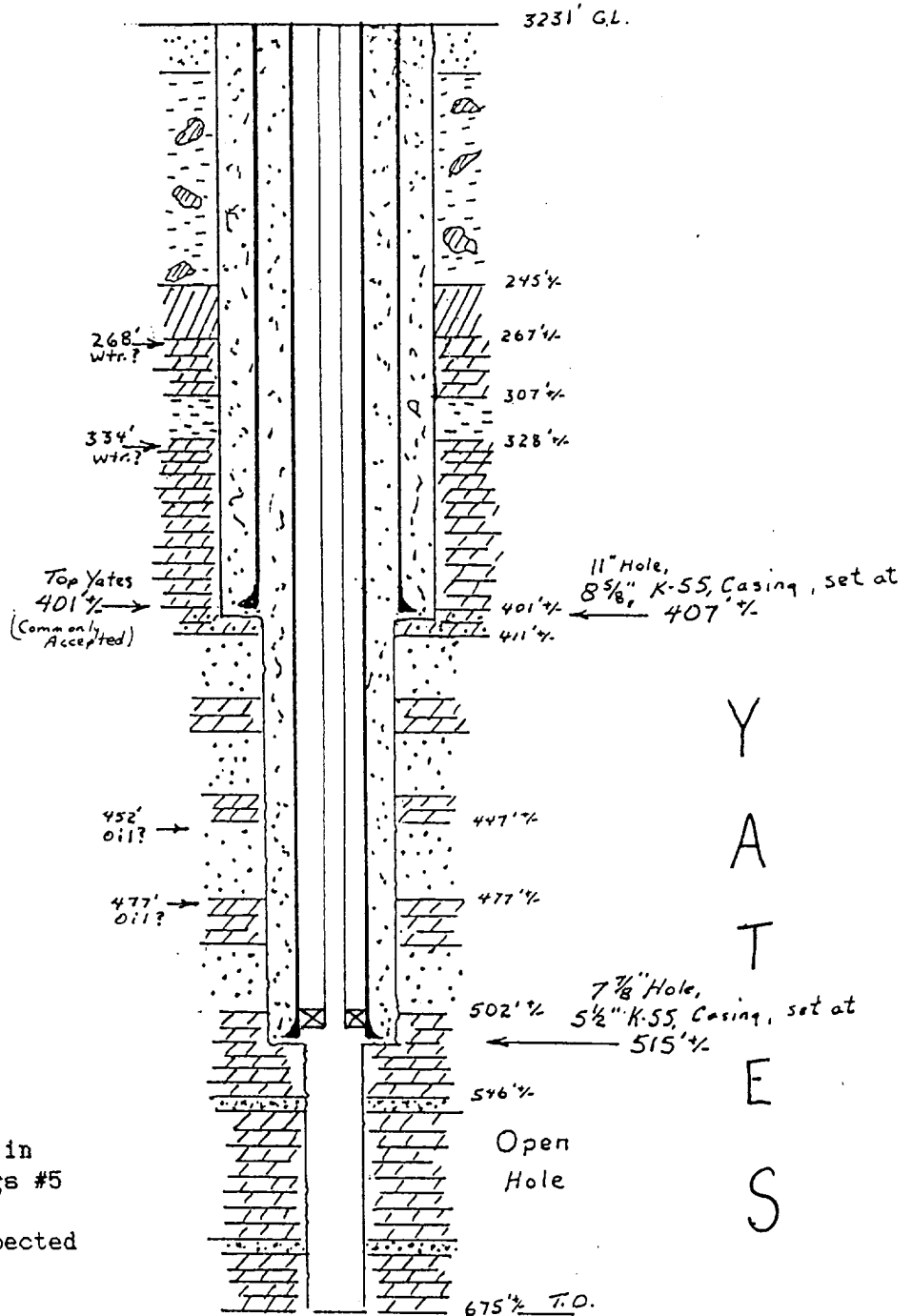
510' of 2 7/8" Tubing,
cement or plastic lined

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



10 POINT EXHIBIT 10-B

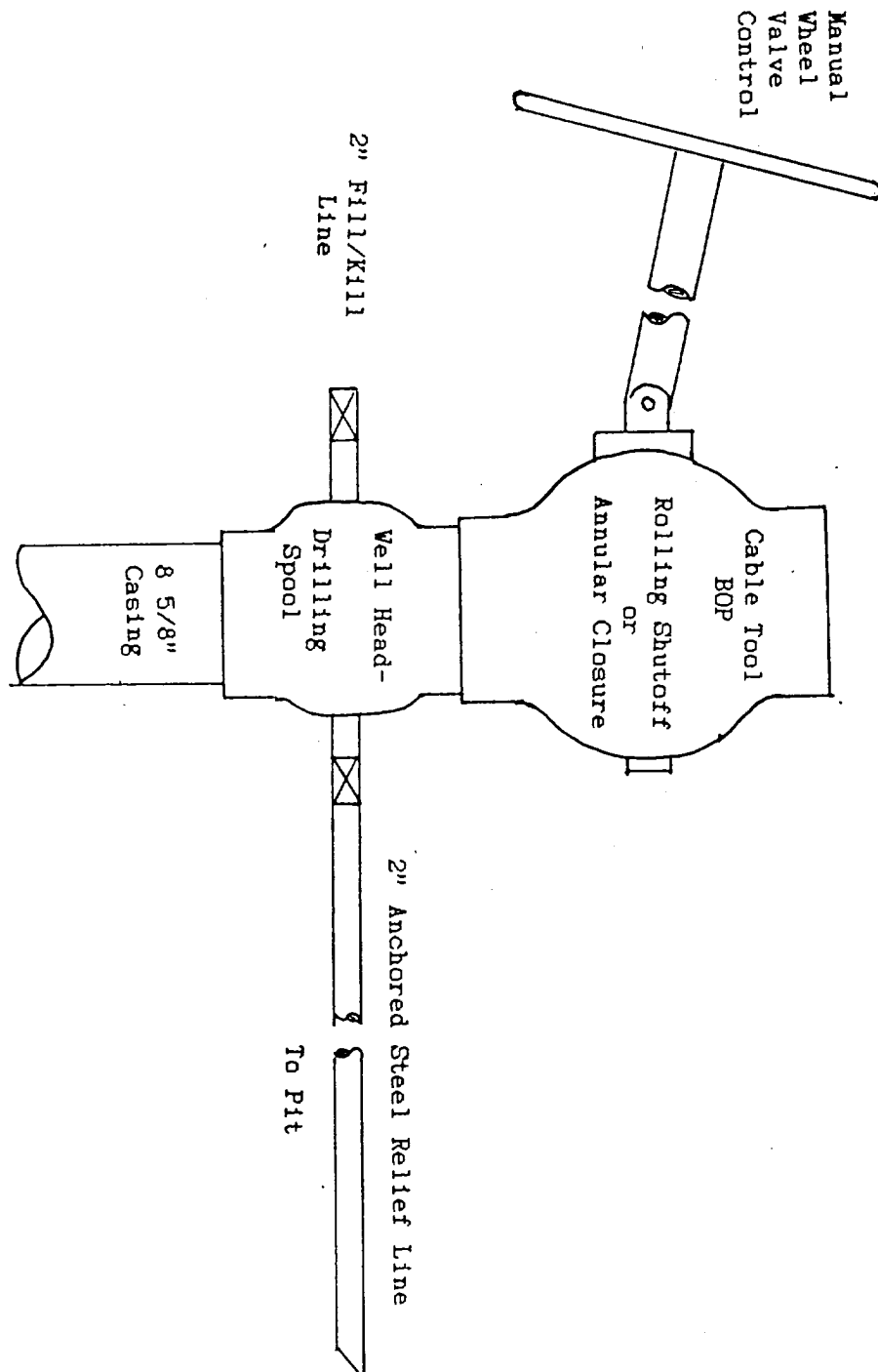
George D. Riggs
Welch-Yates C Federal Lease
Riggs #7 Well; 4122' FNL & 330' FEL
Sec. 5, T21S, R27E, NMPM

~~525~~ Drilling, Tests, Casing, & Cement Programs

- I. A. Drill ~~12~~^{12 1/4}" hole to 407', +/-, into top of Yates Formation to provide solid setting for 8 5/8" casing and cementing;
- B. Cement 8 5/8" casing, K-55, with a total of 110 sacks Class "C" (26 sacks should circulate to pit) to circulate cement to surface; initially by pump-plug through casing, thereafter using 1" to tag cement and cementing through 1" tubing in multiple 25 sack stages until cement circulates to surface;
- C. Install BOP while waiting 24 hours to allow cement to set and cure, then drill out cement and test by bailing the hole dry and waiting 2 hours, prior proceeding with Cable Tool drilling remainder of hole.
- II. A. Drill 7 7/8" hole to 515', +/-, into Yates Dolomite to provide solid setting for 5 1/2" casing and cementing;
- B. Cement 5 1/2", K-55 casing with 105 sacks Class "C" (19 sacks should circulate to pit) to circulate cement to surface; initially by pump-plug through casing, thereafter using tubing to tag cement and cementing through tubing in multiple 25 sack stages until cement circulates to surface;
- III. A. Drill 4 7/8" hole to total depth, expected to be 675' but no more than 700'; the lowest disposal zone of the now plugged Riggs #5 is expected at 635', +/-;
- B. Bailing, injection, packer & tubing, pumping, and/or swabbing will be undertaken to determine the capability of formation to accept lease disposal water; (Riggs #5 free flowed, on vacuum, all lease produced water);
- IV. A. Casing will be welded to provide positive sealing.

10 POINT EXHIBIT 10-C

George D. Riggs
Welch-Yates C Federal Lease
Riggs #7 Well; 4122' FNL & 330' FEL
Sec. 5, T21S, R27E, NMPM



BLOWOUT PREVENTER

No Gas Pressures Are Anticipated

SURFACE USE PLAN

GEORGE D. RIGGS
Welch-Yates C Federal
Riggs #7
4122' FNL & 330' FEL
Sec. 5, T21S, R27E, NMPM

1. EXISTING ROADS: Area Map, Ex. S-1, is a reproduction of U.S.G.S. 15' Quadrangle Maps, "Carlsbad, NM". Existing roads are shown.
 - A. Ex. S-1 shows the location of the well site;
 - B. From Carlsbad, NM, travel north 2.5 miles on Eddy County Road 206 after crossing Santa Fe Railroad Tracks on the North end of Canal Street; Turn East and travel 1.5 miles on Alkali Road (a BLM Collector Road); then turn Southerly on BLM Local Road toward Exxon's Yates C Federal #31, .8 miles to the proposed location 68' East of the Center Line of the road.
2. PLANNED ACCESS ROADS: No additional roads will be required.
3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS:

Water wells: None within one mile.

Disposal wells: Exxon Yates C Federal 22, 1557' FNL & 660' FWL, Sec 4, T21S, R27E, NMPM, permitted for 650 psi into the Delaware formation at 3250'-3790'.

Drilling wells: none

Producing wells: as shown on Exhibit S-2.

Abandoned wells: as shown on Exhibit S-2.
4. On Well Pad and Off Pad facilities map and Sundry Notice filings will be furnished BLM prior construction of injection-production facilities.
5. Water will be purchased locally from a private source and trucked to the site over existing roads.
6. SOURCE OF CONSTRUCTION MATERIALS: Caliche will be obtained from the drill site excavations or a local source, a pit is located in the SE/4 Sec. 9, T21S, R27E.

Minimum modification to the surface will be undertaken until a determination is made of the insitu Yates formation ability to take the disposal water volumes anticipated; thereafter the site as staked will be developed to provide area for facilities.
7. METHODS FOR HANDLING WASTE DISPOSAL:

- A. 1. Drill cuttings will be disposed of in the cuttings-mud pits.
- 2. Sewage from an onsite crew-trailer house will be disposed of into holes with a minimum depth of 10'.
- 3. Chemicals and drilling materials after drilling will be removed by contractor-supplier.
- 4. Trash will be stored in retaining containers and periodically removed from the site; any remaining will be buried 3'+ deep upon completion of activities.
- B. Remaining drilling fluids will be allowed to evaporate in the pit until dry enough for backfilling, and the pits backfilled then.
- C. Any oil produced during testing of the well will be stored in test tanks until moved to the existing leasehold tanks and sold with proper accounting to MMS.

8. ANCILLARY FACILITIES: None are needed.

9. WELL SITE LAYOUT:

- A. Exhibit S-3 shows the proposed well site layout with proposed location of mud pits, and living quarters; water reserves will be maintained in an on-site steel tank..
- B. The mud pits will be fenced on three sides with barbed wire while drilling, and the fourth side fenced upon cessation of completion operations, until the pits dry, at which time the pits will be filled and leveled.

10. RESTORATION OF SURFACE:

Upon completion of the operation and disposal of any trash and debris as discussed earlier, the pits will be backfilled, leveled, or contoured as soon as practical after dry.

The surface will be utilized for tanks and facilities as agreed with the BLM, or reclaimed by reshaping to the extent possible, and seeded. It is possible the BLM would choose to utilize the pad for a "Turn-out", otherwise the pad will be rehabilitated and revegetated to comply with BLM recommendations/requirements.

11. OTHER INFORMATION:

- A. The location is on a gentle slope in vegetation of native brush and grasses; soils are clayey sand, over a caliche base.
- B. The surface provides grazing and access to wells in the area; is owned and administered by the BLM, and is presently leased to Mrs. Francis Spears, 3303 Prospect, Carlsbad, NM, 88220; lease Allotment 7020.
- C. There are no buildings present in the area, and the access roads are

preexisting.

- D. There have been no archeological sites located in the immediate vicinity of the proposed well, and the proposed location has been cleared by site BLM examination under NOS.
 - E. There are no streams or ponds in the immediate area.
 - F. Abandoned area cable tool well locations for these shallow wells are not large and are reverting back to native brush and grass.
 - G. The water to be disposed of is NM 01119 Lease produced Yates Formation water and is to be reinjected into the same formation; the disposal zones of the plugged Riggs #5 are targeted.
12. The OPERATOR'S REPRESENTATIVE to contact regarding compliance with the Surface Use Plan is:

Bill Taylor
1106 N. Country Club
Carlsbad, NM 88220

Home & Business: 505-887-2570

13. CERTIFICATION: I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed in conformity with this plan and the terms and conditions under which it is approved. A copy of this plan will be posted at the well site during the drilling of the well for reference by all contractors and subcontractors.

For George D. Riggs,

2/11/91

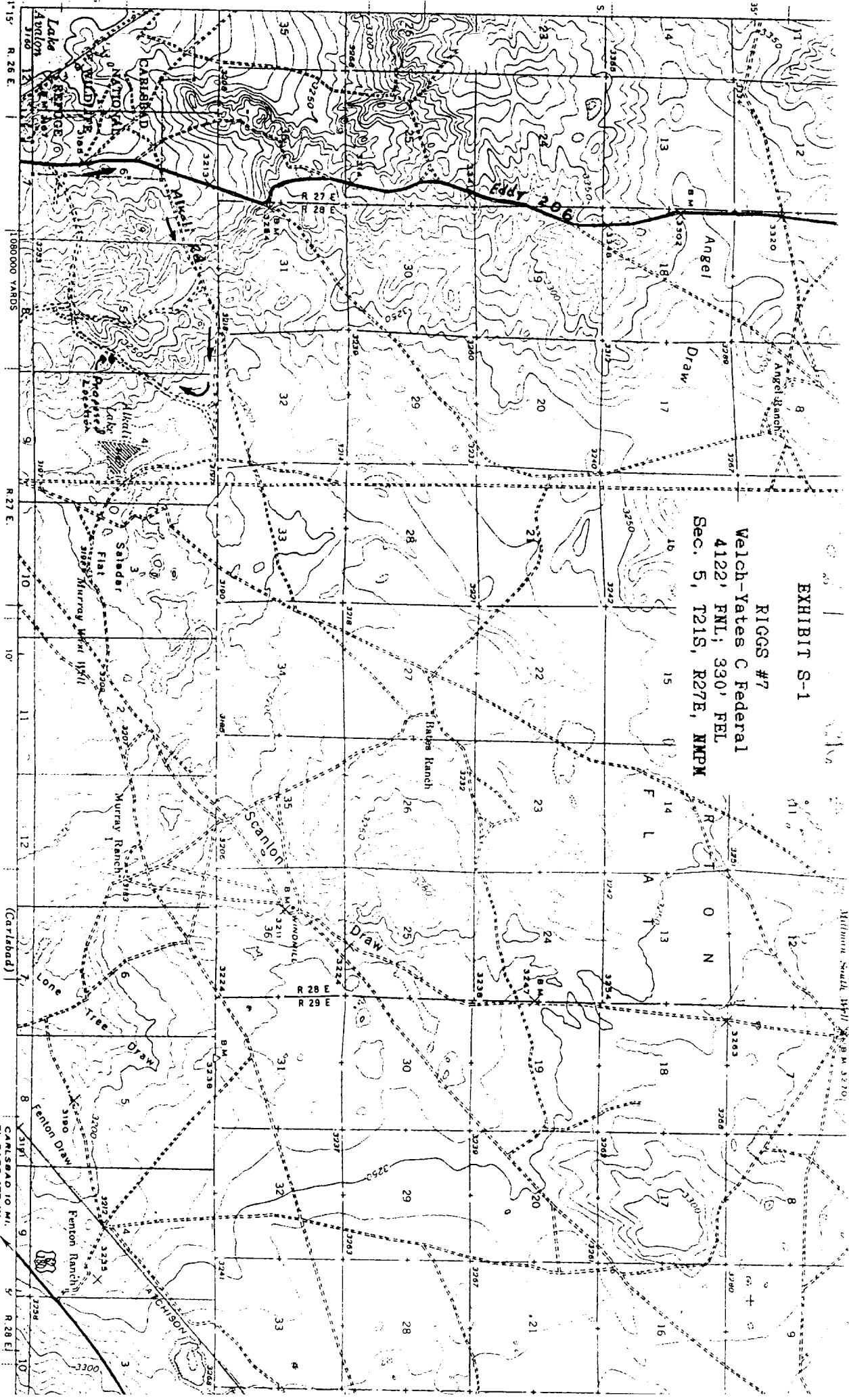
Date

Bill Taylor

Bill Taylor, lease agent

EXHIBIT S-1

RIGGS #7
Welch-Yates C Federal
4122' FNL; 330' FEL
Sec. 5, T21S, R27E, NMPM



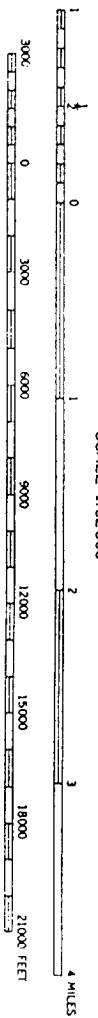
Topography by Max J. Gleissner, S. T. Penick,
M. C. McClellan, and C. E. Walker
Surveyed in 1935 and 1938

ROAD CLASSIFICATION

HARD SURFACE ALL WEATHER ROADS DRY WEATHER ROADS
heavy-duty ———— 4 LANE LANE Improved dirt ————
medium-duty ———— 4 LANE LANE Unimproved dirt ————
Loose surface, graded, or narrow hard surface ————
□ U. S. Route ○ State Route

TRUE NORTH
MAGNETIC NORTH
121°

APPROXIMATE MEAN
DECLINATION, 1938

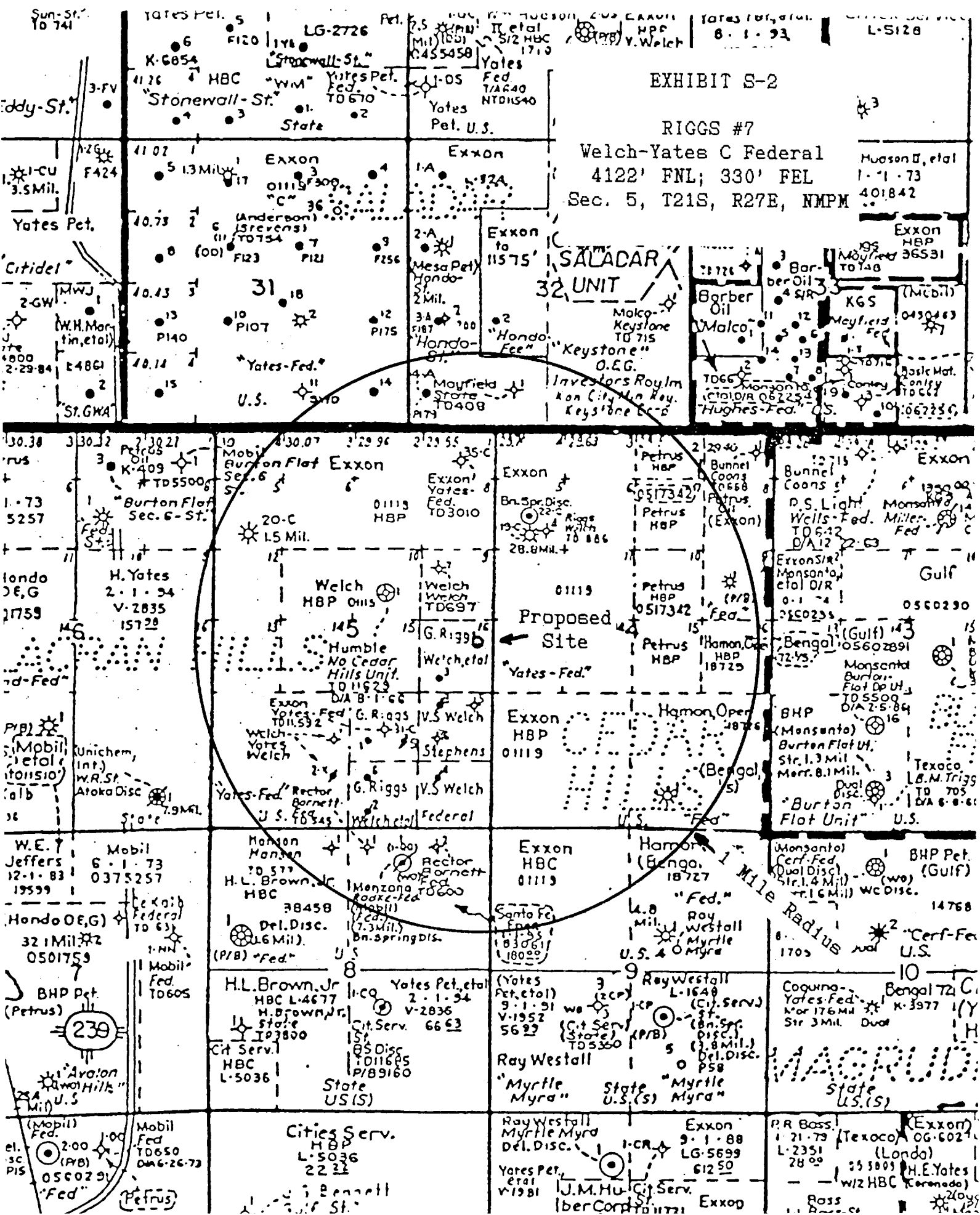


SCALE 1:62,500

Contour Interval 10 feet

Datum is mean sea level

FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



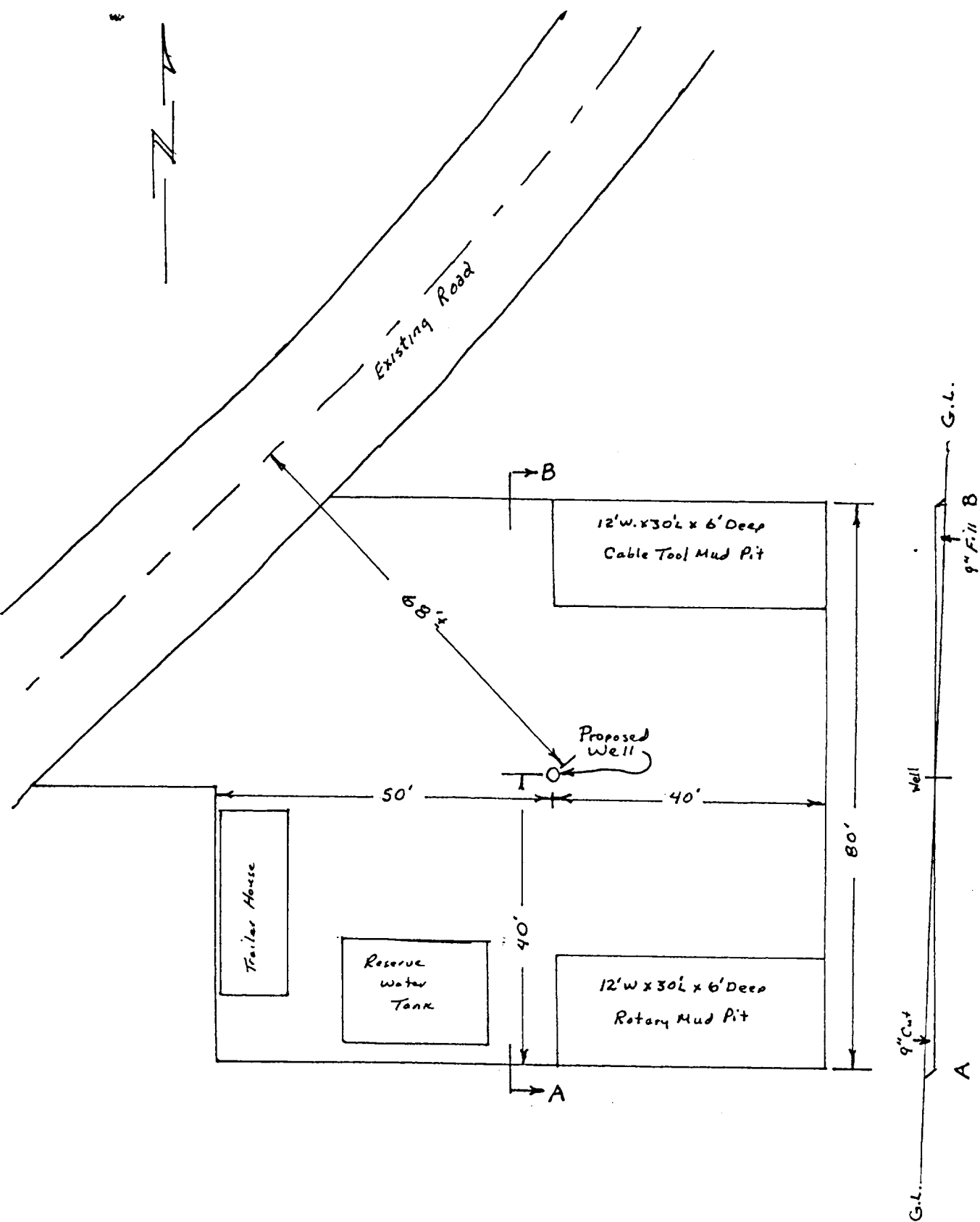


EXHIBIT S-3

RIGGS #7
 Welch-Yates C Federal
 4122' FNL; 330' FEL
 Sec. 5, T21S, R27E, NMPM