N.M.O.C.D. COPY

C-SF

Form 9-331 C
(May 1963)

SUBMIT IN T. ICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-015-22974

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: J. C. Williamson

3. ADDRESS OF OPERATOR: 1385 MidTand National Bank Tower, Midland, Texas 79701

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4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FNL & 2310' FWL of Section
At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.: 0554771
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: TOG Federal
9. WELL NO.: 1
10. FIELD AND POOL, OR WILDCAT: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 16, T-20-S, R-29-E
12. COUNTY OR PARISH: Eddy
13. STATE: New Mexico

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 13 miles northeast of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 330' / 1980'	16. NO. OF ACRES IN LEASE: 80	17. NO. OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: None	19. PROPOSED DEPTH: 6000'	20. ROTARY OR CABLE TOOLS: Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3272.5 Gr.		22. APPROX. DATE WORK WILL START*: July 20, 1979	

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-½"	12-3/4"	35#	600'	See reverse side & Exhibit "F"
11"	8-5/8"	24# & 32#	3100'	

Mud Program: See Exhibit "G"

BOP Program: Series 900 BOP - See Exhibit "E"

~~Gas Dedicated to El Paso Natural Gas~~

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: J. C. Williamson TITLE: Operator DATE: 7-10-79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE: 7-24-79

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

12-3/4" Casing - 145 sacks Class "C" + 200 sacks Halliburton lite w/5# gelsomite per sack, 300 sacks Class "C" + 2% CaCl.

8-5/8" Casing - 875 sacks Halliburton lite w/4#/sack gelsomite + 1/4#/sack flocele + 200 sacks Class "C" containing 2% CaCl and 1/4#/sack flocele.

4-1/2" Casing 350 sacks Class "H" pozmix w/2# gel and 5# salt/sack.

Instructions

General: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

Items 15 and 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

Item 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

U.S. GOVERNMENT PRINTING OFFICE: 1963—O-711-396

*See Instructions On Reverse Side

MEXICO OIL CONSERVATION COMMIS N

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	Lease	Well No.
J.C. WILLIAMSON	TOG FED.	1

Unit Letter	Section	Township	Range	County
F	16	20 SOUTH	29 EAST	EDDY

Actual Footage Location of Well:
1980 feet from the NORTH line and 2310 feet from the WEST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3272.5	Wildcat Basin	Wildcat	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 interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

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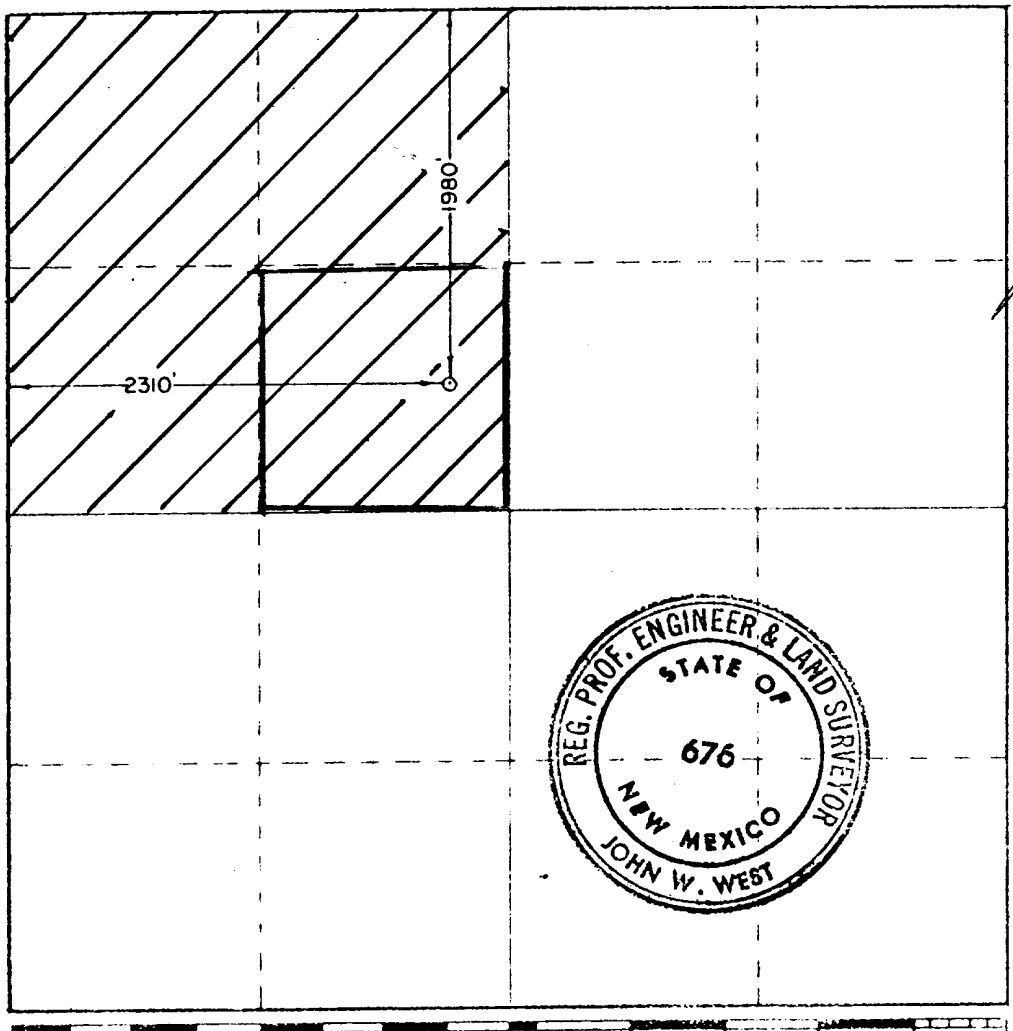
☐ Yes ☒ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) None

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.



1320 1650 1980 2310 2640 2000 1500 1000 500 0

CERTIFICATION

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

Name: J. C. Williamson

Position: Operator

Company: Independent

Date: July 9, 1979

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: JULY 6TH, 1979

Registered Professional Engineer and/or Land Surveyor

Certificate No. John W West 676
Ronald J. Eidson 3239

N.M.O.C.D. COPY

United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Drawer U
Artesia, New Mexico 88210

July 24, 1979

J. C. Williamson
1385 Midland National Bank Tower
Midland Texas 79701

J. C. WILLIAMSON TOG Federal No. 1 1980 FNL 2310 FWL Sec. 16 T.20S R.29E Eddy County Lease No. NM-0554771
Above Data Required on Well Sign

Gentlemen:

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 6000 feet to test the Bone Springs formation is hereby approved subject to compliance with the OIL AND GAS OPERATING REGULATIONS (30 CFR 221) and the following conditions:

1. Drilling operations authorized are subject to compliance with the GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL LEASES, dated July 1, 1978.

2. Prior to commencing construction of road, pad, or other associated developments, operator will provide the dirt contractor with a copy of the SURFACE USE PLAN and this approval including the GENERAL REQUIREMENTS.

3. Submit a Daily Report of Operations from spud date until the Well Completion Report (form 9-330) is filed. The progress report should be not less than 8" x 5" in size and each page should identify the well.

4. All permanent above-ground structures and equipment shall be painted in accordance with the attached Painting Requirements. The color used should simulate Sandstone Brown (Federal Standard Color No. 595A, color 20318 or 30318).

5. Please have anyone contacting the Survey in regard to this well to identify the well with all of the information required above for the well sign.

Sincerely yours,

Albert R. Stall
Acting District Engineer

APPLICATION FOR DRILLING

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico

In connection with Form 9-331-C, Application for Permit to Drill subject well, J. C. Williamson submits the following ten items of pertinent information in accordance with U.S.G.S. requirements:

(1) The geologic surface formation is Dewey Lake of the Permian.

(2) The estimated tops of the geologic markers are as follows:

Yates	1100'	Cherry Canyon	3900'
Seven Rivers Reef	1360'	Brushy Canyon Sand	4600'
Bell Canyon Sand	3100'	Bone Springs Sand	5900'

(3) The estimated depths at which anticipated water, oil and gas formations are expected to be encountered:

Water: There is fresh subsurface water in this area in the Dewey Lake at 200' and in the Seven Rivers Reef at 1400 feet.

Oil or Gas:	Bell Canyon Sand	3100'
	Cherry Canyon	3900'
	Brushy Canyon Sand	4600
	Bone Springs Sand	5900'

(4) Proposed Casing Program: See Form 9-331-C and Exhibit "F"

(5) Pressure control equipment: See Form 9-331-C and Exhibit "E"

(6) Mud Program: See Exhibit "G"

(7) Auxillary Equipment: See Exhibit "H"

(8) Testing, Logging and Coring Pressure:

Drill Stem Tests (all tests to be justified by a valid show of oil or gas)
Geological logging Unit: 3100' to T.D.

Electric Log Program: Gamma Ray - TD to surface
Sonic - TD to 3100'
Laterolog - TD to 3100'

(9) No abnormal pressures or temperatures are anticipated in this well.

(10) Anticipated Starting Date: July 20, 1979.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWl
Section 16, T-20-S, R-29-E
Eddy County, New Mexico
(Wildcat)

This plan is submitted with Form 9-331-C, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS:

   A. Exhibit "A" is an up to date land plat showing existing access roads. Exhibit "B" is a portion of a USGS topographic map of the area on a scale of approximately 1.34 inches (the largest scale available) to the mile, showing the location of the proposed wellsite, and roads in the vicinity. The proposed location is situated approximately 13 miles Northeast of Carlsbad, New Mexico via the access route shown in red.

      DIRECTIONS:

      1. Proceed northeast of Carlsbad, New Mexico on Hobbs highway 8 miles to paved county road.
      2. Turn north and proceed 4½ miles, the county road turns west into old Russell field.
      3. At end of pavement follow large caliche road ½ mile north and then 3 miles east along meandering caliche road. Proposed access road begins at the south edge of Texas Oil & Gas #1-A Williamson Federal.

2. PLANNED ACCESS ROAD:

   A. The proposed new access road will be approximately 1650 feet in length from point of origin to the south edge of the drilling pad. The road will lie in a east to west direction.

   B. The new road will be 12 feet in width (driving surface), except at the point of origin, adjacent to the existing road, at which point enough additional width will be provided to allow heavy trucks and equipment to turn.

   C. The new road will be covered with the necessary depth of caliche. The surface will be crowned, with drainage on both sides. No turnouts will be necessary.

   D. The center line of the new road has been staked and flagged and the route of the road is clearly visible.

3. LOCATION OF EXISTING WELLS:

   A. The well locations in the vicinity of the proposed well are shown in Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

   A. There are no producing wells on this lease at the present time.

   B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive of oil, electricity will be used. No unassociated gas is anticipated in this well.

5. LOCATION AND TYPE OF WATER SUPPLY:

   A. The primary source of drilling water will come from the approved Underwood water station, shown as a green square on Exhibit "A". The water will be pumped to the location by laying a line along the existing access road, shown in green on Exhibit "A".

   B. Supplemental water will be hauled to the location by access road described above.

6. SOURCES OF CONSTRUCTION MATERIALS:

   A. Any caliche required for construction of the drilling pad will be obtained from an existing approved caliche pit and will be supplemented by the dirt contractor. No new access road will be needed to any existing pit on federally owned surface.

7. METHODS OF HANDLING WASTE DISPOSAL:

   A. Drill cuttings will be disposed of in the reserve pits.

   B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.

   C. Water produced during operations will be collected in tanks until disposed of in an approved existing disposal system.

   D. Oil produced during operations will be stored in tanks until sold.

   E. Current laws and regulations pertaining to the disposal of human waste will be complied with.

   F. Trash, waste paper, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind.

   G. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

   A. None required.

9. WELLSITE LAYOUT:

   A. Exhibit "D" shows the dimensions of the well pad and reserve pits, and the location of major rig components.

   B. The ground surface at the drilling location is generally flat no cutting will be required to level the pad area, which will be covered with at least six (6) inches of compacted caliche.

   C. The reserve pits will be plastic lined.

   D. The pad and pit area has been staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE:

   A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleared of all trash and junk, to leave the well-site in as aesthetically pleasing a condition as possible.

   B. Unguarded pits, if any, containing fluids will be fenced until they have been filled in.

   C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment.

11. TOPOGRAPHY:

   A. The wellsite and access route are located in a flat area.

   B. The top soil at the wellsite is clay and sand.

   C. The vegetation cover at the wellsite is sparse, with sparse prairie grasses, miscellaneous weeds and catclaw.

   D. No wildlife was observed by it is likely that rabbits, lizards, insects, and rodents traverse the area. The area is used for cattle grazing.

   E. There are no ponds, lakes, streams, or rivers within several miles of the wellsite.

   F. The wellsite is located on federal surface.

   G. There is no evidence of any archaeological, historical, or cultural sites in the vicinity of the location.

12. OPERATOR'S REPRESENTATIVES:

A. The filed representatives responsible for assuring compliance with the approved surface use plan are:

Operator and Geologist:

J. C. Williamson
1385 Midland National Bank Tower
Midland, Texas 79701
Phone: 915-683-1797 (Office)
915-682-8357 (Home)

Engineer:

George W. Kingrea
1385 Midland National Bank Tower
Midland, Texas 79701
Phone: 915-682-2898 (Office)
915-694-2795

13. CERTIFICATION:

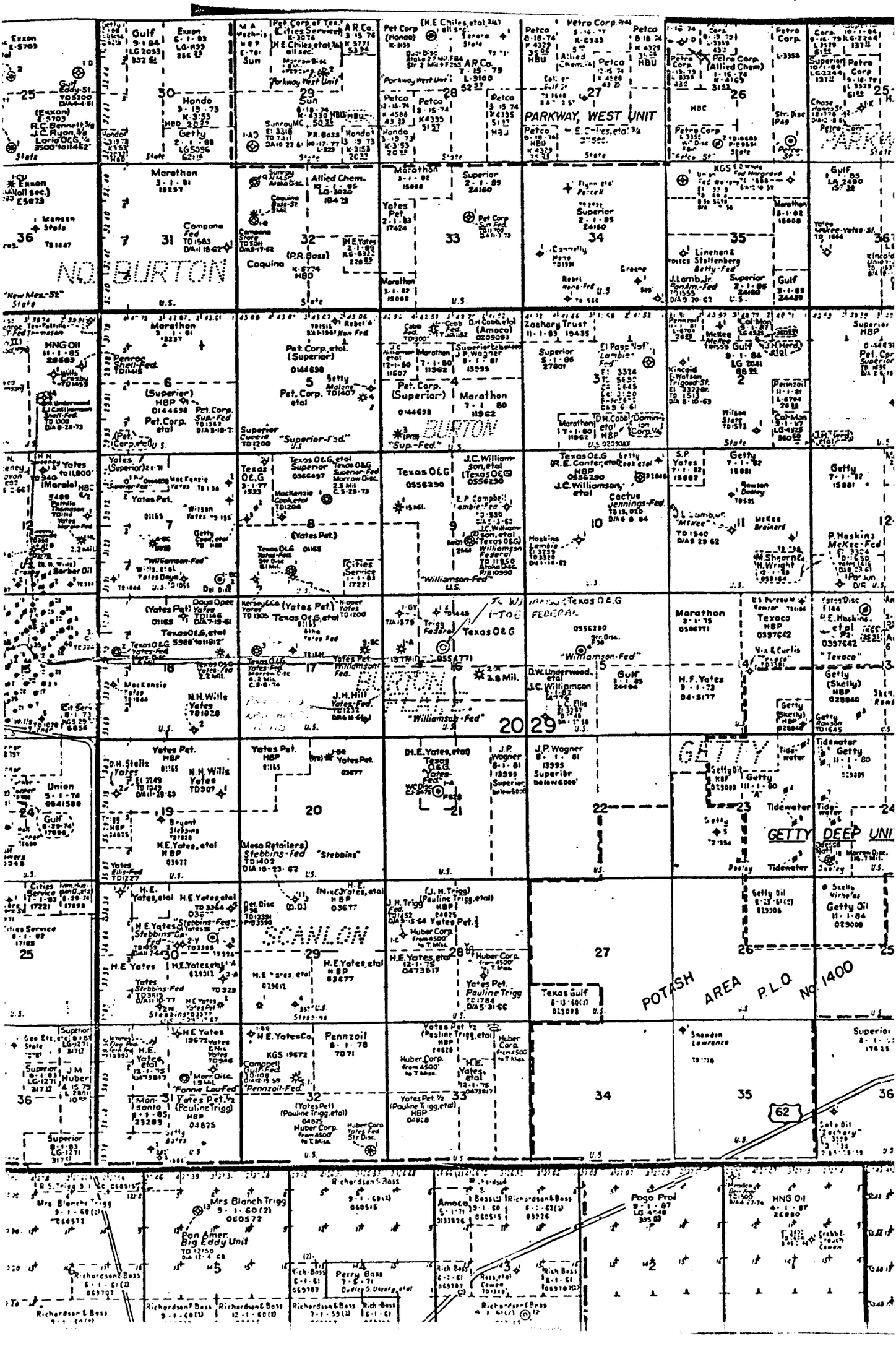
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and accessroute; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be preformed by J. C. Williamson and his contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved.

July 10 79
Date

J. C. Williamson

EXHIBIT "A"

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico



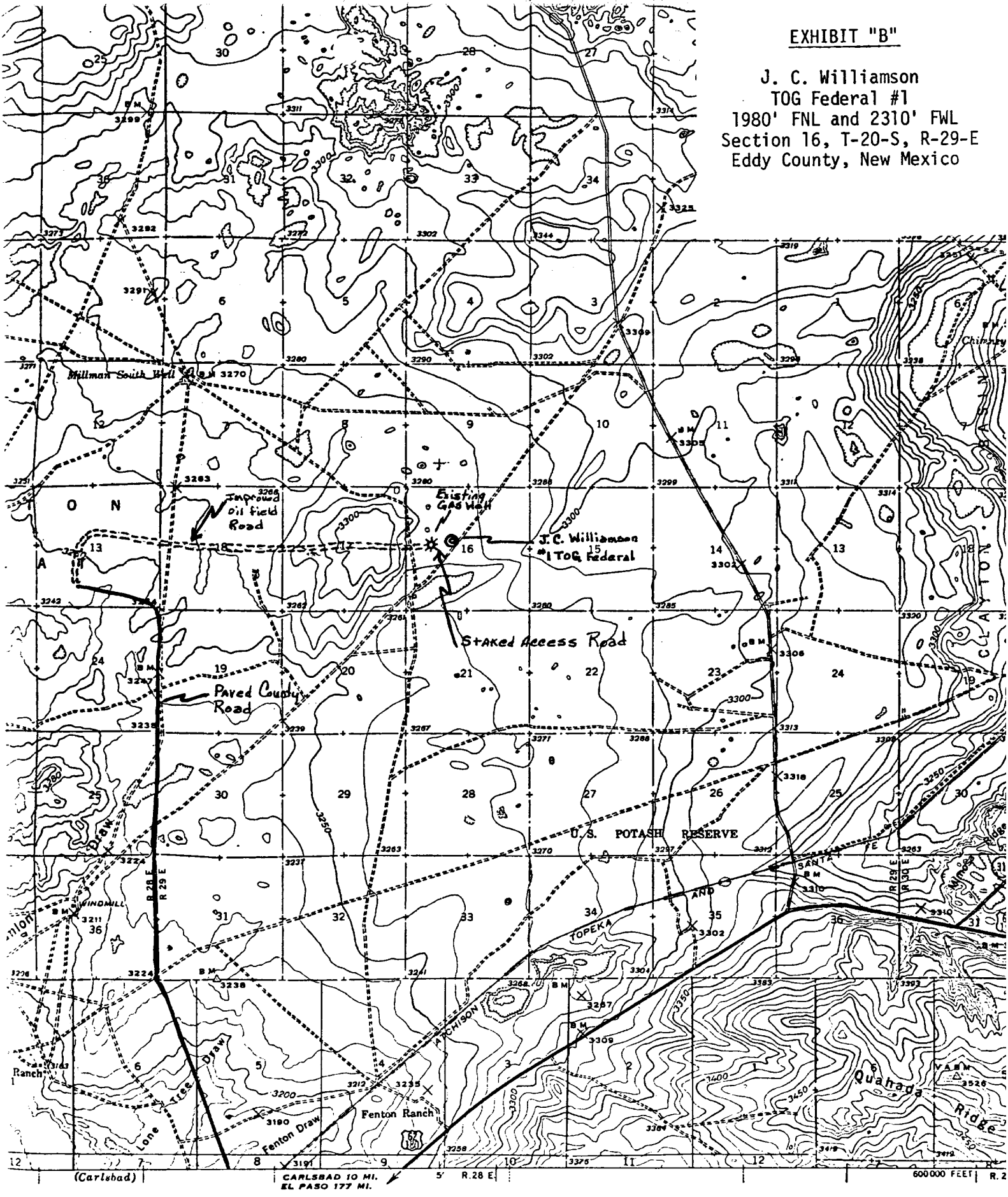
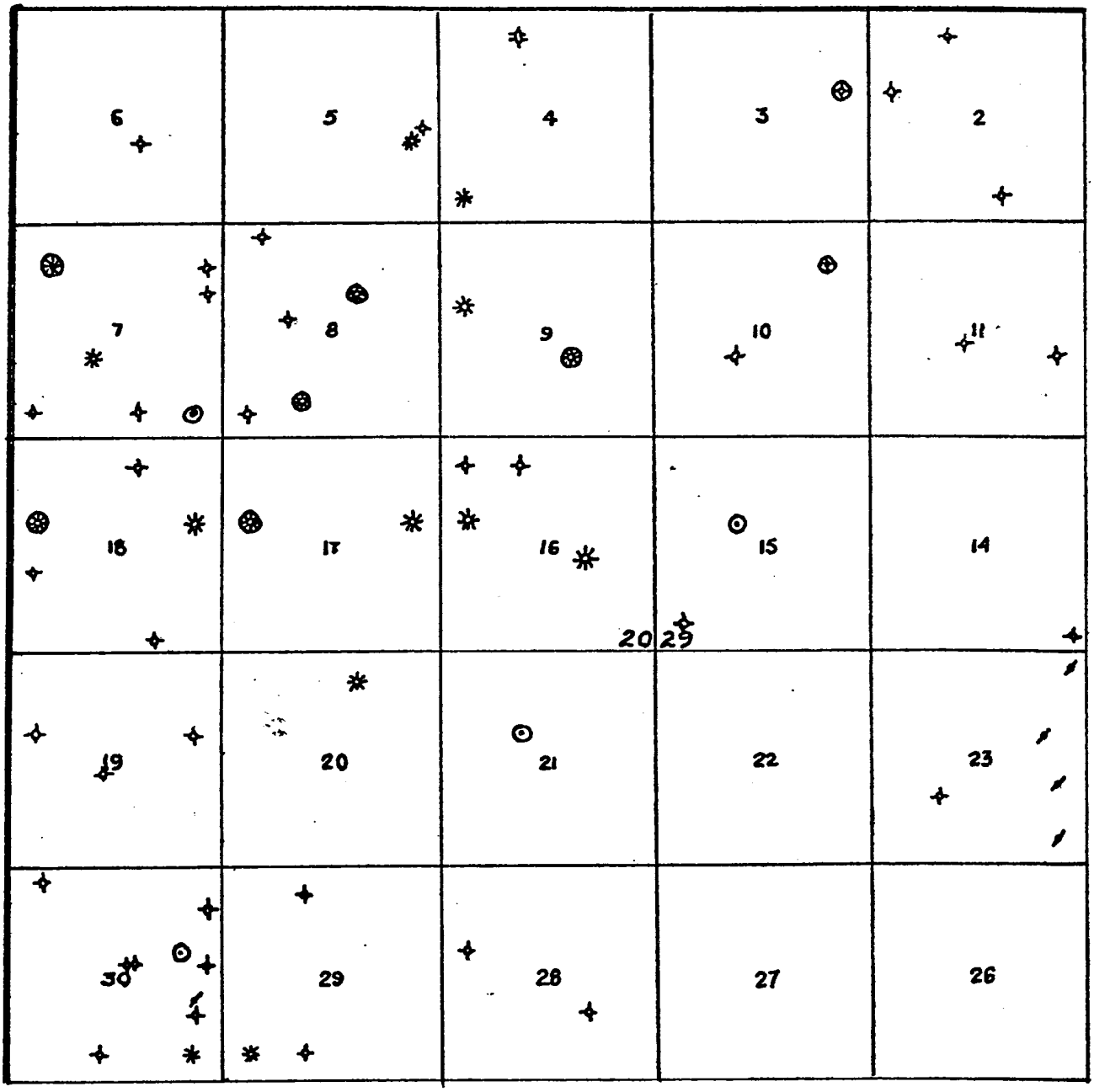


EXHIBIT "B"
J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico
Millman South Well
Improved Oil field Road
Existing Gas Well
J.C. Williamson #1 TOG Federal
Staked Access Road
Paved County Road
U. S. POTASH RESERVE
TOPEKA
ATCHISON
SANTA FE
Fenton Draw
Fenton Ranch
Lone Tree Draw
Quahada Ridge
Windmill
R 28 E
R 29 E
R 30 E
(Carlsbad)
CARLSBAD 10 MI.
EL PASO 177 MI.
SCALE 1:62500
1 2 3 4 MILES
6000 9000 12000 15000 18000 21000 FEET
Polyconic projection. 1927 North American
5000 yard grid based on U. S. zone system,
10000 foot grid based on New Mexico (East
rectangular coordinate system
OIL CITY, N.M.

WELL LOCATION MAP

EDDY COUNTY, NEW MEXICO



EDDY COUNTY, NEW MEXICO

EXHIBIT "C"

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico

Legend

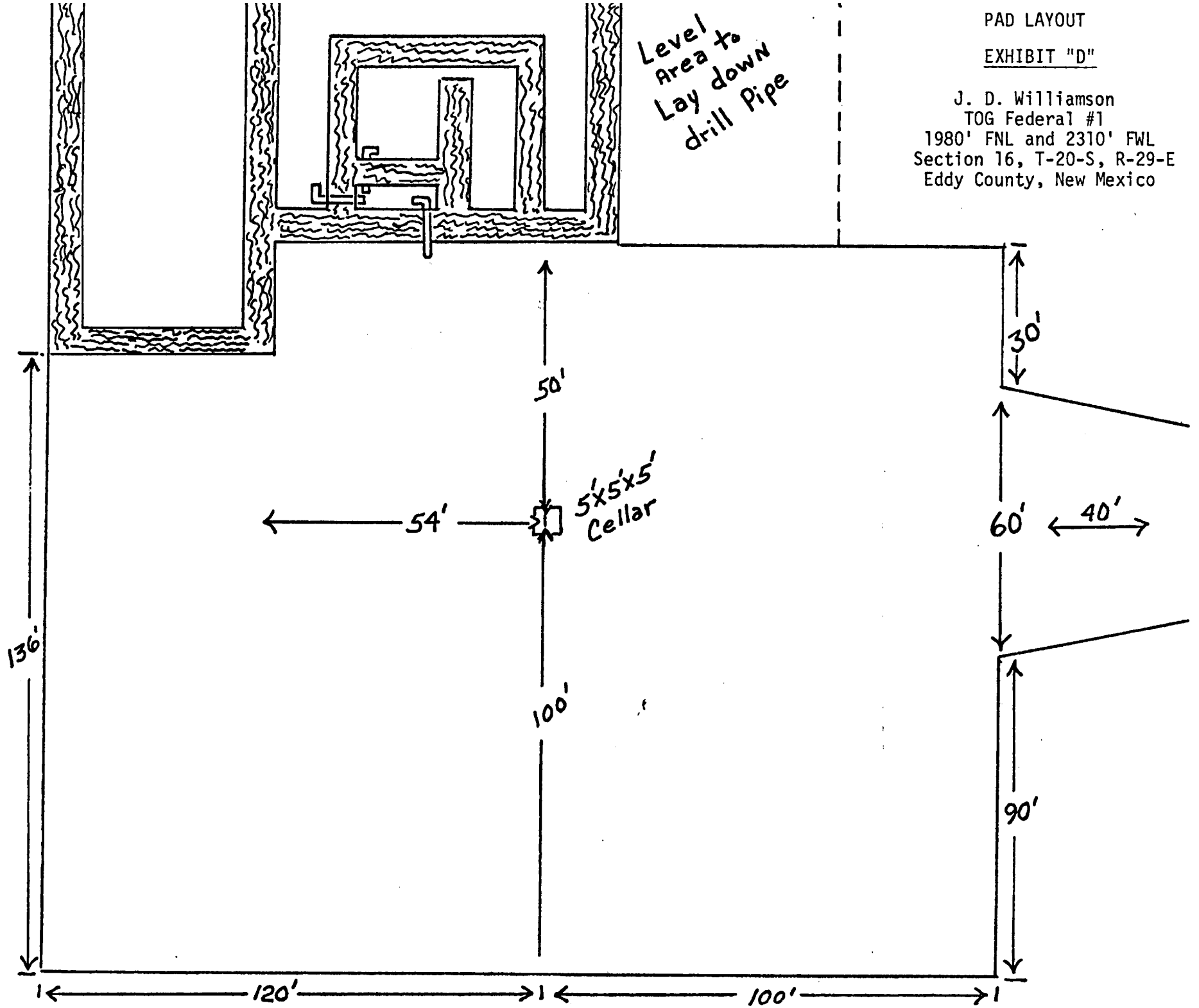
Location O P&A ⊕

Producer: Oil • Gas ⊛

PAD LAYOUT

EXHIBIT "D"

J. D. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico

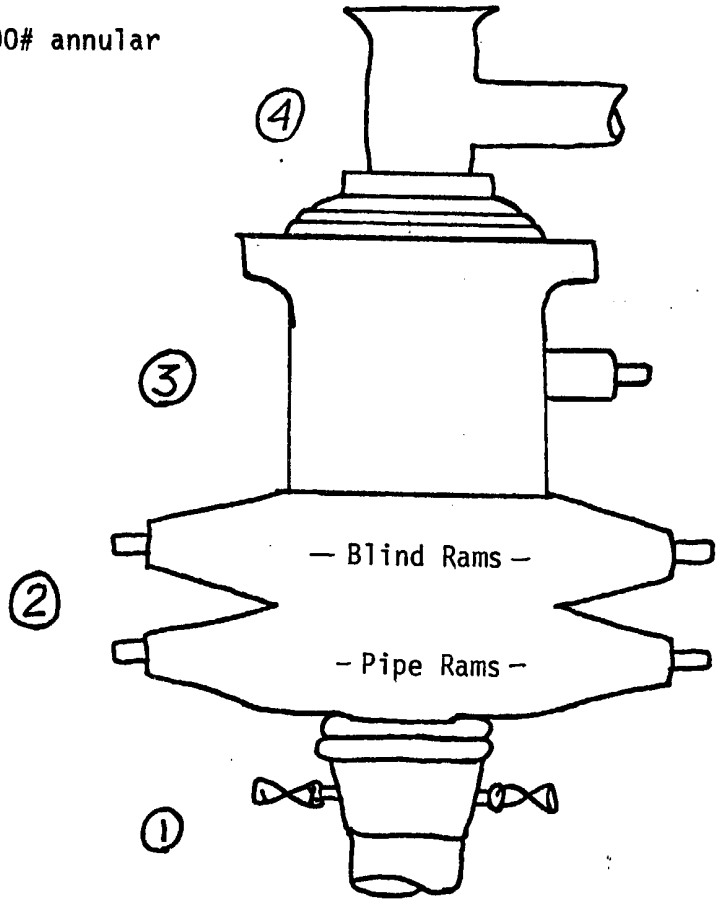


Blowout Preventer Outline

EXHIBIT "E"

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico

1. 10" 900 Series Starterhead
2. 10" 900 Series Cameron type SS 3000# double ram blowout preventer w/kooney (hydraulic) 80 gallon accumulater closing unit
3. Schafer 10" 900 Series 3000# annular type blowout preventer
4. Flow nipple



→ to Koomey Closing Unit

3000 psi Working Pressure
Blowout Preventer Hook-up

(Series 900 Flanges or better)

EXHIBIT "F"

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico

SUMMARY OF
DRILLING, DRILL STEM TESTING, LOGGING, CASING AND CEMENTING PROGRAM

(1) Drill 17-1/2" hole to 600 feet. This is the usual depth for casing in this area. This portion of the hole will be drilled with water.

(2) Run 600' of 12-3/4" casing and cement w/145 sacks Class "C" cement, 200 sacks of Halliburton lite cement, followed by 300 sacks w/2% CaCl. This is sufficient to circulate cement on this pipe. Run Texas Pattern guide shoe with float collar at top of shoe joint. Use on wooden plug to displace cement. Cement will be circulated.

(3) Release pressure immediately, nipple up and install BOP's, test 500 psi after 12 hours and drill out cement.

(4) Drill 11" hole to 3100 feet. Hole will be drilled with fresh water.

(5) Run 3100' of 8-5/8" casing and set with 895 sacks of Halliburton lite with 5# gelsomite per sack followed by 250 sacks with 2% CaCl. Run guide shoe and float collar on bottom joint with 4 centralizers on every other joint. Use one (1) rubber plug to displace cement. Cement will be circulated.

(6) Release pressure immediately, nipple up and install BOP's, test casing to 500 psi after 12 hours and drill out cement.

(7) Put geological logging trailer at the well.

(8) Mud up with good sample (low solids) mud.

(9) Any significant shows of oil or gas will be either drill stem tested, cored, as determined by well site geological analysis. Shows of oil and gas are anticipated in the Bell Canyon at 3100', the Cherry Canyon at 3900', the Brushy Canyon at 4600', and in the first Bone Springs Sand at 5900'.

(10) Once total depth is reached, the hole will be logged with a dual induction laterolog-SP from TD (at approximately 6000 feet) to 3100'(base of 8-5/8" casing), Sonic Gamma Ray from TD to 3100'. The Gamma Ray log will be run up to the surface of the ground.

(11) If significant shows of oil and gas have been found, 4½" casing will be run to proper depth and cemented with 350 sacks of Class "H" pozmix cement with 2% gel with 5# salt per sack. Run guide shoe and float collar on bottom joint with 4 centralizers. Use rubber plug to displace cement.

(12) Perforations, acid job, frac job or additional stimulation will be determined after oil string pipe is run.

PROJECT NO.
WILL2

EXHIBIT "F"

J. C. Williamson
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico

FOR:
J. C. WILLIAMSON, TOG FED NO. 1
TYPE OF JOB: SURFACE PIPE CEMENTING
12 3/4 INCH
WELL DEPTH= 600 FT
NOMINAL BIT SIZE 17.500 INCHES--AVERAGE HOLE SIZE 17.500 INCHES
MIXING UNITS - 1.
STANDBY TRUCKS - 0.
TEMP SOURCE - FLD DATA
TEMP IN DEG F = 65.
WOC = 12.00 HOURS

STAGE NO. 1
CEMENT TO SURFACE

CEMENT DESCRIPTION: 145.SACKS OF
CLASS C
WITH ADDITIVES PER SACK OF:
1.06 % THIX-SET
1.88 LB CALCIUM CHLORIDE

TTT HRS	MIXING WATER GAL/SK	BULK WEIGHT LBS/SK	SLURRY WEIGHT LBS/GAL	SLURRY VOLUME FT3/SK	VOLUME PERCENT EXCESS	VOLUME REQUIRED CU FT
2.00	6.3	96.88	14.98*	1.333	100.	188.

* SLURRY WEIGHT + OR - 0.2 LBS/GAL WITH NORMAL COMPRESSIVE STRENGTH OF 450. PSI

TRANSPORTATION: $ 67.43
PRICE: $ 1362.57

CEMENT DESCRIPTION: 200.SACKS OF
HALLIBURTON LIGHT CEMENT
WITH ADDITIVES PER SACK OF:
5.00 LB GILSONITE 0.25 LB FLOCELE

TTT HRS	MIXING WATER GAL/SK	BULK WEIGHT LBS/SK	SLURRY WEIGHT LBS/GAL	SLURRY VOLUME FT3/SK	VOLUME PERCENT EXCESS	VOLUME REQUIRED CU FT
4.00	9.9	97.45	12.58*	1.912	100.	376.

* SLURRY WEIGHT + OR - 0.2 LBS/GAL WITH NORMAL COMPRESSIVE STRENGTH OF 235. PSI

TRANSPORTATION: $ 93.55
PRICE: $ 1231.14

CEMENT DESCRIPTION: 300.SACKS OF
CLASS C
WITH ADDITIVES PER SACK OF:
1.88 LB CLACIUM CHLORIDE 0.25 LB FLOCELE

TTT HRS	MIXING WATER GAL/SK	BULK WEIGHT LBS/SK	SLURRY WEIGHT LBS/GAL	SLURRY VOLUME FT3/SK	VOLUME PERCENT EXCESS	VOLUME REQUIRED CU FT
2.00	6.3	96.13	14.91*	1.333	100.	392.

* SLURRY WEIGHT + OR - 0.2 LBS/GAL WITH NORMAL COMPRESSIVE STRENGTH OF 795. PSI

TRANSPORTATION: $ 138.43
PRICE: $ 1801.76

CEMENTING SERVICE CHARGE:	$ 464.00
FLOATING EQUIPMENT CHARGE:	$ 708.00
CEMENTING MATERIALS CHARGE:	$ 4694.88
MISCELLANEOUS CHARGES:	$ 0.
ESTIMATED PRICE OF JOB:	$ 5866.88

GUIDE SHOE, FLOAT COLLAR, 2 LBS. WELD-A, TOP PLUG.

PROJECT NO.-
WILL3

FOR:
J. C. WILLIAMSON NO. 1 TOG FED.
TYPE OF JOB: CASING CEMENTING
8 5/8 INCH
WELL DEPTH= 3200 FT
NOMINAL BIT SIZE 11.000 INCHES--AVERAGE HOLE SIZE 11.000 INCHES
MIXING UNITS - 1.
STANDBY TRUCKS - 0.
TEMP SOURCE - FLD DATA
TEMP IN DEG F = 85.
WOC = 12.00 HOURS

STAGE NO. 1 CEMENT TOPS AT 0 FT

CEMENT DESCRIPTION: 895.SACKS OF
HALLIBURTON LIGHT CEMENT
WITH ADDITIVES PER SACK OF:
5.00 LB GILSONITE 0.25 LB FLOCELE

TTT HRS	MIXING WATER GAL/SK	BULK WEIGHT LBS/SK	SLURRY WEIGHT LBS/GAL	SLURRY VOLUME FT3/SK	VOLUME PERCENT EXCESS	VOLUME REQUIRED CU FT
4.00	9.9	97.45	12.58*	1.912	150.	1708.

* SLURRY WEIGHT + OR - 0.2 LBS/GAL WITH NORMAL COMPRESSIVE STRENGTH OF 250. PSI

TRANSPORTATION: $ 418.65
PRICE: $ 5490.83

CEMENT DESCRIPTION: 250.SACKS OF
CLASS C
WITH ADDITIVES PER SACK OF:

TTT HRS	MIXING WATER GAL/SK	BULK WEIGHT LBS/SK	SLURRY WEIGHT LBS/GAL	SLURRY VOLUME FT3/SK	VOLUME PERCENT EXCESS	VOLUME REQUIRED CU FT
2.50	6.3	94.00	14.80*	1.324	150.	331.

* SLURRY WEIGHT + OR - 0.2 LBS/GAL WITH NORMAL COMPRESSIVE STRENGTH OF 820. PSI

TRANSPORTATION: $ 112.80
PRICE: $ 1376.25

CEMENTING SERVICE CHARGE:	$	789.20
FLOATING EQUIPMENT CHARGE:	$	671.50
CEMENTING MATERIALS CHARGE:	$	7398.52
MISCELLANEOUS CHARGES:	$	0.
ESTIMATED PRICE OF JOB:	$	8859.22

GUIDE SHOE, FLOAT COLLAR, 1 CLAMP
3 CENTRALIZERS, 2 LBS. WELD-A, TOP AND BOTTOM PLUG.

PROJECT NO.-
WILL1

FOR:
J. C. WILLIAMSON, NO. 1 TOG FE.
TYPE OF JOB: CASING CEMENTING
4 1/2 INCH
WELL DEPTH= 6000 FT
NOMINAL BIT SIZE 7.875 INCHES--AVERAGE HOLE SIZE 7.875 INCHES
MIXING UNITS - 1.
STANDBY TRUCKS - 0.
TEMP SOURCE - FLD DATA
TEMP IN DEG F = 105.
WOC = 22.00 HOURS

STAGE NO. 1 CEMENT TOPS AT 3000 FT

CEMENT DESCRIPTION: 350 SACKS OF
CLASS H - POZMIX 2% GEL
WITH ADDITIVES PER SACK OF:
5.00 LB SALT 0.25 LB FLOCELE

TIT HRS	MIXING WATER GAL/SK	BULK WEIGHT LBS/SK	SLURRY WEIGHT LBS/GAL	SLURRY VOLUME FT3/SK	VOLUME PERCENT EXCESS	VOLUME REQUIRED CU FT
4.00	5.7	92.93	14.65*	1.285	35.	932.

* SLURRY WEIGHT + OR - 0.2 LBS/GAL WITH NORMAL COMPRESSIVE STRENGTH OF 1550. PSI.

TRANSPORTATION: $ 323.40
PRICE: $ 2953.86

CEMENTING SERVICE CHARGE:	$	969.00
FLOATING EQUIPMENT CHARGE:	$	404.35
CEMENTING MATERIALS CHARGE:	$	3277.25
MISCELLANEOUS CHARGES:	$	0.
ESTIMATED PRICE OF JOB:	$	4650.60

FLOAT COLLAR, GUIDE SHOE, 1 CLAMP, 6 CENTRALIZERS
TOP AND BOTTOM PLUG.

EXHIBIT "G"

Southwestern Drilling Mud Service, Inc.

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico

Drilling Fluids Recommendations

OPERATOR J.C. Williamson

LEGAL Section 16, T-20-S, R-29-E

WELL NAME Texas Oil & Gas Federal No. 1

COUNTY Eddy, New Mexico

ANTICIPATED FORMATION TOPS

Yates	@	1400 ft.		@	ft.
Capitan	@	1660 ft.		@	ft.
Bell Canyon Sand	@	3100 ft.		@	ft.
Bone Springs	@	5900 ft.		@	ft.
	@	ft.		@	ft.
	@	ft.		@	ft.
	@	ft.		@	ft.

ANTICIPATED DRILLING PROGRAM

CASING SIZE	DEPTH	BIT SIZE	NUMBER BITS	NUMBER DAYS
12-3/4"	600'	17"	1	1
8-5/8"	3100'	11"	2	10
4-1/2"	6000'	7-7/8"	3	8
			Total Days	19

RECOMMENDED DRILLING FLUID PROPERTIES

DEPTH	MUD PROPERTIES		REMARKS
0-600'	Weight	8.8-9.4	Drill surface interval with a conventional Fresh Water Gel/Lime spud mud. Have viscosity high enough to clean hole properly. Use Paper for seepage control. Treat lost circulation with viscous Fresh Water Gel pills containing Multi-Seal and Cottonseed Hulls.
	Viscosity	35-40	
	Fluid Loss	NC	
	pH	NC	

Southwestern
Drilling Mud Service, Inc.

Drilling Fluids Recommendations

OPERATOR J.C. Williamson WELL NAME Texas Oil & Gas Federal No. 1

Recommended Drilling Fluid Properties (cont'd)

DEPTH	MUD PROPERTIES		REMARKS
600-3100'	Weight Viscosity Filtrate pH	9.6-10.0 30-32 NC 10-11	Drill this interval with brine water to minimize washout of the salt section. Use Lime to maintain pH. Use Paper and/or Multi-Seal to control seepage losses. There is a good possibility of encountering complete loss of returns in the Capitan formation. If these losses are encountered we recommend using viscous LCM pills to regain returns. If a slug pit is available, we recommend using fresh water and Fresh Water Gel and having a pill mixed prior to entering the Capitan. Without a slug pit, then brine water and Salt Water Gel will have to be used. LCM pills should contain high concentrations of Multi-Seal, Cottonseed Hulls, Shur Plug and Cedar Seal. Immediately upon encountering complete losses, pull out to above the loss zone and pump the viscous LCM pill. Follow the pill with water to see if at least partial returns are regained. Follow this procudure until returns are regained. If after 3 or 4 pills have been pumped and returns have not been regained, then a cement plug should be considered. Before setting the plug, dry drill until reasonably competent formation is indicated on the Geolograph. The losses may be severe enough to require drilling with mud after returns have been regained.

Southwestern Drilling Mud Service, Inc.

Drilling Fluids Recommendations

OPERATOR J.C. Williamson WELL NAME Texas Oil & Gas Federal No. 1

Recommended Drilling Fluid Properties (cont'd)

DEPTH	MUD PROPERTIES		REMARKS
600-3100' (Cont'd)			A Salt Water Gel and Starch mud system is recommended with a viscosity of 34-36 sec/1000cc and a fluid loss of 20-30 cc/30 min. It would also be helpful to use 8-10% oil to reduce hydrostatic.
3100-5200'	Weight Viscosity Filtrate pH	10 28 NC 10-11	Drill out from intermediate casing with brine water. Circulate reserve pit for improved solids control. Use Caustic Soda for pH. Use Paper and/or Multi-Seal as necessary, to control seepage.
5200-6000'*	Weight Viscosity Filtrate pH	10-10.2 36-40 10-15 9.5-10	Return to working pits and mud up. Pre-treat water with D-76 Defoamer and adjust pH with Caustic Soda prior to mudding up. Mud up with Salt Water Gel and Starch for indicated properties. These properties should be sufficient for any testing or logging operations. *Mud up depth may be altered, if necessary, for geological information.

(915) 683-4151

LANDIS DRILLING COMPANY

LANDIS DRILLING COMPANY

POST OFFICE BOX 3579
MIDLAND, TEXAS 79702

RIG #4

DRAWWORKS:	N-45 Brewster w/2 engine compound w/triple 15" Hydramatic brake
ENGINES:	Two D343TA Caterpillar diesels, 350 HP each, w/torque convertors
#1 PUMP:	Emsco DA-500 (7 1/2" x 16") w/forged steel mud end powered by D353TA Caterpillar diesel, 450 HP
#2 PUMP:	Emsco D-300 (7 1/4" x 14") powered by D343TA Caterpillar diesel, 350 HP
DERRICK:	Derrick Service International, Inc., 131' jackknife, 450,000# GNC
SUBSTRUCTURE:	11' x 26' x 38', 450,000# capacity
DRILL PIPE:	9,500' of 4 12/", 16.60 E Gd. E w/HTC FW XH tool jts.
DRILL COLLARS:	Twenty-seven 6 1/4" x 2 1/4" w/4 1/2" XH jts. & 24 8" x 2 1/4" w/6 5/8" regular joints.
BLOW-OUT PREVENTORS:	Cameron, dbl. Hydr. type SS, 10" 3,000# & N.L. Shaffer 10" 3,000# spheric w/Koomey, 80 gallon accumlator, 3,000#, 4 station w/Hydril control valve
SHALE SHAKER:	Thompson vibrator, single w/3HP AC electric exp. proof motor
WATER STORAGE:	One 500 bbl. horizontal tank & one 210 bbl. vertical tank
MUD PITS:	1 - 8' x 7' x 46', & 1 - 8' x 6' x 36' w/mud mixers, accessories & walkways. Total capacity 650 bbls.
PIPE RACKS:	Five sets triangle, 32" x 29' each
LIGHTS:	Vapor proof, florescent w/2-30 KW AC light plants, powered by 4-236 Perkins diesels
AUTO-DRILLER:	Texas Flange with recorder
RADIO COMMUNICATIONS:	Mobil telephone & two-way radio
RECORDER:	Totco, 2 pen. w/pent. rate & weight recorder
MOBIL HOME:	8' x 40' Sunflower, 1 1/2 bedroom, refrigerated air, color TV, completely equipped

EXHIBIT "H"

J. C. Williamson
TOG Federal #1
1980' FNL and 2310' FWL
Section 16, T-20-S, R-29-E
Eddy County, New Mexico