Form 9-331 C
(May 1963)

MOCC COPY

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Copy to SF

Form approved.
Budget Bureau No. 42-R1425.

30-015-22882

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED
MAR 9 1979
U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

RECEIVED
MAR 21 1979
O. C. C.
ARTESIA, OFFICE

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

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

2. NAME OF OPERATOR: Durham, Inc.

3. ADDRESS OF OPERATOR: 219 S. Colorado, Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 660' FNL x 2010' FEL
At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.: NM -0486483

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: -

7. UNIT AGREEMENT NAME: -

8. FARM OR LEASE NAME: Shell- Federal Com

9. WELL NO.: 1

10. FIELD AND POOL, OR WILDCAT: Cemetary (Morrow)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 8, T-21-S, R-24-E

12. COUNTY OR PARISH: Eddy

13. STATE: N.M.

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 17 miles NW of Carlsbad, N. M.

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 660'

16. NO. OF ACRES IN LEASE: 320

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

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

19. PROPOSED DEPTH: 9,800'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3850 GR

22. APPROX. DATE WORK WILL START*: March 15, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17½"	13 3/8"	48#	400'	See Reverse
12¼"	9 5/8"	32.3 & 36#	3200'	See Reverse
8½"- 7 7/8" *	5½"	17#	9800'	See Reverse

BOP Program: See Exhibit "D"

Mud Program:

Interval	Type Mud	Weight(PPG)	Vis(SEC)
0-400'	Fresh water - spud mud	8.6 - 8.9	34 - 36
400'-3200'	Fresh water	8.3 - 8.6	28
3200'-6500'	FW + Floc. w/addition of brine	8.4	28
6500'-8000'	Cut brine + 3.5% KCl w/LCM	8.6 - 9.0	28 - 38
8000'-9800'	Cut brine + gel+Drispac	8.8 - 9.0	36 - 38

Gas is not dedicated

*If severe lost circulation is encountered, a 7" 23# liner will be set at 7500', a 6 1/8" hole drilled to TD, and 4½" 10.5 and 11.6# casing set at TD. If severe lost circulation is not encountered, the hole will be reduced to 7 7/8" at 7500' and 5½" casing will be set at TD.

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 Les Skinner, P.E. TITLE Engineer DATE 2-22-79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE 3-19-79

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Gas is not dedicated.

Quantity of cement

13 3/8" 425 sx Class C + 2% $CaCl_2$
Cement will circulate

9 5/8" 875 sx HLC + 18% salt + ¼ #/sx Flosea
followed by 200 sx Class C + 2% $CaCl_2$
+ ¼ #/sx Flosea (If circulation maintained,
will run fluid caliper and adjust volumes of
cement; otherwise, will run 1" tubing outside
casing and circulate cement.)

If severe lost circulation is encountered in 3rd
Bone Spring:

7" 300 sx Class C Neat - should bring cement
back 2000' from shoe depending on the
extent and location of lost circulation.

4½" 750 sx Class H 50/50 Poz + 2% gel + .5%
CFR-2 + 6% salt (volume to be adjusted
according to caliper).

If lost circulation in 3rd Bone Spring is not
severe:

5½" 750 sx Class H 50/50 Poz + 2% gel +
.5% CFR-2 + 6% salt (volume to be adjusted
according to caliper).

U.S. GOVERNMENT PRINTING OFFICE : 1963—O-711-396
8 39-171

APPLICATION FOR PERMIT TO DRILL

DRILL

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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.

N MEXICO OIL CONSERVATION COMMISS.

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.
DURHAM, INCORPORATED	Shell Federal Com	1

Unit Letter	Section	Township	Range	County
B	8	21 South	24 East	Eddy

Actual Footage Location of Well: 660 feet from the North line and 2010 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3850'	Morrow	Cemetary-Morrow	320 Acres

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1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

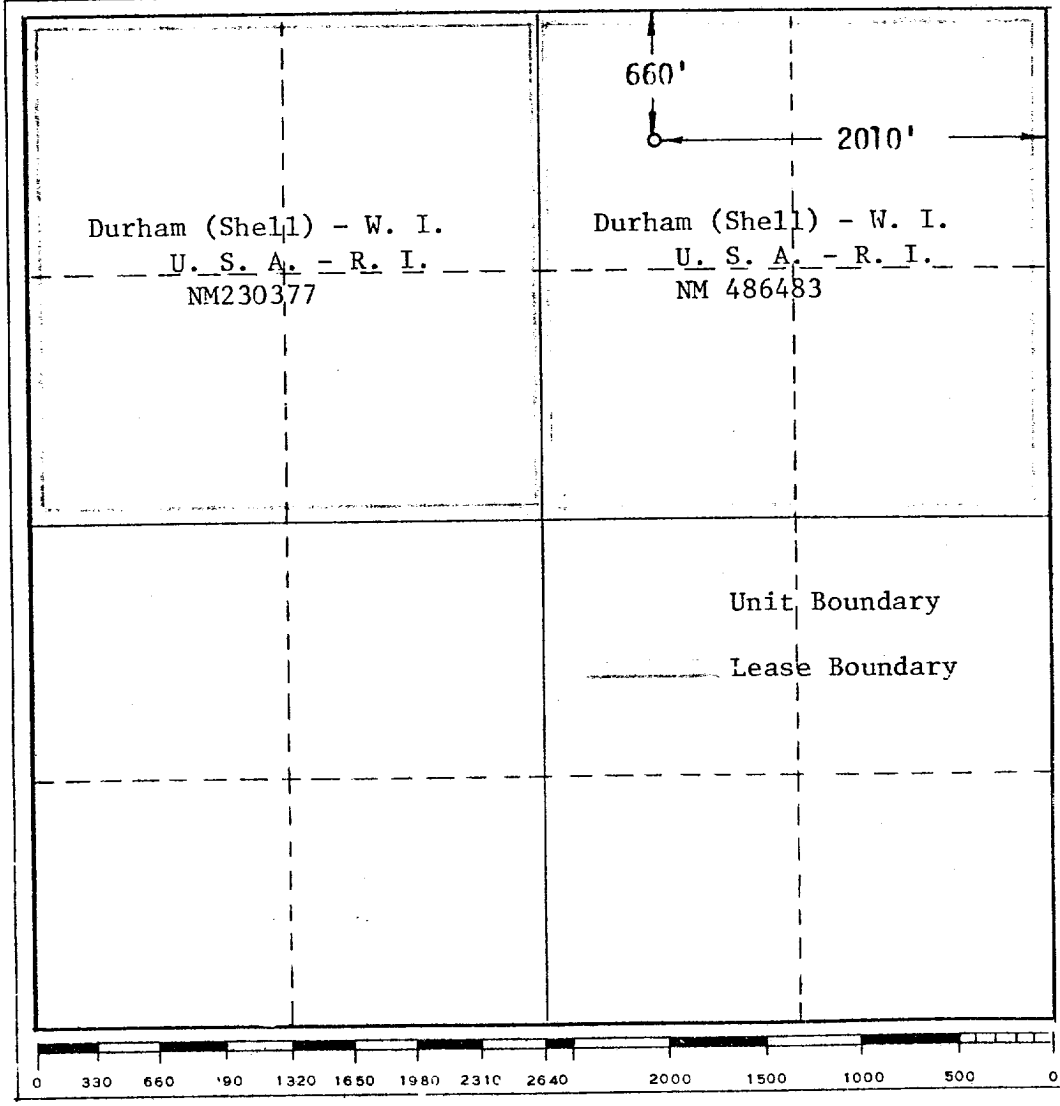
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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?

[X] Yes [ ] No If answer is "yes," type of consolidation Unitization

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

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



CERTIFICATION

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

Name Les Skinner, P. E.
Engineer
Position
Durham, Inc.
Company
March 8, 1979
Date

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.

March 8, 1979
Date Surveyed
Richard B. Duniven
Registered Professional Engineer and/or Land Surveyor
Certificate No. 4882

APPLICATION FOR DRILLING

Durham, Inc.
Shell Federal Well No. 1
660' FNL and 2010' FEL
Section 8, T-21-S, R-24-E
Eddy County, New Mexico

In conjunction with Form 9-331C, Application for Permit to Drill subject well, Durham, Inc. submits the following ten items of pertinent information in accordance with USGS requirements:

1. The geologic surface formation is the Queen.

2. The estimated tops of geologic markers are as follows:

San Andres	890'	Wolfcamp	6725'
Glorieta	2520'	Strawn	8500'
Bone Spring	3150'	Atoka	9101'
Third Bone Spring Sandstone	6675'	Morrow	9450'
		Barnett	9782'

3. The estimated depths at which anticipated water, oil or gas formations are to be encountered:

   Water: Approximately 200 feet
   Oil or gas: Morrow at approximately 9400' - 9800'

4. Proposed casing program: See Form 9-331C.

5. Pressure control equipment: See Exhibit D.

6. Mud program: See Form 9-331C.

7. Auxiliary equipment: Ram type blowout preventer, annular and rotating type blowout preventers, Kelley cock.

8. Testing, logging and coring programs:

   Electric logging: GR/CNL: TD - Surf
   Logging: Mud logging from 6500' to TD
   Coring: None
   Drill Stem tests: Morrow - 3

9. No abnormal pressures or temperatures are anticipated.

10. Anticipated starting date: As soon as possible.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Durham, Inc.
Shell Federal Well No. 1
660' FNL and 2010' FEL
Section 8, T-21-S, R-24-E
Eddy County, New Mexico
(Development Well)

This plan is submitted with Form 9-331C, 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 "B" is a portion of the topographic map on a scale of 1" = 1 mile, showing the location of the proposed well site with detailed access road shown in red. Exhibit "A" is a schematic of the pad area and the new road into the location. The proposed location is situated approximately 17 miles northwest of Carlsbad, New Mexico, via the access road shown in red on Exhibits A and B.

(1) Starting at the intersection of highways 285 and 137, 12 miles north of Carlsbad, go west on highway 137 8.8 miles.

(2) At this point, turn right (north) onto an unnumbered blacktop road. (This turnoff is indicated by a sign on the north side of highway 137, reading "Sitting Bull Falls" with an arrow pointing west.)

(3) After leaving highway 137, continue north for a total distance of approximately 2.3 miles. At this point, turn right onto another blacktop road, known as the Seven Rivers Road. Continue in a northeasterly direction approximately 2.8 miles down this road, then turn right on an existing ranch road and proceed east .25 mile toward the stock pond. The proposed new access road will begin approximately 25 yards west of the pond (the existing ranch road from the blacktop to the new access road will be improved).

2. PLANNED ACCESS ROAD.

A. The proposed new access road will be approximately 250 yards in length from point of origin to the southeast corner of the drilling pad. The proposed road will run in a southeasterly direction along the western edge of an existing pipeline right-of-way.

B. The new road will be 12 feet in width (driving surface) and will require no cattleguards or culverts.

C. The new road will be covered with the necessary depth of caliche. The surface will be crowned, with drainage on both sides.

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

3. LOCATION OF EXISTING WELLS.

A. The well locations in the vicinity of the proposed well are shown in Exhibit E. There are several producing wells within a one-mile radius. The nearest production is a well at 1650' FSL and 1980' FEL of Section 8, T-21S-R24E.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES.

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

B. A two-inch gas pipeline, owned and operated by David Fasken runs generally NW-SE some 25' east of the proposed location as shown on Exhibits "A" and "C". This line operates at a pressure of approximately 500 psig and is buried 36" below ground. The line will be well marked during construction operations, and if conditions require, the line will be temporarily shut off by David Fasken.

C. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad west of the Fasken line. If the well is productive of oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.

5. LOCATION AND TYPE OF WATER SUPPLY.

A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

6. SOURCES OF CONSTRUCTION MATERIALS.

A. Any caliche required for construction of the drilling pad and the new access road will be obtained from an existing pit on federally owned surface in Section 6-T21S-R24E.

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 hauled to an approved disposal system or a separate disposal application will be submitted to the USGS for appropriate approval.

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 C 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 gently sloping with a rise toward the west. Cutting will be required to level the pad area, which will be covered with at least six 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 wellsite in as aesthetically pleasing a condition as possible.

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

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 gently undulating area.

B. The topsoil at the wellsite is moderately hard sand, with some "gyp" and rock near the surface.

C. The vegetation cover at the wellsite consists primarily of prairie grass, mesquite, and greasewood. No wildlife was observed. It is likely that other typical semi-arid desert wildlife, such as coyotes, gophers, rodents and snakes inhabit the area. The area surrounding the location is used for cattle grazing.

D. There is a one-acre stock pond approximately 250 yards northeast of the wellsite which is fed by rain water runoff. A diverting dam will be constructed around the pit area to prevent contamination of the pond by escaping drilling fluids, chemicals, etc.

E. There are no occupied dwellings or windmills in the vicinity of the proposed site.

F. The wellsite is located on federally owned 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 field representative responsible for assuring compliance with the approved surface use plan is:

Les Skinner, P. E.
Engineer
Durham, Inc.
219 S. Colorado
Midland, Texas 79701

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 by Durham, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

March 7, 1979

Les Skinner

Les Skinner, P. E.
Engineer
Durham, Inc.

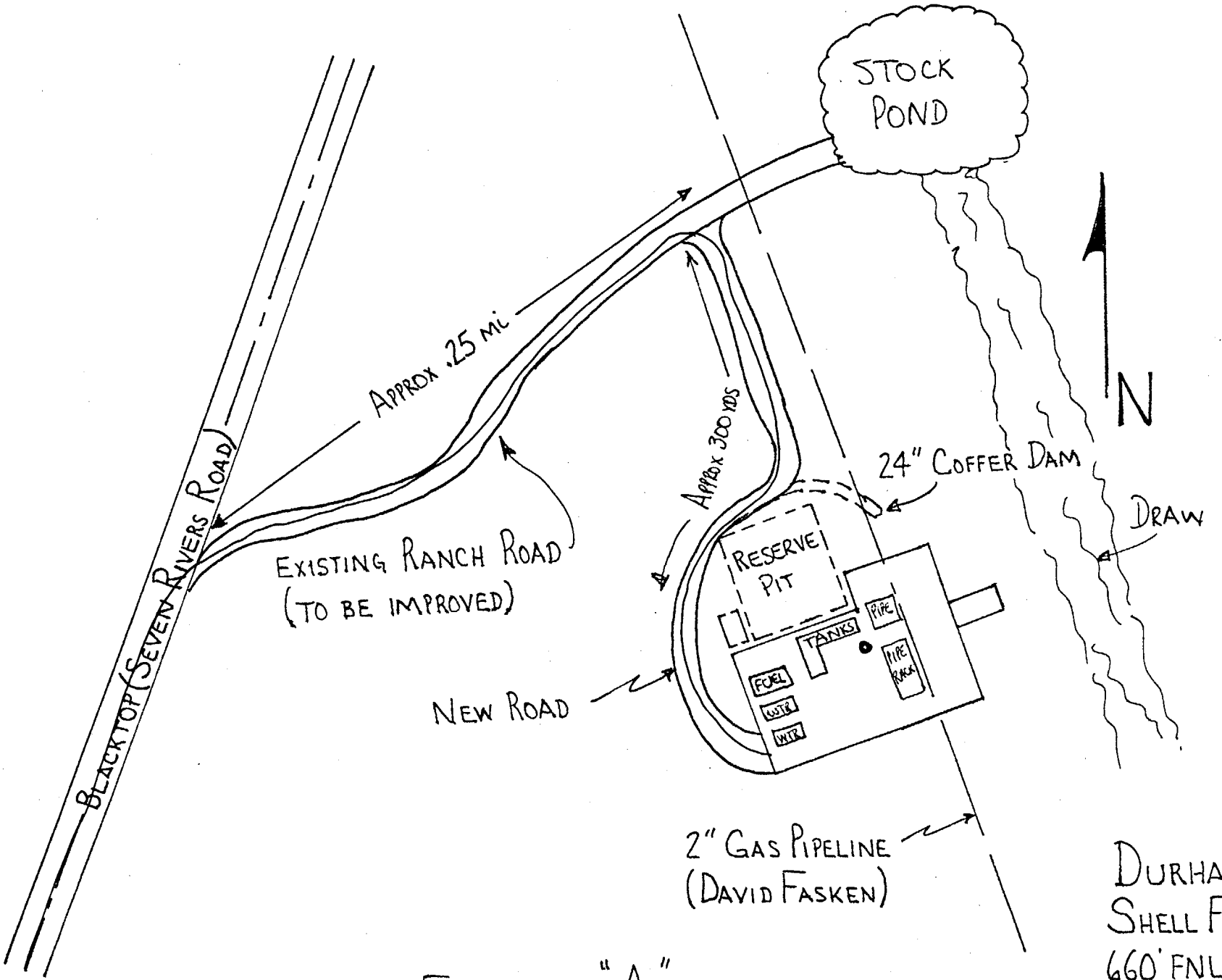


EXHIBIT "A"

DURHAM, INC.
SHELL FEDERAL #1
660' FNL x 2010' FEL
SEC 8, T21S, R24E
EDDY CO., N.M.

NEW MEXICO
(EDDY COUNTY)

BANDANNA POINT QUADRANGLE
15-MINUTE SERIES

5049 II SE
(Foster Ranch 1:31,000)

5149 III SW
(Seven Rivers 1:31,000)

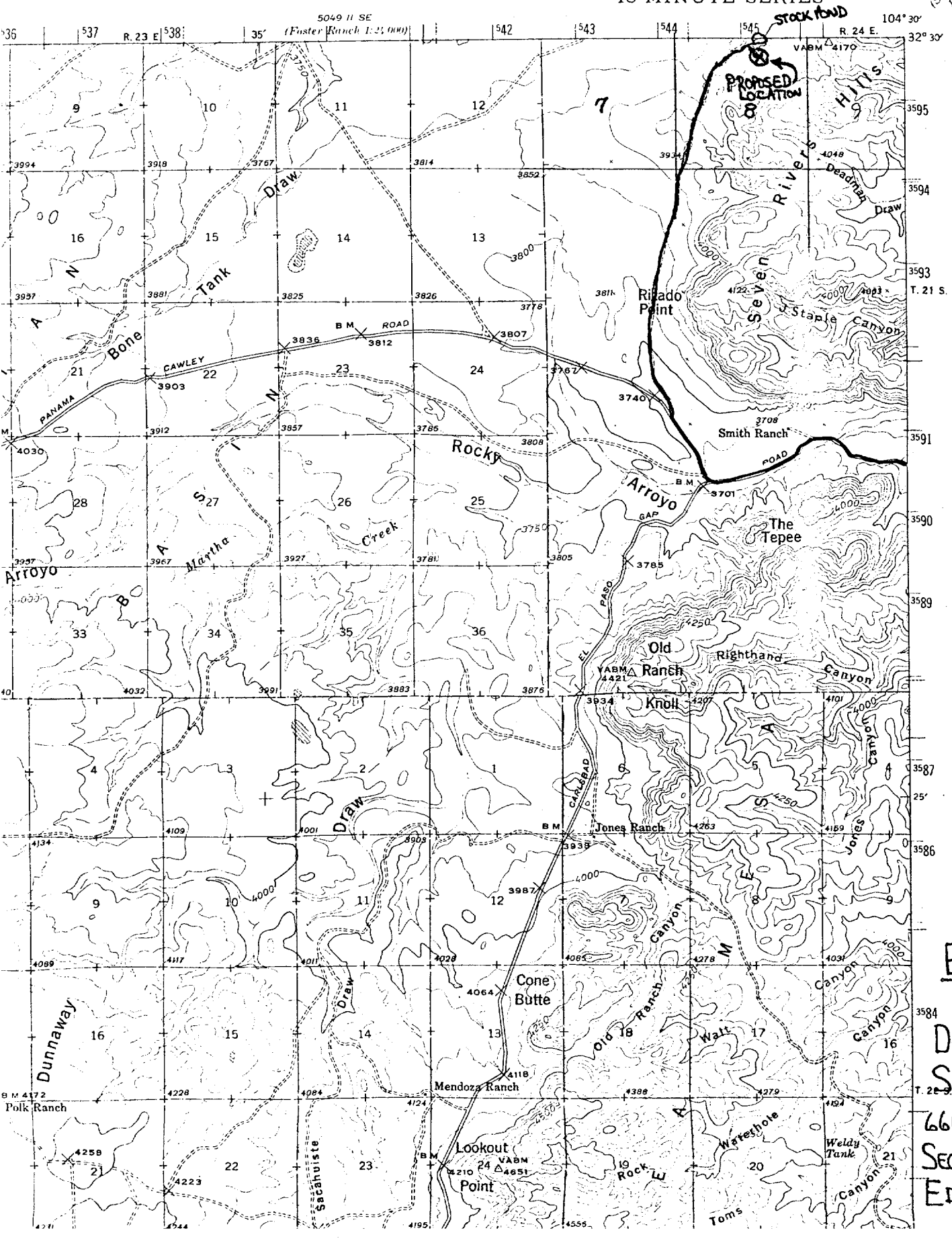


EXHIBIT "B"

DURHAM, INC.
SHELL FED. #1
660 FNL x 2010' FEL
SEC 8, T21S, R24E
EDDY CO., N.M.

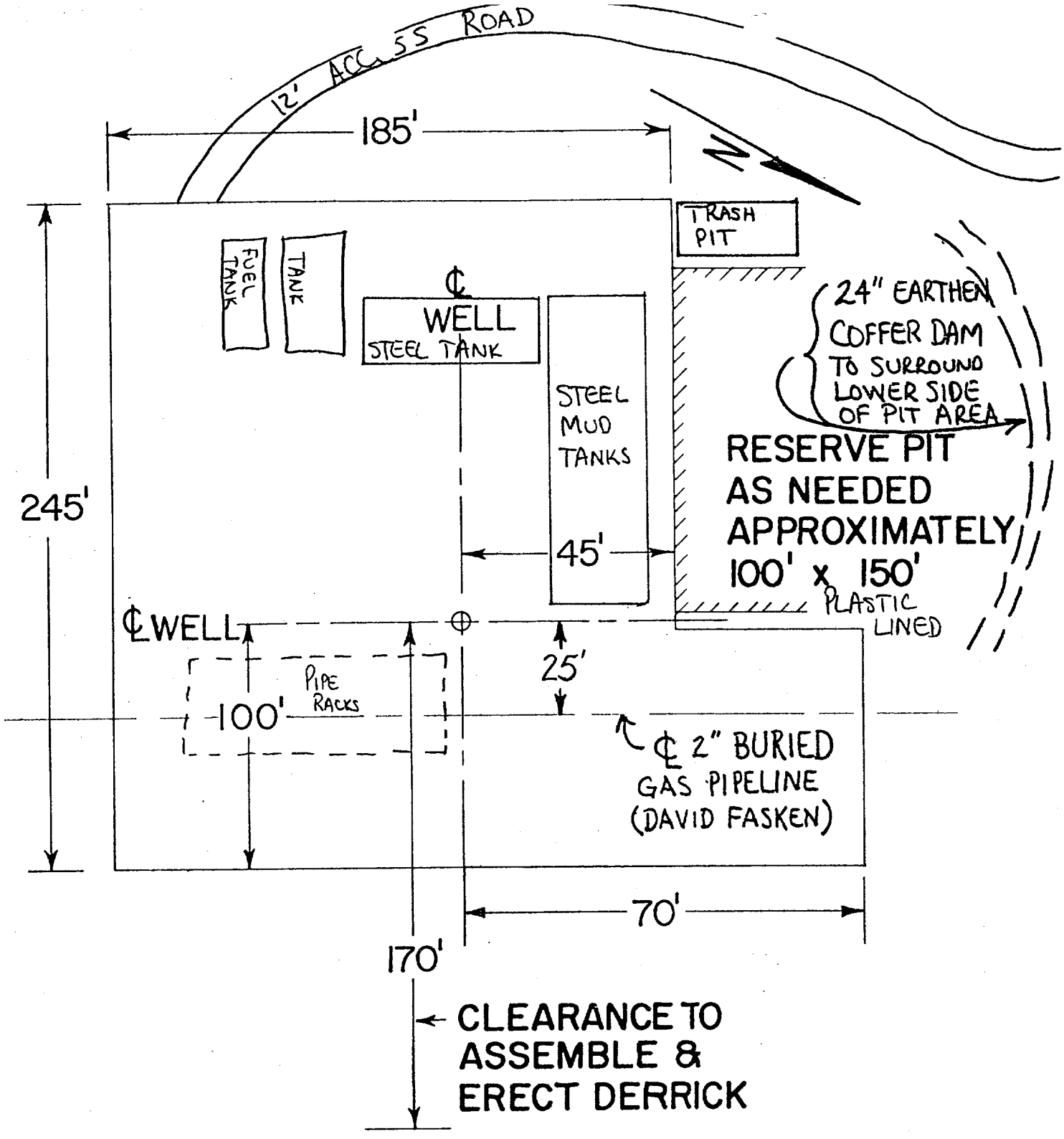
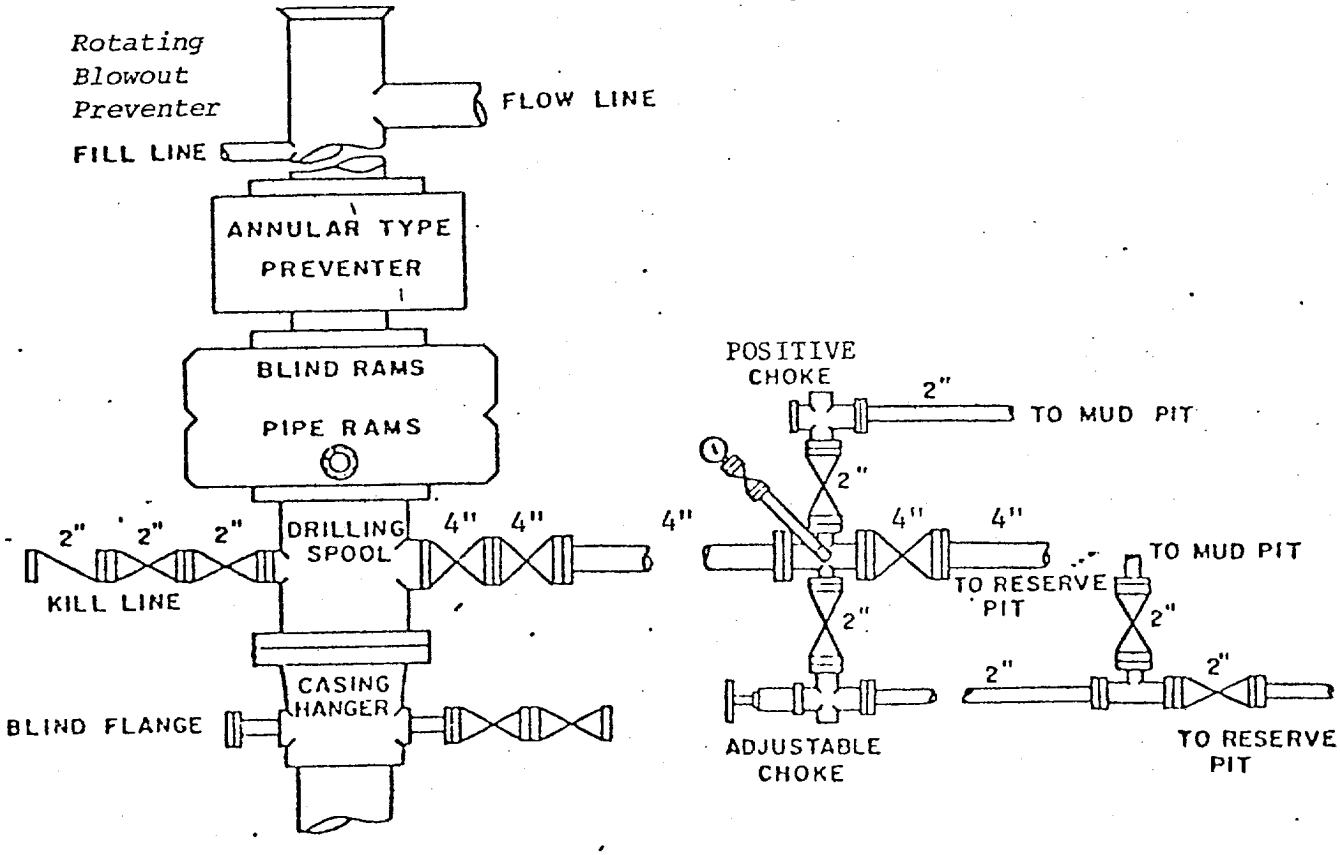


EXHIBIT "C"

DELTA DRILLING
LOCATION DIMENSIONS
RIG 60

DURHAM, INC.
SHELL FEDERAL #1
660' FNL x 2010' FEL
SEC 8, T21S, R24E
EDDY CO., N.M.

Blowout Preventor Sketch



5000 lb. WP BOP

10" Shaffer Type LWS Hydraulic BOP
10" Hydril GK
80 gal. - 5 station Payne Accumulator
5000 lb. Choke Manifold

Exhibit "D"

Durham, Inc.
Shell Federal #1
660' FNL x 2010' FEL
Sec 8, T21S, R24E
Eddy Co., N.M.

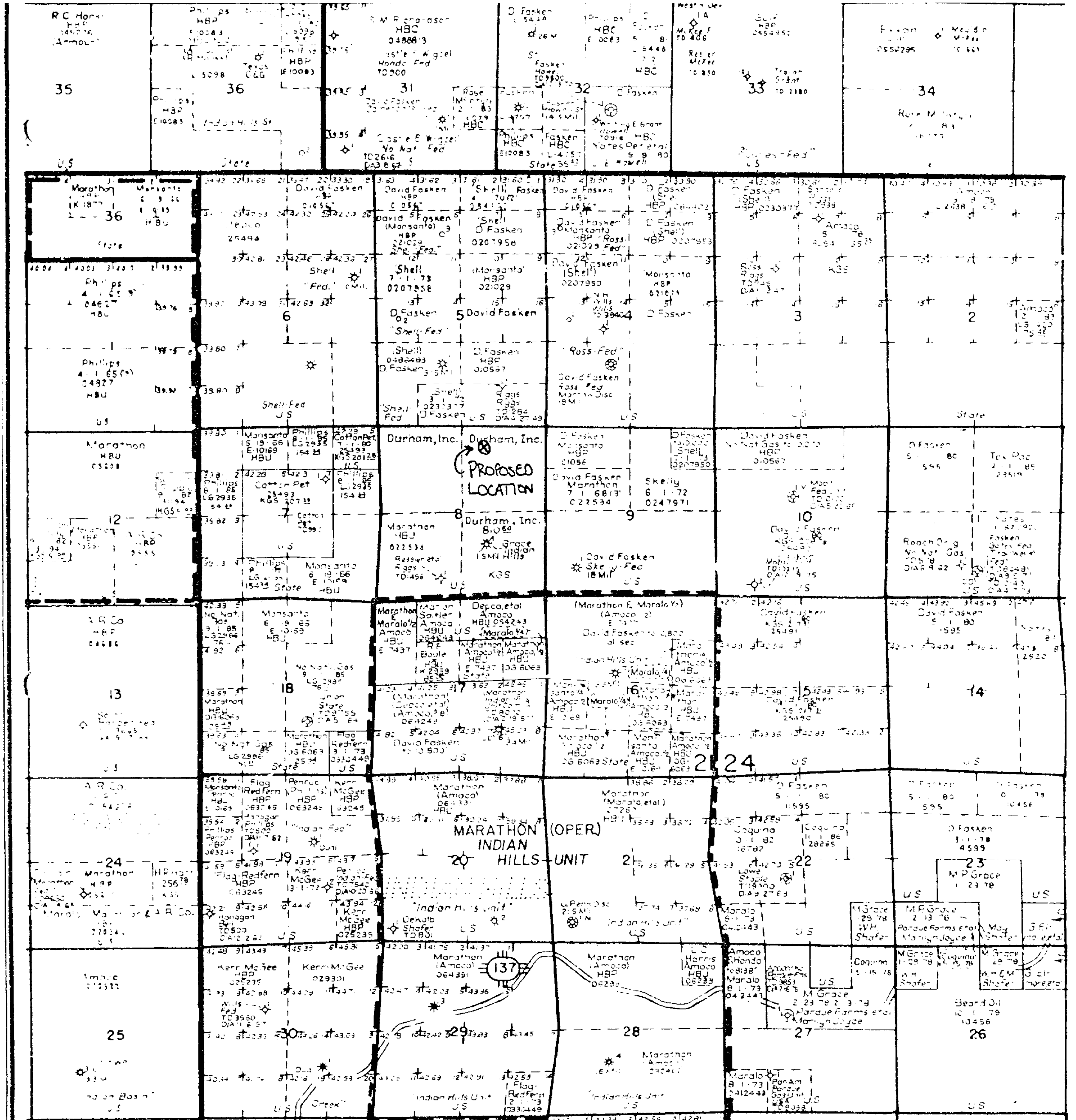


EXHIBIT "E"

N

DURHAM INC
Midland, Texas

INDIAN BASIN CEMETARY FIELD AREA

EDDY COUNTY, NEW MEXICO

LAND PLAT

Scale: 1" = 4,000'

Nov., 1978

DRAFTING By C Rounsaville