

7/22/97 1-8/11/97 1-MS 1-KU 1-NSL

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling

☒ NSL ☐ NSP ☐ DD ☐ SD

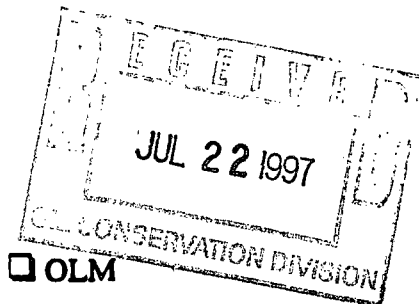
Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR



[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO

U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☒ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

WALTER DUEASE
Print or Type Name

Walter Duease
Signature

Title

7/21/97
Date



**Marathon
Oil Company**

P.O. Box 552
Midland, Texas 79702
Telephone 915/682-1626

July 17, 1997

Michael E. Stogner
Oil Conservation Division
New Mexico Dept. Of Energy
Minerals and Natural Resources
2040 South Pacheco Street
Santa Fe, NM 87505

Re: Application for Administrative Approval of
An Unorthodox Well Location and
Simultaneous Dedication
Eddy County, New Mexico

Dear Mr. Stogner:

Marathon Oil Company hereby seeks Administrative Approval pursuant to the provisions of Division Rule 104 F(2), of an unorthodox well location for an Indian Basin Upper Pennsylvanian (Gas) Well to be drilled at 1465' FSL and 800' FWL of Section 11, Township 22 South, Range 23 East, N.M.P.M., Eddy County, New Mexico.

This unorthodox location is necessary for geological reasons as the Smith Federal #1 has recently begun producing water, which has caused the gas rate to decrease to 4,000 MCFPD which is 2,500 MCFPD below the pool allowable. The Smith Federal #2 is proposed at a location which will put it in an upstructure position allowing the well to capture the remaining recoverable gas under Section 11.

Marathon respectfully requests the NMOCD to approve an acreage factor of 0.7258 for gas allowable purposes. Marathon requests that this factor be applied to the unit located in Section 11, T-22-S, R-23-E, Eddy County, New Mexico. This number is calculated by averaging the following methods:

1. **PRODUCTIVE ACREAGE** - Based on a detailed geologic evaluation, Section 11 is estimated to have 618.8 productive acres;

$$618.8 / 640 = 0.9669 \text{ (96.69\% of Section)}$$

2. **DISTANCE RATIO METHOD** - The percent distance from the lease line for the proposed unorthodox location compared to a regular location:

$$800' / 1650' = 0.4848 \text{ (48.48\% of Distance)}$$

→ **The average of the two methods is 0.7258 (72.58% of allowable).**

Furthermore, Marathon requests authorization to simultaneously dedicate Indian Basin Upper Pennsylvanian Pool Production to a standard 640 acre gas proration unit comprising the entire Section 11, T-22-S, R-23-E, Eddy County, New Mexico from the Smith Federal #1 and the Smith Federal #2.

This unorthodox location encroaches on Section 10, T-22-S, R-23-E. On this date, a copy of this Application, including the attached plats, have been sent by certified mail to the following affected parties:

Chevron USA Inc.
P. O. Box 1150
15 Smith Road
Midland, TX 79702

Chevron has been advised that if they have an objection to this Application, it must be filed in writing with the Division within twenty days of this date.

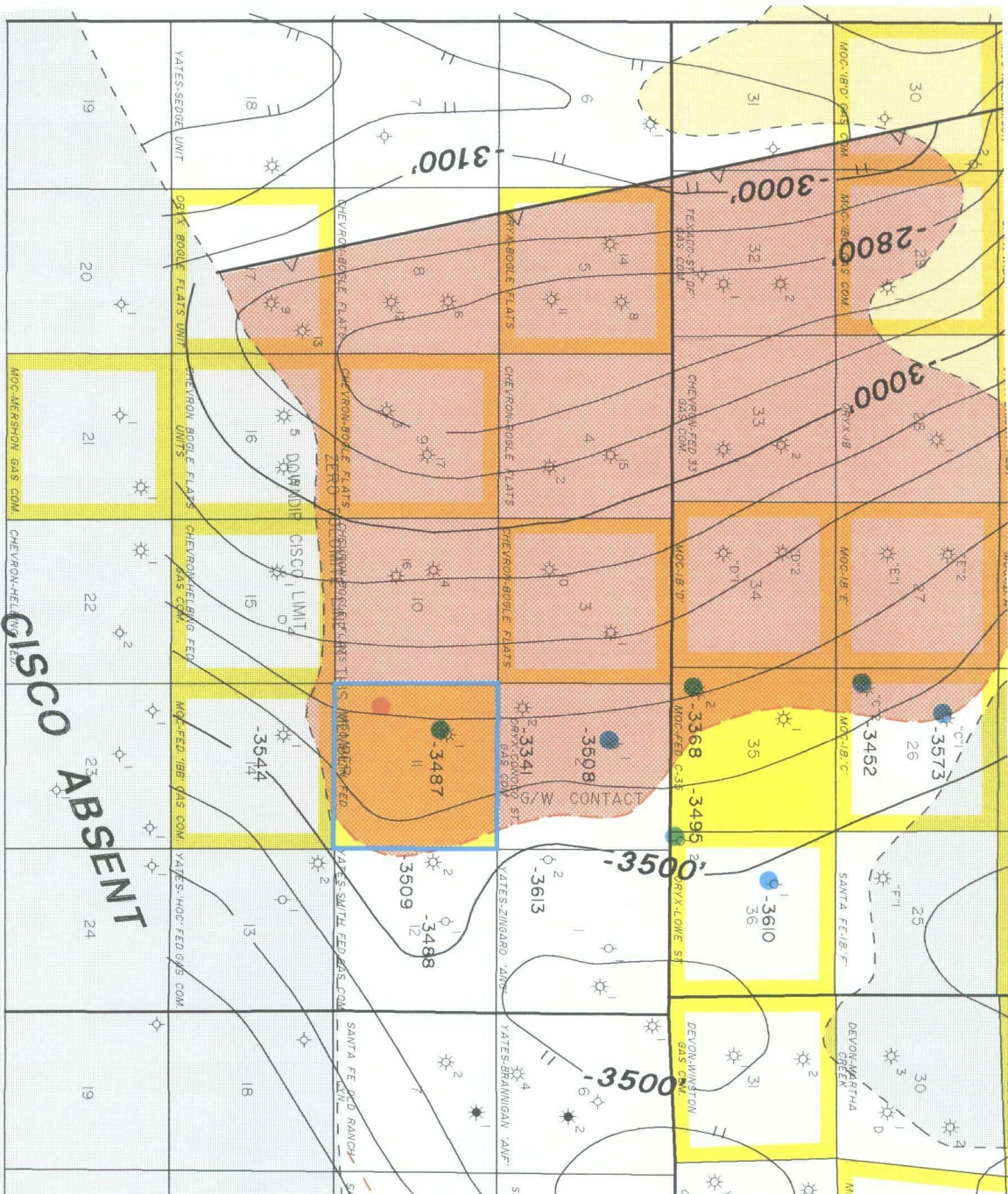
Your attention to this Application is appreciated.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Walter Dueease", with a long horizontal flourish extending to the right.

Walter Dueease
MARATHON OIL COMPANY

WJD/dt
h:\dueease\smthfed2



T
22
S

R 23 E

TIGHT SHALLOW
MARINE FACIES
TIGHT BASINAL
FACIES
FAULT-TEETH ON
UPTHROWN SIDE

-3487 LOWEST PRODUCING CISCO PERFORATION
● LOW WATER RATE GAS WELLS 7/97
--- ESTIMATED WATER-FREE GAS
PRODUCTION CONTACT
● PROPOSED WELL

MARATHON OIL COMPANY	MD-CONTINENT REGION
INDIAN BASIN FIELD AREA	
EDDY COUNTY, NEW MEXICO T/CISCO CARBONATE STRUCTURE MAP (MEMBER IN THE UPPER PENN) CL. 100'	
ORIGINAL SCALE: 1" = 2000'	DATE: 7/96
ADDITION D/COK	REVISED 7/97
DRAFTED BY:	FILE LOC: 187941 BMP



**Marathon
Oil Company**

P.O. Box 552
Midland, Texas 79702
Telephone 915/682-1626

July 17, 1997

Brad Foster
Chevron USA Inc.
P. O. Box 1150
15 Smith Road
Midland, TX 79702

Re: Application of Marathon Oil Company for
Administrative Approval of an Unorthodox
Well Location and Simultaneous Dedication
Eddy County, New Mexico

Dear Mr. Foster:

Enclosed is a copy of an Application filed on this date by Marathon Oil Company seeking approval of an unorthodox well location for an Indian Basin Upper Pennsylvanian Gas Well to be drilled at 1465' FSL and 800' FWL of Section 11, Township 22 South, Range 23 East, N.M.P.M., Eddy County, New Mexico.

If you have an objection to this application, it must be filed in writing with the New Mexico Oil Conservation Division at its Santa Fe Office within twenty days from the date of this letter.

Marathon also requests authorization to simultaneously dedicate Indian Basin Upper Pennsylvanian Pool Production to a standard 640 acre gas proration unit comprising the entire Section 11, T-22-S, R-23-E, Eddy County, New Mexico from the Smith Federal #1 and the Smith Federal #2.

Should you have no objection to these requests, please signify by signing below and returning one executed copy to me in the envelope provided.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Walter Dueease'.

Walter Dueease
MARATHON OIL COMPANY

I/WE WAIVE OBJECTION TO MARATHON'S INTENT TO DRILL ITS SMITH FEDERAL #2 AT 1465' FSL AND 800' FWL, SECTION 11, T-22-S, R-23-E, AND AS OFFSET OPERATOR TO APPROVE MARATHON'S REQUEST TO SIMULTANEOUSLY DEDICATE THE INDIAN BASIN UPPER PENNSYLVANIAN GAS POOL TO A STANDARD 640 ACRE PRORATION UNIT.

CHEVRON USA INC.

A handwritten signature in cursive script, appearing to read 'New Mexico Asset Team Leader'.

By: _____
Title: New Mexico Asset Team Leader
Date: 7/18/97

For 72.58% of Allowable AS
conveyed on the attachment.
BASF

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☐

GAS
WELL ☒

OTHER

SINGLE
ZONE ☐

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Marathon Oil Company

3. ADDRESS AND TELEPHONE NO.

P.O. Box 552 Midland, TX 79702

915/687-8327

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *)
At surface

1465' FSL & 800' FWL

At proposed prod. zone

1465' FSL & 800' FWL

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

15 MILES NW OF CARLSBAD

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any) 1650'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED
TO THIS WELL

640

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT. 1980'

19. PROPOSED DEPTH

7550'

20. ROTARY OR CABLE TOOLS

ROTARY

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

3952' G.L.

22. APPROX. DATE WORK WILL START*

8/1/97

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48	40'	CONDUCTOR-REDIMIX TO SURFACE
12 1/4"	9 5/8"	36	1200'	800 - CIRCULATE
8 3/4"	7"	23.26	7550'	945 - CIRCULATE

MARATHON PROPOSES TO APPLY FOR NON-STANDARD LOCATION AND SIMULTANEOUS DEDICATION APPROVAL FOR THIS WELL.

SEE ATTACHED FOR DETAIL

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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

Walter J. Amare
FOR DON

TITLE

DRILLING SUPERINTENDENT

DATE

7/10/97

(This space for Federal or State office use)

PERMIT NO. _____

APPROVAL DATE _____

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY _____

TITLE _____

DATE _____

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised February 10, 1994

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT IV

P.O. Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		Indian Basin Upper Pennsylvanian (Gas)
Property Code	Property Name	Well Number
	SMITH FEDERAL	2
OGRID No.	Operator Name	Elevation
	MARATHON OIL COMPANY	3952

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	11	22 S	23 E		1465	SOUTH	800	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						
640									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT 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 D. P. Nordt Printed Name Drilling Superintendent Title 7/8/97 Date
	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 belief. JUNE 20, 1997 Date Surveyed Signature & Seal of Professional Surveyor W.O. Num. 97-11019 Certificate No. 676 RONALD J. EIDSON, 3239 GARY G. EIDSON, 12641

Thirteen Point Surface Use Plan
MARATHON OIL COMPANY

Smith Federal #2
Sec. 11, T-22-S, R-23-E
Eddy County, New Mexico

1. **Existing Roads:** Refer to Vicinity Lease Map.

- a. The proposed wellsite is staked and the surveyor's plat is attached.
- b. To reach the location from Carlsbad, New Mexico: Follow Hwy. 285 North of Carlsbad 14 miles. Turn West on Queen's highway (NM 137) for 8.8 miles. Continue South on NM 137. Follow NM 137 4.2 miles, turn West on existing lease road 2.5 miles, South .5 miles, East .9 miles, North .6 miles into location.
- c. Existing roads within a one-mile radius (refer to Vicinity Lease Map).
- d. The existing road will be maintained as necessary to provide access during the drilling operation.

2. **Planned Access Road:** Refer to Vicinity Lease Map.

Access will be by existing lease roads. Construction plans will require blading and rolling the road and pad. An access road of approximately 3500' will be required. The access road will enter the drilling pad on the Southeast corner. The drilling location will have a V-door facing East.

3. **Location of Existing Wells:** See Vicinity Lease Map.

4. **Location of Existing and Proposed Production Facilities within a one-mile radius:**

- a. Existing: There are six gas wells operated by Marathon and Chevron within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon and Chevron operate a variety of dehydrators, meter runs, and several gathering lines in the one-mile radius.
- b. **New Facilities:** The proposed location will have a separator and gas sales line. The actual equipment and its configuration will be determined after the well is completed.
- c. Rehabilitation of disturbed areas no longer needed for operations will be accomplished by grading, leveling and seeding as recommended.

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Smith Federal #2

5. Location and Type of Water Supply:

- a. Source: Indian Basin Gas Plant, SW/4, NE/4, Sec. 23, T-21-S, R-23-E.
- b. The water will be trucked by a contractor over existing roads to the well location. No new construction will be required on/along the water route.
- c. No water well will be drilled on this location.

6. Source of Construction Materials:

- a. Construction materials will be obtained from the construction site or from the existing pit in the SE/4, NW/4 Sec. 11, T-22-S, R-23-E.
- b. If production is obtained, native materials will be used on the location and for installation of production facilities.
- c. On-site inspection may dictate any changes in location construction.

7. Methods of Handling Waste Material Disposal:

- a. Cuttings - will be deposited in the reserve pit.
- b. Drilling fluids - contained in reserve pit and allowed to evaporate. Free water will be removed and transported to an approved disposal site to accelerate pit drying.
- c. Produced fluids - none anticipated.
- d. A portable chemical toilet will be provided.
- e. Garbage and other waste material - garbage and trash will be stored in a receptacle on location and periodically hauled to an approved sanitary landfill.
- f. After the rig moves out, all materials not necessary for operations will be removed. Pits will be backfilled and leveled. The location will be cleaned of all trash and debris.

8. Ancillary Facilities: Camp facilities will not be required. Portable trailers will be on location to house a company drilling foreman and contract toolpusher.

9. Wellsite Layout:

- a. The wellpad layout shows the drillsite layout as staked. Cross-sections have been drafted to visualize the planned cuts and fills across the location. Topsoil will be stockpiled per specifications.
- b. The reserve pit will be fenced on three sides before drilling begins. The fourth side will be fenced when the drilling rig leaves location.
- c. The reserve pit will be lined (8 mil material).

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Smith Federal #2

10. Plans for Restoration of the Surface:

- a. Backfilling, leveling, and contouring are planned as soon as all pits have dried. Waste disposal and spoiled materials will be buried or hauled away immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible.
- b. The soil banked material will be spread over the area. Revegetation will be accomplished by planting mixed grasses as per formula by BLM. Revegetation is recommended for road area, as well as around the drill pad.
- c. The reserve pit will be fenced during drilling operations. Fencing will be maintained until leveling and cleanup are accomplished.
- d. If any oil is in the pits and is not immediately removed after operations cease, the pit containing the oil or other adverse substances will be flagged overhead or covered with mesh.
- e. The rehabilitation operations will begin after the drilling rig is removed. Removal of oil or other adverse substances will begin immediately or area will be flagged and fenced. Other cleanup will be done as needed. Planting and revegetation will be done between July 15 and September 15.

11. Other Information:

- a. There are no significant archaeological or cultural sites visible in the area of disturbance. A cultural resource survey was performed by Archaeological Consultants Inc. of Roswell.
- b. General topography: Shown on Vicinity Lease Map. The terrain at the wellsite is gently rolling hills. Vegetation is primarily sage brush and natural grasses.
- c. Animal life: Prairie dogs, domestic livestock, rabbits and native rodents and predators.
- d. Dwellings (nearest): Approximately 4-1/2 miles.
- e. General location: Approximately 15 miles Northwest of Carlsbad, New Mexico.
- f. Drainage: Internal
- g. Surface Owner: The surface is owned by the Federal Government.

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Smith Federal #2

12. Operator Representatives:

David Nordt
Drilling, Completion, & Workover Superintendent
P. O. Box 552
Midland, TX 79702
800/351-1417
915/682-1626

13. Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions that presently exist; that the statements made in this plan are, to the best of my knowledge and belief, true and correct; and that the work associated with the operations proposed herein will be performed by MARATHON OIL COMPANY and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

7/16/97
Date

Walter J. Duncan
D. P. Nordt

**DRILLING PROGRAM
MARATHON OIL COMPANY**

Smith Federal #2

1. **Estimated KB Elevation: 3970'**

<u>FORMATION</u>	<u>-----TOP-----</u>		<u>-----BASE-----</u>		<u>FLUID CONTENT</u>
	<u>MEASURED</u>	<u>SUBSEA</u>	<u>MEASURED</u>	<u>SUBSEA</u>	
Queen	Surface	+3970'	650'	+3320'	water
San Andres	650'	+3320'	2250'	+1720'	water
Glorietta	2250'	+1720'	2355'	+670'	
Delaware	3300'	+670'	4300'	-330'	
Bone Spring	4300'	-330'	5950'	-1980'	oil gas
Wolfcamp	5950'	-1980'	7520'	-3550'	oil gas
B/Permian Shale	7520'	-3550"	7530'	-3560'	
U. Penn	7530'	-3560'	7550'	-3580'	gas, oil, water

<u>FORMATION</u>	<u>---EST PSIG</u>	<u>SBHP--- PPG EMW</u>	<u>EST SBHT DEG f</u>	<u>H2S PPM</u>	<u>---SIGNIFICANCE--- (obi, marker, etc.)</u>
Bone Springs	1210	8.5		500	marker
Wolfcamp	1680	9.0			marker
B/Permian Shale	1810	9.0			objective pay
U. Penn	2050	9.0		5000	objective pay

2. **See (1) above.**

If any unexpected water or mineral bearing zones are encountered, they will be reported, evaluated, and protected as circumstances and regulations require.

3. **Pressure Control Equipment:**

9 5/8" Surface: 11" 3M annular tested to 200#/2000#, 11" 3M dual rams, choke manifold and mud cross, tested to 300#/3000#.

Auxiliary Equipment:

Surface Hole: Annular or rotating head w/air rig.

Intermediate Hole: N/A

Production Hole: Flow indicator, PVT, H₂S Sensors, air packs, stroke counter, rotating head.

BOP systems will be consistent with API RP 53. Blowout preventers will be installed and tested prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers and casing will be pressure tested before drilling casing cement plugs.

Upper and lower kelly cocks with valve handle and safety valve and subs to fit all drillstring connections in use will be available on rig floor.

Test Frequency

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Smith Federal #2

1. When installed.
2. Anytime a pressure seal is broken (test confined only to affected equipment).
3. At least every 20 days.
4. Blind and pipe rams shall be activated each trip but not more than once/day.

4. Casing and Cement Program:

<u>---DEPTH---</u>	<u>SECTION</u>	<u>HOLE</u>	<u>CSG</u>	<u>WT.</u>	<u>THREADS</u>	<u>NEW</u>
<u>FROM TO</u>	<u>LENGTH</u>	<u>SIZE</u>	<u>SIZE</u>	<u>PPF</u>	<u>GRADE COUPLINGS</u>	<u>USED</u>
0 1200'	1200'	12.25"	9.625"	36	K-55 8rd, STC	New
0 2800'	2800'	8.75"	7"	23	K-55 8rd, LTC	New
2800' 7550'	4750'	8.75"	7"	26	K-55 8rd, LTC	New

<u>Casing</u>	<u>DV</u>	<u>Stg.</u>	<u>Lead</u>	<u>Amt</u>	<u>Type</u>	<u>Yield</u>	<u>Wt.</u>	<u>TOC</u>	<u>Additives</u>
<u>String</u>	<u>Dpth</u>		<u>Tail</u>	<u>SXS</u>	<u>Cement</u>	<u>CF/SX</u>	<u>PPG.</u>		
9.625"	None	1	L	200	"C" Neat	1.51	14.6	Surf	10% Gel, 3% CaCl ₂ , 1/4# cello
9.625"			T	200	"C" Neat	1.32	14.8	Surf	2% CaCl, 1/4# cello
7"	±5600'	1	L	270	"H" Lite	1.28	15.3	5600'	5 pps Silica, .6% Halad 9, 3% salt, 3 pps Gilsonite
7"		2	L	525	65:35 POZ	1.91	12.6	5500'	5 pps, salt, 3 pps Gilsonite, 4% Gel, 1/4 pps Cello
7"		2	T	100	"C" Neat	1.32	14.8	±1000'	

Each stage will be preceded by an appropriate mud flush. Actual production hole volumes will be based on the caliper volume plus 15% excess.

Centralizer Program:

9 5/8" Conventional centralizers. Bottom 3 joints and every fourth joint to surface.

7" Conventional centralizers middle of 1st joint, then every joint to 7500', and 1 centralizer every 4th joint thereafter to 1100'.

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Smith Federal #2

5. Mud Program:

---DEPTH---		MUD TYPE	WEIGHT		WL	ADDITIVES	VISUAL MONTR.
FROM	TO		(PPG)	VIS	CC		
0	1200'	air/mist	N/A	N/A	N/A	Soap for mist	Reserve
1200'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H ₂ S Scavenger	Reserve
5000'	7000'	cut brine	9.0	32-36	N/C	Saturated brine	Reserve
7000'	7550'	cut brine	9.0	32-36	<20	Salt gel, starch, caustic	Steel Pits

Sufficient quantities of additives will be on location to maintain above mud properties for any anticipated well conditions.

6. Logging, Testing & Coring Programs:

LOG/TEST/CORE/MUDLOG/OTHER	--INTERVAL--		REMARKS
	FROM	TO	
DLL/MSFL/GR/CNL/LDT/CAL	TD	5000'	
LDT/CNL/GR/CAL	TD	surf casing	
MUD LOGGER	6000'	TD	ROP, Lithology, Gas Analysis, Chromatograph
NO CORES OR DST'S			

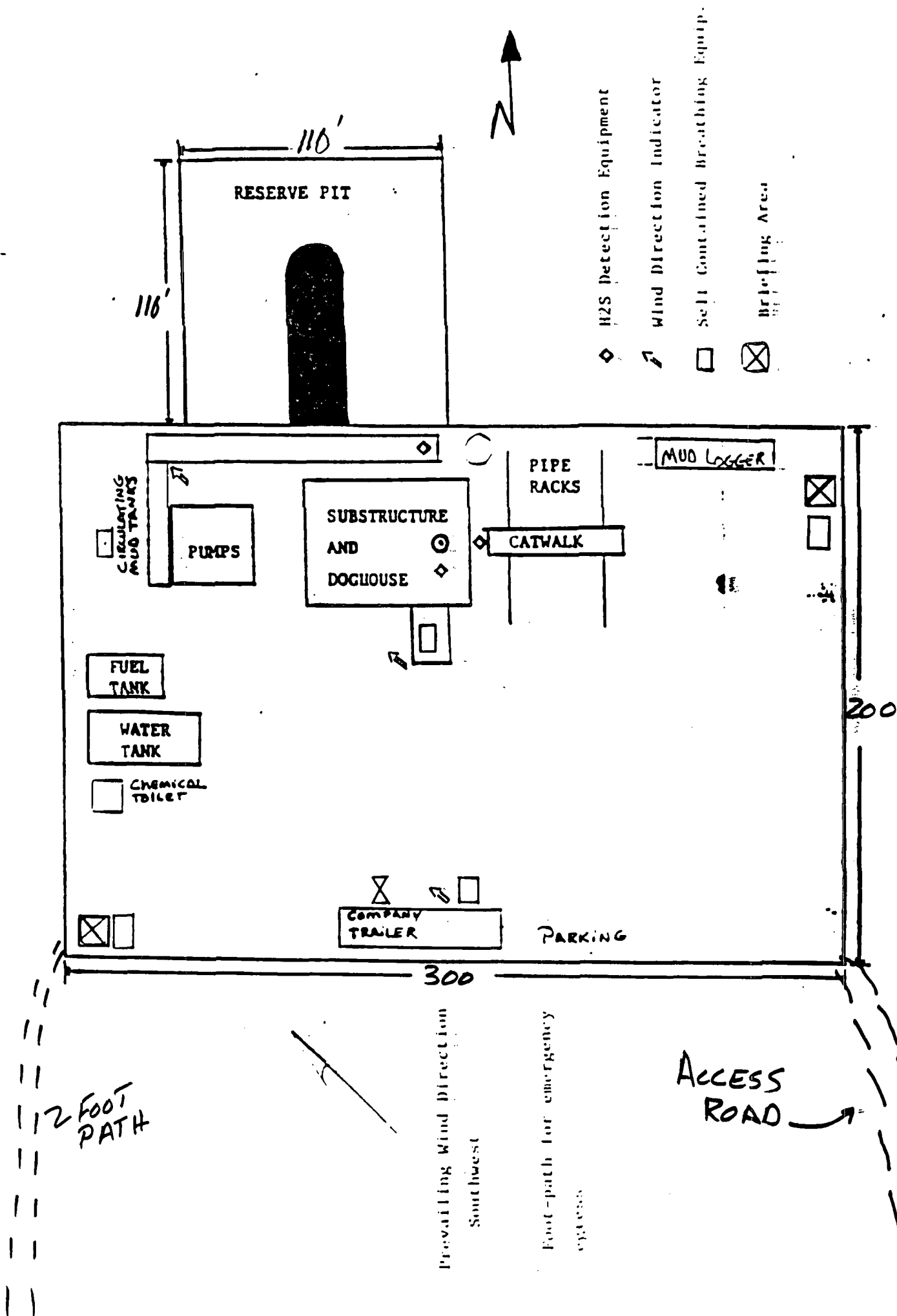
7. Abnormal Pressures, Temperatures or Potential Hazards:

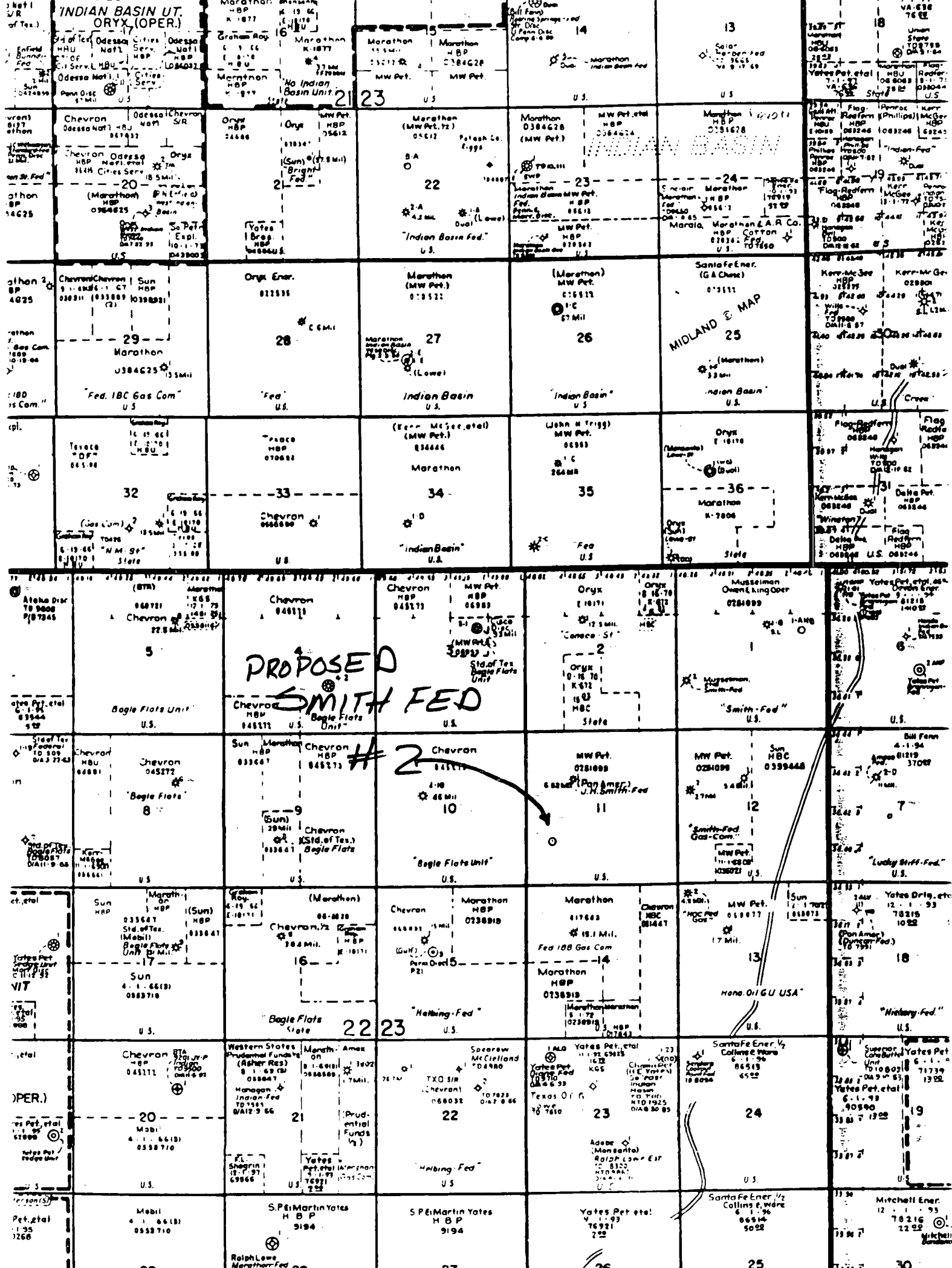
None anticipated. Possible H₂S in Cisco & Upper Penn. See H₂S Drilling Operations Plan.

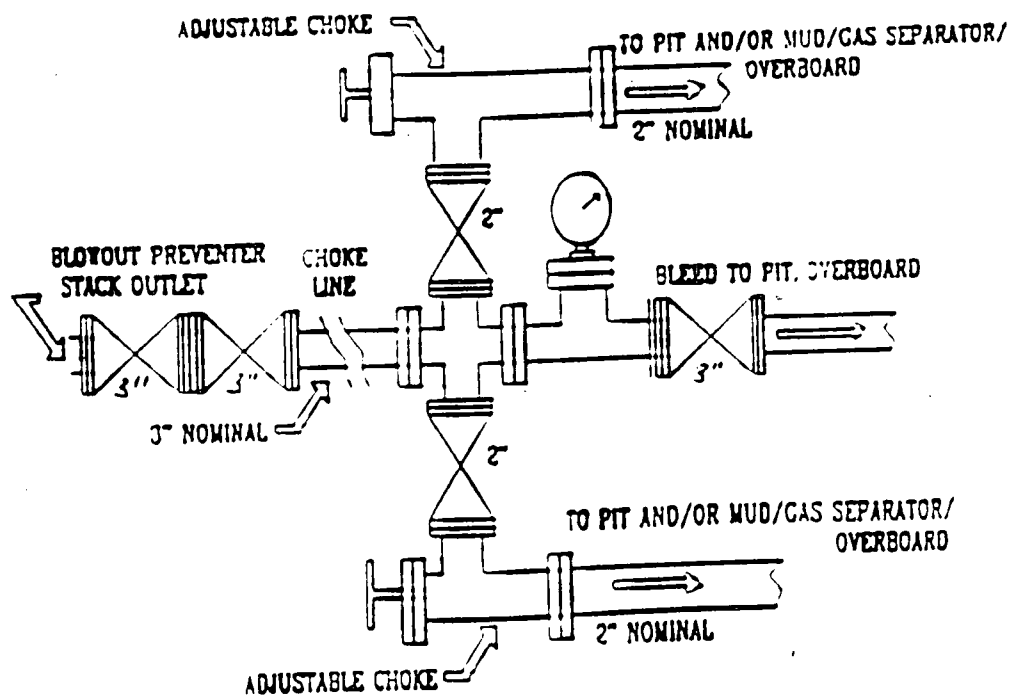
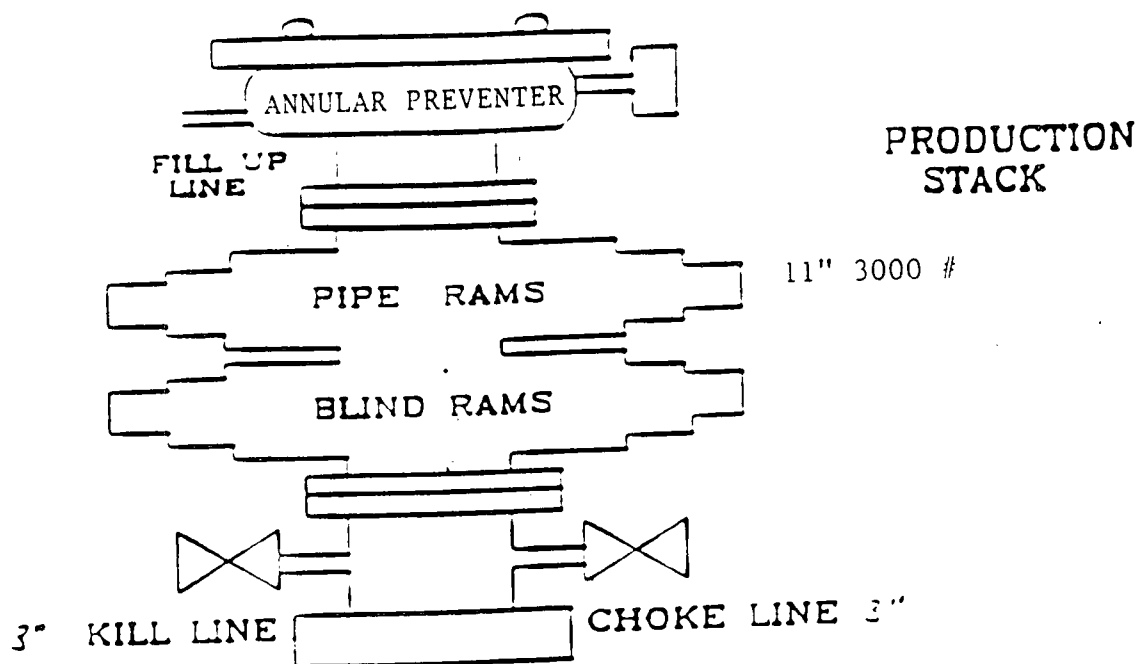
8. Other Information:

Anticipated Starting Date: As soon as possible.

Duration of Well: drilling - 18 days, completion - 10 days.







MARATHON OIL COMPANY

H2S DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All contractors and subcontractors employed by Marathon Oil Company will receive or have received training from a qualified instructor within the last twelve months in the following areas prior to commencing drilling operations on this well.

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. Safety precautions
3. Operations of safety equipment and life support systems

In addition, contractor supervisory personnel will be trained or prepared in the following areas:

1. The effect of H₂S on metal components in the system. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-down procedures when drilling or reworking a well, blowout prevention and well control procedures, if the nature of work performed involves these items.
3. The contents and requirements of the contingency plan when such plan is required.

All personnel will be required to carry documentation of the above training on their person.

II. H2S EQUIPMENT AND SYSTEMS

1. Safety Equipment

The following safety equipment will be on location.

- A. Wind direction indicators as seen in attached diagram.
- B. Automatic H₂S detection alarm equipment (both audio and visual).
- C. Clearly visible warning signs as seen on the attached diagram. Signs will use the words "POISON GAS" and "CAUTION" with a strong color contrast.
- D. Protective breathing equipment will be located in the dog house and at briefing areas as seen in the attached diagram.

2. WELL CONTROL SYSTEMS

A. Blowout Prevention Equipment

Equipment includes but is not limited to:

- a. pipe rams to accomodate all pipe sizes
- b. blind rams
- c. choke manifold
- d. closing unit

Auxillary equipment added as appropriate includes:

- a. annular preventor _____
- b. rotating head _____
- c. mud- gas separator _____
- d. flare line and means of ignition _____
- e. remote operated choke _____

B. Communication

The rig contractor will be required to have two-way communication capability. Marathon Oil Company will have either land-line or mobile telephone capabilities.

C. Mud Program

The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices, and the use of H₂S scavengers when appropriate will minimize hazards when penetrating H₂S bearing zones.

D. Drill Stem Test intervals are as follows:

DST No. 1	_____ ft. to _____ ft.
DST No. 2	_____ ft. to _____ ft.
DST No. 3	_____ ft. to _____ ft.

Drill Stem Testing Safety Rules are attached.

III. WELL SITE DIAGRAM

A complete well site diagram including the following information is attached.

- 1. Rig orientation
- 2. Terrain
- 3. Briefing areas
- 4. Ingress and egress
- 5. Pits and flare lines
- 6. Caution and danger signs
- 7. Wind indicators and prevailing wind direction

BOREHOLE COMPENSATED

SCHUMBERGER

SONIC LOG

SCHUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

ARTESIA OFFICE COPY

COMPANY PAN AMERICA PETROLEUM CORPORATION

F-11-223722c

WELL J.H. SMITH #1

FIELD INDIAN BAY

COUNTY EDDY STATE NEW MEXICO

LOCATION 1650' FROM N/L
1650' FROM W/L

W/L 1650'

Sec. 7 Twp. 22S Rge. 23E

Other Services:
ELL, ML

nt Datum: GL
Measured From: KB
Elev. N.A.
Fl. Above Perm. Datum

Elev. K.B. 2971
D.F. 3980
G.I.

Driller 7720

Logger 7705

Interval 769'

Driller 7720

Logger 7705

Interval 769'

Driller 7720

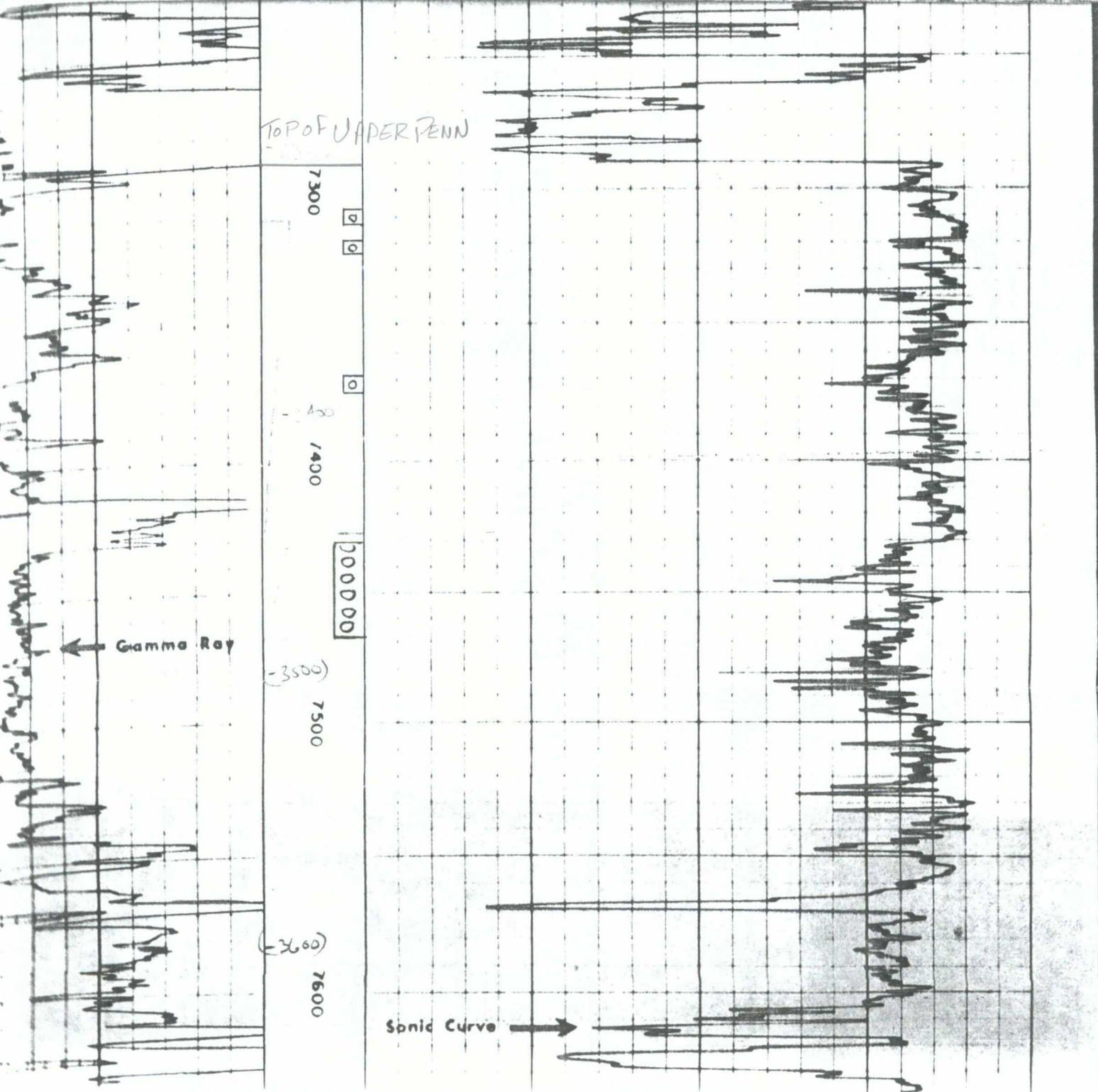
Logger 7705

Interval 769'

Driller 7720

Logger 7705

RECEIVED
JUL 10 - 1965
NEW MEXICO



CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

08/15/97 12:36:18
OGOMES - EMEW
PAGE NO: 1

Sec : 11 Twp : 22S Rng : 23E Section Type : NORMAL

D 40.00 Federal owned	C 40.00 Federal owned	B 40.00 Federal owned	A 40.00 Federal owned
E 40.00 Federal owned	F 40.00 Federal owned A	G 40.00 Federal owned	H 40.00 Federal owned

PF01 **HELP**
PF07 **BKWD**

PF02
PF08 **FWD**

PF03 **EXIT**
PF09 **PRINT**

PF04 **GoTo**
PF10 **SDIV**

PF05
PF11

PF06
PF12

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

08/15/97 12:36:29
OGOMES - EMEW
PAGE NO: 2

Sec : 11 Twp : 22S Rng : 23E Section Type : NORMAL

L 40.00 Federal owned A	K 40.00 Federal owned	J 40.00 Federal owned	I 40.00 Federal owned
M 40.00 Federal owned	N 40.00 Federal owned	O 40.00 Federal owned	P 40.00 Federal owned

PF01 HELP
PF07 BKWD

PF02
PF08 FWD

PF03 EXIT
PF09 PRINT

PF04 GoTo
PF10 SDIV

PF05
PF11

PF06
PF12

CMD :
OG6C101

ONGARD
C101-APPLICATION FOR PERMIT TO DRILL

08/15/97 13:21:22
OGOMES -EMEW

OGRID Idn : 14021 API Well No: 30 15 29789 APD Status(A/C/P): A
Opr Name, Addr: MARATHON OIL CO Aprvl/Cncl Date : 08-07-1997
PO BOX 552
MIDLAND, TX 79702

Prop Idn: 16958 SMITH FEDERAL Well No: 2

	U/L	Sec	Township	Range	Lot	Idn	North/South	East/West
	---	---	-----	-----	---	---	-----	-----
Surface Locn : L	11	22S	23E				FTG 1465 F S	FTG 800 F W
OCD U/L : L		API	County	15				

Work typ(N/E/D/P/A) : N Well typ(O/G/M/I/S/W/C): G Cable/Rotary (C/R) : R
Lease typ(F/S/P/N/J/U/I): F Ground Level Elevation : 3952

State Lease No: Multiple Comp (Y/N) : N
Prpsd Depth : 7550 Prpsd Frmtn : UPPER PENN

E0009: Enter data to modify record

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 PRINT	PF10 C102	PF11 HISTORY	PF12

POOL

Indian Basin - Upper Pennsylvanian Gas

TOWNSHIP 22 South

RANGE 23 East

NMPM

A 36x36 grid with numbers 1-36 in the top row and 1-36 in the bottom row. The grid is divided into four quadrants by a vertical line between columns 18 and 19 and a horizontal line between rows 18 and 19. A 4x4 block of cells, spanning rows 15-18 and columns 15-18, is shaded gray.

Ext: All Sec. 1 thru 5; All Sec. 8 thru 11 (R-2911, 6-1-65) - All Sec. 12 & 16 (R-3030, 2-1-66)
- All Secs. 13, 14 & 15 (R-3051, 4-1-66) - All Sec. 17 (R-3104, 9-1-66) -
- $\frac{N}{2}$ & $\frac{N}{2}$ $\frac{N}{2}$ $\frac{N}{2}$ $\frac{5}{2}$ Sec. 21 (R-4014, 9-1-70) - All Sec. 22 (R-4258, 3-1-72)