

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE\*  
(Other instructions on  
reverse side)

FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1999

Division

459

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

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

1570' FNL & 1750' FEL  
At proposed prod. zone

1570' FNL & 1750' FEL

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 drilg. unit line, if any) 1570'

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

1888'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

640

19. PROPOSED DEPTH

9600'

20. ROTARY OR CABLE TOOLS

Rotary

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

3875' G.L.

22. APPROX. DATE WORK WILL START\*

7/15/01

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12.25"	9-5/8" K-55	36#	1200'	500 sks.
8.750"	7.0" K-55	23#/26#	9600'	1280

Carlsbad Controlled Water Basin

Marathon is proposing to drill a Indian Basin Morrow well to 9600'

This well is Non-Standard to the 330' Governmental Quarter/ Quarter Section line or the subdivision inner boundary. Location stake falls outside the 330' Quarter/ Quarter boundary.

Due to Topographical surface constraints and cut and fill location stake could not be moved.

NSL-

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

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

TITLE Engineer Tech.

DATE 3/28/01

(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

/S/ JOE G. LARA

TITLE

Acting FIELD MANAGER

DATE

JUN 05 2001

\*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.

APPROVAL FOR 1 YEAR

RECEIVED  
MAR 30 2001  
BLM  
ROSWEIL, NM

121 JOE G. LARA

**DISTRICT IV**  
**P.O. BOX 2088, SANTA FE, N.M. 87504-2088**

**Energy, Minerals and Natural Resources Department**

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

Fee Lease - 3 Copies

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☒ AMENDED REPORT





API Number		Pool Code		Pool Name	
Property Code		Property Name Indian Basin			Well Number
		FEDERAL "C" 35			4
OGRID No.		Operator Name			Elevation
14021		MARATHON OIL COMPANY			3875'

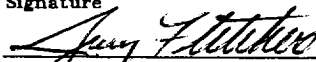

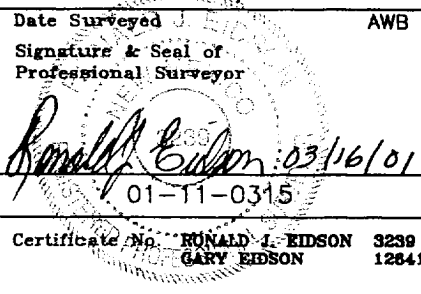
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	35	21-S	23-E		1570	NORTH	1750	EAST	EDDY

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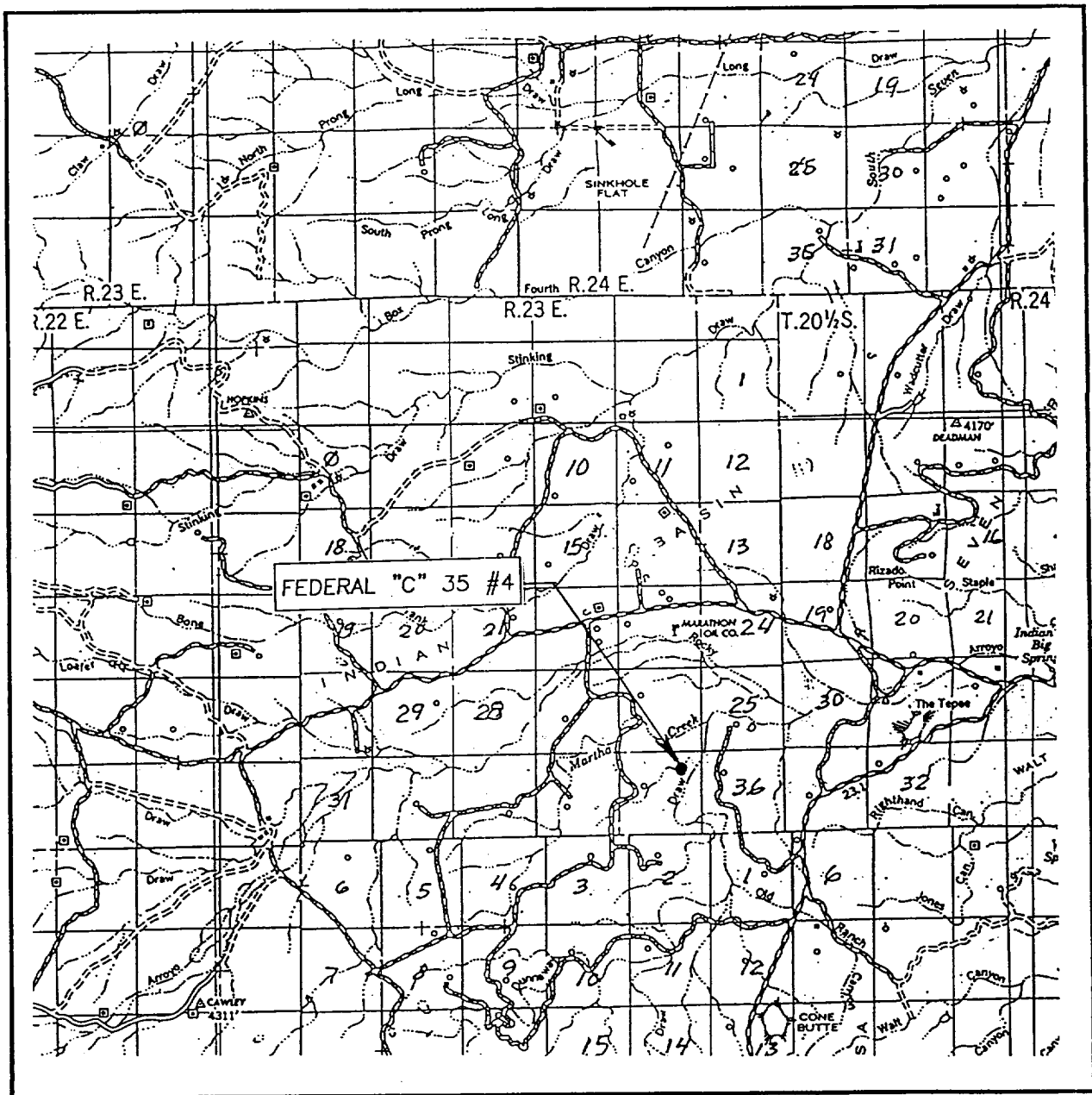
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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

	Fed. C-35 # 1 		
		Fed. C-35 # 3 	
Fed. C-35 #2 			

<h3>OPERATOR CERTIFICATION</h3> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p>	
Jerry Fletcher Signature  Printed Name Engineer Tech. Title 3/28/01 Date	
<h3>SURVEYOR CERTIFICATION</h3> <p>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.</p> <p>MARCH 14, 2001</p>	
Date Surveyed Signature & Seal of Professional Surveyor  01-11-0315	AWB 
Certificate No. RONALD L. EIDSON 3239 GARY EIDSON 12641	

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 35 TWP. 21-S RGE. 23-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1570'FNL & 1750'FEL

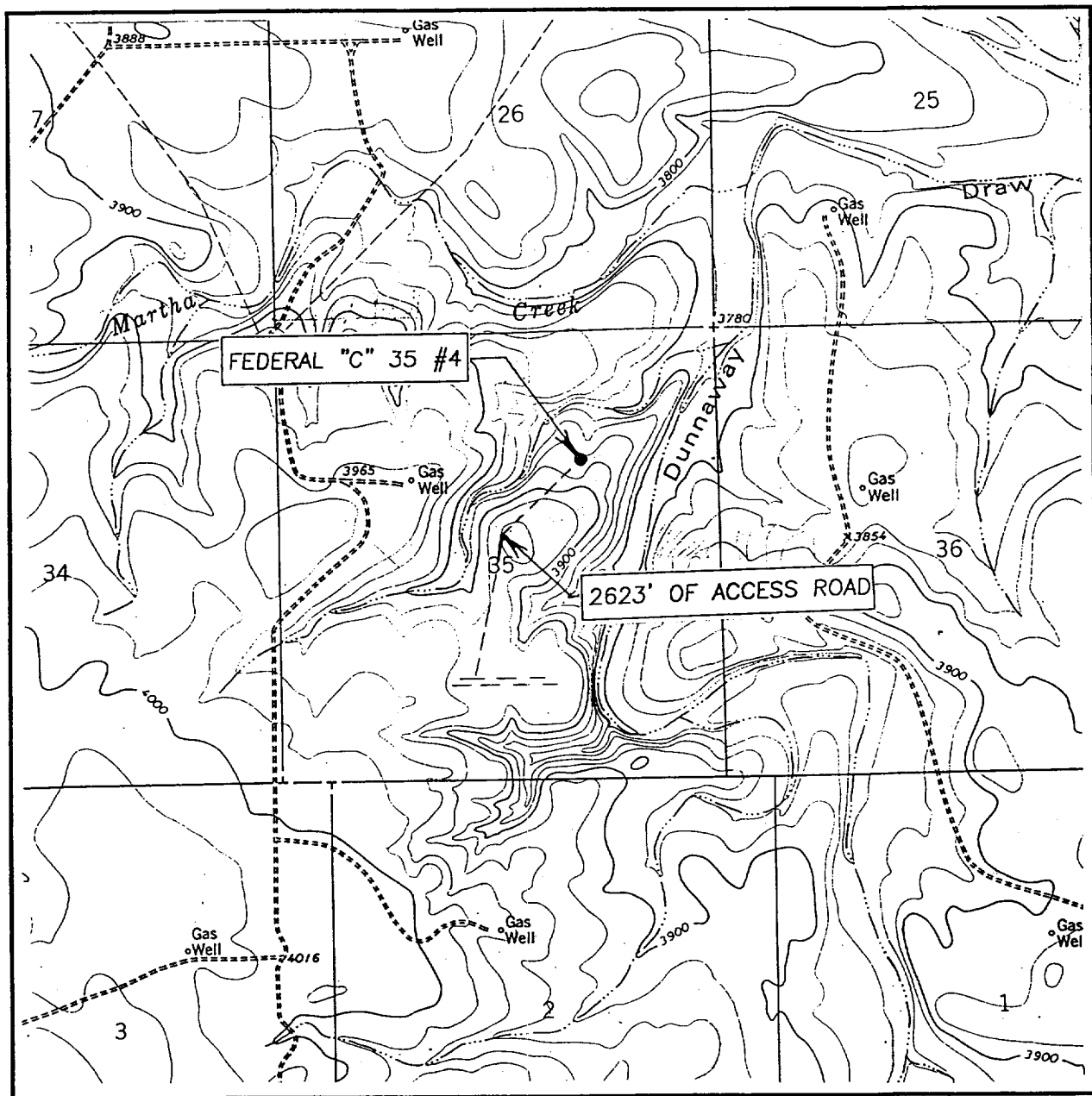
ELEVATION 3875'

OPERATOR MARATHON OIL COMPANY

LEASE FEDERAL "C" 35

JOHN WEST SURVEYING  
HOBBS, NEW MEXICO  
(505) 393-3117

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 20'

MARTHA CREEK N.M.

SEC. 35 TWP. 21-S RGE. 23-E

SURVEY \_\_\_\_\_ N.M.P.M.

COUNTY \_\_\_\_\_ EDDY

DESCRIPTION 1570'FNL & 1750'FEL

ELEVATION 3875'

OPERATOR MARATHON OIL COMPANY

LEASE FEDERAL "C" 35

U.S.G.S. TOPOGRAPHIC MAP  
MARTHA CREEK N.M.

JOHN WEST SURVEYING  
HOBBS, NEW MEXICO  
(505) 393-3117

[illegible]

**Thirteen Point Surface Use Plan**  
**MARATHON OIL COMPANY**

**Federal "C" 35 # 4**  
**Sec. 35, T-21-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 11 miles. Turn left on ( NM)137. Go 6 miles West. Turn right on Marathon Road (401). Follow (401) 5.2 miles, turn South on wide caliche road, follow .8 mile, turn East follow .5 mile, take Right "Y" follow 1.9 miles to the Federal "C" 35 # 2 access road on left. Follow access road East .3 mile to new access road on left, follow ½ mile to 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 State roads, lease roads, and .5 mile of new access road. Construction plans will require blading and rolling the road and pad. The access road enters the drilling pad on the Northwest corner. The drilling location will have the rig V-door facing West.

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 seven oil and gas wells operated by Marathon, Santa Fe, and Kerr McGee within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon, Santa Fe and Kerr McGee operate a variety of dehydrators, meter runs, and several gathering lines in the one-mile radius.
- b. New Facilities : No new facilities are proposed at this time. The power line and flowline will be permitted on a separate action .
- c. Rehabilitation of disturbed areas no longer needed for operations will be accomplished by grading, leveling and seeding as recommended.

5. Location and Type of Water Supply:

- a. Source: Indian Basin Gas Plant, NE/4 Sec. 23, T-21-S, R-23-E.
- b. The water will be transported by a trucking contractor or via Fas-line from an existing water well or other storage facility. If Fas-line is used it will be placed along existing roads and or ROW's.
- c. No water well will be drilled on this location.

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Federal "C" 35 # 4**

6. Source of Construction Materials:

- a. Construction materials may be obtained from the construction site.
- 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. If any topsoil is present, it 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).

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 hauled away immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible.



**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Federal "C" 35 # 4**

- b. The soil banked material will be spread over the area. Revegetation will be accomplished by planting mixed grasses as per formula provided by the 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 clean up 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 completion rig is removed. Removal of oil or other adverse substances will begin immediately or the area will be flagged and fenced. Other clean up will be done as needed. Planting and revegetation will be done between July 15 and September 15.
- f. All efforts will be made to minimize surface disturbances and protect the visual resources along the scenic byway.

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 3 miles.
- e. General location: Approximately 15 miles Northwest of Carlsbad, New Mexico.
- f. Drainage: Internal
- g. Surface Owner: The surface is owned by the Bureau of Land Management.
- h. Due to proximity of the location and nearby drainage, Marathon will make every effort to minimize surface disturbance. Please see the location pad and reserve pit dimensions.

12. Operator Representatives:

R. J. Longmire  
Drilling, Completion, & Workover Superintendent  
P. O. Box 552  
Midland, TX 79702  
800/351-1417  
915/682-1626  
915/687-8344 (Direct Line)  
915/495-2336 (Pager)

13. Certification:

A. P. D. (cont.)  
Thirteen Point Surface Use Plan  
Federal "C" 35 # 4

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.

3/28/01.  
Date

  
R. J. Longmire

**DRILLING PROGRAM**  
**MARATHON OIL COMPANY**  
**Federal "C" 35 # 4**

1. Estimated KB Elevation: 3891' KB

<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	+3891'	535'	+3356'	water
San Andres	535'	+3356'	2073'	+1818'	water
Glorietta	2073'	+1818'	2355'	+1671'	
Yeso	2220	+1671'	3710	+181'	
Bone Spring	3710'	+181'	5860	-1969'	oil gas
Tubb	5860	-1969'	6010'	-2119'	
Wolfcamp	6010'	-2119'	7385'	-3494'	oil gas
Cisco	7385'	-3494'	7550	-3659'	
Canyon	7550'	-3659'	8665'	-4774'	
Atoka	8665'	-4774'	8947	-5056'	gas
Morrow	8947	-5056'	9600	-5709'	gas
T.D.	9600	-5709'	9600	-5709'	

<u>Formation</u>	<u>PSIG</u>	<u>PPG EMW</u>	<u>DEG f</u>	<u>H2S PPM</u>	<u>(obj, marker, etc.)</u>
Bone Springs	1210	8.5		500	marker
Wolfcamp	1680	8.5		5000	marker
Morrow	3460	9.2		0	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:**

4. 9-5/8" Surface: 11" 3M annular tested to 200 psi /2000 psi, 11" 3M dual rams, choke manifold and mud cross, tested to 300psi/3000psi

Auxiliary Equipment:

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

Intermediate Hole: N/A

Production Hole: Flow indicator, PVT, H<sub>2</sub>S Sensors, air packs, stroke counter, rotating head.

BOP systems will be consistent with API RP 53. Blowout preventers will be installed and pressure 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 will be recorded on the daily drilling report. 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.

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Federal "C" 35 # 4**

Test Frequency

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"	9-5/8"	36.00#	K-55 8rd, STC	New
0 4800'	4800'	8.750"	7.00"	23.00#	K-55 8rd, LT&C	New
4800' 9600'	4800'	8.750"	7.00"	26.00#	K-55 8rd, LT&C	New

<u>Casing</u>	<u>DV</u>		<u>Lead</u>	<u>Amt</u>	<u>Type</u>	<u>Yield</u>	<u>Wt.</u>		<u>Additives</u>
<u>String</u>	<u>Depth</u>	<u>Stg.</u>	<u>Tail</u>	<u>SXS</u>	<u>Cement</u>	<u>CF/SX</u>	<u>PPG.</u>	<u>TOC</u>	
9.625"	none	1	L	350	"C"	2.02	12.4	surf.	5# /Sk.Gilsonite,2% Cacl1/4# cello
9.625"	none		T	150	"C Neat	1.34	14.8	800'	2% Cacl, 1/4# cello
7.0"	6300'	1	L	340	Prem.	1.44	13.0	5600'	Foamers, N2
7.0"		2	L	840	Interfill "C"	2.47	11.9		1/4pps Cello,3pps Gilsonite,0.2% Halad 322
7.0		2	T	100	"C" Neat	1.32	14.8	6000'	N/A

Each stage will be predated by an appropriate mud flush. Actual production hole volumes will be based on the caliper Volume plus 25% excess.

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Federal "C" 35 # 4**

Centralizer Program

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

7.0" Conventional centralizers middle of 1<sup>st</sup> joint, then every joint to 7500', and 1 cent. Every 4<sup>th</sup> joint thereafter to 9600'

5. Mud Program

---DEPTH---			WEIGHT		WL		VISUAL
FROM	TO	MUD TYPE	(PPG)	VIS	CC	ADDITIVES	MONTR.
0	1200'	fresh water	8.3	28	N/A	Gel, Lime	Reserve
1200'	7800'	fresh	8.5	28-32	N/C	Gel, caustic, H <sub>2</sub> S Scavenger	Reserve
7800'	8200'	Cut Brine	9.0	32-36	>20	Gel, Starch, Caustic	Steel Pits
8200'	9600'	Cut Brine	9.0	32-36	> 20	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:

<u>LOG/TEST/CORE/MUDLOG/OTHER</u>	<u>--INTERVAL--</u>		<u>REMARKS</u>
	<u>FROM</u>	<u>TO</u>	
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:

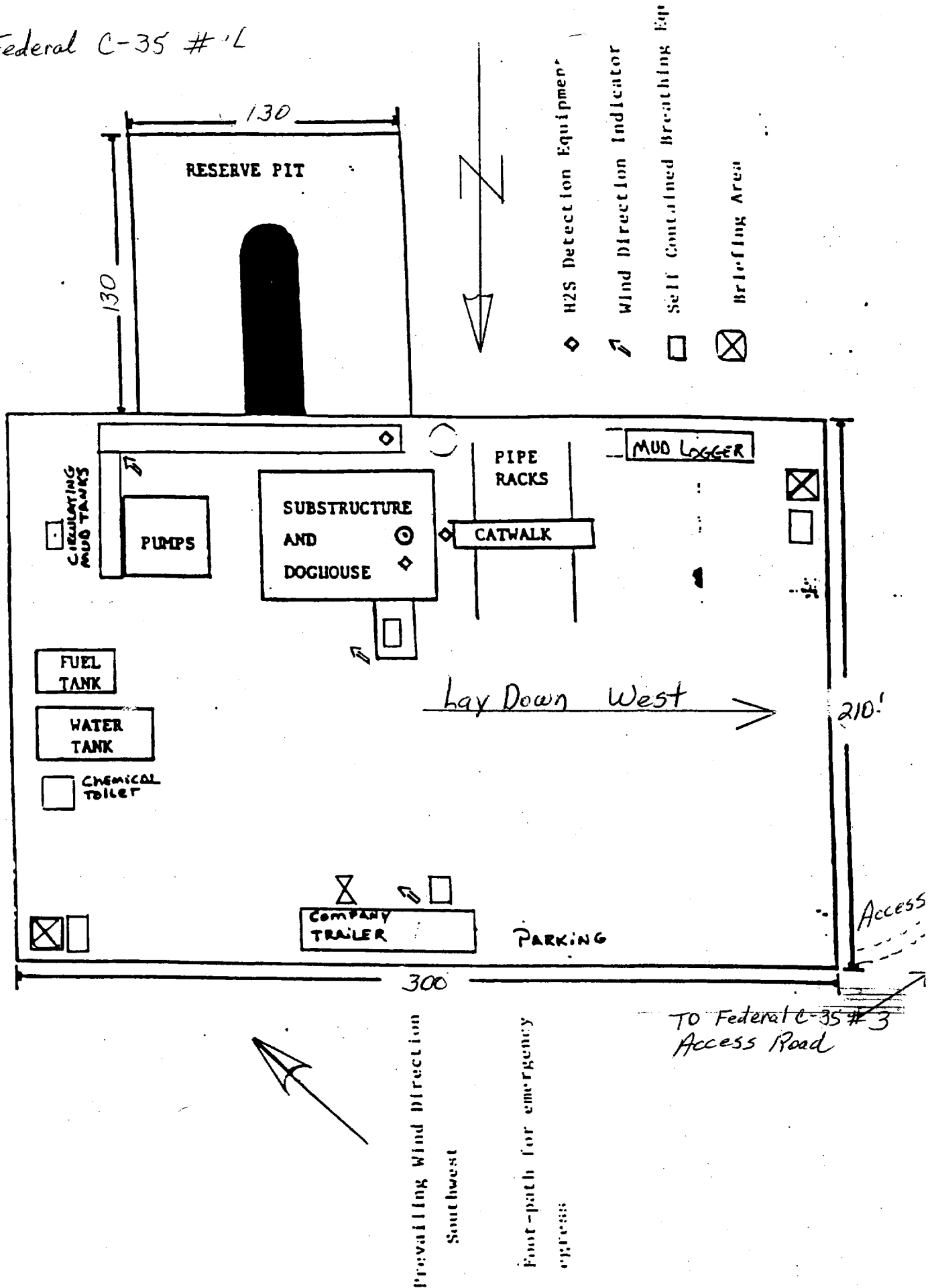
None anticipated. Possible H<sub>2</sub>S in Cisco & Upper Penn. See H<sub>2</sub>S Drilling Operations Plan.

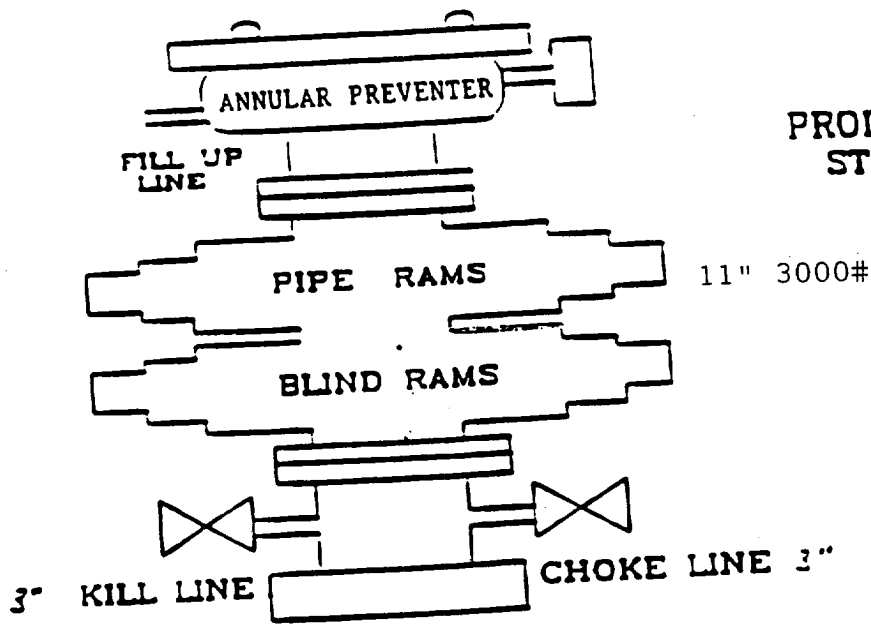
8. Other Information:

Anticipated Starting Date: As soon as possible.

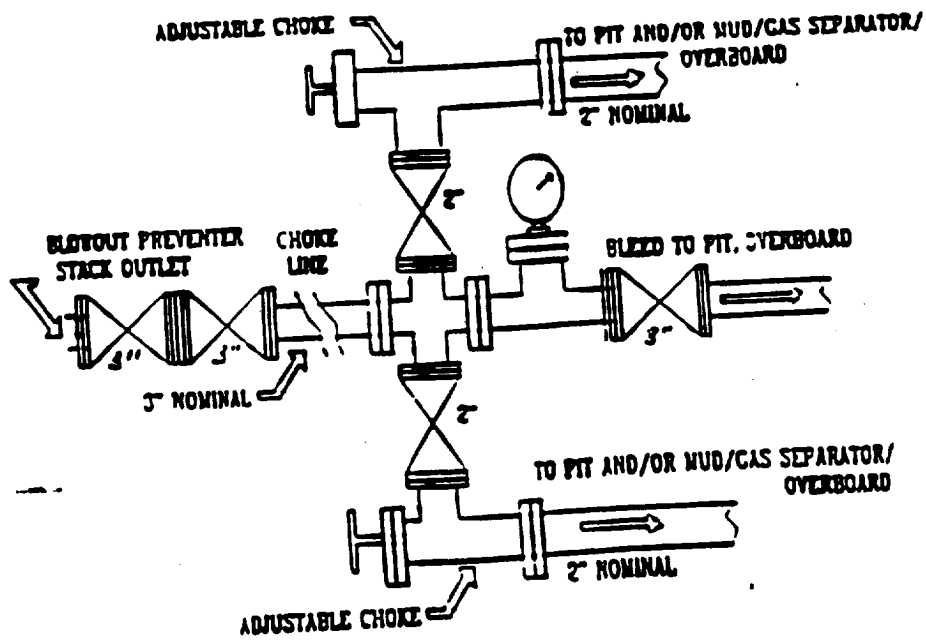
Duration of Well: drilling - 24 days, completion - 10 days.

Federal C-35 #1L





PRODUCTION  
STACK



# 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 (H<sub>2</sub>S)
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 H<sub>2</sub>S 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. H<sub>2</sub>S 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 H<sub>2</sub>S 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

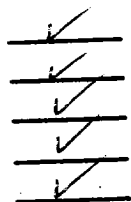
### A. Blowout Prevention Equipment

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 H<sub>2</sub>S circulated to surface. Proper mud weight, safe drilling practices, and the use of H<sub>2</sub>S scavengers when appropriate will minimize hazards when penetrating H<sub>2</sub>S 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