

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. 7-Dist. 2  
1301 W. Grand Avenue  
Alameda, NM 88210  
FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK  
DRILL ☒ DEEPEN ☐

b. TYPE OF WELL  
OIL WELL ☐ GAS WELL ☒ OTHER ☐

2. NAME OF OPERATOR  
Marathon Oil Company 14021

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  
806' FNL & 1010' FEL  
At proposed prod. zone  
Same as above 339' S & 1148' E Sec 21 per SN

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) 806'

16. NO. OF ACRES IN LEASE  
640

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.  
1100'

19. PROPOSED DEPTH  
9600'

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
3654' G.L.

22. APPROX. DATE WORK WILL START\*  
ASAP

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
N/A

7. UNIT AGREEMENT NAME  
Indian Hills Unit 6409

8. FARM OR LEASE NAME, WELL NO.  
Indian Hills Unit #45

9. API WELL NO.  
30-015-32338

10. FIELD AND POOL, OR WILDCAT  
Indian Basin Upper Penn Assoc.  
Indian Basin Morrow Gas Pool

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
Sec. 28, T-21-S, R-24-E

12. COUNTY OR PARISH  
Eddy

13. STATE  
N.M.

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'	440 sks.
8.750"	7" K-55	23# 26#	9600'	1280 sks.

Carlsbad Controlled Water Basin

Marathon is proposing to drill a Straight hole w/ Upper Penn/ Morrow BHL targets.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

NSL-4750CBHL (SD)

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 Jerry Fletcher TITLE Engineer Tech. DATE 2/22/02  
(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 FIELD MANAGER DATE JUN 04 2002

\*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

BUREAU OF LAND MGMT.  
ROSSELL OFFICE

2002 MAR - 1 AM 10:49

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Oil Cons.  
N.M. Div-Dist 2  
1301 W. Grand Avenue  
Artesia, NM 88210

FORM APPROVED  
OMB NO. 1004-0135  
Expires: November 30, 2000

3. Lease Serial No.  
NM-08293-A

6. Indian Land Allottee or Tribe Name

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well  
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator  
Marathon Oil Company

3a. Address  
P.O. Box 552 Midland, TX 79702

3b. Phone No. (include area code)  
915-687-8357

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
Surface in Section 28 T-21-S, R-24-E 806' FNL & 1010' FEL  
BHL in Section 21, T-21-S, R-24-E 339' FSL & 1148' FEL  
Eddy Co. N.M.

N/A

7. If Unit or CA/Agreement, Name and/or No.  
Indian Hills Unit

8. Well Name and No.  
Indian Hills Unit 45

9. API Well No.

10. Field and Pool, or Exploratory Area  
Indian Basin U. P. Assoc.

11. County or Parish, State  
Eddy N.M.

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Marathon Oil Company is proposing to drill the Indian Hills Unit # 45 to a directional NON STANDARD Upper Penn Assoc. BHL target.

Please see attached new C-102 acreage dedication plat and the directional plan survey.

The casing and cementing program remains unchanged at this time.

14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)  
Jerry Fletcher

Title  
Engineer Tech.

Date 5/16/02

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

/s/ JOE G. LARA

Title  
FIELD MANAGER

Date JUN 04 2002

Conditions of approval, if any, are attached. Approval of this notice 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.

Office  
CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, 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.



# Marathon Oil Company

Structure : INDIAN HILLS UNIT 45

Slot : slot #1

Field : INDIAN BASIN

Location : Eddy County New Mexico

Created By Kellym

Date plotted : 16-May-2002

Plot Reference is PU 2DU RH .

Coordinates are in feet reference slot #1.

True Vertical Depths are reference rotary table.

JHU45

--- Baker Hughes INTEQ ---

Approved By: \_\_\_\_\_

Title: \_\_\_\_\_

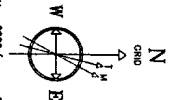
Date: \_\_\_\_\_

Point	MD	Inc	Dip	TVD	North	East	V. Sect	Deg/100
Top on	0.00	0.00	353.12	0.00	0.00	0.00	0.00	0.00
KOP	3500.00	0.00	353.12	3500.00	0.00	0.00	0.00	0.00
End of Build	4502.21	15.03	353.12	4490.75	129.79	-15.65	130.73	1.50
Target TOP OF UPPER PE	7514.55	15.03	353.12	7400.00	905.50	-109.20	912.06	0.00
T.D. & End of Drop	8446.44	15.03	353.12	8300.00	1145.45	-138.13	1153.75	0.00

Kick off Point - 0.00 Inc, 3500.00 Md, 3500.00 Tvd, 0.00 Vs

DLS: 1.50 deg per 100 ft

End of Build - 15.03 Inc, 4502.21 Md, 4490.75 Tvd, 130.73 Vs



Magnetic North is 8.17 deg East of True North  
GRID North is 0.00 degrees West of True North  
To correct azimuth from Magnetic to GRID add 8.17 deg

## STRUCTURE SET-UP REFERENCE

LAT : 32 27 19.812 N

LONG: 104 29 49.8 W

X = 449465.2 Y = 529464.4

PROJECTION: MERCATOR

Mercator Zone: New Mexico East

Spheroid Used: Clarke - 1866

Data Source: BGCW

Dip Angle: 60.46 deg

Field Strength: 49633.54 nT

T.D. & End of Drop - 8300.00 Tvd, 1145.45 N, 138.13 W

TOP OF UPPER PENN

Target - 7400.00 Tvd, 905.50 N, 109.20 W

VS REF 353.12 DEGS AZI

< - North (feet)

< - West (feet)

Vertical Section (feet) ->

TOP OF UPPER PENN  
Target - 15.03 Inc, 7514.55 Md, 7400.00 Tvd, 912.06 Vs

T.D. & End of Drop - 15.03 Inc, 8446.44 Md, 8300.00 Tvd, 1153.75 Vs

Azimuth 353.12 with reference 0.00 N, 0.00 E from slot #1



INTEQ

Marathon Oil Company  
INDIAN HILLS UNIT 45

slot #1  
INDIAN BASIN  
Eddy County New Mexico

P R O P O S A L L I S T I N G

by  
Baker Hughes INTEQ

Your ref : P0 2DU RH  
Our ref : Prop3294  
License :

Date printed : 16-May-2002  
Date created : 15-May-2002  
Last revised : 16-May-2002

Field is centred on n32 30 0.000,w104 30 0  
Structure is centred on 449465.200,529464.400,999.00000,N

Slot location is n32 27 19.812,w104 29 49.800  
Slot Grid coordinates are N 529464.400, E 449465.200  
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866  
Reference North is Grid North

Marathon Oil Company  
INDIAN HILLS UNIT 45, slot #1  
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 1  
Your ref : P0 2DJ RH  
Last revised : 16-May-2002

Measured Depth	Inclin Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect	G R I D E a s t i n g	C O O R D S N o r t h i n g
0.00	0.00	353.12	0.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40 <i>Surface</i>
500.00	0.00	353.12	500.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40
1000.00	0.00	353.12	1000.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40
1500.00	0.00	353.12	1500.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40
2000.00	0.00	353.12	2000.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40
2500.00	0.00	353.12	2500.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40
3000.00	0.00	353.12	3000.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40
3500.00	0.00	353.12	3500.00	0.00N 0.00E	0.00	0.00	449465.20	529464.40
3600.00	1.50	353.12	3599.99	1.30N 0.16W	1.50	1.31	449465.04	529465.70
3700.00	3.00	353.12	3699.91	5.20N 0.63W	1.50	5.23	449464.57	529469.60
3800.00	4.50	353.12	3799.69	11.69N 1.41W	1.50	11.77	449463.79	529476.09
3900.00	6.00	353.12	3899.27	20.77N 2.51W	1.50	20.92	449462.69	529485.17
4000.00	7.50	353.12	3998.57	32.44N 3.91W	1.50	32.68	449461.29	529496.84
4100.00	9.00	353.12	4097.54	46.69N 5.63W	1.50	47.03	449459.57	529511.09
4200.00	10.50	353.12	4196.09	63.50N 7.66W	1.50	63.96	449457.54	529527.90
4300.00	12.00	353.12	4294.16	82.87N 9.99W	1.50	83.47	449455.21	529547.27
4400.00	13.50	353.12	4391.70	104.78N 12.64W	1.50	105.54	449452.56	529569.18
4500.00	15.00	353.12	4488.62	129.22N 15.58W	1.50	130.15	449449.62	529593.62
4502.21	15.03	353.12	4490.75	129.79N 15.65W	1.50	130.73	449449.55	529594.19
5000.00	15.03	353.12	4971.50	257.97N 31.11W	0.00	259.84	449434.09	529722.37
5500.00	15.03	353.12	5454.39	386.73N 46.64W	0.00	389.53	449418.56	529851.13
6000.00	15.03	353.12	5937.28	515.48N 62.17W	0.00	519.22	449403.03	529979.88
6500.00	15.03	353.12	6420.17	644.24N 77.69W	0.00	648.91	449387.51	530108.64
7000.00	15.03	353.12	6903.06	773.00N 93.22W	0.00	778.60	449371.98	530237.40
7500.00	15.03	353.12	7385.94	901.75N 108.75W	0.00	908.29	449356.45	530366.15

All data in feet unless otherwise stated. Calculation uses minimum curvature method.  
Coordinates from slot #1 and TVD from rotary table.  
Bottom hole distance is 1153.75 on azimuth 353.12 degrees from wellhead.  
Vertical section is from N 0.00 E 0.00 on azimuth 353.12 degrees.  
Grid is mercator - New Mexico East (3001).  
Grid coordinates in FEET and computed using the Clarke - 1866 spheroid  
Presented by Baker Hughes INTEQ

Marathon Oil Company  
 INDIAN HILLS UNIT 45, slot #1  
 INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 2  
 Your ref : P0 2DJ RH  
 Last revised : 16-May-2002

Measured Depth	Inclin Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect	G R I D Easting	C O O R D S Northing	
7514.55	15.03	353.12	7400.00	905.50N	109.20W	0.00	912.06	449356.00	530369.90 Top of Upper Penn.
8446.44	15.03	353.12	8300.00	1145.45N	138.13W	0.00	1153.75	449327.07	530609.85 T.D.

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 1153.75 on azimuth 353.12 degrees from wellhead.

Vertical section is from N 0.00 E 0.00 on azimuth 353.12 degrees.

Grid is mercator - New Mexico East (3001).

Grid coordinates in FEET and computed using the Clarke - 1866 spheroid

Presented by Baker Hughes INTEQ

Marathon Oil Company  
INDIAN HILLS UNIT 45, slot #1  
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 3  
Your ref : P0 2DJ RH  
Last revised : 16-May-2002

Comments in wellpath  
=====

MD	TVD	Rectangular Coords.	Comment
7514.55	7400.00	905.50N	109.20W TOP OF UPPER PENN

Targets associated with this wellpath  
=====

Target name	Geographic Location	T.V.D.	Rectangular Coordinates	Revised
TOP OF UPPER PENN	449356.000, 530369.900, -925596	7400.00	905.50N	109.20W 15-May-2002



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

OIL CONSERVATION DIVISION

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 33685	Pool Name Indian Basin Upper Penn. Assoc. Pool
Property Code	Property Name INDIAN HILLS UNIT	Well Number 45
OGRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3654'

Surface Location

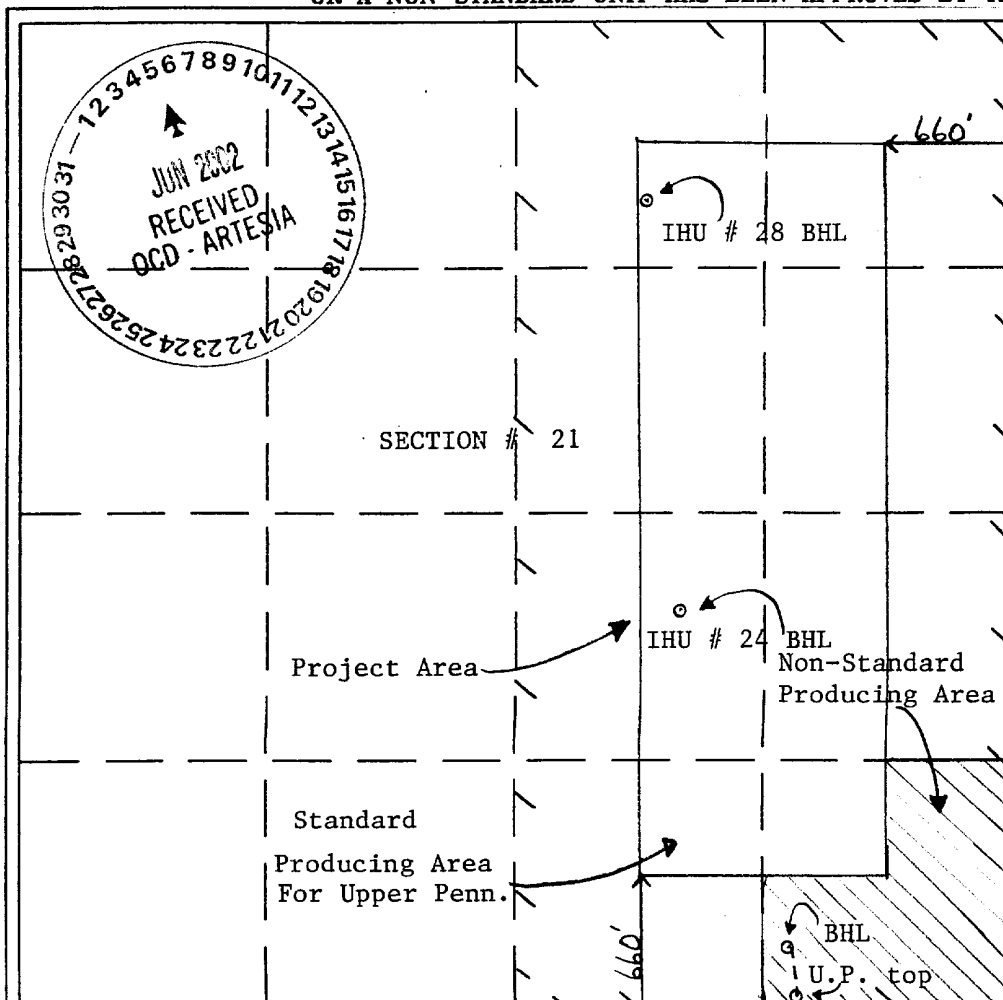
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	21-S	24-E		806	NORTH	1010	EAST	EDDY

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
P	21	21-S	24-E		339	SOUTH	1148	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320 E/2	298.02		

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 the the information contained herein is true and complete to the best of my knowledge and belief.

*Jerry Fletcher*  
Signature

Jerry Fletcher  
Printed Name

Engineer Tech.  
Title

5/16/02  
Date

SURVEYOR CERTIFICATION

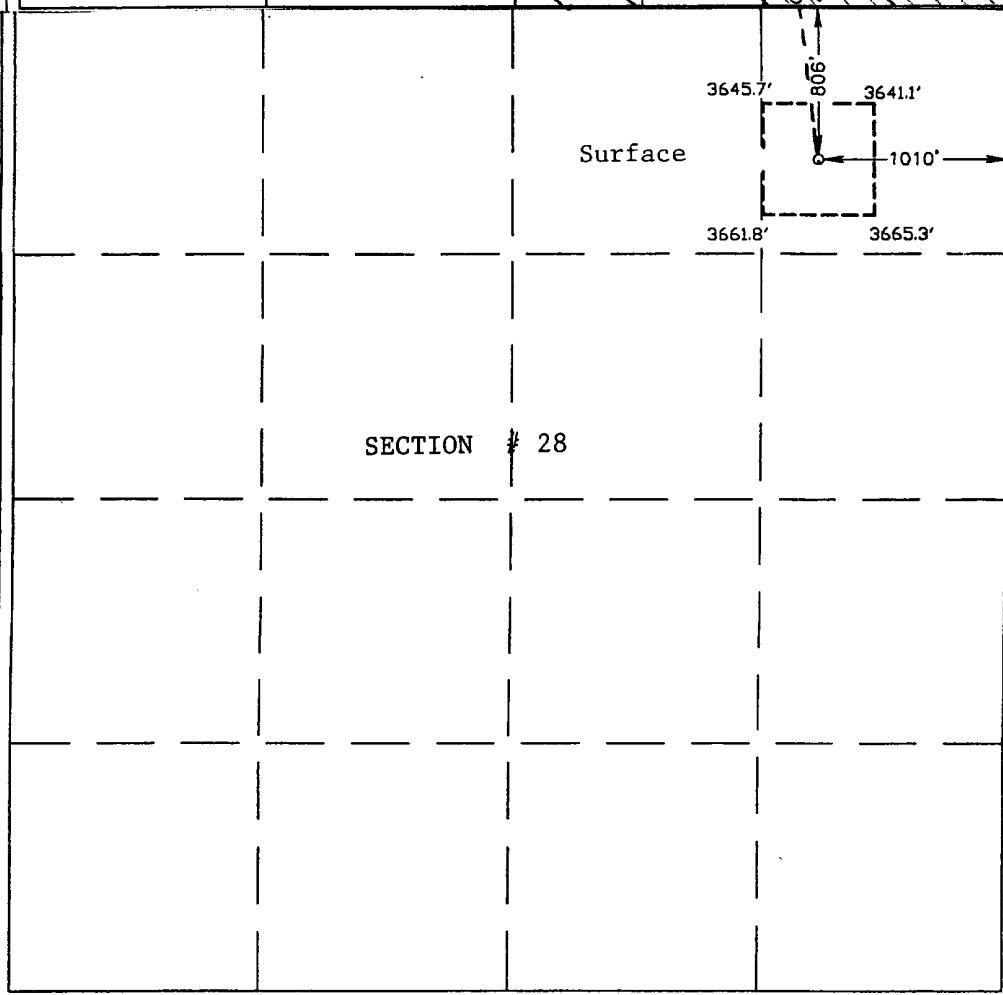
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JANUARY 29, 2002

Date Surveyed AWB

*Ronald J. Edson*  
Signature & Seal of Professional Surveyor  
02.11.0089

Certificate No. RONALD J. EDSON 3239  
GARY EDSON 12841



OPERATOR CERTIFICATION

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

*Jerry Fletcher*  
Signature

Jerry Fletcher  
Printed Name

Engineer Tech.  
Title

5/16/02  
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.

JANUARY 29, 2002

Date Surveyed AWB

*Ronald J. Edson*  
Signature & Seal of Professional Surveyor  
02.11.0089

Certificate No. RONALD J. EDSON 3239  
GARY EDSON 12841

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

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

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

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 33685	Pool Name Indian Basin Upper Penn. Assoc.
Property Code	Property Name INDIAN HILLS UNIT	Well Number 45
OGRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3654'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	21-S	24-E		806	NORTH	1010	EAST	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 320 N/2	Joint or Infill	Consolidation Code	Order No.						

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

<p>Producing Area</p> <p>Project Area</p> <p>IHU # 10</p> <p>IHU # 17</p> <p>IHU # 19</p> <p>IHU # 20</p> <p>IHU # 24 SHL</p> <p>IHU # 34</p> <p>3645.7'</p> <p>3641.1'</p> <p>3661.8'</p> <p>3665.3'</p> <p>660'</p> <p>806'</p> <p>1010'</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Jerry Fletcher</i> Signature</p> <p>Jerry Fletcher Printed Name</p> <p>Engineer Tech. Title</p> <p>2/20/02 Date</p> <p><b>SURVEYOR CERTIFICATION</b></p> <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>JANUARY 29, 2002</p> <p>Date Surveyed</p> <p>AWB</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p><i>Ronald J. Eidson</i> RONALD J. EIDSON 02.11.0089 9/31/02</p> <p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12841</p>
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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  
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Santa Fe, New Mexico 87504-2088

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1000 Rio Brazos Rd., Aztec, NM 87410

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 78960	Pool Name Indian Basin Morrow Gas Pool
Property Code	Property Name INDIAN HILLS UNIT	Well Number 45
OGRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3654'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	21-S	24-E		806	NORTH	1010	EAST	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 320 N/2	Joint or Infill	Consolidation Code	Order No.
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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

<p>Well within 1/2 mile Buffer Zone for Indian Basin Morrow Gas Pool</p> <p>Producing Area</p> <p>Project Area</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Jerry Fletcher</i> Signature Jerry Fletcher Printed Name Engineer Tech. Title 2/20/02 Date</p> <p><b>SURVEYOR CERTIFICATION</b></p> <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>JANUARY 29, 2002</p> <p>Date Surveyed Signature &amp; Seal of Professional Surveyor Professional Surveyor Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641</p>
--	--

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

**INDIAN HILLS UNIT #45**  
**Sec. 28, T-21-S, R-24-E**  
**806' FNL & 1010' FEL**  
**Eddy County, New Mexico**

1. Existing Roads: Refer to Vicinity Lease Map.
  - a. The proposed well site 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. Follow 1.4 miles to access road on north side of county road, turn north follow lease road 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.

288 feet of new access road will be required. Construction plans will require blading and rolling the road and pad. The access road enters the drilling pad on the Southwest corner. The drilling location will have a 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 eight oil and gas wells operated by Marathon and Santa Fe within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon and Santa Fe 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.
  - 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. No new construction will be required on/along the water route. If a poly line is utilized for water transport it will run along an existing ROW.
  - c. No water well will be drilled on this location.

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit #45**

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 tool pusher.
  
9. Well site Layout:
  - a. The well pad layout shows the drill site layout as staked. 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).
  
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.
  - b. The soil banked material will be spread over the area. Re-vegetation will be accomplished by planting mixed grasses as per formula provided by the BLM. Re-vegetation is recommended for road area, as well as around the drill pad.

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit #45**

- 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 completion 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 re-vegetation 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 well site 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 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 Patricia Shafer Life Estate ET AL.
- 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  
Direct Line 915/687-8344

13. Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the proposed drill site 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

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit #45**

contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

2/26/02.

Date

R. J. Longmire

R. J. Longmire

**DRILLING PROGRAM**  
**MARATHON OIL COMPANY**  
**INDIAN HILLS UNIT #45**

1. Estimated KB Elevation: 3670' KB G.L. 3654'

<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	+3658'	650'	+3008'	water
San Andres	650'	+3008'	2250'	+1408'	water
Glorietta	2250'	+1408'	2355'	+1303'	
Delaware	3300'	+358'	4300'	- 642'	
Bone Spring	4300'	-642'	5950'	-2292'	oil gas
Wolfcamp	5950'	-2292'	7520'	-3862'	oil gas
B/Permian Shale	7520'	-3862'	7530'	-3872'	
U. Penn	7530'	-3872'	8665'	-5142'	gas, oil, water
Atoka	8665'	-4995'	8947'	-5277'	gas, oil, water
Morrow	8947'	-5277'	9600'	-5930'	gas, oil
T.D.	9600'	-5930'	9600'	-5930'	

<u>FORMATION</u>	<u>---EST</u>	<u>SBHP---</u>	<u>EST</u>	<u>SBHT</u>	<u>H2S</u>	<u>---SIGNIFICANCE---</u> <u>(obj, marker, etc.)</u>
	<u>PSIG</u>	<u>PPG EMW</u>	<u>DEG f</u>	<u>PPM</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
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:**

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

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 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 drill string connections in use will be available on rig floor.



**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit # 45**

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:

---DEPTH---		SECTION	HOLE	CSG	WT.		THREADS		NEW
FROM	TO	LENGTH	SIZE	SIZE	PPF	GRADE	COUPLINGS		USED
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

Casing	DV		Lead	Amt	Type	Yield	Wt.		
String	Depth	Stg.	Tail	SXS	Cement	CF/SX	PPG.	TOC	Additives
9.625"	none	1	L	300	Foam Cmt.	1.78	11.2	100'.	
9.625"	none		T	140	"C Neat	1.35	14.8	900'	3% Cacl

NOTE: Pump 55 sks. Class "C" dn. Annulus W/ 3% CACL2, Yield: 1.35cf/sk, Density 14.8 ppg coverage, Surface To 100'.

This surface casing program has been approved by the OCD in Artesia by Mr. Tim Gum and Mr. Van Barton as of 11/29/01.

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	Surface	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 preceded 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**  
**Indian Hills Unit # 45**

5. <u>Mud Program</u>							
<u>---DEPTH---</u>			<u>WEIGHT</u>	<u>WL</u>			<u>VISUAL</u>
<u>FROM</u>	<u>TO</u>	<u>MUD TYPE</u>	<u>(PPG)</u>	<u>VIS</u>	<u>CC</u>	<u>ADDITIVES</u>	<u>MONTR.</u>
0	1200'	fresh water	8.3	28	N/A	Gel, Lime	Reserve
1200'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H <sub>2</sub> S Scavenger	Reserve
5000'	7000'	fresh	8.9	32-36	N/C	Gel, caustic, H <sub>2</sub> S Scavenger	Reserve
7000'	8800'	cut brine	9.0	32-36	<20	Gel, caustic, H <sub>2</sub> S Scavenger	Steel Pits
8800'	9600'	cut brine	9.0	32-36	<20	Gel ,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:

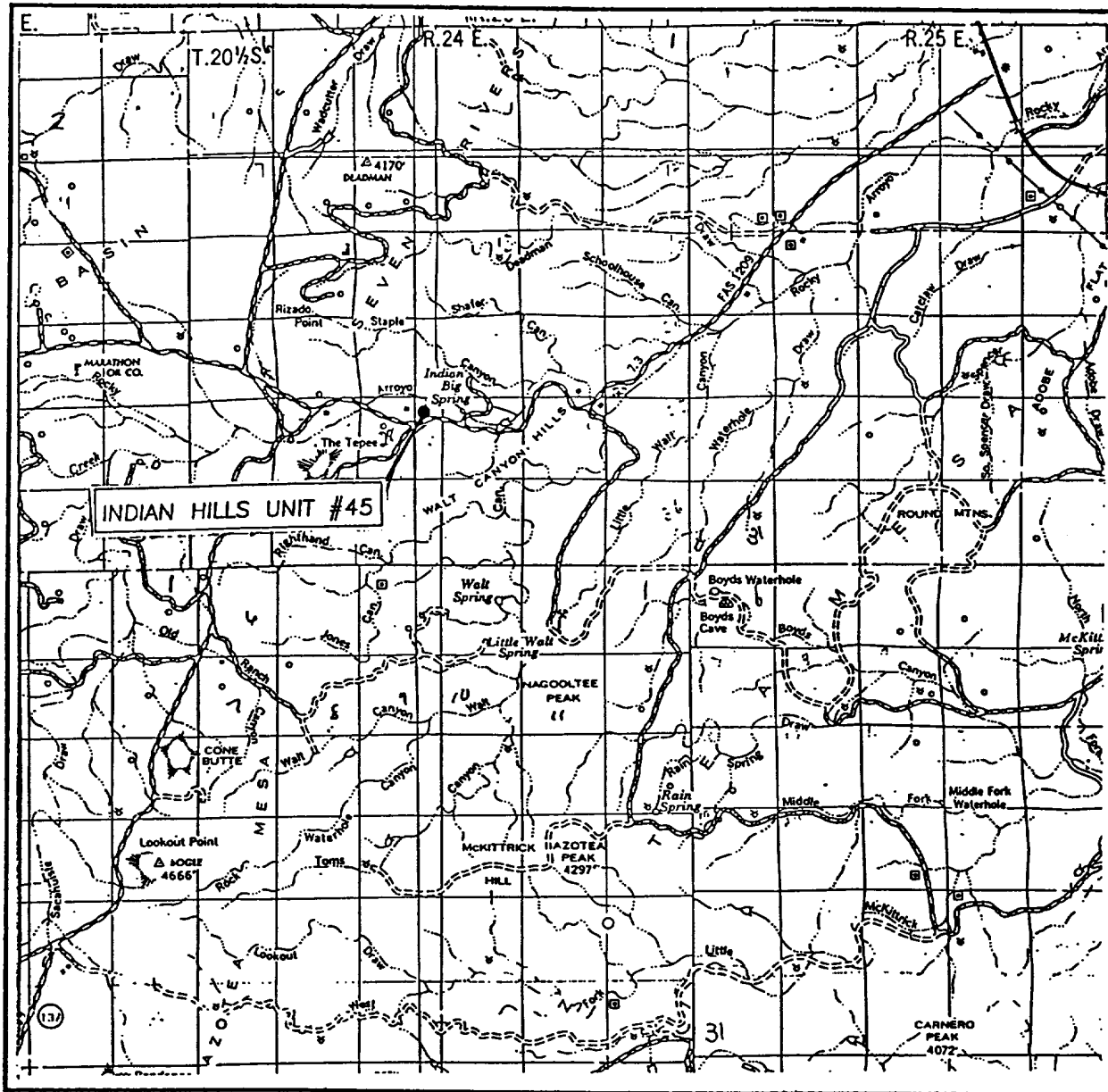
None anticipated. Possible H<sub>2</sub>S in Cisco & Upper Penn. See H<sub>2</sub>S Drilling Operations Plan.

8. Other Information:

Anticipated Starting Date: As soon as possible.

Duration of Well: drilling - 25 days, completion - 10 days.

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 28 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

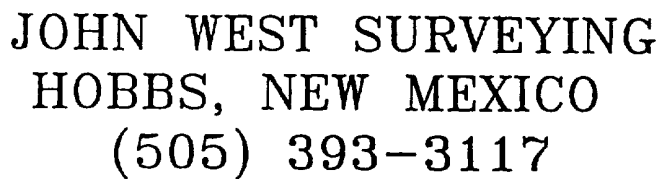
DESCRIPTION 806' FNL 1010' FEL

ELEVATION 3654'

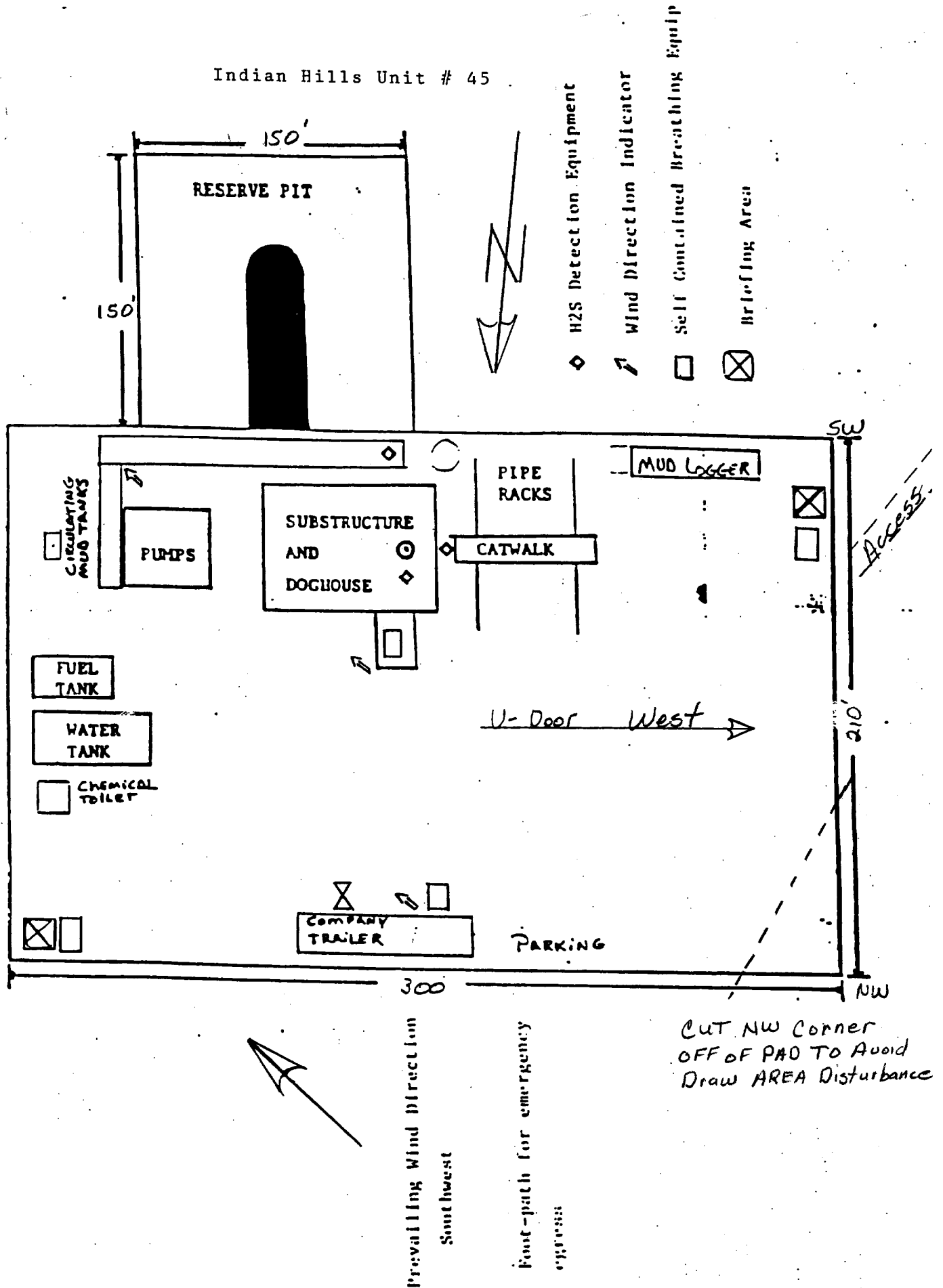
OPERATOR MARATHON OIL COMPANY

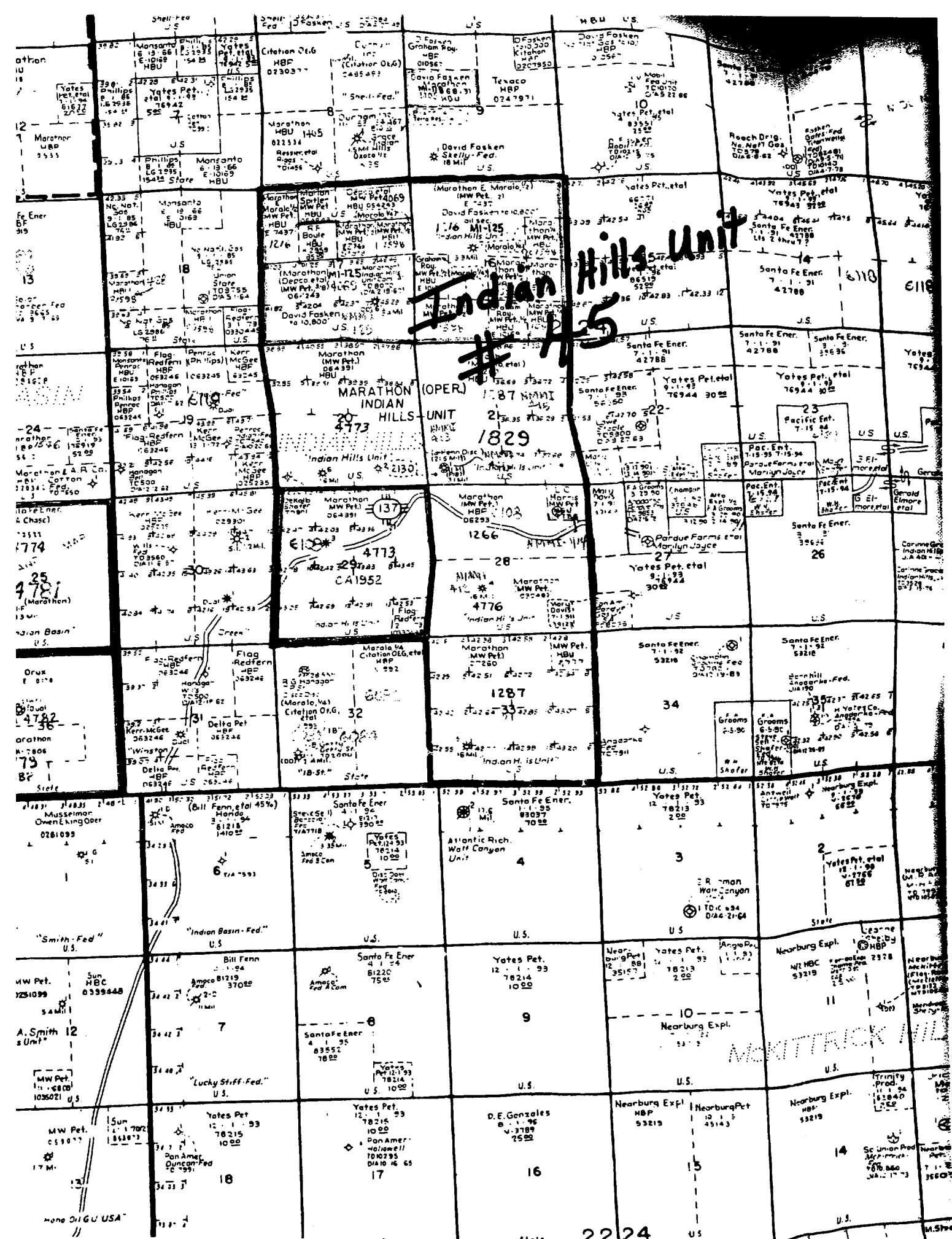
LEASE INDIAN HILLS UNIT

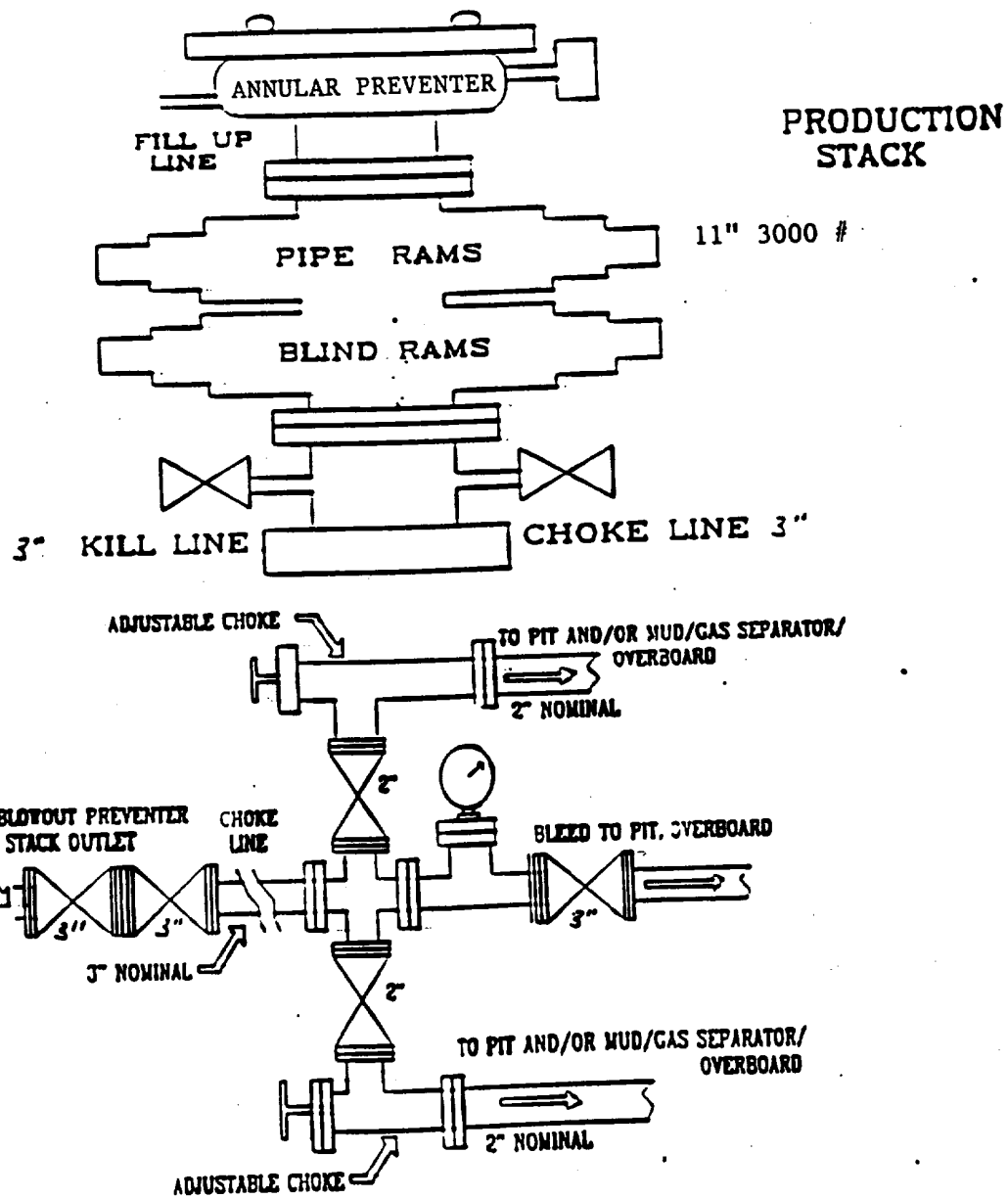
JOHN WEST SURVEYING  
HOBBS, NEW MEXICO  
(505) 393-3117



Indian Hills Unit # 45







# **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. 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 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

Southern U.S. Business Unit  
Domestic Production



**Marathon  
Oil Company**

P.O. Box 552  
Midland, TX 79702-0552  
Telephone 915/682-1626

March 19, 2002

Attn: Stacy Elizabeth Biebelle  
646 Queens Highway  
Carlsbad, NM 88220

Attn: Skipworth Hart Shafer  
2927 Pecos Highway  
Carlsbad, NM 88220

Re: Surface Damage Schedule  
N/2 Section 28, T-21-S, R-24-E, N.M.P.M.  
Eddy County, New Mexico

Dear Stacy and Skip:

Marathon Oil Company hereby offers the following amounts as compensation in relation to any surface disturbance that will be located on your privately owned surface in the above-described location for the Indian Hills Unit #45 only:

A. Drillsite Location	\$4,000.00
B. Roadway	\$15.00/rod
C. Pipeline	\$10.00/rod
D. Powerline	\$15.00/rod
E. Water	\$.25/barrel
F. Caliche	\$2.50/yard
G. Satellite Battery	\$1,500.00

If the amounts listed above are acceptable, please indicate so by signing in the space provided below and returning one (1) copy of this letter using the enclosed envelope. If there should happen to be any questions regarding this matter, please call the undersigned at 1-800-351-1417, extension 8312.

Very truly your,

A handwritten signature in cursive script, appearing to read 'Kerry Heerssen'.

Kerry Heerssen  
Landman

AGREED TO AND ACCEPTED this 25<sup>th</sup> day  
of March, 2002.

Stacy Elizabeth Biebelle

A handwritten signature in cursive script, appearing to read 'Stacy Elizabeth Biebelle'.

Skipworth Hart Shafer

A handwritten signature in cursive script, appearing to read 'Skipworth Hart Shafer'.