

N.M. Oil Cons. Div. Vol. 2  
1301 W. Central Avenue  
Alamogordo, NM 88210

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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 ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR  
Marathon Oil Company

3. ADDRESS AND TELEPHONE NO.  
P.O. Box 552 Midland, TX 79702 915/687-8357

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)  
At surface  
2316' FSL & 2004' FEL U.L. "J" Section 29, T-21-S, R-24-E  
At proposed prod. zone  
U.L. "P" 700' FSL & 700' FEL Section 29, T-21-S, R-24-E

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 drile unit line, if any) 2004'

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. \*150'

19. PROPOSED DEPTH  
8600'

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
3775' G.L. Carlsbad Controlled Water Basin

22. APPROX. DATE WORK WILL START\*  
ASAP

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	495 sks.
8.750	7.0" K-55	23# & 26#	8600'	1200 sks.

Marathon Oil Company is proposing to drill a directional well to the Indian Basin Upper Penn. Assoc. BHL target will be approximatley 700' FSL & 700' FEL in U.L. "P". Hard line will be 660' FSL & 660' FEL.

This well will share the Southern portion of the Indian Hills Unit Gas Com # 14 pad to minimize surface disturbance.

\* The Indian Hills Unit Gas Com. # 47 well stake is 150' South of the Existing Indian Hills Unit Gas Com # 14.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present production and proposed depth. 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 Sperry Fletcher TITLE Engineer Tech. DATE 4/8/02

(This space for Federal or State office use)

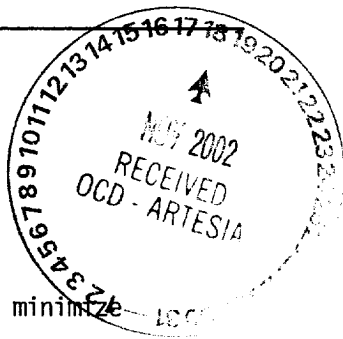
PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

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 NOV 18 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



18- JOE G. LARA

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APR 19 12

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

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)  
**915-687-8360**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**SHL @ U.L. "J" Sec. 29, T-21-S, R-24-E 2316' FSL & 2004' FEL**  
**BHL @ U.L. "P" Sec. 29, T-21-S, R-24-E 700' FSL & 700' FEL**

5. Lease Serial No.  
**NM-0330449**

6. If Indian, Allottee or Tribe Name  
**N/A**

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

8. Well Name and No.  
**Indian Hills Unit #47 Gas Com.**

9. API Well No.

10. Field and Pool, or Exploratory Area  
**Indian Basin U. Perm 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 recompleate 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 recompleation 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.)

Please find the new C-102 Well Location and Dedication Plat attached.

Please destroy the C-102 dated 4/20/02. This plat shows the BHL to be 740' FSL & 868' FEL. This Section is very irregular in size and therefore the footages are erroneous.

Please find the new C-102 attached. The new BHL is 700' FSL & 700' FEL just like the APD reflects. The BHL target was figured taking into consideration the irregular size of the Section.

Thank you

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

**Jerry Fletcher**

Title

**Engineer Tech.**

Date **10/14/02**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

**/S/ JOE G. LARA**

**FIELD MANAGER**

Date **NOV 18 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.

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 GAS COM	Well Number 47
GRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3775'

Surface Location

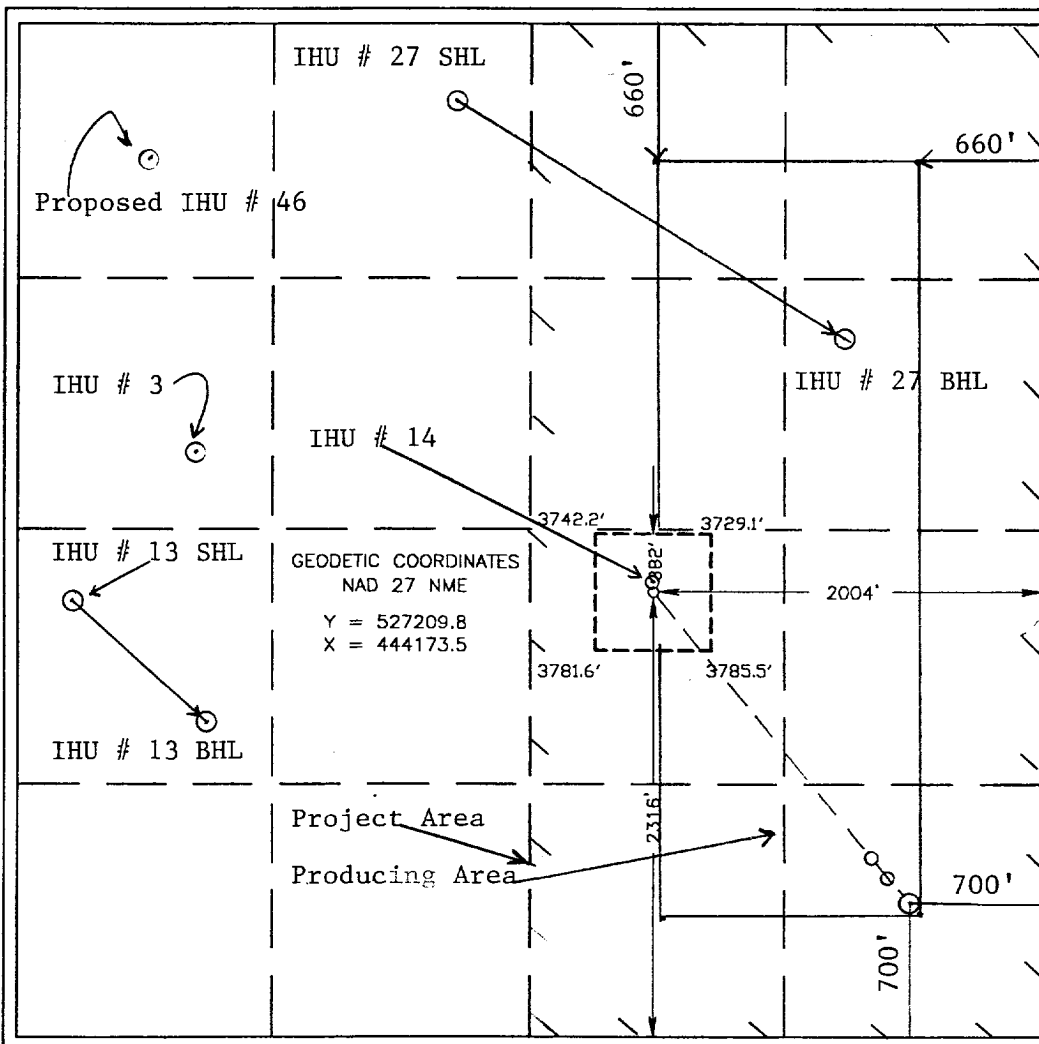
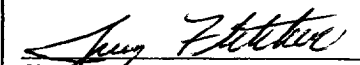
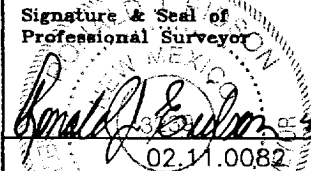
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	29	21-S	24-E		2316	SOUTH	2004	EAST	EDDY

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	29	21-S	24-E		700	SOUTH	700	EAST	EDDY

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

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><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the information contained herein is true and complete to the best of my knowledge and belief.</p> <p> Signature</p> <p>Jerry Fletcher Printed Name</p> <p>Engineer Tech. Title</p> <p>10/14/02 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>MARCH 25, 2002</p> <p>Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p> Professional Surveyor</p> <p>Certificate No. RONALD J. EIDSON 3239 CARY EIDSON 12641</p>		

UNIT STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. E  
1301 W. Grand Avenue  
Artesia, NM 88210

Dist. 2 FORM APPROVED  
OMB NO. 1004-0135  
Expires: November 30, 2000

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 <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NM-0330449
2. Name of Operator Marathon Oil Company		6. If Indian, Allottee or Tribe Name N/A
3a. Address P.O. Box 552 Midland, TX 79702	3b. Phone No. (include area code) 915/687-8357	7. If Unit or CA/Agreement, Name and/or No. Indian Hills Unit Gas Com.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ U.L. "J" Sec. 29, T-21-S, R-24-E 2316' FSL & 2004' FEL BHL @ U.L. "P" Sec. 29, T-21-S, R-24-E 740' FSL & 868' FEL		8. Well Name and No. Indian Hills Unit #47 Gas Com.
		9. API Well No.
		10. Field and Pool, or Exploratory Area Indian Basin Upper Penn.
		11. County or Parish, State Eddy N.M.

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

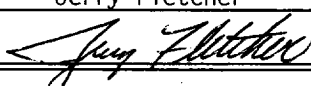
TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<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.)

Please find the attached new Rig plat as per Barry Hunts request.

Also find the Directional plan proposal for the Indian Hills Unit Gas Com. # 47.

A new C-102 plat is attached.

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Jerry Fletcher	Title Engineer Tech.
	Date 4/24/02

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by /S/ JOE G. LARA	Field Manager	Date NOV 18 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	

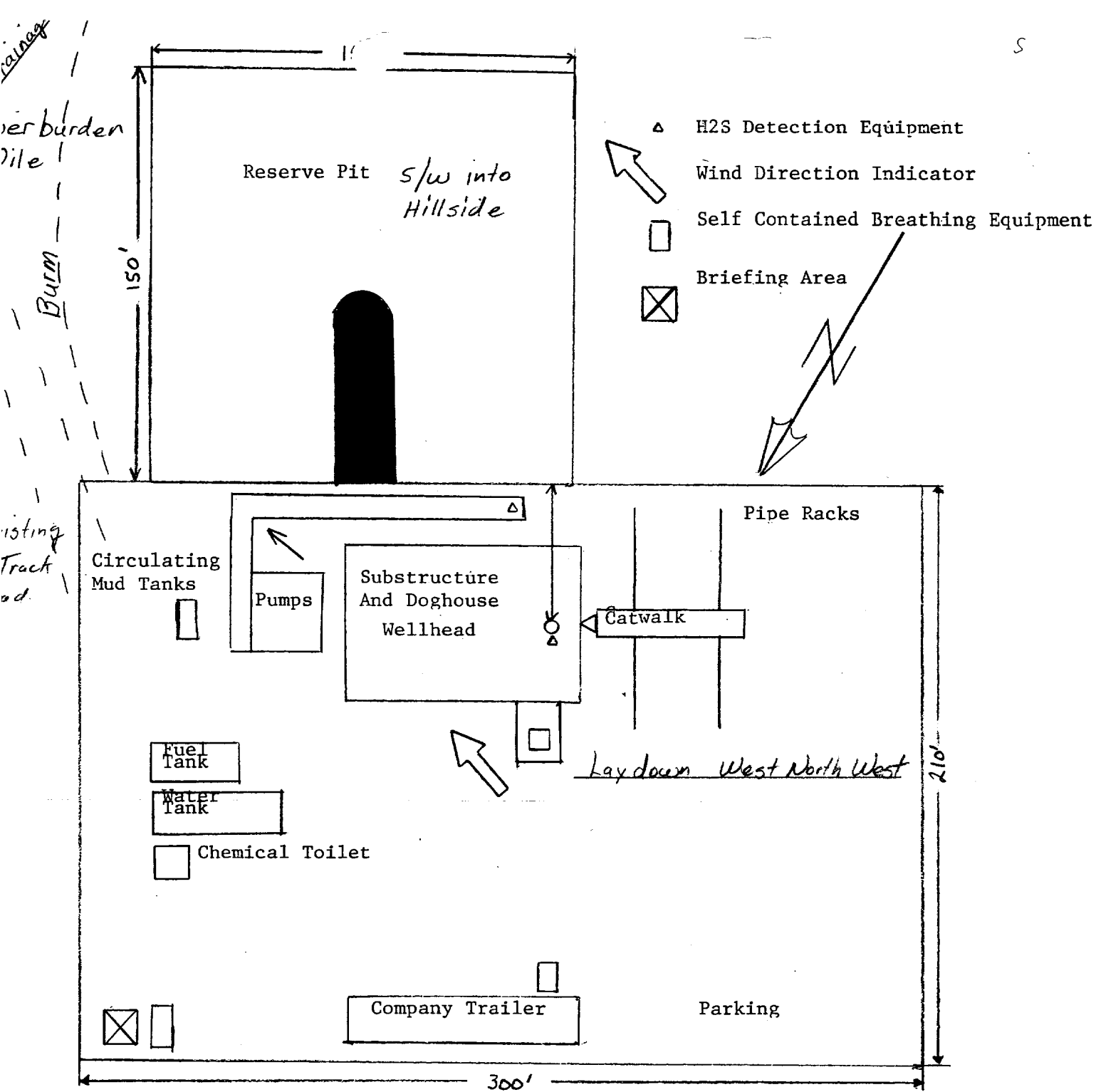
Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

SENATE OF TEXAS

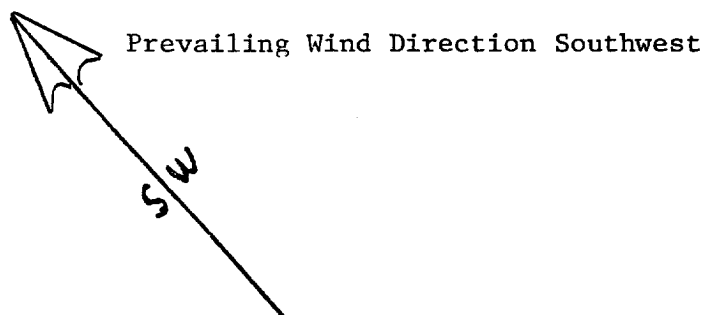
RECEIVED

2019/03/25 AM 8:57

SENATE OF TEXAS  
COMMITTEE ON



1 INCH= 50 feet



# Marathon Oil Company

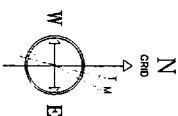
Structure : Indian Hills Unit 47

Slot : slot #1

Field : INDIAN BASIN

Location : Eddy County New Mexico

Kick off Point - 0.00 Inc, 2500.00 Md, 2500.00 Tvd, 0.00 Vs  
DLS: 2.50 deg per 100 ft  
End of Build - 19.44 Inc, 3277.60 Md, 3262.77 Tvd, 130.66 Vs



17-Apr-2002 (Source: BCGM)  
Magnetic North is 0.8 degrees East of True North  
GRID North is 0.10 degrees West of True North  
To correct azimuth from True to GRID add 0.10 deg  
To correct azimuth from Magnetic to GRID add 8.19 deg

## STRUCTURE SET-UP REFERENCE

LAT : 35.26 32.043 N  
LONG : 104.51 33.305 W  
X = -4163.4 Y = 5271.240

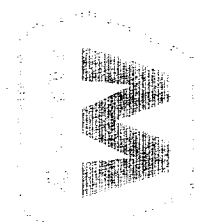
PROJECTION: MERCATOR

Mercator Zone: 18N Mexico East

Spheroid Used: GRS80

Data Source: BCGM

Dip Angle: 69.43 deg  
Field Strength: 1853.30 nT



PROPOSED BHL  
1943.53' ON AZI 144.21 DEGS  
FROM SURFACE LOCATION  
M.D.: 8724.61' T.V.D.: 8399.25'  
X = 444299.90 Y = 525597.60  
1576.60' S, 1136.50' E

TOP OF UPPER PENN - 7300.00 Tvd, 1261.88 S, 909.63 E

TOP OF STRAWN - 8075.00 Tvd, 1483.77 S, 1069.58 E

T.D. & End of Hold - 8399.25 Tvd, 1576.60 S, 1136.50 E

## WELL PROFILE DATA

Point	MD	Inc	Dip	TVD	North	East	V. Sect	Deg/100'
Top of	0.00	0.00	144.21	0.00	0.00	0.00	0.00	0.00
KOP	2500.00	0.00	144.21	2500.00	0.00	0.00	0.00	0.00
End of Build	3277.60	19.44	144.21	3262.77	-105.99	76.40	130.66	2.50
Target	7558.91	19.44	144.21	7300.00	-1761.88	909.63	1555.56	0.00
End of Hold	8380.76	19.44	144.21	8075.00	-1483.77	1069.58	18.9.09	0.00
T.D. & End of Hold	8724.61	19.44	144.21	8399.25	-1576.60	1136.50	1943.53	0.00



INTEQ

APPROVAL

Operations: \_\_\_\_\_

Client: \_\_\_\_\_

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

Created By Kellym

Date plotted: 18-Apr-2002

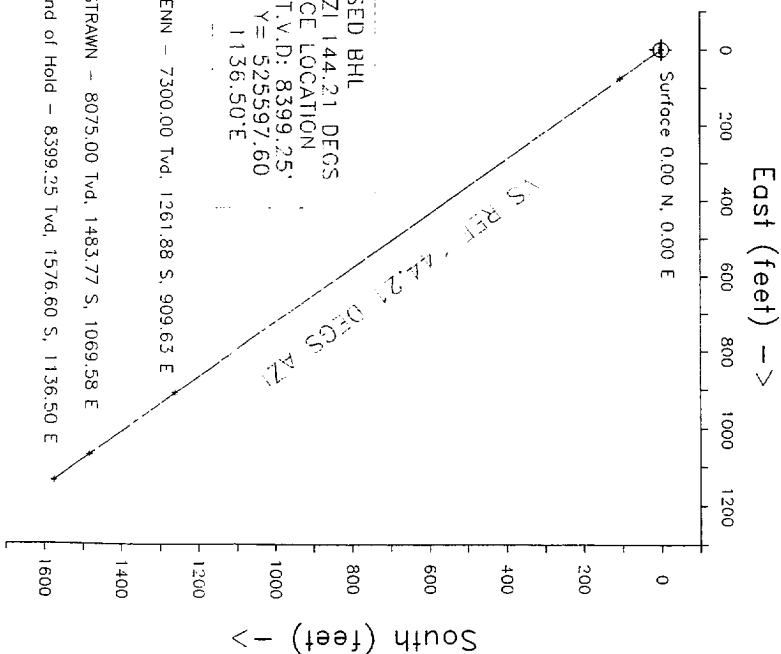
Pilot Reference is PO CDI DH/RH.

Coordinates are in feet reference slot #1.

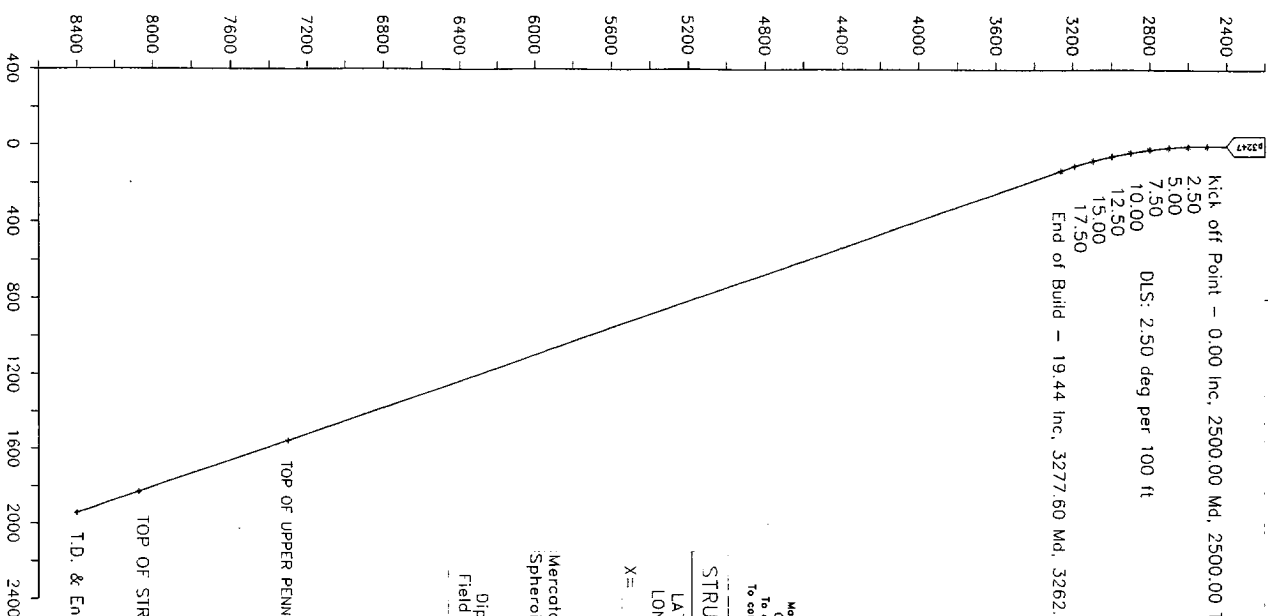
True Vertical Depths are reference rotary table.

ihv47pp

--- Baker Hughes INTEQ ---



Vertical Section (feet) ->



Azimuth 144.21 with reference 0.00 N, 0.00 E from slot #1



Marathon Oil Company  
Indian Hills Unit 47

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 2DJ DH/RH  
Our ref : prop3247  
License :

Date printed : 19-Apr-2002  
Date created : 17-Apr-2002  
Last revised : 18-Apr-2002

Field is centred on n32 30 0.000,w104 30 0  
Structure is centred on 443163.400,527174.200,999.00000,N

Slot location is n32 26 57.047,w104 31 3.303  
Slot Grid coordinates are N 527174.200, E 443163.400  
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 47, slot #1  
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 1  
Your ref : P0 2DJ DH/RH  
Last revised : 18-Apr-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	144.21	0.00	0.00N	0.00	0.00	443163.40	527174.20
500.00	0.00	144.21	500.00	0.00N	0.00	0.00	443163.40	527174.20
1000.00	0.00	144.21	1000.00	0.00N	0.00	0.00	443163.40	527174.20
1500.00	0.00	144.21	1500.00	0.00N	0.00	0.00	443163.40	527174.20
2000.00	0.00	144.21	2000.00	0.00N	0.00	0.00	443163.40	527174.20
2500.00	0.00	144.21	2500.00	0.00N	0.00	0.00	443163.40	527174.20
2600.00	2.50	144.21	2599.97	1.77S	2.50	2.18	443164.68	527172.43
2700.00	5.00	144.21	2699.75	7.07S	2.50	8.72	443168.50	527167.13
2800.00	7.50	144.21	2799.14	15.91S	2.50	19.61	443174.87	527158.29
2900.00	10.00	144.21	2897.97	28.24S	2.50	34.82	443183.76	527145.96
3000.00	12.50	144.21	2996.04	44.07S	2.50	54.33	443195.17	527130.13
3100.00	15.00	144.21	3093.17	63.35S	2.50	78.09	443209.07	527110.85
3200.00	17.50	144.21	3189.17	86.05S	2.50	106.07	443225.43	527088.15
3277.60	19.44	144.21	3262.77	105.99S	2.50	130.66	443239.80	527068.21
3500.00	19.44	144.21	3472.49	166.03S	0.00	204.68	443283.09	527008.17
4000.00	19.44	144.21	3943.98	301.03S	0.00	371.08	443380.40	526873.17
4500.00	19.44	144.21	4415.48	436.02S	0.00	537.49	443477.71	526738.18
5000.00	19.44	144.21	4886.97	571.01S	0.00	703.90	443575.01	526603.19
5500.00	19.44	144.21	5358.47	706.00S	0.00	870.31	443672.32	526468.20
6000.00	19.44	144.21	5829.96	841.00S	0.00	1036.72	443769.63	526333.20
6500.00	19.44	144.21	6301.46	975.99S	0.00	1203.13	443866.94	526198.21
7000.00	19.44	144.21	6772.95	1110.98S	0.00	1369.54	443964.25	526063.22
7500.00	19.44	144.21	7244.45	1245.98S	0.00	1535.95	444061.56	525928.22
7558.91	19.44	144.21	7300.00	<u>1261.88S</u>	0.00	1555.56	444073.03	525912.32
8000.00	19.44	144.21	7715.94	1380.97S	0.00	1702.36	444158.87	525793.23

UPPER PENN O  
105' FS \* 1095' AE

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 1943.53 on azimuth 144.21 degrees from wellhead.  
Vertical section is from N 0.00 E 0.00 on azimuth 144.21 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 47, slot #1  
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 2  
Your ref : PO 2DJ DH/RH  
Last revised : 18-Apr-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	
8380.76	19.44	144.21	8075.00	1483.77S	0.00	1829.09	444232.98	525690.43	54mm @ 830' FSZ + 935' FE
8500.00	19.44	144.21	8187.44	1515.96S	0.00	1868.77	444256.18	525658.24	
<u>8724.61</u>	19.44	144.21	8399.25	<u>1576.60S</u>	0.00	1943.53	444299.90	525597.60	740' FSZ + 868' FEL

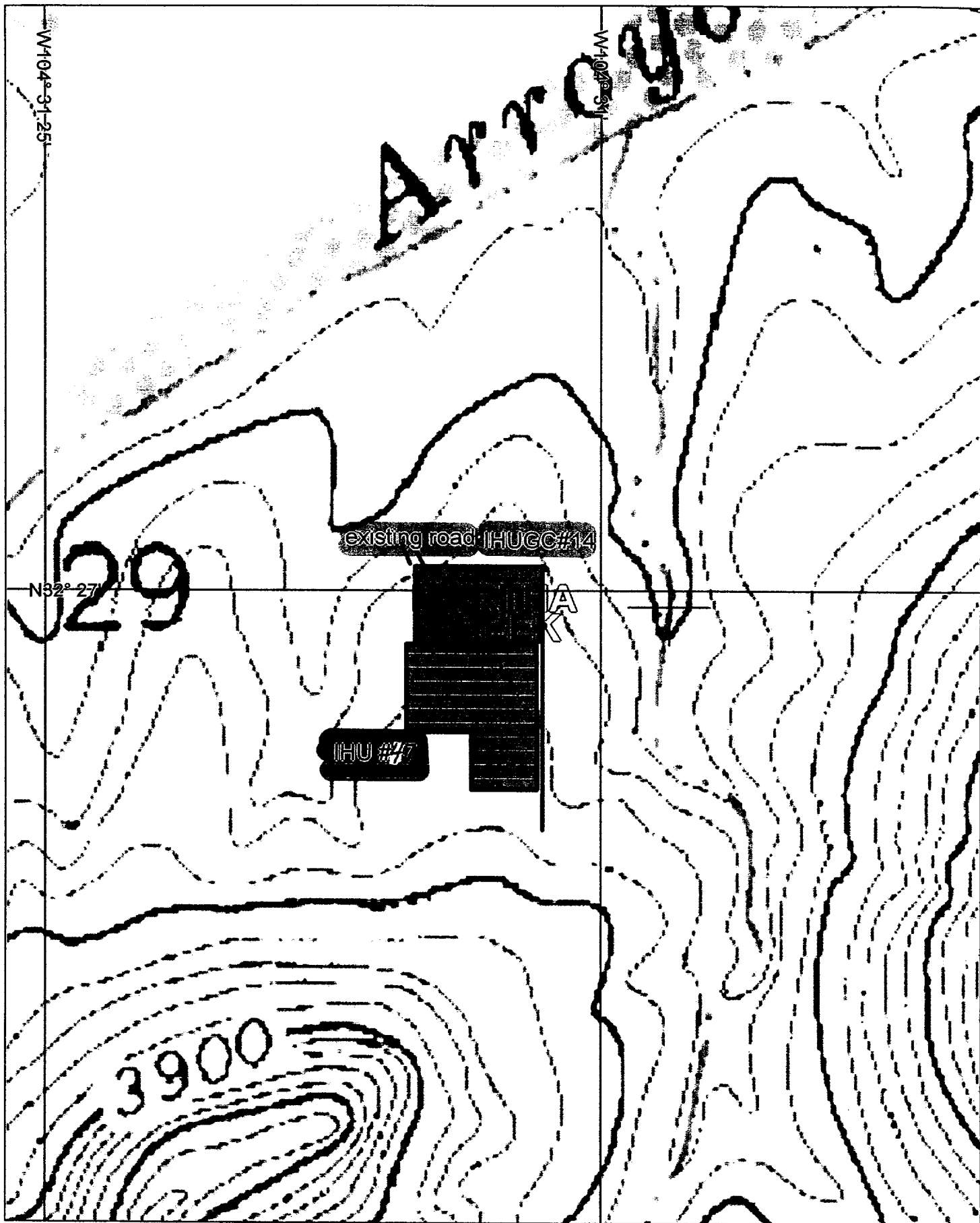
All data in feet unless otherwise stated. Calculation uses minimum curvature method.  
Coordinates from slot #1 and TVD from rotary table.  
Bottom hole distance is 1943.53 on azimuth 144.21 degrees from wellhead.  
Vertical section is from N 0.00 E 0.00 on azimuth 144.21 degrees.  
Grid is mercator - 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 47, slot #1  
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 3  
Your ref : PO 2DJ DH/RH  
Last revised : 18-Apr-2002

Comments in wellpath			
=====			
MD	TVD	Rectangular Coords.	Comment
-----			
7558.91	7300.00	1261.88S	909.63E TOP OF UPPER PENN
8380.76	8075.00	1483.77S	1069.58E TOP OF STRAWN

NO Targets associated with this wellpath



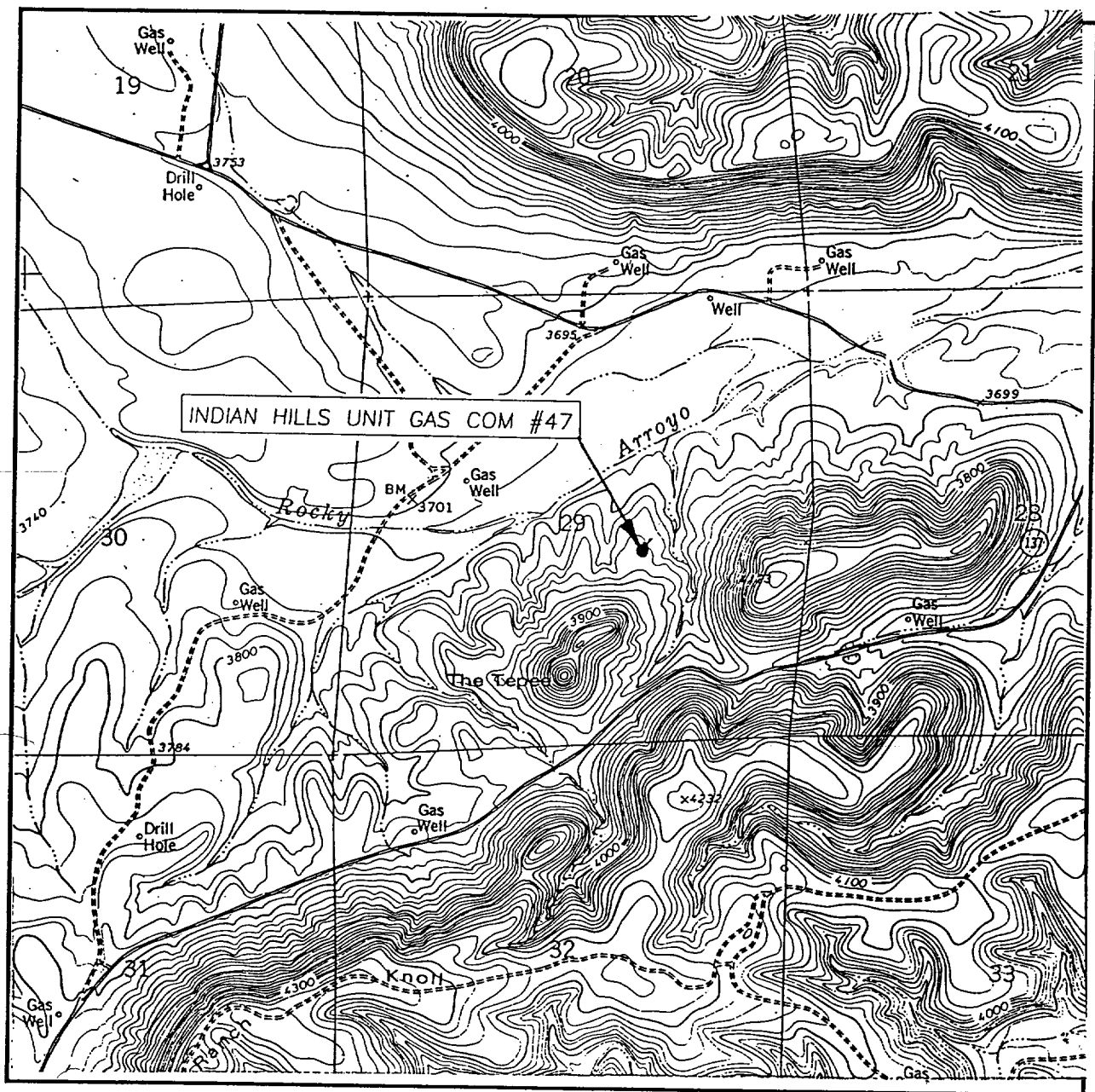


3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Detail 13-9 Datum: NAD27



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Detail 13-9 Datum: NAD27

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 20'  
MARTHA CREEK, N.M.

SEC. 29 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2316' FSL 2004' FEL

ELEVATION 3775'

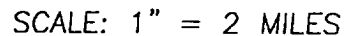
OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT GAS COM

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

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





SEC. 29 TWP. 21-S RGE. 24-E  
SURVEY \_\_\_\_\_ N.M.P.M. \_\_\_\_\_  
COUNTY \_\_\_\_\_ EDDY \_\_\_\_\_  
DESCRIPTION 2316' FSL 2004' FEL  
ELEVATION 3775'  
OPERATOR MARATHON OIL COMPANY  
LEASE INDIAN HILLS UNIT GAS COM

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



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

**INDIAN HILLS UNIT Gas Com. #47**  
**Sec. 29, T-21-S, R-24-E**  
**2316' FSL & 2004' 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 1.6 miles to access road on South side of county road, turn South follow lease road that runs on the West side of 117 Facility. After crossing over pipelines, turn West follow lease road (Which runs parallel with pipelines) to location just south of the existing IHU # 14.
- 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.

No 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 Northwest 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, Yates, and Devon within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon, Yates and Devon 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 poly line is used an existing ROW route will be utilized.
- c. No water well will be drilled on this location.

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit Gas Com. #47**

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 w/ 2- 6 mil liners after padding pit w/ dirt.

10. Plans for Restoration of the Surface:

- a. Backfilling, leveling, and contouring are planned as soon as all pits have dried. A 6 mil liner will be placed over the pit mud contents before pushing the side walls in. 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**  
**Indian Hills Unit Gas Com. #47**

- 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.
- 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 some significant archaeological or cultural sites visible in the area of disturbance.** A cultural resource survey was performed by Archaeological Consultants Inc. of Roswell. **Phase 2 will be completed and submitted to the BLM.**
- 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 Federal Government.
- 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:

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit Gas Com. #47**

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.

April 9, 2002

Date

R. J. Longmire

R. J. Longmire

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit Gas Com. # 47**

**DRILLING PROGRAM**  
**MARATHON OIL COMPANY**  
**INDIAN HILLS UNIT Gas Com. #47**

1. Estimated KB Elevation: 3791' KB      G.L. @ 3775'

<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	+3791'	650'	+3791'	water
San Andres	650'	+3141'	2250'	+1541'	water
Glorietta	2250'	+1541'	2355'	+1436'	
Delaware	3300'	+491'	4300'	- 509	
Bone Spring	4300'	-509'	5950'	-2159'	oil gas
Wolfcamp	5950'	-2159'	7520'	-3729'	oil gas
B/Permian Shale	7520'	-3729'	7530'	-3739'	
U. Penn	7530'	-3739'	8600'	-4809'	gas, oil, water

<u>FORMATION</u>	<u>---EST</u> <u>PSIG</u>	<u>SBHP---</u> <u>PPG EMW</u>	<u>EST</u> <u>DEG f</u>	<u>SBHT</u> <u>PPM</u>	<u>H2S</u>	<u>---SIGNIFICANCE---</u> <u>(obj, marker, etc.)</u>
Bone Springs	1210	8.5			500	marker
Wolfcamp	1680	9.0				marker
B/Permian Shale	1810	9.0				marker
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 300# PSI / 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.

4. **Casing and Cement Program:**

**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit Gas Com. # 47**

<u>---DEPTH---</u> <u>FROM</u>	<u>TO</u>	<u>SECTION</u> <u>LENGTH</u>	<u>HOLE</u> <u>SIZE</u>	<u>CSG</u> <u>SIZE</u>	<u>WT.</u> <u>PPF</u>	<u>GRADE</u>	<u>THREADS</u> <u>COUPLINGS</u>	<u>NEW</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'	8600'	3800'	8.750"	7.00"	26.00#	K-55	8rd, LT&C	New

<u>Casing</u> <u>String</u>	<u>DV</u> <u>Depth</u>	<u>Stg.</u>	<u>Lead</u> <u>Tail</u>	<u>Amt</u> <u>SXS</u>	<u>Type</u> <u>Cement</u>	<u>Yield</u> <u>CF/SX</u>	<u>Wt.</u> <u>PPG.</u>	<u>TOC</u>	<u>Additives</u>
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'.

7.0"	1	L	1100	Class "H"	1.44	13.0	Surface	Foamers, N2
7.0"	2	T	100	Mod. Super H	1.67	13.0	Surface	Gilsonite 5pps Hr-7, 1-pps salt

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

Centralizer Program:

9-5/8" Conventional centralizers , Bottom 3-joints and every 4<sup>th</sup> 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 8600'.

5. Mud Program

<u>---DEPTH---</u> <u>FROM</u>	<u>TO</u>	<u>MUD TYPE</u>	<u>WEIGHT</u> <u>(PPG)</u>	<u>VIS</u>	<u>WL</u> <u>CC</u>	<u>ADDITIVES</u>	<u>VISUAL</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'	8600'	fresh	8.9	32-36	<20	Gel, caustic, H <sub>2</sub> S Scavenger	Steel Pits

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



**A. P. D. (cont.)**  
**Thirteen Point Surface Use Plan**  
**Indian Hills Unit Gas Com. # 47**

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			

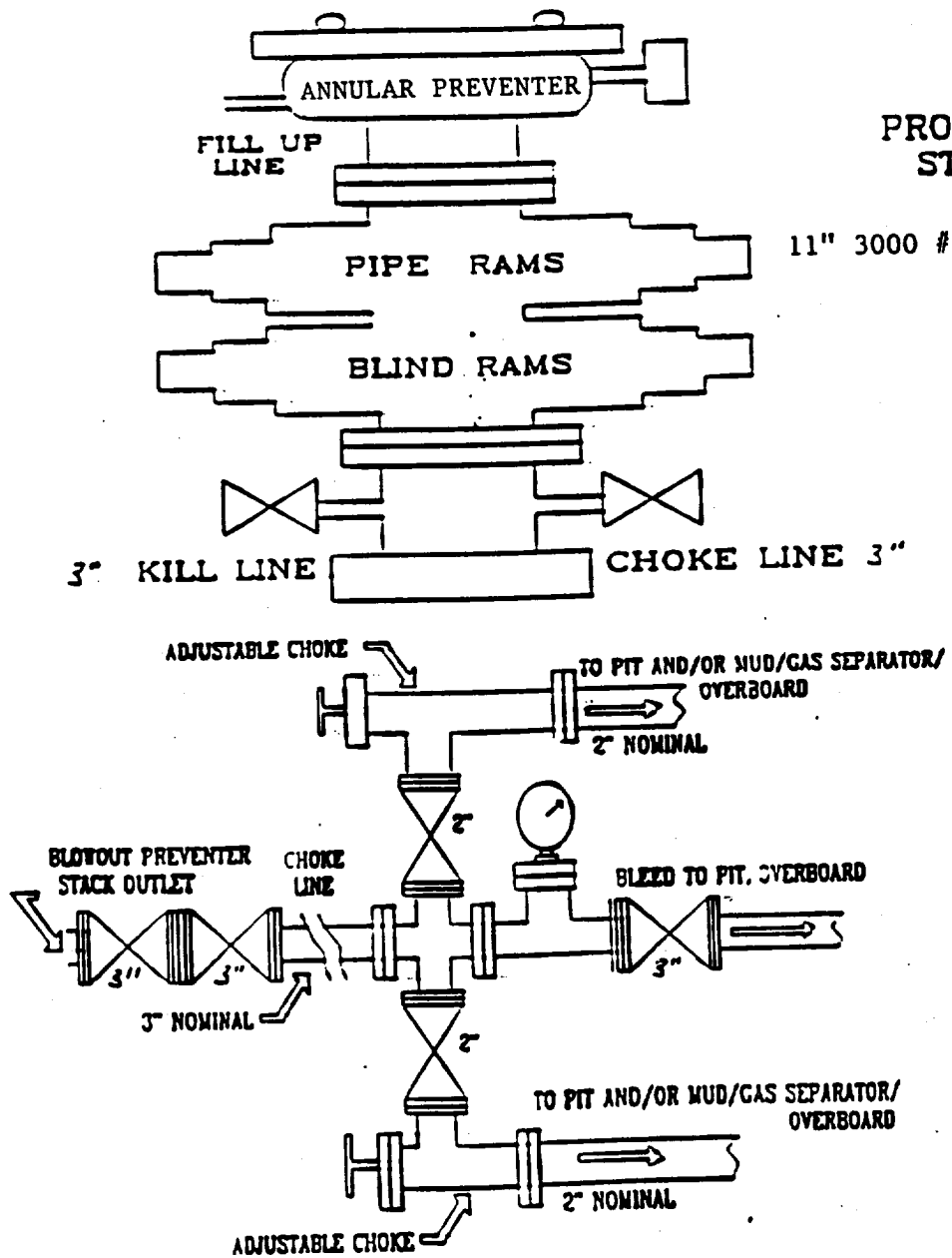
7. Abnormal Pressures, Temperatures or Potential Hazards:

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.



**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. 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
- 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:

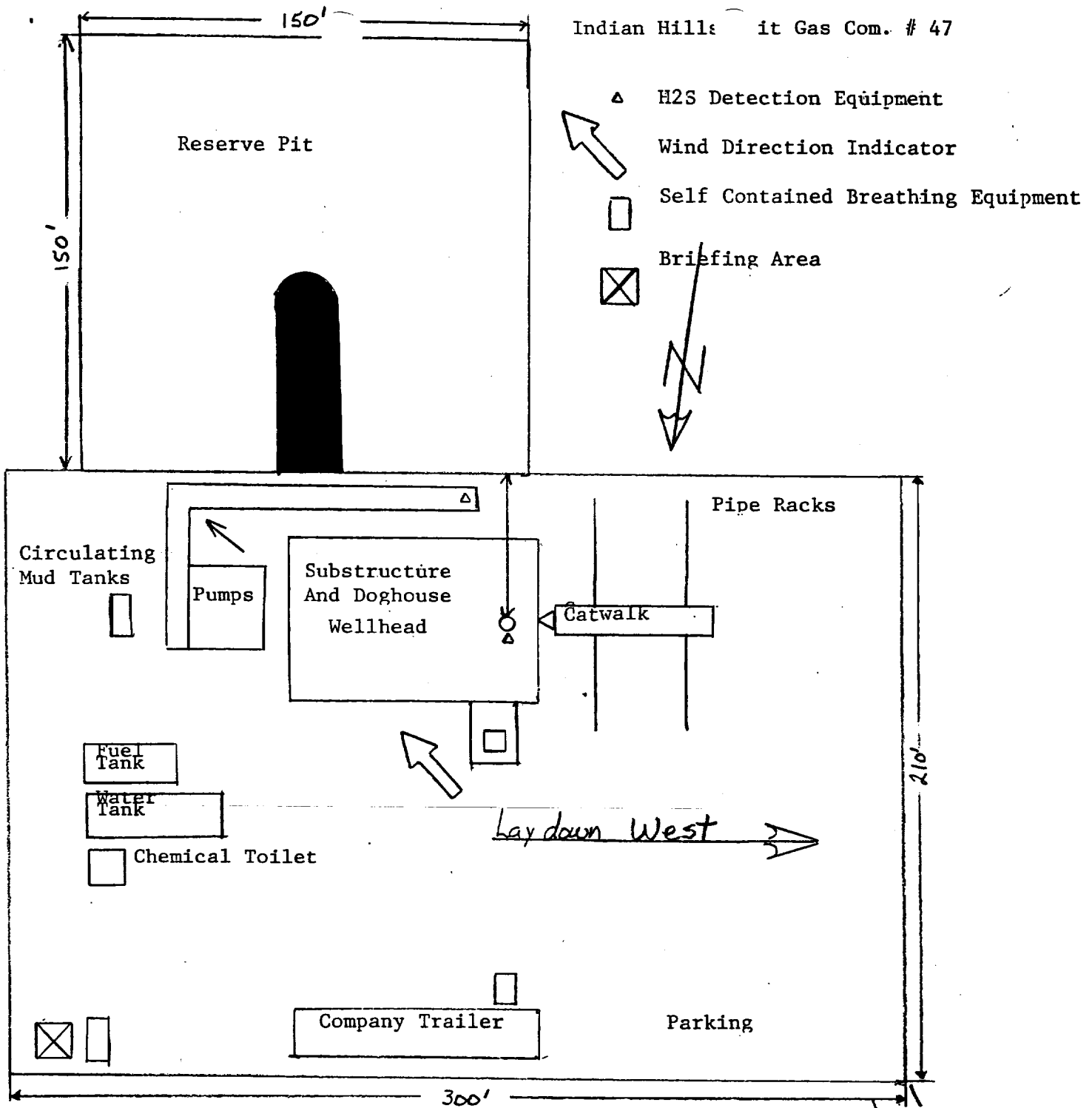
DST No. 1	_____ ft. to _____ ft.
DST No. 2	_____ ft. to _____ ft.
DST No. 3	_____ ft. to _____ ft.

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



Barry, 4/17/02  
 I will send a new  
 Rig Plat after Brad and  
 I lay it out w/ stakes.  
 I will send as a Sundry  
 NOTICE.  
 Thank You,  
 Jerry Fletcher