

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. 1st Street, Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources

Oil Conservation Division  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-101  
Revised March 17, 1999

Submit to appropriate District Office  
State Lease - 6 Copies  
Fee Lease - 5 Copies

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

<sup>1</sup> Operator Name and Address <b>Marathon Oil Company</b> <b>P.O. Box 552 Midland, TX 79702</b>		<sup>2</sup> OGRID Number <b>14021</b>
<sup>4</sup> Property Code <b>6409</b>	<sup>5</sup> Property Name <b>Indian Hills Unit</b>	<sup>3</sup> API Number <b>30-015-32103</b> <sup>6</sup> Well No. <b>#39</b>

<sup>7</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
"K"	16	21-S	24-E		1690'	South	2026'	West	Eddy

<sup>8</sup> Proposed 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
"O"	16	21-S	24-E		1242'	South	1701'	East	Eddy

<sup>9</sup> Proposed Pool 1

**Indian Basin Upper Penn. Assoc.**

<sup>10</sup> Proposed Pool 2

**Indian Basin Strawn Gas Pool**

<sup>11</sup> Work Type Code <b>N</b>	<sup>12</sup> Well Type Code <b>G</b>	<sup>13</sup> Cable/Rotary <b>Rotary</b>	<sup>14</sup> Lease Type Code <b>S</b>	<sup>15</sup> Ground Level Elevation <b>4119'</b>
<sup>16</sup> Multiple <b>N</b>	<sup>17</sup> Proposed Depth <b>9200'</b>	<sup>18</sup> Formation <b>Upper Penn/ Strawn</b>	<sup>19</sup> Contractor <b>McVay</b>	<sup>20</sup> Spud Date <b>ASAP</b>

<sup>21</sup> Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12.250"	9-5/8"	36#	1800'	800 sks.	Surface
8.750"	7"	23#/26#	9200'	1850 sks.	Surface

NOTIFY SPUD & TIME TO WITNESS  
CEMENTING OF 9-5/8" CASING

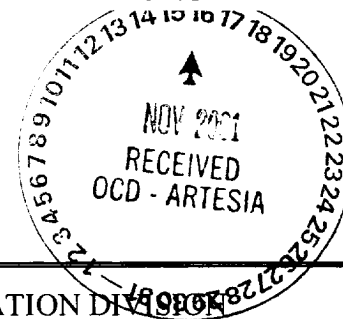
<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on

Describe the blowout prevention program, if any. Use additional sheets if necessary.

Marathon Oil Company is proposing to directionally drill this well to a Primary Indian Basin Upper Penn. Assoc. target and a Secondary Indian Basin Strawn target.

Directional plan is attached.

All BOPE shall be installed and tested according to OCD rules # 109 and 114.  
BOPE program and schematic is attached.



OIL CONSERVATION DIVISION

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Jerry Fletcher*

Printed name: **Jerry Fletcher**

Title: **Engineer Tech.**

Date: **11/13/01**

Phone: **915/ 687-8357**

Approved by: **ORIGINAL SIGNED BY TIM W. GUM**  
**DISTRICT II SUPERVISOR**

Title:

Approval Date: **NOV 26 2001**

Expiration Date: **NOV 26 2002**

Conditions of Approval:

Attached ☐

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	Pool Name
	33685	Indian Basin Upper Penn. Assoc.
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT	39
OGRID No.	Operator Name	Elevation
14021	MARATHON OIL COMPANY	4119'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	16	21-S	24-E		1690	SOUTH	2026	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	16	21-S	24-E		1242	SOUTH	1701	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 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>11/12/01 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>SEPTEMBER 5, 2001 Date Surveyed</p> <p>Signature of Seal of Professional Surveyor Professional Surveyor</p> <p>RONALD J. EIDSON 1402/01 01110998</p> <p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641</p>
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DISTRICT I  
P.O. Box 1988, Hobbs, NM 88241-1988

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form 3-102  
Revised February 10, 1999  
Submit to Appropriate District Office  
State Lease - 4 Copies  
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DISTRICT II  
P.O. Drawer 30, Artesia, NM 88211-0710

OIL CONSERVATION DIVISION  
P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT III  
1900 Rio Pecos, Alamogordo, NM 88311

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

3 AMENDED REPORT

API Number	Pool Name	Well Name
	Indian Basin Strawn Pool	
Property Code	Property Name	Well Number
	INDIAN ULLS UNIT	39
Operator Code	Operator Name	Division
14421	MARATHON OIL COMPANY	4115

Surface location

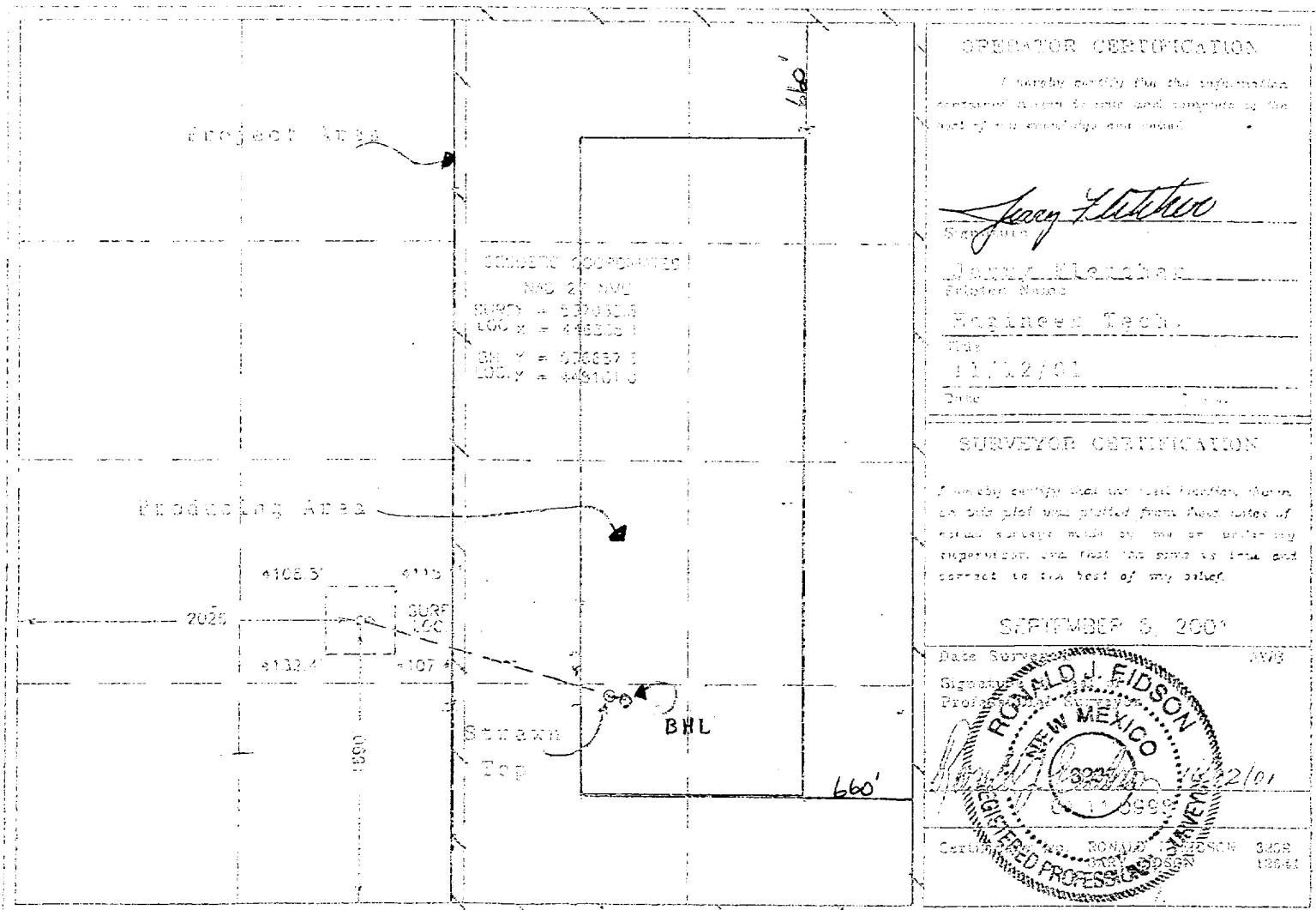
U. or Lot No.	Section	Township	Range	Lot No.	Feet from Sec	North/South line	Feet from the	East/West line	County
0	15	21-S	24-E		1690	SOUTH	2025	WEST	EDDY

Bottom Hole location if Different From Surface

U. or Lot No.	Section	Township	Range	Lot No.	Feet from Sec	North/South line	Feet from the	East/West line	County
0	15	21-S	24-E		1242	SOUTH	1701	EAST	EDDY

Dedicated Area	Joint or Well	Consolidation Code	Order No.
14421			

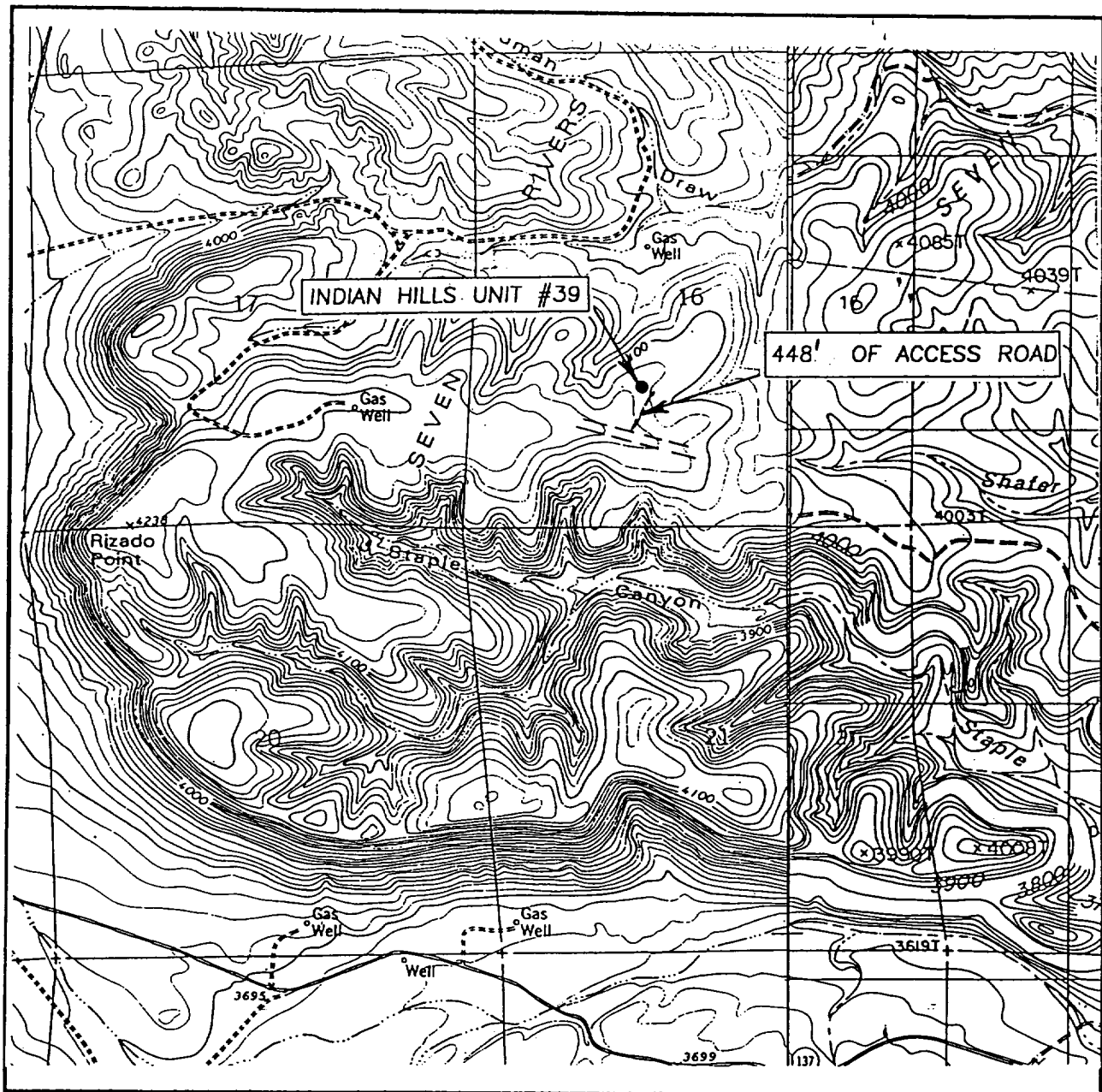
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



[illegible]

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

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 20'

SEC. 16 TWP. 21-S RGE. 24-E

AZOTEA PEAK, N.M.

SURVEY N.M.P.M.

MARTHA CREEK N.M.

COUNTY EDDY

DESCRIPTION 1690' FSL 2026' FWL

ELEVATION 4119'

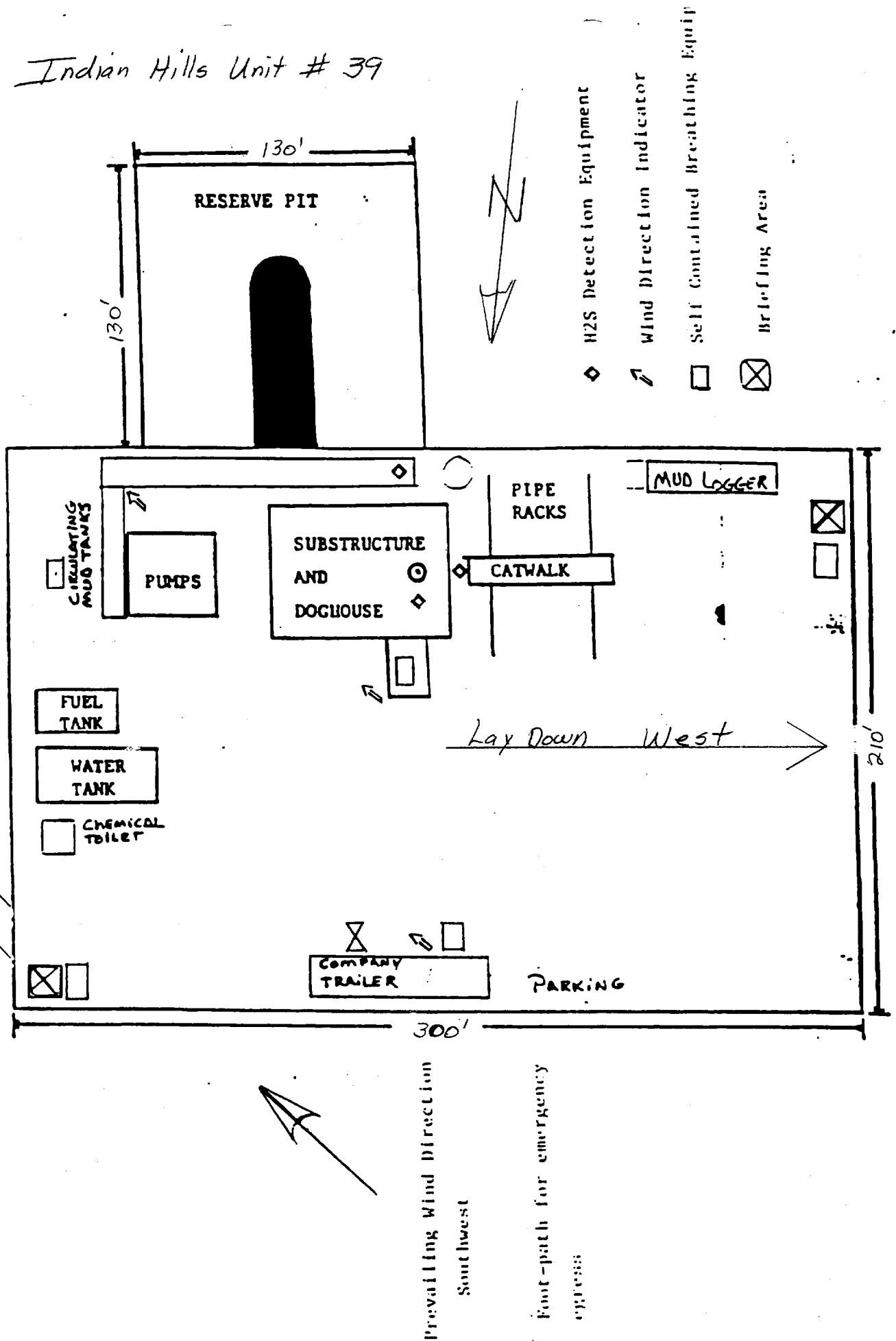
OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

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

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

# Indian Hills Unit # 39





Created by land  
Date plotted : 8-Nov-2001  
Plot Reference is P12DUJH.  
Coordinates are in feet reference slot #1.  
True Vertical Depths are reference rotary table  
--- Baker Hughes INTEQ ---

# Marathon Oil Company

Structure : Indian Hills Unit 39

Slot : slot #1

Field : INDIAN BASIN

Location : Eddy County New Mexico

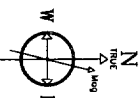
## WELL PROFILE DATA

Point	MD	Inc	Dip	TVD	North	East	V. Sect	Depth/100
KOP	2000.00	0.00	106.28	2000.00	0.00	0.00	0.00	0.00
End of Build	2533.07	13.33	106.28	2528.28	-17.30	59.74	61.72	2.50
Target UPPER PENN TOP	7899.30	13.33	106.28	7750.00	-364.02	1246.60	1298.66	0.00
Target	8515.91	13.33	106.28	8350.00	-403.86	1383.05	1440.81	0.00
T.D. & End of Hole	9200.00	13.33	106.28	9015.66	-448.07	1534.45	1598.53	0.00

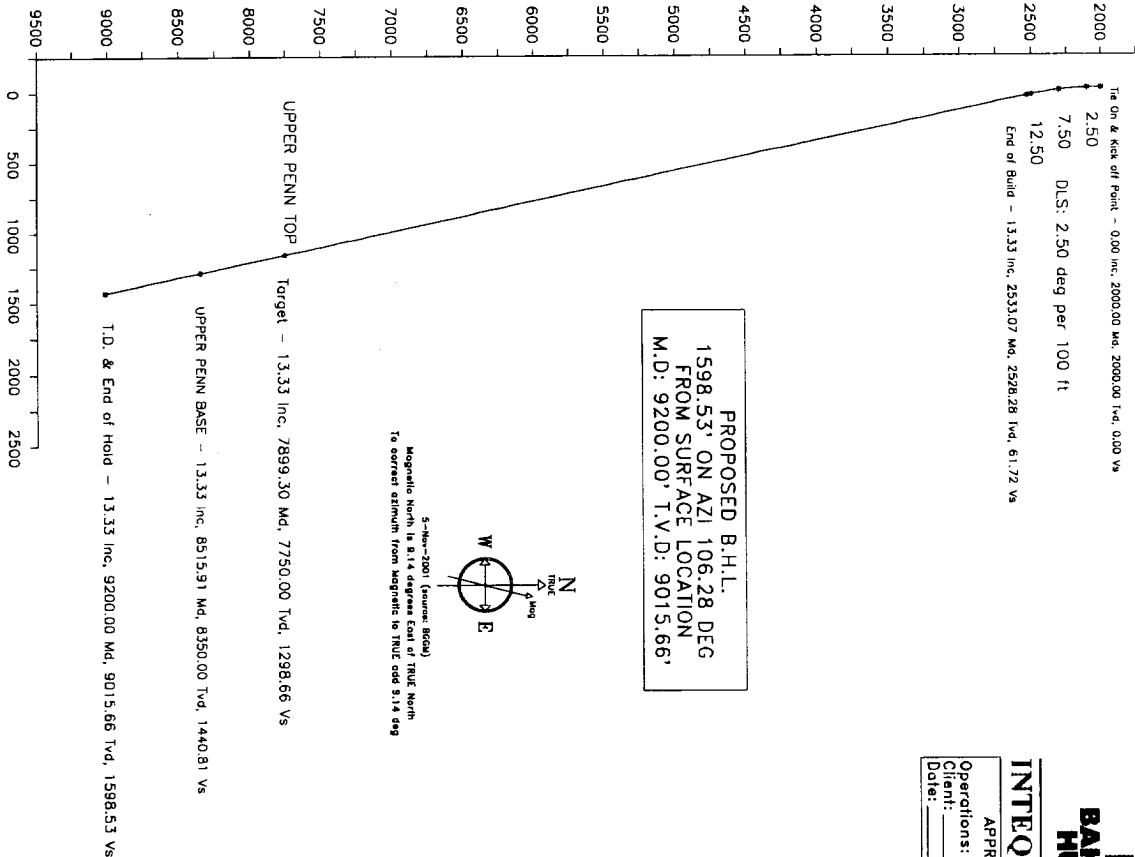
Tie On & Kick off Point - 0.00 inc. 2000.00 Md. 2000.00 Tvd. 0.00 Vs  
2.50  
7.50 DLS: 2.50 deg per 100 ft  
12.50  
End of Build - 13.33 inc. 2533.07 Md. 2528.28 Tvd. 61.72 Vs

**BAKER HUGHES**  
**INTEQ**  
APPROVAL  
Operations: \_\_\_\_\_  
Client: \_\_\_\_\_  
Date: \_\_\_\_\_

PROPOSED B.H.L.  
1598.53' ON AZI 106.28 DEG  
FROM SURFACE LOCATION  
M.D: 9200.00' T.V.D: 9015.66'

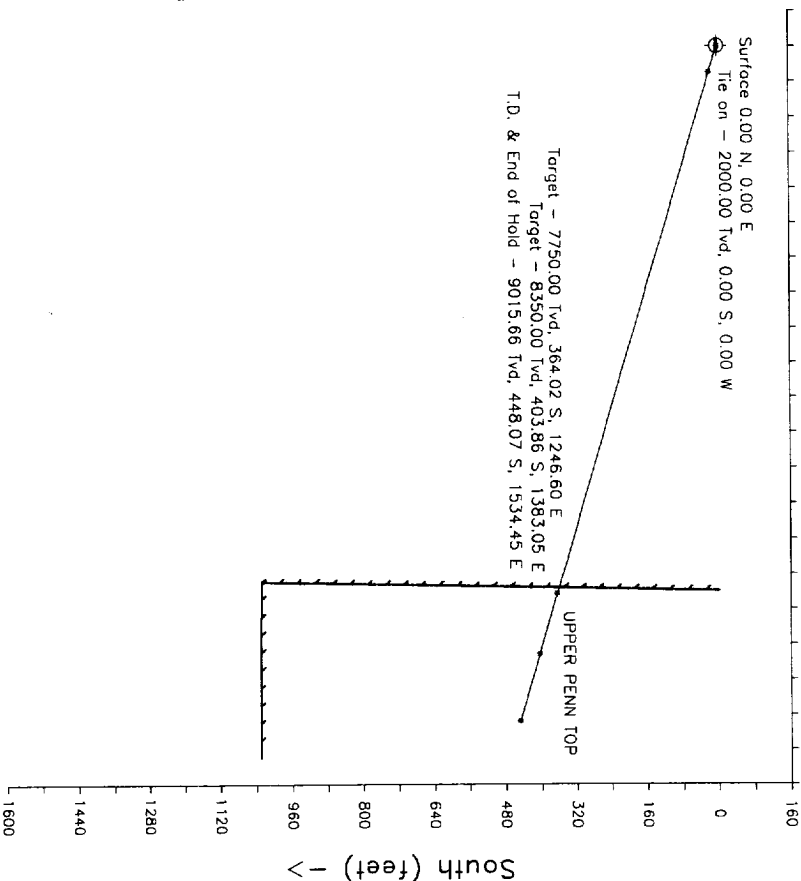


5-Nov-2001 (Source: BGM)  
Magnetic North is 8.14 degrees East of TRUE North  
To correct azimuth from magnetic to TRUE add 8.14 deg



## East (feet) ->

## South (feet) ->



## Vertical Section (feet) ->

Azimuth 106.28 with reference 0.00 N, 0.00 E from slot #1

Marathon Oil Company  
Indian Hills Unit 39

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 : P12DJRH  
Our ref : prop3099  
License :

Date printed : 8-Nov-2001  
Date created : 5-Nov-2001  
Last revised : 8-Nov-2001

Field is centred on n32 30 0.000,w104 30 0  
Structure is centred on 446855.100,537053.500,999.00000,N

Slot location is n32 28 34.873,w104 30 20.406  
Slot Grid coordinates are N 537053.500, E 446855.100  
Slot local coordinates are 0.00 N 0.00 E

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

Marathon Oil Company  
Indian Hills Unit 39, slot #1  
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 1  
Your ref : P12DJRH  
Last revised : 8-Nov-2001

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
2000.00	0.00	106.28	2000.00	0.00 N 0.00 E	0.00	0.00
2100.00	2.50	106.28	2099.97	0.61 S 2.09 E	2.50	2.18
2200.00	5.00	106.28	2199.75	2.44 S 8.37 E	2.50	8.72
2300.00	7.50	106.28	2299.14	5.50 S 18.82 E	2.50	19.61
2400.00	10.00	106.28	2397.97	9.76 S 33.42 E	2.50	34.82
2500.00	12.50	106.28	2496.04	15.23 S 52.15 E	2.50	54.33
2533.07	13.33	106.28	2528.28	17.30 S 59.24 E	2.50	61.72
3000.00	13.33	106.28	2982.63	47.47 S 162.56 E	0.00	169.35
3500.00	13.33	106.28	3469.17	79.77 S 273.19 E	0.00	284.60
4000.00	13.33	106.28	3955.70	112.08 S 383.82 E	0.00	399.85
4500.00	13.33	106.28	4442.24	144.39 S 494.45 E	0.00	515.10
5000.00	13.33	106.28	4928.77	176.69 S 605.09 E	0.00	630.36
5500.00	13.33	106.28	5415.31	209.00 S 715.72 E	0.00	745.61
6000.00	13.33	106.28	5901.85	241.30 S 826.35 E	0.00	860.86
6500.00	13.33	106.28	6388.38	273.61 S 936.98 E	0.00	976.11
7000.00	13.33	106.28	6874.92	305.91 S 1047.62 E	0.00	1091.37
7500.00	13.33	106.28	7361.45	338.22 S 1158.25 E	0.00	1206.62
7899.30	13.33	106.28	7750.00	364.02 S 1246.60 E	0.00	1298.66 UPPER PENN TOP
8515.91	13.33	106.28	8350.00	403.86 S 1383.05 E	0.00	1440.81 UPPER PENN BASE
9000.00	13.33	106.28	8821.05	435.15 S 1490.19 E	0.00	1552.42 <i>Sfracum</i>
9200.00	13.33	106.28	9015.66	448.07 S 1534.45 E	0.00	1598.53 <i>T.O. = 1242' FSL * 1704' FEL</i>

All data is in feet unless otherwise stated.  
Coordinates from slot #1 and TVD from rotary table.  
Bottom hole distance is 1598.53 on azimuth 106.28 degrees from wellhead.  
Vertical section is from wellhead on azimuth 106.28 degrees.  
Calculation uses the minimum curvature method.  
Presented by Baker Hughes INTEQ

Marathon Oil Company  
Indian Hills Unit 39, slot #1  
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 2  
Your ref : P12DJRH  
Last revised : 8-Nov-2001

Comments in wellpath

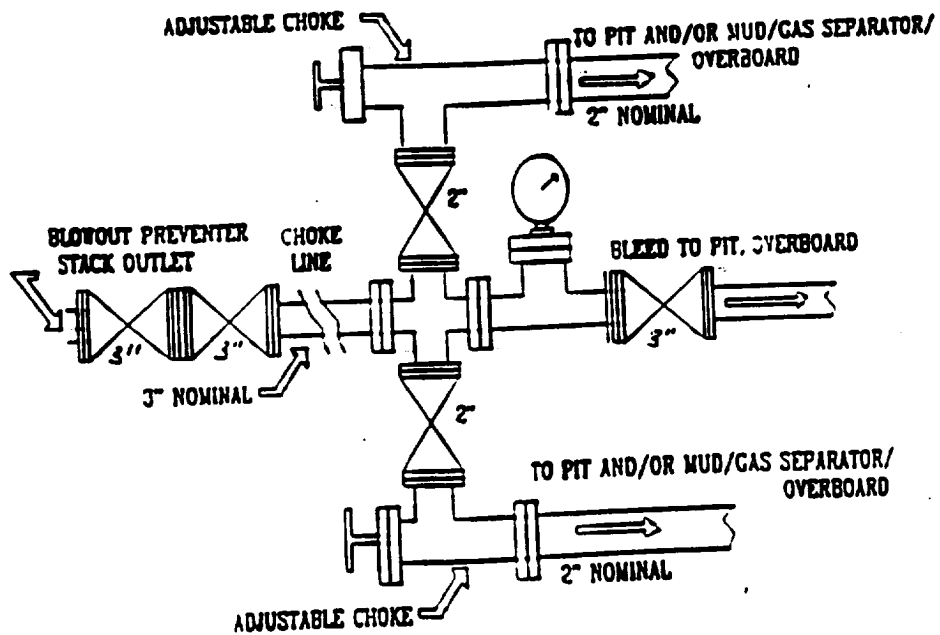
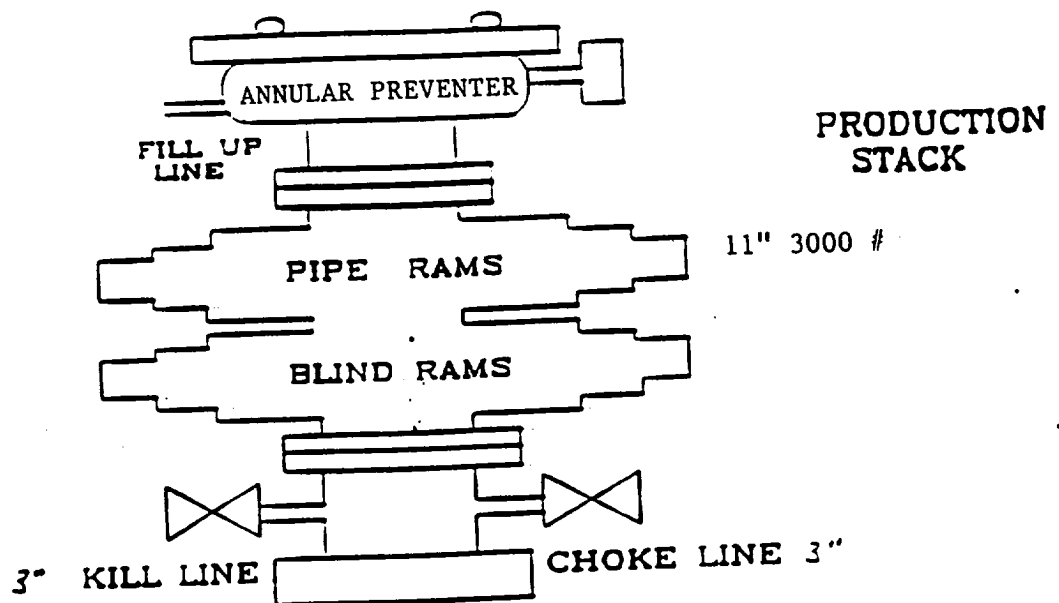
=====

MD	TVD	Rectangular Coords.	Comment
7899.30	7750.00	364.02 S	1246.60 E UPPER PENN TOP
8515.91	8350.00	403.86 S	1383.05 E UPPER PENN BASE

Targets associated with this wellpath

=====

Target name	Geographic Location	T.V.D.	Rectangular Coordinates	Revised
UPPER PENN TOP	448101.000, 536687.500, 0.00000	7750.00	364.02S	1246.60E 29-Oct-2001
BASE OF UPPER PENN		8350.00	403.82S	1382.89W 7-Nov-2001



# **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