

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on
reverse side)

FORM APPROVED
OMB NO. 1004-0136

Expires: February 28, 1995

CISF

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

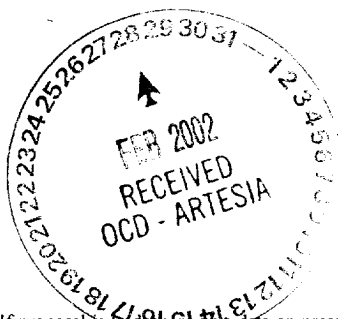
| | | | | | |
|---|--|----------------------------------|--|--|--|
| 1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> | | | 5. LEASE DESIGNATION AND SERIAL NO. CC 064293A | | |
| b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/> | | | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A | | |
| 2. NAME OF OPERATOR Marathon Oil Company | | | 7. UNIT AGREEMENT NAME Indian Hills Unit | | |
| 3. ADDRESS AND TELEPHONE NO. P.O. Box 552 Midland, TX 79702 915/687-8357 | | | 8. FARM OR LEASE NAME, WELL NO. Indian Hills Unit # 42 | | |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At surface 475' FNL & 2522' FEL Sec. 20, T-21-S, R-24-E At proposed prod. zone * See Below | | | 9. API WELL NO. 30-015-32355 | | |
| 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 15 miles NW of Carlsbad N.M. | | | 10. FIELD AND POOL, OR WILDCAT Indian Basin Upper Penn Assoc I.B. Strawn/ Wolfcamp (Wildcat) | | |
| 15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 475' | | 16. NO. OF ACRES IN LEASE 640 | 17. NO. OF ACRES ASSIGNED TO THIS WELL 320 S/2 | | |
| 18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. * 1959' | | 19. PROPOSED DEPTH 9350' | 20. ROTARY OR CABLE TOOLS Rotary | | |
| 21. ELEVATIONS (Show whether DF, RT, GR, etc.) 4205' G.L. | | | 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# | 1800' | 800 sks. |
| 8.750" | 7" K-55 | 23#/ 26# | 9350' | 1850 sks. |

Carlsbad Controlled Water Basin

* Please see attached memo for pertinent information regarding drilling plans.

NSL-4755 (BHL)



APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Sam Hildes TITLE Engineer Tech. DATE 11/14/01
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY /S/ JOE G. LARA TITLE FIELD MANAGER DATE FEB 27 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

RECEIVED
2001 NOV 16 AM 8:37

121 JOE G. LARA

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

Oil Cons.

N.M. DIV-Dist. 2

301 W. Grand Avenue

Artesia, NM 88210

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.

Lease Serial No.

Indian, Allottee or Tribe Name

N/A

SUBMIT IN TRIPLICATE - Other instructions on reverse side

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

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.

Indian Hills Unit # 42

2. Name of Operator

Marathon Oil Company

9. API Well No.

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)

SHL in Section 20, T-21-S, R-24-E

U.L. "B" 475' FNL & 2522' FEL

BHL in Section 17, T-21-S, R-24-E 283' FSL & 142' FEL

10. Field and Pool, or Exploratory Area

Indian Basin Upper Penn/
Wolfcamp/Strawn

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 checked="" type="checkbox"/> Other <u>Stipulations</u> |
| <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.)

Due to the Cave and Karst issues in the Seven Rivers Hills Area of Indian Basin, Marathon Oil Company has run an extensive Surface Geophysical study. Ground Penetrating Radar has been used to identify any anomalies present on the pad area of the Indian Hills Unit # 42 and 40 proposed locations. These two wells will share the same drilling pad.

Marathon Oil Company will drill several pilot holes in the areas where anomalies were identified by the GPR survey. The holes will be drilled to approx. 20 feet in depth. Drilling the test holes will also test the validity of the GPR survey. If drilling of the test holes reveals a cave feature or anomaly Marathon will agree to move the location as necessary.

Marathon Oil Company understands these actions will be stipulations in the approved Application for Permit to Drill.

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

Jerry Fletcher

Title

Engineer Tech.

Date

1/10/01

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

/S/ JOE G. LARA

FIELD MANAGER

Date

FEB 27 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

1000

Indian Hills Unit # 42

Marathon Oil Company is proposing to directionally drill the proposed well to a Primary Indian Basin Upper Penn. Associated target and Secondary Wolfcamp Wildcat and Strawn tail. All penetration points of the above zones of interest are Non- Standard to the outer boundary of the proration unit. The Wolfcamp, Upper Penn. and Strawn fall outside the 660 feet set back criteria. All of the above producing zones are located in Section 17, Township 21-South, Range 24-East. The Surface hole is located in Section 20, Township 21- South, Range 24-East.

Surface location of the *IHU # 42* and *IHU 40* will be on the same pad to conserve space and reduce surface disturbances.

Proposed Baker Inteq directional plan is attached.

- 1) Wolfcamp estimated Penetration point located @ 58' FSL & 1125' FEL. Section 17, T-21-S, R-24-E
- 2) Upper Penn. Penetration point @ 150' FSL & 750' FEL. Section 17, T-21-S, R-24-E
- 3) Strawn estimated Penetration point located @ 235' FSL & 454' FEL of Section 17, T-21-S, R-24-E
- 4) Bottom hole (T.D.) located @ 268' FSL & 345' FEL. Section 17, T-21-S, R-24-E.

Reference Arch Report # ASC-01-143 for Arch. Clearance.

* Distance from the proposed Indian Hills Unit # 42 surface location to the existing Indian Hills Unit # 31 surface location, located @ 1093' FNL & 663' FEL, Section 20, T-21-S, R-24-E is 1959'.

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 33985 | Pool Name Indian Basin Upper Penn. Assoc. |
| Property Code | Property Name INDIAN HILLS UNIT | Well Number 42 |
| OGRID No. 14021 | Operator Name MARATHON OIL COMPANY | Elevation 4205' |

Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| B | 20 | 21-S | 24-E | | 475 | NORTH | 2522 | 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 | 17 | 21-S | 24-E | | 268 | SOUTH | 345 | EAST | EDDY |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|-----------------|-----------------|--------------------|-----------|
| 320 S/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>Standard Upper Penn. Producing Window</p> <p>Project Area</p> <p>SEC 17</p> <p>SEC 20</p> <p>U.P. Base</p> <p>U.P. Top</p> <p>U.P. T.D.</p> <p>345'</p> <p>2522'</p> <p>4178.0'</p> <p>4189.1'</p> <p>4203.4'</p> <p>475'</p> <p>SURF LOC.</p> <p>NON STANDARD BHL</p> <p>GEODEIC COORDINATES NAD 27 NME SURF Y = 535039.5 LOC. X = 442227.1 BH. Y = 535547.9 LOC. X = 443990.7</p> | | <p>OPERATOR CERTIFICATION</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>SURVEYOR CERTIFICATION</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</p> <p>Date Surveyed _____ AWB</p> <p>Signature & Seal of Professional Surveyor</p> <p>RONALD J. EIDSON Professional Surveyor</p> <p>SEPTEMBER 5, 2001</p> <p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641</p> |
|--|--|--|

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 | |
| | | | Wolfcamp (Wildcat) | |
| Property Code | Property Name | | Well Number | |
| | INDIAN HILLS UNIT | | 42 | |
| OGRID No. | Operator Name | | Elevation | |
| 14021 | MARATHON OIL COMPANY | | 4205' | |

| | | | | | | | | | |
|------------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| Surface Location | | | | | | | | | |
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
| B | 20 | 21-S | 24-E | | 475 | NORTH | 2522 | 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 | 17 | 21-S | 24-E | | 268 | SOUTH | 345 | EAST | EDDY |

| | | | |
|-----------------|-----------------|--------------------|-----------|
| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
| 320 S/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

Standard Wolfcamp Producing Window

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
11/12/01
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.

SEPTEMBER 5, 2001

Date Surveyed: _____ AWB
Signature & Seal of Professional Surveyor
Professional Surveyor
NEW MEXICO
3239
01.11.1000
Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

Project Area

SEC 17

SEC 20

4203.4'

4189.1'

475'

2522'

4178.0'

4178.0'

345'

38'

WOLF

LOC.

GEODETTIC COORDINATES

NAD 27 NME

SURF Y = 535039.5

LOC. X = 442227.1

BH. Y = 535547.9

LOC. X = 443990.7

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

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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 |
| | | Indian Basin Strawn |
| Property Code | Property Name | Well Number |
| | INDIAN HILLS UNIT | 42 |
| OGRID No. | Operator Name | Elevation |
| 14021 | MARATHON OIL COMPANY | 4205' |

Surface Location

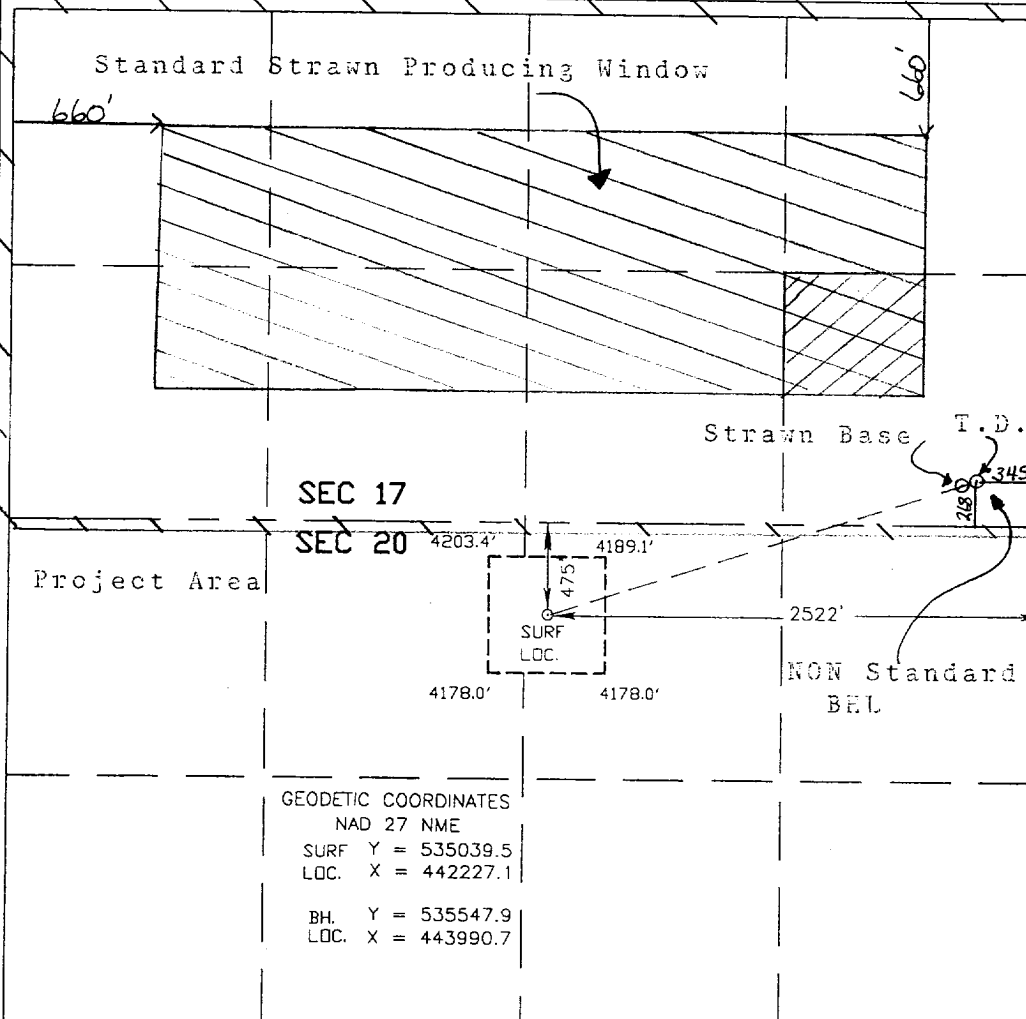
| | | | | | | | | | |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
| B | 20 | 21-S | 24-E | | 475 | NORTH | 2522 | 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 | 17 | 21-S | 24-E | | 268 | SOUTH | 345 | EAST | EDDY |

| | | | |
|-----------------|-----------------|--------------------|-----------|
| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
| 320 S/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>OPERATOR CERTIFICATION</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>SURVEYOR CERTIFICATION</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</p> <p>Date Surveyed _____ AWB</p> <p>Signature & Seal of Professional Surveyor <i>Ronald J. Edson</i> 01.11.1000</p> <p>Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641</p> |
|--|---|

ARCHAEOLOGICAL SURVEY of the MARATHON OIL COMPANY
INDIAN HILLS UNIT FEDERAL WELL NO. 40 [497 FNL, 2512 FEL]
and INDIAN HILLS UNIT FEDERAL WELL NO. 42 [475 FNL, 2522 FEL]
and PIPELINE R/W RE-ROUTE
T21S, R24E, SECTION 20 (NW $\frac{1}{4}$ NE $\frac{1}{4}$). EDDY COUNTY, NEW MEXICO

FEDERAL LAND SURFACE
[U.S.G.S. 7.5 minute series, MARTHA CREEK, NEW MEXICO, 1978]

ASC Report 01-143 (NMCRIS NO. 76617)

by James V. Sciscenti, Project Archaeologist
and Dorothy M. Griffiths, Principal Investigator

ARCHAEOLOGICAL SURVEY CONSULTANTS
P.O. Box 2285, Roswell, New Mexico 88202-2285
[505] 623-5012

BUREAU OF LAND MANAGEMENT PERMIT NO.: 18-2920-01-R
FEDERAL LAND ANNUAL PERMIT NO.: NM-01-070

October 17, 2001

Prepared for:

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attention: Jerry Fletcher

Distribution:

~~Marathon Oil Company~~ (1)
BLM - Carlsbad Field Office (2)
Sciscenti (1)

TITLE PAGE/ABSTRACT/NEGATIVE PROJECT REPORT FORM

CARLSBAD FIELD OFFICE

BLM/CFO

| | | |
|-----------------|--------------------------|--------------------|
| 1. BLM Report # | 2. (ACCEPTED) (REJECTED) | 3. NMCRIS #: 76617 |
|-----------------|--------------------------|--------------------|

4. **Report Title:**
ARCHAEOLOGICAL SURVEY of the MARATHON OIL COMPANY INDIAN HILLS UNIT FEDERAL WELL NO. 40 [497 FNL, 2512 FEL], and INDIAN HILLS UNIT FEDERAL WELL NO. 42 [475 FNL, 2522 FEL]; and PIPELINE R/W RE-ROUTE. T21S, R24E, SECTION 20 (NW $\frac{1}{4}$ NE $\frac{1}{4}$). EDDY COUNTY, NEW MEXICO.

5. **Project Date (Fieldwork):** 10/14/2001
6. **Report Date:** 10/17/2001

7. **Consultant Name & Address:**
ARCHAEOLOGICAL SURVEY CONSULTANTS
P.O. Box 2285, Roswell, New Mexico 88202-2285. Phone: 505-623-5012.

Direct Charge: D.M. Griffiths and/or J.V. Sciscoenti
Project Archaeologist: D.M. Griffiths and/or J.V. Sciscoenti
Field Personnel Names: D.M. Griffiths; J.V. Sciscoenti; L.J. Jaramillo

8. **Bureau of Land Management Permit #:** 18-2920-01-R
State of New Mexico Permit #: NM-01-070

9. **Consultant Report #:** ASC Report 01-143

10. **Sponsor Name, Address, & Phone Number:**

Individual Responsible: Jerry Fletcher
MARATHON OIL COMPANY
P.O. Box 552, Midland, TX 79702-0552. Phone: 1-800-351-1417

11. **For BLM Use Only.**

12. **ACREAGE.** Total Acres Surveyed: 6.10
Surface Ownership by Acres: Federal: 6.10 N.M. State: 0 Fee: 0

13. **Location (Maps attached):** a. State: New Mexico b. County: Eddy

c. **BLM Field Office:** Carlsbad d. **Nearest Town:** Seven Rivers

e. **Project (Well Pad) Location:** Indian Hills Unit Fed. Well No. 40: T21S, R24E, Section 20 (497 FNL, 2512 FEL). Indian Hills Unit Fed. Well No. 42: T21S, R24E, Section 20 (475 FNL, 2522 FEL). Both locations are in T21S, R24E, Section 20 (NW $\frac{1}{4}$ NE $\frac{1}{4}$).

Access Road Location: not applicable (straddles extant caliche road).

Pipeline R/W Location: T21S, R24E, Section 20 (NW $\frac{1}{4}$ NE $\frac{1}{4}$; NE $\frac{1}{4}$ NW $\frac{1}{4}$).

f. **Map Name(s):** U.S.G.S. 7.5 minute series, MARTHA CREEK, NEW MEXICO, 1978 (32104-D5)

g. **Impacted Block Area:** 300 ft. square.

Surveyed Block Area: ca. 620 ft. NS x 615 ft. EW. (8.75 acres); the well pad overlaps a previously surveyed 600 ft. sq. well pad (see ASC 01-023).
New surveyed acreage = 3.34 acres.

Linear Impact Area: 600 ft. long x 35 ft. wide.

Surveyed Linear Area: 600 ft. long x 200 ft. wide, 2.76 acres.

TITLE PAGE/ABSTRACT/NEGATIVE PROJECT REPORT FORM
(continued)

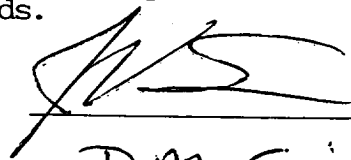
BLM/CFO

- 14 a. **Records Search:** ARMS & BLM records, as of 10/10/2001, do not indicate the prior recording of sites within 0.25 miles of the project area.
- b. **Description of Undertaking:** intensive archaeological survey of the Marathon Oil Company Indian Hills Unit Federal Well Nos. 40 & 42, consisting of 2 proposed overlapping well pads (each 600 ft. square). Since the 2 well pad overlap a previously inspected, proposed well pad (see ASC Report 01-023), the total well pad acreage inspected during ASC Project 01-143 = 3.34 acres.
- In addition, a proposed pipeline R/W re-route (to avoid the proposed well centres), 600 ft. long x 200 ft. wide (2.76 acres) was inspected for cultural remains. A total federal land surface of 6.10 acres was inspected for cultural remains during ASC Project 01-143. No new access road is required, since the proposed well pads straddle the extant caliche oilfield road.
- c. **Environmental Setting:** situated on the crest and near slopes of the Seven Rivers Hills, ca. 0.25 miles to the ESE of Rizado Point, within the Staple Canyon drainage system, with the overlapping well pads on the spine and slopes of an ESE projecting ridge. The central part of the proposed well pads is within relatively level to slightly inclined terrain, on the spine of the ridge, in an area marked by limestone outcrops and bedrock, with shallow loam soils and limestone scree. The southwestern and southern part of the well pad is in terrain inclined to the SW, S, and SE towards a tributary of Staple Canyon; limestone outcrops are widely exposed on the slopes. The northern part of the well pads, and the pipeline re-route, is within terrain inclined directly NNE towards Staple Canyon, with wide exposures of shallow loam soil. Soils: Ector stony loam on the ridge spine and near slopes; Limestone rock land within steep slopes. Vegetation: marginal Chihuahua Desert Scrub. Ground Visibility: ca. 65% to 85%.
- d. **Field Methods:** straight and zig-zag transects, spaced no greater than 15 metres apart. Work Hours on Ground: 3.0. Crew Size: 3. Artifacts Collected: 0.
15. **Cultural Resource Findings:** archaeological survey of the Marathon Oil Company Indian Hills Unit Federal Well Nos. 40 & 42 did not reveal any prehistoric or historic cultural resources.
16. **Management Summary & Recommendations:**
- Archaeological clearance for the Marathon Oil Company Indian Hills Unit Federal Well Nos. 40 & 42 is recommended, without proviso.

I certify that the information provided above is correct and accurate, and meets all applicable BLM standards.

Project Archaeologist

Principal Investigator



D.M. Griffiths

D.M. Griffiths

Thirteen Point Surface Use Plan
MARATHON OIL COMPANY

INDIAN HILLS UNIT #42
Sec. 20, T-21-S, R-24-E
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 1.9 miles to White Pine Road. Go North 1.3 miles, turn Right on lease road and continue East 1 mile. Turn Right at "Y" and follow lease road .5 miles to new location site in center of existing lease road.
- 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.

The existing access road will be used. Plans will require blading and rolling the road and pad. The access road enters the drilling pad on the West side. The drilling location will have a V-door facing Northeast.

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

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

- a. Existing: There are six oil and gas wells operated by Marathon and Fasken within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon and Fasken operate a variety of dehydrators, meter runs, and several gathering lines in the one-mile radius.
- b. New Facilities: New facilities are in place. Two new flowlines will be installed and routed to existing facility # 117. Flow lines will be permitted on a separate action.
- c. Rehabilitation of disturbed areas no longer needed for operations will be accomplished by grading, leveling and seeding as recommended.

5. Location and Type of Water Supply:

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

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Indian Hills Unit #42

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. In some cases 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. Plans are to re-use the existing pit by adding more volume room on the east side.
- c. The reserve pit will be lined (8 mil material).

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Indian Hills Unit #42

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. Seeding will be accomplished by planting mixed grasses as per formula provided by the BLM. Seeding 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 seeding will be done between July 15 and September 15.

11. Other Information:

- a. There are no significant archaeological or cultural sites visible in the area of disturbance. A cultural resource survey was performed by Archaeological Consultants Inc. of Roswell.
- b. General topography: Shown on Vicinity Lease Map. The terrain at the 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 Bureau of Land Management.
- h. Due to proximity of the location and nearby drainage, Marathon will make every effort to minimize surface disturbance. Please see the location pad and reserve pit dimensions.

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Indian Hills Unit #42

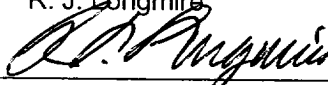
12. Operator Representatives:

R. J. Longmire
Drilling, Completion, & Workover Superintendent
P. O. Box 552
Midland, TX 79702
800/351-1417
915/682-1626
Pager 866/499-7964
Direct Line 915/687-8344

13. Certification:

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

11/14/01
Date

R. J. Longmire


DRILLING PROGRAM
MARATHON OIL COMPANY
INDIAN HILLS UNIT #42

1. Estimated KB Elevation: 4222' KB KB height 17' G.L. 4205'

| <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 | 460' | +3745' | 1195' | +3010' | water |
| San Andres | 1195' | +3010' | 2250' | +1370' | water |
| Glorietta | 2835' | +1370' | 2965' | +1240' | |
| Yeso | 2965' | +1240' | 6795' | -2590' | |
| Bone Spring | 6795' | -2590' | 7045' | -2840' | oil, gas |
| Wolfcamp | 7045' | -2840' | 7855' | -3650' | oil, gas |
| Cisco | 7855' | -3650' | 8085' | -3880' | |
| U. Penn | 8085' | -3880' | 8575' | -4370' | gas, oil, water |
| Strawn | 8575' | -4370' | 9350' | -5128' | gas, oil, water |

| <u>FORMATION</u> | <u>---EST PSIG</u> | <u>SBHP--- PPG EMW</u> | <u>EST DEG f</u> | <u>SBHT PPM</u> | <u>H2S</u> | <u>---SIGNIFICANCE--- (obj, marker, etc.)</u> |
|------------------|--------------------|------------------------|------------------|-----------------|------------|---|
| Bone Springs | 1210 | 8.5 | | | 500 | marker |
| Wolfcamp | 1680 | 9.0 | | | | objective pay |
| B/Permian Shale | 1810 | 9.0 | | | | marker |
| U. Penn | 1025 | 9.0 | | | 5000 | objective pay |
| Strawn | 3400 | 9.3 | | | 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:**

4. 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# PSI/3000# PSI.

Auxiliary Equipment:

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

Intermediate Hole: N/A

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

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

Upper and lower kelly cocks with valve wrench 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 #42

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 | 1800' | 1800' | 12.25" | 9-5/8" | 36# | K-55 | 8rd, STC | New |
| 0 | 4800' | 4800' | 8.750" | 7.00" | 23# | K-55 | 8rd, LT&C | New |
| 4800' | 9350' | 4540' | 8.750" | 7.00" | 26# | K-55 | 8rd, LT&C | New |

| Casing | DV | | Lead | Amt | Type | Yield | Wt. | | |
|--------|-------|------|------|-----|---------------|-------|------|-----|-----------------------------------|
| String | Depth | Stg. | Tail | SXS | Cement | CF/SX | PPG. | TOC | Additives |
| 9-5/8" | | | L | 200 | Thix Set | 1.52 | 14.0 | | 1% Thix set"A" .25Thix set"B" |
| 9-5/8" | | | L | 400 | Light | 2.02 | 12.4 | | 2% CACL2, cello flakes |
| 9-5/8" | | | T | 200 | Class "C" | 1.34 | 14.8 | | 2% CACL2 |
| 7.0" | | | 1 | 350 | Class "H" | 1.18 | 15.6 | | N2, Zone seal, |
| 7.0" | | | 1 | 500 | Mod Super"H" | 1.69 | 13.0 | | .4% CFR, 5 pps Gilsonite |
| 7.0" | 6500' | | 2 | 900 | Interfill "C" | 2.47 | 11.9 | | .25 pps Cello, 3 pps Gilsonite |
| 7.0" | | | 2 | 100 | Class "C" | 1.32 | 14.8 | | 2% CACL2 |

A. P. D. (cont.)
Thirteen Point Surface Use Plan
Indian Hills Unit #42

| 5. | | Mud Program | | | | | | |
|-------------|-------|-------------|--------|-------|-----|---------------------------------------|-------|------------|
| ---DEPTH--- | | | WEIGHT | | WL | | | VISUAL |
| FROM | TO | MUD TYPE | (PPG) | VIS | CC | ADDITIVES | | MONTR. |
| 0 | 1200' | fresh water | 8.3 | 28 | N/A | Gel, Lime | | Reserve |
| 1200' | 5000' | fresh | 8.5 | 28-32 | N/C | Gel, caustic, H ₂ S Starch | | Reserve |
| 5000' | 7000' | fresh | 8.9 | 32-36 | N/C | Gel, caustic, H ₂ S Starch | | Reserve |
| 7000' | 8200' | fresh | 8.9 | 32-36 | <20 | Gel, caustic, H ₂ S Starch | | Steel Pits |
| 8200' | 9350' | fresh | 9.0 | 33-37 | <20 | " | " " " | 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 H₂S in Wolfcamp, Upper Penn, and Strawn. See H₂S Drilling Operations Plan.

8. Other Information:

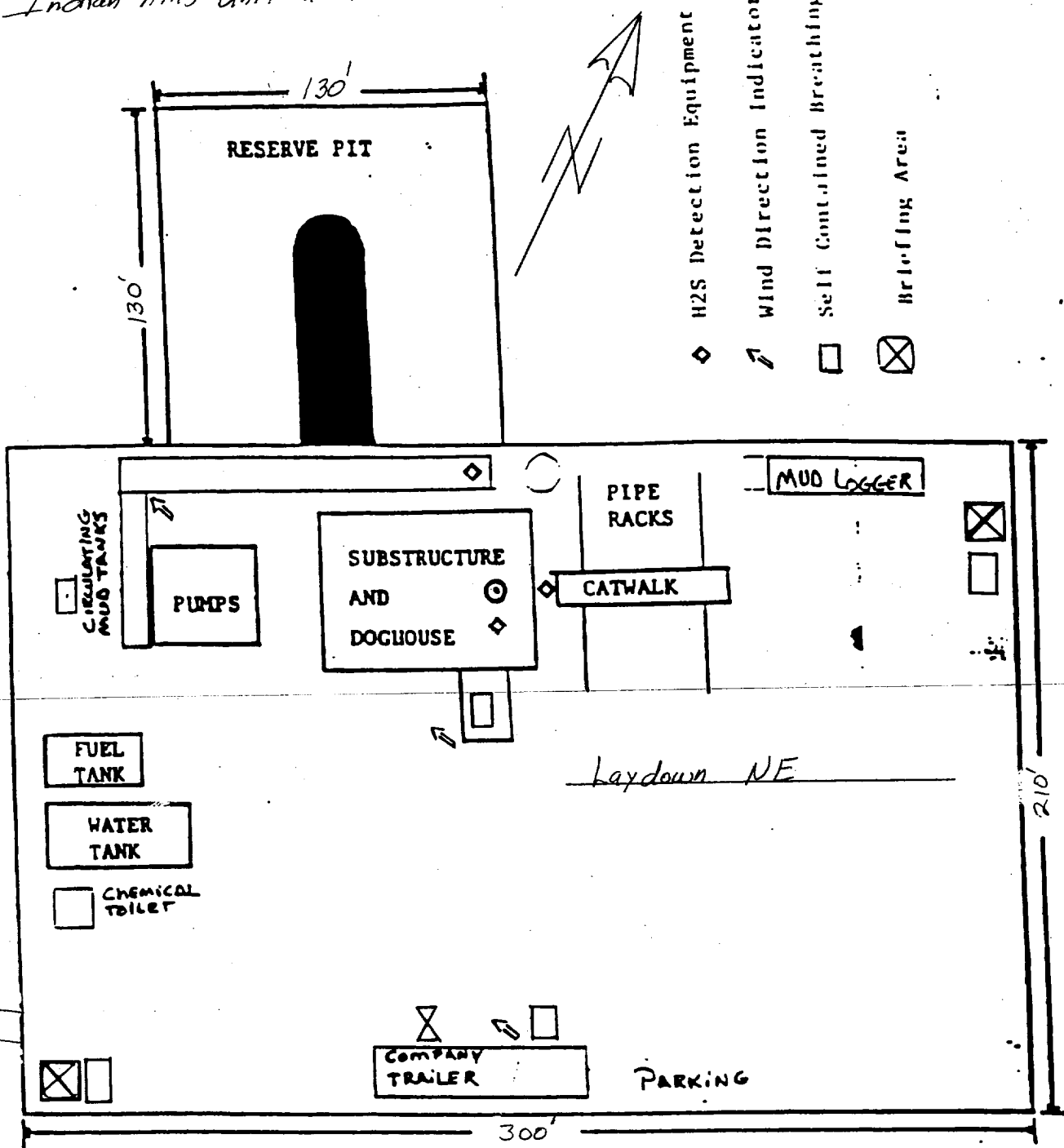
Anticipated Starting Date: As soon as possible.

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

Well pad will be used for the IHU # 40 and # 42.

Indian Hills Unit # 42

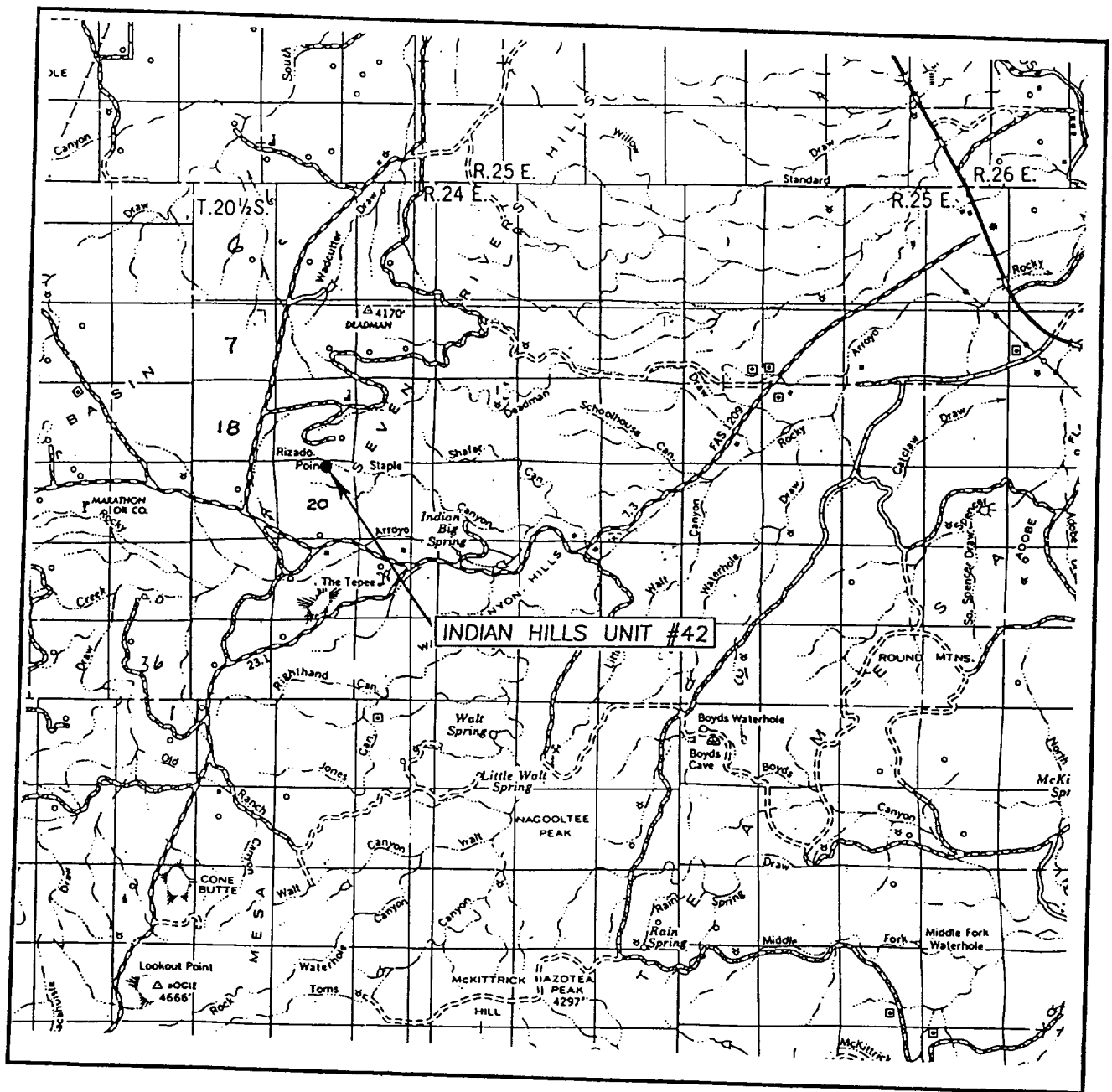
Main Road Access



prevailing Wind Direction
Southwest

Foot-path for emergency
egress

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 20 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 475' FNL 2522' FEL

ELEVATION 4205'

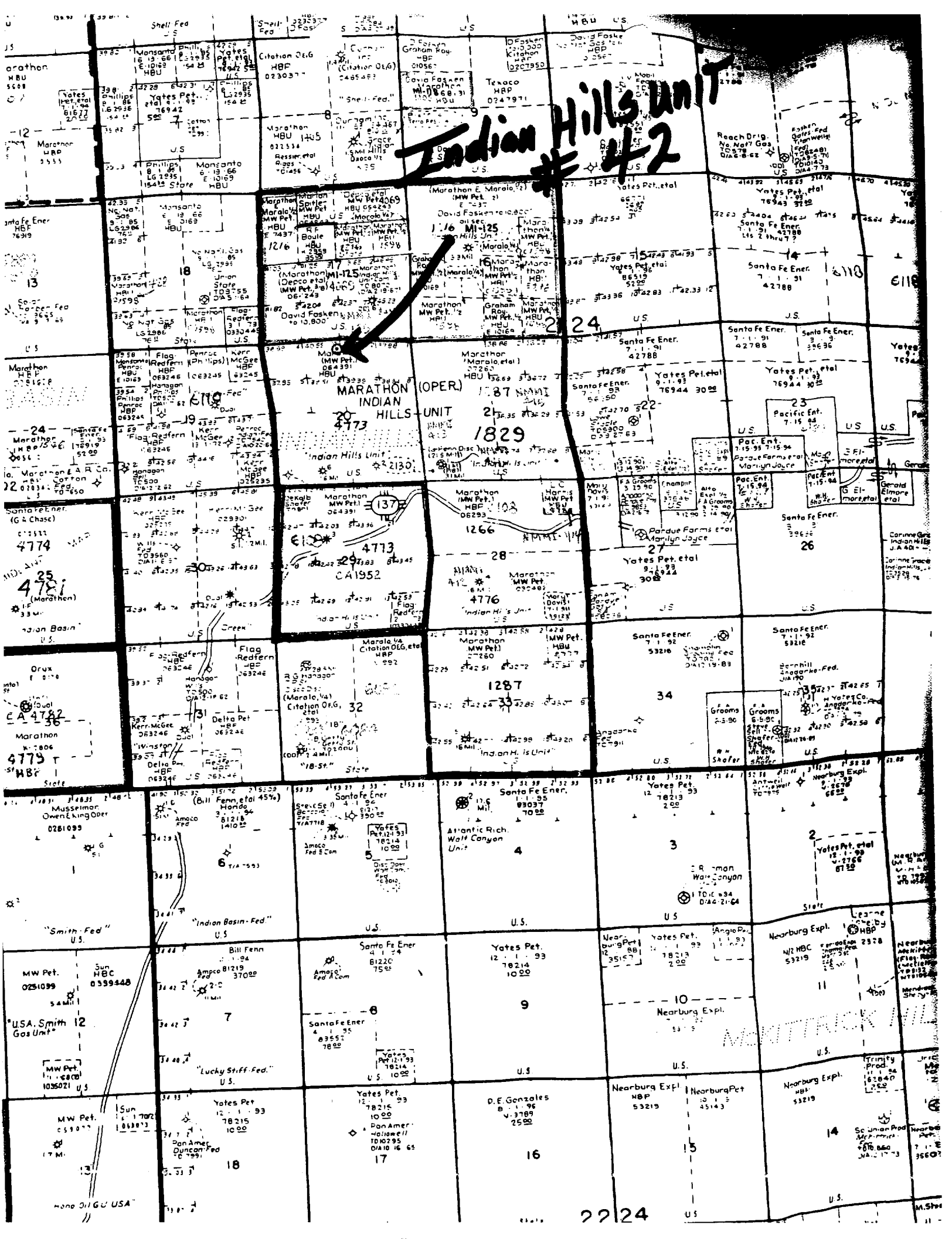
OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

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



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



MARATHON OIL COMPANY

H2S DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

II. H2S EQUIPMENT AND SYSTEMS

1. Safety Equipment

The following safety equipment will be on location.

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

2. WELL CONTROL SYSTEMS

A. Blowout Prevention Equipment

Equipment includes but is not limited to:

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

Auxillary equipment added as appropriate includes:

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

B. Communication

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

C. Mud Program

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

D. Drill Stem Test intervals are as follows:

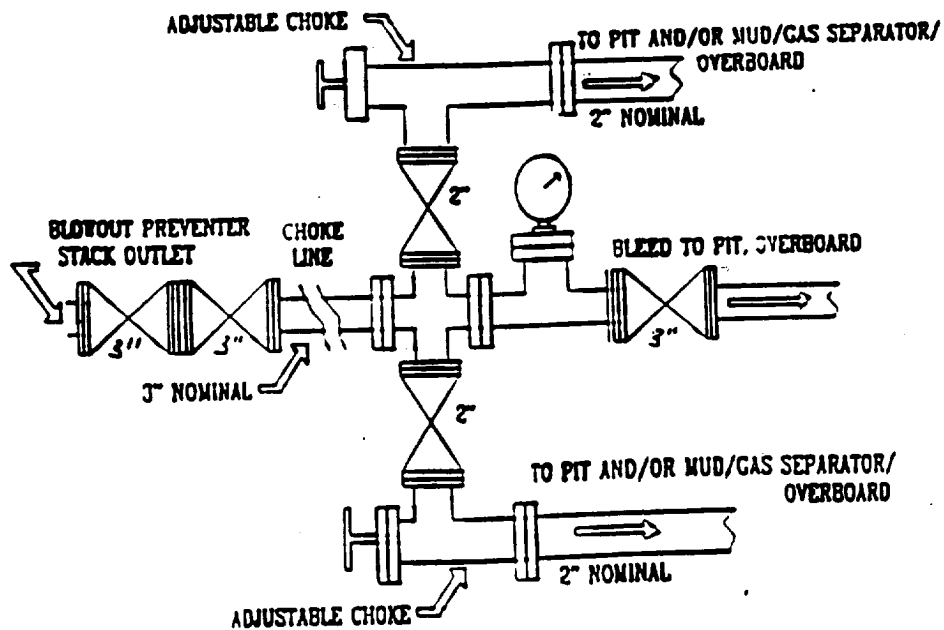
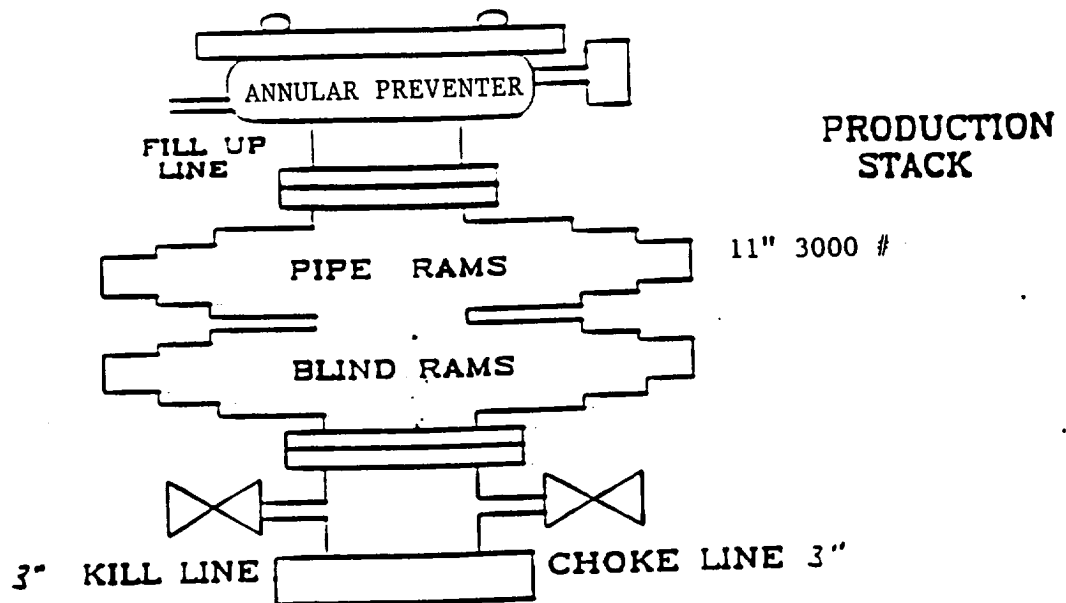
| | | | | |
|-----------|-------|--------|-------|-----|
| DST No. 1 | _____ | ft. to | _____ | ft. |
| DST No. 2 | _____ | ft. to | _____ | ft. |
| DST No. 3 | _____ | ft. to | _____ | ft. |

Drill Stem Testing Safety Rules are attached.

III. WELL SITE DIAGRAM

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

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





Marathon Oil Company

Structure : Indian Hills Unit 42 Slot : slot #1
Field : INDIAN BASIN Location : Eddy County New Mexico

Created by land
Date plotted : 8-Nov-2001
Plot Reference is P12DJRH.
Coordinates are in feet reference slot #1.
True Vertical Depths are reference rotary table.
--- Baker Hughes INTEQ ---
JHU42R3



INTEQ

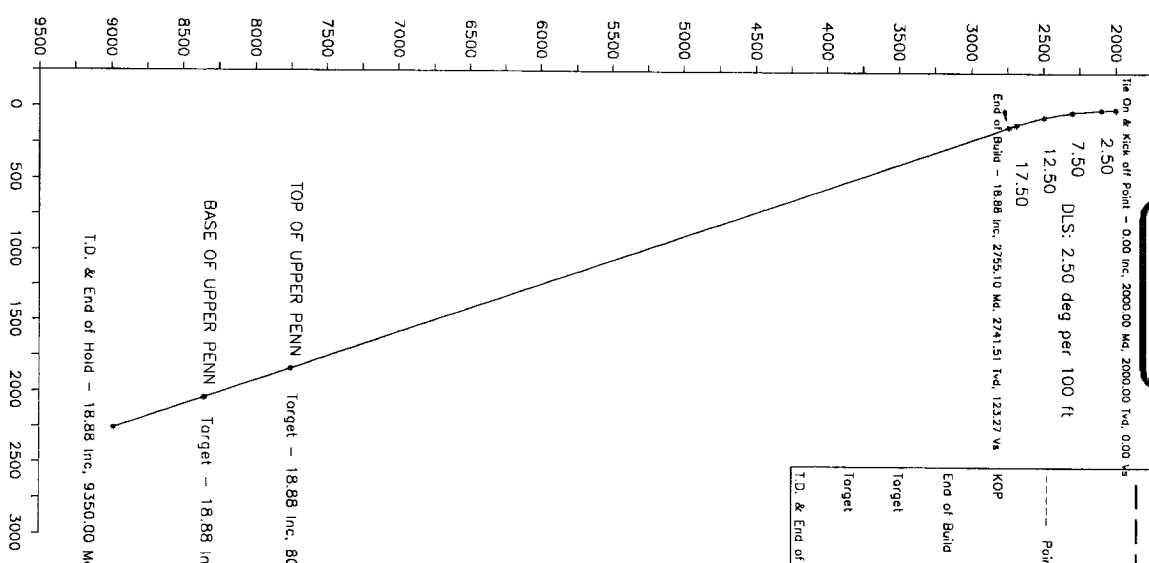
APPROVAL

Operations: _____
Client: _____
Date: _____

WELL PROFILE DATA

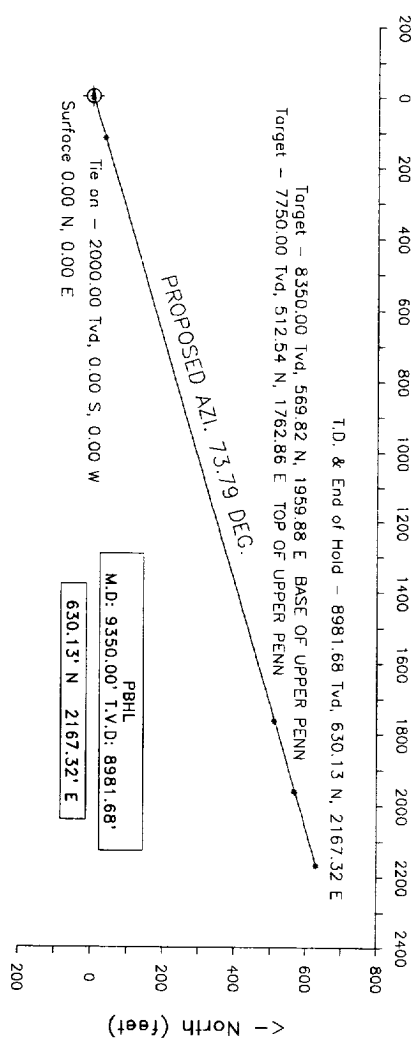
| Point | MD | Inc | Dir | TVD | North | East | V. Sect | Deg/100 |
|--------------------|---------|-------|-------|---------|--------|---------|---------|---------|
| KOP | 2000.00 | 0.00 | 73.79 | 2000.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| End of Build | 2755.10 | 18.88 | 73.79 | 2741.51 | 34.42 | 118.37 | 123.37 | 2.50 |
| Target | 8048.29 | 18.88 | 73.79 | 7750.00 | 512.54 | 1762.86 | 1835.86 | 0.00 |
| Target | 8682.41 | 18.88 | 73.79 | 8350.00 | 569.82 | 1959.88 | 2041.04 | 0.00 |
| T.D. & End of Hold | 9350.00 | 18.88 | 73.79 | 8981.68 | 630.13 | 2167.32 | 2257.06 | 0.00 |

< - True Vertical Depth (feet)



Azimuth 73.79 with reference 0.00 N, 0.00 E from slot #1

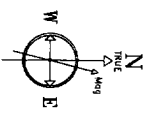
East (feet) ->



PROPOSED AZL. 73.79 DEG.

PBHL
M.D.: 9350.00' T.V.D.: 8981.68'

630.13' N 2167.32' E



5-Nov-2001 (Current 8981)
Magnetic North is 3.14 degrees East of True North.
To correct azimuth from Magnetic to True add 3.14 deg

Marathon Oil Company
Indian Hills Unit 42

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 : prop3103
License :

Date printed : 8-Nov-2001
Date created : 7-Nov-2001
Last revised : 8-Nov-2001

Field is centred on n32 30 0.000,w104 30 0
Structure is centred on 442227.100,535039.500,999.00000,N

Slot location is n32 28 14.866,w104 31 14.391
Slot Grid coordinates are N 535039.500, E 442227.100
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 42, 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 | 73.79 | 2000.00 | 0.00 N 0.00 E | 0.00 | 0.00 |
| 2100.00 | 2.50 | 73.79 | 2099.97 | 0.61 N 2.09 E | 2.50 | 2.18 |
| 2200.00 | 5.00 | 73.79 | 2199.75 | 2.43 N 8.37 E | 2.50 | 8.72 |
| 2300.00 | 7.50 | 73.79 | 2299.14 | 5.47 N 18.83 E | 2.50 | 19.61 |
| 2400.00 | 10.00 | 73.79 | 2397.97 | 9.72 N 33.43 E | 2.50 | 34.82 |
| 2500.00 | 12.50 | 73.79 | 2496.04 | 15.17 N 52.17 E | 2.50 | 54.33 |
| 2600.00 | 15.00 | 73.79 | 2593.17 | 21.80 N 74.99 E | 2.50 | 78.09 |
| 2700.00 | 17.50 | 73.79 | 2689.17 | 29.61 N 101.86 E | 2.50 | 106.07 |
| 2755.10 | 18.88 | 73.79 | 2741.51 | 34.42 N 118.37 E | 2.50 | 123.27 |
| 3000.00 | 18.88 | 73.79 | 2973.24 | 56.54 N 194.46 E | 0.00 | 202.51 |
| 3500.00 | 18.88 | 73.79 | 3446.35 | 101.70 N 349.80 E | 0.00 | 364.28 |
| 4000.00 | 18.88 | 73.79 | 3919.45 | 146.86 N 505.14 E | 0.00 | 526.05 |
| 4500.00 | 18.88 | 73.79 | 4392.56 | 192.03 N 660.48 E | 0.00 | 687.83 |
| 5000.00 | 18.88 | 73.79 | 4865.67 | 237.19 N 815.82 E | 0.00 | 849.60 |
| 5500.00 | 18.88 | 73.79 | 5338.77 | 282.36 N 971.16 E | 0.00 | 1011.37 |
| 6000.00 | 18.88 | 73.79 | 5811.88 | 327.52 N 1126.50 E | 0.00 | 1173.14 |
| 6500.00 | 18.88 | 73.79 | 6284.98 | 372.69 N 1281.84 E | 0.00 | 1334.92 |
| 7000.00 | 18.88 | 73.79 | 6758.09 | 417.85 N 1437.18 E | 0.00 | 1496.69 |
| 7500.00 | 18.88 | 73.79 | 7231.20 | 463.01 N 1592.52 E | 0.00 | 1658.46 |
| 8000.00 | 18.88 | 73.79 | 7704.30 | 508.18 N 1747.86 E | 0.00 | 1820.23 |
| 8048.29 | 18.88 | 73.79 | 7750.00 | 512.54 N 1762.86 E | 0.00 | 1835.86 |
| 8100.00 | 18.88 | 73.79 | 7798.93 | 517.21 N 1778.92 E | 0.00 | 1852.59 |
| 8200.00 | 18.88 | 73.79 | 7893.55 | 526.24 N 1809.99 E | 0.00 | 1884.94 |
| 8300.00 | 18.88 | 73.79 | 7988.17 | 535.28 N 1841.06 E | 0.00 | 1917.30 |
| 8400.00 | 18.88 | 73.79 | 8082.79 | 544.31 N 1872.13 E | 0.00 | 1949.65 |

All data is in feet unless otherwise stated.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 2257.06 on azimuth 73.79 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 73.79 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Wolfcamp Top 58' FSL 1125' FEL
150' FSL * 750' FEL of Sec 17

Marathon Oil Company
Indian Hills Unit 42, slot #1
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 2
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 |
|----------------|-----------------|-----------------|-----------------|---|------------------|-----------|
| 8500.00 | 18.88 | 73.79 | 8177.41 | 553.34 N | 0.00 | 1982.01 |
| 8600.00 | 18.88 | 73.79 | 8272.03 | 562.38 N | 0.00 | 2014.37 |
| 8682.41 | 18.88 | 73.79 | 8350.00 | 569.82 N | 0.00 | 2041.04 |
| 9000.00 | 18.88 | 73.79 | 8650.51 | 598.51 N | 0.00 | 2143.81 |
| 9350.00 | 18.88 | 73.79 | 8981.68 | 630.13 N | 0.00 | 2257.06 |

268' FS1 * 345' FEL

Upper Penn Basin 207 FS1 * 553' FEL

All data is in feet unless otherwise stated.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 2257.06 on azimuth 73.79 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 73.79 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ