



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

October 31, 1996

Marathon Oil Company  
P. O. Box 552  
Midland, Texas 79702  
Attention: Walter J. Ducease

*Administrative Order DD-157(NSL)(SD)*

Dear Mr. Ducease:

Reference is made to your application dated June 13, 1996 for authorization to directionally drill its proposed Indian Hills Unit Well No. 13, Eddy County, New Mexico.

**The Division Director Finds That:**

- (1) The subject application submitted by Marathon Oil Company, as operator, has been duly filed under the provisions of:
  - (a) **Rules 111.D and E** of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995;
  - (b) **Rule 104.F** of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10533, issued by the Oil Conservation Commission in Case 11,351 on January 18, 1996; and,
  - (c) The "*Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Gas Pool*", as promulgated by Division Order No. R-2440, as amended;
- (2) The operator proposes to drill its Indian Hills Unit Well No. 13 at an unorthodox surface gas well location 650 feet from the South line and 293 feet from the East line (Unit P) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, kickoff from vertical in a west-northwesterly direction and directionally drill as to bottom said well within the Indian Basin-Upper Pennsylvanian Gas Pool at an unorthodox subsurface gas well location within the SE/4 SE/4 (Unit P) of said Section 28 that is no

1944

closer to the South section line than 740 feet and no closer to the East section line than 758 feet;

- (3) This well is to be included within an existing 640-acre standard gas spacing and proration unit comprising all of said Section 28, which is currently dedicated to the Indian Hills Unit Well No. 4 (API No. 30-015-10738), located at a standard gas well location 1650 feet from the South and West lines (Unit J) of said Section 28;
- (4) By Order No. R-8170, as amended, the Division promulgated the "*General Rules For The Prorated Gas Pools of New Mexico/Special Rules and Regulations For The Indian Basin-Upper Pennsylvanian Gas Pool*", which includes provisions for 640-acre gas spacing and proration units and well location requirements which provides that wells be no closer than 1650 feet to the outer boundary of a 640-acre spacing unit and not closer than 330 feet to any quarter-quarter section line or subdivision inner boundary thereon;
- (5) The applicable drilling window or "producing area" for said wellbore should include that area within the SE/4 SE/4 (Unit P) of said Section 28 that is no closer to the South section line than 740 feet and no closer to the East section line than 758 feet nor closer than 330 feet to either internal quarter-quarter section lines to the north and west; and,
- (6) It appearing the applicant has satisfied all of the appropriate requirements prescribed in; (i) Division General Rules 111.D and E; (ii) RULE 5 of said special pool rules; and, (iii) Division General Rule 104.F(2), the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rule 111.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Marathon Oil Company, is hereby authorized to drill its Indian Hills Unit Well No. 13 at an unorthodox surface gas well location 650 feet from the South line and 293 feet from the East line (Unit P) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, kickoff from vertical in a west-northwesterly direction and directionally drill as to bottom said well within the Indian Basin-Upper Pennsylvanian Gas Pool at an unorthodox subsurface gas well location within the SE/4 SE/4 (Unit P) of said Section 28 that is no closer to the South section line than 740 feet and no closer to the East section line than 758 feet;

**PROVIDED HOWEVER THAT** prior to commencing directional drilling operations in said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

**PROVIDED FURTHER THAT** during or upon completion of directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in order that the subsurface bottomhole location, as well as the wellbore's true depth and course, may be determined.

(2) The applicant shall notify the supervisor of the Artesia district office of the Division of the date and time said wellbore surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Artesia offices of the Division upon completion.

(3) Indian Basin-Upper Pennsylvanian gas production from both the existing Indian Hills Unit Well No. 4 (API No. 30-015-10738), located at a standard gas well location 1650 feet from the South and West lines (Unit J) of said Section 28, and Indian Hills Unit Well No. 13, as described above, shall be attributed to the existing 640-acre standard gas spacing and proration unit ("GPU") comprising all of said Section 28.

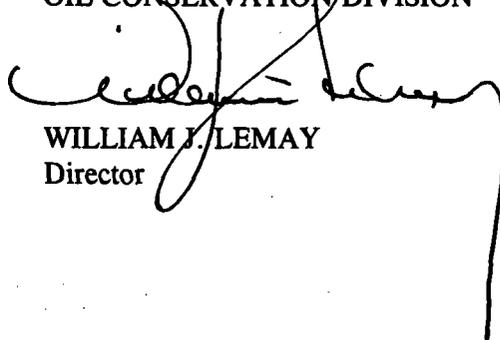
(4) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F.

(5) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(6) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

SEAL

WJL/MES/kv

cc: Oil Conservation Division - Artesia  
U. S. Bureau of Land Management - Carlsbad

DD-MORA.2

Rec: 6-14-96  
Susp: 7-5-96  
Released 10-31-96

October 31, 1996

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

Attention: Walter J. Dueease

157  
Administrative Order DD-\*\*\*\*\**(NSL)*(SD)

Dear Mr. Dueease:

Reference is made to your application dated June 13, 1996 for authorization to directionally drill its proposed Indian Hills Unit Well No. 13, Eddy County, New Mexico.

**The Division Director Finds That:**

- (1) The subject application submitted by Marathon Oil Company, as operator, has been duly filed under the provisions of:
  - (a) **Rules 111.D and E** of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995;
  - (b) **Rule 104.F** of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10533, issued by the Oil Conservation Commission in Case 11,351 on January 18, 1996; and,
  - (c) The "*Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Gas Pool*", as promulgated by Division Order No. R-2440, as amended;

- (2) The operator proposes to drill its Indian Hills Unit Well No. 13 at an unorthodox surface gas well location 650 feet from the South line and 293 feet from the East line (Unit P) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, kickoff from vertical in a west-northwesterly direction and directionally drill as to bottom said well within the Indian Basin-Upper Pennsylvanian Gas Pool at an unorthodox subsurface gas well location within the SE/4 SE/4 (Unit P) of said Section 28 that is no closer to the South section line than 740 feet and no closer to the East section line than 758 feet;
- (3) This well is to be included within an existing 640-acre standard gas spacing and proration unit comprising all of said Section 28, which is currently dedicated to the Indian Hills Unit Well No. 4 (API No. 30-015-10738), located at a standard gas well location 1650 feet from the South and West lines (Unit J) of said Section 28;
- (4) By Order No. R-8170, as amended, the Division promulgated the "*General Rules For The Prorated Gas Pools of New Mexico/Special Rules and Regulations For The Indian Basin-Upper Pennsylvanian Gas Pool*", which includes provisions for 640-acre gas spacing and proration units and well location requirements which provides that wells be no closer than 1650 feet to the outer boundary of a 640-acre spacing unit and not closer than 330 feet to any quarter-quarter section line or subdivision inner boundary thereon;
- (5) The applicable drilling window or "producing area" for said wellbore should include that area within the SE/4 SE/4 (Unit P) of said Section 28 that is no closer to the South section line than 740 feet and no closer to the East section line than 758 feet nor closer than 330 feet to either internal quarter-quarter section lines to the north and west; and,
- (6) It appearing the applicant has satisfied all of the appropriate requirements prescribed in; (i) Division General Rules 111.D and E; (ii) RULE 5 of said special pool rules; and, (iii) Division General Rule 104.F(2), the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rule 111.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Marathon Oil Company, is hereby authorized to drill its Indian Hills Unit Well No. 13 at an unorthodox surface gas well location 650 feet from the South line and 293 feet from the East line (Unit P) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, kickoff from vertical in a west-northwesterly direction and directionally drill as to bottom said well within the Indian Basin-Upper Pennsylvanian Gas Pool at an unorthodox subsurface gas well location within the SE/4 SE/4 (Unit P) of said Section 28

that is no closer to the South section line than 740 feet and no closer to the East section line than 758 feet;

PROVIDED HOWEVER THAT prior to commencing directional drilling operations in said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

PROVIDED FURTHER THAT during or upon completion of directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in order that the subsurface bottomhole location, as well as the wellbore's true depth and course, may be determined.

(2) The applicant shall notify the supervisor of the Artesia district office of the Division of the date and time said wellbore surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Artesia offices of the Division upon completion.

(3) Indian Basin-Upper Pennsylvanian gas production from both the existing Indian Hills Unit Well No. 4 (API No. 30-015-10738), located at a standard gas well location 1650 feet from the South and West lines (Unit J) of said Section 28, and Indian Hills Unit Well No. 13, as described above, shall be attributed to the existing 640-acre standard gas spacing and proration unit ("GPU") comprising all of said Section 28.

(4) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F.

(5) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(6) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY  
Director

S E A L

WJL/MES/kv

cc: Oil Conservation Division - Artesia  
U. S. Bureau of Land Management - Carlsbad

OIL CONSERVATION DIVISION  
RECEIVED

Mid-Continent Region  
Production United States



**Marathon  
Oil Company**

'96 JUN 14 AM 8 52

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

June 13, 1996

State of New Mexico  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505  
Attn: Mr. M. E. Stogner

DD-MARA. 2

RE: Indian Hills Unit No. 13  
SHL: 550' FSL & 293' FEL  
BHL: 740' FSL & 758' FEL  
Sec. 28, T-21-S, R-24-E  
Eddy County, New Mexico

Dear Mr. Stogner:

Marathon Oil Company respectfully requests administrative approval to directionally drill and complete the above referenced well in the Indian Basin, Upper Penn Gas Pool.

Marathon has made numerous attempts to locate an orthodox drillsite in the SE/4, SE/4 of Section 28, but due to topographical considerations, a directional well from an unorthodox surface hole location is the only feasible way to test the Upper Penn.

Onsite inspection of the area with Mr. Barry Hunt, Surface Use Specialist, Carlsbad Resource Area of Bureau of Land Management, resulted in their encouragement of locating the drilling pad away from areas requiring excessive cut and fill requirements and minimizing damage to the visual resources from scenic byways along State Highway 137. These stipulations are referenced in the East Indian Basin/Azotea Mesa Environmental Assessment.

MIKE -

THURS -

PER YOUR REQUEST, I AM  
RESUBMITTING THIS APPLICATION  
FOR AN UNORTHODOX LOCATION.

PLEASE NOTE THAT OUR INTENT  
IS AN OIL COMPLETION, THEN  
WE WOULD PROCEED WITH A  
REQUEST FOR A CHANGE IN  
POOL RULES.

PLEASE CALL IF YOU HAVE  
ANY QUESTIONS.

THANKS -

WALTER

PAGE -2-

Through onsite investigation, the BLM has recommended a site that will result in a minimum of surface damage to the area, yet is an unorthodox surface hole location.

The following items are being submitted in support of this request:

1. Form 3160-3 Application for Permit to Drill
2. Location Plat
3. Vertical Plan View
4. Horizontal Plan View
5. Type Log
6. Copy of signed waiver letters from offset operators

A copy of this letter and attachments is being furnished to the offset operators by certified mail as notice of this application

Marathon Oil Company seeks administrative approval to directionally drill to an orthodox bottom hole location from an unorthodox surface hole location. Due to rig scheduling difficulties, we anticipate spudding this well by June 20, 1996. Should this well have a commercial oil test, we will request approval for an extension of the Indian Basin - Upper Pennsylvanian Associated Pool rules to include this Section 28.

Please feel free to contact me at (800) 351-1417 if you have any questions.

Respectfully,



Walter J. Duesease  
MARATHON OIL COMPANY



Mid-Continent Region  
Production United States



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

**INDIAN HILLS UNIT NO. 13  
SHL: 650' FSL & 293' FEL  
BHL: 740' FSL & 758' FEL  
SEC. 28, T-21-S, R-24-E  
EDDY COUNTY, NEW MEXICO  
INDIAN BASIN - UPPER PENNSYLVANIAN GAS POOL**

**OFFSET OPERATOR LIST**

Santa Fe Energy Resources, Inc.  
550 West Texas Ave, Suite 1330  
Midland, Texas 79701

Sec. 34, T-21-S, R-24-E  
W/2, NW/4, Sec. 27, T-21-S, R-24-E

Yates Petroleum Corp.  
105 South 4th St.  
Artesia, New Mexico 88210

Sec. 27, T-21-S, R-24-E

Citation Oil & Gas Corp.  
8223 Willow Place South, Suite 250  
Houston, Texas 77070

E/2, Sec. 32, T-21-S, R-24-E



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

June 13, 1996

Certified Mail Return Receipt Requested  
Santa Fe Energy Resources, Inc.  
550 West Texas Ave, Suite 1330  
Midland, Texas 79701  
Attn: Gene H. Davis

RE: Directional Well Application  
Indian Hills Unit No. 13  
SHL: 650' FSL & 293' FEL  
BHL: 740' FSL & 758' FEL  
Sec. 28, T-21-S, R-24-E  
Indian Basin, Upper Penn Gas Pool  
Eddy County, New Mexico

Dear Mr. Davis

Marathon Oil Company is requesting administrative approval to directionally drill the Indian Hills Unit No. 13 from an unorthodox surface hole location under the provision of Rule 111 (D). Attached to this letter is a copy of the application to drill and corresponding plats, showing the exact location of the subject well.

Marathon has made numerous attempts to locate an orthodox drillsite in the SE/4, SE/4 of Sec. 28 but due to topographical considerations, a directional well from an unorthodox surface hole location is the only possible way to test the Upper Penn. The intent of this well is to drill to the Associated Pool and establish commercial oil production once established, an application will be made with the NMOCD to extend the Indian Basin Upper Pennsylvanian Associated Pool rules to include Section 28.

Onsite inspection of the area with Mr. Barry Hunt, Surface Use Specialist, Carlsbad Resource Area of the Bureau of Land Management, resulted in their encouragement of locating the drillsite away from areas requiring excessive cut and fill requirements and minimizing damage to the visual resources from scenic byways along State Highway 137. These stipulations are referenced in the East Indian Basin/Azotea Mesa Environmental Assessment.

If you have no objection to this application, please sign the attached waiver and mail to Marathon. An addressed, stamped envelope is enclosed for your convenience.

Feel free to call me at (800) 351-1417 if anything additional is needed.

Respectfully,

A handwritten signature in cursive script that reads 'Walter J. Dueease'.

Walter J Dueease  
MARATHON OIL COMPANY



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

June 13, 1996

Certified Mail Return Receipt Requested  
Yates Petroleum Corp.  
105 South 4th  
Artesia, New Mexico 88210  
Attn: Mr. Chuck Moran

RE: Direct onal Well Application  
Indian Hills Unit No. 13  
SHL: 650' FSL & 293' FEL  
BHL: 740' FSL & 758' FEL  
Sec. 28, T-21-S, R-24-E  
Indian Basin, Upper Penn Gas Pool  
Eddy County, New Mexico

Dear Mr. Moran:

Marathon Oil Company is requesting administrative approval to directionally drill the Indian Hills Unit No. 13 from an unorthodox surface hole location under the provision of Rule 111 (D). Attached to this letter is a copy of the application to drill and corresponding plats, showing the exact location of the subject well.

Marathon has made numerous attempts to locate an orthodox drillsite in the SE/4, SE/4 of Sec. 28 but due to topographical considerations, a directional well from an unorthodox surface hole location is the only possible way to test the Upper Penn. The intent of this well is to drill to the Associated Pool and establish commercial oil production once established, an application will be made with the NMOCD to extend the Indian Basin Upper Pennsylvanian Associated Pool rules to include Section 28.

Onsite inspection of the area with Mr. Barry Hunt, Surface Use Specialist, Carlsbad Resource Area of the Bureau of Land Management, resulted in their encouragement of locating the drillsite away from areas requiring excessive cut and fill requirements and minimizing damage to the visual resources from scenic byways along State Highway 137. These stipulations are referenced in the East Indian Basin/Azotea Mesa Environmental Assessment.

If you have no objection to this application, please sign the attached waiver and mail to Marathon. An addressed, stamped envelope is enclosed for your convenience.

Feel free to call me at (800) 351-1417 if anything additional is needed.

Respectfully,

A handwritten signature in cursive script that reads 'Walter J. Dueease'.

Walter J Dueease  
MARATHON OIL COMPANY



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

June 13, 1996

Certified Mail Return Receipt Requested  
Citation Oil & Gas Corp  
8223 Willow Place South, Suite 250  
Houston, Texas 77070  
Attn: Robert W. Unger

RE: Directional Well Application  
Indian Hills Unit No. 13  
SHL: 650' FSL & 293' FEL  
BHL: 740' FSL & 758' FEL  
Sec. 28, T-21-S, R-24-E  
Indian Basin, Upper Penn Gas Pool  
Eddy County, New Mexico

Dear Mr. Unger:

Marathon Oil Company is requesting administrative approval to directionally drill the Indian Hills Unit No. 13 from an unorthodox surface hole location under the provision of Rule 111 (D). Attached to this letter is a copy of the application to drill and corresponding plats, showing the exact location of the subject well.

Marathon has made numerous attempts to locate an orthodox drillsite in the SE/4, SE/4 of Sec. 28 but due to topographical considerations, a directional well from an unorthodox surface hole location is the only possible way to test the Upper Penn. The intent of this well is to drill to the Associated Pool and establish commercial oil production once established, an application will be made with the NMOCD to extend the Indian Basin Upper Pennsylvanian Associated Pool rules to include Section 28.

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If you have no objection to this application, please sign the attached waiver and mail to Marathon. An addressed, stamped envelope is enclosed for your convenience.

Feel free to call me at (800) 351-1417 if anything additional is needed.

Respectfully,

A handwritten signature in cursive script that reads 'Walter J. Dueease'.

Walter J Dueease  
MARATHON OIL COMPANY

# MARATHON

Structure : INDIAN HILLS UNIT NO. 13

Field : INDIAN BASIN

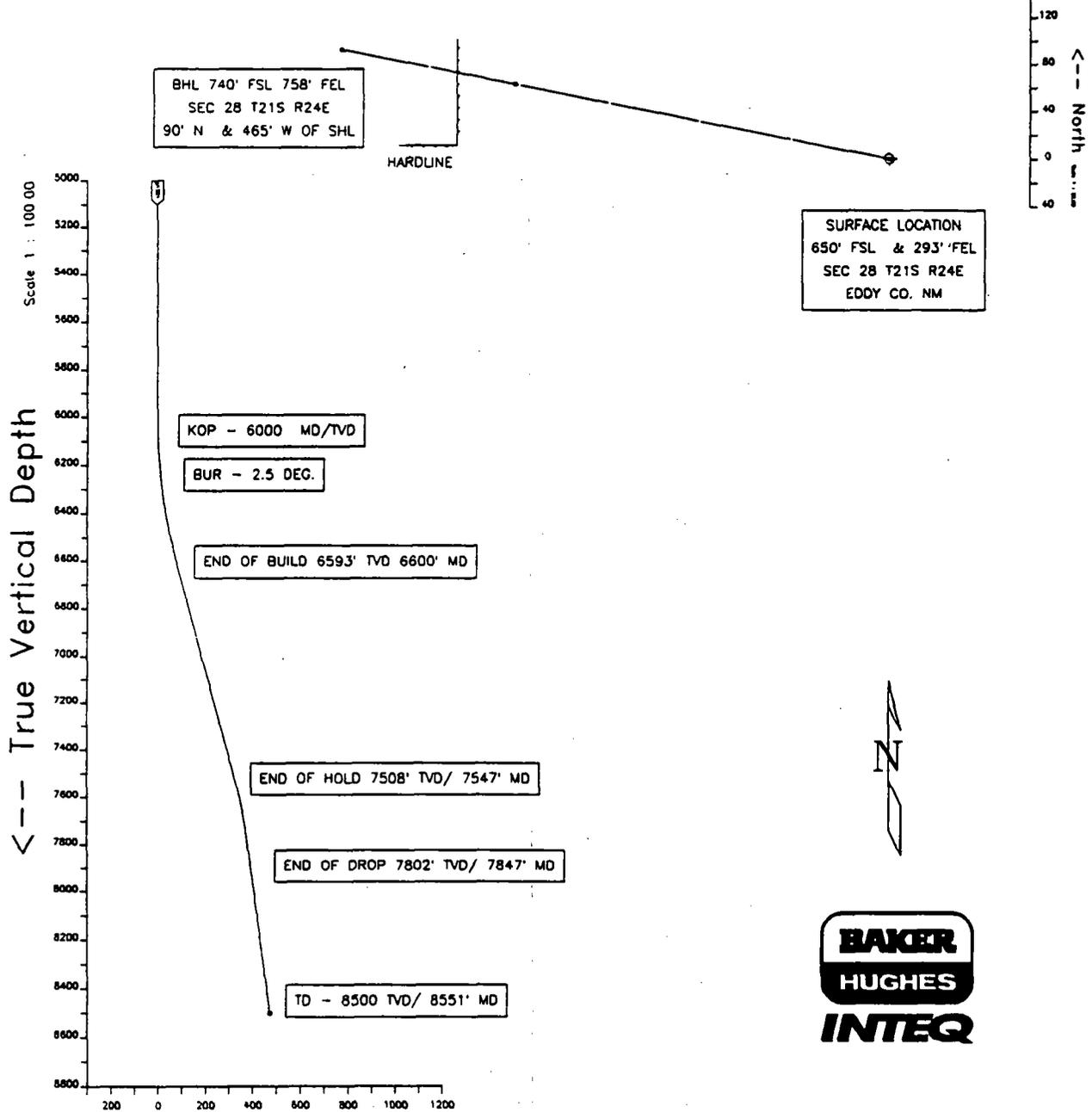
Location : LEA COUNTY, NEW MEXICO

## WELL PROFILE DATA

Point	MD	me	Dr	TVD	North	East	Comp/100
Finish	0	0.00	280.95	0	0	0	0.00
KOP	6000	0.00	280.95	6000	0	0	0.00
End of Build	6600	15.00	280.95	6593	15	-77	2.50
End of Hold	7547	15.00	280.95	7508	61	-317	0.00
End of Drop	7847	7.50	280.95	7802	72	-375	2.50
Target	8531	7.50	280.95	8500	90	-465	0.00

← West

Scale 1 : 20.00



Scale 1 : 100.00  
← True Vertical Depth

Scale 1 : 100.00

Vertical Section on 280.95 azimuth with reference 0.00 N, 0.00 E from structure



MARATHON  
INDIAN HILLS UNIT NO. 13

slot #1  
INDIAN BASIN  
LEA COUNTY, NEW MEXICO

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

by  
Baker Hughes INTEQ

Your ref :  
Our ref : prop1321  
License :

Date printed : 9-May-96  
Date created : 8-May-96  
Last revised : 8-May-96

Field is centred on 0.000,0.000,0.00000,N  
Structure is centred on 0.000,0.000,0.00000,N

Slot location is n0 0 0.000,w4 29 18.843  
Slot Grid coordinates are N 0.000, E 0.000  
Slot local coordinates are 0.00 N 0.00 E  
Reference North is Grid North

MARATHON  
 INDIAN HILLS UNIT NO. 13, slot #1  
 INDIAN BASIN, LEA COUNTY, NEW MEXICO

PROPOSAL LISTING Page 1  
 Your ref :  
 Last revised : 8-May-96

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
0.00	0.00	280.95	0.00	0.00 N	0.00 E	0.00	0.00
500.00	0.00	280.95	500.00	0.00 N	0.00 E	0.00	0.00
1000.00	0.00	280.95	1000.00	0.00 N	0.00 E	0.00	0.00
1500.00	0.00	280.95	1500.00	0.00 N	0.00 E	0.00	0.00
2000.00	0.00	280.95	2000.00	0.00 N	0.00 E	0.00	0.00
2500.00	0.00	280.95	2500.00	0.00 N	0.00 E	0.00	0.00
3000.00	0.00	280.95	3000.00	0.00 N	0.00 E	0.00	0.00
3500.00	0.00	280.95	3500.00	0.00 N	0.00 E	0.00	0.00
4000.00	0.00	280.95	4000.00	0.00 N	0.00 E	0.00	0.00
4500.00	0.00	280.95	4500.00	0.00 N	0.00 E	0.00	0.00
5000.00	0.00	280.95	5000.00	0.00 N	0.00 E	0.00	0.00
5500.00	0.00	280.95	5500.00	0.00 N	0.00 E	0.00	0.00
6000.00	0.00	280.95	6000.00	0.00 N	0.00 E	0.00	0.00
6100.00	2.50	280.95	6099.97	0.41 N	2.14 W	2.50	2.18
6200.00	5.00	280.95	6199.75	1.66 N	8.56 W	2.50	8.72
6300.00	7.50	280.95	6299.14	3.72 N	19.25 W	2.50	19.61
6400.00	10.00	280.95	6397.97	6.62 N	34.18 W	2.50	34.82
6500.00	12.50	280.95	6496.04	10.32 N	53.34 W	2.50	54.32
6600.00	15.00	280.95	6593.17	14.84 N	76.67 W	2.50	78.09
7000.00	15.00	280.95	6979.54	34.51 N	178.31 W	0.00	181.62
7500.00	15.00	280.95	7462.50	59.10 N	305.36 W	0.00	311.03
7547.36	15.00	280.95	7508.25	61.43 N	317.40 W	0.00	323.29
7647.36	12.50	280.95	7605.38	65.95 N	340.73 W	2.50	347.05
7747.36	10.00	280.95	7703.44	69.65 N	359.88 W	2.50	366.56
7847.36	7.50	280.95	7802.27	72.54 N	374.82 W	2.50	381.77

All data is in feet unless otherwise stated  
 Coordinates from structure and TVD from wellhead.  
 Vertical section is from wellhead on azimuth 280.95 degrees.  
 Declination is 0.00 degrees, Convergence is 0.00 degrees.  
 Calculation uses the minimum curvature method.  
 Presented by Baker Hughes INTEQ

MARATHON  
INDIAN HILLS UNIT NO. 13, slot #1  
INDIAN BASIN, LEA COUNTY, NEW MEXICO

PROPOSAL LISTING Page 2  
Your ref :  
Last revised : 8-May-96

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
8000.00	7.50	280.95	7953.61	76.33 N 394.38 W	0.00	401.70
8500.00	7.50	280.95	8449.33	88.73 N 458.45 W	0.00	466.96
8551.11	7.50	280.95	8500.00	90.00 N 465.00 W	0.00	473.63

All data is in feet unless otherwise stated  
Coordinates from structure and TVD from wellhead.  
Vertical section is from wellhead on azimuth 280.95 degrees.  
Declination is 0.00 degrees, Convergence is 0.00 degrees.  
Calculation uses the minimum curvature method.  
Presented by Baker Hughes INTEQ

MARATHON  
INDIAN HILLS UNIT NO. 13,slot #1  
INDIAN BASIN,LEA COUNTY, NEW MEXICO

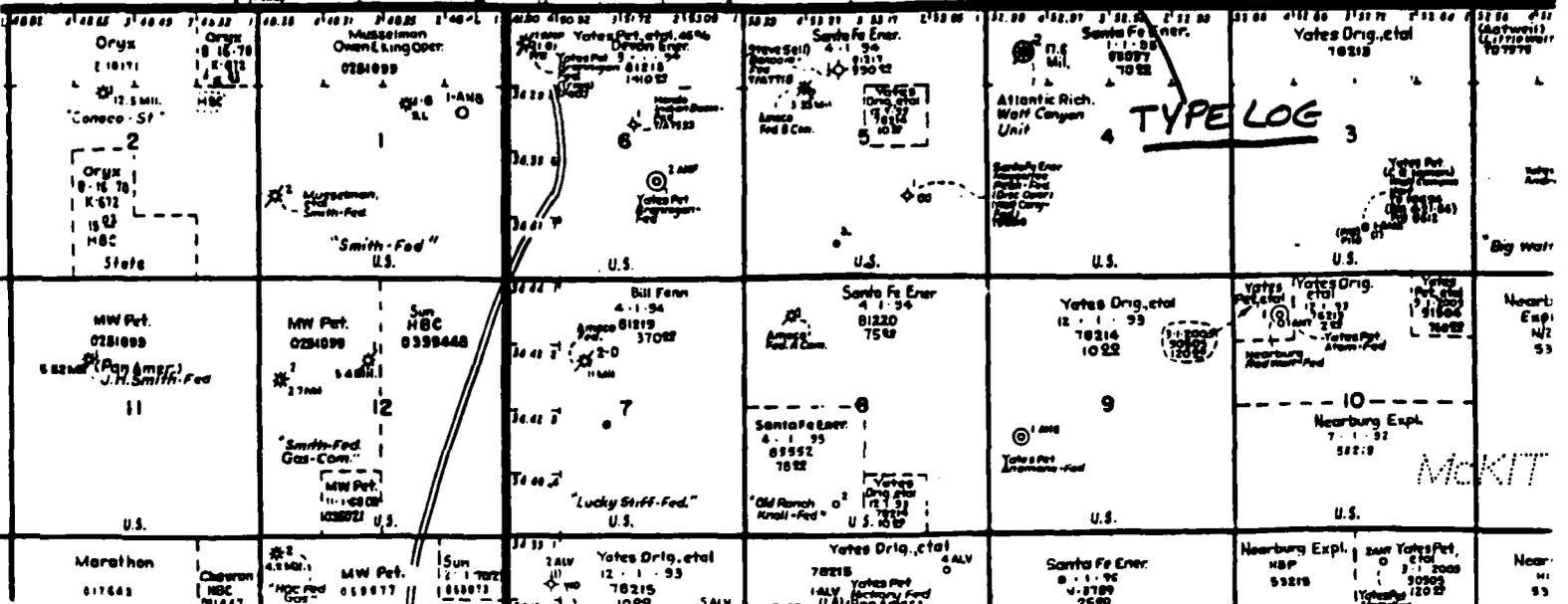
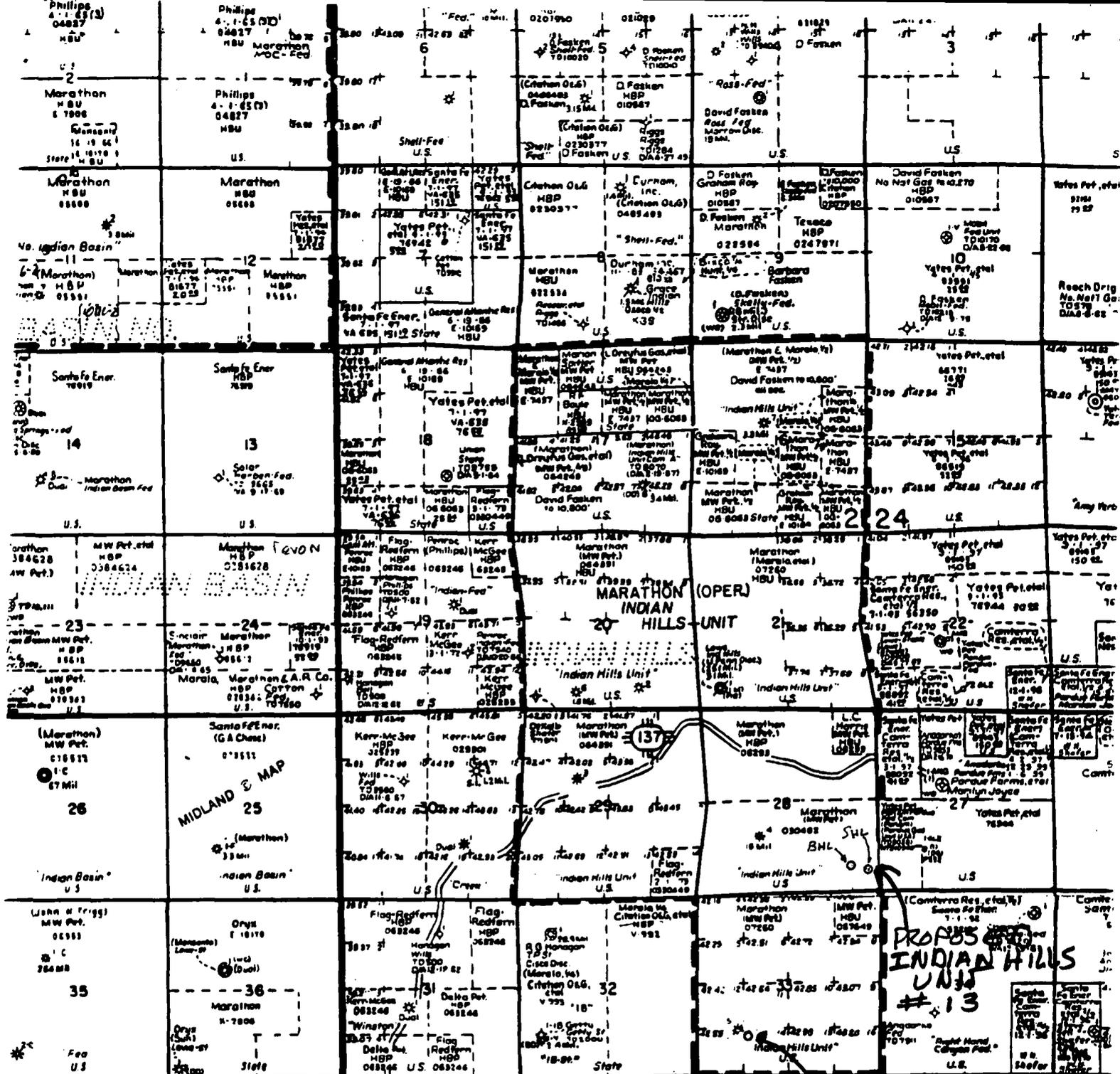
PROPOSAL LISTING Page 3  
Your ref :  
Last revised : 8-May-96

Targets associated with this wellpath  
=====

Target name	Position	T.V.D.	Local rectangular coords.	Date revised
-----	-----	-----	-----	-----
	not specified	8500.00	90.00N 465.00W	8-May-96

All data is in feet unless otherwise stated  
Coordinates from structure and TVD from wellhead.  
Bottom hole distance is 473.63 on azimuth 280.95 degrees from wellhead.  
Vertical section is from wellhead on azimuth 280.95 degrees.  
Declination is 0.00 degrees, Convergence is 0.00 degrees.  
Calculation uses the minimum curvature method.  
Presented by Baker Hughes INTEQ





**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

5. LEASE DESIGNATION AND SERIAL NO.  
**NM030482**

**APPLICATION FOR PERMIT TO DRILL OR DEEPEN**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

1a. TYPE OF WORK  
**DRILL**  **DEEPEN**

b. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

7. UNIT AGREEMENT NAME  
**INDIAN HILLS UNIT**

2. NAME OF OPERATOR  
**Marathon Oil Company**

8. FARM OR LEASE NAME, WELL NO.  
**INDIAN HILLS 13**

3. ADDRESS AND TELEPHONE NO.  
**P.O. Box 552, Midland, TX 79702 915/682-1626**

9. API WELL NO.

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. \*)  
At surface  
**650' FSL & 293' FEL**  
At proposed prod. zone  
**740' FSL & 758' FEL**

10. FIELD AND POOL, OR WILDCAT  
**INDIAN BASIN/U.PENN, GAS**

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

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
**10 MILES SW OF LAKEWOOD, NEW MEXICO**

12. COUNTY OR PARISH  
**EDDY**

13. STATE  
**NM**

15. DISTANCE FROM PROPOSED\*  
LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any) **293' SHL, 758' BHL**

16. NO. OF ACRES IN LEASE  
**4480**

17. NO. OF ACRES ASSIGNED  
TO THIS WELL  
**640**

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT. **3483' SHL, 3012' BHL**

19. PROPOSED DEPTH  
**8551' MD, 8500' TVD**

20. ROTARY OR CABLE TOOLS  
**ROTARY**

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**4086' GL, 4101' KB**

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
17 1/2"	16"	50#	40'	CONDUCTOR-REDI MIX TO SURFACE
14 3/4"	9 5/8"	36#	1800'	1000-CIRCULATE
8 3/4"	7"	23#, 26#	+/- 8600'	1275-TOC @ +/- 1000'

SEE ATTACHED MULTIPOINT AND DRILLING PROGRAM FOR SPECIFIC DETAILS.

DUE TO TOPOGRAPHIC CONSTRAINTS, THIS WELL MUST BE DIRECTIONALLY DRILLED TO REMAIN IN COMPLIANCE OF BLM'S REQUIREMENT OF SPECIAL LOCATION CONSTRUCTION STIPULATIONS IN THE EAST INDIAN BASIN ENVIRONMENTAL ASSESSMENT.

AN APPLICATION FOR AN INTENTIONALLY DEVIATED WELL IS BEING MADE WITH THE STATE OF NEW MEXICO.

#18- DISTANCE TO INDIAN HILLS UNIT #4 @ 1650' FSL & 1650' FWL SEC 28, T-21-S, R-24-E.

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 Walter Duane For DAN TITLE DRILLING SUPERINTENDENT DATE 05/09/96

(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 \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

**\*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.

DISTRICT I  
P.O. Box 1900, Hobbs, NM 88241-1900

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

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		INDIAN BASIN (UPPER PENN)
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT	13
OGRID No.	Operator Name	Elevation
	MARATHON OIL COMPANY	4086

Surface Location

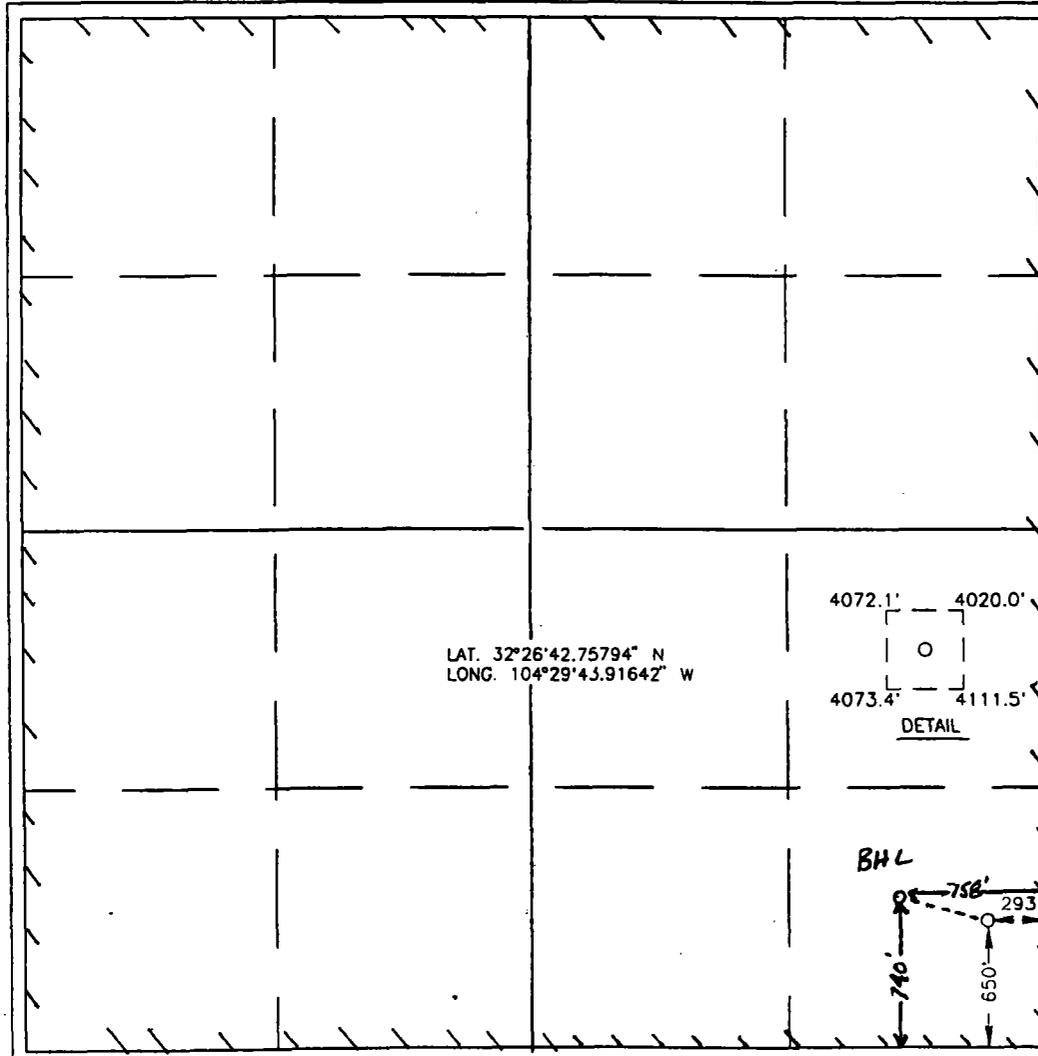
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	28	21 S	24 E		650	SOUTH	293	EAST	EDDY

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	28	21-S	24-E		740	SOUTH	758	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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



OPERATOR CERTIFICATION

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

*Walter Duane For DPN*  
Signature

D. P. NORDT  
Printed Name

DRILLING SUPT.  
Title

5/13-96  
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.

MAY 2, 1996

Date Surveyed DMCC

Signature and Seal of Professional Surveyor

Professional Surveyor Seal for Ronald W. Johnson, State of New Mexico, License No. 509-96, Commission Expires 06-11-0525.

Certificate No. JOHN W. JOHNSON 676  
RONALD W. JOHNSON 3239  
CAROL JOHNSON 12641

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

**Indian Hills Unit #13**  
**Sec. 33, T-21-S, R-24-E**  
**Eddy County, New Mexico**

---

1. **Existing Roads:** Refer to Vicinity Lease Map.
  - a. The proposed wellsite is staked and the surveyor's plat is attached.
  - b. To reach the location from Carlsbad, New Mexico: Follow Hwy.. 285 North of Carlsbad 14 miles. Turn West on Queen's highway (NM 137) for 8.8 miles. Turn South on NM 137 for 4.1 miles, turn East on caliche lease road for 1.2 miles. Turn left for .3 miles. Turn left at "Y" and follow main lease road 4.5 miles to location.
  - c. Existing roads within a one-mile radius (refer to Vicinity Lease Map).
  - d. The existing road will be maintained as necessary to provide access during the drilling operation.
  
2. **Planned Access Road:** Refer to Vicinity Lease Map.

Access will be by existing lease roads. Construction plans will require blading and rolling the road and pad. An access road of approximately 250' will be required. The access road will enter the drilling pad on the Southeast corner. The drilling location will have a V-door facing South.
  
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 gas wells operated by Marathon, Santa Fe and Yates Petr. within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon and Santa Fe and Yates operates a variety of dehydrators, meter runs, and several gathering lines in the one-mile radius.
  - b. **New Facilities:** The proposed location will have a separator and gas sales line. The actual equipment and its configuration will be determined after the well is completed.
  - c. Rehabilitation of disturbed areas no longer needed for operations will be accomplished by grading, leveling and seeding as recommended.

**A. P. D. (cont.)  
Thirteen Point Surface Use Plan  
Indian Hills Unit #13**

5. Location and Type of Water Supply:
  - a. Source: Indian Basin Gas Plant, SW/4, NE/4, Sec. 23, T-21-S, R-23-E.
  - b. The water will be trucked by a contractor over existing roads to the well location. No new construction will be required on/along the water route.
  - c. No water well will be drilled on this location.
  
6. Source of Construction Materials:
  - a. Construction materials will be obtained from the construction site.
  - b. If production is obtained, native materials will be used on the location and for installation of production facilities.
  - c. On-site inspection may dictate any changes in location construction.
  
7. Methods of Handling Waste Material Disposal:
  - a. Cuttings - will be deposited in the reserve pit.
  - b. Drilling fluids - contained in reserve pit and allowed to evaporate. Free water will be removed and transported to an approved disposal site to accelerate pit drying.
  - c. Produced fluids - none anticipated.
  - d. A portable chemical toilet will be provided.
  - e. Garbage and other waste material - garbage and trash will be stored in a receptacle on location and periodically hauled to an approved sanitary landfill.
  - f. After the rig moves out, all materials not necessary for operations will be removed. Pits will be backfilled and leveled. The location will be cleaned of all trash and debris.
  
8. Ancillary Facilities: Camp facilities will not be required. Portable trailers will be on location to house a company drilling foreman and contract toolpusher.
  
9. Wellsite Layout:
  - a. The wellpad layout shows the drillsite layout as staked. Cross-sections have been drafted to visualize the planned cuts and fills across the location. Topsoil will be stockpiled per specifications.
  - b. The reserve pit will be fenced on three sides before drilling begins. The fourth side will be fenced when the drilling rig leaves location.
  - c. The reserve pit will be lined (8 mil material).

**A. P. D. (cont.)  
Thirteen Point Surface Use Plan  
Indian Hills Unit #13**

**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 buried or 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. Revegetation will be accomplished by planting mixed grasses as per formula by BLM. Revegetation is recommended for road area, as well as around the drill pad.
- c. The reserve pit will be fenced during drilling operations. Fencing will be maintained until leveling and 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 drilling 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 revegetation 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 wellsite is gently rolling hills. Vegetation is primarily sage brush and natural grasses.
- c. Animal life: Prairie dogs, domestic livestock, rabbits and native rodents and predators.
- d. Dwellings (nearest): Approximately 4-1/2 miles.
- e. General location: Approximately 8.5 miles west of Lakewood, New Mexico.
- f. Drainage: Internal
- g. Surface Owner: The surface is owned by the Federal Government.

A. P. D. (cont.)  
Thirteen Point Surface Use Plan  
Indian Hills Unit #13

12. Operator Representatives:

David Nordt  
Drilling, Completion, & Workover Superintendent  
P. O. Box 552  
Midland, TX 79702  
800/351-1417  
915/682-1626

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.

5/13-96  
Date

Walter D. Nordt F@RDPN  
D. P. Nordt

**DRILLING PROGRAM  
MARATHON OIL COMPANY**

**Indian Hills Unit #11**

1. **Estimated KB Elevation: 4101'**

<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	+4101'	650'	+3451'	water
San Andres	650'	3451'	2250'	1851'	water
Glorietta	2250'	1851'	2355'	801'	
Delaware	3300'	801'	4300'	-199'	
Bone Spring	4300'	-199'	5950'	-1849'	oil gas
Wolfcamp	5950'	-1849'	7520'	-3419'	oil gas
B/Permian Shale	7520'	-3419'	7530'	-3429'	
U. Penn	7530'	-3429'	7550'	-3449'	gas, oil, water
Penn Dolomite	7550'	-3449'	8500'	-4399'	gas, oil, water

<u>FORMATION</u>	<u>---EST PSIG</u>	<u>SBHP--- PPG EMW</u>	<u>EST SBHT DEG f</u>	<u>H2S PPM</u>	<u>---SIGNIFICANCE--- (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
Penn Dolomite	2164	9.0		5000	objective
Morrow	3460	9.2			Objective

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 200#/2000#, 11" 3M dual rams, choke manifold and mud cross, tested to 300#/3000#.

**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 drillstring connections in use will be available on rig floor.

**A. P. D. (cont.)  
Thirteen Point Surface Use Plan  
Indian Hills Unit #13**

Test Frequency

1. When installed.
2. Anytime a pressure seal is broken (test confined only to affected equipment).
3. At least every 20 days.
4. Blind and pipe rams shall be activated each trip but not more than once/day.

4. Casing and Cement Program:

<u>---DEPTH---</u>		<u>SECTION</u>		<u>HOLE</u>	<u>CSG</u>	<u>WT.</u>	<u>THREADS</u>		<u>NEW</u>		
<u>FROM</u>	<u>TO</u>	<u>LENGTH</u>		<u>SIZE</u>	<u>SIZE</u>	<u>PPF</u>	<u>GRADE</u>	<u>COUPLINGS</u>	<u>USED</u>		
0	1800'	1800'		12.25"	9.625"	36	K-55	8rd, STC	New		
0	2800'	2800'		8.75"	7"	23	K-55	8rd, LTC	New		
2800'	8600'	5800'		8.75"	7"	26	K-55	8rd, LTC	New		
<u>CASING</u>	<u>STRING</u>	<u>DV</u>	<u>DPTH</u>	<u>STG</u>	<u>LEAD</u>	<u>AMT</u>	<u>TYPE</u>	<u>YIELD</u>	<u>WT.</u>	<u>TOC</u>	<u>ADDITIVES</u>
9.625"	None	1		L	700	"C" Lite		1.99	12.4	Surf	10#/SK.Gilsonite, 3% CACl <sub>2</sub> , 1/4# cello
9.625"				T	300	"C" Neat		1.32	14.8	Surf	2% CACl, 1/4# cello
7"	±5600'	1		L	500	"C" Lite		1.8	13.6	5600'	8 pps Silica, .6% Halad 9, 3% salt, 5 pps Gilsonite
7"		2		L	675	"C" Lite		1.91	12.8	5500'	5 pps, salt, 5 pps Gilsonite, 1/4 pps Cello
7"		2		T	100	"C" Neat		1.32	14.8	±1000'	

*Each stage will be preceded by an appropriate mud flush. Actual production hole volumes will be based on the caliper volume plus 15% excess.*

**Centralizer Program:**

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

7" Conventional centralizers middle of 1st joint, then every joint to 7500', and 1 centralizer every 4th joint thereafter to 1100'.

A. P. D. (cont.)  
 Thirteen Point Surface Use Plan  
 Indian Hills Unit #13

5. Mud Program:

---DEPTH---		MUD TYPE	WEIGHT		WL	ADDITIVES	VISUAL MONTR.
FROM	TO		(PPG)	VIS	CC		
0	1800'	air/mist		N/A	N/A	N/A Soap for mist	Reserve
1800'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H <sub>2</sub> S Scavenger	Reserve
5000'	7200'	cut brine	9.0	32-36	N/C	Saturated brine	Reserve
7200'	8000'	cut brine	9.0	32-36	<20	Salt gel, starch, caustic	Steel Pits

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

6. Logging, Testing & Coring Programs:

LOG/TEST/CORE/MUDLOG/OTHER	--INTERVAL--		REMARKS
	FROM	TO	
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 - 18 days, completion - 10 days.

See attached directional plan for proposed kick off point and build and hold program.

# MARATHON OIL COMPANY

## H2S DRILLING OPERATIONS PLAN

### *1. 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.

### 1. 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 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:

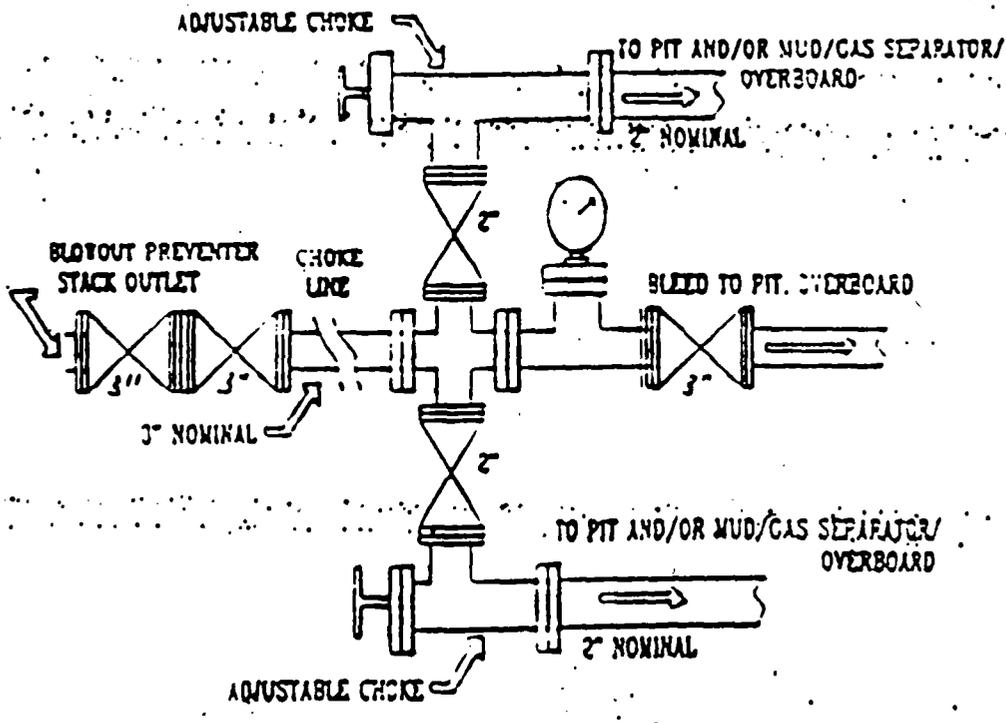
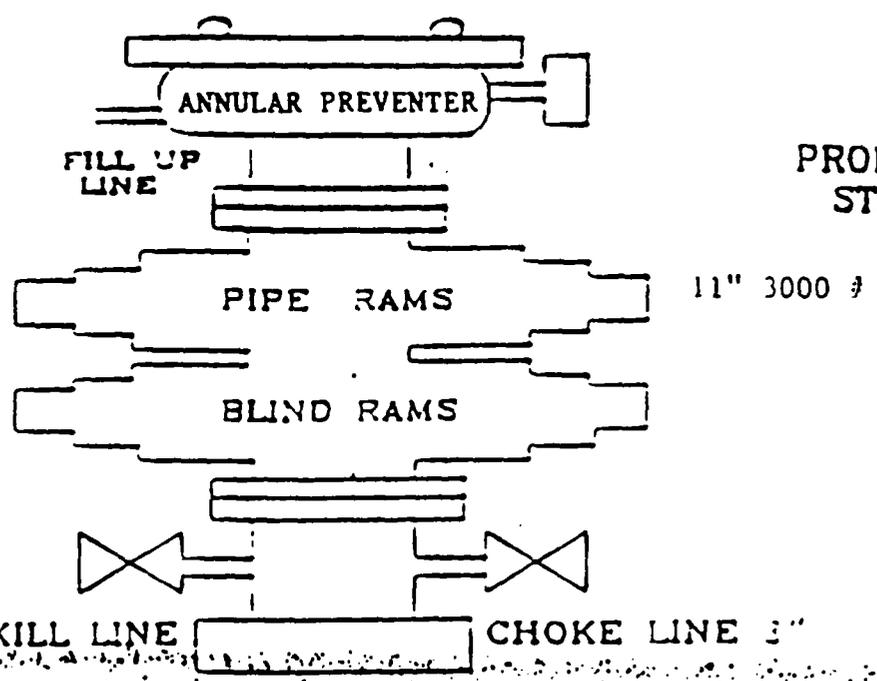
DST No. 1	_____ ft. to _____ ft.
DST No. 2	_____ ft. to _____ ft.
DST No. 3	_____ ft. to _____ ft.

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



# MARATHON

Structure : INDIAN HILLS UNIT NO. 13

Field : INDIAN BASIN

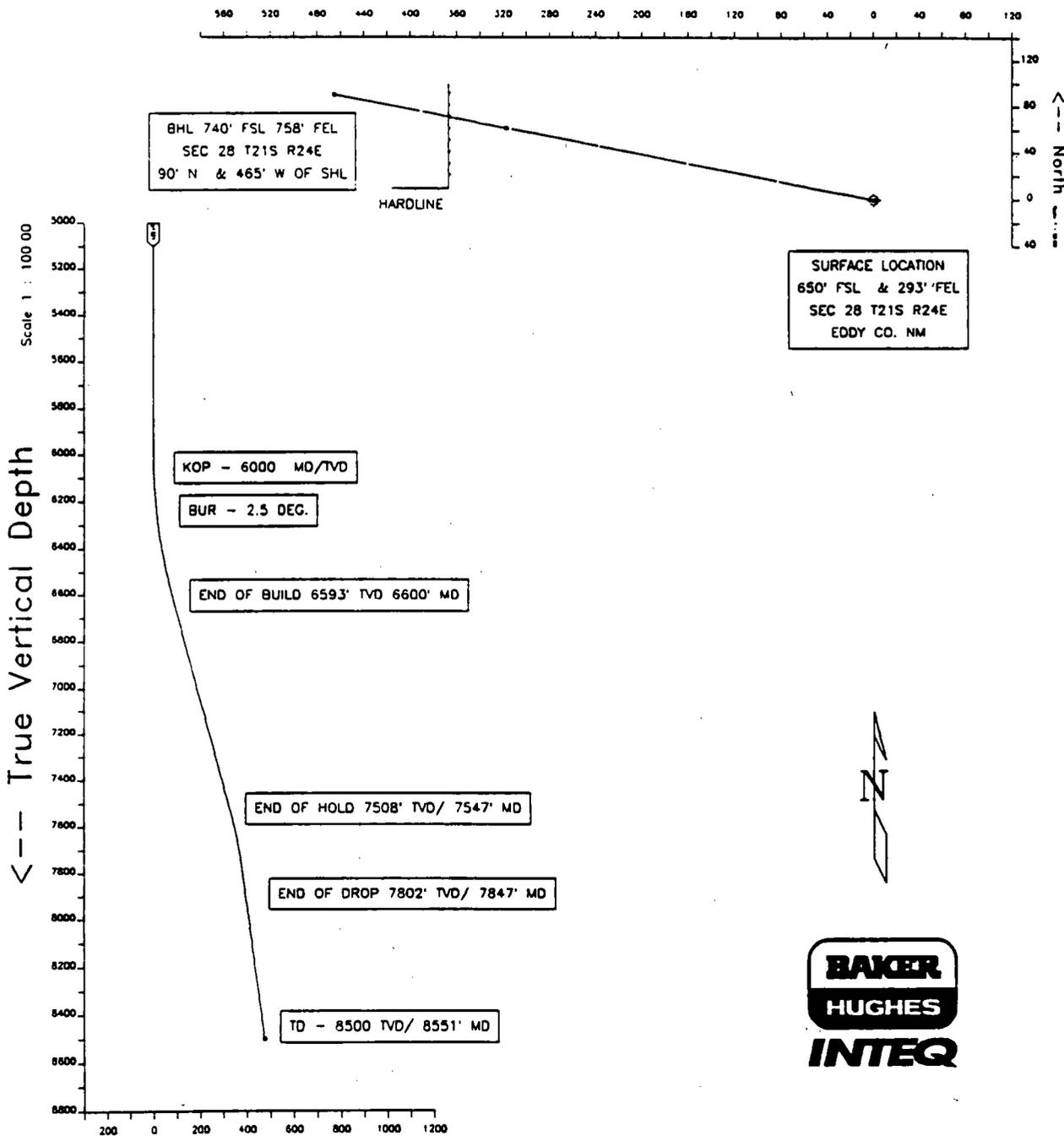
Location : LEA COUNTY, NEW MEXICO

## WELL PROFILE DATA

Point	MD	Inc	Dr	TVD	North	East	Drop/100'
Tie on	0	0.00	280.95	0	0	0	0.00
KOP	6000	0.00	280.95	6000	0	0	0.00
End of Build	6600	15.00	280.95	6593	15	-77	2.50
End of Hold	7547	15.00	280.95	7508	81	-317	0.00
End of Drop	7847	7.50	280.95	7802	72	-375	2.50
Target	8551	7.50	280.95	8500	50	-465	0.00

←-- West

Scale 1 : 20.00



Scale 1 : 100.00

Vertical Section on 280.95 azimuth with reference 0.00 N, 0.00 E from structure

MARATHON  
INDIAN HILLS UNIT NO. 13

slot #1  
INDIAN BASIN  
LEA COUNTY, NEW MEXICO

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

by  
Baker Hughes INTEQ

Your ref :  
Our ref : prop1321  
License :

Date printed : 9-May-96  
Date created : 8-May-96  
Last revised : 8-May-96

Field is centred on 0.000,0.000,0.00000,N  
Structure is centred on 0.000,0.000,0.00000,N

Slot location is n0 0 0.000,w4 29 18.843  
Slot Grid coordinates are N 0.000, E 0.000  
Slot local coordinates are 0.00 N 0.00 E  
Reference North is Grid North

MARATHON  
 INDIAN HILLS UNIT NO. 13, slot #1  
 INDIAN BASIN, LEA COUNTY, NEW MEXICO

PROPOSAL LISTING Page 1  
 Your ref :  
 Last revised : 8-May-96

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
0.00	0.00	280.95	0.00	0.00 N	0.00 E	0.00	0.00
500.00	0.00	280.95	500.00	0.00 N	0.00 E	0.00	0.00
1000.00	0.00	280.95	1000.00	0.00 N	0.00 E	0.00	0.00
1500.00	0.00	280.95	1500.00	0.00 N	0.00 E	0.00	0.00
2000.00	0.00	280.95	2000.00	0.00 N	0.00 E	0.00	0.00
2500.00	0.00	280.95	2500.00	0.00 N	0.00 E	0.00	0.00
3000.00	0.00	280.95	3000.00	0.00 N	0.00 E	0.00	0.00
3500.00	0.00	280.95	3500.00	0.00 N	0.00 E	0.00	0.00
4000.00	0.00	280.95	4000.00	0.00 N	0.00 E	0.00	0.00
4500.00	0.00	280.95	4500.00	0.00 N	0.00 E	0.00	0.00
5000.00	0.00	280.95	5000.00	0.00 N	0.00 E	0.00	0.00
5500.00	0.00	280.95	5500.00	0.00 N	0.00 E	0.00	0.00
6000.00	0.00	280.95	6000.00	0.00 N	0.00 E	0.00	0.00
6100.00	2.50	280.95	6099.97	0.41 N	2.14 W	2.50	2.18
6200.00	5.00	280.95	6199.75	1.66 N	8.56 W	2.50	8.72
6300.00	7.50	280.95	6299.14	3.72 N	19.25 W	2.50	19.61
6400.00	10.00	280.95	6397.97	6.62 N	34.18 W	2.50	34.82
6500.00	12.50	280.95	6496.04	10.32 N	53.34 W	2.50	54.32
6600.00	15.00	280.95	6593.17	14.84 N	76.67 W	2.50	78.09
7000.00	15.00	280.95	6979.54	34.51 N	178.31 W	0.00	181.62
7500.00	15.00	280.95	7462.50	59.10 N	305.36 W	0.00	311.03
7547.36	15.00	280.95	7508.25	61.43 N	317.40 W	0.00	323.29
7647.36	12.50	280.95	7605.38	65.95 N	340.73 W	2.50	347.05
7747.36	10.00	280.95	7703.44	69.65 N	359.88 W	2.50	366.56
7847.36	7.50	280.95	7802.27	72.54 N	374.82 W	2.50	381.77

All data is in feet unless otherwise stated  
 Coordinates from structure and TVD from wellhead.  
 Vertical section is from wellhead on azimuth 280.95 degrees.  
 Declination is 0.00 degrees, Convergence is 0.00 degrees.  
 Calculation uses the minimum curvature method.  
 Presented by Baker Hughes INTEQ

MARATHON  
INDIAN HILLS UNIT NO. 13, slot #1  
INDIAN BASIN, LEA COUNTY, NEW MEXICO

PROPOSAL LISTING Page 2  
Your ref :  
Last revised : 8-May-96

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
8000.00	7.50	280.95	7953.61	76.33 N	394.38 W	0.00	401.70
8500.00	7.50	280.95	8449.33	88.73 N	458.45 W	0.00	466.96
8551.11	7.50	280.95	8500.00	90.00 N	465.00 W	0.00	473.63

All data is in feet unless otherwise stated  
Coordinates from structure and TVD from wellhead.  
Vertical section is from wellhead on azimuth 280.95 degrees.  
Declination is 0.00 degrees, Convergence is 0.00 degrees.  
Calculation uses the minimum curvature method.  
Presented by Baker Hughes INTEQ

MARATHON  
INDIAN HILLS UNIT NO. 13, slot #1  
INDIAN BASIN, LEA COUNTY, NEW MEXICO

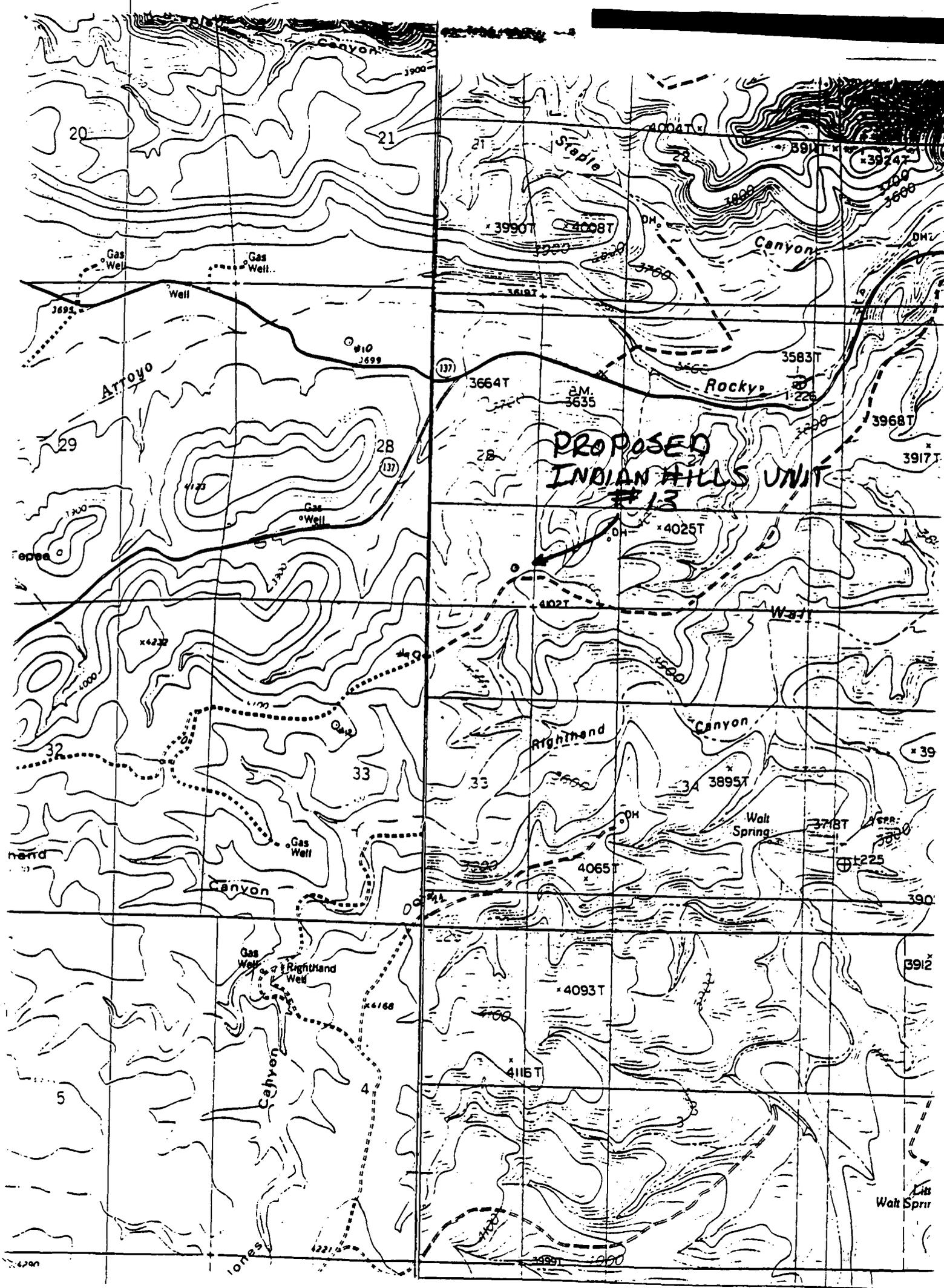
PROPOSAL LISTING Page 3  
Your ref :  
Last revised : 8-May-96

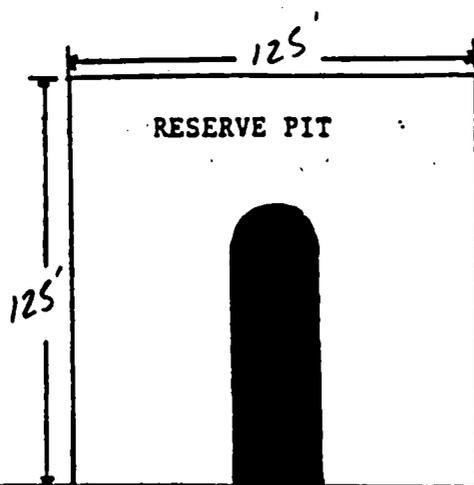
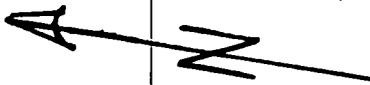
Targets associated with this wellpath

Target name	Position	T.V.D. Local rectangular coords.		Date revised
	not specified	8500.00	90.00N 465.00W	8-May-96

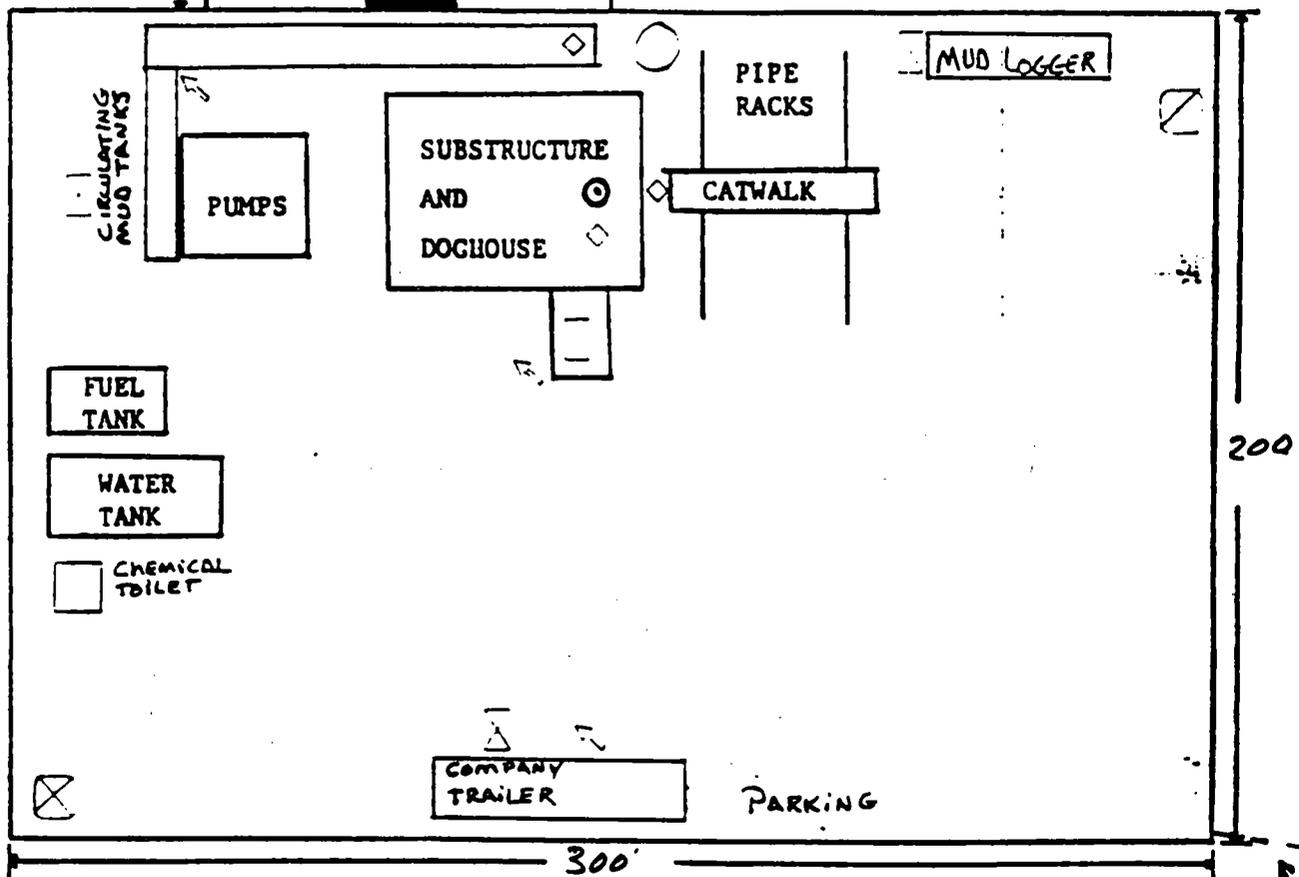
All data is in feet unless otherwise stated  
Coordinates from structure and TVD from wellhead.  
Bottom hole distance is 473.63 on azimuth 280.95 degrees from wellhead.  
Vertical section is from wellhead on azimuth 280.95 degrees.  
Declination is 0.00 degrees, Convergence is 0.00 degrees.  
Calculation uses the minimum curvature method.  
Presented by Baker Hughes INTEQ







- ◇ H2S Detection Equipment
- ↗ Wind Direction Indicator
- ⌈ Self Contained Breathing Equip.
- ⊗ Briefing Area



Prevailing Wind Direction  
Southwest

Foot-path for emergency  
egress

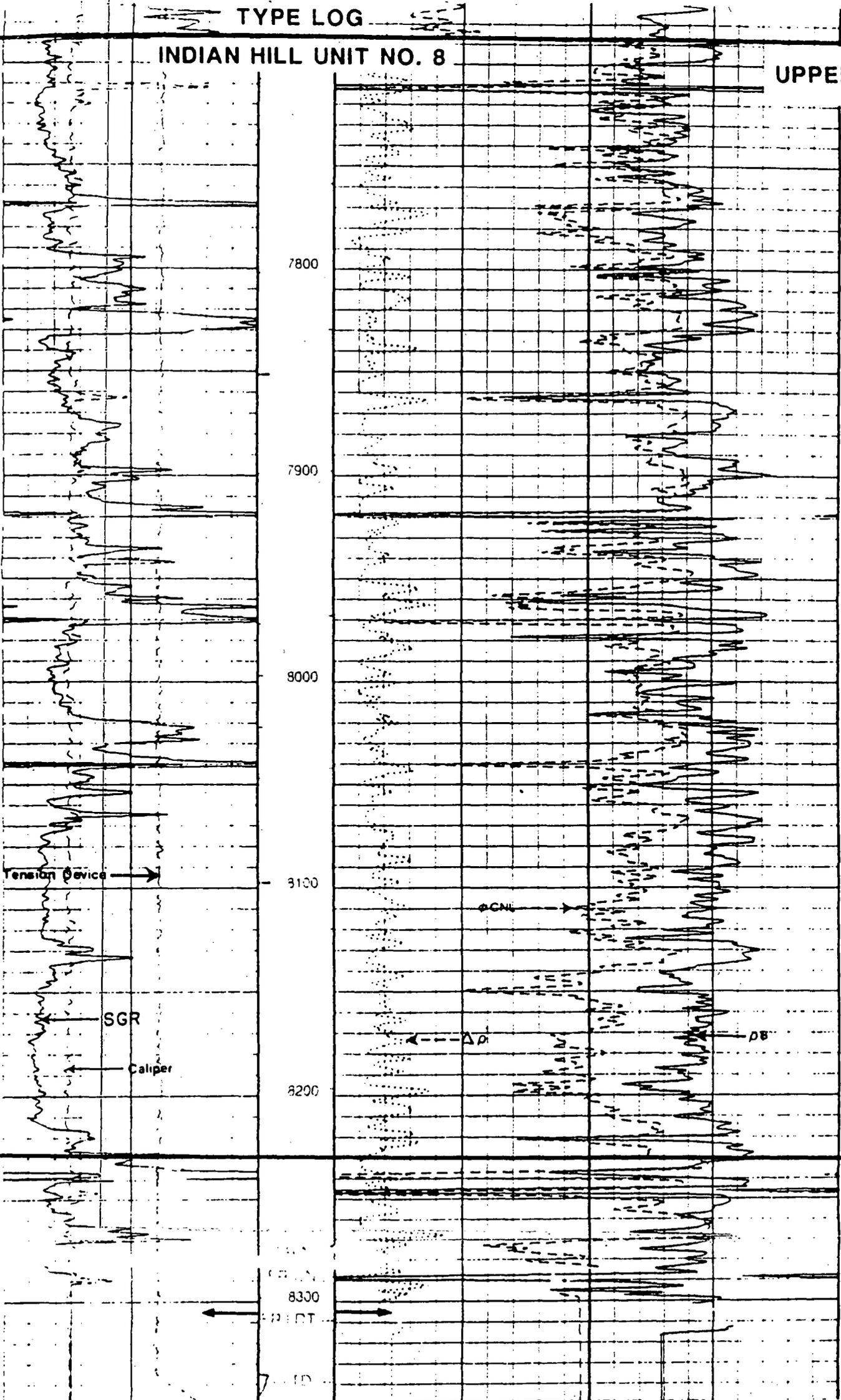
1250'  
ACCESS

TYPE LOG

INDIAN HILL UNIT NO. 8

UPPER PENN

INDIAN BASIN, UPPER PENN ASSOC. POOL



Litho Density Caliper (CALI) (IN)	Cable Stretch (Toolstring)	Bulk Density Correction (DRHO) (G C3)	Thermal Neutron Porosity [LIME] (NPHI) (V V)	Bulk Density (RHOB)
6	16 not moving (STIT)	0.05	0.3	0.1
	0 (F) 50			
Spectroscopy Gamma Ray (SGR) (GAPI)				
0				
100				

Sec : 28 Twp : 21S Rng : 24E Section Type : NORMAL

D 40.00  Federal owned U	C 40.00  Federal owned U A	B 40.00  Federal owned U	A 40.00  Federal owned U
E 40.00  Federal owned U	F 40.00  Federal owned U	G 40.00  Federal owned U	H 40.00  Federal owned U

PF01 HELP    PF02            PF03 EXIT    PF04 GoTo    PF05            PF06  
PF07 BKWD   PF08 FWD      PF09 PRINT   PF10 SDIV     PF11            PF12

Sec : 28 Twp : 21S Rng : 24E Section Type : NORMAL

L 40.00  Federal owned U	K 40.00  Federal owned U A	J 40.00  Federal owned U	I 40.00  Federal owned U
M 40.00  Federal owned U	N 40.00  Federal owned U	O 40.00  Federal owned U	P 40.00  Federal owned U A

PF01 HELP      PF02              PF03 EXIT      PF04 GoTo      PF05              PF06  
PF07 BKWD      PF08 FWD          PF09 PRINT      PF10 SDIV      PF11              PF12

CMD :  
OG6CLOG

ONGARD  
C105-WELL COMPLETION OR RECOMP CASING LOG

07/18/96 17:34:04  
OGOMES -EMGP

OGRID Identifier : 14021 MARATHON OIL CO  
Prop Identifier : 6409 INDIAN HILLS UNIT  
API Well Identifier : 30 15 28804 Well No : 10  
Surface Locn - UL : C Sec : 28 Twp : 21S Range : 24E Lot Idn :  
Multiple comp (S/M/C): N TVD Depth (Feet) : MVD Depth (Feet):  
Spud Date : P/A Date :  
Casing/Linear Record:

-----  
S Size Grade Weight Depth(ft) Depth(ft) Hole Size Cement ---- TOC ----  
(inches) (lb/ft) Top-Liner Bot-Liner (inches) (Sacks) (feet) Code  
-----

E0004: No matching record found. Enter data to create.

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM  
PF07 PF08 PF09 COMMENT PF10 TLOG PF11 PF12

CMD :  
OG6C101

ONGARD  
C101-APPLICATION FOR PERMIT TO DRILL

07/18/96 17:34:11  
OGOMES -EMGP

OGRID Idn : 14021 API Well No: 30 15 28804 APD Status(A/C/P) : A  
Opr Name, Addr: MARATHON OIL CO Aprvl/Cncl Date : 01-26-1996  
PO BOX 552  
MIDLAND, TX 79702

Prop Idn: 6409 INDIAN HILLS UNIT Well No: 10

	U/L	Sec	Township	Range	Lot	Idn	North/South	East/West
Surface Locn	: C	28	21S	24E			FTG 990 F N	FTG 1980 F W
OCD U/L	: C		API County	: 15				

Work typ(N/E/D/P/A) : N Well typ(O/G/M/I/S/W/C) : O Cable/Rotary (C/R) : R  
Lease typ(F/S/P/N/J/U/I) : F Ground Level Elevation : 3684

State Lease No: Multiple Comp (Y/N) : N  
Prpsd Depth : 8000 Prpsd Frmtn : U/PENN

E0009: Enter data to modify record

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM  
PF07 PF08 PF09 PRINT PF10 C102 PF11 HISTORY PF12

CMD :  
OG6CLOG

ONGARD  
C105-WELL COMPLETION OR RECOMP CASING LOG

07/18/96 17:34:55  
OGOMES -EMGP

OGRID Identifier : 14021 MARATHON OIL CO  
Prop Identifier : 6409 INDIAN HILLS UNIT  
API Well Identifier : 30 15 10738 Well No : 004  
Surface Locn - UL : K Sec : 28 Twp : 21S Range : 24E Lot Idn :  
Multiple comp (S/M/C) : S TVD Depth (Feet) : 99999 MVD Depth (Feet):  
Spud Date : P/A Date :  
Casing/Linear Record:

S Size (inches)	Grade Weight (lb/ft)	Depth(ft) Top-Liner	Depth(ft) Bot-Liner	Hole Size (inches)	Cement (Sacks)	TOC (feet)	Code
99.000	99.0	99999.0	99999.0	99.000	9999	99999	C

E0009: Enter data to modify record

PF01 HELP      PF02              PF03 EXIT      PF04 GoTo      PF05              PF06 CONFIRM  
PF07              PF08              PF09 COMMENT PF10 TLOG      PF11              PF12

CMD :  
OG6C101

ONGARD  
C101-APPLICATION FOR PERMIT TO DRILL

07/18/96 17:35:07  
OGOMES -EMGP

OGRID Idn : 14021 API Well No: 30 15 10738 APD Status(A/C/P) : A  
Opr Name, Addr: MARATHON OIL CO Aprvl/Cncl Date : 01-01-1900  
PO BOX 552  
MIDLAND, TX 79702

Prop Idn: 6409 INDIAN HILLS UNIT Well No: 4

	U/L	Sec	Township	Range	Lot	Idn	North/South	East/West
Surface Locn : K	28	21S	24E				FTG 999 F S	FTG 999 F E
OCD U/L : K			API County :	15				

Work typ(N/E/D/P/A) : N Well typ(O/G/M/I/S/W/C) : G Cable/Rotary (C/R) : R  
Lease typ(F/S/P/N/J/U/I) : F Ground Level Elevation : 99999

State Lease No: Multiple Comp (Y/N) : S  
Prpsd Depth : Prpsd Frmtn :

E0009: Enter data to modify record

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM  
PF07 PF08 PF09 PRINT PF10 C102 PF11 HISTORY PF12

CMD :  
OG6CLOG

ONGARD  
C105-WELL COMPLETION OR RECOMP CASING LOG

07/18/96 17:41:05  
OGOMES -EMGP

OGRID Identifier : 14021 MARATHON OIL CO  
Prop Identifier : 6409 INDIAN HILLS UNIT  
API Well Identifier : 30 15 29036 Well No : 13  
Surface Locn - UL : P Sec : 28 Twp : 21S Range : 24E Lot Idn :  
Multiple comp (S/M/C): N TVD Depth (Feet) : MVD Depth (Feet):  
Spud Date : P/A Date :  
Casing/Linear Record:

-----  
S Size Grade Weight Depth(ft) Depth(ft) Hole Size Cement ---- TOC ----  
(inches) (lb/ft) Top-Liner Bot-Liner (inches) (Sacks) (feet) Code  
-----

E0004: No matching record found. Enter data to create.

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM  
PF07 PF08 PF09 COMMENT PF10 TLOG PF11 PF12

CMD :  
OG6C101

ONGARD  
C101-APPLICATION FOR PERMIT TO DRILL

07/18/96 17:41:16  
OGOMES -EMGP

OGRID Idn : 14021 API Well No: 30 15 29036 APD Status(A/C/P): A  
Opr Name, Addr: MARATHON OIL CO Aprvl/Cncl Date : 07-01-1996  
PO BOX 552  
MIDLAND, TX 79702

Prop Idn: 6409 INDIAN HILLS UNIT Well No: 13

	U/L	Sec	Township	Range	Lot	Idn	North/South	East/West
Surface Locn	: P	28	21S	24E			FTG 650 F S	FTG 293 F E
OCD U/L	: P		API County	: 15				

Work typ(N/E/D/P/A) : N Well typ(O/G/M/I/S/W/C): O Cable/Rotary (C/R) : R  
Lease typ(F/S/P/N/J/U/I): F Ground Level Elevation : 4086

State Lease No: Multiple Comp (Y/N) : N  
Prpsd Depth : 4480 Prpsd Frmtn : UPPER PENN

E0009: Enter data to modify record

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 PRINT	PF10 C102	PF11 HISTORY	PF12

