

Darry N.M. Oil Cons. Div-Dist. 2
1301 W. Grand Avenue
Alamogordo, NM 88210
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER ☐

SINGLE ZONE ☒

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Marathon Oil Company

3. ADDRESS AND TELEPHONE NO.

P.O. Box 552 Midland, TX 79702

432-687-8360

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

453' FSL & 350' FWL Sec. 21

At proposed prod. zone

179' FNL & 1207' FEL Sec. 29

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST BLM FIELD OFFICE*

15 miles NW of Carlsbad N.M.

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest dir. unit line, if any)

BHL 179' FNL

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

1450'

SUBJECT TO LIKE
APPROVAL BY STATE

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

G.L. 3667'

CARLSBAD CONTROLLED WATER BASIN

22. APPROX. DATE WORK WILL START*

July 20, 2003

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" K-55	36#	1200'	515 Sks. WITNESS
8-3/4"	7" K-55	23/26#	8385'	1280 Sks.

'Master' H2S Contingency Plan on File - ocd

Marathon Oil Company is proposing to drill a Directional well from the existing drilling pad of the Indian Hills Unit # 33 and 36. The surface stake is between the IHU # 33 and the IHU # 36. The same drilling pit to drill the existing IHU # 33 and 36 will be re-opened and used to drill the proposed IHU # 56. Old pit contents will be stockpiled on liner material to prevent any soil contamination.

This well has a Non-Standard BHL. The BHL is too close to the outer boundary of the 320 acre North half of Section 29.

Baker Integ directional plan is attached.

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

[Signature]

TITLE Engineer Tech.

DATE 6/4/03

(This space for Federal or State office use)

NSL 4918 CBHL CSD

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:

ACTING

FIELD MANAGER

APPROVED BY

/s/ Joe G. Lara

TITLE _____

DATE

15 JUL 2003

*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

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

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

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

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

State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 33685	Pool Name Indian Basin Upper Penn. Assoc.
Property Code	Property Name INDIAN HILLS UNIT GAS COM	Well Number 56
OGRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3667'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	21-S	24-E		453'	SOUTH	350'	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	21-S	24-E		179'	NORTH	1207'	EAST	EDDY

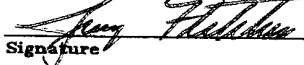
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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

		LOT 2	LOT 1
		38.26 AC LOT 3	38.29 AC LOT 4
	GEODETIC COORDINATES NAD 27 NME Y = 530701.1 X = 445521.6 LAT. 32°27'31.99"N LONG. 104°30'35.85"W		
		36.69 AC LOT 6	36.72 AC LOT 5
		36.35 AC LOT 7	36.29 AC LOT 8
		37.74 AC	37.68 AC

OPERATOR CERTIFICATION

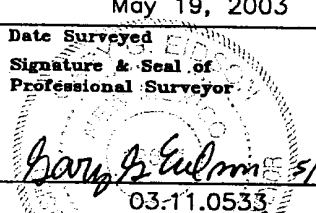
I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.


Signature
Jerry Fletcher
Printed Name
Engineer Tech.
Title
6/3/03
Date

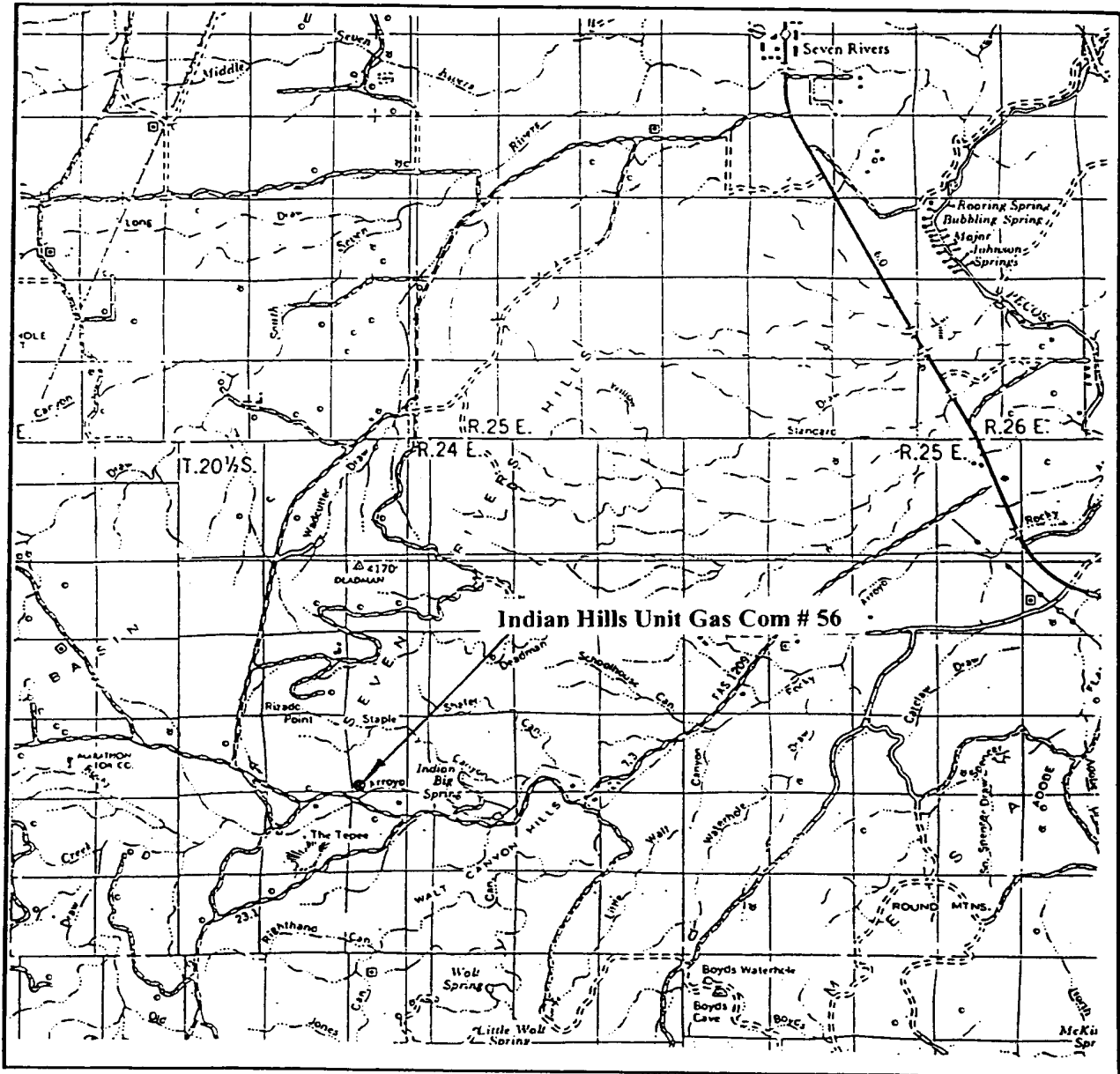
SURVEYOR CERTIFICATION

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 19, 2003

Date Surveyed
Signature & Seal of Professional Surveyor

Certificate No. RONALD J. EDSON 3238
GARY EDSON 12641

VICINITY MAP

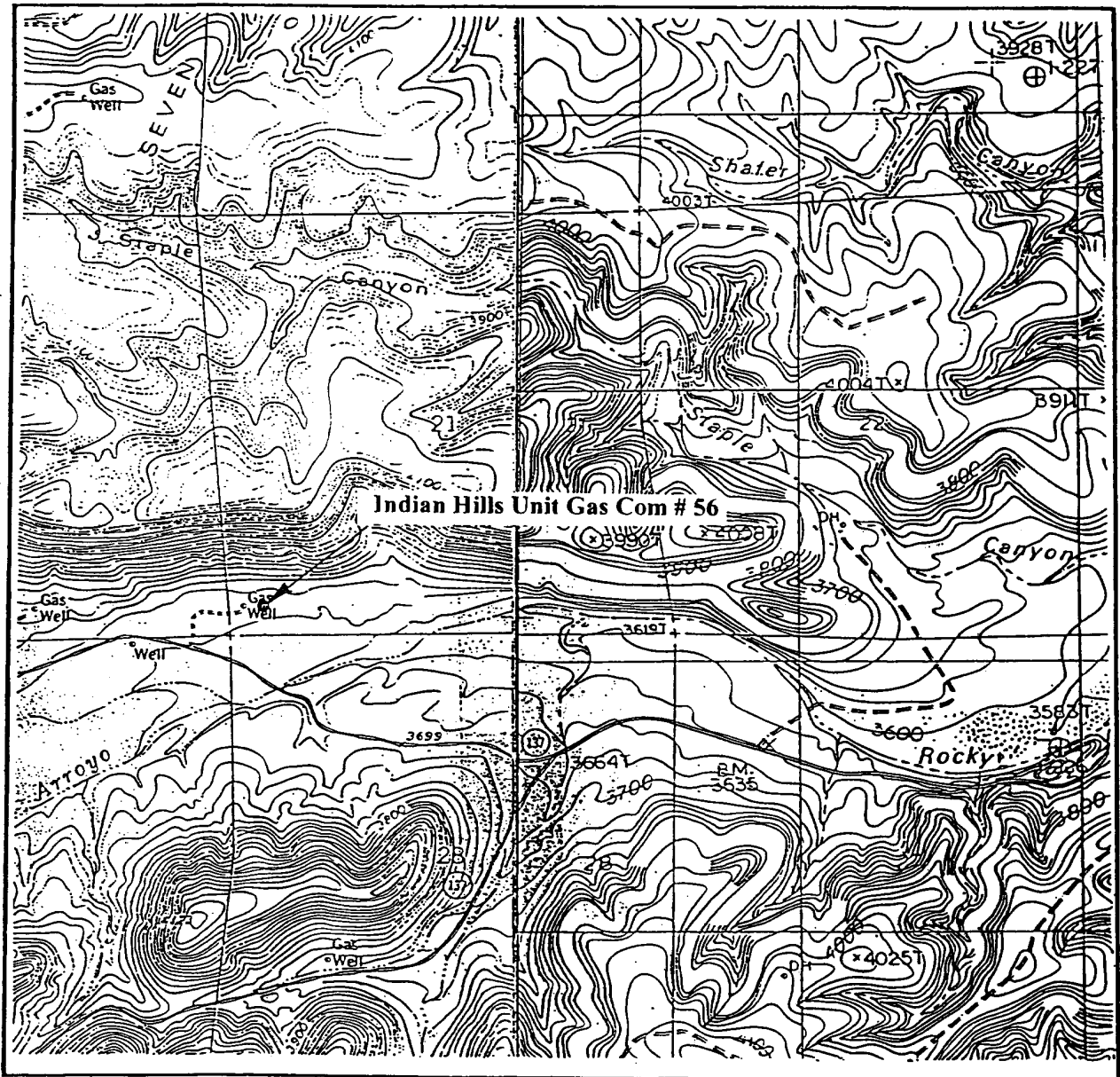


SCALE: 1" = 2 MILES

SEC. 21 TWP. 21-S RGE. 24-E
 SURVEY N.M.P.M.
 COUNTY EDDY
 DESCRIPTION 453' FSL 350' FWL
 ELEVATION 3667'
 OPERATOR MARATHON OIL COMPANY
 LEASE INDIAN HILLS UNIT

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

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

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 453' FSL 350' FWL

ELEVATION 3667'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

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

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

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Property Code	Property Name INDIAN HILLS UNIT GAS COM.	Well Number 56
OCRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3667

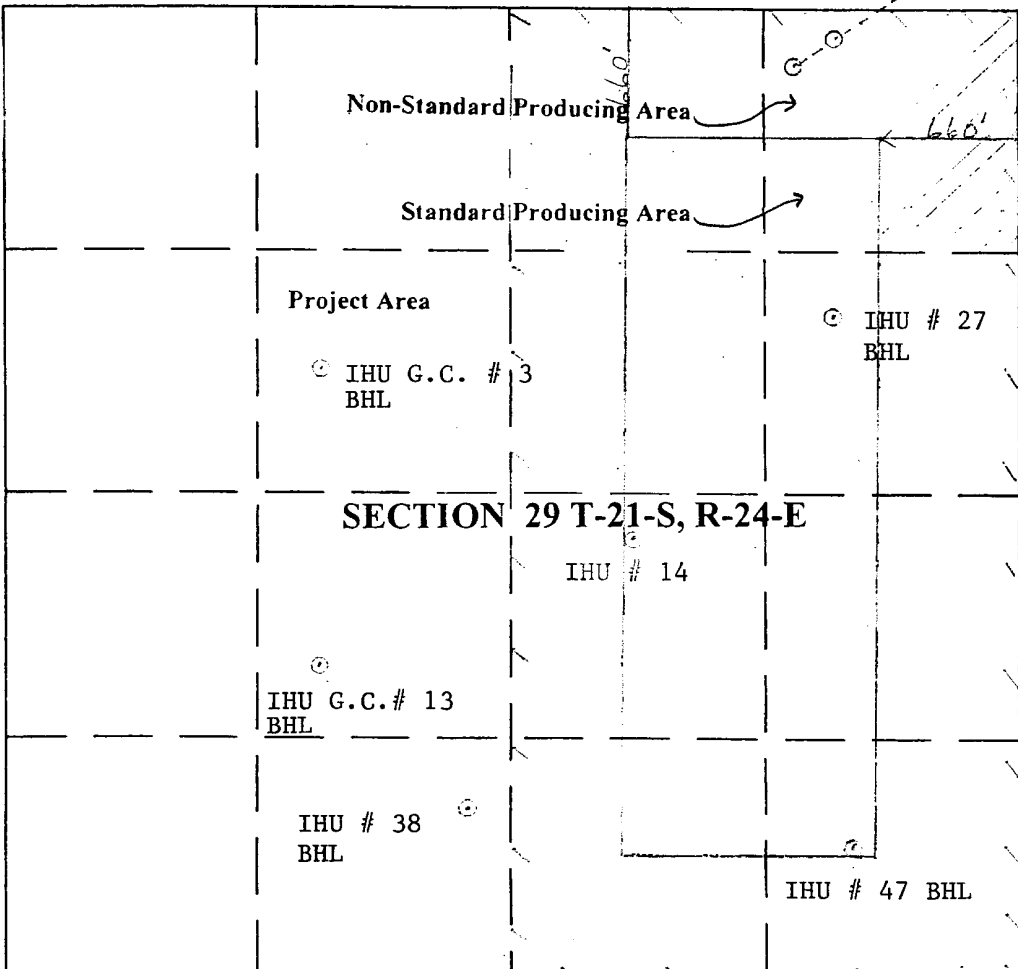
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
"M"	21	21-S	24-E		453'	SOUTH	350'	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
"A"	29	21-S	24-E		179'	North	1207'	EAST	EDDY
Dedicated Acres 320 E/2	Joint or Infill	Consolidation Code	Order No.						

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

	<p>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>Signature <i>Jerry Fletcher</i></p> <p>Printed Name Jerry Fletcher</p> <p>Title Engineer Tech.</p> <p>Date 6/5/03</p> <p>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 knowledge and belief.</p> <p>Date Surveyed</p> <p>Signature & Seal of Professional Surveyor</p> <p>Certificate No.</p>
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WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	33685	Indian Basin Upper Penn. Ass0c.
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT GAS COM	56
OGRID No.	Operator Name	Elevation
14021	MARATHON OIL COMPANY	3667'

Surface Location

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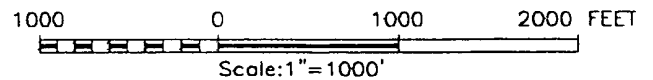
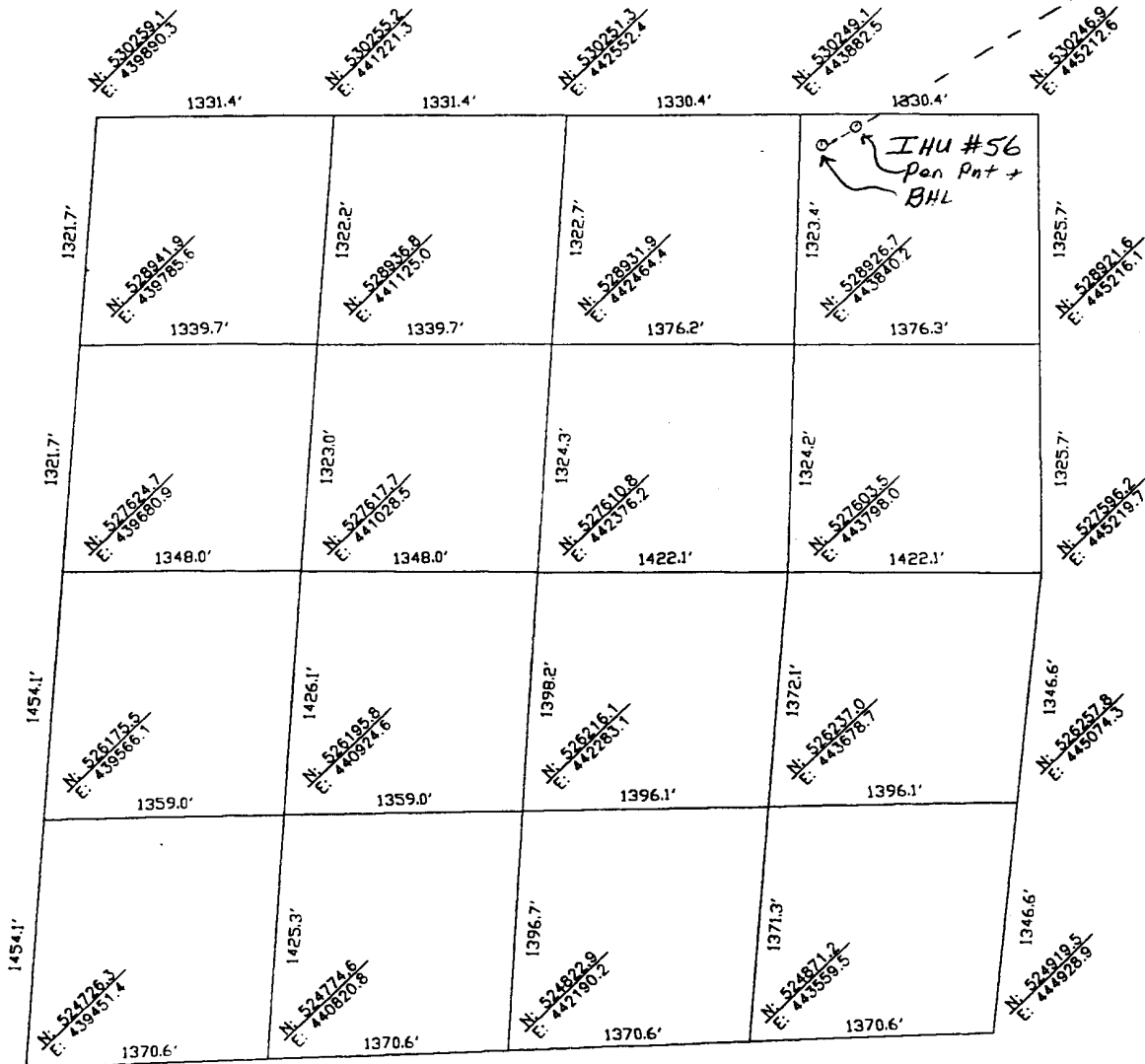
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320 E/2			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
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<p>Project Area</p> <p>Southwest Quarter Section 21</p> <p>Northeast Quarter Section 29</p> <p>Non-Standard Producing Area</p> <p>Standard Producing Area</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> Signature</p> <p>Jerry Fletcher Printed Name</p> <p>Engineer Tech. Title</p> <p>6/3/03 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 knowledge and belief.</p> <p>Date Surveyed</p> <p>Signature & Seal of Professional Surveyor</p> <p>Certificate No.</p>
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SECTION 29, TOWNSHIP 21 SOUTH, RANGE 24 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

SHL in Section 21



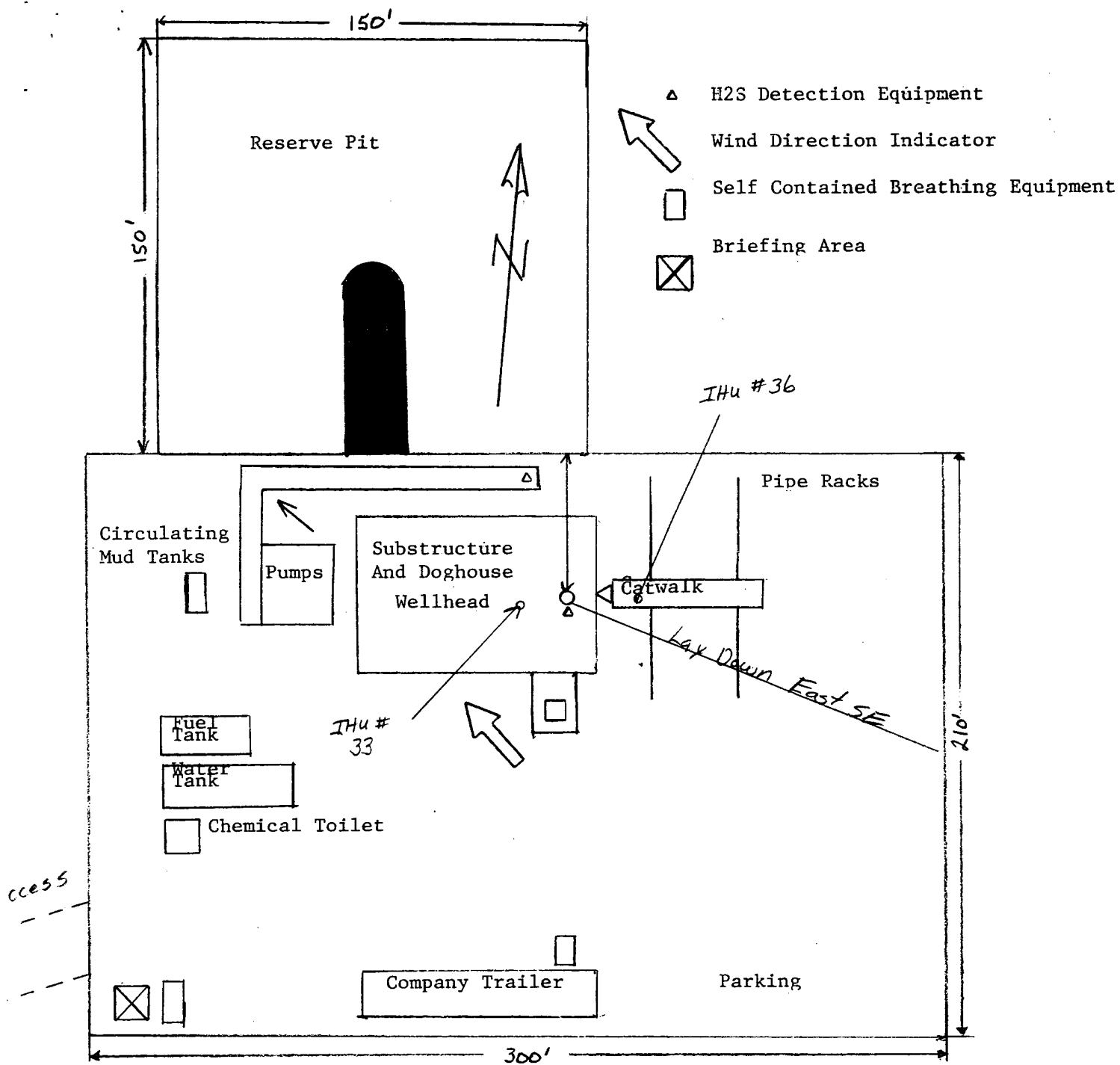
NOTE:
 DISTANCES ARE SURFACE VALUES.
 COORDINATE VALUES ARE RELATIVE
 TO THE NEW MEXICO COORDINATE
 SYSTEM, EAST ZONE, NAD 27

MARATHON OIL COMPANY

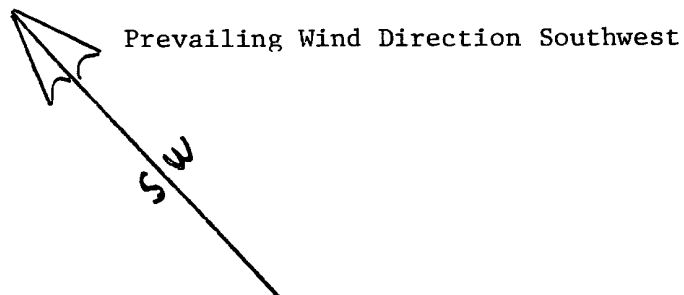
SECTION 29, TOWNSHIP 21 SOUTH, RANGE 24 EAST,
 N.M.P.M., EDDY COUNTY, NEW MEXICO.

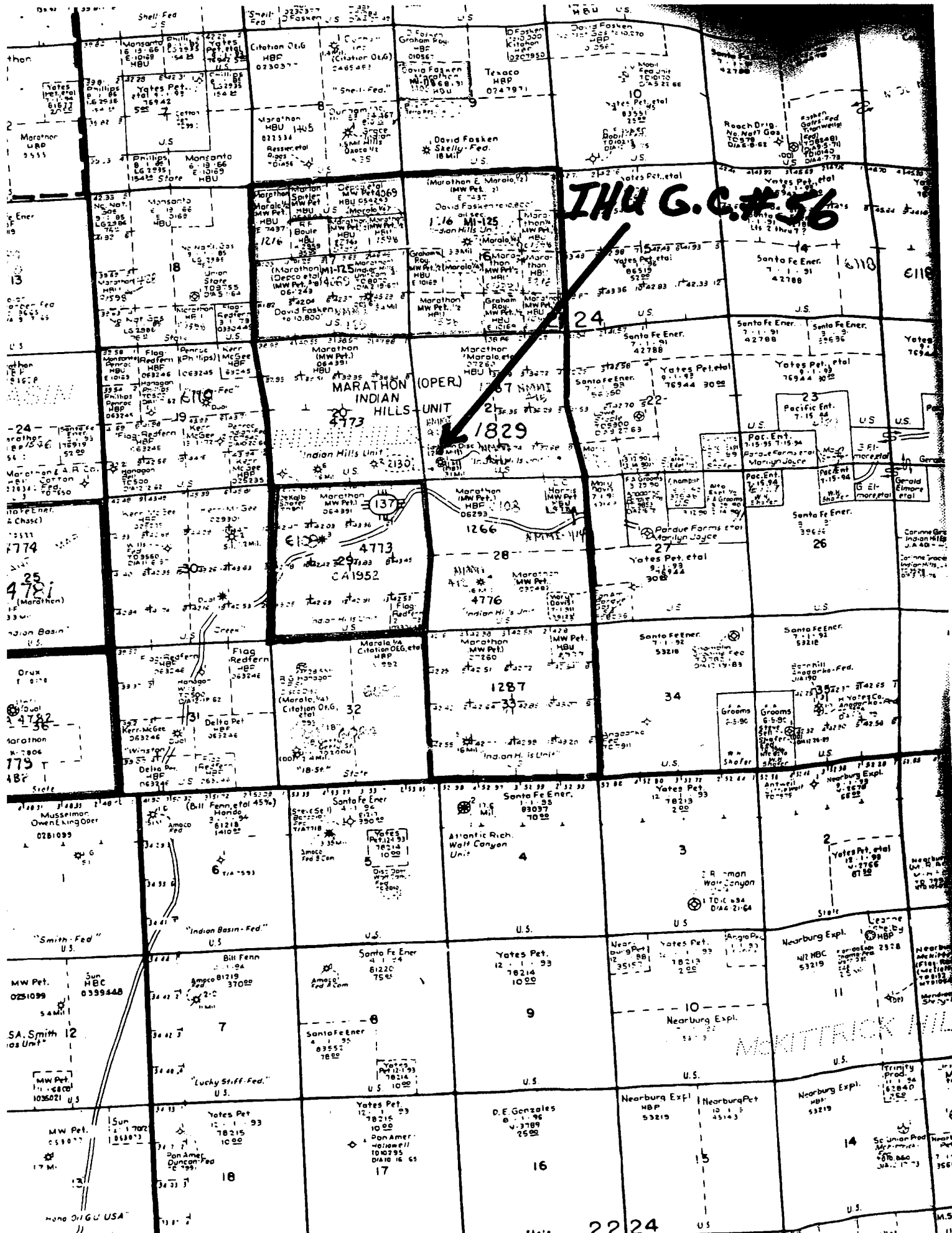
Survey Date: N/A	Sheet 1 of 1 Sheets
W.O. Number: 02.13.0854	Drawn By: A.W.B
Date: 11/11/02	DISK: CD#8
MARATHON	Scale: 1"=1000'

JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO - HOBBS, NEW MEXICO - 505-393-3117



1 INCH= 50 feet





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

Exhibit "I"

Marathon Oil Company

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC PLAN)

Marathon Oil Company has pollution prevention, good housekeeping, safety and fire prevention policies that are to be followed at all times. All company employees, contractors and subcontract personnel are to observe safe working practices and prevent pollution to the maximum extent possible.

In the event of an emergency, spill, fire, explosion or blowout, personal injuries, property or equipment damage, call **MARATHON OIL COMPANY @ 915-559-9339**

Prior to drilling, certain measures should be taken:

1. Use impervious materials to build the location and the reserve pit.
2. Ditch the outline of the rig toward the reserve pit.
3. Place sumps on each end of the rig to catch any free oil or debris from entering the reserve pit.
4. Keep materials on location to contain or clean up spills (absorbent pads, shovels, etc).
5. Make known to Drilling Supervisors a list of spill response contractors available.
6. BOP testing shall be performed each time a casing string is set.
7. The Drilling contractor is required to have a certified SPCC plan for the Drilling rig.
8. Routine inspections of the operations shall be performed to ensure SPCC guidelines are followed.
9. Ensure all Marathon personnel are HAZWOPER trained in methods for stopping, controlling, and cleaning up any spills.

Spill control measures to be taken:

1. Shut down activities underway, as deemed necessary by the person in charge.
 2. Determine the source of pollution and stop the discharge, if possible.
 3. Isolate and contain the discharged materials, if possible.
 4. Seek guidance from the Southern Region Emergency Action Plan.
-

Thirteen Point Surface Use Plan
MARATHON OIL COMPANY
INDIAN HILLS UNIT # 56
Sec. 21, T-21-S, R-24-E
U.L. "M" 453' FSL & 350' FWL

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, Take right Y on Marathon road (401) travel 1.0 miles; turn north on lease road go .25 miles to location. Well stake between the IHU # 33 and IHU # 36
- 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 State roads and existing lease roads. Construction plans will require blading and rolling the road and pad. The access road enters the drilling pad on the Southwest corner. The drilling location will have a V-door facing East SE.

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 nine oil and gas wells operated by Marathon within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon operates a variety of dehydrators, meter runs, and several gathering lines in the one-mile radius.

New Facilities: No new facilities will be needed. Using existing facility.

- 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 and via temporary lines laid along the existing row's and roads. 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 may be obtained from the construction site.
-

A. P. D. (cont.)
Thirteen Point Surface Use Plan
INDIAN HILLS UNIT # 56

- b. If production is obtained, native materials will be used on the location and for installation of production facilities.
- c. On-site inspection may dictate any changes in location construction.

7. Methods of Handling Waste Material Disposal:

- a. Cuttings - will be deposited in the reserve pit.
- b. Drilling fluids - contained in reserve pit and allowed to evaporate. Free water will be removed and transported to an approved disposal site to accelerate pit drying.
- c. Produced fluids - none anticipated.
- d. A portable chemical toilet will be provided.
- e. Garbage and other waste material - garbage and trash will be stored in a receptacle on location and periodically hauled to an approved sanitary landfill.
- f. After the rig moves out, all materials not necessary for operations will be removed. Pits will be backfilled and leveled. The location will be cleaned of all trash and debris.

8. Ancillary Facilities: Camp facilities will not be required. Portable trailers will be on location to house a company drilling foreman and contract tool pusher.

9. Well site Layout:

- a. The well pad layout shows the drill site layout as staked. Topsoil will be stockpiled per specifications.
- b. The reserve pit will be fenced on three sides before drilling begins. The fourth side will be fenced when the drilling rig leaves location.
- c. The reserve pit will be lined (8 mil material).

10. Plans for Restoration of the Surface:

- a. Backfilling, leveling, and contouring are planned as soon as all pits have dried. Waste disposal and spoiled materials will be hauled away immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible.
 - b. The soil banked material will be spread over the area. Re-vegetation will be accomplished by planting mixed grasses as per formula provided by the BLM. Re-vegetation is recommended for road area, as well as around the drill pad.
-

A. P. D. (cont.)
Thirteen Point Surface Use Plan
INDIAN HILLS UNIT # 56

- c. The reserve pit will be fenced during drilling operations. Fencing will be maintained until leveling and cleanup are accomplished.
- d. If any oil is in the pits and is not immediately removed after operations cease, the pit containing the oil or other adverse substances will be flagged overhead or covered with mesh.
- e. The rehabilitation operations will begin after the completion rig is removed. Removal of oil or other adverse substances will begin immediately or area will be flagged and fenced. Other cleanup will be done as needed. Planting and re-vegetation will be done between July 15 and September 15.
- f. All efforts will be made to minimize surface disturbances .

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 1 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..

12. Operator Representatives:

Tom Laylock
Drilling, Completion, & Workover Superintendent
P. O. Box 552
Midland, TX 79702
800/351-1417
915/687-8344 (Direct Line)

A. P. D. (cont.)

**Thirteen Point Surface Use Plan
INDIAN HILLS UNIT # 56**

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.

6/5/03

Date



Tom Laylock

A. P. D. (cont.)
Thirteen Point Surface Use Plan
INDIAN HILLS UNIT # 56

DRILLING PROGRAM
MARATHON OIL COMPANY
INDIAN HILLS UNIT # 56

1. Estimated KB Elevation: 3683' KB **G.L. 3667'** **Rig Floor 16'**

<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	+3683'	705'	+2978	
San Andres	705'	+2978'	2375'	+1308'	water
Glorietta	2375'	+1308'	2535'	+1150'	
Yeso	2535'	+1150'	6720'	-3087'	
Bone Spring	6720'	+3087'	6782'	-3099'	oil gas
Wolfcamp	6782'	-3099'	7504'	-3821'	oil gas
Cisco	7504'	-3821'	7685'	-4002'	
U. Penn	7685'	-4002'	8385	-4702'	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		5000		marker
B/Permian Shale	1810	9.0				marker
U. Penn	2050	9.0		500		objective pay

2. See (1) above.
 If any unexpected water or mineral bearing zones are encountered, they will be reported, evaluated, and protected as circumstances and regulations require.

3. **Pressure Control Equipment:**

9-5/8" Surface / 7" Intermediate 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

A. P. D. (cont.)
Thirteen Point Surface Use Plan
INDIAN HILLS UNIT # 56

cement plugs. Upper and lower kelly cocks with valve handle ,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 # 56

Test Frequency

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

4. Casing and Cement Program:

---DEPTH---		SECTION	HOLE	CSG	WT.		THREADS	NEW
FROM	TO	LENGTH	SIZE	SIZE	PPF	GRADE	COUPLINGS	USED
0	1200'	1200'	12.25"	9-5/8"	36#	K-55	8rd, STC	New
0	4800'	4800'	8.75"	7-0"	23#	K-55	8rd, LT&C	New
4800'	8385'	3585'	8.75"	7-0"	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"	none	1	L	240	Class H Foamed	1.84	14.8	100'	N2
9-5/8"			T	150	Mod "H"	1.32	14.8	960'	.4% CFR, 5 PPS Gilsonite
7"		1	L	840	"H" Foamed N2	2.47	11.9	5800'	N2
7"		1	T	100	Super "H"	1.32	14.8	6300'	1-pps salt, 5-pps gilsonite 4% gel, 1/4 pps cello
7"		2	L	340	Interfill "C"	1.44	11.9	7800'	.25pps Flocele, 3.0 pps gilsonite
7"		2	T	100	Premium	1.32	14.8	Surface	

A. P. D. (cont.)
Thirteen Point Surface Use Plan
INDIAN HILLS UNIT # 56

Each stage will be preceded by an appropriate mud flush. Actual production hole volumes will be based on the caliper volume plus 50% excess.

Centralizer Program:

9 5/8" Conventional centralizers. Middle of shoe joint then every other joint. To surface.

7" Conventional centralizers Middle of shoe joint then every other joint to DV collar, 1-above& 1-below DV collar

5. Mud Program

<u>---DEPTH---</u>		<u>MUD TYPE</u>	<u>WEIGHT</u>		<u>WL</u>	<u>ADDITIVES</u>	<u>VISUAL</u>
<u>FROM</u>	<u>TO</u>		<u>(PPG)</u>	<u>VIS</u>			
0	1200'	fresh water	8.3	28	N/A	Gel, Lime	Reserve
1200'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H ₂ S Scavenger	Reserve
5000'	7000'	fresh	8.9	32-36	N/C	Gel, caustic, H ₂ S Scavenger	Reserve
7000'	8385'	cut brine	9.0	32-36	<20	Gel, caustic, H ₂ S Scavenger	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:

A. P. D. (cont.)

Thirteen Point Surface Use Plan

INDIAN HILLS UNIT # 56

None anticipated. Possible H₂S in Cisco & Upper Penn. See H₂S Drilling Operations Plan.

8. Other Information:

Anticipated Starting Date: July 2003

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

Marathon Oil Company
INDIAN HILLS UNIT GAS COM #56

slot #1
INDIAN BASIN
Eddy County New Mexico

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

by
Baker Hughes INTEQ

Your ref : P0 2DJ SMILL
Our ref : prop3872
License :

Date printed : 4-Jun-2003
Date created : 4-Jun-2003
Last revised : 4-Jun-2003

Field is centred on n32 30 0.000,w104 30 0
Structure is centred on 445521.600,530701.100,999.00000,N

Slot location is n32 27 31.989,w104 30 35.850
Slot Grid coordinates are N 530701.100, E 445521.600
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is Grid North



Marathon Oil Company

Structure : INDIAN HILLS UNIT GAS COM #56

Slot : slot #1

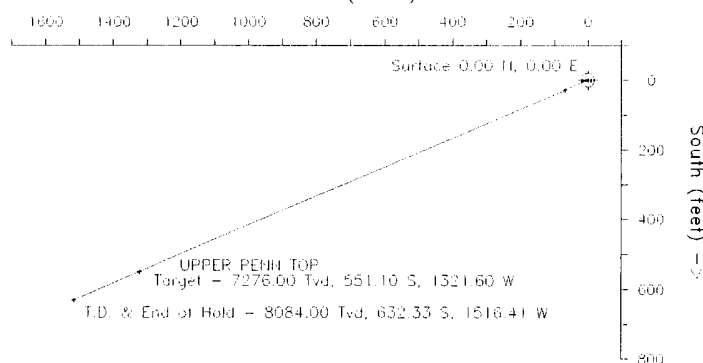
Field : INDIAN BASIN

Location : Eddy County New Mexico

WELL PROFILE DATA

Point	MD	Inc	Dir	Tvd	North	East	V. Sect	Deg/100
Surface	0.00	0.00	247.36	0.00	0.00	0.00	0.00	0.00
ROP	1500.00	0.00	247.36	1500.00	0.00	0.00	0.00	0.00
End of Build	2085.59	14.64	247.36	2079.23	-28.64	-118.67	74.41	2.50
Target UPPER PENN TOP	7456.73	14.64	247.36	7276.00	-551.10	-1321.60	1431.90	0.00
T.D. & End of Hole	8291.84	14.64	247.36	8084.00	-632.33	-1516.41	1642.97	0.00

← West (feet)



STRUCTURE SET-UP REFERENCE

LAT : 36° 31' 30" N
LONG : 104° 50' 30" W
X = 444005.19 Y = 530068.77

PROJECTION: MERCATOR

Mercator Zone: 18N
Spheroid Used: Clarke - 1866

Data Source: BCGM

Dip Angle: 10.11 deg
Field Strength: 120.11 nT



INTEQ

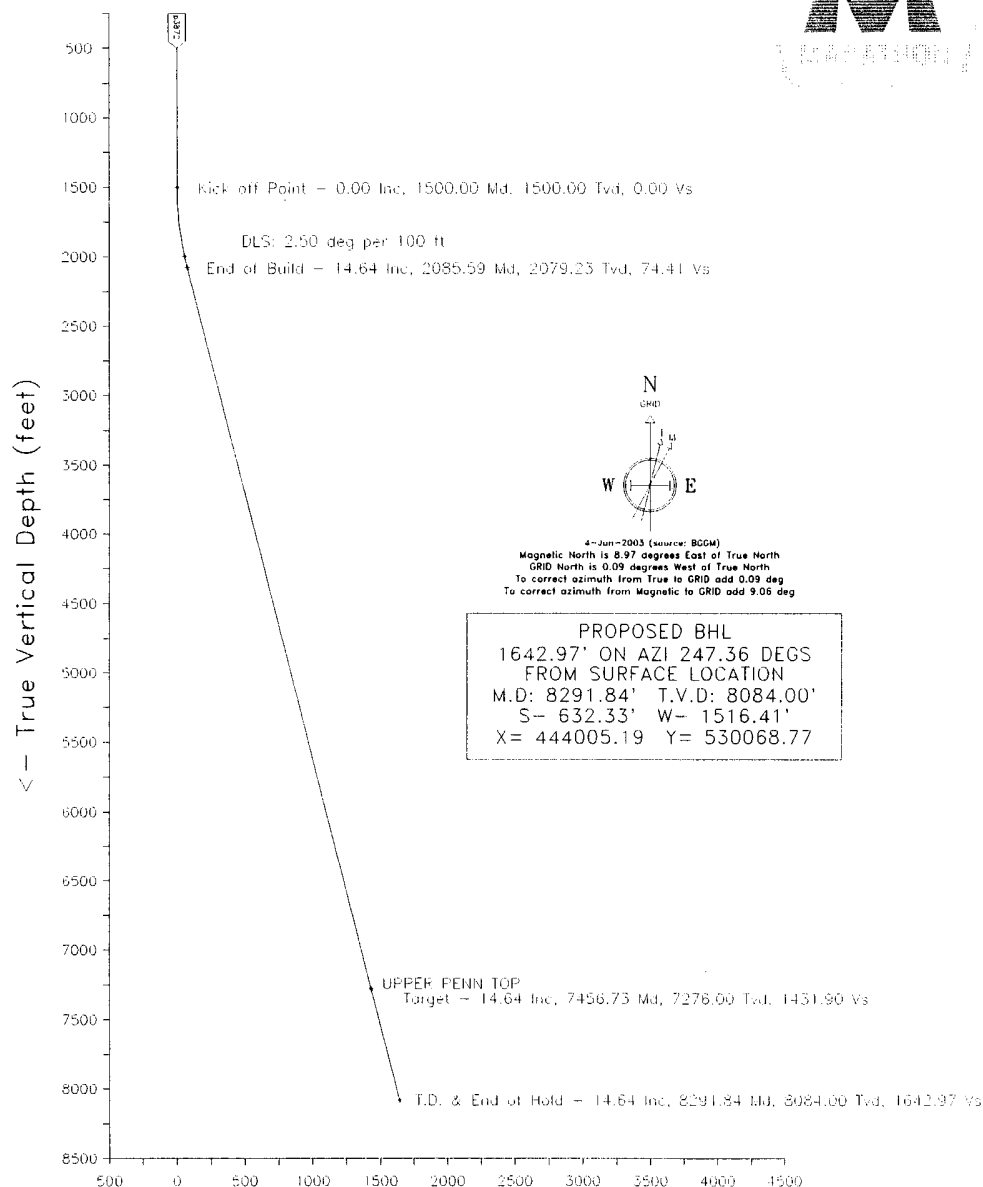
Created By kellym
Date plotted: 4-Jun-2003

Plot Reference is PO 201 SMILL

Coordinates are in feet reference slot #1.
True Vertical Depths are reference rotary table.

ihugc56

--- Baker Hughes INTEQ ---



Vertical Section (feet) →

Azimuth 247.36 with reference 0.00 N, 0.00 E from slot #1

4-Jun-2003 (source: BCGM)
Magnetic North is 8.97 degrees East of True North
GRID North is 0.09 degrees West of True North
To correct azimuth from True to GRID add 0.09 deg
To correct azimuth from Magnetic to GRID add 9.06 deg

PROPOSED BHL
1642.97' ON AZI 247.36 DEGS
FROM SURFACE LOCATION
M.D: 8291.84' T.V.D: 8084.00'
S- 632.33' W- 1516.41'
X= 444005.19 Y= 530068.77

Marathon Oil Company
INDIAN HILLS UNIT GAS COM #56, slot #1
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 1
Your ref : P0 2DJ SMILL
Last revised : 4-Jun-2003

Measured Depth	Inclin Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100ft	Vert Sect	G R I D Easting	C O O R D S Northing	
0.00	0.00	247.36	0.00	0.00N	0.00E	0.00	0.00	445521.60	530701.10	SHL
500.00	0.00	247.36	500.00	0.00N	0.00E	0.00	0.00	445521.60	530701.10	
1000.00	0.00	247.36	1000.00	0.00N	0.00E	0.00	0.00	445521.60	530701.10	
1500.00	0.00	247.36	1500.00	0.00N	0.00E	0.00	0.00	445521.60	530701.10	
1600.00	2.50	247.36	1599.97	0.84S	2.01W	2.50	2.18	445519.59	530700.26	
1700.00	5.00	247.36	1699.75	3.36S	8.05W	2.50	8.72	445513.55	530697.74	
1800.00	7.50	247.36	1799.14	7.55S	18.10W	2.50	19.61	445503.50	530693.55	
1900.00	10.00	247.36	1897.97	13.40S	32.14W	2.50	34.82	445489.46	530687.70	
2000.00	12.50	247.36	1996.04	20.91S	50.14W	2.50	54.33	445471.46	530680.19	
2085.59	14.64	247.36	2079.23	28.64S	68.67W	2.50	74.41	445452.93	530672.46	
2500.00	14.64	247.36	2480.19	68.95S	165.34W	0.00	179.14	445356.26	530632.15	
3000.00	14.64	247.36	2963.96	117.58S	281.98W	0.00	305.51	445239.62	530583.52	
3500.00	14.64	247.36	3447.73	166.22S	398.61W	0.00	431.88	445122.99	530534.88	
4000.00	14.64	247.36	3931.50	214.86S	515.25W	0.00	558.25	445006.35	530486.24	
4500.00	14.64	247.36	4415.26	263.49S	631.88W	0.00	684.62	444889.72	530437.61	
5000.00	14.64	247.36	4899.03	312.13S	748.52W	0.00	810.99	444773.08	530388.97	
5500.00	14.64	247.36	5382.80	360.76S	865.15W	0.00	937.36	444656.45	530340.34	
6000.00	14.64	247.36	5866.57	409.40S	981.79W	0.00	1063.73	444539.81	530291.70	
6500.00	14.64	247.36	6350.33	458.04S	1098.42W	0.00	1190.10	444423.18	530243.06	
7000.00	14.64	247.36	6834.10	506.67S	1215.06W	0.00	1316.47	444306.54	530194.43	
7456.73	14.64	247.36	7276.00	551.10S	1321.60W	0.00	1431.90	444200.00	530150.00	U.P. Top
7500.00	14.64	247.36	7317.87	555.31S	1331.69W	0.00	1442.84	444189.91	530145.79	99' NL
8000.00	14.64	247.36	7801.63	603.95S	1448.33W	0.00	1569.21	444073.27	530097.15	1013' FEL
8291.84	14.64	247.36	8084.00	632.33S	1516.41W	0.00	1642.97	444005.19	530068.77	BHL
										179' FNL
										1707' FEL
										Rectangular Coordinates

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

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 1642.97 on azimuth 247.36 degrees from wellhead.

Vertical section is from N 0.00 E 0.00 on azimuth 247.36 degrees.

Grid is mercator - New Mexico East (3001).

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

Presented by Baker Hughes INTEQ

Marathon Oil Company
INDIAN HILLS UNIT GAS COM #56, slot #1
INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 2
Your ref : P0 2DJ SMILL
Last revised : 4-Jun-2003

Comments in wellpath

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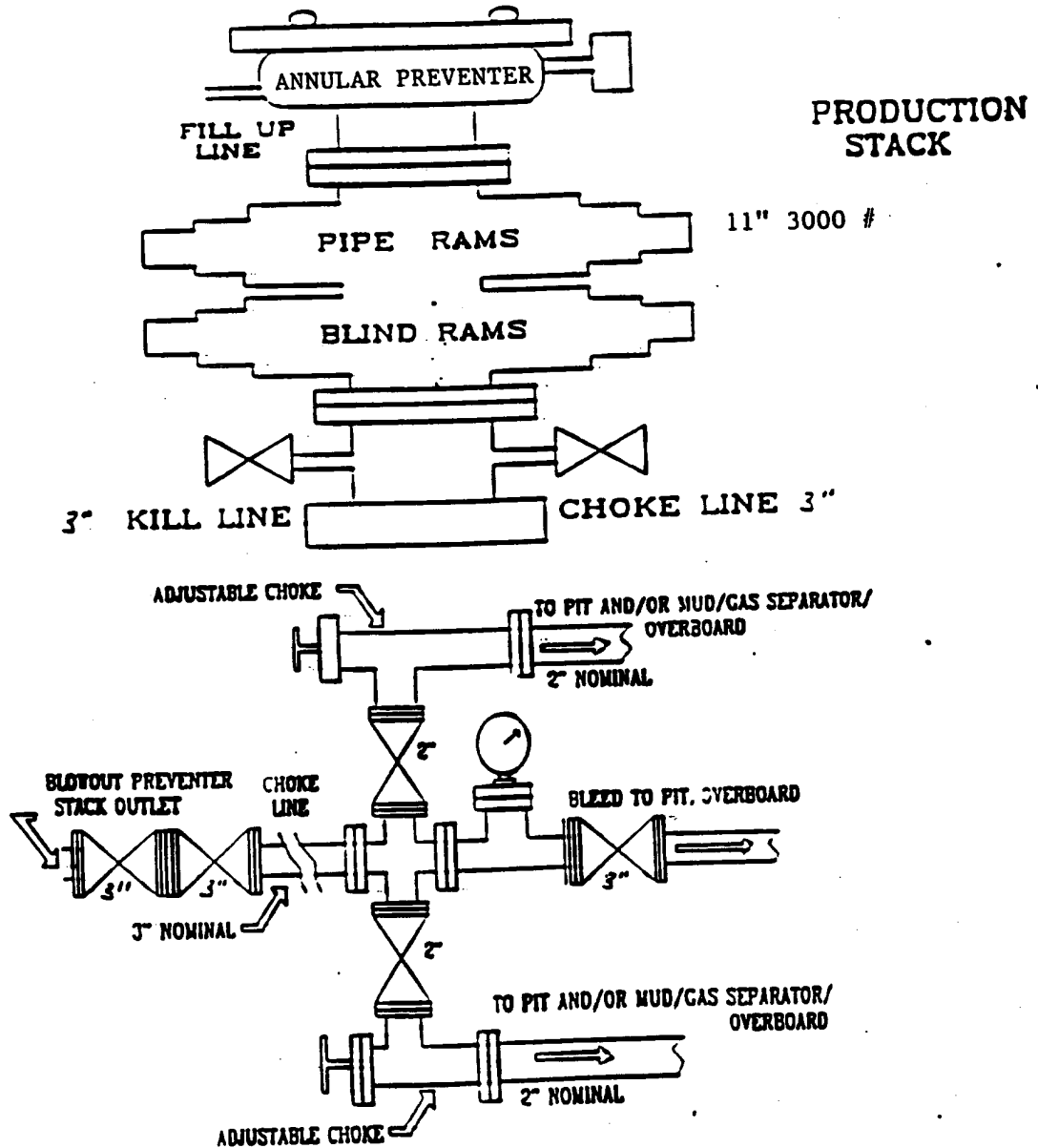
MD	TVD	Rectangular Coords.	Comment
7456.73	7276.00	551.10S 1321.60W	UPPER PENN TOP

Targets associated with this wellpath

=====

Target name	Geographic Location	T.V.D.	Rectangular Coordinates	Revised
UPPER PENN TOP	444200.000,530150.000,0.00000	7276.00	551.10S 1321.60W	4-Jun-2003

Indian Hills Unit # 56



July 16, 2003

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

Attention: Steve Millican
SEMillican@MarathonOil.com

Administrative Order NSL-4918 (BHL) (SD)

Dear Mr. Millican:

Reference is made to the following: (i) your application filed with the New Mexico Oil Conservation Division ("Division") on June 10, 2003 (*administrative application reference No. pKRV0-316332201*); and (ii) the Division's records in Santa Fe: all concerning Marathon Oil Company's ("Marathon") request for an exception to Rule 2 (b) of the "*Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool*", as promulgated by New Mexico Oil Conservation Division ("Division") Order Nos. R-9922, R-9922-A, R-9922-B, R-9922-C, R-9922-D, and R-9922-E and the "*General Rules and Regulations for the Associated Oil and Gas Pools of Northwest New Mexico and Southeast New Mexico*," as promulgated by Division Order No. R-5353, as amended, for its proposed Indian Hills Unit Gas Com. Well No. 56 to be drilled as an upper Pennsylvanian infill well to an unorthodox subsurface location within an existing standard 337.95-acre stand-up spacing and proration unit comprising Lots 1, 6, 7, 8, 13, and 14 and the E/2 NE/4 (E/2 equivalent) of Irregular Section 29, Township 21 South, Range 24 East, NMPM, Indian Basin-Upper Pennsylvanian Associated Pool (33685), Eddy County, New Mexico.

This unit is currently simultaneously dedicated to Marathon's:

- (i) Indian Hills Unit Well No. 14 (API No. 30-015-30624), located at a standard 2300 feet from the South line and 2000 feet from the East line (Lot 8/Unit J) of Irregular Section 29;
- (ii) Indian Hills Unit Well No. 27 (API No. 30-015-31406), located on the surface 503 feet from the North line and 2310 feet from the West line (Lot 2/Unit C) of Irregular Section 29, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool (33685) at a bottom-hole location that is 1313 feet from the North line and 1332 feet from the East line (Lot 1/Unit B) of Irregular Section 29; and
- (iii) Indian Hills Unit Gas Com. Well No. 47 (API No. 30-015-32536), located on the surface 2316 feet from the South line and 2004 feet from the East line (Lot 8/Unit J) of Irregular Section 29, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool (33685) at a standard sub-surface location within the SE/4 SE/4 equivalent (Lot 14/Unit P) of Irregular Section 29.

It is our understanding the proposed Indian Hills Unit Gas Com. Well No. 56, because of topographic reasons, will be spud at a surface location 453 feet from the South line and 350 feet from the West line (Unit M) of Section 21, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and drilled directionally to the west-southwest to a targeted-bottomhole location at an approximate depth of 8,084 feet (TVD) 179 feet from the North line and 1207 feet from the East line (Unit A) of Irregular Section 29. The wellbore is to intersect the top of the Upper-Pennsylvanian interval at an approximate depth of 7,276 feet (TVD) 99 feet from the North line and 1013 feet from the East line (Unit A) of Irregular Section 29. The proposed well will be unorthodox in that the entire producing interval will be closer then the standard setback distance of 660 feet from the North line of Irregular Section 29. Further, this bottom-hole location has been chosen by Marathon to optimize reservoir drainage and minimize geological risk.

This application has been duly filed under the provisions of Division Rule 104.F and Rule 2 (c) of the Division's associated pool rules.

By the authority granted me under the provisions of Division Rule 104.F (2) and the applicable provisions of the special rules governing the Indian Basin-Upper Pennsylvanian Associated Pool, the above-described unorthodox sub-surface location for the Indian Hills Unit Gas Com. Well No. 56 within the E/2 equivalent of Irregular Section 29, is hereby approved.

Further, the aforementioned well and spacing unit will be subject to all existing rules, regulations, policies, and procedures applicable to the Indian Basin-Upper Pennsylvanian Associated Pool.

Marathon is hereby authorized to simultaneously dedicate production attributed to the Indian Basin-Upper Pennsylvanian Associated Pool from the aforementioned Indian Hills Unit Wells No. 14 and 27 and Indian Hills Unit Gas Com. Wells No. 47 and 56. Furthermore, Marathon is permitted to produce the allowable assigned the subject 337.95-acre spacing and proration unit from all four wells in any proportion.

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

Sincerely,

Lori Wrotenbery
Director

LW/mes

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