Form 3160-3 (August 1999)

## N.M. Oil Cons. DIV-Dist. 2 1301 W. Grand Avenue

DEPARTMENT OF THE ANGESTOR NM 88210

FORM APPROVED OMB No. 1004-0136 Expires November 30, 2000

BUREAU OF LAND MANAGEMENT

		_
5.	Lease Serial No.	
	NM-07260	

APPLICATION FOR PERMIT 1	TO DRILL OR REENTER RECEIVED	6. If Indian, Allottee or Tribe Na	me
la. Type of Work: 🛛 DRILL 🔲 REENTER	SEP 1 4 2004	7. If Unit or CA Agreement, Nar	ne and No.
	ORD:ARTES!	<u> </u>	
1b. Type of Well:		8. Lease Name and Well No. INDIAN HILLS UNIT 59	
2. Name of Operator Contact:	CHARLES KENDRIX E-Mail: cekendrix@marathonoil.com	9. API Well No.	
		30 ·015-3375	
3a. Address P.O. BOX 3448 HOUSTON, TX 77253	3b. Phone No. (include area code) Ph: 800.351.1417 Ext: 8104 Fx: 915.687.8196	10. Field and Pool, or Explorator U.PENN./ MORROW/MI  ASS  .	
4. Location of Well (Report location clearly and in accordance	nce with any State requirements.*)	11. Sec., T., R., M., or Blk. and S	Survey or Area
At surface NENE Lot 1 1117FNL 641F At proposed prod. zone NWSW Lot L 2199FSL 864	FEL 32.28072 N Lat, 104.30515 W Lon	Sec 20 T21S R24E Mer Surface	
14. Distance in miles and direction from nearest town or post of		12. County on Porish	12 5
14. Distance in finites and direction from hearest town of post c	onice*	12. County or Parish EDDY	13. State NM
<ol> <li>Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig, unit line, if any)</li> </ol>	16. No. of Acres in Lease SUBJECT TO LIKE	17. Spacing Unit dedicated to the	s well
	APPROVAL BY STATE	649 <mark>3</mark> 20. <del>11</del>	
<ol> <li>Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	19. Proposed Depth	20. BLM/BIA Bond No. on file	* 1- 1
	11123 MD 10800 TVD		
21. Elevations (Show whether DF, KB, RT, GL, etc. 4149 GL	22. Approximate date work will start 09/01/2004	23. Estimated duration 25	
	24. Attachments CARLS	BAD CONTROLLED WAT	ER BASIN
The following, completed in accordance with the requirements of	f Onshore Oil and Gas Order No. 1, shall be attached to the	his form:	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Syste SUPO shall be filed with the appropriate Forest Service Off</li> </ol>	em Lands, the Item 20 above).	ormation and/or plans as may be re	
25. Signature (Electronic Submission) MM wk	Name (Printed/Typed) MIKE MICK Ph: 713.296.3254		ate 08/19/2004
Title ADV. SR. ENGINEERING TECH.			
Approved by (Signature)	Name (Printed/Typed)		ate
/s/ Joe G. Lara	/s/ Joe G. I	Lara 18	SEP 2004
FIELD MANAGER	Office CARLSBAD FIELD	D OFFICE	
Application approval does not warrant or certify the applicant ho operations thereon.  Conditions of approval, if any, are attached.	APPROVAI	L FOR 1 YEAR	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, r States any false, fictitious or fraudulent statements or representat	make it a crime for any person knowingly and willfully to ions as to any matter within its jurisdiction.	make to any department or agency	of the United
	110. 11.110.0	( Q U I) Cass	

Additional Operator Remarks (see next page)

NSL - 4649 . B (BHO (50)

Electronic Submission #34850 verified by the BLM Well Information System For MARATHON OIL COMPANY, sent to the Carlsbad

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Witness Surface Casing

### **Additional Operator Remarks:**

Indian Hills Unit # 59 is staked on same well site as IHU # 26 & 31. No new surface distrubances will be added. A closed loop system will be utilized for drilling. A small lined pit will need to be located on the drilling pad(see attachments). All cuttings will be transferred to IHU #25 well site and buried in old reservee pit area as per the BLM's and OCD's standards. The proposed IHU #59 directionally drills to a bottom hole in sec. 21. With a TVD of 10,800', the well track will penetrate the U. Penn(320's), Morrow(640's) and Mississippian(320's) producing intervals. The U. Penn will be a NSL, being too close to outer boundary of E/2 of Sec.21. There are no Mississipian producers in the area. Offset Morrow and U.Penn assoc. wells in the E/2 of sec. 21 shown on C-102.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

### State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Form C-144 June 1, 2004

### Pit or Below-Grade Tank Registration or Closure

	c covered by a "general plan"? Yes No X r below-grade tank XX Closure of a pit or below-grade		
Operator: Marathon Oil Corporation Telephone: _713-296-3254Address: P.O. Box 3128 Houston, Tx. 77253		10 P 24E	
Facility or well name: IHU # 59API #:  County: Eddy Latitude Longitude			] Private [] Indian []
Pit  Type: Drilling  Production □ Disposal □  Workover □ Emergency □  Lined  Unlined □  Liner type: Synthetic □ Thickness  Pit Volume □ bbl	Below-grade tank  Volume:bbl Type of fluid:  Construction material:  Double-walled, with leak detection? Yes		RECEIVED
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet 50 feet or more, but less than 100 feet	(20 points) (10 points) ( 0 points)	JUL 3 0 7004
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes No	(20 points) ( 0 points)	
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more	(20 points) (10 points) ( 0 points)	
drilling of IHU #59. Due  could not be Located @  for Air drilling operations  All materials shall be removed to  place mrnt Q IHU #374 due to being  Thereby certify that the information above is true and complete to the best of  been/will be constructed or closed according to NMOCD guidelines [A]  Date: 7-21-04	(3) Attach a general de (es   If yes, show depth below ground surface s.  For the pits (2) neede control of the pits (3) neede control of the pits (2) neede control of the pits (3) neede	escription of remediants  ft. and attained in the many of the many of the mount of	e e e e e e e e e e e e e e e e e e e
Printed Name/Title Mike Mick Add Sr. Eng. T Your certification and NMOCD approval of this application/closure does not otherwise endanger public health or the environment. Nor does it relieve the regulations.	t relieve the operator of liability should the contents of operator of its responsibility for compliance with any	the pit or tank conta other federal, state,	aminate ground water or or local laws and/or
Approval: Printed Name/Title  OCD appro	SignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignatureSignature	P Date A	UG × 6 2004
Well must	oval conditional.  meet BLM		

Requirements and obtain

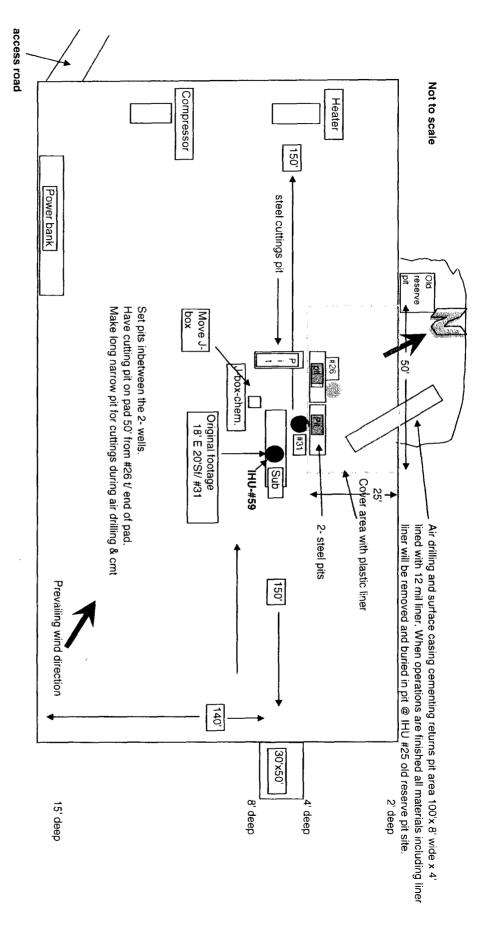
Their approval.

### Additional Information- Indian Hills Unit # 59

### General:

A closed loop drilling system will be utilized. Cuttings will be deposited in the reserve pit constructed on Indian Hills Unit #25 and Indian Hills Unit 37Y's combination location pad. The reserve pit constructed on the Indian Hills Unit #25 and Indian Hills #37Y's combination pad is located approx. 1,250' from the proposed Indian Hills Unit #59 well site. Cuttings will be trucked and placed in reserve pit which will have a 20 Mil liner and will be capped with a 40 mil liner and a min. of 3' cover, with top soil placed on surface. A small 8' x 100' pit lined with a 12 mil liner will be constructed at the Indian Hills Unit #59 drilling site in the old pit area with no new surface disturbances. The pit will be utilized during air drilling operations and surface pipe cementing operations. This pit will be placed into the area of the old pit that is "mounded up" above the grade of the remainder of the pad to minimize the portion of the pit that is placed below existing pad grade. No liquids will be allowed to accumulate. Upon completion of operations all materials, including the liner shall be removed and area will be restored as per BLM and OCD requirements..

- Topsoil will be stripped and stockpiled for use as the final cover of fill at the time of closure.
- Contents removed from old pit will be stockpiled on a liner to prevent soil contamination.
- A 20 mil. Liner will be installed. Padding will be added if necessary. Liner will be anchored per OCD's guidelines. OCD will be contacted 24 hrs. prior to liner installation.
- All necessary steps will be taken to prevent liner damage.
- Marathon will used a combination of produced and freshwater during drilling, anticipated chloride content of drilling fluids - 10,000 ppm.
- Pit Area will be fence, work access will remain open during operations, closed once rig operations cease.
- All fluids will be removed from pit in a timely manner after operations cease.
- OCD will be contacted when pit closure commences.
- Closure of pit will be performed as per current OCD guidelines for onsite encapsulation.
  The liner edges shall be folded over the contents and a 40 mil liner shall be installed on
  top. A min. of 3 foot of clean soil shall be spread over encapsulated pit contents.
  Stockpiled top soil shall be spread and contoured. Pit area will be re-seeded and revegetation promoted.



access road

IHU #25 & 37Y dual location- proposed site for IHU #59 cuttings piੈ ⊤

# Thirteen Point Surface Use Plan MARATHON OIL COMPANY

### INDIAN HILLS UNIT #59

Sec. 20, T-21-S, R-24-E Eddy County, New Mexico

### 1. <u>Existing Roads</u>: Refer to Vicinity Lease Map.

- a. The proposed well site is staked and the surveyor's plat is attached.
- b. To reach the location from Carlsbad, New Mexico: Follow Hwy. 285 North of Carlsbad 11 miles. Turn left on (NM) 137. Go 6 miles west. Turn Right on Marathon Road. Follow 1.9 miles to White Pines Road. Go North 1.3 miles, turn Right on lease road and continue east approx. 1 mile. Take a Right at the "Y" and follow lease road ½ mile to access road and turn south, go ¾ mile to location. Well surface site is on same existing location pad as IHU #26 & IHU # 31
- 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.

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.

3. Location of Existing Wells: See Form C-102 & Vicinity Lease Map.

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

- a. Existing: There are eight oil and gas wells operated by Marathon, Yates, and Devon within a one-mile radius of the proposed location. These locations have production facilities including separators, condensate, oil, water storage tanks. Marathon, Yates and Devon operate a variety of dehydrators, meter runs, and several gathering lines in the one-mile radius.
- b. New Facilities: No new facilities are proposed at this time. We will utilize existing # 120 facilities.
- c. Rehabilitation of disturbed areas no longer needed for operations will be accomplished by grading, leveling and seeding as recommended.

### 5. Location and Type of Water Supply:

- a. Source: Indian Basin Gas Plant, NE/4 Sec. 23, T-21-S, R-23-E.
- b. The water will be transported by a trucking contractor. No new construction will be required on/along the water route. If a poly line is used to transport water, it will be run along an existing pipeline corridor.
- 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.
- 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. A closed loop drilling system will be utilized. Cuttings will be deposited in the reserve pit constructed on Indian Hills Unit #25 and Indian Hills Unit 37Y's combination location pad. The reserve pit constructed on the Indian Hills Unit #25 and Indian Hills #37Y's combination pad is located approx. 1,250' from the proposed Indian Hills Unit #59 well site. Cuttings will be trucked and placed in reserve pit which will have a 20 Mil liner and will be capped with a 40 mil liner and a min. of 3' cover, with top soil placed on surface. A small 8' x 100' pit lined with a 12 mil liner will be constructed at the Indian Hills Unit #59 drilling site in the old pit area with no new surface disturbances, for use during air drilling operations and surface cementing operations. This pit will be placed into the area of the old pit that is "mounded up" above the grade of the remainder of the pad to minimize the portion of the pit that is placed below existing pad grade. No liquids will be allowed to accumulate. Upon completion of operations all materials, including the liner shall be removed and area will be restored as per BLM and OCD requirements..
- b. Drilling fluids contained in steel tanks utilized by the closed loop system. Materials hauled to the reserve pit utilized on the IHU #25 & 37Y location will be allowed to dry. 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 (20 mil liner).

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

### 11. Other Information:

- a. There are 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
- c. site is gently rolling hills. Vegetation is primarily sage brush and natural grasses.
- c. Animal life: Prairie dogs, domestic livestock, rabbits and native rodents and predators.
- d. Dwellings (nearest): Approximately 2 miles.
- e. General location: Approximately 15 miles Northwest of Carlsbad, New Mexico.
- f. Drainage: Internal----
- g. 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.
- h. Surface Owner: Bureau of Land Management.

### 12. Operator Representatives:

Don Hall Sr. Drilling Engineer P. O. Box 3128 Houston, TX 77253 713-629-6600 Direct line- 713/296-3271

### 13. Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the proposed drill site 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.

D. P. Hall

## Indian Basin; Upper Penn. Assec. WC; MISS Indian Basin; Monney

### State of New Mexico

DISTRICT I

Sporter, Minerale and Majorel Resources Department

DISTRICT II

OIL CONSERVATION DIVISION 1220 SOUTH ST. FRANCIS DR. Santa Fe, New Mexico 87505 Form C~102 Revised JUNE 10, 2003 lukmit to Appropriate District Office State Lease — 4 Copies Per Lease — 3 Copies

DISTRICT III 1000 Mo Brance Rd., Astec, NM 67410

DISTRICT IV WELL LOCATION AND ACREAGE DEDICATION PLAT D AMENDED REPORT LIGHT S. SE. VELLECOS DEL MANTA PR. STA STA Pool Code API Mumber Pool Name U. PENN ASSOC. 33685 Property Code Property Name INDIAN HILLS UNIT 59 OCEID No. Operator Name Elevation MARATHON OIL COMPANY 4149 014021

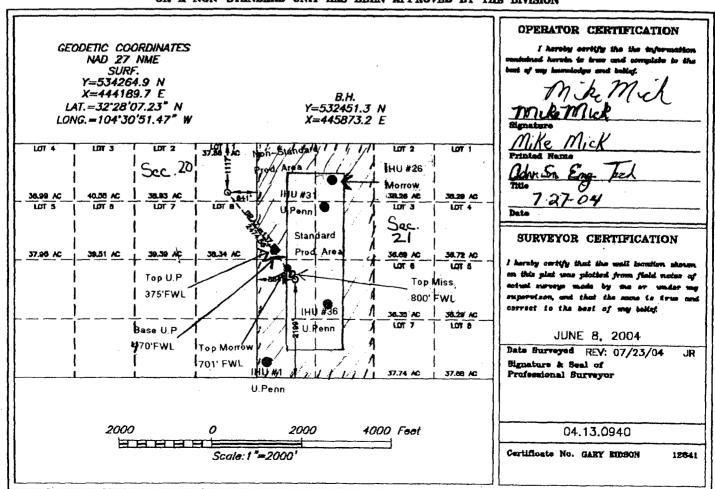
#### Surface Location

UL or let No.	Section	Township	gente	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	20	21-S	24-E		1117'	NORTH	641'	EAST	EDDY

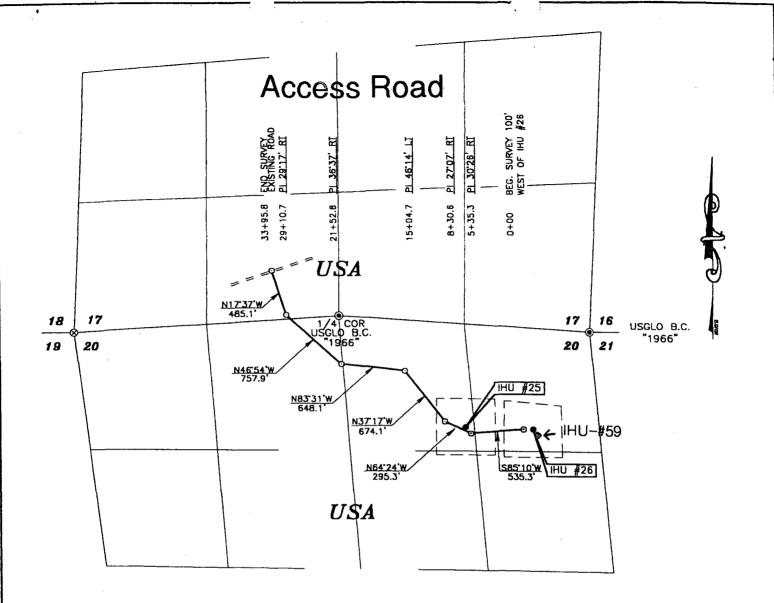
### Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Bange	Lot Mn	1	North/South line	Foot from the	East/West Mae	County
L	21	21-S	24-E		2199'	SOUTH	864'	WEST	EDDY
Dedicated Acres		r hafill Con	eclidation (	Code Or	dar No.				
320 E/		1		1					

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



SECTION 20, TOWNSHIP 21 S	OUTH, RANGE 24 EAST, I	V.M.P.M.,
EDDY COUNTY,	NE	W MEXICO
	600'	
•		'
1		-
		*
●IHU	<i>) #26</i>	
	IHU #31 ILLS UNIT #59	
OO9	O	,009
	7. 4149.4°	
	°28'07.23" N 4°30'51.47" W	
\ 		
'		1
1		
	600'	
	100 0 100 	200 Feet
	Scale:1"=100'	
	MARATHON OIL COM	<i>IPANY</i>
	INDIAN HILLS UNIT #59 WELL LOCATED 1117 FEET FROM THE NORTH	LUNG
	AND 641 FEET FROM THE EAST LINE OF S TOWNSHIP 21 SOUTH, RANGE 24 EAST, I	ECTION 20,
PROVIDING SURVEYING SERVICES SINCE 1946 LOUIS MEST SURVEYING COMPANY	EDDY COUNTY, NEW MEXICO.	,
JOHN WEST SURVEYING COMPANY 412 N. DAL PASO HOBBS, N.M. 88240		of 1 Sheets
(505) 383-3117	W.O. Number: 04.11.0664   Dr By: J. RIVERO  Date: 06/10/04   Disk: CD#10   04110664	Rev 1:N/A Scale:1"=100'



#### DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE, 3395.8 FEET OR 0.643 MILES IN LENGTH AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE CENTERLINE SURVEY.

### **LEGEND**

DENOTES FOUND MONUMENT AS NOTED

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND SORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM, STANDARDS FOR SURVEYING IN NEW MEXICO.

ROMALD J. EIDSON N.M. HS. No.

GARY G. EIDSON N.M. P.S.

No. 3239 No. 12641

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

1000 0 1000 2000 FEET

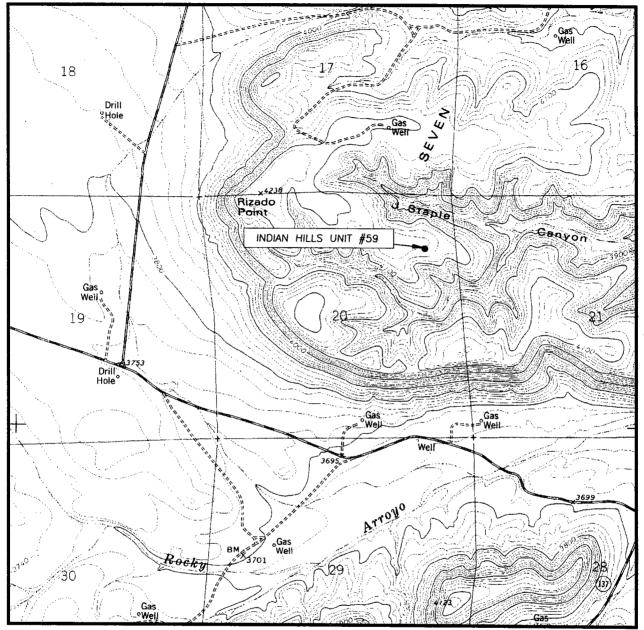
Scale:1"=1000'

# MARATHON OIL COMPANY

SURVEY OF AN ACCESS ROAD CROSSING USA LAND LOCATED IN SECTIONS 20 & 17, TOWNSHIP 21 SOUTH, RANGE 24 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 3	5/3/2000	Sheet	1	of	1	Sheets
W.O. Number: 0	Drawn	Ву:	LM	Р		
Date: 4/24/00	MAR	<b>4</b> 0125		Scale:	1"=1000"	

# LOCATION VERIFICATION MAP



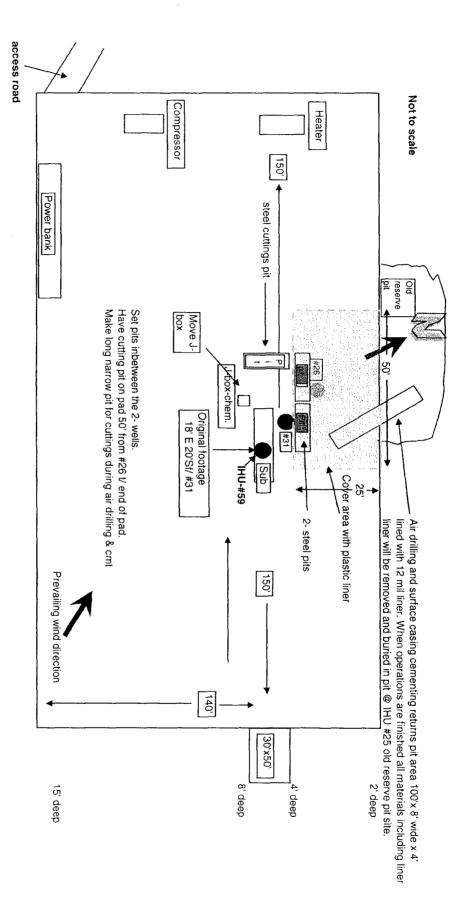
SCALE: 1" = 2000'

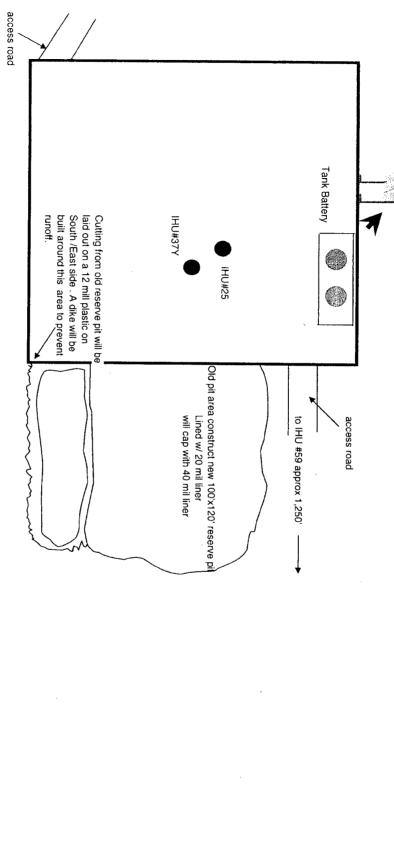
CONTOUR INTERVAL: MARTHA CREEK, N.M. - 20'

SEC. <u>20</u> TW	P. <u>21-S</u> RGE. <u>24-E</u>
SURVEY	N.M.P.M.
COUNTY	EDDY
DESCRIPTION_	1117' FNL & 641' FEL
ELEVATION	4149'
OPERATOR	MARATHON OIL COMPANY
LEASEIN	NDIAN HILLS UNIT
U.S.G.S. TOPO MARTHA CREE	



PROVIDING SURVEYING SERVICES SINCE 1946 JOHN WEST SURVEYING COMPANY 412 N. DAL PASO HOBBS, N.M. 88240 (506) 393-3117





IHU #25 & 37Y dual location- proposed site for IHU #59 cuttings p

# DRILLING PROGRAM MARATHON OIL COMPANY INDIAN HILLS UNIT #59

### 1. <u>Estimated KB Elevation:</u> 4166' KB Ground Elevation 4149' Rig-17'

	TOP	ТОР			FLUID		
<u>FORMATION</u>	<u>MEASURED</u>	SUBSEA	<u>MEASURED</u>	SUBSEA	CONTENT		
Queen	Surface	+3725'	650'	+3075'	water		
San Andres	650'	+3075'	2250'	+1475'	water		
Glorietta	2250'	+1475'	2355'	+1375'	******		
Delaware	3300'	+425'	4300'	- 575'	· ·		
Bone Spring	4300'	-575'	5950'	-2225'	oil gas		
Wolfcamp	5950'	-2225'	7520'	-3795'	oil gas		
B/Permian Shale	7520'.	-3795'	7530'	-3805'	3		
U. Penn	8234'	-4068'	9350'	-5184'	gas, oil, water		
Atoka	9350'	-5184'	9650'	-5484'	gas, oil, water		
Morrow	9650'	-5484'	10,300'	-6134'	oil,gas		
Mississippian	10,300'	-6134'	10,300'	-6134'	oil& gas		
TD	10,800	-6634	10,800'	-6634'	9		

FORMATION	EST	SBHP	H2S	SIGNIFICANCE
	<u>PSIG</u>	PPG EMW	<u>PPM</u>	(obj, marker, etc.)
Bone Springs Wolfcamp B/Permian Shale U. Penn Morrow Mississippian	1210 1680 1810 2050 3460 3460	8.5 9.0 9.0 9.0 9.2 9.2	500 5000	marker marker marker objective pay objective par objective par

### 2. See (1) above.

If any unexpected water or mineral bearing zones are encountered, they will be reported, evaluated, and protected as circumstances and regulations require.

### 3. Pressure Control Equipment:

9-5/8" Surface: 11 3M annular tested to 300# PSI / 3000#PSI 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, 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 wrench and safety valve and subs to fit all drill string connections in use will be available on rig floor.

### **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:

DEP1 FROM	ГН ТО	SECTION LENGTH	HOLE SIZE	CSG SIZE	WT. <u>PPF</u>	GRADE	THREADS COUPLINGS	NEW USED	
0	1800'	1800'	12.25"	9-5/8"	36.00#	K-55	8rd, STC	New	WITNESS
0	4800'	4800'	8.750"	7.00"	23.00#	K-55	8rd, LT&C	New	
4800'	10,800'	6,000 '	8.750	7.00"	26.00#	# K-55	8rd, LT&C	New	

Casing String	DV <u>Depth</u>	Stg.	Lead <u>Tail</u>	Amt SXS	Type <u>Cement</u>	Yield CF/SX	Wt. PPG.	TOC	<u>Additives</u>
9.625"	none	1	L	300	Foam Cmt.	1.78	11.2	100'.	
9.625"	none		Τ	140	"C Neat	1.35	14.8	900'	3% Cacl

NOTE: Pump 55 sks. Class "C" dn. Annulus W/ 3% CACL2, Yield: 1.35cf/sk, Density 14.8 ppg coverage, Surface To 100'.

This surface casing program has been approved by the OCD in Artesia by Mr. Tim Gum and Mr. Van Barton as of 11/29/01.

7.0"	6300'	1	L	340	Prem.	1.44	13.0	5600'	Foamers, N2
7.0"		2	L	840	Interfill "C"	2.47	11.9	Surface Cello,3pps Gilsonite,0.2% Halad 322	1/4pps
7.0		2	Т	100	"C" Neat	1.32	14.8	6000'	N/A

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

5.	Mud P	rogram						
	DEP	ГН		WEIGH	TWL		VIS	SUAL
	FROM	<u>TO</u>	MUD TYPE	(PPG)	<u>VIS</u>	<u>cc</u>	ADDITIVES	MONTR.
	0	1800'	air/air mist	8.3	28	N/A	Gel, Lime	Reserve
	1200'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H₂S Scavenger	Steel pits
	5000'	7000'	fresh	8.9	32-36	N/C	Gel, caustic, H₂S Scavenger	Steel pits
	7000'	8800'	cut brine	9.0	32-36	<20	Gel, caustic, H₂S Scavenger	Steel Pits
	8800'	10,800	cut brine	9.0	32-36	<20	Gel, caustic, H2S 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:

LOG/TEST/CORE/MUDLOG/OTHER	INTE	<del></del>	REMARKS
DLL/MSFL/GR/CNL/LDT/CAL	TD	5000'	
LDT/CNL/GR/CAL	TD	surf casing	
MUD LOGGER	6000'	TD	ROP, Lithology, Gas Analysis, Chromatograph

NO CORES OR DST'S

### 7. Abnormal Pressures, Temperatures or Potential Hazards:

None anticipated. Possible H<sub>2</sub>S in Cisco & Upper Penn. See H<sub>2</sub>S Drilling Operations Plan.

### 8. Other Information:

Anticipated Starting Date: As soon as possible.

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

### **MARATHON OIL COMPANY**

### **H2S DRILLING OPERATIONS PLAN**

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.
- 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.

- B. Automatic H2S detection alarm equipment (both audio and visual).
- C. Clearly visible warning signs. 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.

### 2. WELL CONTROL SYSTEMS

### A. Blowout Prevention Equipment

Equipment includes but is not limited to:

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

Auxiliary 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

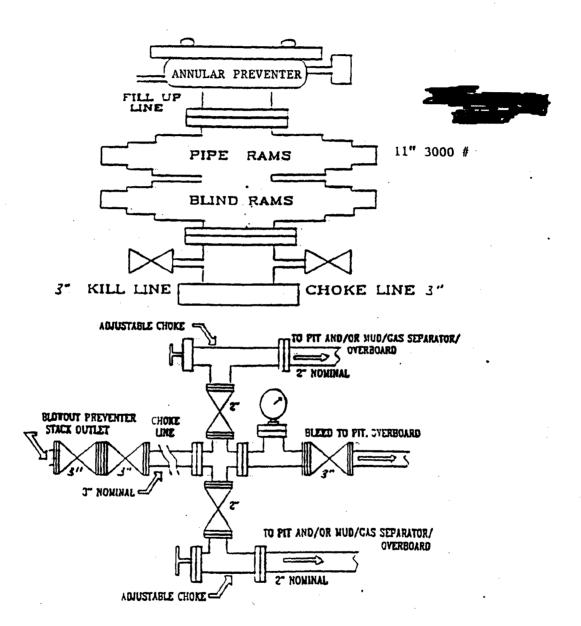
The rig contractor will be required to have two-way communication capability. Marathon Oil Company will have either land-line or mobile telephone capabilities.

### 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.

### III. WELL SITE DIAGRAM

# **BOP Stack**



### 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** @ 1-800-351-1417

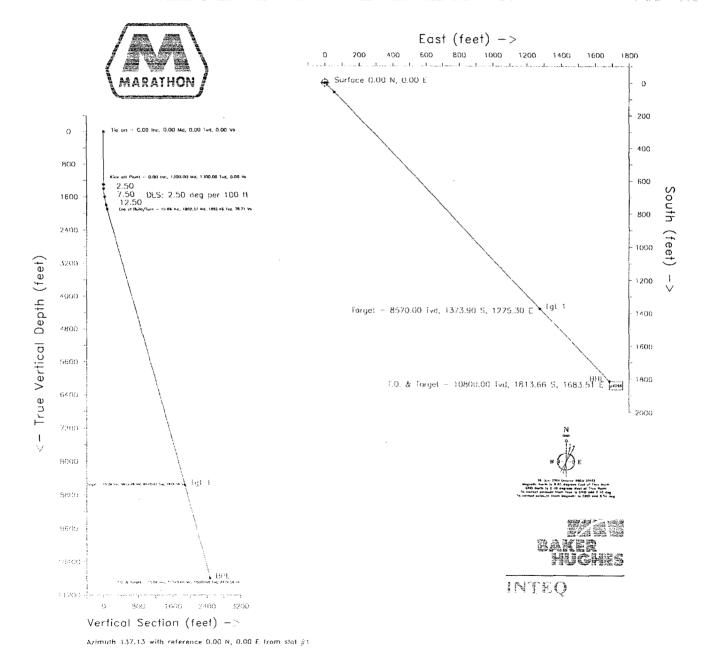
Prior to drilling, certain measures should be taken:

- 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.

Created by adryanm Bate piorted : 22-Jul-2004 Marathon Oil Company Plot Reference is Pin 1. sutes are in feet reference slot #1. Structure: IHU 59 Slot: slot #1 --- Baker Hughes INTEO ---Location : EDDY COUNTY, NM. Field: Indian Basin WELL PROFILE DATA Dir TVD Point -MD inc North Engl V. Sect Deg/100 0.00 0.00 137.13 0.00 0.00 0.00 0.00 137.13 KOP 1300.00 0.00 1300.00 0.00 0.00 0.00 0.00 End of Build/Turn 1902.37 15.06 137.13 1895.46 53.55 78.71 2.50 larget (at 1 8814.29 15.06 137.13 8570.00 -1373.90 1275.30 1874.56 0.00 T.D. & Target BHL 11123.60 15.06 137.13 10800.00 - 1813.66 1683.51 2474.58 0.00



Marathon Oil Company IHU 59

slot #1 Indian Basin EDDY COUNTY, NM.

PROPOSAL LISTING

Baker Hughes INTEQ

Your ref : Pln 1 Our ref : prop4296 License :

Date printed: 22-Jul-2004
Date created: 26-Jun-2004
Last revised: 22-Jul-2004

Field is centred on n32 30 0.000,w104 30 0 Structure is centred on 444189.700,534264.900,999.00000,N

Slot location is n32 28 7.234,w104 30 51.466 Slot Grid coordinates are N 534264.900, E 444189.700 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 IHU 59,slot #1 Indian Basin,EDDY COUNTY, NM.

PROPOSAL LISTING Page 1
Your ref : Pln 1
Last revised : 22-Jul-2004

8814.29 8900.00 9000.00	7500.00 7500.00 8000.00	4500.00 4500.00 5000.00 5500.00 6000.00	1500.00 1600.00 1700.00 1800.00 1900.00 1902.37 2000.00 3500.00	0.00 500.00 1000.00 1300.00	Measured Depth
15.06 15.06	15.06 15.06 15.06	15.06 15.06 15.06	10.00 12.50 15.00 15.00 15.00 15.00 15.00 15.00	0.00	Inclin Degrees
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8570.00 8652.77 8749.33	6335.19 6818.02 7300.85 7783.68 8266.51	3921.05 4403.88 4886.71 5369.53 5852.36	1499.75 1599.14 1697.97 1796.04 1893.17 1895.46 1989.74 2472.56 2955.39 3438.22	0.00 500.00 1000.00 1300.00	True Vert Depth
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ω 0	445515.5 445533.1	1948.80 1974.78	0.00	1325.80E 1343.48E	1428.31S 1447.35S	8845.90 8942.47	137.13	15.06 15.06	9100.00 9200.00

All data in feet unless otherwise stated. Calculation uses minimum curvature method. Bottom hole distance is 2474.58 on azimuth 137.13 degrees from wellhead. Vertical section is from N 0.00 E 0.00 on azimuth 137.13 degrees. Coordinates from slot #1 and TVD from rotary table. 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
IHU 59,slot #1
Indian Basin,EDDY COUNTY, NM.

PROPOSAL LISTING
Your ref : Pln

Your ref : Pln 1 Last revised : 22-Jul-2004

Page 2

Measured Inclin Depth Degrees Degrees Azimuth True Vert Depth O E 0 Þ NGULA [T] s z Dogleg Deg/100ft Sect Vert Easting GRID COORDS Northing

All data in feet unless otherwise stated. Calculation uses minimum curvature method Bottom hole distance is 2474.58 on azimuth 137.13 degrees from wellhead. Vertical section is from N 0.00 E 0.00 on azimuth 137.13 degrees. Coordinates from slot #1 and TVD from rotary table.

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 IHU 59,slot #1 Indian Basin,EDDY COUNTY, NM.

PROPOSAL LISTING Page 3
Your ref : Pln 1
Last revised : 22-Jul-2004

Comments in wellpath

	1 1	
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# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

October 13, 2004

Marathon Oil Company P. O. Box 3487 Houston, Texas 77253-3487 OCT 2 1 2004

MARTESIA

Attention:

Mark Mick

Operations Engineer msmickl@yahoo.com

Administrative Order NSL-4649-B (BHL) (SD)

Dear Mr. Mick:

Reference is made to the following: (i) your application filed with the New Mexico Oil Conservation Division ("Division") on September 15, 2004 (administrative application reference No. pSEM0-425948610); (ii) the Division's initial response by e-mail on Tuesday, October 12, 2004 from Mr. Michael E. Stogner, Chief Hearing Officer/Engineer with the Division in Santa Fe requesting verification of certain data submitted; (iii) your reply by e-mail on Wednesday, October 13, 2004 with the necessary explanation to complete your application; and (iv) the Division's records in Santa Fe, including the files on Division Administrative Orders NSL-4649 (BHL) and NSL-4649-A (BHL) (SD): 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 Well No. 59 to be drilled as an upper Pennsylvanian infill well to an unorthodox subsurface location within an existing standard 320-acre stand-up spacing and proration unit comprising the W/2 of Section 21, 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. 1 (API No. 30-015-10066), located on the surface 416 feet from the South line and 176 feet from the West line (Unit M) of Section 21 and completed within the Indian Basin-Upper Pennsylvanian Associated Pool at an unorthodox bottom-hole location that is 427 feet from the South line and 30 feet from the West line (Unit M) of Section 21, see Division Administrative Order NSL-4649 (BHL), dated October 3, 2001;

- Page 2
- (ii) Indian Hills Unit Well No. 31 (API No. 30-015-31534), located on the surface 1093 feet from the North line and 663 feet from the East line (Unit A) of Section 20, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool at a bottom-hole infill location within Unit "F" of offsetting Section 21 that is 1327 feet from the North line and 1510 feet from the West line of Section 21, see Division Administrative Order NSL-4649-A (BHL) (SD), dated April 23, 2004, as corrected administratively by order also dated April 23, 2004; and
- (iii) Indian Hills Unit Well No. 36 (API No. 30-015-32140), located on the surface 429 feet from the South line and 506 feet from the West line (Unit M) of Section 21, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool at a bottom-hole infill location within Unit "K" of Section 21 that is 1708 feet from the South line and 1608 feet from the West line of Section 21.

It is the Division's understanding that Marathon's proposed Indian Hills Unit Well No. 59, and because of topographic reasons and to utilize the same well pad as its above-described Indian Hills Well No. 31, will be spud at a surface location 1117 feet from the North line and 641 feet from the East line (Lot 1/Unit A) of Section 20, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico and drilled directionally to the southeast to a targeted-bottomhole location within the Mississippian formation at an approximate depth of 11,124 feet (MD) 2349 feet from the South line and 1043 feet from the West line (Unit L) of Section 20, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico. The wellbore is to intersect the top of the Indian Basin-Upper Pennsylvanian Associated Pool at an approximate depth of 8,006 feet (MD), or 7,790 feet (TVD), 2293 feet from the North line and 361 feet from the West line (Unit E) of Section 21, and exit the base of the Indian Basin-Upper Pennsylvanian Associated Pool at an approximate depth of 8,735 feet (MD), or 8,493 feet (TVD), 2429 feet from the North line and 479 feet from the West line (Unit E) of Section 21. The proposed wellbore will be unorthodox throughout the entire Indian Basin-Upper Pennsylvanian Associated Pool since the borehole will be closer then the standard setback distance of 660 from the West line of Section 21. Further, this bottom-hole location has been chosen by Marathon to optimize reservoir drainage in the Upper-Pennsylvanian interval and minimize geological risk in the upper and lower Pennsylvanian and the deeper Mississippian interval.

This application has been duly filed under the previsions 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 Well No. 59 within the W/2 of Section 21 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. 1, 31, 36, and 59. Furthermore, Marathon is permitted to produce the allowable assigned the subject 320-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,

Mark E. Fesmire, P. E.

Director

MEF/ms

cc: New Mexico Oil Conservation Division - Artesia

U. S. Bureau of Land Management - Carlsbad

File: NSL-4649 (BHL)

NSL-4649-A (BHL) (SD)