



**Marathon
Oil Company**

P.O. Box 552
Midland, TX 79702-0552
Telephone 915/682-1626

February 16, 1999

2-16-99

Mr. Mike Stogner
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
P.O. Box 2088
Santa Fe, New Mexico 87501-2088

Re: **Request for Non - Standard Location**
Indian Hills Unit # 19
Unit "L" 1400' FSL & 1248' FWL
Section 28, T-21-S, R-24-E
Eddy County, New Mexico



Dear Mr. Stogner,

Enclosed for your review is form 3160-3 Application for Permit to Drill for the above referenced well. Marathon proposes to drill the well to test the Indian Basin Upper Pennsylvanian Associated Pool which currently requires wells to be spaced on 320 acre proration units and setback limits of 660' from exterior boundaries. Marathon currently has only one well drilled to this gas pool in this section, well # 4. The Indian Hills Unit # 4 was drilled by Ralph Lowe in 1965. The well was staked at 1650' FSL & 1650' FWL, Section 28, T-21-S, R-24-E. See Exhibit "A", 1964 surveyors plat. A dependent re-survey was made in 1966 and filed and approved by the BLM on 1/28/70. The dependent re-survey caused an eastward shift in the interior sections of this township. Please note surveyors plat Exhibit "B" which certifies the actual position of the Indian Hills Unit Well # 4 at 1408' FSL & 1296' FWL.

This well currently has an open hole completion with 5 1/2" casing to the Upper Pennsylvanian and is not capable of economic production at this time with the current hole geometry. Marathon has staked the referenced well 48' west to comply with Bureau of Land Management's policy of minimizing construction damage to steep hillsides within the East Indian Basin / Azotea Mesa development area. The Bureau has recommended that Marathon locate its proposed well on a site that has been previously disturbed and to limit any further damage to the steep terrain. Please note Exhibit "C", topographic map, there are no other practical standard locations in this section that would adhere to the BLM's order. Other possible drill sites exist along N.M. 137 but they would also conflict with the State and Federal mandates for the Scenic Byway.

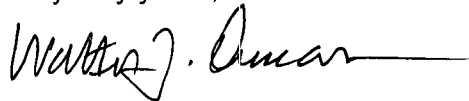
Marathon proposes to abandon the lower producing zone in the # 4 well, and drill the # 18 as an replacement well to the Upper Pennsylvanian Associated Pool which currently requires wells to be spaced no less than 660' from exterior boundaries wells and 330' from interior boundaries. The proposed location falls 72' from the nearest quarter section line and has no affected offset operator as Marathon is the direct offset operator to the West and South.. See exhibit "D" for offset ownership. This well shall have a 320 acre, South-half dedication.

Mr. Mike Stogner
Indian Hills Unit #19
February 16, 1999
Page 2

Marathon requests Administrative Approval for this non-standard location as it directly offsets another Marathon lease within the Indian Hills Unit.

Should you have any questions please contact me at (800) 351-1417.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Walter J. Dueease", followed by a horizontal line extending to the right.

Walter J. Dueease

NUMBER OF COPIES RECEIVED	
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TRANSPORTER	OIL
	GAS
PRODUCTION OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT
SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

FORM C-128
Revised 5/1/57

EXHIBIT 'A'

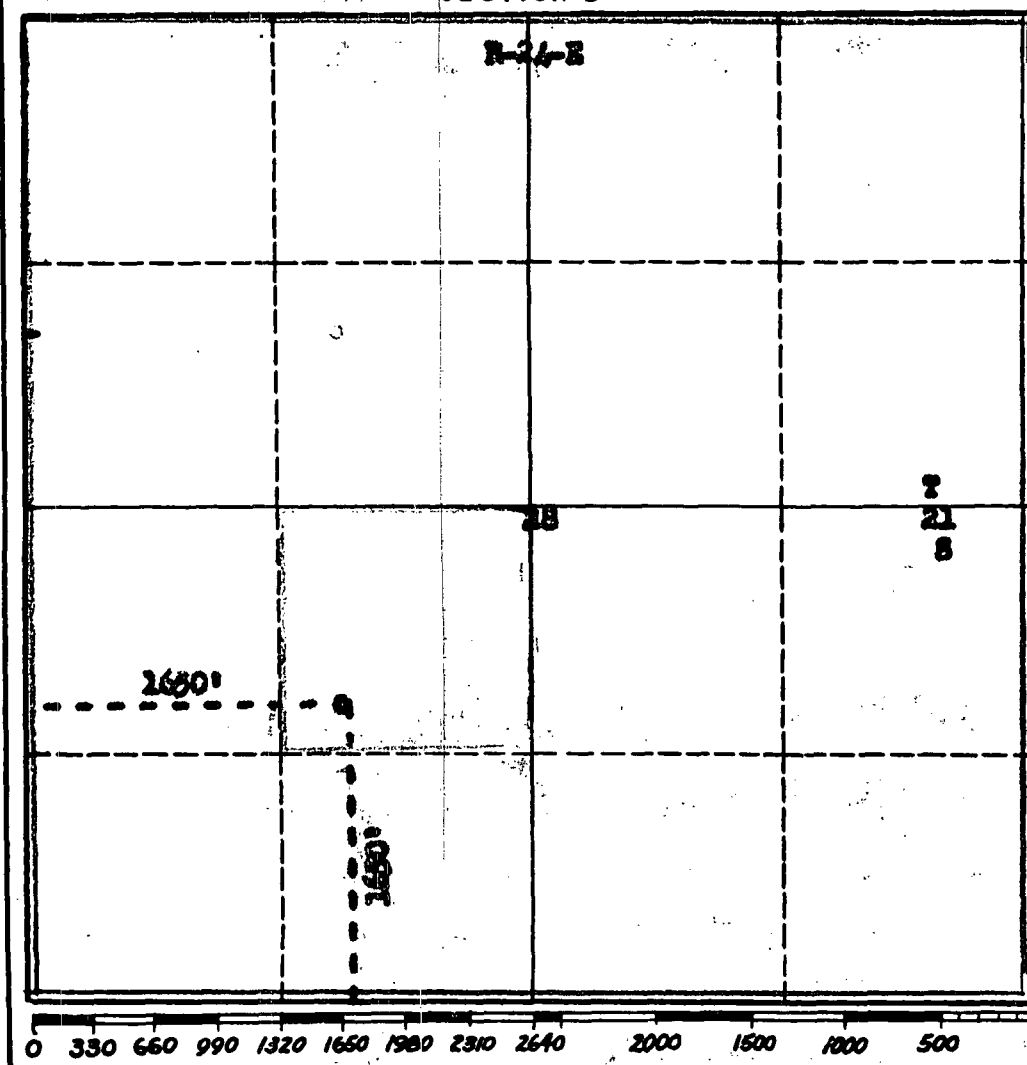
SECTION A

Operator Ralph Lowe		Lease Indian Hills Unit		Well No. 4
Unit Letter E	Section 28	Township T-21-S	Range R-24-E	County Blanco
Actual Footage Location of Well: feet from the _____ line and _____ feet from the _____ line.				
Ground Level Elev. 3752	Producing Formation Upper Penn	Pool Indian Basin (Upper Penn)	Dedicated Acreage: 11.640 Acres	

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES ☒ NO ☐ ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES ☐ NO ☐ . If answer is "yes," Type of Consolidation **Communitization**
3. If the answer to question two is "no," list all the owners and their respective interests below:

Owner	Land Description

SECTION B



CERTIFICATION

I hereby certify that the information in SECTION A above is true and complete to the best of my knowledge and belief.

C. W. MURRAY

Name	C. W. Murray
Position	Agent
Company	RALPH LOWE
Date	September 29, 1965

I hereby certify that the well location shown on the plat in SECTION B 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.

Date Surveyed	July 10, 1964
Registered Professional Engineer and/or Land Surveyor	James H. Brown
Certificate No.	242

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

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

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

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

EXHIBIT 'B'

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name
Property Code	Property Name INDIAN HILLS UNIT		Well Number 4
OGRID No.	Operator Name MARATHON OIL COMPANY		Elevation 3778

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	28	21 S	24 E		1408	SOUTH	1296	WEST	EDDY

Bottom Hole Location If Different From Surface

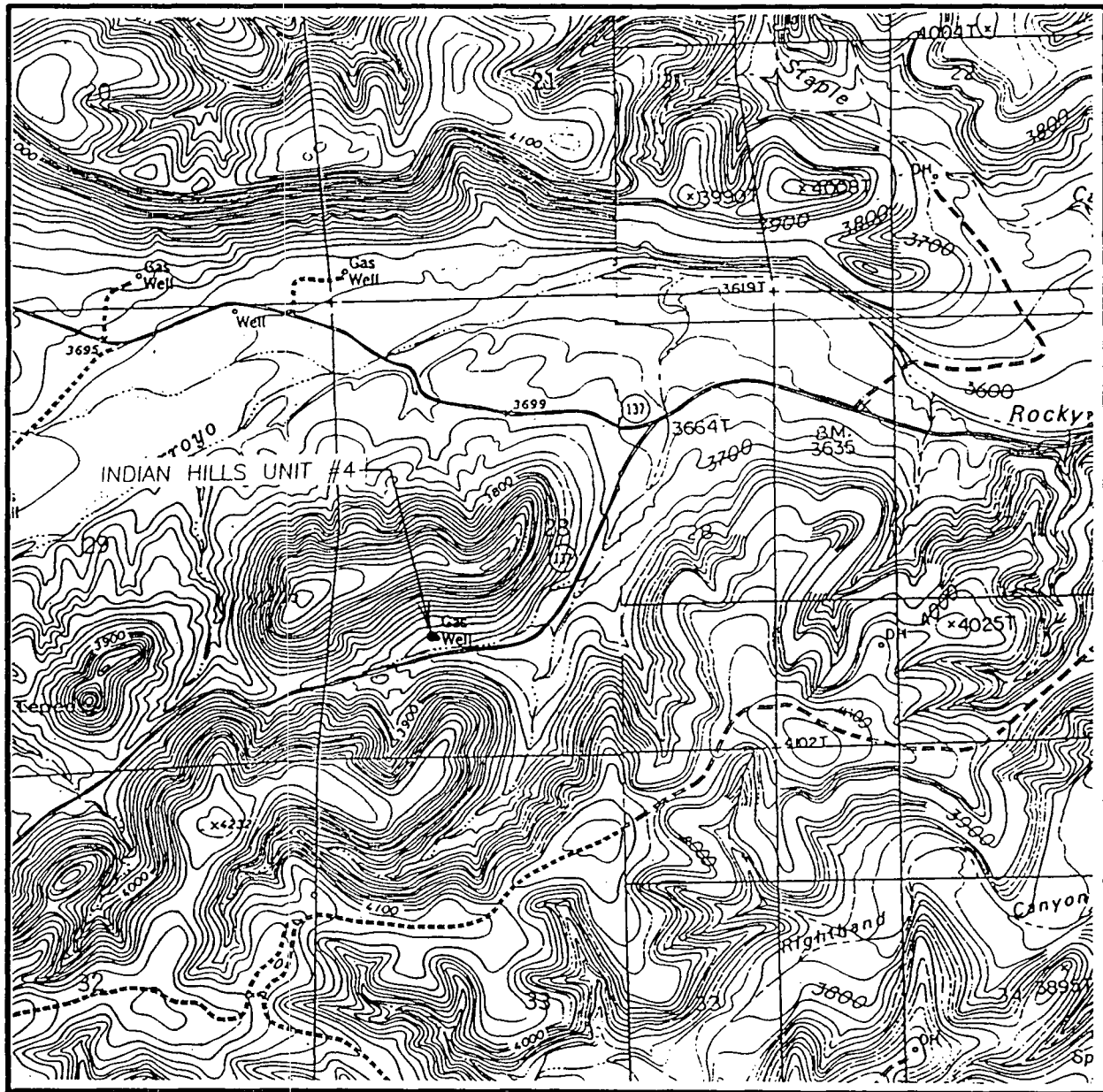
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres		Joint or Infill	Consolidation Code	Order No.					

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

	<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>Printed Name _____</p> <p>Title _____</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 belief.</p> <p>NOVEMBER 23, 1998</p> <p>Date Surveyed _____ DMCC</p> <p>Signature _____ Seal of Professional Surveyor</p> <p></p> <p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641 MACON MEDONALD 12185</p>

LOCATION VERIFICATION MAP

EXHIBIT 'C'



SCALE: 1" = 2000'

CONTOUR INTERVAL - 20'

SEC. 28 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1400' FSL & 1248' FWL

ELEVATION 3778'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

U.S.G.S. TOPOGRAPHIC MAP

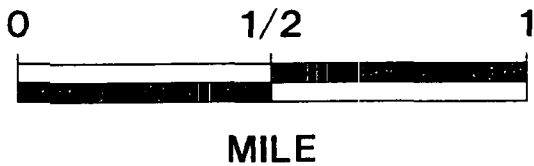
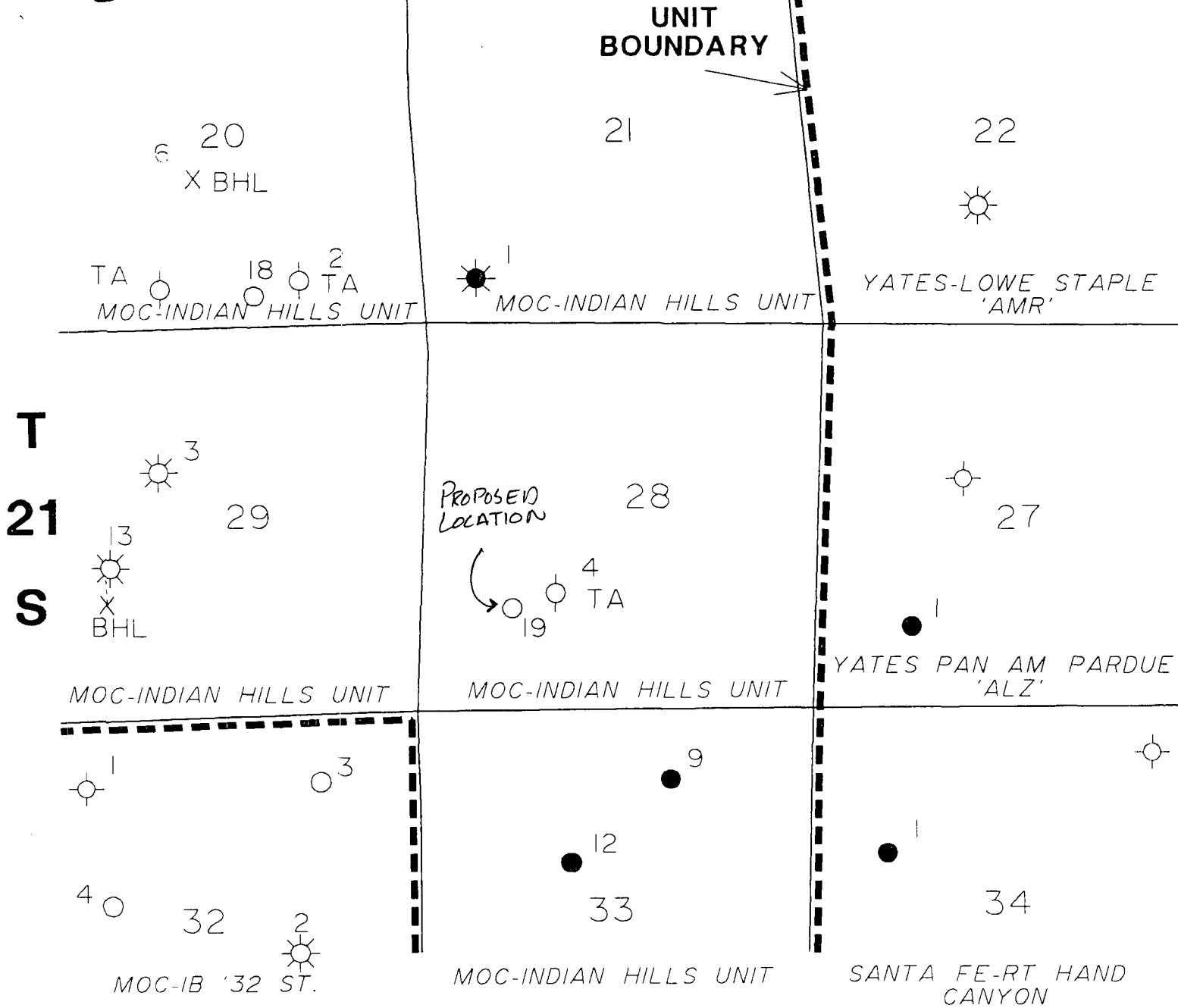
MARTHA CREEK, AZOTEA PEAK, NM

**JOHN WEST SURVEYING CO.
HOBBS, NEW MEXICO**

(505) 393-3117

EXHIBIT 'D'

R 24 E



MARATHON OIL COMPANY
MID-CONTINENT REGION

INDIAN HILLS UNIT
EDDY COUNTY, NEW MEXICO

INDIAN HILLS UNIT
#4 OWNERSHIP

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

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

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

915/687-8356

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

At surface

1400' FSL & 1248' FWL

At proposed prod. zone

1400' FSL 7 1248' FWL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

15 MILES NW OF CARLSBAD

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any) 1248'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT. 52'

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

3790' KB, 3778' GL

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	K-55, 9 5/8"	36"	1200'	800 CIRCULATE
8 3/4"	L-80, K-55, 7"	26# & 23#	7800'	945 CIRCULATE

*WELL IS A PROPOSED INDIAN UPPER PENN GAS TEST. CURRENT POOL RULES REQUIRE 640 ACRE SPACING BUT MARATHON HAS REQUESTED A POOL RULE CHANGE TO 320 ACRE SPACING.

THIS WELL SHALL REQUIRE ADMINISTRATIVE APPROVAL FOR A NON-STANDARD LOCATION.


PROPOSED WELL SHALL UTILIZE THE EXISTING DRILLSITE OF THE INDIAN HILLS UNIT #4, WHICH SHALL BE PLUGGED

PRIOR TO SPUDDING THE IHU #19. THE IHU #4 FOOTAGE CALLS HAVE CHANGED BASED ON A DEPENDENT RE-SURVEY PERFORMED IN 1966.

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



TITLE DRILLING SUPERINTENDENT

DATE 12/8/98

(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.

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State of New Mexico
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Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
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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 Assoc.
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT	19
OGRID No. 14021	Operator Name	Elevation
	MARATHON OIL COMPANY	3778'

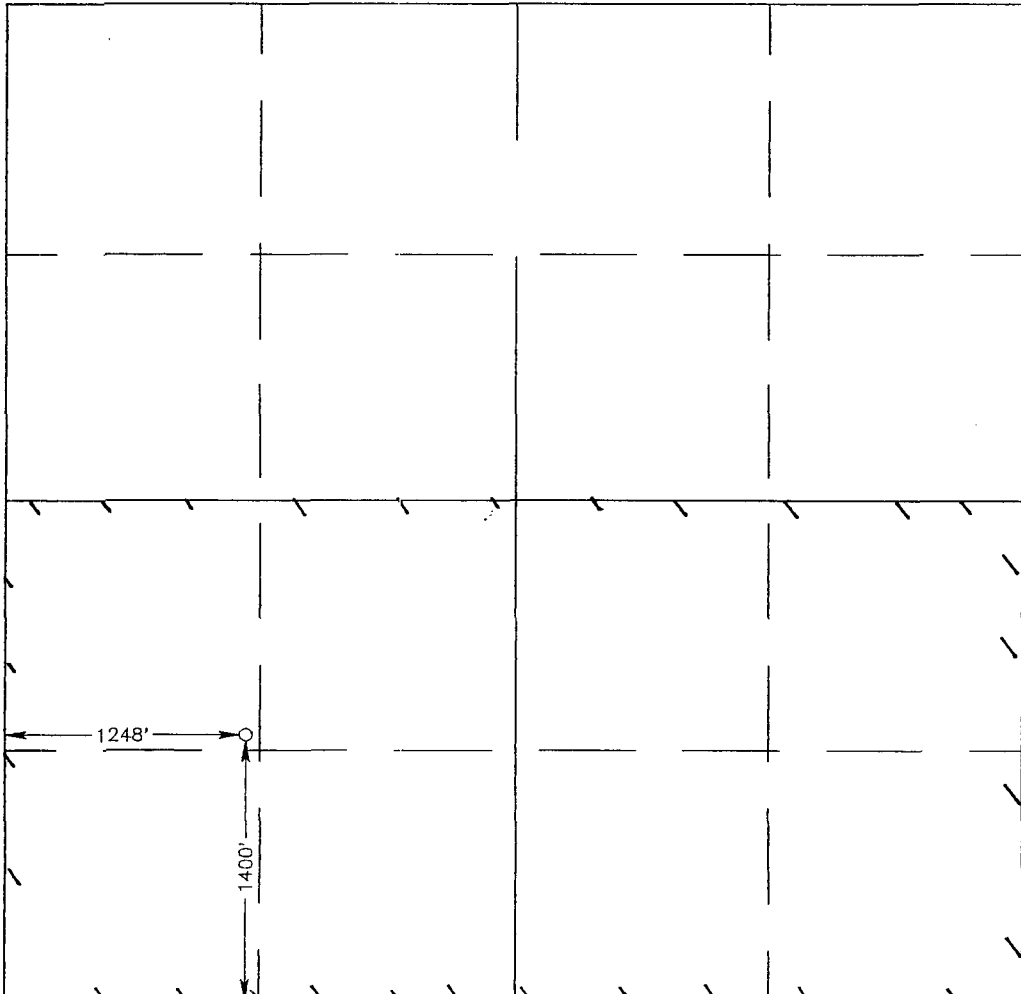
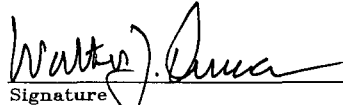
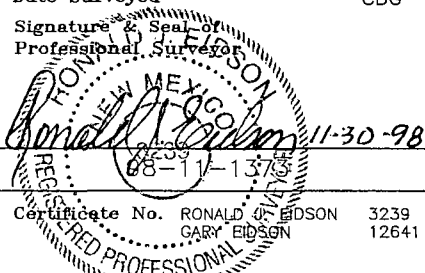
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	28	21 S	24 E		1400	SOUTH	1248	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
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						
320 - S/2									

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

	OPERATOR CERTIFICATION I hereby certify the the information contained heretn is true and complete to the best of my knowledge and belief.  Signature R. J. Longmire Printed Name Drilling Superintendent Title 2/16/99 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. NOVEMBER 3, 1998 Date Surveyed CDG Signature & Seal of Professional Surveyor  Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641 PROFESSIONAL SURVEYOR

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

**Indian Hills Unit #19
Sec. 28, 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 11 miles. Turn left on (NM)137. Go 6 miles South. Turn left at the intersection of NM 137 and County Road 401. Follow NM 137 .9 miles to existing well access road right .1 miles to extant well pad.
- 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 and 1,000' of new access. Construction plans will require blading and rolling the road and pad. The access road enters the drilling pad on the Northeast corner. The drilling location will have a V-door facing West with pits built into the hillside.

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 seven oil and gas wells operated by Marathon and Santa Fe 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 operate 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 #19

5. Location and Type of Water Supply:

- a. Source: Indian Basin Gas Plant, SE/4, NW/4, Sec. 28, T-21-S, R-24-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 may be obtained from the extant location.
- 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 #19

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 15 miles Northwest of Carlsbad, 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 #19

12. Operator Representatives:

R. J. Longmire
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.

12/9/98

Date

Walter Longmire

R. J. Longmire

**DRILLING PROGRAM
MARATHON OIL COMPANY**

Indian Hills Unit #19

1. **Estimated KB Elevation:** 3,790'

FORMATION	-----TOP-----		-----BASE-----		FLUID CONTENT
	MEASURED	SURSEA	MEASURED	SURSEA	
Queen	Surface	+3790'	650'	+3140'	water
San Andres	650'	+3140'	2250'	+1540'	water
Glorietta	2250'	+1540'	2355'	+490'	
Delaware	3300'	+490'	4300'	-510'	
Bone Spring	4300'	-510'	5950'	-2160'	oil gas
Wolfcamp	5950'	-2160'	7520'	-3730'	oil gas
B/Permian Shale	7520'	-3730'	7530'	-3740'	
U. Penn	7530'	-3740'	7550'	-3760'	gas, oil, water

FORMATION	---EST	SBHP---	EST	SBHT	H2S	---SIGNIFICANCE---
	PSIG	PPG EMW	DEG f	PPM		(obj, marker, etc.)
Bone Springs	1210	8.5			500	marker
Wolfcamp	1680	9.0				marker
B/Permian Shale 1810	9.0					objective pay
U. Penn	2050	9.0			5000	objective pay
Morrow	3460	9.2				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: 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, H₂S Sensors, air packs, stroke counter, rotating head.

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

Upper and lower kelly cocks with valve 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 #19

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	PPE	GRADE	COUPLINGS	USED
0	1200'	1200'	12.25"	9.625"	36	K-55	8rd, STC	New
0	4700'	4700'	8.75"	7"	23	K-55	8rd, LTC	New
4700'	9600'	4950'	8.75"	7"	26	K-55	8rd, LTC	New

Casing	DV		Lead	Amt	Type	Yield	Wt.		
String	Depth	Stg.	Tail	SXS	Cement	CF/SX	PPG.	TOC	Additives
9.625"	None	1	L.	200	"C" Neat	1.51	14.6	Surf	10% Gel, 3% CaCl ₂ , 1/4# cello
9.625"			T	200	"C" Neat	1.32	14.8	Surf	2% CaCl, 1/4# cello
7"	±5600'	1	L.	270	"H" Lite	1.28	15.3	5600'	5 pps Silica, .6% Halad 9, 3% salt, 3 pps Gilsonite
7"		2	L.	800	65:35 POZ	1.91	12.6	5500'	5 pps, salt, 3 pps Gilsonite, 4% Gel, 1/4 pps Cello
7"		2	T	100	"C" Neat	1.32	14.8	±1000'	2% CaCl ₂

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 #19

5. Mud Program:

---DEPTH---		MUD TYPE	WEIGHT		WL	ADDITIVES	VISUAL
FROM	TO		(PPG)	VIS			
0	1200'	air/mist	N/A	N/A	N/A	Soap for mist	Reserve
1200'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H ₂ S Scavenger	Reserve
5000'	7000'	cut brine	9.0	32-36	N/C	Saturated brine	Reserve
7000'	960'	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			

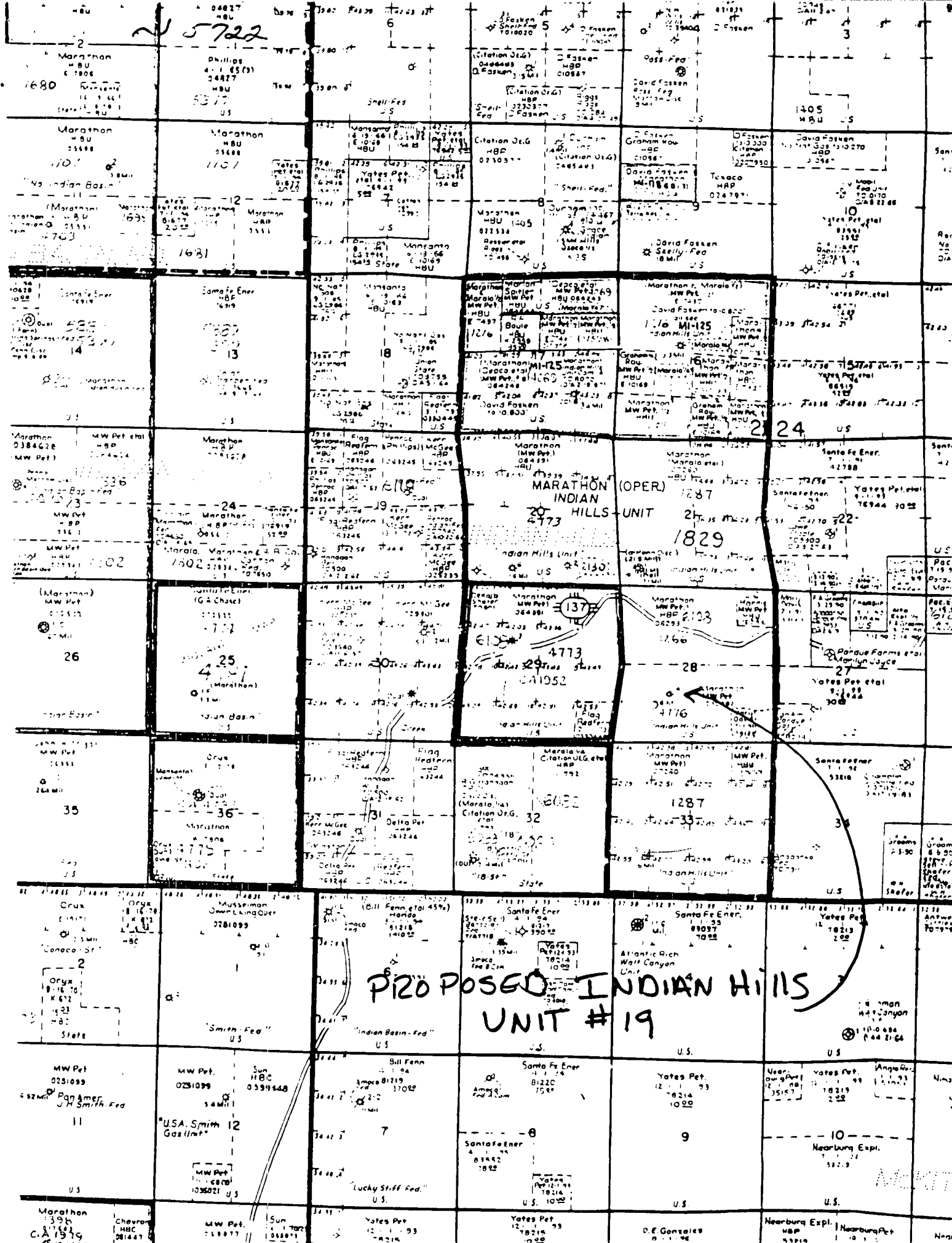
7. Abnormal Pressures, Temperatures or Potential Hazards:

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

8. Other Information:

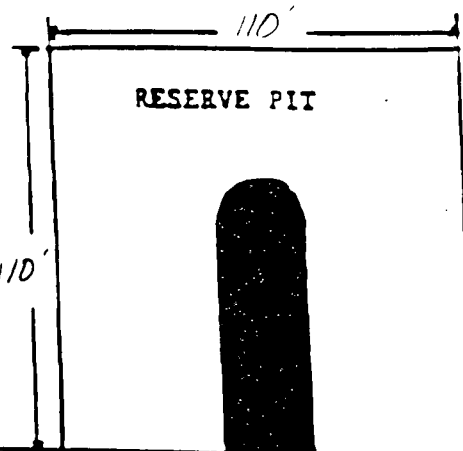
Anticipated Starting Date: As soon as possible.

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

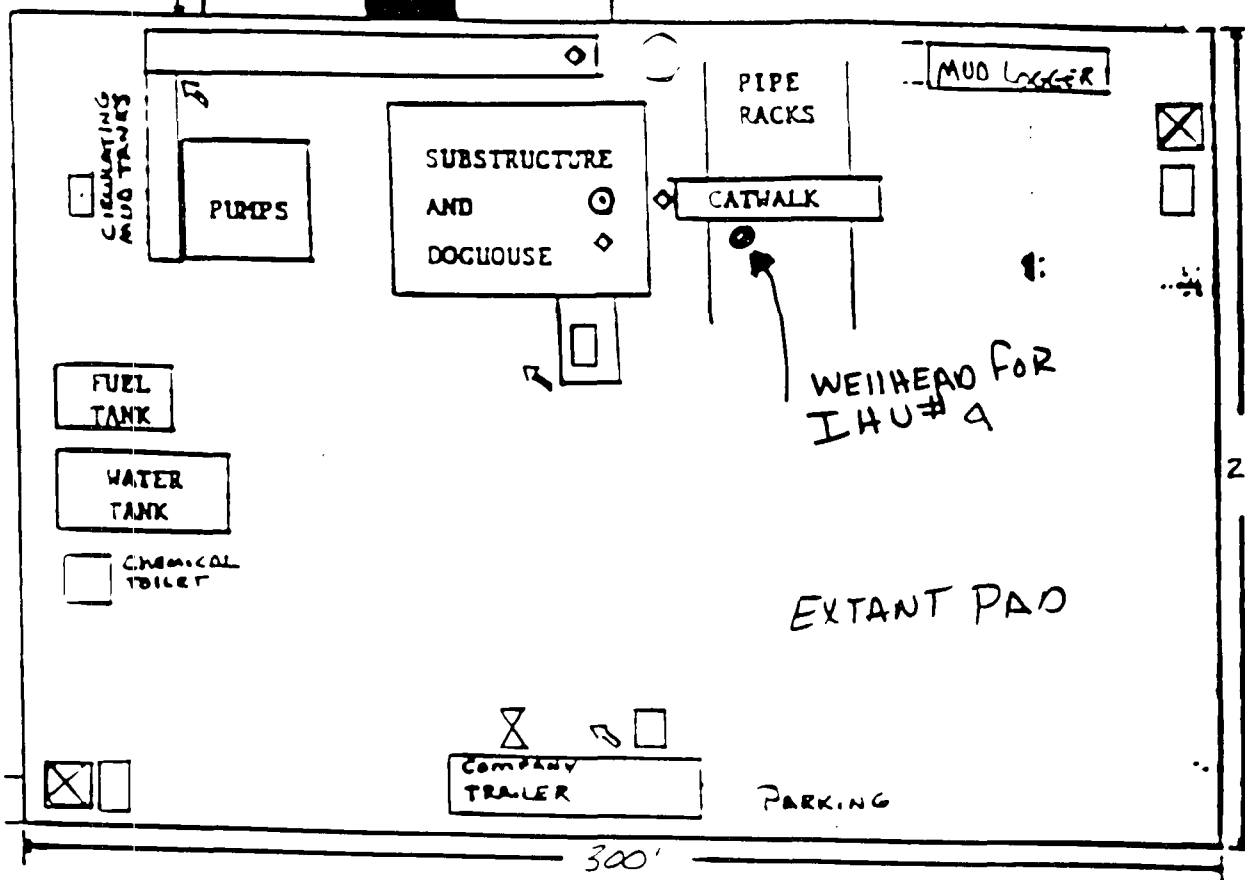


P20 POSED INDIAN HILLS
UNIT #19

MEKIT



- H2S Detection Equipment
- Wind Direction Indicator
- Self Contained Breathing Equipment
- Refueling Area

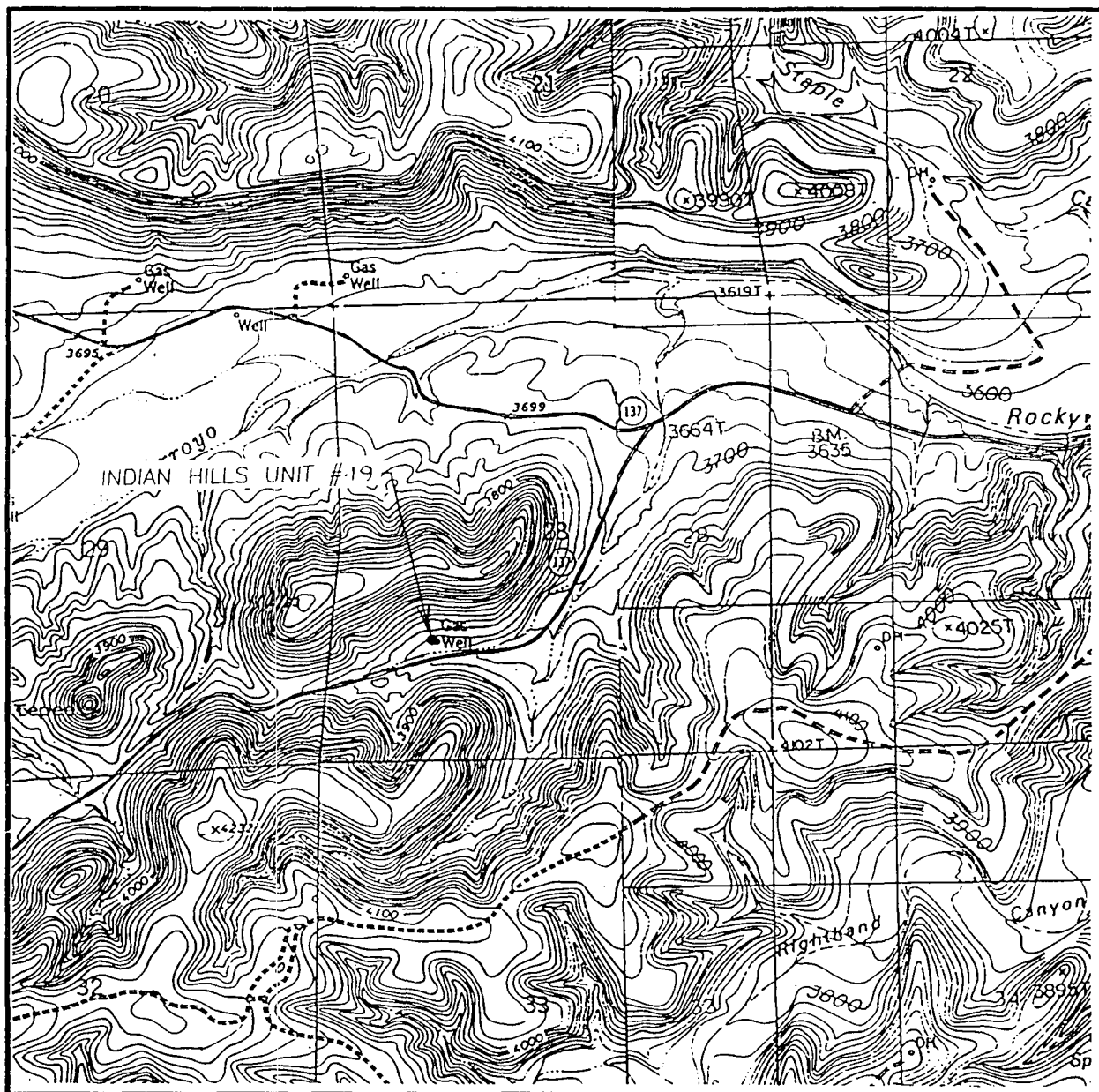


EXTANT ROAD

EDDY CG. 137

Prevailing Wind Direction
Southwest
Road-path for emergency
egress

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL - 20'

SEC. 28 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1400' FSL & 1248' FWL

ELEVATION 3778'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

U.S.G.S. TOPOGRAPHIC MAP

MARTHA CREEK, AZOTEA PEAK, NM

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

The map is a geological survey of the Indian Hills Unit #19 in the Marathon area, Texas. It features a grid system with Township 20 1/2 S and Range 24 E, 25 E, and 26 E. Key geological features include the Marathon Block, Indian Hills, and surrounding basins. The map is overlaid with a grid showing Township 20 1/2 S and Range 24 E, 25 E, and 26 E. Other features include the Middle River, Seven River, and various canyons and draws. The map is titled "INDIAN HILLS UNIT #19" and includes a scale bar indicating distances in miles (0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100).

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

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.

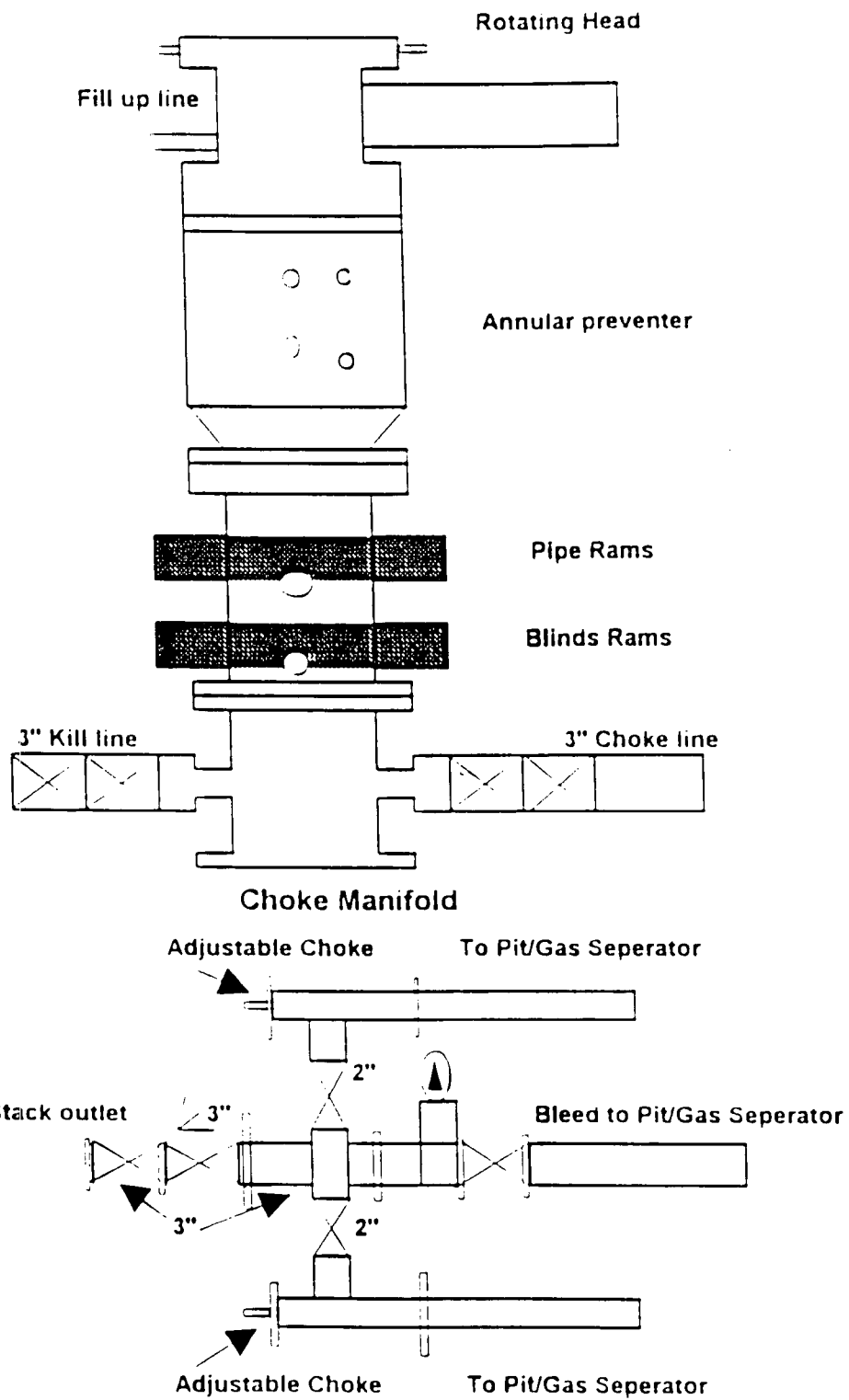
Drill Stem Testing Safety Rules are attached.

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

Production Stack



NSL-IBUP

February 8, 1999

Example

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

Attention: Walter J. Dueease

Administrative Order NSL-***

Dear Mr. Dueease:

Reference is made to the following: (i) your application dated December 14, 1998, which was received on December 30, 1998; (ii) the records of the Division in Santa Fe; and (iii) Division Order No. R-9922-D, issued in Case No. 12006 and dated December 7, 1998, which adjusted the Upper-Pennsylvanian pool boundaries in the area subject to your application: all concerning Marathon Oil Company's request for a non-standard oil/gas well location within a 314.54-acre standard spacing and proration unit for the Indian Basin-Upper Pennsylvanian Associated Pool comprising Lots 1, 2, 7, and 8 and the SE/4 (E/2 equivalent) of Section 20, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico.

The subject application has been duly filed under the provisions of Rule 104.F of the Rules and Regulations of the New Mexico Oil Conservation Division ("Division").

By the authority granted me under the provisions of: (i) Rule 2(c) of the "*Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool*," as promulgated by Division Order Nos. R-9922, R-9922-A, R-9922-B, R-9922-C, and R-9922-D 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; and, (ii) Division General Rule 104.F(2), the following described well, to be drilled at an unorthodox oil/gas well location within the Indian Basin-Upper Pennsylvanian Associated Pool is hereby approved:

***Indian Hills Unit Well No. 18
409' FSL - 2324' FEL (Unit O) of Section 20.***

It is our understanding that this well is to be a replacement for Marathon Oil Company's Indian Hills Unit Well No. 2 (API No. 30-015-10618), located in Unit "O" of Section 20, which was drilled by Ralph Lowe in 1965 and produced from the Upper-Pennsylvanian interval until 1980 when this well was temporarily abandoned.

Further, Marathon Oil Company will assure that any and all wells in Section 20 producing from the Indian Basin-Upper Pennsylvanian Associated Pool are being operated pursuant to the requirements of Division Order No. R-9922-D.

Sincerely,

Lori Wrotenbery
Director

EXHIBIT "A"
Case No. 12069
Order No. R-10987-A

SPECIAL RULES AND REGULATIONS
FOR THE
BLANCO-MESAVERDE POOL

I. ACREAGE AND WELL LOCATION REQUIREMENTS

A. Standard GPU (Gas Proration Unit) in the Blanco-Mesaverde Pool shall be 320 acres.

B. Well density and locations:

(1) Well Locations:

- (i) wells drilled on a GPU shall be located not closer than 660 feet to the South and North lines nor closer than 660 feet to the East and West lines of a GPU and not closer than 10 feet to any interior quarter or quarter-quarter section line or subdivision inner boundary.
- (ii) wells located within federal exploratory units shall not be closer than 10 feet to any section, quarter section or interior quarter-quarter section line or subdivision inner boundary except that wells located within one-half mile of the outer boundary of any such unit, shall not be closer than permitted by subparagraph I.B.(1)(i) above.

(2) Well Density:

- (i) the FIRST OPTIONAL INFILL WELL drilled on a GPU shall be located in the quarter section of the GPU not containing a Mesaverde well;
- (ii) the SECOND OPTIONAL INFILL WELL drilled on a GPU shall be located in a quarter-quarter section of the GPU not containing a Mesaverde well and within a quarter section of the GPU not containing more than one (1) Mesaverde well;

LW/MES/kv

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY
Director

SEAL

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

Case No. 11502
Order No. R-10476-A
Page No. 4

(9) The E/2 of said Section 22 is within Conoco's San Juan 28-7 Unit; therefore, pursuant to Division Rule 1207.A(5), no notice was required by the applicant to any offset operator and/or interest owner in this case.

(10) Approval of this application is in the best interest of conservation, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) Conoco, Inc. as applicant in this case is hereby authorized to drill its San Juan 28-7 Unit Well No. 159-M at an unorthodox "infill" gas well location for both the Blanco-Mesaverde and Basin-Dakota Pools 1605 feet from the South line and 330 feet from the East line (Unit I) of Section 22, Township 28 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. Production from both pools in said well shall be attributed to the existing standard 320-acre gas spacing and proration units comprising the E/2 of said Section 22, which production is currently dedicated as follows:

- (a) for the Blanco-Mesaverde Pool; the San Juan 28-7 Unit Well No. 76 (API No. 30-039-07384) located at a standard gas well location 990 feet from the North and East lines (Unit A) of said Section 22; and,
- (b) for the Basin-Dakota Pool; the San Juan 28-7 Unit Well No. 159 (API No. 30-039-20384) located at a standard gas well location 1750 feet from the North line and 1460 feet from the East line (Unit G) of said Section 22.

(2) In Exhibit "A" on page 9 of Division Order No. 10476, issued in Case 11349 and dated October 6, 1995, being one in the same, the referenced location for the San Juan 28-7 Unit Well No. 159-M is hereby amended to read as follows:

"1605' FSL & 330' FEL (Unit I) of Section 22".

(3) All other provisions of said Order No. R-10476 shall remain in full force and effect until further notice.

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



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

February 9, 1999

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-1626

Attention: Walter J. Dueease

*Re: Administrative application dated January 26, 1999
for Marathon Oil Company's proposed Indian
Hills Unit Well No. 19 to be drilled to the Indian
Basin-Upper Pennsylvanian Associated Pool at an
unorthodox well location somewhere in Unit "K" of
Section 28, Township 21 South, Range 24 East,
NMPM, Eddy County, New Mexico. Further, a
standard 320-acre proration unit is to be dedicated
to this well comprising an unspecified area.*

Dear Mr. Dueease:

The subject application is being returned as incomplete. Your cover letter indicates the surface location to be 1400' FSL & 1248' FWL while your C-102 shows 1408' FSL & 1296' FWL, which is correct? Also what is to be the 320-acre dedication, stand-up or lay-down. Please indicate this information on the C-102. Thank you for your cooperation.

Sincerely,

Michael E. Stogner
Chief Hearing Officer/Engineer

cc: New Mexico Oil Conservation Division - Artesia
U. S. Bureau of Land Management - Carlsbad
Kathy Valdes, NMOCD - Santa Fe
W. Thomas Kellahin, Legal Counsel for Marathon Oil Company - Santa Fe

STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

NOMENCLATURE
CASE NO. 10748
Order No. R-9922

APPLICATION OF YATES PETROLEUM
CORPORATION FOR POOL CREATION,
CLASSIFICATION OF THE NEW POOL
AS AN ASSOCIATED POOL AND FOR
SPECIAL POOL RULES, EDDY COUNTY,
NEW MEXICO.

See Also Order No.

R-9922-A

R-9922-B

R-9922-C

R-9922-D

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 17, 1993, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 6th day of July, 1993, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Yates Petroleum Corporation, seeks the creation of a new associated pool for the production of oil and gas from the Upper Pennsylvanian formation comprising the W/2 of Section 17, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico.

(3) The applicant further seeks the promulgation of temporary special rules and regulations including 320-acre oil and gas spacing, designated well location requirements, a limit of no more than one well per quarter section, a special depth bracket allowable of 1400 barrels of oil per day per standard proration unit and an administrative procedure for approval of unorthodox well locations and non-standard spacing and proration units.

(4) At the time of the hearing the applicant requested that the portion of its request for an administrative procedure for obtaining approval for unorthodox well locations and non-standard spacing and proration units be dismissed.

NOMENCLATURE

CASE No. 10748

Order No. R-9922

Page -2-

(5) Nearburg Producing Company (Nearburg), a leasehold operator in this area, appeared at the hearing in support of Yates' application with the exception of the request to limit the well density to one well per quarter section. In addition, Santa Fe Energy Operating Partners, L.P. and Marathon Oil Company appeared through counsel at the hearing but did not present evidence or testimony nor did they protest the application.

(6) On October 15, 1992 the applicant commenced re-entry operations on its Hickory "ALV" Federal Well No. 1 (previously the Pan American Petroleum Corporation I. T. Hollowell "A" USA No. 1) located 1650 feet from the North and West lines (Unit F) of Section 17, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico. The subject well has been completed in the Canyon formation through the perforated interval from approximately 8,139 feet to 8,259 feet.

(7) According to applicant's evidence and testimony, the Hickory "ALV" Federal Well No. 1 was tested in the Canyon formation on June 15, 1992 at a rate of 408 BOPD, 1,197 BWPD and 511 MCFGD.

(8) The subject well is located approximately 10 miles south of the South Dagger Draw-Upper Pennsylvanian Associated Pool and directly adjacent to the Indian Basin-Upper Pennsylvanian Gas Pool.

(9) The applicant's geologic evidence and testimony in this case indicates that:

a) the Hickory "ALV" Federal Well No. 1 is producing from the same Dolomite section, albeit structurally lower, being produced in the Indian Basin-Upper Pennsylvanian Gas Pool;

b) the Dolomite section in the Hickory "ALV" Federal Well No. 1 exhibits similar geologic characteristics to the Dolomite section being produced in the North and South Dagger Draw-Upper Pennsylvanian Pools;

c) the subject reservoir will likely ultimately be determined to be a separate "oil leg" of the Indian Basin-Upper Pennsylvanian Gas Pool or an extension of the South Dagger Draw-Upper Pennsylvanian Associated Pool.

(10) The engineering evidence and testimony in this case indicates that the oil being produced in the Hickory "ALV" Federal Well No. 1, having a gravity of approximately 42 degrees, is similar to that being produced in the North and South Dagger Draw-Upper Pennsylvanian Pools. The gravity of oil being produced in the Indian Basin-Upper Pennsylvanian Gas Pool ranges from 58-60 degrees.

(11) The evidence currently available regarding the subject reservoir indicates that a new associated pool for the production of oil and gas from the Upper Pennsylvanian formation should be created and designated the Indian Basin-Upper Pennsylvanian Associated Pool, with horizontal limits comprising the W/2 of Section 17, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico.

(12) The applicant contends that the similarities between the subject reservoir and the North and South Dagger Draw-Upper Pennsylvanian Pools are sufficient to justify the promulgation of special rules and regulations similar to those currently governing these pools.

(13) The North Dagger Draw-Upper Pennsylvanian Pool is currently governed by Special Rules and Regulations as promulgated by Division Order No. R-4691, as amended, and Order No. R-5565, which require 160-acre spacing with wells to be located no closer than 660 feet from the outer boundary of the proration unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary, an oil allowable of 700 barrels per day, and a limiting gas-oil ratio of 10,000 cubic feet of gas per barrel of oil.

(14) The South Dagger Draw-Upper Pennsylvanian Associated Pool is currently governed by Special Rules and Regulations as promulgated by Division Order No. R-5353, as amended, which require 320-acre oil or gas spacing with wells to be located no closer than 660 feet from the outer boundary of the proration unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary, an oil allowable of 1400 barrels per day, and a limiting gas-oil ratio of 10,000 cubic feet of gas per barrel of oil.

(15) The Special Rules and Regulations for the North and South Dagger Draw-Upper Pennsylvanian Pools do not prohibit the drilling of more than one well on a standard proration unit.

(16) In support of its request to limit the well density to one well per quarter section, the applicant testified that the Hickory "ALV" Federal Well No. 1, based upon analogies to wells in the South Dagger Draw-Upper Pennsylvanian Associated Pool, should be capable of draining an area of approximately 80-100 acres.

(17) Without a limitation on well density, the South Dagger Draw-Upper Pennsylvanian Associated Pool has been developed on 40-acre well spacing, which, according to the applicant, is too dense for this type of reservoir.

NOMENCLATURE

CASE No. 10748

Order No. R-9922

Page -4-

(18) Nearburg requested that the proposed pool rules contain a rule similar to Rule No. 22 of the Special Rules and Regulations for the South Dagger Draw-Upper Pennsylvanian Associated Pool which states that all or part of the 1400 BOPD allowable may be produced by a single well or by two or more wells on a standard proration unit.

(19) Nearburg has the opportunity, during the period when temporary special rules and regulations are in place for the subject reservoir, to acquire drainage data and reopen this case in order to present evidence and testimony to support its request.

(20) In the absence of compelling evidence to support denser well spacing, and in order to prevent the drilling of unnecessary wells, the Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool should provide for 320-acre well spacing with no more than two wells per standard unit.

(21) The applicant requested an oil allowable of 1400 barrels per day per standard proration unit and a gas-oil ratio limitation of 2,000 cubic feet of gas per barrel of oil. Applicant's requested oil allowable is based upon:

a) a similar oil allowable currently in effect for both the North and South Dagger Draw-Upper Pennsylvanian Pools, and,

b) a gas well in the subject reservoir being able to effectively compete with gas wells in the Indian Basin-Upper Pennsylvanian Gas Pool, whose gas allowable has stabilized, according to the applicant, at approximately 5.5 MMCFGD.

(22) The oil allowable currently in effect for the North and South Dagger Draw-Upper Pennsylvanian Pools was established by the Division, at least in part, in order to provide an incentive to operators to drill additional wells. In addition, there is no evidence at the current time to indicate that the proposed allowable will not cause excessive waste of reservoir energy, thereby resulting in decreased ultimate oil recovery.

(23) The Indian Basin-Upper Pennsylvanian Associated Pool should be assigned an oil allowable equal to the depth bracket allowable of 470 barrels of oil per day per 160-acre tract, or 940 BOPD.

(24) Temporary Special Rules and Regulations should be promulgated for the Indian Basin-Upper Pennsylvanian Associated Pool for a period of eighteen months. These rules should provide for 320-acre oil and gas spacing and proration units, a limitation of one well per quarter section, designated well location requirements, an oil allowable of 940 barrels of oil per day per standard proration unit and a limiting gas-oil ratio of 2,000 cubic feet of gas per barrel of oil.

NOMENCLATURE

CASE No. 10748

Order No. R-9922

Page -5-

(25) This case should be reopened at an examiner hearing in January, 1995 at which time the operators in the subject pool should be prepared to appear and present evidence and testimony regarding the nature of the subject reservoir, the appropriate well spacing, and an appropriate oil allowable.

IT IS THEREFORE ORDERED THAT:

(1) A new associated pool for the production of oil and gas from the Upper Pennsylvanian formation is hereby created and designated the Indian Basin-Upper Pennsylvanian Associated Pool with horizontal limits comprising the W/2 of Section 17, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico.

(2) The Indian Basin-Upper Pennsylvanian Associated Pool is hereby classified as an associated oil and gas pool and shall be operated in accordance with the General Rules and Regulations for the Associated Oil and Gas Pools of Northwest and Southeast New Mexico unless these general rules are in conflict with the Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool hereinafter promulgated in which case the provisions of the special rules and regulations shall apply.

(3) Temporary Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE
INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL**

RULE 2. (a) A standard oil proration unit shall comprise 320 acres. A standard gas proration unit shall comprise 320 acres.

RULE 2. (b) Each well shall be located no closer than 660 feet from the outer boundary of the proration unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary. No more than one well per quarter section shall be permitted on a proration unit.

RULE 22. The special depth bracket allowable for a 320-acre proration unit shall be 940 barrels of oil per day. All or any part of the allowable may be produced by a single well or by two wells on the unit. However, total oil allowable assigned to a 320-acre unit shall not exceed 940 barrels per day.

NOMENCLATURE

CASE No. 10748

Order No. R-9922

Page -6-

IT IS FURTHER ORDERED THAT:

(4) The location of all wells presently drilling to or completed in the Indian Basin-Upper Pennsylvanian Associated Pool or in the Upper Pennsylvanian formation within one mile thereof are hereby approved; the operator of any well having an unorthodox location shall notify the Artesia District Office of the Division in writing of the name and location of the well within 30 days from the date of this order.

(5) Pursuant to Paragraph A of Section 70-2-18, N.M.S.A. 1978 Comp., contained in Laws of 1969, Chapter 271, existing oil and gas wells in the Indian Basin-Upper Pennsylvanian Associated Pool shall have dedicated thereto 320 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C of said Section 70-2-18, existing wells may have non-standard spacing or proration units established by the Division and dedicated thereto.

Failure to file new Forms C-102 with the Division dedicating 320 acres to a well or to obtain a non-standard unit approved by the Division within 60 days from the date of this order shall subject the well to cancellation of allowable until a non-standard spacing unit has been approved and, subject to said 60-day limitation, each well presently drilling to or completed in the Indian Basin-Upper Pennsylvanian Associated Pool or in its corresponding vertical limits, or within one mile thereof, shall receive no more than one-fourth of a standard allowable for said pool.

(6) This case shall be reopened at an examiner hearing in January, 1995, at which time the operators in the subject pool may appear and show cause why the Temporary Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool promulgated herein should not be rescinded.

(7) Jurisdiction is hereby 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

*See Also Order No. R-9922
R-9922-B
R-9922-C
R-9922-D*

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF CASE NO. 10748 BEING REOPENED UPON APPLICATION OF YATES PETROLEUM CORPORATION TO AMEND THE SPACING REQUIREMENTS FOR THE INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL, ESTABLISHED BY ORDER NO. R-9922, EDDY COUNTY, NEW MEXICO.

CASE NO. 10748
ORDER NO. R-9922-A

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on December 16, 1993, at Santa Fe, New Mexico, before Examiner Jim Morrow.

NOW, on this 22nd day of December, 1993, the Division Director, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) Yates Petroleum Corporation made application to reopen Case No. 10748 to amend the spacing requirements for the Indian Basin-Upper Pennsylvanian Associated Pool established by Order No. R-9922, Eddy County, New Mexico.

(3) By letter dated December 10, 1993, the applicant requested this case be dismissed.

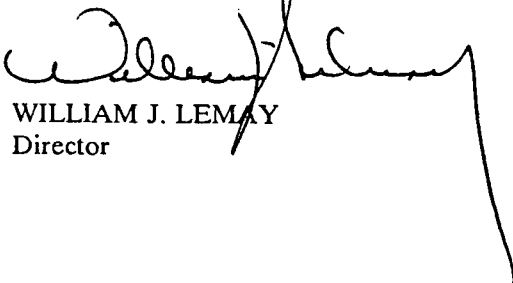
(4) The applicant's request for dismissal should be granted.

IT IS THEREFORE ORDERED THAT:

Case No. 10748 is hereby dismissed.

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

**STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 10748 (Reopened)
Order No. R-9922-B**

**IN THE MATTER OF CASE NO. 10748
BEING REOPENED PURSUANT TO THE
PROVISIONS OF DIVISION ORDER NO.
R-9922, WHICH ORDER PROMULGATED
TEMPORARY SPECIAL RULES AND
REGULATIONS FOR THE INDIAN BASIN-
UPPER PENNSYLVANIAN ASSOCIATED
POOL, EDDY COUNTY, NEW MEXICO.**

*See Also Order Nos.
R-9922
R-9922-A
R-9922-C
R-9922-D*

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 2, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 6th day of February, 1995, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) By Order No. R-9922 issued in Case No. 10748 on July 6, 1993, the Division, upon application of Yates Petroleum Corporation, created the Indian Basin-Upper Pennsylvanian Associated Pool in Section 17, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico, and promulgated Temporary Special Rules and Regulations for said pool including the establishment of standard 320-acre oil or gas spacing and proration units, designated well locations, and a special depth bracket allowable of 940 barrels of oil per day.

(3) Pursuant to the provisions of Order No. R-9922, this case was reopened to allow the operators in the subject pool to appear and present evidence and testimony to show cause why the Temporary Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool should not be rescinded and the pool developed on statewide rules and regulations.

(4) Yates Petroleum Corporation, Marathon Oil Company, Nearburg Producing Company and Santa Fe Energy Operating Partners, L.P. appeared at the hearing through legal counsel.

(5) Yates Petroleum Corporation requested at the hearing that the Temporary Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool remain in effect for an additional twelve month period.

(6) According to Yates' statement, the conductance of an environmental audit during the past eighteen months has precluded developmental drilling within the subject pool.

(7) All operators represented at the hearing were in agreement with Yates' request.

(8) Approval of Yates' request will allow the operators in the subject pool additional time to gather reservoir data pertinent to this case.

(9) No other operator and/or interest owner appeared at the hearing in opposition to Yates' request.

(10) The Temporary Special Rules and Regulations for the Indian Basin- Upper Pennsylvanian Associated Pool should remain in effect for an additional twelve month period.

(11) This case should be reopened at an Examiner hearing in January, 1996, at which time the operators in the subject pool should be prepared to appear and show cause why the Temporary Special Rules and Regulations for the Indian Basin- Upper Pennsylvanian Associated Pool should not be rescinded and the pool developed on statewide rules and regulations.

IT IS THEREFORE ORDERED THAT:

(1) The Temporary Special Rules and Regulations for the Indian Basin- Upper Pennsylvanian Associated Pool are hereby continued in full force and effect for an additional twelve month period.

Case No. 10748 (Reopened)

Order No. R-9922-B

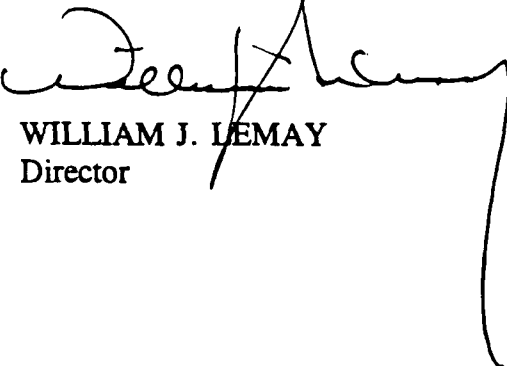
Page -3-

(2) This case shall be reopened at an Examiner hearing in January, 1996, at which time the operators in the subject pool shall be prepared to appear and show cause why the Temporary Special Rules and Regulations for the Indian Basin- Upper Pennsylvanian Associated Pool should not be rescinded and the pool developed on statewide rules and regulations.

(3) Jurisdiction is hereby 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

STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

See Also Order Nos.

R-9922

R-9922-A

R-9922-B

R-9922-D

CASE NO. 10748 (Reopened)

CASE NO. 11484

Order No. R-9922-C

IN THE MATTER OF CASE NO. 10748 BEING REOPENED PURSUANT TO THE PROVISIONS OF DIVISION ORDER NO. R-9922-B, WHICH ORDER CONTINUED IN EFFECT THE TEMPORARY SPECIAL RULES AND REGULATIONS FOR THE INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL AS PROMULGATED BY DIVISION ORDER NO. R-9922, AS AMENDED, EDDY COUNTY, NEW MEXICO.

APPLICATION OF YATES PETROLEUM CORPORATION TO AMEND THE SPECIAL RULES AND REGULATIONS FOR THE INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 21, 1996, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 14th day of May, 1996, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) Division Case Nos. 10748 (Reopened) and Case No. 11484 were consolidated at the time of the hearing for the purpose of testimony, and inasmuch as both cases concern the Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool, one order should be entered for both cases.

CASE NO. 10748 (Reopened)

CASE NO. 11484

Order No. R-9922-C

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(3) By Order No. R-9922 issued in Case No. 10748 on July 6, 1993, the Division, upon application of Yates Petroleum Corporation (Yates), created the Indian Basin-Upper Pennsylvanian Associated Pool in Section 17, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico, and promulgated Temporary Special Rules and Regulations for said pool including the establishment of standard 320-acre oil or gas spacing and proration units, designated well locations, and a special depth bracket allowable of 940 barrels of oil per day.

(4) Pursuant to the provisions of Order No. R-9922, Case No. 10748 was reopened and heard in February, 1995, to consider permanently adopting the Temporary Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool. At the request of Yates and for good cause shown, the subject temporary rules were continued in full force and effect for an additional twelve month period.

(5) Pursuant to the provisions of Order No. R-9922-B, this case is being reopened at the present time to allow the operators in the subject pool to appear and present evidence and testimony to show cause why the Temporary Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool should not be rescinded and the pool developed on statewide rules and regulations.

(6) The applicant in Case No. 11484, Yates Petroleum Corporation, seeks to amend the Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool whereby:

- a) no more than one well would be allowed to be drilled per 80 acre tract;
- b) the simultaneous dedication of acreage to both oil and gas wells would be allowed;
- c) the gas-oil ratio limitation for the pool would be increased from 2,000 cubic feet of gas per barrel of oil to 10,000 cubic feet of gas per barrel of oil; and,
- d) the oil allowable for the pool would be increased from 940 barrels of oil per day to 1,400 barrels of oil per day.

(7) Yates Petroleum Corporation appeared and presented technical evidence and testimony in support of adopting amended and permanent rules for the Indian Basin-Upper Pennsylvanian Associated Pool.

CASE NO. 10748 (Reopened)

CASE NO. 11484

Order No. R-9922-C

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(8) Marathon Oil Company and Santa Fe Energy Resources Inc., both operators in the Indian Basin-Upper Pennsylvanian Associated Pool, appeared through legal counsel at the hearing in support of adopting permanent rules for the pool and in support of Yates' proposed pool rule amendments.

(9) The Indian Basin-Upper Pennsylvanian Associated Pool currently comprises all or portions of Sections 27, 33 and 34, Township 21 South, Range 24 East, and all or portions of Sections 2, 3, 4, 5, 7, 8, 9, 10, 11, 16 and 17, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico.

(10) According to the latest Division Monthly Statistical Report, there are twenty-one wells producing from the Indian Basin-Upper Pennsylvanian Associated Pool operated by five different companies. The pool rules currently in effect for the Indian Basin-Upper Pennsylvanian Associated Pool are summarized as follows:

SIM. DEDICATION				
<u>SPACING</u>	<u>ALLOWABLE</u>	<u>POOL GOR</u>	<u>ALLOWED</u>	<u>DRILLING DENSITY</u>
320 Acres/Oil	940 BOPD	2,000:1	No	1 Well/160 acres
320 Acres/Gas	1.88 MMCFGD			

(11) The geologic evidence presented at the hearing in this matter and in numerous prior cases presented before the Division indicates that the Indian Basin-Upper Pennsylvanian Associated Pool is a small portion of an extensive Cisco-Canyon reservoir which encompasses the North Dagger Draw-Upper Pennsylvanian Pool, the South Dagger Draw-Upper Pennsylvanian Associated Pool, and the Indian Basin-Upper Pennsylvanian Gas Pool. This extensive reservoir comprises portions of Townships 19, 20, 20 1/2, 21 and 22 and Ranges 23, 24 and 25.

(12) The North Dagger Draw-Upper Pennsylvanian Pool, South Dagger Draw-Upper Pennsylvanian Associated Pool and the Indian Basin-Upper Pennsylvanian Gas Pool are all currently governed by permanent special rules and regulations summarized as follows:

CASE NO. 10748 (Reopened)

CASE NO. 11484

Order No. R-9922-C

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<u>POOL NAME</u>	<u>OIL/GAS/ ASSOCIATED</u>	<u>SPACING</u>	<u>ALLOWABLE</u>	<u>POOL GOR</u>	<u>SIM. DEDICATION ALLOWED</u>
North Dagger Draw-Upper Pennsylvanian	Oil	160 acres	700 BOPD 7.0 MMCFGD	10,000:1	No/NA
South Dagger Draw-Upper Pennsylvanian Associated	Associated	320 acres/ Oil 320 acres/ Gas	1,400 BOPD 9.8 MMCFGD	7,000:1	Yes
Indian Basin- Upper Pennsylvanian	Gas	640 acres	Prorated Gas	NA	NA

(13) In support of its request to increase the oil allowable and gas-oil ratio limitation and to include a provision whereby simultaneous dedication of acreage to both oil and gas wells is allowed, Yates presented geologic evidence which indicates that:

- a) the geologic properties (i.e. permeability, porosity, etc.) of the South Dagger Draw-Upper Pennsylvanian Associated Pool closely resemble those of the Indian Basin-Upper Pennsylvanian Associated Pool;
- b) extension of the pool boundaries for the South Dagger Draw-Upper Pennsylvanian Associated Pool and the Indian Basin-Upper Pennsylvanian Associated Pool through development drilling will likely demonstrate that the pools represent a single common source of supply; and,
- c) both the South Dagger Draw-Upper Pennsylvanian Associated Pool and the Indian Basin-Upper Pennsylvanian Associated Pool are located in an area of the Cisco-Canyon reservoir which is a transition zone between the oil producing portion of the reservoir and the gas cap, represented by the Indian Basin-Upper Pennsylvanian Gas Pool.

(14) The geologic evidence presented indicates that the Indian Basin-Upper Pennsylvanian Associated Pool is properly classified as an "associated" pool.

CASE NO. 10748 (Reopened)

CASE NO. 11484

Order No. R-9922-C

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(15) Previous cases presented before the Division have shown that oil allowables of 1,400 barrels per day per 320-acre proration unit should not have adverse affects on the reservoir or decrease ultimate recovery, therefore, the oil allowable for the Indian Basin-Upper Pennsylvanian Associated Pool should be increased as proposed by the applicant to be consistent with the North Dagger Draw-Upper Pennsylvanian Pool and the South Dagger Draw-Upper Pennsylvanian Associated Pool.

(16) The reservoir conditions and correlative rights issues which prompted the deletion of Rule No. 5 (b) of the General Rules and Regulations for the Associated Oil and Gas Pools of Northwest and Southeast New Mexico for the South Dagger Draw-Upper Pennsylvanian Associated Pool, thereby allowing the simultaneous dedication of acreage to both oil and gas wells, also exist within the Indian Basin-Upper Pennsylvanian Associated Pool, therefore, the simultaneous dedication of acreage to both oil and gas wells in the Indian Basin-Upper Pennsylvanian Associated Pool should be allowed.

(17) In support of its request to amend the current pool rules so as to allow the drilling of a well on each 80-acre tract within a standard proration unit, the applicant presented drainage data from existing wells within the pool. The information presented indicates that the smallest drainage area calculated was approximately 60 acres, and that the average drainage area within the pool is approximately 112 acres.

(18) The evidence presented indicates that even though both the North Dagger Draw-Upper Pennsylvanian Pool and the South Dagger Draw-Upper Pennsylvanian Associated Pool do not preclude the drilling of a well on each 40-acre tract within a standard proration unit, and that each of these pools has effectively been developed on 40-acre spacing, a more appropriate drilling density for the Indian Basin-Upper Pennsylvanian Associated Pool is one well per 80-acre tract.

(19) The applicant did not present sufficient evidence to justify the need for establishing a limiting gas-oil ratio of 10,000 cubic feet of gas per barrel of oil, however, the limiting gas-oil ratio for the Indian Basin-Upper Pennsylvanian Associated Pool should be increased to 7,000:1 in order to be consistent with the limiting GOR currently in effect for the South Dagger Draw-Upper Pennsylvanian Associated Pool.

(20) No other operator and/or interest owner appeared and presented evidence in opposition to Yates' proposed pool rule amendments or to adopting permanent rules for the subject pool.

(21) The establishment of permanent Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool, including certain amendments proposed by Yates Petroleum Corporation, will allow the "equivalent" development of the Cisco-Canyon reservoir, will provide the oil and gas allowable incentive necessary for further development and delineation of the pool, will prevent the economic loss caused by the drilling of an excessive number of wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, prevent reduced recovery which might result from the drilling of too few wells, and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The Temporary Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool, as promulgated by Division Order No. R-9922, as amended, are hereby amended as follows and continued in full force and effect until further order of the Division.

**SPECIAL RULES AND REGULATIONS
FOR THE
INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL**

RULE 2. (a) A standard oil proration unit shall comprise 320 acres. A standard gas proration unit shall comprise 320 acres.

RULE 2. (b) Each well shall be located no closer than 660 feet from the outer boundary of the proration unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary. No more than one well per 80-acre tract shall be drilled or produced on a standard proration unit.

RULE 6. The limiting gas-oil ratio shall be 7,000 cubic feet of gas per barrel of oil.

RULE 22. The special depth bracket allowable for a 320-acre proration unit shall be 1,400 barrels of oil per day. All or any part of the allowable may be produced by a single well or by two or more wells on the unit.

CASE NO. 10748 (Reopened)
CASE NO. 11484
Order No. R-9922-C
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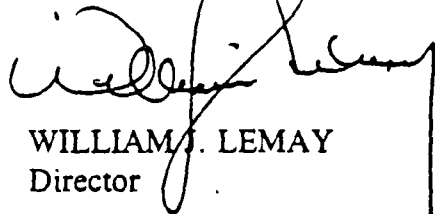
IT IS FURTHER ORDERED THAT:

(2) The application of Yates Petroleum Corporation in Case No. 11484 to delete Rule No. 5 (b) of the General Rules and Regulations for the Associated Oil and Gas Pools of Northwest and Southeast New Mexico, as promulgated by Division Order No. R-5353, as amended, as it pertains to the Indian Basin-Upper Pennsylvanian Associated Pool, thereby allowing the simultaneous dedication of acreage to both oil and gas wells, is hereby approved.

(3) Jurisdiction is hereby 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

See Also Order Nos.

R-9922

R-9922-A

R-9922-B

R-9922-C

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION DIVISION
FOR THE PURPOSE OF CONSIDERING:

NOMENCLATURE
CASE NO. 12006
ORDER NO. R-9922-D

APPLICATION OF MARATHON OIL COMPANY, YATES PETROLEUM CORPORATION, ORYX ENERGY COMPANY, DEVON ENERGY CORPORATION (NEVADA) AND SANTA FE ENERGY RESOURCES, INC. FOR THE EXPANSION OF THE INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL AND THE CONCOMITANT CONTRACTION OF THE INDIAN BASIN-UPPER PENNSYLVANIAN GAS POOL, APPROVAL OF FOUR NON-STANDARD 320-ACRE GAS PRORATION UNITS, AN UNORTHODOX GAS WELL LOCATION, AND APPORTIONMENT OF GAS ALLOWABLES, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on July 9, 1998, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 7th day of December, 1998, the Division Director, having considered the record and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.

(2) The Indian Basin-Upper Pennsylvanian Gas Pool is a prorated gas pool currently governed by the "General Rules for the Prorated Gas Pools of New Mexico/Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Gas Pool," as promulgated by Division Order No. R-8170, as amended, which require standard 640-acre spacing and proration units ("GPU") with wells to be located no closer than 1650 feet from the outer boundary of the GPU nor closer than 330 feet from any governmental quarter-quarter section line or subdivision inner boundary. The current gas allowable for the Indian Basin-Upper Pennsylvanian Gas Pool is approximately 6.5 MMCFG per day per GPU.

(3) The Indian Basin-Upper Pennsylvanian (Prorated) Gas Pool currently comprises the following described area in Eddy County, New Mexico:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM

Section 3:	W/2
Section 4:	All
Sections 8 and 9:	All
Section 10:	W/2
Section 15:	W/2
Sections 16 through 30:	All
Sections 32 through 36:	All

TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM

Sections 19 through 21:	All
Sections 28 through 32:	All

TOWNSHIP 22 SOUTH, RANGE 23 EAST, NMPM

Sections 1 through 5:	All
Sections 8 through 17:	All
Section 21:	N/2
Section 22:	All.

(4) The Indian Basin-Upper Pennsylvanian Associated Pool is currently governed by the "*Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool*," as promulgated by Division Order No. R-9922, as amended, which require standard 320-acre oil and gas spacing units with wells to be located no closer than 660 feet from the outer boundary of the proration unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary, and with no more than one well per 80-acre tract to be drilled or produced on a standard proration unit. The special depth bracket allowable for the pool is 1,400 barrels of oil per day. The limiting gas-oil ratio for the pool is 7,000 cubic feet of gas per barrel of oil, which results in a casinghead gas allowable of 9.8 MMCFG per day.

(5) The Indian Basin-Upper Pennsylvanian Associated Pool currently comprises the following described area in Eddy County, New Mexico:

TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM

Section 27:	S/2
Sections 33 and 34:	All.

TOWNSHIP 22 SOUTH, RANGE 24 EAST, NMPM

Sections 2 through 10: All
Section 11: N/2
Sections 16 and 17: All.

(6) The applicants, Marathon Oil Company, Yates Petroleum Corporation, Oryx Energy Company, Devon Energy Corporation (Nevada), and Santa Fe Energy Resources, Inc. seek an order expanding the Indian Basin-Upper Pennsylvanian Associated Pool in Eddy County, New Mexico to include:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM

Section 36: E/2

TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM

Sections 20 and 21: All
Sections 28 through 32: All

TOWNSHIP 22 SOUTH, RANGE 23 EAST, NMPM

Section 1: E/2
Section 12: E/2
Section 13: E/2

TOWNSHIP 22 SOUTH, RANGE 24 EAST, NMPM

Section 18: All

AND THE concomitant contraction of the Indian Basin-Upper Pennsylvanian Gas Pool by deleting therefrom:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM

Section 36: E/2

TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM

Sections 20 and 21: All
Sections 28 through 32: All

TOWNSHIP 22 SOUTH, RANGE 23 EAST, NMPM

Section 1: E/2
Section 12: E/2
Section 13: E/2.

(7) In conjunction with the proposed adjustment to the boundaries of the two subject pools, the applicants seek to establish the following four 320-acre, more or less, GPU's within the Indian Basin-Upper Pennsylvanian Gas Pool within Section 36, Township 21 South, Range 23 East, NMPM, and Sections 1, 12, and 13, Township 22 South, Range 23 East, NMPM, Eddy County, New Mexico:

(A) the W/2 of Section 36, comprising 320 acres, which is to be dedicated to the existing Lowe State Gas Com Well No. 1 (API No. 30-015-10342), located 1995 feet from the North line and 1712 feet from the West line (Unit F) of Section 36;

(B) the W/2 equivalent of Section 1, comprising 336.57 acres, on which there is currently no well;

(C) the W/2 of Section 12, comprising 320 acres, which is to be dedicated to the existing Smith Federal Gas Com Well No. 2 (API No. 30-015-26834) located 2049 feet from the North line and 480 feet from the West line (Unit E) of Section 12; and

(D) the W/2 of Section 13, comprising 320 acres, which is to be dedicated to the HOC Federal Gas Com Well No. 2 (API No. 30-015-26939) located 330 feet from the North and West lines (Unit D) of Section 13.

(8) The proposed acreage and pool rededication results in the Lowe State Gas Com Well No. 1 being only 928 feet from the outer boundary of its newly designated 320-acre gas proration unit. The resulting unorthodox gas well location for this well requires proper authorization pursuant to the appropriate rules and regulations governing the Indian Basin-Upper Pennsylvanian Gas Pool.

(9) On behalf of the applicants, Marathon Oil Company presented geologic, petroleum engineering, and oil and gas mineral ownership and land evidence, which demonstrates that this application should be granted and which is summarized as follows:

(A) In the Indian Basin area, the Upper Pennsylvanian interval contains multiple compartmentalized reservoirs, which are productive of oil, gas and water from several dolomitized horizons from the top of the Cisco formation to

the base of the Canyon formation.

(B) The Cisco/Canyon formations within the Indian Basin-Upper Pennsylvanian Gas Pool, including the extension area, and the Indian Basin-Upper Pennsylvanian Associated Pool were originally developed with flowing gas wells on 640-acre gas spacing such that, once the gas wells stopped flowing as a result of water encroachment, the wells were abandoned.

(C) The Indian Basin-Upper Pennsylvanian Gas Pool attained its maximum extension in the 1970s and, since then, water encroachment has advanced from east to west slowly watering out the flowing gas wells. Currently, flowing gas production occurs west of a structural contour line at minus 3300 feet subsea elevation.

(D) In 1992, Yates Petroleum Corporation reentered and recompleted the Hickory "ALV" Federal Well No 1 (API No. 30-015-10566), located 1650 feet from the North and West lines (Unit F) of Section 17, Township 22 South, Range 24 East, NMPM. Using the same high capacity pumps used in the nearby South Dagger Draw-Upper Pennsylvanian Associated Pool, Yates was able to achieve rates of 400 BOPD, 500 MCFGPD and 1200 BWPD in a former Indian Basin-Upper Pennsylvanian Gas Pool well which had previously been depleted. Thereafter the Division entered Order No. R-9922 and created the Indian Basin-Upper Pennsylvanian Associated Pool.

(E) The Cisco/Canyon formations within the Indian Basin-Upper Pennsylvanian Associated Pool and the extension area are in a structural feature separated from the Indian Basin-Upper Pennsylvanian Gas Pool by a structural saddle at the top of the Cisco at a subsea elevation of minus 3500 feet. New wells located within 320-acre spacing units in the Indian Basin-Upper Pennsylvanian Associated Pool and the extension area are now producing or have the potential to produce oil and gas that was not previously recovered when this area was originally developed as part of the Indian Basin-Upper Pennsylvanian Gas Pool.

(F) Current oil and gas production from the Cisco/Canyon formations in the Indian Basin-Upper Pennsylvanian Associated Pool and the extension area required extensive formation "de-watering." Hydrocarbons are mobilized by continuous movement of large volumes of water with artificial lift.

(G) Pressure data demonstrates that:

(i) the Indian Basin-Upper Pennsylvanian Associated Pool, with a pressure on average of 1600 psi, is not in pressure communication with the Indian Basin-Upper Pennsylvanian Gas Pool, which has a current pressure on average of 500 psi; and

(ii) wells in the extension area of Township 21 South, Range 24 East, NMPM, have a pressure related to the Indian Basin-Upper Pennsylvanian Associated Pool.

(H) Production data demonstrates that:

(i) there are no flowing gas wells in the extension area; and

(ii) old flowing gas wells in the extension area were abandoned when they watered out and new wells are attaining oil and gas production by using high capacity pumps.

(I) The division of Section 36, Township 21 South, Range 23 East, NMPM and Sections 1, 12, and 13, Township 22 South, Range 23 East, NMPM (the transition area) into non-standard 320-acre, more or less, gas proration and spacing units will provide an equitable "buffer" between the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Upper Pennsylvanian Associated Pool because:

(i) wells have been located or can be located such that drainage by wells in the Indian Basin-Upper Pennsylvanian Associated Pool can be met with counter drainage from wells located or to be located on the eastern side of each of the four 320-acre, more or less, non-standard gas spacing and proration units in the Indian Basin-Upper Pennsylvanian Gas Pool provided that wells located on the eastern side of these units can be no closer than 660 feet from the eastern boundary, which is also the setback requirement for wells in the Indian Basin-Upper Pennsylvanian Associated Pool; and

(ii) wells located in the Indian Basin-Upper Pennsylvanian Gas Pool will not suffer unfair competition from wells located or to be located in these four, non-standard gas proration units because allowables will be apportioned based upon the gas proration system adopted for the Indian Basin-Upper Pennsylvanian Gas Pool.

(J) The granting of this application should not impair the correlative rights:

(i) of any working interest owner within any of the existing 640-acre GPUs because there are voluntary joint operating agreements requiring that all those owners continue to share in production and pay costs from the new 320-acre spacing units on the same proportional basis as in the original 640-acre unit;

(ii) of any overriding royalty interest owner or the federal royalty under a federal oil and gas lease within any of the existing 640-

acre GPUs because there are federal communitization agreements requiring that all those owners continue to share in production from the new 320-acre spacing units on the same proportional basis as in the original 640-acre unit;

(iii) under Section 32, Township 21 South, Range 24 East, NMPM, which consists of two 320-acre State of New Mexico leases and is operated by Marathon Oil Company, because there are no overriding royalty owners and the State Land Office desires that the communitization agreement for the existing 640-acre proration unit terminate and be replaced by two 320-acre proration units co-extensive with the two State leases; and,

(iv) under Section 36, Township 21 South, Range 23 East, NMPM, which consists of two State of New Mexico leases and is operated by ORYX Energy Company, because there are no overriding royalty owners and the State Land Office desires that the existing 640-acre communitization agreement terminate and be replaced by two 320-acre communitization agreements.

(10) The evidence and testimony presented at the hearing further indicate that:

(A) The Cisco/Canyon formations within the Indian Basin-Upper Pennsylvanian Associated Pool and the extension area are a single structural feature such that wells located in this area should be subject to the same special rules and regulations.

(B) Geologic and petroleum engineering evidence demonstrate that substantial volumes of oil and gas, which otherwise would not be produced, can be economically recovered from the extension area if that area is subject to the

current rules applicable to the Indian Basin-Upper Pennsylvanian Associated Pool, thereby preventing waste.

(C) Making the extension area part of the Indian Basin-Upper Pennsylvanian Associated Pool will afford the opportunity to increase the de-watering process in the reservoir and improve recovery efficiencies for both oil and gas.

(D) The adoption of the four 320-acre, more or less, non-standard gas proration and spacing units will establish a temporary "buffer" or transition area between the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Upper Pennsylvanian Associated Pool, which at this time will establish equity and protect correlative rights.

(11) The applicants are all of the operators of wells in the extension area and they have met and unanimously agreed upon this application.

(12) In accordance with Division notification rules, notification of this application and request for hearing has been sent to the owners within the proposed expansion area and to the offset operators to each non-standard gas proration and spacing unit and no objections have been received by either the Division or Marathon Oil Company, which sent out these notices.

(13) In order to prevent waste, to prevent the drilling of unnecessary wells, to protect correlative rights and provide for a more orderly development of the Cisco/Canyon formations, it is necessary to do the following:

(A) contract the Indian Basin-Upper Pennsylvanian Gas Pool and expand the Indian Basin-Upper Pennsylvanian Associated Pool as described in Finding Paragraph No. 6;

(B) approve the four non-standard 320-acre, more or less, GPU's within the Indian Basin-Upper Pennsylvanian Gas Pool as described in Finding Paragraph No. 7; and,

(C) approve an unorthodox gas well location for the Lowe State Gas Com Well No. 1 located 1995 feet from the North line and 1712 feet from the West line (Unit K) of said Section

36.

(14) Marathon Oil Company, Santa Fe Energy Resources, Inc. and ORYX Energy Corporation were present at the hearing and Marathon Oil Company, on behalf of the applicants, provided technical land, geologic and engineering testimony concerning the reservoir and, these pools.

(15) No other operator and/or interest owner appeared at the hearing in opposition to the application.

(16) Approval of the applicant's request will allow the interest owners the opportunity to economically recover their share of the oil and gas in the subject pools, will not reduce ultimate recovery from the subject pools, and will not violate correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The Indian Basin-Upper Pennsylvanian Gas Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, is hereby contracted by the deletion of the following described area:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM

Section 36: E/2

TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM

Sections 20 and 21: All

Sections 28 through 32: All

TOWNSHIP 22 SOUTH, RANGE 23 EAST, NMPM

Section 1: E/2

Section 12: E/2

Section 13: E/2.

(2) Concomitantly, the Indian Basin-Upper Pennsylvanian Associated Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, is hereby extended to include therein the following described area:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM

Section 36: E/2

TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM

Sections 20 and 21: All
Sections 28 through 32: All

TOWNSHIP 22 SOUTH, RANGE 23 EAST, NMPM

Section 1: E/2
Section 12: E/2
Section 13: E/2.

TOWNSHIP 22 SOUTH, RANGE 24 EAST, NMPM

Section 18: All.

(3) The following four 320-acre, more or less, GPU's within the Indian Basin-Upper Pennsylvanian Gas Pool within Section 36, Township 21 South, Range 23 East, and Sections 1, 12, and 13, Township 22 South, Range 23 East, NMPM, Eddy County, New Mexico, are hereby approved:

(A) the W/2 of Section 36, comprising 320 acres, which is to be dedicated to the existing Lowe State Gas Com Well No. 1 (API No. 30-015-10342), located at an unorthodox gas well location for the 320-acre GPU, 1995 feet from the North line and 1712 feet from the West line (Unit F) of Section 36;

(B) the W/2 of Section 1, comprising 336.57 acres, on which there is currently no well;

(C) the W/2 of Section 12, comprising 320 acres, which is to be dedicated to the existing Smith Federal Gas Com Well No. 2 (API No. 30-015-26834) located 2049 feet from the North and 480 feet from the West lines (Unit E) of Section 12; and,

(D) the W/2 of Section 13, comprising 320 acres, which is to be dedicated to the HOC Federal Gas Com Well No. 2 (API No. 30-015-26939) located 330 feet from the North line and 330 feet from the West line (Unit D) of Section 13.

(4) Any future well located in any of these four non-standard gas proration and spacing units no closer than 660 feet to the eastern boundary of the unit shall be considered

to be at a standard location.

(5) The apportionment of gas allowables for the four non-standard GPU's shall be accomplished by applying a 0.5 acreage factor to each of the non-standard GPU's.

(6) An unorthodox gas well location for the following well in the Indian Basin-Upper Pennsylvanian Gas Pool, which became unorthodox as a result of the change in pool boundary, is hereby approved: Lowe State Gas Com Well No. 1 located 1995 feet from the North line and 1712 feet from the West line and of Section 36, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico.

(7) The locations of all wells presently drilling to or completed in the Indian Basin-Upper Pennsylvanian Associated Pool within this expansion area are hereby approved; the operator of any well having an unorthodox location shall notify the Artesia District Office of the Division in writing of the name and location of the well within thirty days from the date of this order.

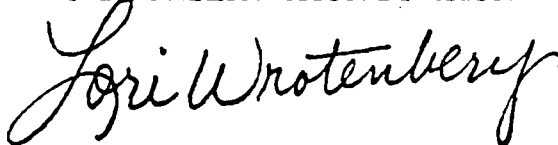
(8) Pursuant to Paragraph A of Section 70-2-18, NMSA (1978), contained in Chapter 271, Laws of 1969, existing wells in the Indian Basin-Upper Pennsylvanian Associated Pool within this expansion area shall have dedicated thereto 320 acres; or, pursuant to Paragraph C of Section 70-2-18, existing wells may have non-standard spacing or proration units established by the Division and dedicated thereto.

(9) Failure to file new Forms C-102 with the Division dedicating 320 acres to a well or to obtain a non-standard unit approved by the Division within 60 days from the date of this order shall subject the well to being shut-in.

(10) Jurisdiction of this case 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



LORI WROTENBERY
Director

SEAL

COUNTY

Eddy

POOL

Indian Basin - Upper Pennsylvanian Associated

TOWNSHIP

21 South

RANGE

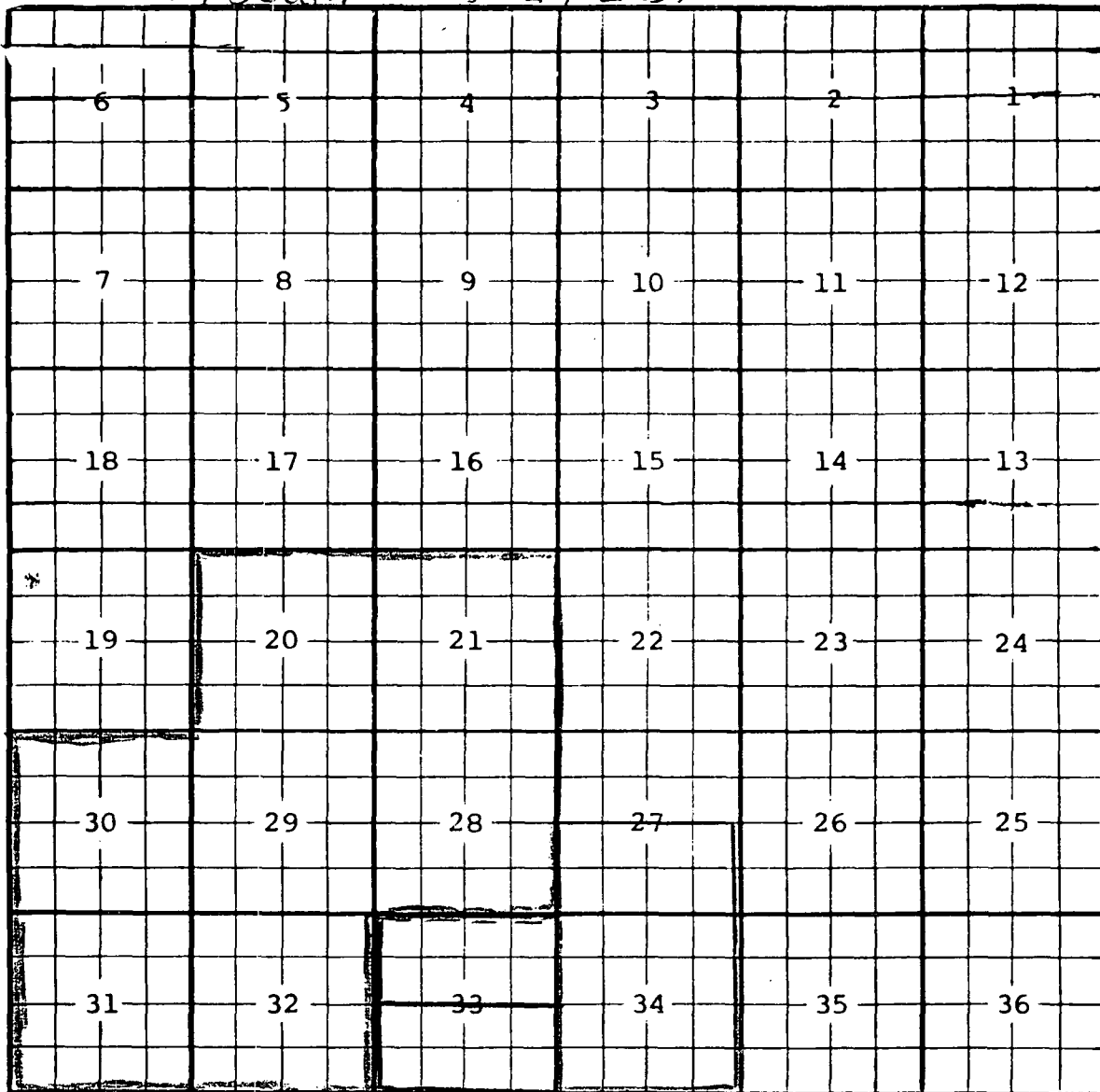
23 East

NMPM

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Ext. E/2 Sec. 36 (R-9922-D, 12-7-98)

County Eddy Pool Indian Basin-Upper Pennsylvanian
TOWNSHIP 21 South Range 24 East NMPM Associated



Ext: $\frac{5}{2}$ Sec. 27, All Sec. 34 (R-9963, 9-20-93)

Ext: $\frac{5}{2}$ Sec. 33 (R-10518, 10-20-95) Ext: $\frac{N}{2}$ Sec. 33 (R-10664, 9-16-96)

Ext: All Secs. 20, 21, 28, 29, 30, 31, 32 (R-9922-D, 12-7-98)

COUNTY Eddy

POOL

Indian Basin - Upper Pennsylvanian Associated320
610

TOWNSHIP

22 South

RANGE

24 East

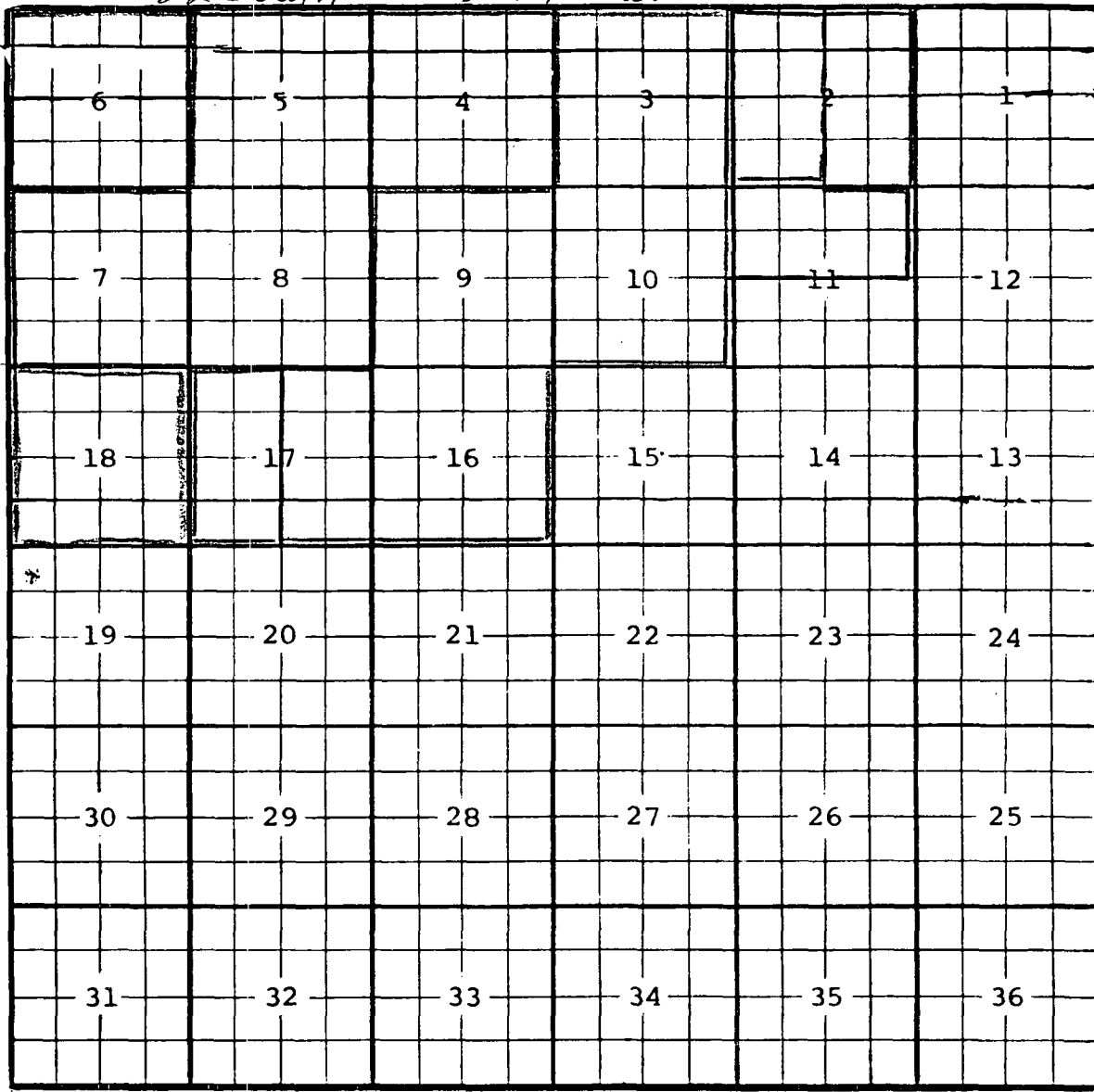
NMPM

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Ext: E $\frac{1}{2}$ Sec. 1, E $\frac{1}{2}$ Sec. 12, E $\frac{1}{2}$ Sec. 13 (R-9922-D, 12/2/98)

County Eddy Pool Indian Basin-Upper Pennsylvanian Associated

TOWNSHIP 22 South Range 24 East NMPM



Description: $\frac{W}{2}$ Sec. 17 (R-9922, 7-6-93)

Ext: All Secs. 3, 9, 10, and 16, $\frac{E}{2}$ Sec. 17 (R-9963, 9-20-93)

Ext: $\frac{W}{2}$ Sec. 7 (R-10042, 12-28-93) Ext: $\frac{N}{2}$ Sec. 11 (R-10124, 5-31-94)

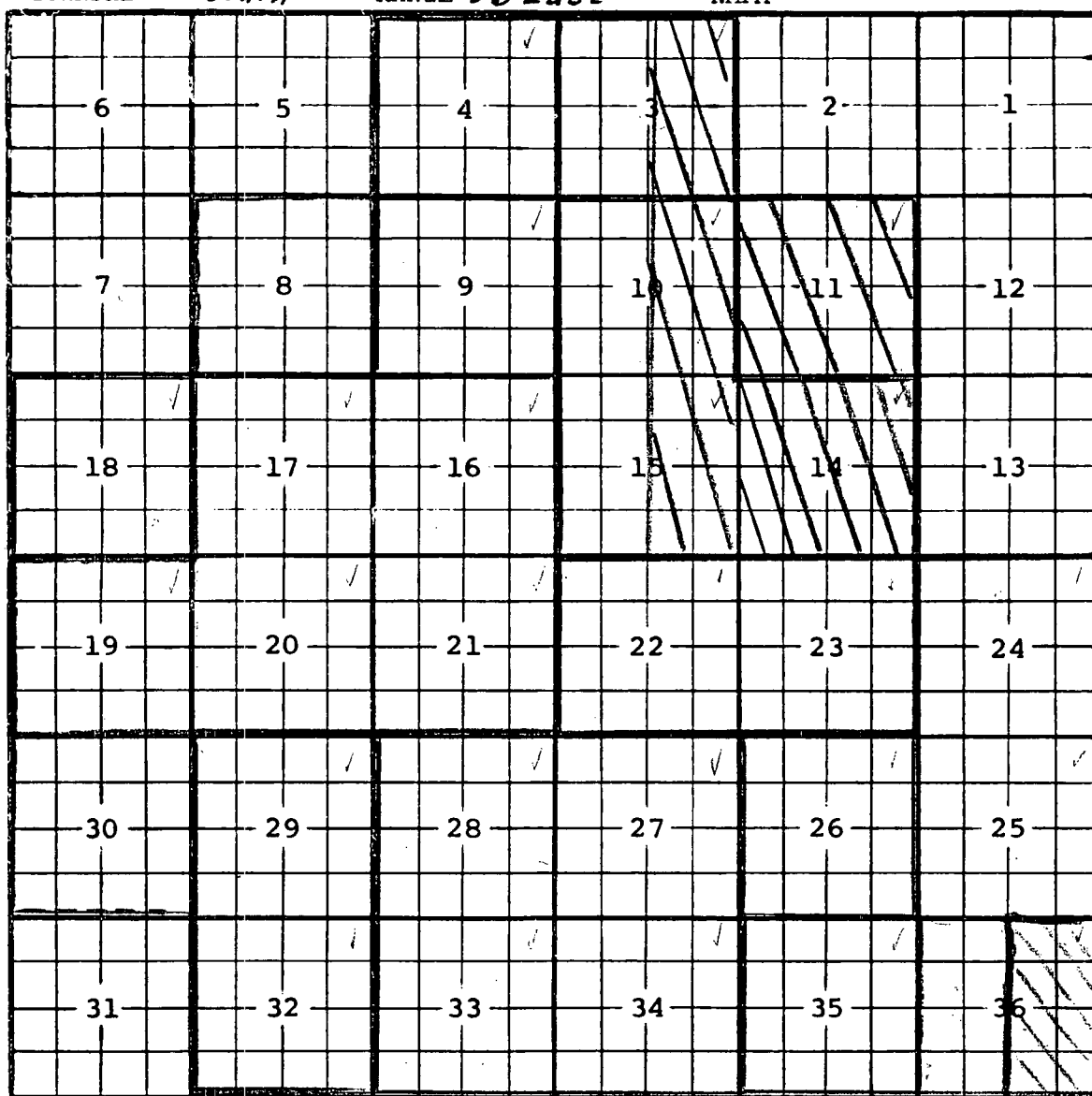
Ext: All Secs. 4, 5, 7, and 8 (R-10137, 6-22-94) Ext: $\frac{E}{2}$ Sec. 2 (R-10159, 7-26-94)

Ext: All Sec. 6 (R-10892, 10-8-97)

Ext: All Sec. 18 (R-9922-17, 12/1/96)

COUNTY EddyPOOL Indian Basin - Upper Pennsylvanian GasTOWNSHIP 21 SouthRANGE 23 East

NMPM "



Description: All Sec. 22 & 23 (R-2440, 2-28-63)

Ext: All Sec. 10, 14 & 15 (R-2569, 10-1-63) - All Sec. 26 (R-2679, 4-1-64)

- All Sections 16, 17, 19, 20, 21, 24, 25, 35 & 36 (R-2726, 7-1-64)

- All Secs. 9, 11, 27, 28, 33 & 34 (R-2911, 6-1-65) - All Sec. 3 (R-2946, 9-1-65)

- All Sec. 18 (R-3030, 2-1-66) - All Sec. 29 & 32 (R-3056, 5-1-66) - All Sec. 4 (R-3342, 12-1-67)

Ext: All Sec. 30 (R-10657, 4-20-81) EXT: All SEC 8 (R-9418, 2-1-91)

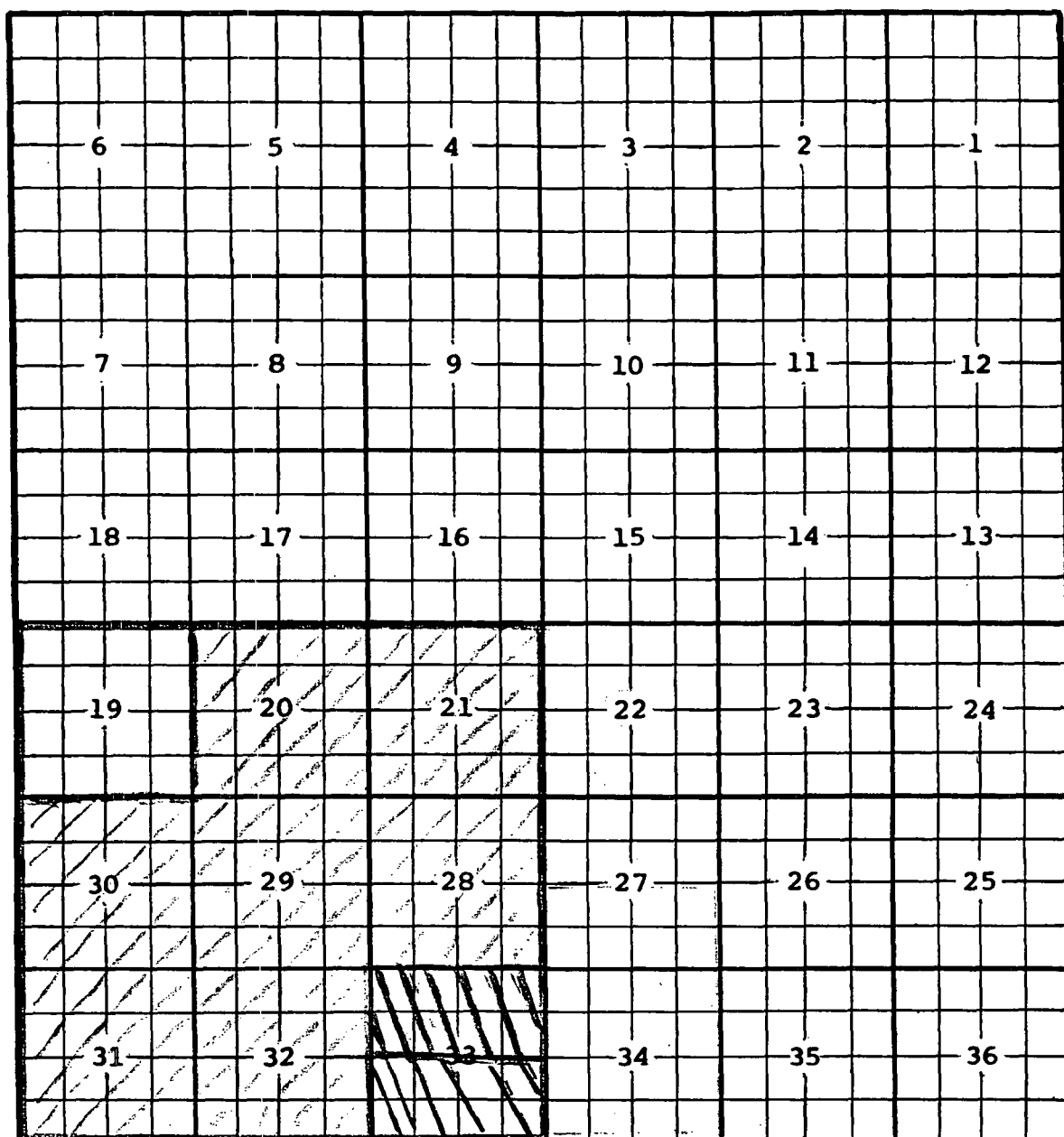
Delete All Sec. 11 (R-10234, 11-7-94) Delete All Sec. 14 (R-10236, 11-3-94)

Delete $\frac{E}{2}$ Sec. 3, $\frac{E}{2}$ Sec. 10, $\frac{E}{2}$ Sec. 15 (R-10893, 10-14-97)

Delete $\frac{E}{2}$ Sec. 36 (R-9922-D, 12-7-98)

COUNTY EddyPOOL Indian Basin - Upper Pennsylvanian GasTOWNSHIP 21 SouthRANGE 24 East

NMPM



Ext: All Secs. 19, 20, 21, 28 thru 32 (R-2726, 7-1-64) - All Sec. 33 (R-2911, 6-1-65)

Delete 5/2 Sec. 33 (R-10518, 10-20-95) Delete 1/2 Sec. 33 (R-10664, 9-16-96)

Delete All Secs. 20, 21, 28, 29, 30, 31, 32 (R-9422-D, 12-7-98)

COUNTY Eddy

POOL

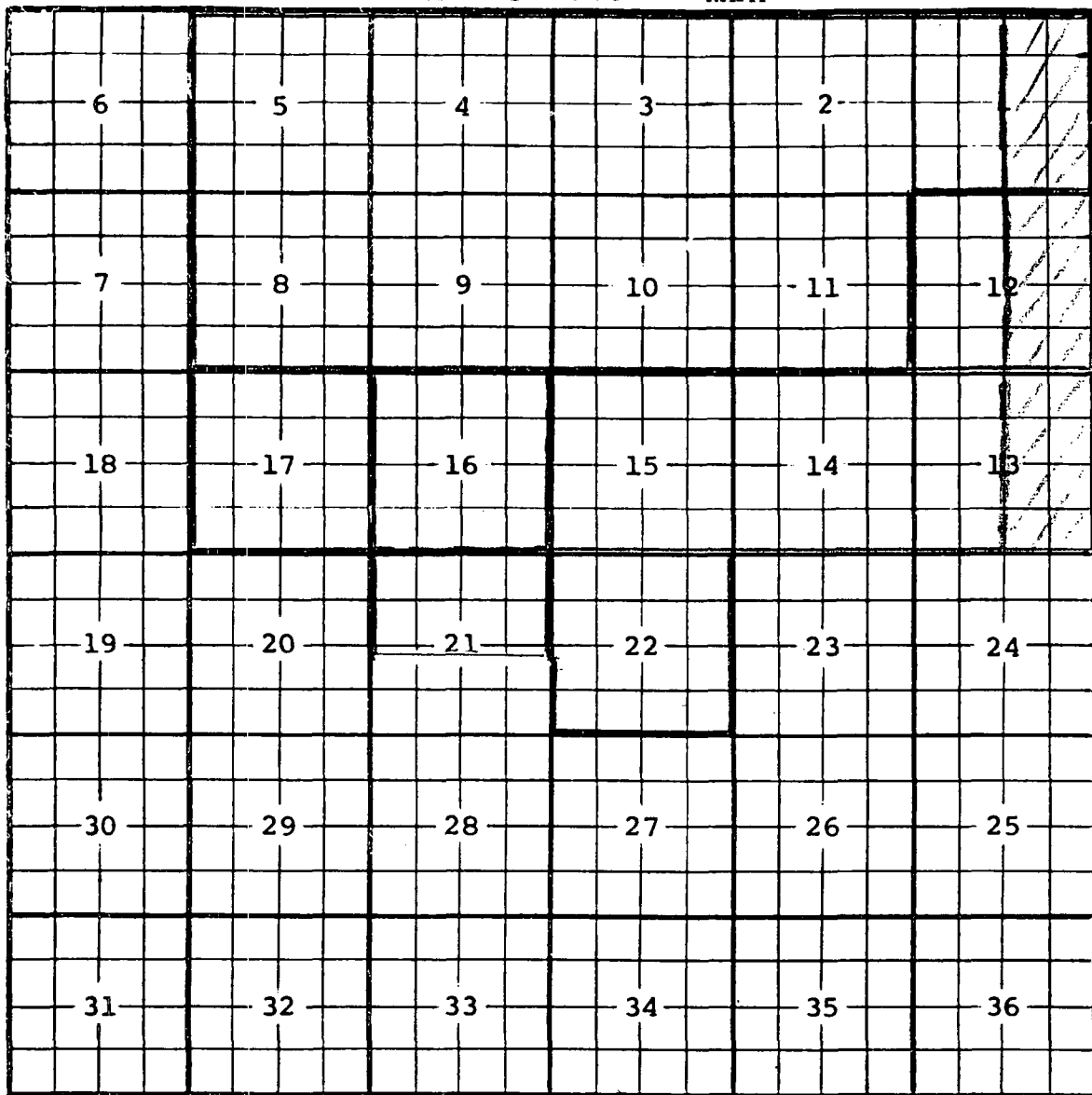
Indian Basin - Upper Pennsylvanian Gas

TOWNSHIP 22 South

RANGE

23 East

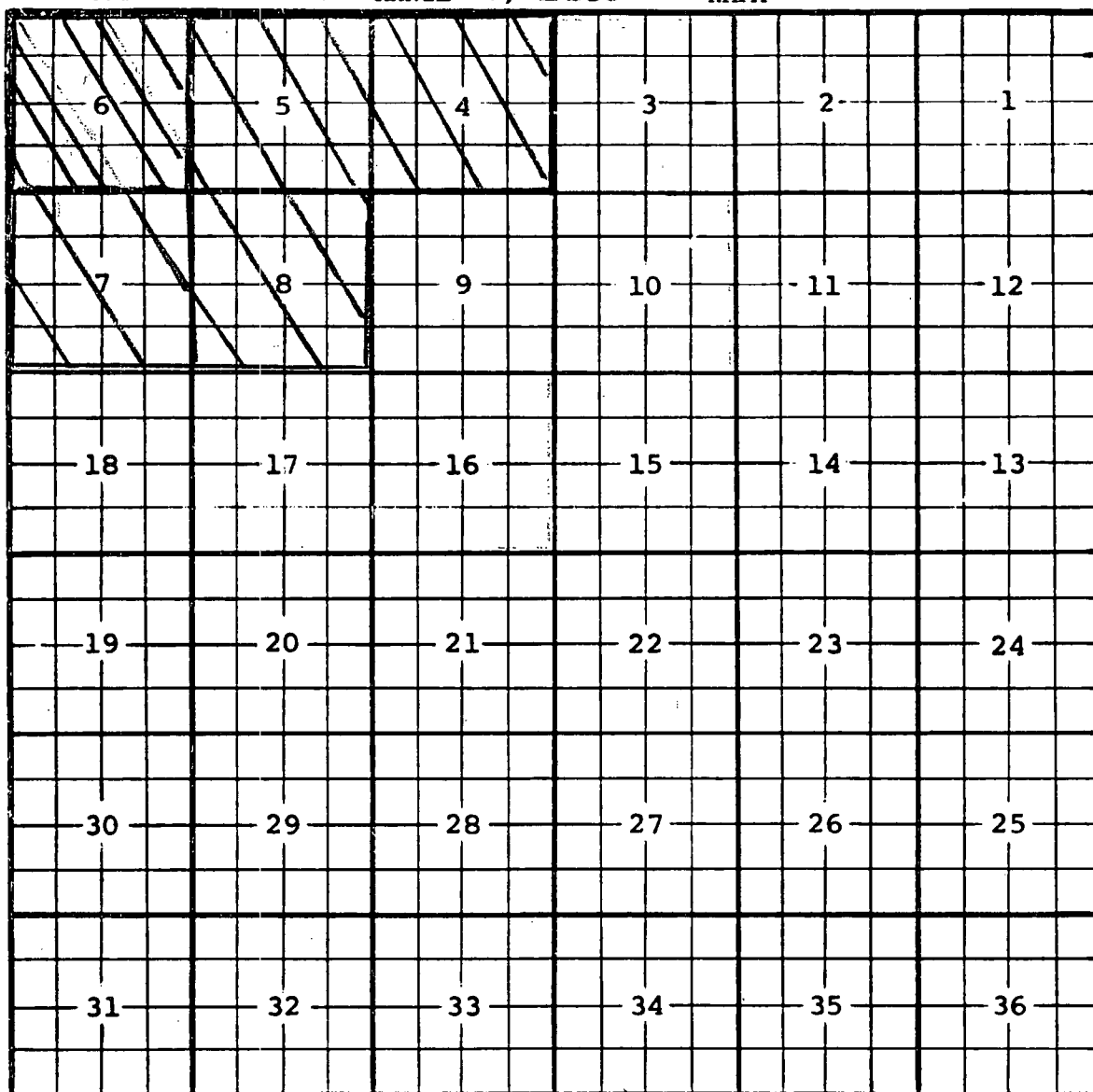
NMPM



Ext: All Sec. 1 thru 5; All Sec. 8 thru 11 (R-2911, 6-1-65) - All Sec. 12 & 16 (R-3030, 2-1-66)
- All Secs. 13, 14 & 15 (R-3051, 4-1-66) - All Sec. 17 (R-3104, 9-1-66) -
- $\frac{N}{2}$ & $\frac{N}{2}$ $\frac{N}{2}$ $\frac{N}{2}$ $\frac{S}{2}$ Sec. 21 (R-4014, 9-1-70) - All Sec. 22 (R-4258, 3-1-72)
Partial $\frac{E}{2}$ Sec. 1, $\frac{E}{2}$ Sec. 12, $\frac{E}{2}$ Sec. 13 (R-4922-A, 12-7-98)

COUNTY EddyPOOL Indian Basin - Upper Pennsylvanian GasTOWNSHIP 22 SouthRANGE 24 East

NMFM



Ext: All Sec. 6 (R-2726, 7-1-64) - All Secs. 4 & 5 (R-2870, 3-1-65)

- All Secs. 7 & 8 (R-3030, 2-1-66)

Delete All Secs. 4, 5, 7, and 8 (R-10137, 6/22/94)

Delete All Sec. 6 (R-10892, 10-8-92)

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

02/08/99 15:44:03
OGOMES -TP0I
PAGE NO: 1

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

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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

CMD : ONGARD 02/17/99 15:25:22
OG6C101 C101-APPLICATION FOR PERMIT TO DRILL OGOMES -TPKH

OGRID Idn : 14021 API Well No: 30 15 30572 APD Status(A/C/P): A
Opr Name, Addr: MARATHON OIL CO Aprvl/Cncl Date : 01-28-1999
PO BOX 552
MIDLAND, TX 79702

Prop Idn: 6409 INDIAN HILLS UNIT Well No: 19

	U/L	Sec	Township	Range	Lot	Idn	North/South	East/West
	---	---	-----	-----	-----	-----	-----	-----
Surface Locn :	L	28	21S	24E			FTG 1400 F S	FTG 1248 F W
OCD U/L :	L		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) : F
Lease typ(F/S/P/N/J/U/I): F Ground Level Elevation : 3778

State Lease No: Multiple Comp (Y/N) : N
Prpsd Depth : 7800 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

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OGOMES -TPKF
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E 40.00 Federal owned U A	F 40.00 Federal owned U	G 40.00 Federal owned U	H 40.00 Federal owned U

M0002: This is the first page

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
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OGOMES -TPKH
PAGE NO: 2

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

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M 40.00 Federal owned U	N 40.00 Federal owned U	O 40.00 Federal owned U	P 40.00 Federal owned U C

M0001: This is the last page

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
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CMD :
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INQUIRE LAND BY SECTION02/17/99 15:25:03
OGOMES -TPKE
PAGE NO: 2

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

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M 40.00 Federal owned U	N 40.00 Federal owned U	O 40.00 Federal owned U	P 40.00 Federal owned U C

PF01 HELP
PF07 BKWDPF02
PF08 FWDPF03 EXIT
PF09 PRINTPF04 GoTo
PF10 SDIVPF05
PF11PF06
PF12



**Marathon
Oil Company**

P.O. Box 552
Midland, TX 79702-0552
Telephone 915/682-1626

January 26, 1999

JAN 28 1999

Mr. Mike Stogner
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
P.O. Box 2088
Santa Fe, New Mexico 87501-2088

**Re: Request for Non - Standard Location
Indian Hills Unit # 19
Unit "L" 1400' FSL & 1248' FWL
Section 28, T-21-S, R-24-E
Eddy County, New Mexico**

Dear Mr. Stogner,

Enclosed for your review is form 3160-3 Application for Permit to Drill for the above referenced well. Marathon proposes to drill the well to test the Indian Basin Upper Pennsylvanian Associated Pool which currently requires wells to be spaced on 320 acre proration units and setback limits of 660' from exterior boundaries. Marathon currently has only one well drilled to this gas pool in this section, well # 4. The Indian Hills Unit # 4 was drilled by Ralph Lowe in 1965. The well was staked at 1650' FSL & 1650' FWL, Section 28, T-21-S, R-24-E. See Exhibit "A", 1964 surveyors plat. A dependent re-survey was made in 1966 and filed and approved by the BLM on 1/28/70. The dependent re-survey caused an eastward shift in the interior sections of this township. Please note surveyors plat Exhibit "B" which certifies the actual position of the Indian Hills Unit Well # 4 at 1408' FSL & 1296' FWL.

This well currently has an open hole completion with 5 1/2" casing to the Upper Pennsylvanian and is not capable of economic production at this time with the current hole geometry. Marathon has staked the referenced well 48' west to comply with Bureau of Land Management's policy of minimizing construction damage to steep hillsides within the East Indian Basin / Azotea Mesa development area. The Bureau has recommended that Marathon locate its proposed well on a site that has been previously disturbed and to limit any further damage to the steep terrain. Please note Exhibit "C", topographic map, there are no other practical standard locations in this section that would adhere to the BLM's order. Other possible drill sites exist along N.M. 137 but they would also conflict with the State and Federal mandates for the Scenic Byway.

Marathon proposes to abandon the lower producing zone in the # 4 well, and drill the # 18 as an replacement well to the Upper Pennsylvanian Associated Pool which currently requires wells to be spaced no less than 660' from exterior boundaries wells and 330' from interior boundaries. The proposed location falls 72' from the nearest quarter section line and has no affected offset operator as Marathon is the direct offset operator to the West and South.. See exhibit "D" for offset ownership.

Mr. Mike Stogner
Indian Hills Unit #19
January 26, 1999
Page 2

Marathon requests Administrative Approval for this non-standard location as it directly offsets another Marathon lease within the Indian Hills Unit.

Should you have any questions please contact me at (800) 351-1417.

Very truly yours,

A handwritten signature in black ink, appearing to read "Walter J. Dueease", with a long horizontal flourish extending to the right.

Walter J. Dueease

NUMBER OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
LAND OFFICE	
TRANSPORTER	OIL GAS
PRODUCTION OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-128
Revised 5/1/57

WELL LOCATION AND ACREAGE DEDICATION PLAT

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

EXHIBIT 'A'

SECTION A

Operator Ralph Lone		Lease Indian Hills Unit		Well No. 4
Unit Letter K	Section 21	Township T-21-S	Range R-24-E	County McKenzie
Actual Footage Location of Well: feet from the 1650 line and 1650 feet from the 1650 line				
Ground Level Elev. 3782	Producing Formation Upper Penn	Pool Indian Basin (Upper Penn)	Dedicated Acreage: 640 Acres	

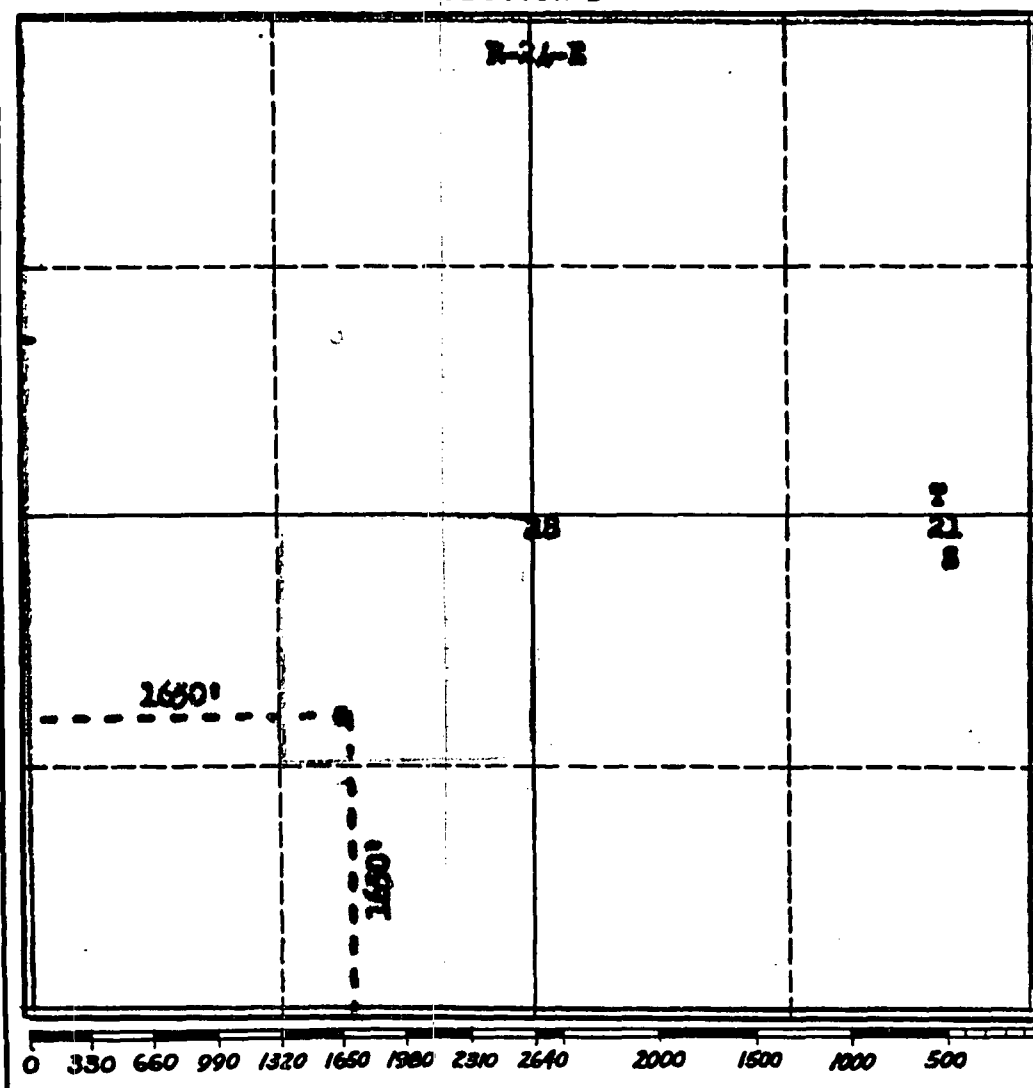
1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES ☒ NO ☐ ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)

2. If the answer to question one is "no," have the interests of all the owners been consolidated by communization agreement or otherwise? YES ☐ NO ☐ . If answer is "yes," Type of Consolidation Communization

3. If the answer to question two is "no," list all the owners and their respective interests below:

Owner	Land Description

SECTION B



CERTIFICATION

I hereby certify that the information in SECTION A above is true and complete to the best of my knowledge and belief.

C. W. MURRAY

Name	C. W. Murray
Position	Agent
Company	RALPH LONE
Date	September 20, 1965

I hereby certify that the well location shown on the plat in SECTION B 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.

Date Surveyed	July 10, 1964
Registered Professional Engineer and/or Land Surveyor	James H. Brown

Certificate No. **512**

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

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

EXHIBIT 'B'

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name INDIAN HILLS UNIT	Well Number 4
OGRID No.	Operator Name MARATHON OIL COMPANY	Elevation 3778

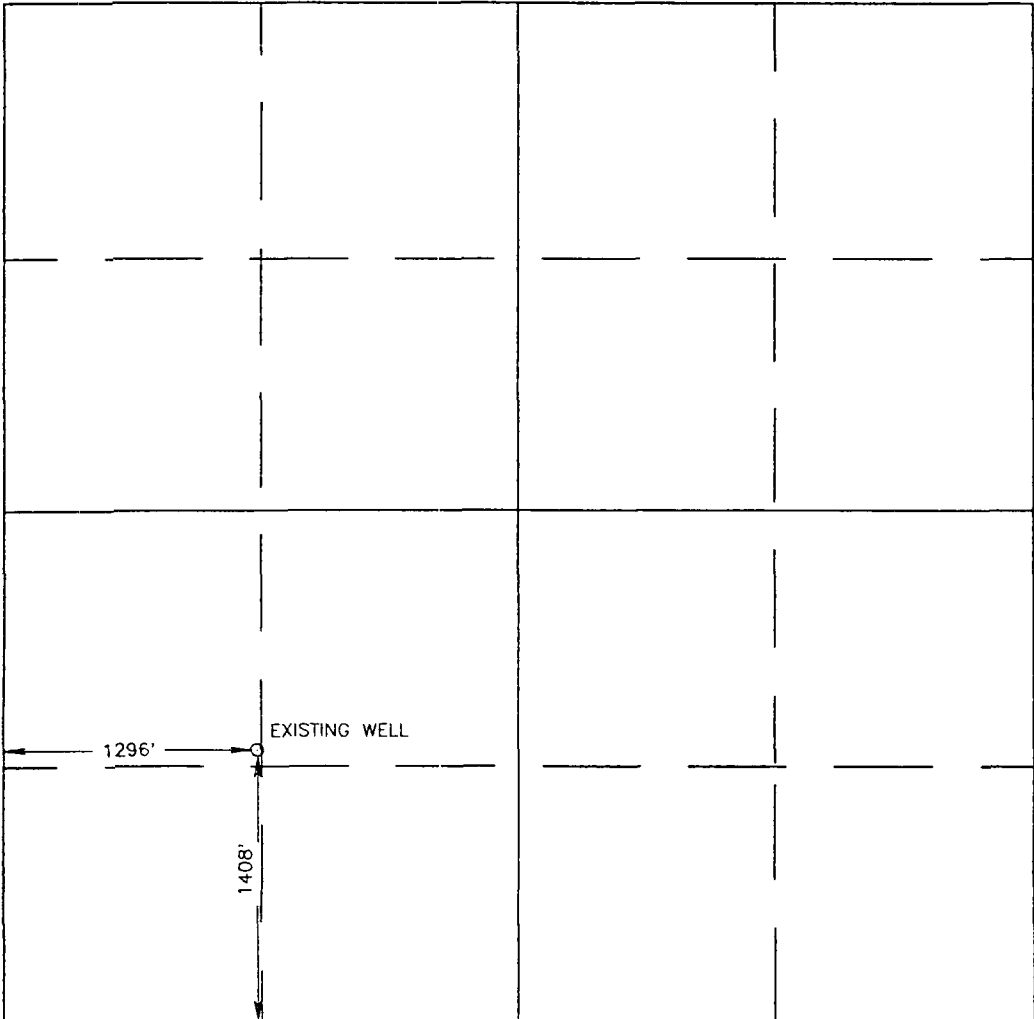
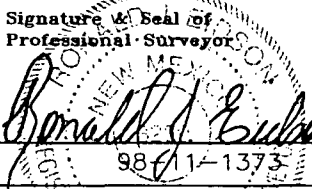
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	28	21 S	24 E		1408	SOUTH	1296	WEST	EDDY

Bottom Hole Location If Different From Surface

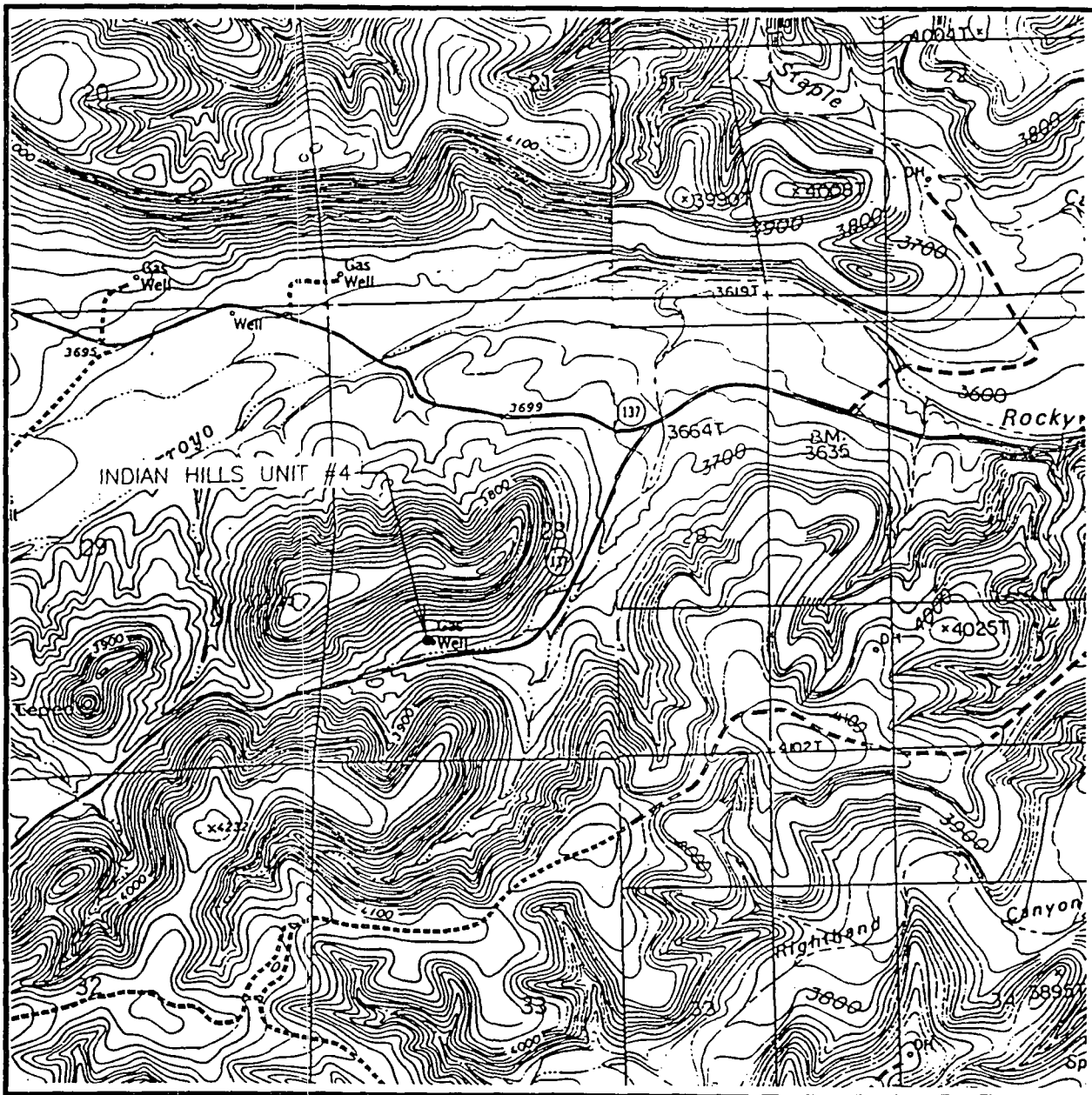
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

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

	<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>Printed Name _____</p> <p>Title _____</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 belief.</p> <p>NOVEMBER 23, 1998</p> <p>Date Surveyed _____ DMCC</p> <p>Signature & Seal of Professional Surveyor  12-10-98</p> <p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641 WACON McDONALD 12185</p>
---	--

LOCATION VERIFICATION MAP

EXHIBIT 'C'



SCALE: 1" = 2000'

CONTOUR INTERVAL - 20'

SEC. 28 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1400' FSL & 1248' FWL

ELEVATION 3778'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

U.S.G.S. TOPOGRAPHIC MAP

MARTHA CREEK, AZOTEA PEAK, NM

JOHN WEST SURVEYING CO.
HOBBS, NEW MEXICO

(505) 393-3117

EXHIBIT 'D'

R 24 E

T
21
S

UNIT
BOUNDARY

20
X BHL

21

22

TA 18 2 TA
MOC-INDIAN HILLS UNIT

1
MOC-INDIAN HILLS UNIT

YATES-LOWE STAPLE
'AMR'

3

29

PROPOSED
LOCATION

28

27

13
X
BHL

4 TA
19

MOC-INDIAN HILLS UNIT

MOC-INDIAN HILLS UNIT

YATES PAN AM PARDUE
'ALZ'

1

3

9

4

32

2

12

33

34

MOC-IB '32 ST.

MOC-INDIAN HILLS UNIT

SANTA FE-RT HAND
CANYON

0 1/2 1



MILE

MARATHON OIL COMPANY
MID-CONTINENT REGION

INDIAN HILLS UNIT
EDDY COUNTY, NEW MEXICO

INDIAN HILLS UNIT
#4 OWNERSHIP

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

915/687-8356

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

At surface

1400' FSL & 1248' FWL

At proposed prod. zone

1400' FSL 7 1248' FWL

14 DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

15 MILES NW OF CARLSBAD

15 DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT

(Also to nearest drile unit line, if any) 1248'

16 NO OF ACRES IN LEASE

640

17 NO OF ACRES ASSIGNED
TO THIS WELL

18 DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT

52'

19 PROPOSED DEPTH

7800'

20 ROTARY OR CABLE TOOLS

ROTARY

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

3790' KB, 3778' GL

22 APPROX. DATE WORK WILL START*

1/25/99

23 PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	K-55, 9 5/8"	36"	1200'	800 CIRCULATE
8 3/4"	L-80, K-55, 7"	26# & 23#	7800'	945 CIRCULATE

*WELL IS A PROPOSED INDIAN UPPER PENN GAS TEST. CURRENT POOL RULES REQUIRE 640 ACRE SPACING BUT MARATHON HAS REQUESTED A POOL RULE CHANGE TO 320 ACRE SPACING.

THIS WELL SHALL REQUIRE ADMINISTRATIVE APPROVAL FOR A NON-STANDARD LOCATION.

PROPOSED WELL SHALL UTILIZE THE EXISTING DRILLSITE OF THE INDIAN HILLS UNIT #4 (1420' FSL & 1258' FWL), WHICH SHALL BE PLUGGED PRIOR TO SPUDDING THE IHU #19. THE IHU #4 FOOTAGE CALLS HAVE CHANGED BASED ON A DEPENDENT RE-SURVEY PERFORMED IN 1966.

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



TITLE DRILLING SUPERINTENDENT

DATE 12/8/98

(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 1890, Hobbs, NM 88241-1990

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

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

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 Gas
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT	19
OGRID No.	Operator Name	Elevation
14021	MARATHON OIL COMPANY	3778'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	28	21 S	24 E		1400	SOUTH	1248	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

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

	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Walter Duncan</i> Signature</p> <p>R. J. Longmire Printed Name</p> <p>Drilling Superintendent Title</p> <p>12/8/98 Date</p>
	<p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>NOVEMBER 3, 1998</p> <p>Date Surveyed CDG</p> <p>Signature of State Professional Surveyor</p> <p><i>Ronald C. Edson</i> Professional Surveyor</p> <p>NEW MEXICO 3239 EDSON 11-30-98 88-14-1375</p> <p>Certification No. RONALD C. EDSON 3239 CARY EDSON 12641</p>

Thirteen Point Surface Use Plan
MARATHON OIL COMPANY

Indian Hills Unit #19
Sec. 28, 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 11 miles. Turn left on (NM)137. Go 6 miles South. Turn left at the intersection of NM 137 and County Road 401. Follow NM 137 .9 miles to existing well access road right .1 miles to extant well pad.
- 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 and 1,000' of new access. Construction plans will require blading and rolling the road and pad. The access road enters the drilling pad on the Northeast corner. The drilling location will have a V-door facing West with pits built into the hillside.

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 seven oil and gas wells operated by Marathon and Santa Fe 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 operate 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 #19

5. Location and Type of Water Supply:

- a. Source: Indian Basin Gas Plant, SE/4, NW/4, Sec. 28, T-21-S, R-24-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 may be obtained from the extant location.
- 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 #19

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 15 miles Northwest of Carlsbad, 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 #19

12. Operator Representatives:

R. J. Longmire
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.

12/9/98
Date

Walter Dunn
R. J. Longmire

**DRILLING PROGRAM
MARATHON OIL COMPANY**

Indian Hills Unit #19

1. **Estimated KB Elevation:** 3,790'

FORMATION	-----TOP-----		-----BASE-----		FLUID CONTENT
	MEASURED	SURSEA	MEASURED	SURSEA	
Queen	Surface	+3790'	650'	+3140'	water
San Andres	650'	+3140'	2250'	+1540'	water
Glorietta	2250'	+1540'	2355'	+490'	
Delaware	3300'	+490'	4300'	-510'	
Bone Spring	4300'	-510'	5950'	-2160'	oil gas
Wolfcamp	5950'	-2160'	7520'	-3730'	oil gas
B/Permian Shale	7520'	-3730'	7530'	-3740'	
U. Penn	7530'	-3740'	7550'	-3760'	gas, oil, water

FORMATION	--EST PSIG	SBHP-- PPG FMW	EST DEG f	SBHT PPM	H2S	---SIGNIFICANCE--- (obj, marker, etc.)
Bone Springs	1210	8.5			500	marker
Wolfcamp	1680	9.0				marker
B/Permian Shale 1810	9.0					objective pay
U. Penn	2050	9.0			5000	objective pay
Morrow	3460	9.2				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: 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, H₂S Sensors, air packs, stroke counter, rotating head.

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

Upper and lower kelly cocks with valve 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 #19

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"	9.625"	36	K-55	8rd, STC	New
0	4700'	4700'	8.75"	7"	23	K-55	8rd, LTC	New
4700'	9600'	4950'	8.75"	7"	26	K-55	8rd, LTC	New

Casing	DV		Lead	Amt	Type	Yield	Wt.		
String	Depth	Stg.	Tail	SXS	Cement	CF/SX	PPG.	TOC	Additives
9.625"	None	1	L	200	"C" Neat	1.51	14.6	Surf	10% Gel, 3% CaCl ₂ , 1/4# cello
9.625"			T	200	"C" Neat	1.32	14.8	Surf	2% CaCl, 1/4# cello
7"	±5600'	1	L	270	"H" Lite	1.28	15.3	5600'	5 pps Silica, .6% Halad 9, 3% salt, 3 pps Gilsonite
7"		2	L	800	65:35 POZ	1.91	12.6	5500'	5 pps, salt, 3 pps Gilsonite, 4% Gel, 1/4 pps Cello
7"		2	T	100	"C" Neat	1.32	14.8	±1000'	2% CaCl ₂

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 #19

5. Mud Program:

--DEPTH-- FROM TO		MUD TYPE	WEIGHT (PPG)	VIS	WL CC	ADDITIVES	VISUAL MONTR.
0	1200'	air/mist	N/A	N/A	N/A	Soap for mist	Reserve
1200'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H ₂ S Scavenger	Reserve
5000'	7000'	cut brine	9.0	32-36	N/C	Saturated brine	Reserve
7000'	960'	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:

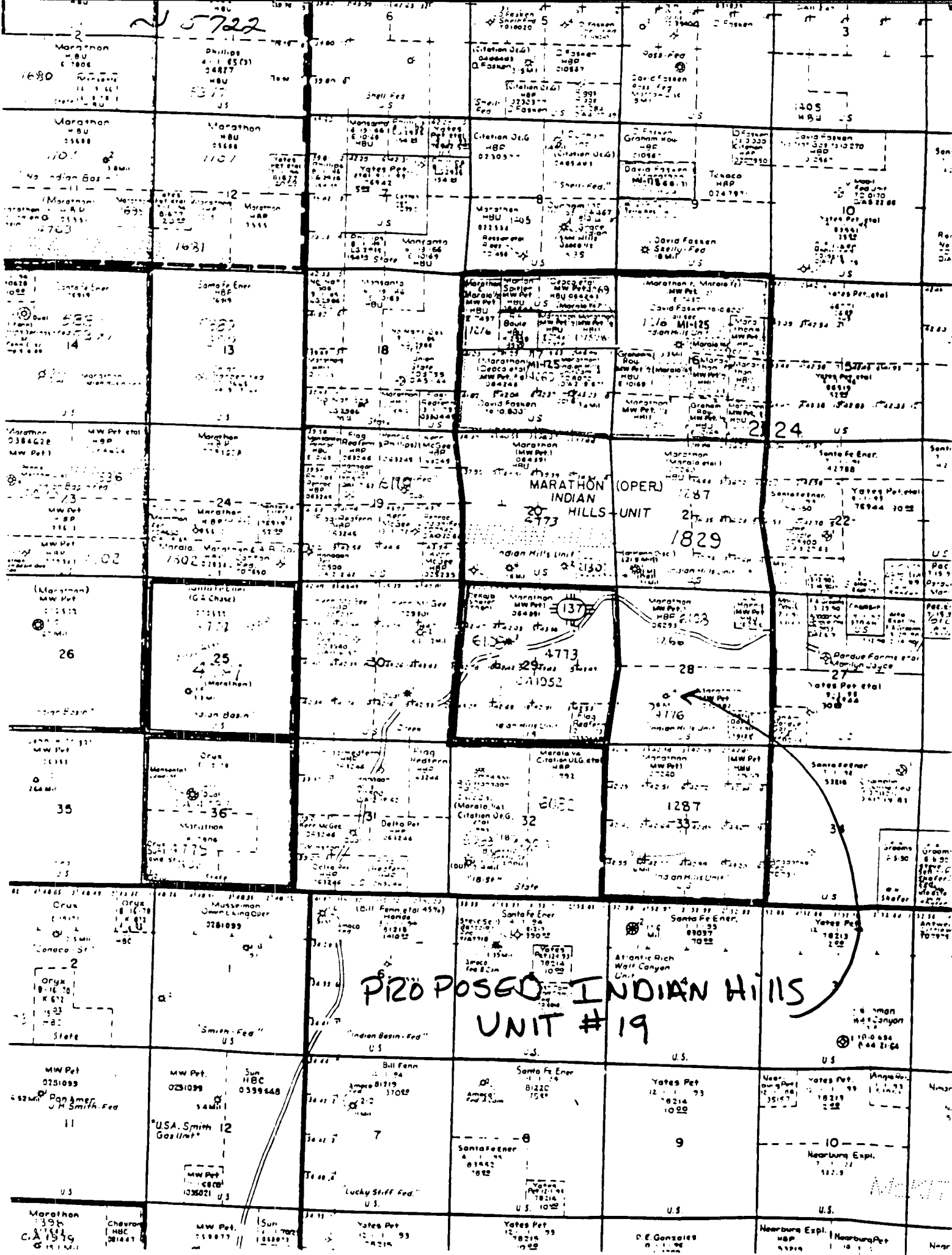
None anticipated. Possible H₂S in Cisco & Upper Penn. See H₂S Drilling Operations Plan.

8. Other Information:

Anticipated Starting Date: As soon as possible.

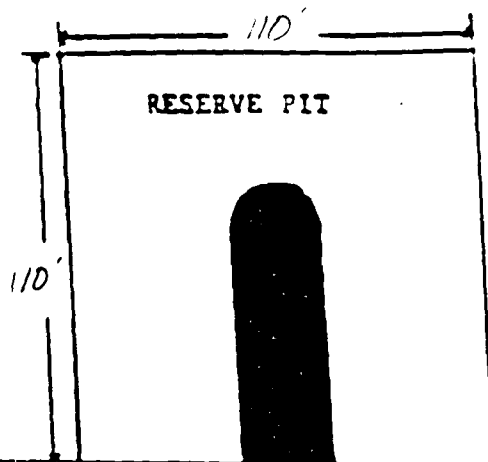
Duration of Well: drilling - 25 days, completion - 10 days.

5722

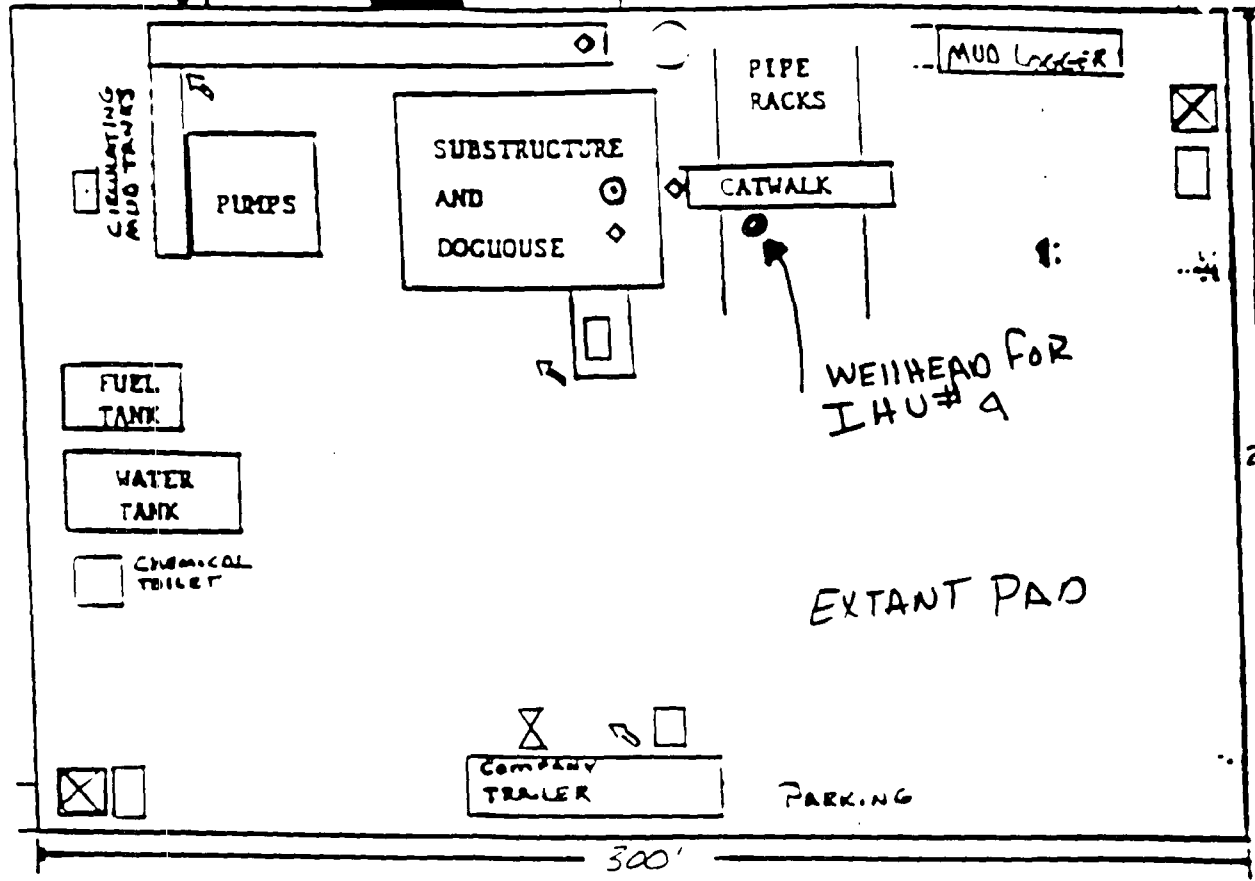


P20 POSGO INDIAN HILLS UNIT #19

McK



- ◇ H2S Detection Equipment
- ↗ Wind Direction Indicator
- Self Contained Breathing Equipment
- ⊗ Breeding Area



EXTANT ROAD

EDDY CO. 137

Prevailing Wind Direction

Southeast

Foot-path for emergency

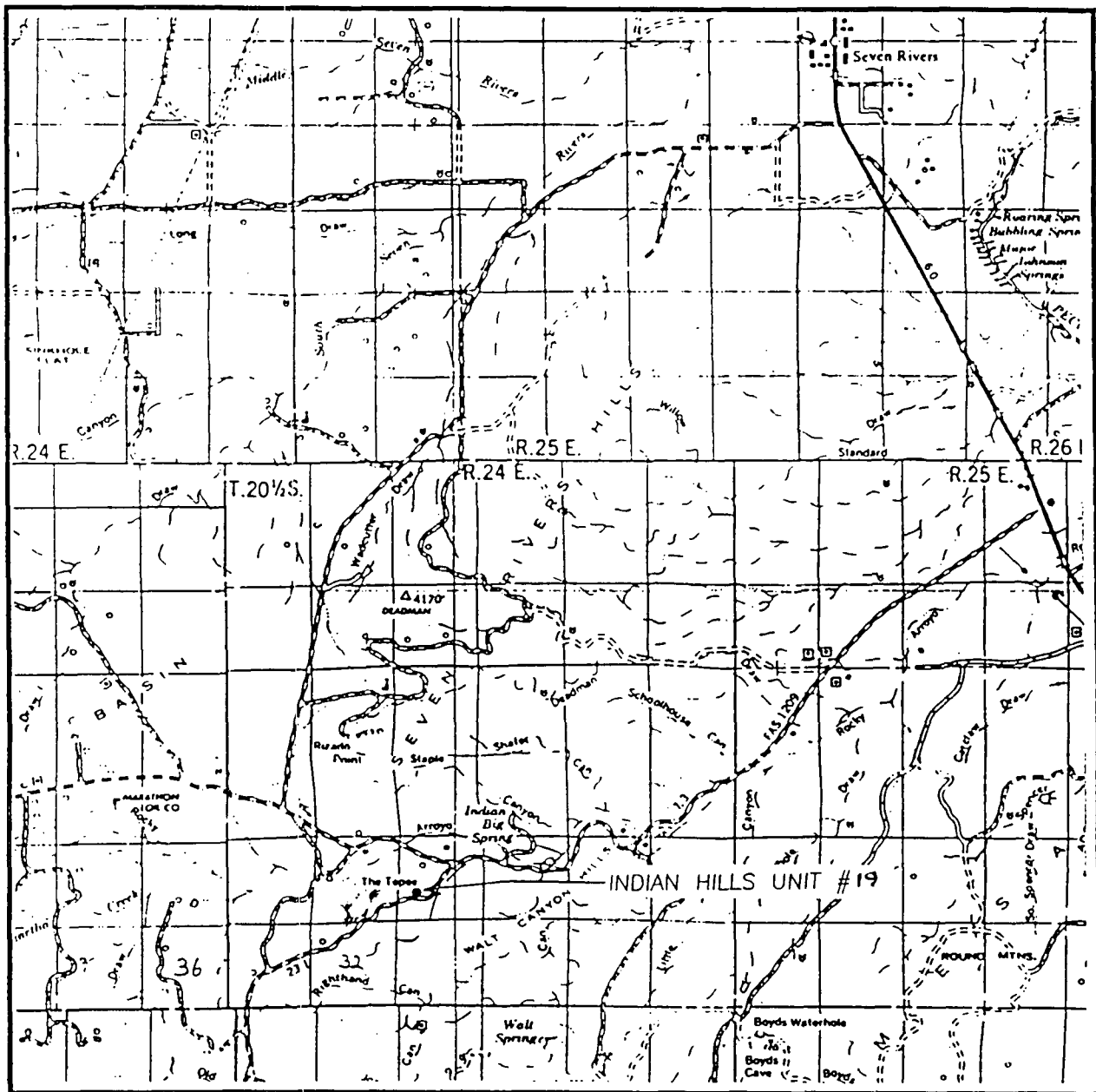


CONTOUR INTERVAL - 20'

MARTHA CREEK, AZOTEA PEAK, NM

(505) 393-3117

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 28 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1400' FSL & 1248' FWL

ELEVATION 3773'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

JOHN WEST SURVEYING CO.
HOBBS, NEW MEXICO

(505) 393-3117

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

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.

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

Production Stack

