

NMCCD

Form 3160-4
(August 1999)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: November 30, 2000

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
NMLC064391B

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
 b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
 Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.
NMNM70964A2. Name of Operator
MARATHON OIL COMPANYContact: CHARLES KENDRIX
E-Mail: cekendrix@marathonoil.com8. Lease Name and Well No.
INDIAN HILLS UNIT GAS COM 563. Address P O BOX 552
MIDLAND, TX 797023a. Phone No. (include area code)
Ph: 800.351.1417 Ext: 81049. API Well No.
30-015-32878-00-S1

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

Sec 21 T21S R24E Mer NMP
At surface SWSW Lot M 453FSL 350FWL
Sec 29 T21S R24E Mer NMP
At top prod interval reported below NENE Lot A 149FNL 1018FEL
Sec 29 T21S R24E Mer NMP
At total depth NENE Lot A 176FNL 1185FEL

10. Field and Pool, or Exploratory
INDIAN BASIN UPPER PENN ASSOC11. Sec., T., R., M., or Block and Survey
or Area Sec 21 T21S R24E Mer NMP12. County or Parish
EDDY13. State
NM14. Date Spudded
09/02/200315. Date T.D. Reached
09/15/200316. Date Completed
☐ D & A ☒ Ready to Prod.
09/27/200317. Elevations (DF, KB, RT, GL)*
3667 GL18. Total Depth: MD
TVD 8310
808819. Plug Back T.D.: MD
TVD 8260
803920. Depth Bridge Plug Set: MD
TVD21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
COMPENSATED NEUT GAMMARAY

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
 Was DST run? ☒ No ☐ Yes (Submit analysis)
 Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12.250	9.625 K55	36.0		1208		825		0	
8.750	7.000 K55	23.0		8310		1160		0	
8.750	7.000 K55	26.0		8310					

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	8046							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) UPPER PENN	7699	7976	7699 TO 7976		748	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
7699 TO 7976	100 GALS P/FT OF 17% CCA IN 100 SETTINGS WITH PPI PACKER. TOTAL OF 20,000 GALS. OF OF CCA SOUR ACID.

RECEIVED

NOV 25 2003

28. Production - Interval A

OCD-ARTES

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/01/2003	10/29/2003	24	→	62.0	1162.0	1639.0			ELECTRIC PUMP SUB-SURFACE
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	300	180.0	→	62	1162	1639		POW	

ACCEPTED FOR RECORD

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

NOV 24 2003

ALEXIS C. SWOBODA
PETROLEUM ENGINEER

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #24875 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
UPPER PENN	7699	7976		QUEEN SAN ANDRES GLORIETA YESO BONE SPRING TUBB- ABO WOLFCAMP CISCO CANYON	520 1222 2422 2611 4686 6522 6738 6797 7493 7703

32. Additional remarks (include plugging procedure):

Production Casing detail: All production casing is 7" w/ two weights used in the following sequence.
38 joints 26#
DV tool
39 joints 26#
99 joints 23#
Total MD 8310'
Logs and inclination survey are to be mailed, today.

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7 Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #24875 Verified by the BLM Well Information System.
For MARATHON OIL COMPANY, sent to the Carlsbad
Committed to AFMSS for processing by ARMANDO LOPEZ on 11/21/2003 (04AL0117SE)

Name (please print) CHARLES KENDRIXTitle AUTHORIZED REPRESENTATIVESignature (Electronic Submission)Date 11/21/2003

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

Additional data for transaction #24875 that would not fit on the form

32. Additional remarks, continued

**McVAY DRILLING COMPANY**

Post Office Box 924
Hobbs, New Mexico 88241
(505) 397-3311
FAX: 39-DRILL

Well Name and Number: Indian Hills Unit # 56

Location: Sec. 21, T21S, R24E

Operator: Marathon

Drilling Contractor: McVay Drilling Company

30-015-32878

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OCD-ARTESIA

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @ Depth		Degrees @ Depth		Degrees @ Depth	
1/2	164	14 3/4	2748	13.4	5626
1/2	368	16	3195	14	5816
1/4	530	16	3350	13.3	6005
1/4	730	16 3/4	3539	13.8	6292
1/4	913	15 1/2	3735	14	6863
1/4	1095	15 1/2	4018	15	7113
3	1352	16	4207	14.4	7366
7 3/4	1607	15 1/2	4585	13 3/4	7935
12 1/2	1735	15	4775	14	8126
14 3/4	1925	14 3/4	4965	14	8221
14 1/4	2242	14 1/4	5247		
14 1/4	2495	14 1/4	5435		

Drilling Contractor: McVay Drilling Company

By: Jim Ryan

Subscribed and sworn to before me this 20th day of October, 2003

Tim Flannery
Notary Public

My Commission Expires: 8-16-05

Lea County, New Mexico

* * * N A U T I C A L (V e r s i o n 4 . 0 1) * * *

Well: Indian Hills Unit GC 56

Target Azimuth: 247.45

Closure Direction: 248

Target TVD: 8100

Calculation Method - Minimum Curvature

Measured Depth (ft)	Inclination (deg.)	Azimuth (deg.)	True Vertical Depth (ft)	Vertical Section (ft)	North/ South (ft)	East/ West (ft)	Closure (ft)	Build Rate (deg/ft)	Walk Rate (deg/ft)	Dogleg Severity (d/100')	Tool Face (deg)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	<==== Tie-in Data				
164.00	0.50	64.00	164.00	-0.71	0.31	0.64	0.72	0.003	0.390	0.30	mss
348.00	0.50	84.00	347.99	-2.29	0.75	2.16	2.29	0.000	0.109	0.09	mss
545.00	0.25	117.00	544.99	-3.39	0.64	3.40	3.46	-0.001	0.168	0.16	mss
730.00	0.25	154.00	729.99	-3.67	0.10	3.94	3.94	0.000	0.200	0.09	mss
913.00	0.25	158.00	912.98	-3.69	-0.63	4.26	4.31	0.000	0.022	0.01	mss
1,095.00	0.25	164.00	1,094.98	-3.65	-1.38	4.52	4.73	0.000	0.033	0.01	mss
1,232.00	0.79	163.00	1,231.98	-3.52	-2.57	4.88	5.51	0.004	-0.007	0.39	mss
1,293.00	1.05	199.20	1,292.97	-3.11	-3.50	4.82	5.96	0.004	0.593	1.02	mwd
1,354.00	2.90	204.80	1,353.93	-1.60	-5.43	3.99	6.74	0.030	0.092	3.05	mwd
1,416.00	4.80	205.50	1,415.79	1.48	-9.20	2.21	9.46	0.031	0.011	3.07	mwd
1,480.00	5.90	205.50	1,479.51	5.92	-14.58	-0.36	14.59	0.017	0.000	1.72	mwd
1,543.00	7.70	206.90	1,542.06	11.54	-21.27	-3.66	21.58	0.029	0.022	2.87	mwd
1,607.00	9.40	206.30	1,605.35	18.73	-29.78	-7.92	30.81	0.027	-0.009	2.66	mwd
1,672.00	11.20	207.70	1,669.30	27.58	-40.13	-13.20	42.24	0.028	0.022	2.80	mwd
1,735.00	12.60	208.40	1,730.94	37.62	-51.59	-19.32	55.09	0.022	0.011	2.23	mwd
1,799.00	13.30	208.40	1,793.31	48.76	-64.20	-26.14	69.32	0.011	0.000	1.09	mwd
1,861.00	14.10	204.50	1,853.55	59.83	-77.35	-32.66	83.96	0.013	-0.063	1.97	mwd
1,925.00	14.90	200.30	1,915.51	71.13	-92.16	-38.75	99.98	0.013	-0.066	2.06	mwd
1,989.00	15.30	194.30	1,977.31	81.79	-108.06	-43.69	116.56	0.006	-0.094	2.52	mwd
2,052.00	15.20	197.50	2,038.09	92.09	-123.99	-48.23	133.04	-0.002	0.051	1.35	mwd
2,116.00	14.90	203.80	2,099.90	103.44	-139.53	-54.07	149.64	-0.005	0.098	2.60	mwd
2,179.00	14.70	206.90	2,160.81	115.38	-154.07	-60.96	165.69	-0.003	0.049	1.30	mwd
2,242.00	14.20	212.60	2,221.82	127.79	-167.70	-68.74	181.24	-0.008	0.090	2.39	mwd
2,305.00	13.80	220.30	2,282.95	140.82	-179.95	-77.76	196.03	-0.006	0.122	3.02	mwd
2,368.00	13.80	226.30	2,344.14	154.52	-190.87	-88.05	210.20	0.000	0.095	2.27	mwd
2,432.00	14.20	230.50	2,406.24	169.14	-201.14	-99.63	224.46	0.006	0.066	1.71	mwd
2,495.00	14.30	235.10	2,467.30	184.14	-210.50	-111.97	238.43	0.002	0.073	1.80	mwd
2,559.00	14.10	239.30	2,529.35	199.58	-219.00	-125.16	252.24	-0.003	0.066	1.64	mwd
2,621.00	14.70	243.90	2,589.40	214.90	-226.32	-138.72	265.45	0.010	0.074	2.08	mwd
2,685.00	14.90	246.30	2,651.28	231.23	-233.20	-153.54	279.21	0.003	0.038	1.01	mwd
2,748.00	14.90	248.10	2,712.16	247.43	-239.48	-168.48	292.80	0.000	0.029	0.73	mwd
2,811.00	15.40	250.20	2,772.97	263.89	-245.33	-183.86	306.58	0.008	0.033	1.18	mwd
2,874.00	15.60	250.20	2,833.68	280.70	-251.04	-199.70	320.78	0.003	0.000	0.32	mwd
2,969.00	15.70	252.70	2,925.16	306.26	-259.18	-223.99	342.56	0.001	0.026	0.72	mwd
3,065.00	16.60	251.60	3,017.37	332.87	-267.38	-249.41	365.64	0.009	-0.011	0.99	mwd
3,159.00	16.10	252.30	3,107.57	359.25	-275.58	-274.56	389.01	-0.005	0.007	0.57	mwd
3,254.00	16.70	253.40	3,198.70	385.96	-283.48	-300.19	412.89	0.006	0.012	0.71	mwd
3,350.00	16.10	250.60	3,290.80	412.97	-291.84	-325.97	437.53	-0.006	-0.029	1.03	mwd
3,445.00	16.10	250.60	3,382.07	439.27	-300.59	-350.82	461.98	0.000	0.000	0.00	mwd
3,539.00	16.90	250.90	3,472.20	465.92	-309.39	-376.02	486.95	0.009	0.003	0.86	mwd
3,634.00	15.50	247.70	3,563.43	492.40	-318.73	-400.82	512.10	-0.015	-0.034	1.75	mwd
3,735.00	15.50	247.00	3,660.76	519.39	-329.12	-425.73	538.11	0.000	-0.007	0.19	mwd
3,830.00	15.60	250.20	3,752.28	544.85	-338.41	-449.43	562.59	0.001	0.034	0.91	mwd
3,924.00	15.90	252.30	3,842.75	570.30	-346.61	-473.59	586.88	0.003	0.022	0.69	mwd
4,018.00	15.60	253.00	3,933.22	595.71	-354.22	-497.94	611.08	-0.003	0.007	0.38	mwd
4,114.00	16.30	253.20	4,025.53	621.96	-361.89	-523.18	636.15	0.007	0.002	0.73	mwd
4,207.00	16.00	254.10	4,114.86	647.68	-369.17	-548.00	660.75	-0.003	0.010	0.42	mwd
4,302.00	15.30	254.10	4,206.33	673.13	-376.19	-572.65	685.16	-0.007	0.000	0.74	mwd
4,397.00	16.20	256.50	4,297.77	698.67	-382.72	-597.59	709.64	0.009	0.025	1.17	mwd
4,492.00	15.80	257.60	4,389.09	724.49	-388.59	-623.11	734.35	-0.004	0.012	0.53	mwd
4,585.00	15.40	259.70	4,478.66	749.02	-393.52	-647.63	757.81	-0.004	0.023	0.74	mwd
4,680.00	15.60	259.40	4,570.21	773.84	-398.12	-672.59	781.59	0.002	-0.003	0.23	mwd
4,775.00	15.10	254.10	4,661.82	798.63	-403.86	-697.05	805.59	-0.005	-0.056	1.57	mwd

* * * N A U T I C A L (V e r s i o n 4 . 0 1) * * *

Well: Indian Hills Unit GC 56

Target Azimuth: 247.45
Target TVD: 8100

Closure Direction: 248

Calculation Method - Minimum Curvature

Measured Depth (ft)	Inclination (deg.)	Azimuth (deg.)	True Vertical Depth (ft)	Vertical Section (ft)	North/ South (ft)	East/ West (ft)	Closure (ft)	Build Rate (deg/ft)	Walk Rate (deg/ft)	Dogleg Severity (d/100')	Tool Face (deg)
4,870.00	15.60	253.00	4,753.43	823.64	-410.99	-721.17	830.05	0.005	-0.012	0.61	mwd
4,964.00	14.70	250.60	4,844.17	848.13	-418.64	-744.50	854.13	-0.010	-0.026	1.17	mwd
5,057.00	14.60	249.50	4,934.14	871.62	-426.67	-766.61	877.35	-0.001	-0.012	0.32	mwd
5,152.00	14.40	249.90	5,026.12	895.39	-434.92	-788.92	900.86	-0.002	0.004	0.24	mwd
5,247.00	14.30	247.40	5,118.15	918.92	-443.49	-810.84	924.20	-0.001	-0.026	0.66	mwd
5,341.00	14.20	247.40	5,209.26	942.06	-452.38	-832.21	947.21	-0.001	0.000	0.11	mwd
5,435.00	14.30	248.10	5,300.37	965.20	-461.14	-853.62	970.22	0.001	0.007	0.21	mwd
5,530.00	14.20	249.50	5,392.45	988.58	-469.60	-875.42	993.42	-0.001	0.015	0.38	mwd
5,626.00	13.30	250.20	5,485.69	1,011.37	-477.46	-896.84	1,016.02	-0.009	0.007	0.95	mwd
5,720.00	13.70	250.50	5,577.10	1,033.29	-484.84	-917.51	1,037.73	0.004	0.003	0.43	mwd
5,816.00	13.90	252.70	5,670.33	1,056.13	-492.06	-939.23	1,060.32	0.002	0.023	0.58	mwd
5,911.00	14.40	252.00	5,762.44	1,079.26	-499.11	-961.36	1,083.20	0.005	-0.007	0.56	mwd
6,005.00	13.40	252.00	5,853.69	1,101.77	-506.09	-982.84	1,105.48	-0.011	0.000	1.06	mwd
6,100.00	13.40	255.50	5,946.10	1,123.65	-512.24	-1,003.96	1,127.09	0.000	0.037	0.85	mwd
6,196.00	13.50	254.10	6,039.47	1,145.79	-518.10	-1,025.51	1,148.96	0.001	-0.015	0.35	mwd
6,292.00	13.80	255.50	6,132.76	1,168.26	-524.04	-1,047.37	1,171.15	0.003	0.015	0.46	mwd
6,388.00	14.30	256.20	6,225.89	1,191.31	-529.73	-1,069.97	1,193.92	0.005	0.007	0.55	mwd
6,484.00	14.30	256.90	6,318.91	1,214.73	-535.25	-1,093.03	1,217.05	0.000	0.007	0.18	mwd
6,579.00	14.90	258.30	6,410.85	1,238.30	-540.38	-1,116.42	1,240.33	0.006	0.015	0.73	mwd
6,673.00	14.20	256.50	6,501.83	1,261.55	-545.52	-1,139.47	1,263.32	-0.007	-0.019	0.89	mwd
6,737.00	14.80	257.20	6,563.79	1,277.36	-549.17	-1,155.07	1,278.97	0.009	0.011	0.98	mwd
6,801.00	15.20	255.80	6,625.61	1,293.72	-553.04	-1,171.17	1,295.18	0.006	-0.022	0.84	mwd
6,863.00	14.00	250.20	6,685.61	1,309.25	-557.57	-1,186.11	1,310.63	-0.019	-0.090	2.99	mwd
6,925.00	13.80	245.60	6,745.80	1,324.13	-563.17	-1,199.90	1,325.49	-0.003	-0.074	1.81	mwd
6,989.00	14.50	247.40	6,807.86	1,339.77	-569.40	-1,214.25	1,341.13	0.011	0.028	1.29	mwd
7,051.00	14.90	249.90	6,867.83	1,355.50	-575.12	-1,228.90	1,356.82	0.006	0.040	1.21	mwd
7,113.00	15.00	253.40	6,927.73	1,371.44	-580.15	-1,244.08	1,372.70	0.002	0.056	1.47	mwd
7,176.00	15.50	259.40	6,988.52	1,387.79	-584.03	-1,260.17	1,388.92	0.008	0.095	2.63	mwd
7,240.00	15.40	260.10	7,050.20	1,404.45	-587.06	-1,276.94	1,405.43	-0.002	0.011	0.33	mwd
7,303.00	14.60	260.40	7,111.06	1,420.35	-589.83	-1,293.01	1,421.19	-0.013	0.005	1.28	mwd
7,366.00	14.40	260.80	7,172.05	1,435.71	-592.40	-1,308.57	1,436.42	-0.003	0.006	0.36	mwd
7,429.00	14.30	259.00	7,233.08	1,450.95	-595.14	-1,323.95	1,451.56	-0.002	-0.029	0.73	mwd
7,524.00	13.60	261.10	7,325.28	1,473.30	-599.11	-1,346.50	1,473.77	-0.007	0.022	0.91	mwd
7,588.00	14.00	261.50	7,387.43	1,488.12	-601.42	-1,361.59	1,488.50	0.006	0.006	0.64	mwd
7,651.00	14.30	260.80	7,448.52	1,503.09	-603.79	-1,376.81	1,503.38	0.005	-0.011	0.55	mwd
7,715.00	14.70	261.40	7,510.48	1,518.66	-606.26	-1,392.64	1,518.88	0.006	0.009	0.67	mwd
7,778.00	14.20	261.50	7,571.49	1,533.91	-608.60	-1,408.18	1,534.07	-0.008	0.002	0.79	mwd
7,840.00	14.20	261.80	7,631.60	1,548.66	-610.81	-1,423.23	1,548.77	0.000	0.005	0.12	mwd
7,935.00	13.90	261.10	7,723.75	1,571.03	-614.24	-1,446.04	1,571.09	-0.003	-0.007	0.36	mwd
8,031.00	13.90	260.80	7,816.94	1,593.46	-617.87	-1,468.81	1,593.48	0.000	-0.003	0.08	mwd
8,126.00	13.90	259.70	7,909.16	1,615.71	-621.73	-1,491.30	1,615.71	0.000	-0.012	0.28	mwd
8,221.00	14.00	260.40	8,001.36	1,638.06	-625.69	-1,513.86	1,638.06	0.001	0.007	0.21	mwd
8,310.00	14.00	260.40	8,087.72	1,659.05	-629.28	-1,535.09	1,659.06	0.000	0.000	0.00	proj