

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

N.M. Oil Cons. Division
811 S. 1st Street
Artesia, NM 88210-2834

FORM APPROVED
Bureau No. 1004-0135
Expires November 30 2000

clsf
STATE

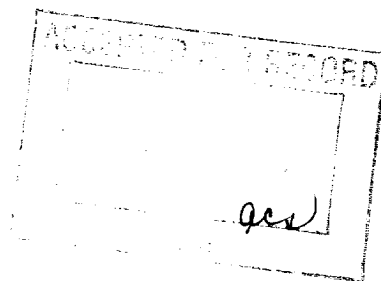
SUBMIT IN TRIPLICATE - Other instructions on reverse side		5. Lease Serial No. 88210-2834
1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator Marathon Oil Company		7. If Unit or CA/Agreement, Name and/or No. North Indian Basin Unit 891008508-0
3a. Address P.O. Box 552, Midland, TX 79702		8. Well Name and No. North Indian Basin Unit #4
3b. Phone No. (include area code) 915-682-1626		9. API Well No. 30-015-10558
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) UL "J" 1650' FSL & 1650' FWT 1651' FEL Sec. 28, T-21-S, R-24-E 16 23		10. Field and Pool, or Exploratory Area Indian Basin Upper Penn Gas Pool
		11. County or Parish, State Eddy Co. NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
☐ Notice of Intent	☐ Acidize ☒ Deepen ☐ Production (Start/Resume) ☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing ☐ Fracture Treat ☐ Reclamation ☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair ☐ New Construction ☐ Recomplete ☒ Other <u>Drill</u>
	☐ Change Plans ☐ Plug and Abandon ☐ Temporarily Abandon <u>Horizontal Lateral</u>
	☐ Convert to Injection ☐ Plug Back ☐ Water Disposal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Marathon Oil Company has drilled a horizontal lateral in this well. Work commenced 6/18/99, and was completed 9/26/99. See attached detail. Also attached is the deviation survey.



14. I hereby certify that the foregoing is true and correct.
Name (Printed/Typed)

Ginny Larke

Ginny Larke

Title

Engineer Technician

Date

11/24/99

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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BLM
ROSWELL, NM

NORTH INDIAN BASIN UNIT NO. 4

API No. 30-015-10558
Attachment to Form 3160-5

November 22, 1999

1. Work commenced 6/18/99 to drill horizontal lateral on the above mentioned well. MIRU, Hung well off. POOH & L/D rods & pump.
2. RU Arc and run pressure gradient. Killed well, NU BOP & POOH w/2-7/8" tbg. RU Baker & set RBP @ 7323'.
3. PU 6-1/8" bit, 7" casing scraper on 2-7/8" AOH DP and RIH to 7323'. Tagged CIBP. POOH, RU Baker & dump bailed 50' of cement in 3 runs from 7323'-7273'. RD Baker.
4. RIH w/ bit & scraper. Tagged cement @ 7311'. Tested to 500 psi. Drilled to 7316' & circulated hole.
5. POOH, RU Baker and set 7" CIBP @ 7312'. RD Baker. RIH w/watermelon mill & bull nose mill. Set weight on CIBP & POOH L/D mills. RU Scientific and run gyro. Showed bottom hole location @ 7237' MD to be 69.56' North & 39.48' West of the surface hole location. Set Weatherford 3 degree whipstock @ 357.25°. RD Scientific.
6. PU swivel and started milling window. Made 5", POOH and examined mill. RIH w/hook, latched onto whipstock, POOH and L/D whipstock.
7. RIH w/bit & DCs. Drilled out CIBPs @ 7312' & 7323' and cement from 7319'-7323'. Chased CIBP to 7763'. POOH L/D DCs & bit.
8. RU Baker Atlas and ran CC/CBL/CCL log from 7764'-6465' (fluid level). Ran P.I.P.E. log from 7764'-4970'. Log showed bad casing from 7304'-7622'. (Mostly perforated pipe.) RD Baker & pack off well.
9. RU Baker Atlas & run a gauge ring to 7765'. Run CCL-CIBP w/bridge plug. RUN strip log. Set BP @ 7314'. RIH w/bit & tagged BP @ 7305'.
10. POOH w/bit, PU whipstock & RIH. RU gyro to orient whipstock. Mill window from 7297'-7314'. Circulated clean. Change out rigs.
11. POOH, L/D mills. RU rotating head & flowline. PU BHA & RIH. Run gyro and change out swivel. Time drilled from 7314'-7320'. Drilled from 7320' to 7521'. POOH, change motors & bits & RIH to 7433'. Spotted LCM & PU to 7313'.
12. Mixed & pumped LCM slugs to try and heal formation. Attempted to circulate hole clean. POOH and RIH w/bit and curve motor to clean out hole to TD. POOH w/curve motor. RIH W/BHA, RU wireline unit & RIH w/steering tool. RIH w/bit to bottom. Drilled from 7521'-7735'. POOH into curve to correct steering tool problem.
13. RIH & drilled to 9465'. POOH. RIH, had to rotate & wash from 9080'-9465'. Dry drilled to 9530'. Tight on connections, penetration slowed down. DP stuck, had to rotate out. Surveyed, pumped sweep, and POOH.
14. Pulled steering tool, LD 56 jts. DP & motor. RIH w/7" RBP and set @ 7244'. Loaded & tested to 500 psi. Changed out rigs.
15. RIH & latched onto RBP & released. POOH AOH drill pipe to 1260' & set RBP. Loaded & tested to 500 psi. Finished pulling DP. ND BOP, NU seaboard head, NU BOP & test. RIH w/DP, latch onto and released RBP. POOH w/DP & RBP. RIH w/bull nose w/AOH DP to 7228'.
16. Well went on vacuum. POOH w/AOH pipe & RIH w/7" RTTS packer. Set @ 1860' & test to 500 psi. ND BOP, removed seaboard flange, NU BOP on wellhead & test to 500 psi. Released RTTS packer & POOH L/D packer. RIH w/AOH DP setting bottom of pipe @ 7616'. Secured well & pipe, RD PU & moved off location. RU Schlumberger coil tbg. unit.
17. RIH w/coil & acidized open hole from 9061'-7616' using 43 bbls. acid. Coil burst and had to be replaced. RIH w/new coil & acidized open hole w/20,000 gals. acid w/N2 from 9530'-7616'. RD coil unit, MIRU PU.
18. POOH w/AOH pipe. RIH w/hook, bumper sub, jars & DCs to top of whipstock. Tried to latch onto whipstock, but it kept pulling loose. Finally pulled whipstock free & POOH. RIH w/4" drill bailer on sandline to 7314'. Lost sandline bailer & 300' of sandline in hole. RIH w/spear & POOH w/fish. Changed out sandline.
19. RU Bailer & knocked out CIBP @ 7314'. RIH to 7435' recovering 50% of the plug. POOH & RIH w/bailer. Tried to knock out CIBP @ 7435', but lost bailer. RIH w/overshot, latched onto fish & POOH. RIH w/tbg bailer on 2-7/8 DP and knocked out CIBP. Cleaned out to 7450'. Have fill below CIBP.

20. Cleaned out fill w/Bulldog tbg bailer recovering 60' of fill. POOH w/bailer. RIH w/bit on DP and washed hole from 7450'-7755'. POOH. RIH w/mill & milled from 7350'-7314'. POOH w/mill & RIH w/PPI tool. Tagged window @ 7305'.
21. POOH w/PPI tool & RIH w/bent jt. of AOH on 2-7/8" AOH pipe. Tagged & entered window @ 7305'. RIH to 7823'. Pumped 350 bbls water trying to go thru the obstruction. Spotted 500 gals of 15% acid @ 7823', but still couldn't push thru obstruction.
22. POOH & RIH w/hydraulic packer & guidestock on DP. Located window & set packer & guide stock. POOH & RIH w/bit & motor to 9530'.
23. Picked up swivel & rotated down hole to get to 9530'. POOH back into window then RIH again pumping 50 bbls fluid @ 7300', 7764', 8198', 8632', 9066', & 9500'. POOH & L/D 70 jts. AOH pipe. POOH L/D motor & bit.
24. RIH w/retrieving tool. Latched onto whipstock guide and release packer. RIH & tag PBTB. POOH L/D whipstock guide and packer. RIH w/vortech tool. Pumped 4000 gals. 15% HCl acid in 5 stages thru vortech tool to clean out perfs.
25. POOH L/D 2-7/8" AOH pipe. RIH w/RTTS packer & set @ 1256'. ND BOP & installed seaboard flange. Tested ok. Released RTTS & POOH. PU bailer & RIH on 2-7/8" J-55 tbg. Dropped tbg string. Fishing job on tbg string went on from 8/6/99 thru 9/22/99.
26. RIH w/RTTS packer & set @ 7210'. Tested csg to 1000 psi. POOH. RIH w/bent jt, 50 jts. AOH pipe & 2-7/8 EUE to window @ 7305'. RI lateral to 7700'. RU Dowell & RIH w/1-1/2" coil tbg. tagged @ 7839'. Pumped 15 bbls acid in 3 stages. Could not pass ledge. POOH.
27. RIH w/2-7/8" tbg to 7880'. RIH w/CT & tagged @ 9088'. Acidized from 9088'-7880' using 13,500 gals 15% NEFE acid. RD Dowell.
28. POOH w/2-7/8" tbg. L/D 50 jts. AOH pipe. RU Baker. Dumped bailer of cement from 7739'-7728'. RD Baker.
29. PU sub pump & motors & RIH w/242 jts. of 207/8" J-55 tbg. Landed bottom of RBP @ 7693'. Made final splice. ND BOP. NU seaboard head.
30. Work completed and well turned over to production on 9/26/99.

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BLM
ROSWELL, NM

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

Well: NIBU #4

Target Azimuth: 0
Target TVD: 7458

Closure Direction: 359

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)
7,237.00	3.33	250.83	7,233.90	69.54	69.54	-39.49	<==== Tie-in Data				
7,316.00	3.50	349.10	7,312.81	71.16	71.16	-42.11	82.68	0.002	1.244	6.54	GYRO
7,326.00	5.70	350.50	7,322.78	71.95	71.95	-42.25	83.44	0.220	0.140	22.03	GYRO
7,336.00	8.70	351.90	7,332.70	73.18	73.18	-42.44	84.60	0.300	0.140	30.05	0
7,351.00	14.70	354.00	7,347.38	76.20	76.20	-42.80	87.40	0.400	0.140	40.09	0
7,368.00	22.60	352.10	7,363.48	81.59	81.59	-43.48	92.45	0.465	-0.112	46.60	0
7,381.00	29.00	351.20	7,375.17	87.19	87.19	-44.30	97.80	0.492	-0.069	49.32	0
7,399.00	36.80	355.40	7,390.28	96.89	96.89	-45.41	107.00	0.433	0.233	45.13	20 R
7,414.00	44.10	359.90	7,401.69	106.60	106.60	-45.78	116.01	0.487	0.300	52.39	20 R
7,431.00	49.70	6.10	7,413.30	118.98	118.98	-45.10	127.24	0.329	0.365	42.33	50 R
7,446.00	54.70	9.80	7,422.50	130.71	130.71	-43.45	137.74	0.333	0.247	38.60	50 R
7,463.00	60.80	7.50	7,431.57	144.91	144.91	-41.29	150.68	0.359	-0.135	37.66	50 L
7,478.00	66.90	3.50	7,438.18	158.31	158.31	-40.02	163.29	0.407	-0.267	47.18	40 L
7,494.00	71.90	359.10	7,443.81	173.27	173.27	-39.69	177.76	0.313	-0.275	40.48	50 L
7,513.00	77.20	354.00	7,448.87	191.54	191.54	-40.80	195.84	0.279	-0.268	38.04	50 L
7,521.00	79.80	352.60	7,450.46	199.32	199.32	-41.71	203.64	0.325	-0.175	36.75	50 L
7,531.00	81.10	352.40	7,452.12	209.10	209.10	-43.00	213.48	0.130	-0.020	13.15	30 R
7,545.00	82.80	355.70	7,454.08	222.89	222.89	-44.44	227.27	0.121	0.236	26.31	30 R
7,577.00	86.30	355.20	7,457.12	254.64	254.64	-46.96	258.93	0.109	-0.016	11.05	30-75R
7,608.00	86.90	355.50	7,458.96	285.48	285.48	-49.47	289.73	0.019	0.010	2.16	Rot
7,639.00	86.10	356.00	7,460.85	316.34	316.34	-51.76	320.54	-0.026	0.016	3.04	150R-Rot
7,671.00	86.50	355.70	7,462.92	348.18	348.18	-54.08	352.36	0.013	-0.009	1.56	Rot
7,703.00	86.30	355.30	7,464.93	380.02	380.02	-56.58	384.21	-0.006	-0.012	1.40	Rot
7,735.00	84.70	356.50	7,467.44	411.84	411.84	-58.86	416.03	-0.050	0.037	6.24	140R-Rot
7,766.00	83.40	356.20	7,470.65	442.61	442.61	-60.83	446.77	-0.042	-0.010	4.30	180-Rot
7,798.00	84.00	356.30	7,474.16	474.35	474.35	-62.91	478.50	0.019	0.003	1.90	Rot
7,830.00	84.20	356.30	7,477.45	506.11	506.11	-64.96	510.27	0.006	0.000	0.62	Rot
7,861.00	84.10	355.50	7,480.61	536.87	536.87	-67.16	541.06	-0.003	-0.026	2.59	Rot
7,892.00	84.40	355.00	7,483.72	567.61	567.61	-69.72	571.88	0.010	-0.016	1.87	Rot
7,913.00	84.60	354.80	7,485.73	588.43	588.43	-71.58	592.77	0.010	-0.010	1.34	Rot
7,954.00	84.90	357.10	7,489.48	629.15	629.15	-74.46	633.55	0.007	0.056	5.63	90R-Rot
7,986.00	85.20	357.20	7,492.24	661.00	661.00	-76.05	665.36	0.009	0.003	0.99	Rot
8,017.00	85.10	0.40	7,494.87	691.87	691.87	-76.69	696.11	-0.003	0.103	10.29	100 R
8,049.00	85.00	1.00	7,497.63	723.75	723.75	-76.30	727.76	-0.003	0.019	1.89	Rot
8,081.00	85.10	1.10	7,500.39	755.63	755.63	-75.72	759.41	0.003	0.003	0.44	Rot
8,112.00	86.00	0.70	7,502.79	786.53	786.53	-75.23	790.12	0.029	-0.013	3.18	Rot
8,144.00	85.30	1.50	7,505.22	818.43	818.43	-74.62	821.83	-0.022	0.025	3.32	Rot
8,175.00	84.80	2.90	7,507.90	849.29	849.29	-73.44	852.46	-0.016	0.045	4.78	150R-Rot
8,207.00	85.50	2.30	7,510.60	881.14	881.14	-71.99	884.08	0.022	-0.019	2.88	Rot
8,238.00	86.80	2.10	7,512.68	912.05	912.05	-70.80	914.79	0.042	-0.006	4.24	30R-Rot
8,270.00	86.40	2.20	7,514.58	943.97	943.97	-69.60	946.53	-0.012	0.003	1.29	Rot
8,332.00	88.00	2.30	7,517.61	1,005.85	1,005.85	-67.17	1,008.09	0.026	0.002	2.59	10R-Rot
8,364.00	88.30	2.30	7,518.64	1,037.81	1,037.81	-65.89	1,039.90	0.009	0.000	0.94	Rot
8,395.00	87.50	2.80	7,519.78	1,068.75	1,068.75	-64.51	1,070.70	-0.026	0.016	3.04	Rot
8,427.00	87.90	3.00	7,521.06	1,100.69	1,100.69	-62.89	1,102.48	0.013	0.006	1.40	Rot
8,458.00	88.30	2.90	7,522.09	1,131.63	1,131.63	-61.30	1,133.29	0.013	-0.003	1.33	Rot
8,490.00	88.50	2.70	7,522.98	1,163.58	1,163.58	-59.74	1,165.11	0.006	-0.006	0.88	Rot
8,521.00	88.60	2.50	7,523.77	1,194.54	1,194.54	-58.33	1,195.96	0.003	-0.006	0.72	Rot
8,553.00	88.40	2.50	7,524.61	1,226.50	1,226.50	-56.93	1,227.82	-0.006	0.000	0.63	150L-Rot
8,583.00	87.50	1.90	7,525.68	1,256.45	1,256.45	-55.78	1,257.69	-0.030	-0.020	3.60	Rot
8,615.00	88.40	2.20	7,526.82	1,288.41	1,288.41	-54.64	1,289.57	0.028	0.009	2.96	Rot
8,646.00	88.10	2.50	7,527.77	1,319.37	1,319.37	-53.37	1,320.45	-0.010	0.010	1.37	Rot
8,677.00	86.60	1.90	7,529.20	1,350.31	1,350.31	-52.18	1,351.32	-0.048	-0.019	5.21	150L-Rot
8,709.00	87.40	1.70	7,530.88	1,382.25	1,382.25	-51.18	1,383.20	0.025	-0.006	2.58	Rot

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

Well: NIBU #4

Target Azimuth: 0
Target TVD: 7458

Closure Direction: 359

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)
8,741.00	87.90	1.80	7,532.19	1,414.21	1,414.21	-50.20	1,415.10	0.016	0.003	1.59	Rot
8,772.00	88.30	1.70	7,533.22	1,445.18	1,445.18	-49.25	1,446.02	0.013	-0.003	1.33	Rot
8,803.00	88.30	2.00	7,534.14	1,476.15	1,476.15	-48.25	1,476.94	0.000	0.010	0.97	Rot
8,835.00	87.50	2.10	7,535.31	1,508.11	1,508.11	-47.11	1,508.84	-0.025	0.003	2.52	150L-Rot
8,866.00	87.00	2.70	7,536.80	1,539.05	1,539.05	-45.81	1,539.73	-0.016	0.019	2.52	Rot
8,898.00	87.60	2.00	7,538.30	1,570.98	1,570.98	-44.50	1,571.61	0.019	-0.022	2.88	Rot
8,930.00	88.10	359.50	7,539.51	1,602.96	1,602.96	-44.08	1,603.56	0.016	-0.078	7.96	65 L
8,961.00	88.10	359.90	7,540.53	1,633.94	1,633.94	-44.25	1,634.54	0.000	0.013	1.29	Rot
8,992.00	86.30	0.00	7,542.05	1,664.90	1,664.90	-44.27	1,665.49	-0.058	0.003	5.82	170L-Rot
9,024.00	85.70	359.40	7,544.28	1,696.82	1,696.82	-44.44	1,697.40	-0.019	-0.019	2.65	Rot
9,055.00	84.70	359.50	7,546.87	1,727.71	1,727.71	-44.74	1,728.29	-0.032	0.003	3.24	170L-Rot
9,087.00	84.50	359.80	7,549.89	1,759.57	1,759.57	-44.93	1,760.14	-0.006	0.009	1.12	Rot
9,118.00	84.10	0.30	7,552.96	1,790.41	1,790.41	-44.90	1,790.98	-0.013	0.016	2.06	Rot
9,149.00	84.30	0.50	7,556.10	1,821.25	1,821.25	-44.69	1,821.80	0.006	0.006	0.91	Rot
9,181.00	85.00	359.60	7,559.08	1,853.11	1,853.11	-44.66	1,853.65	0.022	-0.028	3.55	60L-Rot
9,212.00	84.80	359.40	7,561.84	1,883.99	1,883.99	-44.93	1,884.53	-0.006	-0.006	0.91	Rot
9,243.00	85.30	0.40	7,564.51	1,914.87	1,914.87	-44.98	1,915.40	0.016	0.032	3.60	Rot
9,275.00	85.20	0.30	7,567.16	1,946.76	1,946.76	-44.79	1,947.28	-0.003	-0.003	0.44	Rot
9,307.00	85.40	0.50	7,569.78	1,978.66	1,978.66	-44.57	1,979.16	0.006	0.006	0.88	Rot
9,338.00	86.10	0.90	7,572.08	2,009.57	2,009.57	-44.19	2,010.05	0.023	0.013	2.60	Rot
9,370.00	85.90	1.30	7,574.31	2,041.48	2,041.48	-43.58	2,041.95	-0.006	0.013	1.39	120L-Rot
9,433.00	85.00	1.10	7,579.31	2,104.27	2,104.27	-42.26	2,104.70	-0.014	-0.003	1.46	Rot
9,498.00	86.70	1.40	7,584.01	2,169.08	2,169.08	-40.85	2,169.47	0.026	0.005	2.66	Rot
9,530.00	87.50	1.50	7,585.63	2,201.03	2,201.03	-40.04	2,201.40	0.025	0.003	2.52	Proj-TD

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ROG 11-26-88