

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
FORM APPROVED
NO. 1004-0137
Date: January 31, 2018
OCD Artesia

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.

5. Lease Serial No.
NMNM111533

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
SWEET TEA FED COM 24 29 31 SB 7H

9. API Well No.
30-015-45606-00-X1

10. Field and Pool or Exploratory Area
WILLOW LAKE-BONE SPRING, WEST

11. County or Parish, State
EDDY COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
MARATHON OIL PERMIAN LLC
Contact: JENNIFER VAN CUREN
E-Mail: jvancuren@marathonoil.com

3a. Address
5555 SAN FELIPE ST
HOUSTON, TX 77056

3b. Phone No. (include area code)
Ph: 713.296.2500

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 31 T24S R29E NESW 2400FSL 2153FWL
32.173077 N Lat, 104.025383 W Lon

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Change to Original A PD
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recomplete 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 must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Marathon Oil Permian LLC proposes the following alternative contingency plan pending drilling outcome:

- Casing Program
Change the hole size in the lateral to 8 1/2 in.
- Cement Program:
Change Production casing cement
- Mud Program:
Update Max weight for Cut Brine/Oil Base Mud

RECEIVED

APR 12 2019

DISTRICT II-ARTESIA O.C.D.

SM ROPE below surface shoe - to TD also approved. MASP = 2608 psi DR

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #459915 verified by the BLM Well Information System
For MARATHON OIL PERMIAN LLC, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 04/03/2019 (19PP1536SE)

Name (Printed/Typed) JENNIFER VAN CUREN Title REGULATORY ANALYST

Signature (Electronic Submission) Date 04/02/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By DYLAN ROSSMANGO Title PETROLEUM ENGINEER Date 04/04/2019

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 Carlsbad

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.

Ruf 7-25-19

MARATHON OIL PERMIAN LLC

DRILLING AND OPERATIONS PLAN

WELL NAME / NUMBER: SWEET TEA FEDERAL 24 29 31 SB 7H
STATE: NEW MEXICO **COUNTY:** EDDY

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	TWSP	Range	Section	Alliquot/Lo/frac	Latitude (NAD83)	Longitude (NAD83)	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL	2400	FSL	212 3	FWL	24S	29E	31	NESW	32.17307679 N	104.02538360 W	Eddy	NM	NMP	F	NMNM111533	2906	0	0
KOP	2569	FSL	198 7	FWL	24S	29E	31	NESW	32.173543557 5 N	104.025823137 7 W	Eddy	NM	NMP	F	NMNM111533	- 4925	7847	7831
PPP	2341	FSL	198 8	FWL	24S	29E	31	NESW	32.17291404 N	104.02582160 W	Eddy	NM	NMP	F	NMNM111533	- 5382	8377	8288
EXIT	0	FSL	198 4	FWL	24S	29E	31	SESW	32.166481673 4 N	104.025848182 2 W	Eddy	NM	NMP	F	NMNM111533	- 5497	10743	8403
PPP	0	FN L	198 4	FWL	25S	29E	6	NENW	32.166481673 4 N	104.025848182 2 W	Eddy	NM	NMP	?	L062931	- 5497	10743	8403
EXIT	2646	FSL	198 0	FWL	25S	29E	6	SESW	32.159141734 8 N	104.025874051 3 W	Eddy	NM	NMP	?	L062931	- 5497	13413	8403
PPP	2646	FSL	198 0	FWL	25S	29E	6	NESW	32.159141734 8 N	104.025874051 3 W	Eddy	NM	NMP	?	VB8490	- 5497	13413	8403
EXIT	330	FSL	197 5	FWL	25S	29E	6	SESW	32.15282803 N	104.02589400 W	Eddy	NM	NMP	?	VB8490	- 5498	15709	8404
BHL	330	FSL	197 5	FWL	25S	29E	6	SESW	32.15282803 N	104.02589400 W	Eddy	NM	NMP	?	VB8490	- 5498	15709	8404

1. GEOLOGIC NAME OF SURFACE FORMATION

a. Permian

2. ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS

Formation	True Vertical Depth (ft)	Measured Depth (ft)	Lithologies	Mineral Resources	Producing Formation
Salado	596.5	596.5	Salt/Anhydrite	BRINE	N
Castile	1237.5	1237.5	Salt/Anhydrite	BRINE	N
Base of Salt	2,590	2605.1	Base Salt	BRINE	N
Lamar	2,721	2736.7	Sand/Shale	OIL	Y
Bell Canyon	2,748	2763.8	Sand/Shale	OIL	Y
Cherry Canyon	3,626	3641.9	Sand/Carbonate	OIL	Y
Brushy Canyon	4,860	4875.9	Sand/Carbonate	OIL	Y
Bone Spring	6,418	6433.9	Sand/Carbonate/Shale	OIL	Y

DEEPEST EXPECTED FRESH WATER: 275' TVD

ANTICIPATED BOTTOM HOLE PRESSURE: 5,042 psi

ANTICIPATED BOTTOM HOLE TEMPERATURE: 126 °F

ANTICIPATED ABNORMAL PRESSURE: N

ANTICIPATED ABNORMAL TEMPERATURE: N

3. CASING PROGRAM

String Type	Hole Size	Csg Size	Top Set MD	Bottom Set MD	Top Set TVD	TVD Bottom Set	Weight (lbs/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
Surface	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	<u>400</u>	<u>0</u>	<u>400</u>	<u>54.5</u>	<u>J55</u>	<u>STC</u>	<u>5.22</u>	<u>1.81</u>	<u>3.42</u>
Intermediate	<u>12 1/4</u>	<u>9 5/8</u>	<u>0</u>	<u>2700</u>	<u>0</u>	<u>2700</u>	<u>36</u>	<u>J55</u>	<u>LTC</u>	<u>2.26</u>	<u>2.01</u>	<u>2.51</u>
Production csg	<u>8 3/4</u>	<u>5 1/2</u>	<u>0</u>	<u>8753</u>	<u>0</u>	<u>8404</u>	<u>20</u>	<u>P110</u>	<u>BTC</u>	<u>2.48</u>	<u>1.23</u>	<u>2.58</u>
Production csg	<u>8 1/2</u>	<u>5 1/2</u>	<u>8753</u>	<u>1570</u>	<u>8404</u>	<u>8404</u>	<u>20</u>	<u>P110</u>	<u>BTC</u>	<u>2.48</u>	<u>1.23</u>	<u>2.58</u>
				<u>9</u>								

Minimum safety factors: Burst 1.125 Collapse 1.125 Tension 1.8 Wet/1.6 Dry

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	

(For 2 string-wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

4. CEMENT PROGRAM:

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sx)	Yield (ft ³ /sx)	Density (ppg)	Slurry Volume (ft ³)	Excess (%)	Cement Type	Additives
Surface	Lead	--									N/A
Surface	Tail	--	0	400	418	1.33	14.8	556	100	Class C	0.02 Gal/Sk Defoamer + 0.5% Extender + 1% Accelerator
Intermediate	Lead	--	0	2160	642	2.37	12.7	1522	125	Class C	0.02 Gal/Sk Defoamer + 0.5% Extender + 1% Accelerator
Intermediate	Tail	--	2160	2700	159	1.33	14.8	211	25	Class C	0.3 % Retarder
Production casing	Lead	--	2400	7850	705	3.32	11	2340	70	Class H	0.1% viscofier + 0.25 lb/sx defoamer + 5% retarder
Production casing	Tail	--	7850	15709	1936	1.22	14.5	2368	30	Class H	2% extender + 0.25% defoamer + 0.5% fluid loss + 0.2% dispersant

Stage tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Pilot hole depth: N/A TVD/MD

KOP: N/A TVD/MD

Plug top	Plug Bottom	Excess (%)	Quantity (sx)	Density (ppg)	Yield (ft ³ /sx)	Water gal/sk	Slurry Description and Cement Type

Attach plugging procedure for pilot hole.

5. PRESSURE CONTROL EQUIPMENT

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12 ¼"	13 5/8	5000	Annular	x	5000
			Blind Ram	x	
			Pipe Ram	x	
			Double Ram	x	
			Other*		
8 ¾" (vertical and curve)/ 8 ½" (Lateral)	13 5/8	5000	5M Annular	x	5000
			Blind Ram	x	
			Pipe Ram	x	
			Double Ram	x	
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
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Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

6. MUD PROGRAM:

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max. Weight (ppg)	Additional Characteristics
0	400	Water Based Mud	8.4	8.8	
400	2700	Brine	9.9	10.2	
2700	13491	Cut Brine / Oil Based Mud	9.0	10.2	

Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. **If Hydrogen Sulfide is encountered , measured amounts and formations will be reported to the BLM**

8. LOGGING / CORING AND TESTING PROGRAM:

- A. Mud Logger: None.
- B. DST's: None.
- C. Open Hole Logs: GR while drilling from 9 5/8" Intermediate casing shoe to TD.

9. POTENTIAL HAZARDS:

- A. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.
- B. No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
- C. No losses are anticipated at this time.
- D. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.
- E. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.