	arlsb	ad Eiel	d Oi	ffice	
Form 3160-3 (June 2015) UNITED STATE	s F	CD Arto EB 2 1 2019	esia	FORM OMB No Expires: Ja	APPROVED p. 1004-0137 inuary 31, 2018
DEPARTMENT OF THE I	INTERIOR	ICT IL-AFTESIA	0.CD.	5. Lease Serial No. NMNM0556542	· · · · · · · · · · · · · · · · · · ·
APPLICATION FOR PERMIT TO D	DRILL OR	REENTER		6. If Indian, Allotee	or Tribe Name
			·	7. If Unit or CA Agi	reement, Name and No.
b. Type of Well:	Other				
Ic. Type of Completion: Hydraulic Fracturing	Single Zone	Multiple Zone		8. Lease Name and	Well No.
					5011
2. Name of Operator MARATHON OIL PERMIAN LLC		37209B	N	9 API-Well No	0.15-45762
3a. Address 5555 San Felipe St. Houston TX 77056	3b. Phone N (713)629-60	o. (include area cod 600	le)	VO, Field and Pool, O PURPLE SAGE W	QLFCAMP GAS / WOL
4. Location of Well (Report location clearly and in accordance	with any State	requirements.*)		11. Sec., T. R. M. of	Blk. and Survey or Area
At surface NWNE / 310 FNL / 2187 FEL / LAT 32.209	9301 / LONG	-104.074125		SEC 224 1245/ R	28E / NMP
14. Distance in miles and direction from nearest town or post of	_AT 32.19693 fice,*	297 LONG - 104.0	1099	12. County or Parish	h 13. State
17 miles	16 No of ac	res in lease	17 Spaci	EDDY	his well
location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	160		320		
 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 	19. Proposed 9746 feet /_	I Depth 14482 feet	20, BLM	/BIA Bond No. in file 1B001555	· · · · ·
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3006 feet	22 (Approxi 05/20/2018	nate date work will	start*	23. Estimated durati 30 days	on
((^<	24. Attač	hments			
The following, completed in accordance with the requirements of (as applicable)	of Onshore Oil	and Gas Order No. 1	l, and the H	lydraulic Fracturing r	ule per 43 CFR 3162.3-3
 Well plat certified by a registered surveyor. A Drilling Plan. A Surfacé Use Plan (if the location is on National Forest Syste SUPO must be filed with the appropriate Forest Service Office 	em Lands, the	 Bond to cover th Item 20 above). Operator certific Such other site sp BLM. 	ne operation cation. pecific infor	is unless covered by ar mation and/or plans as	n existing bond on file (see may be requested by the
25. Signature (Floatmain Submission)	Name	(Printed/Typed)	(740)000	0500	Date
(Electronic Submission)	Jennin	er van Curen / Ph:	. (713)296	-2500	04/26/2018
Approved by (Signature) (Electronic Submission)	Name	(Printed/Typed) avton / Ph: (575)2	234-5959		Date 01/30/2019
Title Assistant, Field Manager Lands & Minerals	Office	SBAD		<u> </u>	
Application approval does not warrant or certify that the applica applicant to conduct operations thereon. Conditions of approval, if any, are attached.	int holds legal of	r equitable title to the	nose rights	in the subject lease w	hich would entitle the
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, r of the United States any false, fictitious or fraudulent statements	make it a crime or representati	for any person know ons as to any matter	wingly and within its j	willfully to make to a jurisdiction.	any department or agency
		avnit	IONS		
	VRD WI	H CONDI	IVIT		
(Continued on page 2)	144			*(In:	structions on page 2)

*(Instructions on page 2) PW Z-2Z-19

following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least $\underline{24}$ hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

- 3. <u>Wait on cement (WOC) for Water Basin:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible

Page 4 of 6

Approval Date: 01/30/2019

hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

- c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS 011419

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U.S. Department of the Interior BUREAU OF LAND MANAGEMENT



Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Jennifer Van Cur	ren	Signed on: 04/24/2018
Title: Sr. Regulatory Cor	npliance Rep	
Street Address: 5555 S	an Felipe St.	
City: Houston	State: TX	Zip : 77056
Phone: (713)296-2500		
Email address: jvancure	en@marathonoil.com	
Field Represe	entative	
Representative Name):	
Street Address:		
City:	State:	Zip:
Phone:		

Email address:



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Application Data Report

APD ID: 10400029705

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Type: CONVENTIONAL GAS WELL

Submission Date: 04/26/2018

not the ft of

Well Number: 15H Well Work Type: Drill Highilgintad data reflects the moat recent changes

Show Final Text

Section 1 - General		
APD ID: 10400029705	Tie to previous NOS?	Submission Date: 04/26/2018
BLM Office: CARLSBAD	User: Jennifer Van Curen	Title: Sr. Regulatory Compliance Rep
Federal/Indian APD: FED	Is the first lease penetrat	ed for production Federal or Indian? FED
Lease number: NMNM0556542	Lease Acres: 160	
Surface access agreement in place?	Allotted?	Reservation:
Agreement in place? NO	Federal or Indian agreem	nent:
Agreement number:		
Agreement name:		
Keep application confidential? YES		
Permitting Agent? NO	APD Operator: MARATHO	ON OIL PERMIAN LLC
Operator letter of designation:		
Operator Info		
Operator Organization Name: MARAT	HON OIL PERMIAN LLC	
Operator Address: 5555 San Felipe St.		
Operator PO Box:		∠ıp : //056
Operator City: Houston St	ate: TX	
Operator Phone: (713)629-6600		

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO	Mater Development Plan name	Mater Development Plan name:									
Well in Master SUPO? NO	Master SUPO name:										
Well in Master Drilling Plan? NO	Master Drilling Plan name:										
Well Name: CHICKEN FRY F C 24 28 22 WA	Well Number: 15H	Well API Number:									
Field/Pool or Exploratory? Field and Pool	Field Name: PURPLE SAGE Pool Name: WOLFCA WOLFCAMP GAS										

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Well Number: 15H

1	Ν
	•••

Describe oth	er minerals:			
Is the propos	ed well in a Helium produ	ction area? N	Use Existing Well Pad? NO	New surface disturbance?
Type of Well	Pad: MULTIPLE WELL		Multiple Well Pad Name:	Number: 275-2
Well Class: ⊦	IORIZONTAL		CHICKEN FRY FEDERAL C Number of Legs: 1	OM
Well Work Ty	/pe : Drill			
Well Type: C	ONVENTIONAL GAS WELI	-		
Describe We	II Туре:			
Well sub-Typ	e: INFILL			
Describe sub	o-type:			
Distance to t	own: 17 Miles	Distance to nea	arest well: 790 FT Dis	tance to lease line: 310 FT
Reservoir we	Il spacing assigned acres	Measurement:	320 Acres	
Well plat:	PlatCHICKEN_FRY_FE 111309_20181203103724.	EDERAL_COM_; pdf	24_28_22_WA_15H_REV1_C	CERT_FORM_C_102_20180424

Well work start Date: 05/20/2018

Duration: 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

1. 1. 1. 1.																		
	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL	310	FNL		FEL	24S	28E	22	Aliquot			EDD	NEW	NEW	F	FEE			
Leg								NWNE			Y	MEXI	MEXI					
#1												co	со					
КОР	107	FNL		FEL	24S	28E	22	Aliquot			EDD	NEW	NEW	F	FEE			
Leg								NWNE	·		Y	MEXI	MEXI					
#1												co	со					
PPP	330	FNL		FEL	24S	28E	22	Aliquot			EDD	NEW	NEW	F	FEE			
Leg								NWNE			Y	MEXI	MEXI					
#1												co	co					

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP	264	FNL		FEL	24S	28E	22	Aliquot	Contra Const	Januar Maria I Z	EDD	NEW	NEW	F	NMNM		::. 	
Leg #1	0		(1) ; ·					SWNE	utr .	nure envir F	Ŷ	CO			2	£nr i 1		- 11
PPP	132	FSL	1.3.	FEL	24S	28E	22	Aliquot	32 : 번째용)		EDD	NEW	NEW	s	STATE			
Leg	0		5. S					NWSE	reigi.	1.021.0.229	Y	MEXI	MEXI			(S)/(3)	(a)?	(6)
#1										1 90/20 1		00	CO					
EXIT	330	FSL	126.	FEL	24S	28E	22	Aliquot	T (Ballad)		EDD	NEW	NEW	s	STATE			
Leg			Ю; ;					SWSE	Vita -	~1(0Y); (F#7(0)	Y	MEXI	MEXI			(8 ; 64)	6°37°	ΥG
#1												co	co			ਹ <u>ੇ</u> .		
BHL	330	FSL	134	FEL	24S	28E	22	Aliquot	ar, i gio		EDD	NEW	NEW	s	STATE		Πiρ.	<u>978 </u>
Leg			(n					SWSE	36	10% ($%$) $10%$	Y	MEXI	MEXI			(6774)	(ar); (9)	(6)
#1										<u>V3</u>		lco	co			£		

VICINITY MAP

06	005	004	003	002	001	006	
07	008	009	010	011	012	007	
18	017	016	015	CHICKEN 24-28- MARATHO 014	FRY FEDERAL CO -22 WA #15H PI DN OIL PERMIAN LLC 013	018	l
19	CHICKEN F 24-28-22 <u>Marathon</u> 020	24S-2 RY FEDERAL COM 2 WA #15H SHL 0IL PERMIAN LLC 021	022	CHICKEN 24-2 FIRS MARATHI 023	FRT FEDERAL CO 6-22 WA #15H T TAKE POINT DN OIL PERMIAN LLC 024	24S 29E	
30	029	028	027	026 CHICKEN 1 24-28	025 FRY FEDERAL CO 5-22 WA #15H AVE DOINT/BHI	030 M	
31	032	033	034	035	036	031	
06	005	25S	28E	002	001	25S 29E	

SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M. COUNTY: EDDY DESCRIPTION: 310' FNL & 2187' FEL ELEVATION: 3006' OPERATOR: MARATHON OIL PERMIAN LLC LEASE: CHICKEN FRY FEDERAL COM 24-28-22 U.S.G.S. TOPOGRAPHIC MAP: MALAGA, N.M. SCALE: I" = I MILE

PREPARED BY: R-SQUARED GLOBAL, LLC 1309 LOUISVILLE AVENUE, MONROE, LA 71201 318-323-6900 OFFICE JOB No. R3781_010



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT



APD ID: 10400029705

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

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Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Submission Date: 04/26/2018

Section 1 - Geologic Formations

Formation			True Vertical	Measured			Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
1	SALADO	2372	634	634	SALT, ANHYDRITE	OTHER : Brine	No
2	CASTILE	1300	1073	1073	SALT, ANHYDRITE	OTHER : Brine	No
3	BASE OF SALT	-26	2399	2399	LIMESTONE,SANDSTO NE	OTHER : Brine	No
4	LAMAR	-220	2593	2593	SHALE, SANDSTONE	NATURAL GAS,OIL	No
5	BELL CANYON	-256	2629	2629	SHALE,SANDSTONE	NATURAL GAS,OIL	No
6	CHERRY CANYON	-1091	3464	3466.1	SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	No
7	BRUSHY CANYON	-2321	4694	4722.9	SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	No
8	BONE SPRING	-3835	6208	6270.7	SHALE, SANDSTONE, O THER : Carbonate	NATURAL GAS,OIL	No
9	WOLFCAMP	-7059	9432	9537.8	SHALE, SANDSTONE, O THER : Carbonates	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 15152

Equipment: 13 5/8 Annular, blind ram, pipe ram, and double ram will be installed and tested for each of the 12 1/4, 8 3/4, and 6 1/8 casing strings.

Requesting Variance? YES

Variance request: 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.

Testing Procedure: - 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. - 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. - 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

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

test pressure is broken the system will be tested. See attached schematic.

Choke Diagram Attachment:

Drill_Plan___2__5M_10M.TWO_CHOKE_MANIFOLD.BLM_20180424095333.pdf

Drill_Plan__2__Choke_Line_Flex_III_Rig_20180424095404.pdf

Drill_Plan__2__Choke_Line_Test_Chart_SN_63393_20180424095426.pdf

Drill_Plan__2__Contitech_Hose_SN_663393_20180424095448.pdf

BOP Diagram Attachment:

Drill_Plan__2__WH_TH_Design_1B_5K__10K__7in_x_4.5in__20180424095605.pdf

Drill_Plan___2__10_5M_Flex.BOPE.BLM_20180424095637.pdf

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	500	0	500	3006	2506	500	J-55	54.5	STC	5.22	1.81	BUOY	3.42	BUOY	3.42
2	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	2600	0	2600	3006	406	2600	J-55	36	LTC	2.26	2.01	BUOY	2.51	BUOY	2.51
3	PRODUCTI ON	8.75	7.0	NEW	API	N	0	10120	0	9707	3006	-6701	10120	Р- 110	29	BUTT	1.72	1.16	BUOY	2.68	BUOY	2.68
4	LINER	6.12 5	4.5	NEW	API	N	9225	14482	9135	9746	-6129	-6740	5257	P- 110	13.5	BUTT	1.79	1.42	BUOY	2.18	BUOY	2.18

Casing Attachments

Operator Name: MARATHON OIL PERMIAN LLC **Well Name:** CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Surface_20180419062925.pdf

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Drill_Plan___Malaga_WC_3_String__Liner___Intermediate_20180424100014.pdf

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Drill_Plan___Malaga_WC_3_String___Liner___Intermediate_II_20180424100139.pdf

Well Number: 15H

Casing Attachments

Casing ID: 4 String Type:LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Drill_Plan___Malaga_WC_3_String__Liner__Liner_20180424100300.pdf

Section	4 - Ce	emen	it								
String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	500	0	0	0	0	0	No Lead only Tail cement.	N/A
SURFACE	Tail		0	500	515	1.33	14.8	695	100	Class C	0.02 Gal/Sk Defoamer + 0.5% Extender + 1% Accelerator
INTERMEDIATE	Lead		0	2080	618	2.37	12.7	1466	125	Class C	0.02 Gal/Sk Defoamer + 0.5% Extender + 1% Accelerator
INTERMEDIATE	Tail		2080	2600	153	1.33	14.8	204	25	Class C	0.3 % Retarder
PRODUCTION	Lead		0	9120	641	3.21	11	2057	50	Class C	0.85% retarder + 10% extender + 0.02 gal/sk defoamer + 2.0% Extender + 0.15% Viscosifier
PRODUCTION	Tail		9120	1012 0	158	1.24	14.4	195	30	Class H	3% extender + 0.15% Dispersant + 0.03 gal/sk retarder
LINER	Lead		9225	1448 2	0	0	0	0	0	No Lead only Tail Cement	N/A
LINER	Tail		9225	1448 2	526	1.22	14.8	644	30	Class H	0.1% retarder + 3.5% extender + 0.3% fluid loss + 0.1% Dispersant

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: The necessary mud products for additional weight and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (Ibs/gal)	Max Weight (Ibs/gal)	Density (Ibs/cu ft)	Gel Strength (Ibs/100 sqft)	Н	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
500	2600	SALT SATURATED	9.9	10.2							
0	500	WATER-BASED MUD	8.4	8.8							
2600	1012 0	OTHER : Cut Brine	9	9.4							
1012 0	1448 2	OIL-BASED MUD	11.5	12	~						

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

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

List of open and cased hole logs run in the well:

GR

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Coring operation description for the well:

GR while drilling from 9 5/8" Intermediate casing shoe to TD.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5276

Anticipated Surface Pressure: 3131.88

Anticipated Bottom Hole Temperature(F): 143

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

4_Marathon_Carlsbad__Chicken_Fry_Fed_24_28_22_12H_15H_16H_H2S_Contingency_Plan_032618_20180419070928.p df

 $GasCapturePlan_Chicken_Fry_Federal_Com_275_2_20180424101508.pdf$

Drill_Plan___4__Pad_Layout_Flex_III_20180424101539.pdf

Drill_Plan___4__H2S_Contiengency_Plan_Summary_20180424101604.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

 Drill_Plan___5___Chicken_Fry_Federal_Com_24_28_22_WA__15H___Plan__1_36x48WP_20180424101646.pdf

 Drill_Plan__5___Chicken_Fry_Federal_Com_24_28_22_WA__15H___Plan__1_Planning_Report_20180424101656.pdf

 Chicken_Fry_Federal_Com_24_28_22_Pad___Federal_Minerals_20180424105230.pdf

Other proposed operations facets description:

Potential Hazards:

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.
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.

- No losses are anticipated at this time.

- 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.

Other proposed operations facets attachment:

Other Variance attachment:





Ontinental 3

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Certificate of Conformity

ContiTech

Certificate Number	COM Order Reference	Commentation Gustomer Name & Address
953233-4	953233	HELMERICH & PAYNE DRILLING CO
Customer Purchase Order No:	740053080	1434 SOUTH BOULDER AVE
		TULSA, OK 74119
Project:		USA
Citest Conter/Address	Accepted By GOMilnsp	ction were presented Accepted (by/Glientinspection and the test
ContiTech Oil & Marine Corp.	Roger Suarez	
11535 Brittmoore Park Drive	Signed:	
Houston, TX 77041	Case	
USA	Date: 5/11/17	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

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11	10) j		1.	100 N.D.			, Onei	0010	· · ·		Oig	Subkence		Specifications	
-		11			 K			Anthine -	 			ليديده فسيبد شتسا	and decine		أمعيد وسيد

30

RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL 1 63393 ContiTech Standard

Ontinental 3

Hydrostatic Test Certificate

ContiTech

60

Certificate Number	COM Order Refe	rence	Gustomen Name & Address
953233-4	953233		HELMERICH & PAYNE DRILLING CO
Customer Purchase Order No:	740053080		1434 SOUTH BOULDER AVE
			TULSA, OK 74119
Project:			USA
Test Center Address	Accepted	by GOM Inspection	Accepted by Glient Inspection
ContiTech Oil & Marine Corp.	Roger S	Suarez	
11535 Brittmoore Park Drive	Signed:	A T	
Houston, TX 77041			
USA	Date: 5/11/43	~	<u> </u>

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Pait No:	Description)	Qnty Serial I	lòmban (Work, Test Press, Press,	Teat Time (minutes)

30

RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL 1 63393 10,000 psi 15,000 psi





QUALITY CONTROL	No.: QC-DB- 380 / 2012				
	Page : 1 / 61				
Hose No.:	Revision : 0				
63389, 63390, 63391	Date: 28. August 2012.				
63392, 63393	Prepared by: fcolo fondor				
	Appr. by: Deling. Inel				

CHOKE AND KILL HOSES

id.: 3" 69 MPa x 35 ft (10,67 m)

DATA BOOK

Purchaser: H & P

Purchaser Order No.:

ContiTech Rubber Order No.: 531895

ContiTech Beattie Co. Order No.: 006227

NOT DESIGNED FOR WELL TESTING

ContiTech Rubber Industrial Kit, Budapesti út 10., Szeged H-6728 P.O.Box 152 Szeged H-6701 Hungary Phone: +36 62 566 737 Fax: +36 62 566 738 a-mail: info@fbid.contitech.hu Internet: vww.contitech-rubber.hu

The Court of Csongråd County as Registry Court Registry Court No: HU 06-09-002502 EU VAT No: HU11087209 Bank data Commercial and Creditbank Szeged 10402805-28014250-00000000

NAME AND A DESCRIPTION OF A

CONTITECH RUBBER	No.: QC-1	DB- 380 / 2012
Industrial Kft.	Page:	2/61

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Deling

ContiTech Rubber Industrial Kft. Quality Control Dept. (1)

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Industrial Kft.	Page:	9 /61

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QUALIT	TY CONT	ROL CERTIFIC	ATE	CERT.	Nº:	1599		
PURCHASER:	ContiTech B	eattie Co.		P.O. N°	:	006227		
CONTITECH ORDER Nº:	531895	HOSE TYPE:	3" ID		Choke and	d Kill Hose		
HOSE SERIAL Nº:	63393	NOMINAL / ACT	UAL LENG	ſH:	10,67 m	n / 10,72 m		
W.P. 68,9 MPa 1	0000 psi	T.P. 103,4	MPa 15	5000 psi	Duration:	60	min.	
ambient temperature ↑ 10 mm = 10 Min → 10 mm = 20 MPa	See attachment. (1 page) 10 mm = 10 Min. $\rightarrow 10 \text{ mm} = 20 \text{ MPa}$							
COUPLINGS Type		Serial N°		Qual	ty	Heat No		
3" coupling with	2	156 215	3	AISI 4	130	20231		
4 1/16" 10K API Flange	end			AISI 4	130	34031		
NOT DESIGNE	D FOR WE	LL TESTING				API Spec 16	C	
All metal parts are flawless					Tem	perature rat	e:"B"	
WE CERTIFY THAT THE ABOVE	E HOSE HAS BE	EN MANUFACTUR	ED IN ACCO		TH THE TERM	S OF THE ORDER	2	
STATEMENT OF CONFORMI conditions and specifications accordance with the referenced	INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT. STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements. COUNTRY OF ORIGIN HUNGARY/EU							
Date: 23. August 2012.	Inspector		Quality Co		ontiTech Rub Industrial Kf ality Control I (1)	ber t. Dept.		

ContiTech Rubber Industrial Kit. Budapesti út 10., Szeged H-6728 R.O.Box 152 Szeged H-6701 Hungary Phone: +36 62 566 737 Fax: +36 62 566 738 e-mail: info@fluid.contitech.hu Internet: www.contitech-rubber.hu

The Court of Csongråd County as Registry Court Registry Court No: HU 06-09-002502 EU VAT No: HU 1087209 Bank data Commercial and Credilbank Szeged 10402905-28014250-00000000

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 380 /2012	
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Galinenial S CONTIECH

Hose Data Sheet

CRI Order No.	531895	
Customer	ContiTech Beattie Co.	
Customer Order No	PO6227 Pbc13080-H&P	
Item No.	1	
Hose Туре	Flexible Hose	
Standard	API SPEC 16 C	
Inside dia in inches	3	
Length	35 ft	
Type of coupling one end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSI C/W BX155RING GROOVE	
Type of coupling other end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSI C/W BX155 RING GROOVE	
H2S service NACE MR0175	Yes	
Working Pressure	10 000 psi	
Design Pressure	10 000 psi	
Test Pressure	15 000 psi	
Safety Factor	2,25	
Marking	USUAL PHOENIX	
Cover	NOT FIRE RESISTANT	
Outside protection	St.steel outer wrap	
Internal stripwound tube	No	
Lining	OIL RESISTANT	
Safety clamp	No	
Lifting collar	No	
Element C	No	
Safety chain	No	
Safety wire rope	No	
Max.design temperature [°C]	100	
Min.design temperature [°C]	-20	
MBR operating [m]	1,60	
MBR storage [m]	1,40	
Type of packing	WOODEN CRATE ISPM-15	







RED HILLS 3 CSG + LINER

StressCheck 5000.1.13.1 Build 6765



RANGER SB-TB - 3 CSG STRING



RANGER SB-TB - 3 CSG STRING

StressCheck 5000.1.13.1 Build 6765



RANGER SB-TB - 3 CSG STRING



Ranger TB & WC - 3 String + Liner

StressCheck 5000.1.13.1 Build 6765





StressCheck 5000.1.13.1 Build 6765



RED HILLS 4 STRING


MALAGA TB & WC

StressCheck 5000.1.13.1 Build 6765





MALAGA TB & WC

StressCheck 5000.1.13.1 Build 6765



MALAGA TB & WC

StressCheck 5000.1.13.1 Build 6765





TOTAL SAFETY

MARATHON OIL COMPANY

CHICKEN FRY FEDERAL COM 24-28-22 WA Well # 15H WD Well # 16H WXY Well # 12H

SHL: 310' FNL & 2216' FEL of Unit Letter 'B', Section 22, T-24S, R-28E BHL: 330' FSL & 2350' FEL of Unit Letter 'O', Section 22, T-24S, R-28E

EDDY County, New Mexico

Rig: PRECISION 594

3/26/2018

EMERGENCY MEDICAL PROCEDURES DO NOT PANIC REMAIN CALM-THINK

- 1. HOLD YOUR BREATH. (DO NOT INHALE, STOP BREATHING)
- 2. PUT ON BREATHING APPARATUS. (NOTE: DO NOT ATTEMPT RESCUE UNTIL YOU HAVE PUT ON BREATHING APPARATUS.)
- 3. REMOVE VICTIM (S) TO FRESH AIR AS QUICKLY AS POSSIBLE.
- 4. BE SURE YOU HAVE MOVED VICTIM OUT OF CONTAMINATED AREA BEFORE REMOVING YOUR RESPIRATOR.
- 5. APPLY MOUTH-TO-MOUTH ARTIFICIAL RESPIRATION, WHICH IS MORE EFFECTIVE, WHILE SOMEONE ELSE GETS THE OXYGEN RESUSCITATOR. RENDER OXYGEN RESUSCITATION ONLY IF PORPERLY TRAINED IN ITS USE.
- 6. PROVIDE FOR PROMPT TRANSPORTATION TO HOSPITAL AND CONTUNUE GIVING ARTIFICIAL RESPIRATION IF NEEDED.
- 7. HOSPITAL (S) OR MEDICAL FACILITIES NEED TO BE INFORMED BEFOREHAND, OF THE POSSIBILITY OF H2S GAS POISONING, NO MATTER HOW REMOTE THE POSSIBLITY IS.

Lea Regional Medical Center	(575)492-5000	
5419 N Lovington Hwy, Hobbs, NM 88240		
AMBULANCE	911	
FIRE DEPARTMENT- HOBBS, NM	(575) 397-9308	
POLICE - HOBBS, NM	(575) 397-9265	

> TOTAL SAFETY INC 1420 East Greene St. Carlsbad, NM 88220

THIS H2S DRILLING OPERATIONS PLAN WAS PREPARED BY: Sean Chamblee Strategic Account Manager Cell: 713-703-6295

TOTAL SAFETY INC 1420 East Greene St Carlsbad, NM 88220 Phone: 432-561-5049

H2S DRILLING OPERATIONS PLAN INDEX

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- A. Oil Company Address and Legal Description of Well Site
- B. Directions to Well Site
- C. Purpose of Plan

II. LOCATION LAYOUT

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- B. General & Specific Area Maps

III. SAFETY EQUIPMENT

- A. Safety Equipment Provided by TOTAL SAFETY INC.
- B. Type of Equipment and Storage Locations
- C. Maximum Number of People on Location at any one time

IV. OPERATING PROCEDURES

- A. Blowout Prevention Measures During Drilling
- B. Gas Monitoring Equipment
- C. Crew Training and Protection
- D. Metallurgical Considerations
- E. Mud Program and Treating
- F. Well Control Equipment

V. OPERATING CONDITIONS

- A. Definition of Warning Flags
- B. Circulating Out Kick (Wait and Weight Method)
- C. Coring Operations in H2S Bearing Zones

VI. EMERGENCY PROCEDURES

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- B. Drilling Crew Actions
- C. Responsibilities of Personnel
- D. Steps to be Taken
- E. Company and Contract Personnel
- F. Leak Ignition
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- H. Critical Operations

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 - A. Emergency and Medical Facilities
 - B. Law Enforcement Agencies and Fire Fighting Facilities
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- B. Residents Within Radius of Exposure and Telephone Numbers

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- B. Hydrogen Sulfide Hazards
- C. Toxicity Table
- D. Treatment
- E. Characteristics of H2S
- F. Safe Practices

INTRODUCTION

H2S DRILLING OPERATIONS PLAN This Drilling Operations Plan was written specifically for:

> MARATHON OIL COMPANY 3122 NATIONAL PARKS HIGHWAY CALRSBAD, NM 88220

Action Plan for Accidental Release of H2S

CHICKEN FRY FEDERAL COM 24-28-22 WA Well # 15H WD Well # 16H WXY Well # 12H

EDDY COUNTY, NM

Information, provisions and practices, as set forth in this plan, may be subject to revision and/or updating.

03-26-2018

CHICKEN FRY FEDERAL COM 24-28-22 WA Well # 15H WD Well # 16H WXY Well # 12H

EDDY COUNTY, NM

Directions:

FROM THE MARATHON OFFICE AT 411 TIDWELL ROAD, OTIS, NEW MEXICO, HEAD SOUTH ON TIDWELL ROAD TOWARD U.S. HIGHWAY 285 NORTH FOR 0.2 MILES. TURN LEFT ONTO U.S. HIGHWAY 285 SOUTH HEADING SOUTH FOR 13.8 MILES TO A CALICHE ROAD. TURN RIGHT ONTO CALICHE ROAD, HEADING WEST FOR 0.6 MILES TO PROPOSED LEASE ROAD FOR THE CHICKEN FRY FEDERAL COM 24-28-22 WA9H, TB8H, WXY12H & WA15H. TURN RIGHT ON TO SAID PROPOSED LEASE ROAD, HEADING NORTH, FOR 531 FEET ENTERING THE SOUTHWEST CORNER OF SAID WELL LOCATION PAD.

GPS Coordinates: 32.20993033, -104.07422196 LEA COUNTY, NEW MEXICO

PURPOSE OF PLAN: The purpose of this plan is to safeguard the lives of the public, contract personnel and company personnel in the event of equipment failure or disasters during drilling or completion operations in formations that may contain Hydrogen Sulfide Gas, H2S.

As a precautionary measure, this Drilling Plan has been prepared to assure the safety of all concerned, should a disaster occur. However, the Oil Company Representative may have specified materials and practices for the drilling or completion of this well, which supersedes the minimum requirements as outlined in this plan. **Definitions:** For the purpose of this plan the following definitions are to be referred to:

Controlled Release – Any release that is planned and occurs during normal operations. A controlled release is managed per the procedures outlined in this section.

Uncontrolled Release – Any release that is unplanned and not immediately contained utilizing established shut-in procedures. An uncontrolled release is normally associated with a loss of well control.

SCBA – (Self Contained Breathing Apparatus) – A full-face mask respirator with a supplied positive pressure air source.

Donned SCBA – When it is required per this plan to "don" a SCBA, personnel will be 100% masked up and be on supplied breathing air.

SCBA On Person – When it is required per this plan to have SCBA "on person", personnel will be required to wear the SCBA equipment - but not be masked up.

"Qualified Buddy" – Person who has been fit tested and is trained and is familiar with the requirements of donning an SCBA. This person will provide immediate assistance to another person who may be utilizing an SCBA or SkaPack in an IDLH atmosphere in the event of an emergency situation.

In Scope Personnel – Rig Personnel who will be working or otherwise present in potential H2S release areas, including the rig floor, cellar, pits, and shaker areas. This would not include 3rd party contractors who do not have a function, besides evacuating the rig, during an emergency condition such as during a well control event or H2S / LEL alarm. All qualified personnel that have a function to shut a well in during an emergency will be considered In-Scope per this plan

Out of Scope Personnel –. All personnel that are not in scope will be Out of Scope per the definition of this plan

H2S Office – Onsite office trailer space or vehicle that will be designated as the H2S office

Marathon H2S Plan Custodian – Marathon HES Advisor, Supervisor or Technician that has been specifically assigned per the authorization page of this plan to maintain this document. EXISTING WELL LOCATION MAP

CHICKEN FRY FEDERAL 24-28-22 (PAD 2) SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M. COUNTY: EDDY OPERATOR: MARATHON OIL PERMIAN LLC U.S.G.S. TOPOGRAPHIC MAP: MALAGA, NM.





CHICKEN FRY FEDERAL COM 24-28-22

SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M.

COUNTY: EDDY

U.S.G.S. TOPOGRAPHIC MAP: MALAGA, N.M.



DIRECTIONS TO LOCATION:

LO ME THE POTION AND MODERY SUPPORT APPRILING EROUGH ROUTH ROUTH RECORDERY LOUS ART SOUTH ROUTH RECEIVE ON ANY ROUTH AND COUNT SUPPORT STATE OF THE AND COUNT CONSERVATION OF SUPPORT A



PRELIMINARY

THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, CONVEYANCE, SALE OR THE BASIS FOR THE ISSUANCE OF A PERMIT.

PREPARED BY: PREFARED BT: B-SQUARED GLOBAL, LLC 1309 LOUISVILLE AVENUE, MONROE, LA 71201 318-323-6900 OFFICE JOB No. R3761_007

SAFETY EQUIPMENT

All H2S related Safety Equipment must be installed, tested and Operational at a depth of 500 fee above, or 3 days prior to penetrating the first zone expected to contain H2S.

SAFETY EQUIPMENT PROVIDED BY TOTAL SAFETY INC.

<u>QTY</u>	EQUIPMENT
6 each	30-minute self-contained breathing apparatus
6 each	ELSA Escape Packs
1 Lot	Sufficient low-pressure airline hose with quick connects
1	6 Channel fixed H2S monitor
4	H2S Sensors (Loc determined at rig up – General: Cellar, Shale
	Shaker, floor/driller area)
4	Explosion proof Alarm Station (1-Drill Floor, 1- Pits/Shakers,
	1- Generators, 1 Quarters area)
10	Personal H2S Monitors
1	Gastec pump type gas detector
Set	Various range of H2s & SO2 detector tubes
2 each	Windsocks w/frames and poles
1 Set	H2S and briefing area signs
1 Set	Well condition signs and flags
1	Flare Gun & Flares

TYPE OF EQUIPMENT AND STORAGE LOCATIONS

1. There will be six 30-minute self-contained breathing apparatus on location. They will be positioned as follows: Two at Briefing Area #1 Two at Briefing Area #2, Two at rig dog house. SCBA Facepieces will be equipped with voice amplifiers for effective means of communication when using protective breathing apparatus.

2. There will be six Escape-type packs on location. One for the Derrickman. One on the Shaker. One at the bottom of rig dog house stairway and spares.

3. A Gastec, pump type, gas detector with low and high range detector tubes for H2S and SO2 will be located in the doghouse

4. Two Briefing Areas will be designated at opposite ends of the location.

5. The Briefing Area most upwind is designated as the Safety Briefing Area #1. In an emergency, personnel must assemble at this upwind area for instructions from their supervisor.

6.The H2S 'Safety" trailer provided by Total Safety, Inc. will contain a cascade system of at least 5 each -300 C.F. air cylinders that will provide a continuous air supply to air lines located on the rig. Note: This trailer will <u>Only</u> be provided if H2S conditions require the use of the Air Trailer. (If Required)

7. Two windsocks will be installed so as to be visible from all parts of the location.

8. A well condition warning sign will be displayed at the location entrance to advise of current operating conditions. The condition signs must be at least 200' from the entrance but not more than 500' away.

9. A list of emergency telephone numbers will be kept on rig floor, tool pusher's trailer, the Oil Company's trailer and in the "safety" trailer (if Provided).

10. The primary means of communication will be cell phones.

- 11. A barricade will be available to block the entrance to location should an emergency occur. In most cases the use of a vehicle is used to block the entrance.
- 12. A 6-channel H2S monitor will be located in the doghouse. The 3 sensors will be installed: one on the shale shaker, one at the Cellar, one at the rig floor.
- 13. An undulating high and low pitch siren and light will be installed on the derrick "A" leg.
- 14. If H2S concentration reach 10 ppm an explosion-proof bug blower (fan) will be installed under the rig floor to disperse possible accumulations of H2S.
- 15. Any time it is necessary to flare gas containing H2S, a Sulfur Dioxide monitor or Detector tubes will be used to determine SO2 concentrations.
- 16. A flare gun with flares will also be provided in the event it is necessary to ignite the well from a safe distance.

OPERATING PROCEDURES

BLOWOUT PREVENTION MEASURES DURING DRILLING

1. Blowout Prevention Requirements:

All BOP equipment shall meet the American Petroleum Institute specifications as to materials acceptable for H2S service and tested accordingly (or to BLM specifications).

2. Drilling String Requirements:

All drill string components are to be of material that meets the American Petroleum Institute's specifications for H2S service. All drill string components should be inspected to IADC critical service specifications prior to running in well.

GAS MONITORING EQUIPMENT

1. A continuous H2S detection system, consisting of three H2S detectors and an audible/visual warning system will be in operating during all phases of this H2S Drilling Operations Plan. The detection system will be adjusted and calibrated such that an H2S exposure of 10 ppm or higher (at any sensor) will trigger the audible and visual portion (wailing or yelping siren) of the warning system (i.e. H2S continually present at or above threshold levels) a trained operator or H2S supervisor will monitor the H2S detection system.

2. When approaching or completing H2S formations, crewmembers may attach personnel H2S monitors to their person.

3. Hand held H2S sampling gas detectors will be used to check areas not covered by automatic monitoring equipment.

CREW TRAINING AND PROTECTION

1. All personal working at the well site will be properly trained in accordance with the general training requirements outlined in the API Recommended Practices for Safe Drilling of Wells Containing H2S. The training will cover, but will not be limited to, the following:

- a. General information of H2S AND SO2 GAS
- b. Hazards of these gases
- c. Safety equipment on location
- d. Proper use and care of personal protective equipment
- e. Operational procedures in dealing with H2S gas
- f. Evacuation procedures
- g. First aid, reviving an H2S victim, toxicity, etc.
- h. Designated Safe Briefing Areas
- i. Buddy System
- j. Regulations
- k. Review of Drilling Operations Plan

2. Initial training shall be completed when drilling reaches, a depth of 500' above or 3 days prior to penetrating (whichever comes first) the first zone containing or expected to contain H2S. It must also include a review of the site specific Drilling Operations Plan and, if applicable, the Public Protections Plan.

3. Weekly H2S and well control drills for all personnel on each working crew shall be conducted.

4. All training sessions and drills shall be recorded on the driller's log or its equivalent.

5. Safety Equipment:

As outlined in the Safety Equipment index, H2S safety protection equipment will be available to/or assigned each person on location.

6. One person (by job title) shall be designated and identified to all on-site personnel as the person primarily responsible for the overall operation of the on-site safety and training programs. This will be the PIC

METALLURGICAL CONSIDERATONS

1. Steel drill pipe used in H2S environments should have yield strength of 95,000psi or less because of potential embrittlement problems. Must conform to the current National Association of Corrosion Engineers (NACE) Standard MR-0175-90, Material Requirement, Sulfide Stress Cracking Resistant Metallica Material for Oil Field Equipment. Drill stem joints near the top of the drill string are normally under the highest stress levels during drilling and do not have the protection of elevated down hole temperatures. These factors should be considered in design of the drill string. Precautions should be taken to minimize drill string stress caused by conditions such as excessive dogleg severity, improper torque, whip, abrasive wear or tool joints and joint imbalance. American Petroleum Institute, Bulletin RR 7G, will be used as a guideline for drill string precautions.

2. Corrosion inhibitors may be applied to the drill pipe or to the mud system as an additional safeguard.

3. Blowout preventors should meet or exceed the recommendations for H2S service as set forth in the latest edition of API RI 53.

MUD PROGRAM AND TREATING

1. It is of utmost importance that the mud be closely monitored for detection of H2S and reliability of the H2S treating chemicals.

2. Identification and analysis of sulfides in the mud and mud filtrates will be carried out per operators prescribed procedures.

3. The mud system will be pre-treated with Zinc Carbonate, Ironite Sponge or similar chemicals of H2S control prior to drilling into the H2s bearing formation. Sufficient quantities of corrosion inhibitor should be on location to treat the drill string during Drill Stem Test Operations. Additionally, Aqua Ammonia should be on hand to treat the drill string for crew protection, should H2S be encountered while tripping string following drill stem testing

WELL CONTROL EQUIPMENT

1. Flare System

a. A flare system shall be designed and installed to safely gather and burn H2S Bearing gas.

1. Flare lines shall be located as far from the operating site as feasible and in a manner to compensate for wind changes.

2. The flare line mouth shall be located not less then 150' from wellbore.

3. Flare lines shall be straight unless targeted with running tees.

- 4. Flare Gun & Flares to ignite the well
- 2. Remote Controlled Choke

a. A remote controlled choke shall be installed for all H2S drilling and where feasible for completion operations. A remote controlled valve may be used in lieu of this requirement for completions operations.

3. Mud-gas separators and rotating heads shall be installed and operable for all exploratory wells.

OPERATING CONDITIONS

A Well Condition Sign and Flag will be posted on all access roads to the location. The sign shall be legible and large enough to be read by all persons entering the well site and be placed a minimum of 200' but no more than 500' from the well site which allows vehicles to turn around at a safe distance prior to reaching the site.

DEFINITION OF WARNING FLAGS

- Condition: GREEN-NORMAL OPERATIONS Any operation where the possibility of encountering H2S exists but no H2S has been detected.
- Condition: YELLOW-POTENTIAL DANGER, CAUTION Any operation where the possibility of encountering H2S exists and in all situations where concentrations of H2S are detected in the air below the threshold level (10ppm)
 - a. Cause of condition:
 - *Circulating up drill breaks
 - *Trip gas after trip
 - *Circulating out gas on choke
 - *Poisonous gas present, but below threshold
 - concentrations
 - *Drill stem test
 - b. Safety Action:
 - *Check safety equipment and keep it with you
 - *Be alert for a change in condition
 - *Follow instructions
- 3. Condition:

RED-EXTREME DANGER

Presence of H2S at or greater than 10ppm. Breathing apparatus must be worn.

a. Safety action:

*MASK UP. All personal will have protective breathing equipment with them. All nonessential personnel will move to the Safe Briefing Area and stay there until instructed to do otherwise. All essential Qualified Personnel, using the "Buddy System" (those necessary to maintain control of the well) will don breathing apparatus to perform operations related to well control.

The decision to ignite the well is the responsibility of the operator's on-site representative and should be made only as a last resort, when it is clear that:

*human life is endangered

*there is no hope of controlling the well under prevailing conditions

Order evacuation of local people within the danger zone. Request help from local authorities, State Police, Sheriff's Dept. and Service Representative.

CIRCULATING OUT KICK (WAIT AND WEIGHT METHOD)

If it is suspected that H2S is present with the gas whenever a kick is taken, the wait and weight method of eliminating gas and raising the mud will be followed.

- 1. Wait and Weight Method:
 - a. The wait and Weight Method is:

*increase density of mud in pits to 'kill' weight mud.

*open choke and bring pump to initial circulating pressure by holding casing pressure at original valve until pump is up to predetermined speed.

*when initial circulating pressure is obtained on drill pipe, zero pump stroke counter and record time.

*reduce drill pipe pressure from initial circulating pressure to final circulating pressure by using pump strokes and/or time according to graph

*when 'kill' weight mud is at the bit, hold final circulating pressure until kill weight mud is to surface.

b. If a kick has occurred, the standard blowout procedure will be followed and the wait and weight method will be used to kill the well. When the well has been put on the choke and circulation has been established, the following safety procedure must be established.

*determine when gas is anticipated to reach surface.

*all non-essential personnel must be moved to safe briefing area

*all remaining personnel will check out and keep with them their protective breathing apparatus.

*mud men will see that the proper amount of H2S scavenging chemical is in the mud and record times checked

*make sure ignition flare is burning and valves are open to designated flare stacks

CORING OPERATIONS IN H2S BEARING ZONES

1. Personal protective breathing apparatus will be worn from 10 to 15 stands in advance of retrieving the core barrel. Cores to be transported should be sealed and marked to the presence of H2S.

a. Yellow Caution Flag will be flown at the well condition sign.

b. The "NO SMOKING" rule will be enforced

DRILL STEM TESTING OF H2S ZONES

- 1. The DST subsurface equipment will be suitable for H2S service as recommended by the API
- 2. Drill stem testing of H2S zone will be conducted in daylight hours
- 3. All non-essential personnel will be moved to an established safe area or off location
- 4. The "NO SMOKING" rule will be enforced
- 5. DST fluids will be circulated through a remote controlled choke and a separator to permit flaring of gas. A continuous pilot light will be used.
- 6. A yellow or red flag will be flown at entrance to location depending on present gas condition
- 7. If warranted, the use of Aqua Ammonia for neutralizing the toxicity of H2S from drill string
 - a. During drill stem tests adequate Filming Amine for H2S corrosion and Aqua Ammonia for neutralizing H2S should be on location.
 - 8. On completion of DST, if H2S contaminated formation fluids or gases are present in drill string, floor workers will be masked up before test valve is removed from drill string and continue "mask

on" conditions until such time that readings in the work area do not exceed 10ppm of H2S gas.

EMERGENCY PROCEDURES

SOUNDING ALARM

In case of an alarm the crews will muster up at the designated area. Total Safety will be dispatched with (2) HES Techs who are to go in under protective breathing air and check the alarm readings and sniff ambient air for the presence of H2S.

By no means are the Co. Rep or HES Advisor to go in under air with the HES Tech. If there is another method in place where the Rig Manager is to go in with the Tech we need to ensure that the rig company has cleared them and that they are properly trained.

1. The fact is to be instilled in the minds of all rig personnel that the sounding alarm means only one thing: <u>H2S IS PRESENT</u>. Everyone is to proceed to his assigned station and the contingency plan is put into effect.

DRILLING CREW ACTIONS

- 1. All personnel will don their protective breathing apparatus. The driller will take necessary precautions as indicated in operating procedures.
- 2. The Buddy system will be implemented. All personnel will act upon directions from the operator's on-site representative.
- 3. If there are non-essential personnel on location, they will move off location.
- 4. Entrance to the location will be patrolled, and the proper well condition flag will be displayed at the entrance to the location.

RESPONSIBILITIES OF PERSONNEL

In order to assure the proper execution of this plan, it is essential that one person be responsible for and in complete charge of implementing these procedures. The responsibility will be as follows:

- 1. The operator's on-site representative or his assistant
- 2. Contract Tool Pusher

STEPS TO BE TAKEN

In the event of an accidental release of a potentially hazardous volume of H2S, the following steps will be taken:

- 1. Contact by the quickest means of communications: the main offices of Oil Company & Contractor as listed on the preceding page.
- 2. An assigned crewmember will blockade the entrance to the location. No unauthorized personnel will be allowed entry into the location.
- 3. The operator's on-site representative will remain on location and attempt to regain control of the well.
- 4. The drilling company's rig superintendent will begin evacuation of those persons in immediate danger. He will begin by telephoning residents in the danger zone. In the event of no contact by telephoning, the tool pusher will proceed at once to each dwelling for a person-to-person contact. In the event the tool pusher cannot leave the location, he will assign a responsible crewmember to proceed in the evacuation off local residents. Upon arrival, the Sheriff's Department and TOTAL SAFETY personnel will aid in further evacuation.

LEAK IGNITION

Leak Ignition procedure: (used to ignite a leak in the event it becomes necessary to protect the public)

- 1. Two men, the operator's on-site representative and the contractor's rig superintendent or TOTAL SAFETY's representative(s), wearing self-contained pressure demand air masks must determine the perimeter of the flammable area. This should be done with one man using an H2S detector and the other one using a flammable gas detector. The flammable perimeter should be established at 30% to 40% of the lower flammable limits.
- 2. After the flammable perimeter has been established and all employees and citizens have been removed from the area, the ignition team should move to the up-wind area of the leak perimeter and fire a flare into the area if the leak isn't ignited on the first attempt, move in 20 to 30 feet and fire again. Continue moving in and firing until the leak is ignited or the flammable gas detector indicates the ignition

team is moving into the hazardous area. If trouble is incurred in igniting the leak by firing toward the leak, try firing 40 degrees to 90 degrees to each side of the area where you have been firing. If still no ignition is accomplished ignite the copper line burner and push it into the leak area. This should accomplish ignition. If ignition is not possible due to the makeup of the gas, the toxic leak perimeter must be established and maintained to insure evacuation is completed and continue until the emergency is secure.

- 3. The following equipment and man-power will be required to support the ignition team:
 - a. one flare gun with flares
 - b. four pressure demand air packs
 - c. two nylon ropes tied to the ignition team
 - d. two men in a clear area equipped with air packs
 - e. portable propane bottle with copper line
- 4. The person with the final authority to ignite the well.

GENERAL EQUIPMENT

- 1. Two areas on the location will be designated as Briefing Areas. The one that is upwind from the well will be designated a the "Safe Briefing Area"
- 2. In the case of an emergency, personnel will assemble in the upwind area as per prior instructions from the operator's representative.
- 3. The H2S "Safety" trailer provide by TOTAL SAFETY will contain 10 air cylinders, a resuscitator, one 30-minute air pack and will have a windsock.
- 4. Two other windsocks will be installed.
- 5. A condition warning sign will be displayed at the location entrance.
- 6. A list of emergency telephone numbers will be kept on the rig floor, tool pusher's trailer and the Oil Company's trailer.
- 7. Two barricades will be available to block the entrance to location.
- 8. An undulating high and low pitch siren will be installed.
- 9. A telephone line or mobile phone will be available at the well site for incoming and outgoing communications.

CRITICAL OPERATIONS

These guidelines will be implemented during H2S alarms on drilling locations with the intent of minimizing catastrophic damage of "<u>critical</u> <u>tasks</u>" <u>ONLY</u> and exposure of field personnel (e.g. cement in the stack). <u>We will wait on Total Safety (or H2S Safety Company) for all other alarm</u> <u>events that aren't defined as "critical"</u>.

1.) H2S alarm sounds, crews secure well, and muster based off of wind direction. MOC Operation, MOC Safety, and H2S service company notification will be made and representative from the H2S Service Company is in route to location.

2.) Two qualified in scope personnel will don SCBA, utilizing the "buddy system", and respond to area of H2S alarm location to verify the presence of H2S utilizing hand held four gas analyzer or other approved and provided method.

3.) If no H2S is found, the "all clear" will be authorized by the Marathon Oil Drilling Superintendent and HES to resume operations. H2S service company will still be required to respond.

Note: Personnel will return to muster area awaiting H2S service company and additional equipment if H2S is verified.

Note: Personnel will be trained annually on H2S and the elements of this guideline. The MOC HES Advisor and Co Man will receive hands on training from a H2S service company field tech, on how to properly identify the location of the alarming sensor, and the proper method for checking the alarmed area.

APPENDICES

EMERGENCY & MEDICAL FACILITIES:

Marathon Oil Corporation Emergency Numbers					
Brent Evans	Drilling Manager	blevans@marathonoil.com	832 967-8474		
Mark Bly	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467		
Chad Butler	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467		
Jacoh Beaty	Drilling Engineer	jabeaty@marathonoil.com	713-296-1915		
Noah Adams	HES Professional	njadams@marathonoil.com	713-591-4068		
Nick Rogers	Lead HES Advisor	pcrmiandches@marathonoil.com	281-659-3734		
Scott Doughty	Lead HES Advisor	permiandches@marathonoil.com	281-659-3734		
H&P 480	Company Man	Hp480@marathonoil.com	281-768-9946		
H&P 498	Company Man	Hp498@marathonoil.com	281-745-0771		
H&P 441	Company Man	Hp441@marathonoil.com			
H&P 423	Company Man	Hp423@marathonoil.com			
Precision 594	Company Man	PD594@marathonoil.com			
H&P 480	HES Advisor	Hp480hes@marathonoil.com			
H&P 498	HES Advisor	Hp498hes@marathonoil.com			
H&P 441	HES Advisor	HP441hes@marathonoil.com			
H&P 423	HES Advisor	Hp423hes@marathonoil.com			
Precision 594	HES Advisor	PD594hes@marathonoil.com			

Emergency Services Area Numbers: Or Call 911					
Sheriff (Eddy County, NM)	575-887-7551	New Mexico Poison Control	800-222-1222		
Sheriff (Lea County, NM)	575-396-3611	Border Patrol (Las Cruces, NM)	575-528-6600		
New Mexico State Police	575-392-5580/5588	Energy Minerals & Natural Resources Dept.	575-748-1283		
Carlsbad Medical Center	575-887-4100	Environmental Health Dept.	505-476-8600		
Lea Regional Medical Center	575-492-5000	OSHA (Santa Fe, NM)	505-827-2855		
Police (Carlsbad, NM)	575-885-2111				
Police (Hobbs, NM)	575-392-9265	· · · · · · · · · · · · · · · · · · ·			
Fire (Carlsbad, NM)	575-885-3124				
Fire (Hobbs, NM)	575-397-9308				
Ambulance Service	911	TOTAL SAFETY H2S – SAFETY SERVICES	432-561-5049		

1. For Life Flight, 1st dial "911" They will determine nearest helicopter and confirm the need for helicopter.

RESIDENTS AND LANDOWNERS

AERIAL SATELLITE MAP



RESIDENCE

THERE ARE NO RESIDENCE WITHIN 1 MILE RADIUS OF WELL LOCATION.

ADDITIONAL INFORMATION

A. HYDROGEN SULFIDE ESSAY

A deadly enemy of those people employed in the petroleum industry, this gas can paralyze or kill quickly. At least part of the answer lies in <u>education</u> in the hazards, symptoms, characteristics, safe practices, treatment, and the proper use of personal protective equipment.

B. HYDROGEN SULFIDE HAZARDS

The principal hazard to personnel is asphyxiation or poisoning by inhalation. Hydrogen Sulfide is a colorless, flammable gas having an offensive odor and a sweetish taste. It is highly toxic and doubly hazardous because it is heavier than air (specific gravity = 1.19). It's offensive odor, like that of a rotten egg, has been used as an indicator by many old timers in the oil field, but is not a reliable warning of the presence of gas in a dangerous concentration because people differ greatly I their ability to detect smells. Where high concentrations are encountered, the olfactory nerves are rapidly paralyzed, diluting the sense of smell as a warning indicator. A concentration of a few hundredths of one percent higher than that causing irritation can cause asphyxia and death-in other words there is a very narrow margin between conscious ness and unconsciousness, and between unconsciousness and death.

Where high concentrations cause respiratory paralysis, spontaneous breathing does not return unless artificial respiration is applies. Although breathing is paralyzed the heart may continue beating for ten minutes after the attack.

C. PHYSIOLOGICAL SYSTEMS

<u>ACUTE</u>: results in almost instantaneous asphyxia, with seeming respiratory paralysis acute poisoning, or strangulation, may occur after even a few seconds inhalation of high concentration and results in panting respiration, pallor, cramps, paralysis and almost immediate loss of consciousness with extreme rapidity from respiratory and cardiac paralysis. One breath of a sufficiently high concentration may have this result. SUBACUTE: RESULTS IN IRRITATION, PRINCIPALLY OF THE EYES, PERSISTENT COUGH, TIGHTENING OR BURNING IN THE CHEST AND SKIN IRRITATION FOLOWED BY DEPRESSION OF THE CENTRAL NERVOUS SYSTEM. The eye irritation ranges in severity from mild conjunctivitis to swelling and bulging of the conjunctiva photophobia (abnormal intolerance of light) and temporary blindness.

D. TREATMENT

- 1. Victim should be removed to fresh air immediately by rescuers wearing respiratory protective equipment. Protect yourself while rescuing.
- 2. If the victim is not breathing, begin immediately to apply artificial respiration. (See other chart for the chances for life after breathing has stopped.) If a resuscitator is available let another employee get it and prepare for use.
- 3. Treat for shock, keep victim warm and comfortable
- 4. Call a doctor, in all cases, victims of poisoning should be attended by a physician.

E. CHARACTERISTICS OF H2S

- 1. Extremely Toxic (refer to chart for toxicity of Hydrogen Sulfide).
- 2. Heavier than air. Specific gravity= 1.19.
- 3. Colorless, has odor of rotten eggs.
- 4. Burns with a blue flame and produces sulfur Dioxide (SO2) gas, which is very irritating to eyes and lungs. The SO2 is also toxic and can cause serious injury.
- 5. H2S is almost as toxic as hydrogen cyanide.
- 6. H2S forms explosive mixture, with air between 4.3% and 46% by volume.
- 7. Between 5 and 6 times as toxic as carbon monoxide.
- 8. Produces irritation to eyes, throat, and respiratory tract.
- 9. Threshold Limit Value (TLV) maximum of eight hours exposure without protective respiratory equipment-10ppm.

F. SAFE PRACTICES

If you are faced with an H2S problem in your operations, the following safe practices are recommended:

- 1. Be absolutely sure all concerned are familiar with the hazards concerning H2S and how to avoid it.
- 2. All employees should know how to operate and maintain respiration equipment.
- 3. Be able to give and demonstrate artificial respiration.
- 4. Post areas where there is poisonous gas with suitable warning signs.
- 5. Be sure all new employees are thoroughly schooled before they are sent to the field-tomorrow may be too late.
- 6. Teach men to avoid gas whenever possible-work on the windward side, have fresh air mask available.
- 7. Never let bad judgment guide you-wear respiratory equipment when gauging tanks, etc. Never try to hold your breath in order to enter a contaminated atmosphere.
- 8. In areas of high concentration, a two-man operation is preferred.
- 9. Never enter a tank, cellar or other enclosed place where gas can accumulate without proper respiratory protective equipment and a safety belt secured to a lifeline held by another person outside.
- 10. Always check out danger areas first with H2S detectors before allowing anyone to enter. DO NOT TRY TO DETERMINE THE PRESENCE OF GAS BY its ODOR.
- 11. Wear proper respiratory equipment for the job at hand. Never take a chance with equipment with which you are unfamiliar. If in doubt, consult your supervisor.
- 12.Carry out practice drills every month with emergency and maintenance breathing air equipment. Telling or showing a group how to operate equipment is not enough-make them show you.
- 13.Maximum care should be taken to prevent the escape of fumes into the air of working places by leaks, etc.
- 14.Communication such as radio and telephones should be provided for those people employed where H2S may be present.
TOXICITY OF HYDROGEN SULFIDE TO MEN

H2S Pe Cent (PP	er M) **	0 - 2 Minutes	0 - 15 Minutes	15 - 30 Minutes	30 Minutes to 1 hour	1 - 4 Hours	4 - 8 Hours	4 - 48 Hours
0.005 0.010 ((50) (100)				Mild Conjunctiv- ities; respiratory tract irritation			
0.010 (0.015 ((100) (150)		Coughing; irritation of eyes; loss of sense of smell	Disturbed respiration; pain in eyes; sleepiness	Throat	Salivation 6 mucous dis- charge; sharp pain in eyes; coughing	Increased symptoms*	Hemorrhage & death*
0.015 (0.020 ((150) (200)		Loss of sense of smell	Throat & eye irritation	Throat & eye irritation	Difficult breathing; blurred vision; light & shy	Serious irritating effects	Hemorrhage & death*
0.025 (0.035 ((250) (350)	lrritation of eyes; loss of sense of smell	Irritation of eyes	Painful secretion of tears; weari- ness	Light & shy; nasal catarrh; pain in eyes; difficult breathing	Hemorrhage & death		
0.035 ((350)		Irritation of eyes; loss of sense of smell	Difficult respiration coughing; irritation of eyes	Increased irritation of eyes and pasal tract; dull pain head; weariness; light shy	Dizziness weak- ness; increased irritation; death	Death*	
0.050	(500)	Coughing collapse & unconscious- ness	Respiratory disturbances; irritation of eyes; collapse	Serious eye irritation; palpitation of heart; few cases of death*	Severe pain in eyes and head dizziness; trem- bling of extre- ities; great weakness & death*			
0.060 0.070 0.808 0.100 (1 0.150 (1	(600) (700) (800) 1000) 1500)	Collapse * unconscious- ness; death*	Collapse* unconscious- ness; death*					

*Data secured from experiments of dogs which have susceptibility similar to men. **PPM - parts per million



MARATHON OIL - FLEX III PAD (Closed Loop System)





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MARATHON OIL - H2S Preparedness and Contingency Plan Summary



Marathon Oil Permian, LLC

Eddy County, NM (NAD27) Chicken Fry Federal Com 24-28-22 WA #15H

OH

Plan: Plan #1

Standard Planning Report

23 March, 2018



www.scientificdrilling.com

Database: Company: Project: Site: Well: Wellbore: Design:	N E C V C F	Aidland Maratho Eddy C Chicker NA #15 DH Plan #1	d District on Oil Permia ounty, NM (f n Fry Federa 5H	an, LLC NAD27) I Com 24	-28-22		Local Co- TVD Refe MD Refer North Ref Survey C	ordinate Refe rence: ence: /erence: alculation Met	rence: thod:	Well WA #15H KB = 25' @ 30 KB = 25' @ 30 Grid Minimum Curv	32.00usft 32.00usft ature	
Project	Ed	ddy Co	unty, NM (N	AD27)							·	
Map System: Geo Datum: Map Zone:	US NAI Nev	State D 1927 w Mexi	Plane 1927 (NADCON co East 300	(Exact sol CONUS) 1	lution)		System Da	tum:	M U	ean Sea Level sing geodetic s	cale factor	
Site	CI	hicken	Fry Federal	Com 24-2	28-22							
Site Position: From: Position Uncert	ainty:	Мар	0.0	00 usft	Northing: Easting: Slot Radiu	8:	440 580),144.78 usft),291.95 usft 13-3/16 "	Latitude: Longitude: Grid Conver	gence:		32° 12' 35.311 N 104° 4' 25.428 W 0.14 °
Well	W	A #15H	1									
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Position Uncert	ainty		0	.00 usft	Wellhe	ad Elevatio	n:	0.00	Dusft Gr	ound Level:		3,007.00 usft
Wellbore	C	рн						······				
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Vertical Section):			Depth Fre (us	om (TVD) aft)		+N/-S (usft)	+	E/-W Isft)	D (b	irection earing)	
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Plan Sections												
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0.00	٥	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	· 0	00.00	0.00	3,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	12	2.00	77.00	3,59	5.62	14.08	61.00	2.00	2.00	0.00	77.00	
7,345.00	12	2.00	77.00	7,25	8.79	189.24	819,67	0.00	0.00	0.00	0.00	
7,945.00	0	0.00	0.00	7,85	4,41	203.32	880.67	2.00	-2.00	0.00	180.00	
9,225.59	0	0.00	0.00	9,13	5.00	203.32	880.67	0.00	0.00	0.00	0.00	
10,120.59	89	9.50	179.22	9,70	7.93	-364.59	888.35	10.00	10.00	0.00	179.22	
14,482.77 14,527.77	89 89).50).50	179.22 179.22	9,74 9,74	6.39 -4	,726.20 ,771.20	947.36 947.96	0.00 0.00	0.00 0.00	0.00	0.00 0.00	BHL[CF\#15H]

Database:	Midland District	Local Co-ordinate Reference:	Well WA #15H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 25' @ 3032.00usft
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 25' @ 3032.00usft
Site:	Chicken Fry Federal Com 24-28-22	North Reference:	Grid
Well:	WA #15H	Survey Calculation Method:	Minimum Curvature
Wellbore: Design:	OH Plan #1		

Planned Survey

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(bearing)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0,00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0,00	0.00
1 000 00	0.00	0.00	1.000.00	0.00	0.00	0.00	0.00	0.00	0.00
1 100 00	0.00	0.00	1 100 00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1 200 00	0.00	0.00	0.00	0.00	0.00	0.00
1 300 00	0.00	0.00	1 300 00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1 500 00	0.00	0.00	1 500 00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1 600.00	0.00	n nn	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000,00	0.00	0.00	2 000 00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0,00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build	2.0° / 100								
3,100.00	2.00	77.00	3,099.98	0.39	1.70	-0.39	2.00	2.00	0.00
3,200.00	4.00	77.00	3,199.84	1.57	6.80	-1.57	2.00	2.00	0.00
3,300.00	6.00	77.00	3,299.45	3.53	15.29	-3.53	2.00	2.00	0.00
3,400.00	8.00	77.00	3,398.70	6.27	27.17	-6.27	2.00	2.00	0.00
3,500.00	10.00	77.00	3,497.47	9.79	42.41	-9.79	2.00	2.00	0.00
3,600.00	12.00	77.00	3,595.62	14.08	61.00	-14.08	2.00	2.00	0.00
EOB - HOLD									
3,700.00	12.00	77.00	3,693.44	18.76	81.26	-18.76	0.00	0.00	0.00
3,800.00	12.00	77.00	3,791.25	23.44	101.51	-23.44	0.00	0.00	0.00
3,900.00	12.00	77.00	3,889.07	28.11	121.77	-28.11	0.00	0.00	0.00
4,000.00	12.00	77.00	3,986.88	32.79	142.03	-32.79	0.00	0.00	0.00
4,100.00	12.00	77.00	4,084.70	37.47	162.29	-37.47	0.00	0.00	0.00
4,200.00	12.00	77.00	4,182.51	42.14	182.55	-42.14	0.00	0.00	0.00
4,300.00	12.00	77.00	4,280.33	46.82	202.81	-46.82	0.00	0.00	0.00
4,400.00	12.00	77.00	4,378.14	51.50	223.06	-51.50	0.00	0.00	0.00
4,500.00	12.00	77.00	4,475.96	56.18	243.32	-56.18	0.00	0.00	0.00
4,600.00	12.00	77.00	4,573.77	60.85	263,58	-60.85	0.00	0.00	0.00
4,700.00	12.00	77.00	4,671.59	65.53	283.84	-65.53	0.00	0.00	0.00
4,800.00	12.00	77.00	4,769.40	70.21	304.10	-70.21	0.00	0.00	0.00
4,900.00	12.00	77.00	4,867.22	74.88	324.36	-74.88	0.00	0.00	0.00
5 000 00	12 00	77.00	4 965 03	79 56	344 61	-79 56	0.00	0.00	0.00
.1 0.00 0.0	12.00	11,00	-,500.03	79.00	J44.01	-19.00	0.00	0.00	0.00

Database: Company: Project: Site: Well: Well: Wellbore: Design:	Midland District Marathon Oil Permian, LLC Eddy County, NM (NAD27) Chicken Fry Federal Com 24-28-22 WA #15H OH Plan #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well WA #15H KB = 25' @ 3032.00usft KB = 25' @ 3032.00usft Grid Minimum Curvature	
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Depth (usft)	Inclination (°)	Azimuth (bearing)	verticai Depth (usft)	+N/-S (usft)	+E/-W (usft)	verucal Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5 200 00	12.00	77.00	5 160 66	99.01	295 12	00.04	0.00		. ,
5,200.00	12.00	77.00	5 259 47	00.51	405.20	-00.51	0.00	0.00	0.0
5,300.00	12.00	77.00	5,258.47	93.59	405.39	-93.59	0.00	0.00	0.0
5,400.00	12,00	//.00	5,356,29	98.27	425.65	-98.27	0.00	0.00	0.0
5,500.00	12,00	77.00	5,454.10	102.95	445.91	-102.95	0.00	0.00	0.0
5,600.00	12.00	77.00	5,551.92	107.62	466.16	-107.62	0.00	0.00	0.0
5,700.00	12.00	77.00	5,649.73	112.30	486.42	-112.30	0.00	0.00	0.0
5,800.00	12.00	77.00	5,747.55	116.98	506.68	-116.98	0.00	0.00	0.0
5,900.00	12.00	77.00	5,845.36	121.65	526.94	-121.65	0.00	0.00	0.0
6,000.00	12.00	77.00	5,943.18	126.33	547.20	-126.33	0.00	0.00	0.0
6,100.00	12.00	77.00	6,040.99	131.01	567.46	-131.01	0.00	0.00	0.0
6,200.00	12.00	77.00	6,138.81	135.68	587.71	-135.68	0.00	0.00	0.0
6,300.00	12.00	77.00	6,236,62	140.36	607.97	-140.36	0.00	0.00	0.0
6,400.00	12.00	77.00	6,334.44	145.04	628.23	-145.04	0.00	0.00	0.0
6,500.00	12.00	77.00	6,432.25	149.72	648.49	-149.72	0.00	0.00	0.0
6,600.00	12.00	77.00	6,530.07	154 39	668 75	-154 39	0.00	0.00	0.0
6,700.00	12.00	77 00	6.627.88	159.07	689.01	-159.07	0.00	0.00	0.0
6,800 00	12.00	77 00	6,725,70	163 75	709.26	-163 75	0.00	0.00	0.0
6,900.00	12.00	77.00	6,823.51	168.42	729.52	-168.42	0.00	0.00	0.0
7 000 00	12.00	77 00	6 921 33	173 10	7/0 70	-172 10	0.00	0.00	
7,000,00	12.00	77.00	7 019 14	177.78	749.70	-177.78	0.00	0.00	0.0
7 200 00	12.00	77.00	7 116 95	182.45	70.04	-182.45	0.00	0.00	0.0
7 300 00	12.00	77.00	7 214 77	197 13	910.50	-102.40	0.00	0.00	0.0
7 345 00	12.00	77.00	7 259 70	107.13	810.55	180.24	0.00	0.00	0.0
DROP 2 0º /	100	77.00	7,230.79	105.24	019.07	-105.24	0.00	0.00	0.0
7,400.00	10,90	77.00	7,312.69	191.69	830.31	-191.69	2.00	-2.00	0.0
7,500.00	8.90	77.00	7,411.20	195.56	847,06	-195.56	2.00	-2.00	0.0
7,600.00	6.90	77.00	7,510.24	198.65	860.45	-198.65	2.00	-2.00	0.0
7,700.00	4.90	77.00	7,609.71	200.96	870.47	-200.96	2.00	-2.00	0.0
7,800.00	2.90	77.00	7,709.47	202.49	877.09	-202.49	2.00	-2.00	0.0
7,900.00	0.90	77.00	7,809.41	203.24	880.32	-203.24	2.00	-2.00	0.0
7,945.00	0.00	0.00	7,854.41	203.32	880.67	-203.32	2.00	-2.00	0.0
EOD - HOLD)								
8,000.00	0.00	0.00	7,909.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,100.00	0.00	0.00	8,009.41	203.32	880.67	-203.32	0.00	0,00	0.0
8,200.00	0.00	0.00	8,109.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,300.00	0.00	0.00	8,209.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,400.00	0.00	0.00	8,309.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,500.00	0.00	0.00	8,409.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,600.00	0.00	0.00	8,509.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,700.00	0.00	0.00	8,609.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,800.00	0.00	0.00	8,709.41	203.32	880.67	-203.32	0.00	0.00	0.0
8,900.00	0.00	0.00	8,809.41	203.32	880.67	-203.32	0.00	0.00	0.0
9,000.00	0.00	0.00	8,909.41	203.32	880.67	-203.32	0.00	0.00	0.0
9,100.00	0.00	0.00	9,009.41	203.32	880.67	-203.32	0 00	0 00	0.0
9,200.00	0.00	0.00	9,109.41	203.32	880.67	-203.32	0.00	0.00	0.0
9 225 59	0.00	0.00	9 135 00	203 32	880 67	-203 32	0.00	0.00	0.0
Curve KOP	- Build 10 0° / 10	0.00	3,133.00	203.32	000.07	-203.32	0.00	0.00	0.0
9,250,00	2 44	179.22	9 159 40	202.80	880 68	-202 80	10.00	10.00	0.0
9,300.00	7 44	179 22	9 209 20	198 49	880 73	-198 49	10.00	10.00	0.0
9 350 00	12 44	170.22	9 258 43	180.43	890.13	-190.49	10.00	10.00	0.0
9,400.00	17.44	179.22	9,306.73	176.98	881.03	-176.98	10.00	10.00	0.0
0.450.00		470.00	0,000.70	400.00			10,00	10.00	U.U
9,450.00	22.44	179.22	9,353.72	159.93	881.26	-159.93	10.00	10.00	0.0
9.000.00	21.44	1/9.22	9.199.04	1.38 86	881 54	-138.86	10.00	10.00	

Planned Survey

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Database:	Midland District	Local Co-ordinate Reference:	Well WA #15H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 25' @ 3032.00usft
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 25' @ 3032.00usft
Site:	Chicken Fry Federal Com 24-28-22	North Reference:	Grid
Well:	WA #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
(-		440.04	10.00	10.00	0.00
9,550.00	32.44	1/9.22	9,442.35	113.91	001.00	-113.91	10.00	10.00	0.00
9,600.00	37.44	179.22	9,483.33	85.29	882.27	-85.29	10.00	10.00	0.00
9,650.00	42.44	179.22	9,521.65	53.20	882.70	-53.20	10.00	10.00	0.00
9,700.00	47.44	179.22	9,557.03	17.90	883.18	-17.90	10.00	10.00	0.00
9,750.00	52.44	179.22	9,589.20	-20.36	883.70	20.36	10.00	10.00	0.00
9,800.00	57.44	179.22	9,617.91	-61.27	884.25	61.27	10.00	10.00	0.00
9,811.94	58.63	179.22	9,624.23	-71.40	884.39	71.40	10.00	10.00	0.00
FTP[CF\#15H	4]								
9,850.00	62.44	179.22	9,642.95	-104.53	884.83	104.53	10.00	10.00	0.00
9,900.00	67.44	179.22	9,664.12	-149.80	885.45	149.80	10.00	10.00	0.00
9,950.00	72.44	179.22	9,681.26	-196.75	886.08	196.75	10.00	10.00	0.00
10,000.00	77.44	179.22	9,694.25	-245.01	886.73	245.01	10.00	10.00	0.00
10,050.00	82.44	179.22	9,702.98	-294.22	887.40	294.22	10.00	10.00	0.00
10,100.00	87.44	179.22	9,707.38	-344.01	888.07	344.01	10.00	10.00	0.00
10,120.59	89.50	179.22	9,707.93	-364.59	888.35	364.59	10.00	10.00	0.00
EOC - HOLD	l i								_
10,200.00	89.50	179.22	9,708.63	-443.99	889.43	443.99	0.00	0.00	0.00
10,300.00	89.50	179.22	9,709.50	-543.98	890.78	543.98	0.00	0.00	0.00
10,400.00	89.50	179.22	9,710.37	-643.96	892.13	643.96	0.00	0.00	0.00
10,500.00	89.50	179.22	9,711.24	-743.95	893.48	743.95	0.00	0.00	0.00
10,600.00	89.50	179.22	9,712.12	-843.94	894.84	843.94	0.00	0.00	0.00
10,700.00	89.50	179.22	9,712.99	-943.92	896.19	943.92	0.00	0.00	0.00
10,800.00	89.50	179.22	9,713.86	-1,043.91	897.54	1,043.91	0.00	0.00	0.00
10,900.00	89.50	179.22	9,714.74	-1,143.90	898.89	1,143.90	0.00	0.00	0.00
11,000.00	89.50	179.22	9,715.61	-1,243.89	900.25	1,243.89	0.00	0.00	0.00
11,100.00	89.50	179.22	9,716.48	-1,343.87	901.60	1,343.87	0.00	0.00	0.00
11,200.00	89.50	179.22	9,717.35	-1,443.86	902.95	1,443.86	0.00	0.00	0.00
11,300.00	89.50	179.22	9,718.23	-1,543.85	904.30	1,543.85	0.00	0.00	0.00
11,400.00	89.50	179.22	9,719.10	~1,643.83	905.66	1,643.83	0.00	0.00	0.00
11,500.00	89.50	179.22	9,719.97	-1,743.82	907.01	1,743.82	0.00	0.00	0.00
11,600.00	89.50	179.22	9,720.84	-1,843.81	908.36	1,843.81	0.00	0.00	0.00
11,700.00	89.50	179.22	9,721.72	-1,943.79	909.72	1,943.79	0.00	0.00	0.00
11,800.00	89.50	179.22	9,722.59	-2,043.78	911.07	2,043.78	0.00	0.00	0.00
11,900.00	89.50	179.22	9,723.46	-2,143.77	912.42	2,143.77	0.00	0.00	0.00
12,000.00	89.50	179.22	9,724.33	-2,243.76	913.77	2,243.76	0.00	0.00	0.00
12,100.00	89.50	179.22	9,725.21	-2,343.74	915.13	2,343.74	0.00	0.00	0.00
12,200.00	89.50	179.22	9,726.08	-2,443.73	916.48	2,443.73	0.00	0.00	0.00
12,300.00	89.50	179.22	9,726.95	-2,543.72	917.83	2,543.72	0.00	0.00	0.00
12,400.00	89.50	179.22	9,727.82	-2,643.70	919.18	2,643.70	0.00	0.00	0.00
12,500.00	89.50	179.22	9,728.70	-2,743.69	920.54	2,743.69	0.00	0.00	0.00
12,600.00	89.50	179.22	9,729.57	-2,843.68	921.89	2,843.68	0.00	0.00	0.00
12,700.00	89.50	179.22	9,730.44	-2,943.67	923.24	2,943.67	0.00	0.00	0.00
12,800.00	89.50	179.22	9,731.32	-3,043.65	924.59	3,043.65	0.00	0.00	0.00
12,900.00	89.50	179.22	9,732.19	-3,143.64	925.95	3,143.64	0.00	0.00	0.00
13,000.00	89.50	179.22	9,733.06	-3,243.63	9 27.30	3,243.63	0.00	0.00	0.00
13,100.00	89.50	179.22	9,733.93	-3,343.61	928.65	3,343.61	0.00	0.00	0.00
13,200.00	89.50	179.22	9,734.81	-3,443.60	930.00	3,443.60	0.00	0.00	0.00
13,300.00	89.50	179.22	9,735.68	-3,543.5 9	931,36	3,543.59	0.00	0.00	0.00
13,400.00	89.50	179.22	9,736.55	-3,643.57	932.71	3,643.57	0.00	0.00	0.00
13,500.00	89.50	179.22	9,737.42	-3,743.56	934.06	3,743.56	0.00	0.00	0.00
13,600.00	89.50	179.22	9,738.30	-3,843.55	935.42	3,843.55	0.00	0.00	0.00
13,700.00	89.50	179.22	9,739.17	-3,943.54	936.77	3,943.54	0.00	0.00	0.00
13 800 00	89,50	179.22	9,740.04	-4,043.52	938.12	4,043.52	0.00	0.00	0.00

Database: Company: Project: Site:	Midland District Marathon Oil Permian, LLC Eddy County, NM (NAD27) Chicken Fry Federal Com 24-28-22	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference:	Well WA #15H KB = 25' @ 3032.00usft KB = 25' @ 3032.00usft Grid
Well:	WA #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,000.00	89.50	179.22	9,741.79	-4,243.50	940.83	4,243.50	0.00	0.00	0.00
14,100.00	89.50	179.22	9,742.66	-4,343.48	942.18	4,343.48	0.00	0.00	0.00
14,200.00	89.50	179.22	9,743.53	-4,443.47	943.53	4,443,47	0.00	0.00	0.00
14,300.00	89.50	179.22	9,744.41	-4,543.46	944.88	4,543.46	0.00	0.00	0.00
14,400.00	89.50	179.22	9,745.28	-4,643.44	946.24	4,643.44	0.00	0.00	0.00
14,482.77	89.50	179.22	9,746.00	-4,726.20	947.36	4,726.20	0.00	0.00	0.00
TD at 14482.	77 - BHL[CF\#1	5H]							
14,500.00	89.50	179.22	9,746.15	-4,743.43	947.59	4,743,43	0.00	0.00	0.00
14,527.77	89.50	179.22	9,746.39	-4,771.20	947.96	4,771.20	0.00	0.00	0.00
TD + 45' VS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP[CF\#15H] - plan misses targe - Point	0.00 t center by 98.5	0.00 52usft at 981	9,708.00 1.94usft MD	-23.17 (9624.23 TVD	865.32), -71.40 N, 88	440,121.62 84.39 E)	581,187.21	32° 12' 35.060 N	104° 4' 15.009 W
BHL[CF\#15H] - plan hits target ce - Rectangle (sides t	-89.50 Inter W60.00 H30.00	179.22 () D4,500.00	9,746.00	-4,726.20	947.36	435,418.98	581,269.24	32° 11' 48.519 N	104° 4' 14.188 W

Plan Annotations

Measured	Vertical	Local Coor	dinates		
Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
3,000.00	3,000.00	0.00	0.00	KOP - Build 2.0° / 100	
3,600.00	3,595.62	14.08	61.00	EOB - HOLD	
7,345.00	7,258.79	189.24	819.67	DROP 2.0° / 100	
7,945.00	7,854.41	203.32	880.67	EOD - HOLD	
9,225.59	9,135.00	203.32	880.67	Curve KOP - Build 10.0° / 100	
10,120.59	9,707.93	-364.59	888.35	EOC - HOLD	
14,482.77	9,746.00	-4,726,20	947.36	TD at 14482.77	
14,527.77	9,746.39	-4,771.20	947.96	TD + 45' VS	





U.S. Department of the Interior BUREAU OF LAND MANAGEMENT



Show Final Text

Well Number: 15H

Well Work Type: Drill

APD ID: 10400029705

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: CHICKEN FRY F C 24 28 22 WA

Weil Type: CONVENTIONAL GAS WELL

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

1_CHICKEN_FRY_FEDERAL_COM_275_2_ExistingRoadMapTOPO_20181203104118.pdf

Existing Road Purpose: ACCESS, FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

2_CHICKEN_FRY_FC_24_28_22_NM_LE_0001.00060__PROPLEASERD_20181203104140.pdf 2_CHICKEN_FRY_FEDERAL_COM_275_2_NewRoad_20181203104148.pdf New road type: LOCAL

Length: 555.05 Feet Width (ft.): 30

Max slope (%): 2 Max grade (%): 2

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 20

New road access erosion control: The access road will have a small low water crossing at the point of leaving the existing lease road to allow for continued drainage along existing lease road. The new road will be crowned to allow proper water drainage and ditching will be constructed on both sides of the 555.05' access road along with proper compaction to prevent water and wind erosion. All ditching areas will be seeded with BLM LPC sandy soils seed mix to prevent water erosion. **New road access plan or profile prepared?** NO

New road access plan attachment:

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: 6" compacted caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: The topsoil will be stripped during construction activities, spread out on edge of road, and will be seeded during the interim reclamation of the well pad. **Access other construction information:**

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: Crowning and ditching (both sides) shall be constructed on the access road driving surface. The road crown shall have a grade of approximately 2%. The road shall conform to cross section and plans for typical road construction found in the BLM Gold Book.

Road Drainage Control Structures (DCS) description: No DCS's will be needed.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

3_CHICKEN_FRY_FEDERAL_COM_275_2_1MileRadiusMap_20181203104225.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Proposed Central Tank Battery (CTB) is proposed on the north side of the proposed Chicken Fry Federal Com 24 28 22 #275-2 well pad to allow for maximum interim reclamation of the well pad. - No permanent open top tanks will be used. - Open vent exhaust stacks will be modified to prevent birds or bats from entering,

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

discourage perching, roosting, and nesting. - All chemical and fuel secondary containments will be covered for birds, wildlife, and livestock protection. The fluids will be disposed of as needed to prevent possible overflow. - The proposed CTB will have a secondary containment 1.5 times the holding capacity of largest storage tank plus freeboard to account for precipitation. -All above ground structures not subject to safety requirements will be painted a flat non-reflective shale green for blending with the surrounding environment. - At this time, the proposed CTB will have oil and water truck hauled from the facility. Pipelines/Flowlines: All flowlines transporting production from wells to the facility will remain on the pad; therefore, no further disturbance or ROW will be required. Powerlines: No power-lines will be needed. The power to the equipment will be provided via a natural gas generator.

Production Facilities map:

SUPO_4_CHICKEN_FRY_FC_24_28_22_FACILITY_20181203104253.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: DUST CONTROL, INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING Describe type:	Water source type: GW WELL Source longitude: -104.03986
Source latitude: 32.21749	-
Source datum: NAD83	
Water source permit type: PRIVATE CONTRACT	
Source land ownership: PRIVATE	
Water source transport method: PIPELINE	
Source transportation land ownership: PRIVATE	
Water source volume (barrels): 147500	Source volume (acre-feet): 19.011732
Source volume (gal): 6195000	
Water source use type: DUST CONTROL, INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING	Water source type: GW WELL
Describe type:	Source longitude: -104.083405
Source latitude: 32.219917	
Source datum: NAD83	
Water source permit type: PRIVATE CONTRACT,WATER WELL	
Source land ownership: PRIVATE	
Water source transport method: PIPELINE	
Source transportation land ownership: PRIVATE	
Water source volume (barrels): 147500	Source volume (acre-feet): 19.011732
Source volume (gal): 6195000	

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Water source use type: DUST CONTROL, INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING Describe type:	Water source type: GW WELL
	Source longitude: -104.0559
Source latitude: 32.218872	
Source datum: NAD83	
Water source permit type: PRIVATE CONTRACT	
Source land ownership: PRIVATE	
Water source transport method: PIPELINE	
Source transportation land ownership: PRIVATE	
Water source volume (barrels): 147500	Source volume (acre-feet): 19.011732
Source volume (gal): 6195000	

Water source and transportation map:

12_ChickenFryFedCom275_2_Caliche_Ponds_20180419094614.jpg

Water source comments: Water Source comments - One of the above choices will be utilized for the water supply for the proposed wells. Private ground water wells will supply water to existing fresh water ponds located in different locations that will be utilized for drilling operations pending demand and availability. The fresh water line will run parallel to the existing disturbance and will stay within 10' of the access road. Location and Types of Water Supply • All Fresh water will be obtained from a private water source. • 1st proposed (Pond in Section 15, T24S, R28E) will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run East from pond along lease rd., then turn South along access road. Turn East along lease road, turn South on lease road, turn East on lease road and turn North on proposed access road approx 7.1 miles. • 2nd proposed (Diamond pond in section 14 T24S R28E) will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run West from pond along lease rd. then turn South along lease road, and turn North access road approx. 5.6 miles. • 3rd proposed pond (Tres Equis in Section 13,T24S-R28E will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run North from pond along access rd. then West along lease road, then South, and then East along lease roads. and North along access road approx. 11 Miles. • Fresh water line will run parallel to existing disturbance and will stay within 10' of access road. Proposed water supplier Brantley' NO

New Water Well Info		nfo			
N	/ell latitude:	Well Longi	tude:	Well datum:	
W	/ell target aquifer:				
E	st. depth to top of aquifer(ft):		Est thickness of aquifer:		
A	quifer comments:				
A	quifer documentation:				
Wel	l depth (ft):	w	/ell casing type:		
Wel	I casing outside diameter (in.):	w	ell casing inside diameter	(in.):	
New	v water well casing?	U	sed casing source:		
Dril	ling method:	D	rill material:		
Gro	ut material:	G	rout depth:		

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Casing length (ft.):

Well Production type:

Casing top depth (ft.): Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Caliche will be used to construct well pad and roads. Material will be purchased from the nearest federal, state, or private permitted pit. • Source 1 - Caliche will be used to construct well pad and roads. Material will be purchased from Lease holder Constructors Inc. Jack Yates (505-827-5750). State caliche pit located in the NENE of S31, T24S, R28E and NWNW OF S32, T24S, and R28E, Eddy County, NM LAT 32. 180794 LONG -104.118006. • Source 2 - Caliche will be used to construct well pad and roads. Material will be purchased from the private land owner Sterling Williams / Daniel Ingram (575-706-3169) caliche pit located in SENW of Sec 25, T23S, R28E, Eddy County, NM. LAT 32.280335 LONG -104.042465. The proposed source of construction material will be located and purchased by construction contractor. Notification shall be given to BLM at (575) 234-5909 at least 3 working days prior to commencing construction of well pad or related infrastructure.

Construction Materials source location attachment:

12_ChickenFryFedCom275_2_Caliche_Ponds_20180419115129.jpg

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drilling fluids and produced oil and water from the well during drilling operations.

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: Lined steel tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

FACILITY Disposal type description:

Disposal location description: Waste will be stored safely and disposed of properly in an NMOCD approved disposal facility.

Waste type: GARBAGE

Waste content description: Garbage and trash (solid waste)

Amount of waste: 1200 pounds

Waste disposal frequency : Weekly

Safe containment description: All garbage will be stored in closed containers

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL FACILITY

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Disposal type description:

Disposal location description: All garbage will be collected by a third party and disposed of properly at a State approved disposal facility.

Waste type: SEWAGE

Waste content description: Human waste and grey water.

Amount of waste: 600 barrels

Waste disposal frequency : Weekly

Safe containment description: Portable toilets and sewage tanks.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

FACILITY Disposal type description:

Disposal location description: All sewage waste will be managed by a third party and disposed of properly at a State approved disposal facility.

Waste type: COMPLETIONS/STIMULATION

Waste content description: Oil and water from drilling operations

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: Steel tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL FACILITY

Disposal type description:

Disposal location description: Waste will be stored safely and disposed of properly in an NMOCD approved disposal facility.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into lined steel tanks and taken to an NMOCD approved disposal facility. **Cuttings area length (ft.) Cuttings area width (ft.)**

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

9_CHICKEN_FRY_FEDERAL_COM_275_2_ProposedWellPadPlat_20181203104445.pdf

Comments: Exterior well pad dimensions are 400' by 540'. Note this pad will have 3 total wells, see Well Pad Surface Plat. Interior well pad dimensions from first point of entry (well head) are: From west-320', north-220', east-220', south-180'. Tank battery pad is on the north for tanks and separation equipment. Total disturbance area needed for construction of well pad will be 4.95 acres. Topsoil will be places on the east (345' by 30') and west (352' by 30') sides of the pad to accommodate interim reclamation activities.

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: CHICKEN FRY FEDERAL COM

Multiple Well Pad Number: 275-2

Recontouring attachment:

9_CHICKEN_FRY_FEDERAL_COM_275_2_PROP_IR_20181203104529.pdf

Drainage/Erosion control construction: During construction, BMP's will be used to control erosion, runoff and siltation of surrounding area.

Drainage/Erosion control reclamation: BMP's will be used to control erosion, runoff and siltation of surrounding area. All areas reclaimed will be ripped across the slope to prevent water erosion. The reclaimed areas will be will have a berm constructed against pad edge to prevent water erosion.

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Well had proposed disturbance	Well pad interim reclamation (acres):	Well nad long term disturbance
(acres): 4.95	2.41	(acres): 2.54
Road proposed disturbance (acres):	Road interim reclamation (acres): 0.21	Road long term disturbance (acres):
0.46		0.25
Powerline proposed disturbance	Powerline interim reclamation (acres):	Powerline long term disturbance
(acres): 0		(acres): 0
Pipeline proposed disturbance	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance
(acres): 0	Other interim reclamation (acres): 0	(acres): 0
Other proposed disturbance (acres): 0		Other long term disturbance (acres): 0
	Total interim reclamation: 2.62	_
Total proposed disturbance: 5.41		Total long term disturbance: 2.79

Disturbance Comments: IR - Well pad and ditch banks FR - all disturbances

Reconstruction method: Reclamation Objectives • The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities. • The BLM will be notified at least 3 days prior to commencement of any reclamation procedures. • If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed. • Reclamation will be performed by using the following procedures: For Interim Reclamation: • Within 6 months of first production, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production. A plan will be submitted showing where interim reclamation will be completed in order to allow for safe operations, protection of the environment outside of drilled well, and following best management practices found in the BLM "Gold Book". • Current plans for interim reclamation include reducing the pad size to approximately 3.45 acres from the proposed size of 4.95 acres. • In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. • The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation. • Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM LPC seed mixture free of noxious weeds, will be used. • Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area. • The interim reclamation will be monitored periodically to ensure that vegetation has reestablished. For Final Reclamation: • Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment. • All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. • All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends in distinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation. After all the disturbed areas have been properly prepared; the areas will be seeded with the proper BLM LPC seed mixture free of noxious weeds. • Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.

Topsoil redistribution: The topsoil will be evenly distributed across all reclaimed areas, ripped across the slopes, and seed accordingly. During final reclamation, Marathon will grab and evenly redistribute topsoil across the entire disturbed area (disc plowing if needed) area and seed accordingly.

Soil treatment: Topsoil will be stockpiled until interim reclamation. Topsoil and subsoil (fill) will be piled separately. The topsoil will be seeded after being spread across IR area.

Existing Vegetation at the well pad: Mesquite, shinnery oak, sand dropseed, and sage.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Mesquite, shinnery oak, sand dropseed, and sage.

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Existing Vegetation Community at the road attachment: Existing Vegetation Community at the pipeline: NA Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Mesquite, shinnery oak, sand dropseed, and sage. Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO Non native seed description: Seedling transplant description: Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type: OTHERSeed source: COMMERCIALSeed name: BLM Sandy LPC mixSource address:Source name:Source address:Source phone:Seed cultivar: BroadcastSeed cultivar: BroadcastFor the seed in the set in the s

Total pounds/Acre: 38

Seed Summary		
	Seed Type	Pounds/Acre
C	THER	38

Seed reclamation attachment:

Seed_Mixture_LPC_HEA_20180323104309.pdf

Operator Contact/Responsible Official Contact Info

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

First Name:

Last Name: Email:

Phone:

Seedbed prep: Rip native topsoil stockpiled during construction activities across the slope

Seed BMP:

Seed method: Broadcast seed with spreader

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Marathon will control weeds per Federal, County and State regulations by contracting a certified third party.

Weed treatment plan attachment:

Monitoring plan description: Marathon will monitor all disturbed areas and lease roads leading to well pad monthly for weeds through routine inspections. Monitoring plan attachment:

Success standards: Maintain all disturbed areas as per Gold Book Standards.

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Well Number: 15H

Phone:

Fee Owner Address: 706 W. Riverside Drive Carlsbad, NM 88220 Email:

Surface use plan certification: YES

Surface use plan certification document:

Chicken_Fry_Federal_Com_24_28_22_WA_15H__WD_16H__WXY_12H__Land_Surface_Owner_Letter_201804 2.pdf

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: Marathon Oil has entered into negotiations for a Surface Use, Easement, and Damage Agreement with the above listed surface owner. Surface owner phone number can be made available upon request, for privacy reasons it has not been listed above. **Surface Access Bond BLM or Forest Service:**

BLM Surface Access Bond number:

USFS Surface access bond number:

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Well Name: CHICKEN FRY F C 24 28 22 WA

Well Number: 15H

Fee	Owner:	Rustler	Hills	Limited	Partnership	

Phone:

Fee Owner Address: 706 W. Riverside Drive Carlsbad, NM 88220 Email:

Surface use plan certification: YES

Surface use plan certification document:

Chicken_Fry_Federal_Com_24_28_22_WA_15H__WD_16H__WXY_12H__Land_Surface_Owner_Letter_201804 4.pdf

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: Marathon Oil has entered into negotiations for a Surface Use, Easement, and Damage Agreement with the above listed surface owner. Surface owner phone number can be made available upon request, for privacy reasons it has not been listed above. Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Well Number: 15H

Fee Owner: Rustler Hills Limited Partnership	Fee Owner Address: 706 W. Riverside Drive Carlsbad, NM		
Phone:	88220 Email:		
Surface use plan certification: YES			
Surface use plan certification document:			
Chicken_Fry_Federal_Com_24_28_22_WA_15HWD_16HWXY_12HLand_Surface_Owner_Letter_20180 4.pdf			
Surface access agreement or bond: Agreement			
Surface Access Agreement Need description: See attachment.			
Surface Access Bond BLM or Forest Service:			
BLM Surface Access Bond number:			

USFS Surface access bond number:

Section 12 - Other Information

Use APD as ROW?

ROW Type(s):

Right of Way needed? NO

ROW Applications

SUPO Additional Information: Falls inside medium karst potential. Intermittent creek bed to the northeast corner and intermittent pond 1 mile to the south. **Use a previously conducted onsite?** YES

Previous Onsite information: Performed 1/8/18. Marathon Oil Attendees: Nancy Pohl BLM Attendee: Colleen Cepero-Rios

Other SUPO Attachment

Chicken_Fry_Fed_Com_24_28_22_Hydrology_20180423055545.jpg

12_ChickenFryFedCom275_2_Karst_20180419125000.jpg

12_ChickenFryFedCom275_2_Surface_Mineral_20180419125003.jpg

VICINITY AND EXISTING ROADS MAP

CHICKEN FRY FC 24 28 22 SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M. COUNTY: EDDY OPERATOR: MARATHON OIL PERMIAN LLC U.S.G.S. TOPOGRAPHIC MAP: MALAGA, N.M.



CONTOUR INTERVAL = 10'

PREPARED BY: R-SQUARED GLOBAL, LLC 1309 LOUISVILLE AVENUE, MONROE, LA 71201 318-323-6900 OFFICE JOB No. R3781_007 EXHIBIT "A"

NM-LE-0001.00060 EDDY COUNTY, NM CHICKEN FRY FC 24 28 22 PROPOSED LEASE ROAD EASEMENT MARATHON OIL PERMIAN LLC FIELD NOTES DESCRIBING

SHEET 1 OF 3

The centerline of a 30 foot wide proposed lease road easement, being 0.46 acres of land. Said easement being located in Section 22. Township 24 South, Range 28 East. New Mexico Principal Meridian. Eddy County. New Mexico.

Being more particularly described as lying 15 feet on each side of the following described centerline (see Detail "A" on sheet 2 of 2):

BEGINNING at a point from which a 1 inch pipe with a GLO cap found for the West quarter corner of said Section 22, bears \$ 52°03'38" W a distance of 3.570.50 feet.

THENCE continue crossing said Section 22 the following course and distance:

\$ 00°00'00" E a distance of 555.05 feet to the POINT OF TERMINATION from which a 2 inch pipe in a rock mound found for the Southeast comer of said Section 22, bears \$ 30°54'12" E a distance of 5.032.00 feet.

The total length of the proposed easement in said Section 22 shall be 555.05 feet (33.64 rods), and shall contain 0.46 acres of land.

The edges of the permanent casement shall be parallel with the centerline of the easement until reaching the boundaries of the subject tract of land.

All bearings and coordinates refer to NAD 83. New Mexico State Plane Coordinate System. East Zone, U.S. Survey Feet. (All bearings and distances are grid measurements.)

Title information furnished by Marathon Oil Permian LLC.

Reference accompanying Certificate of Survey prepared in conjunction with this legal description for easement.

STATE OF NEW MEXICO COUNTY OF EDDY 1. Lloyd P. Short, New Mexico Professional Surveyor No. 21653, do hereby certify that this casement survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision: that I am responsible for this survey: that this survey meets the minimum standards for surveying in New Mexico: and that it is true and correct to the best of my knowledge and belief. I further certify this survey in end to be division actual division actual division actual this survey in the New Mexico. ertify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act and that this instrument is an easement survey plat crossing an existing tract or tracts.



LLOYD P. SHORT, PS No. 21653 DATE: NOVENBER 12, 2018

flood P. Show

R-SQUARED GLOBAL, LLC PROJECT NO. R3781_007 Modification in any way of the foregoing description terminates liability of Surveyor.





NEW OR RECONSTRUCTED ACCESS ROADS

CHICKEN FRY FC 24 28 22 SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M. COUNTY: EDDY OPERATOR: MARATHON OIL PERMIAN LLC U.S.G.S. TOPOGRAPHIC MAP: MALAGA, N.M.



ONE-MILE RADIUS MAP

CHICKEN FRY FC 24 28 22 SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M. COUNTY: EDDY OPERATOR: MARATHON OIL PERMIAN LLC U.S.G.S. TOPOGRAPHIC MAP: MALAGA, NM.





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WELL LOCATION PLAT

CHICKEN FRY FC 24 28 22

SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M.

COUNTY: EDDY

**OPERATOR: MARATHON OIL PERMIAN LLC** 

U.S.G.S. TOPOGRAPHIC MAP: MALAGA, N.M.



#### DIRECTIONS TO LOCATION:

FROM THE MARATHON OFFICE AT 411 TOWELL CARLSBAD, NY, HEAD SOUTH ON TOWELL RD TOWARD US HWY 285 N FOR 0.2 MILES, TURN LEFT ONTO US HWY 285 S, HEADING SOUTH, FOR 13.8 MILES TO A CALICHE ROAD, TURN RIGHT ONTO CALICHE ROAD, HEADING WEST, FOR O 6 MILES TO THE PROHOSED LEASE ROAD FOR THE CHICKEN FRY FOR 24 26 22 WARD, TBBH, WAYDER & WATCH TIRN RIGHT ON TO SAID PROPOSED LEASE ROAD, HEADING TORTH, FOR 555 FEEL, EN EKIND THE SOUTHWEST CORNER OF SAID WILL LOCATION FAD.



## INTERIM RECLAMATION (IR) PLAT

## CHICKEN FRY FC 24 28 22 SEC. 22 TWP. 24-S RGE. 28-E SURVEY: N.M.P.M. COUNTY: EDDY OPERATOR: MARATHON OIL PERMIAN LLC U.S.G.S. TOPOGRAPHIC MAP: MALAGA, N.M.



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Exhibit A-1 Navitas Midstream, LLC NM-133018 **Navitas Pipeline** October 9, 2015

Seed Mixture for LPC/HEA Sites

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Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

The disturbed area associated with pipeline construction will be disked in order to loosen the soil. Seed application will be performed by dispersing seed through a hydroseeder with the appropriate amount of hydromulch to assist in an even rate of application. After application, a chain harrow will be implemented to cover the seed with soil to ensure the seed is had the proper depth (approximate ½ inch). Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	5lbs/A
Big Bluestem	5lbs/A
Plains Coreopsis	5lbs/A
Sand Dropseed	1lbs/A
Ragweed	4lbs/A
Dove weed	3lbs/A
Pig weed	2lbs/A
Black oil sunflower	3lbs/A

,

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

Well Number and Locations: Halberd Federal 24-35-18 WXY 3H, FB 12H, TB 6H, WA 5H & WXY 10H Well Pad; Section 18, T24S, R35E, Lea County, New Mexico.

I hereby certify to the Authorized Officer of the Bureau of Land Management that Operator has entered into Surface Use Agreements with the following surface owners.

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Madison M. Hinkle P. O. Box 2292 Roswell, NM 88202-2292

G. P. Crossley P. O. Box 2464 Roswell, NM 88202-2464

George M. O'Brien P. O. Box 1743 Midland, Texas 79702-1743

Rolla R. Hinkle III P. O. Box 2292 Roswell, NM 88202-2292

Branex Resources, Inc. P. O. Box 2990 Ruidoso, NM 88355-2990

EMG Oil Properties, Inc. 1000 W. Fourth Street Roswell, NM 88201

Nuevo Seis Limited Partnership P. O. Box 2588 Roswell, NM 88202-2588

Richardson Mineral and Royalty, LLC P. O. Box 2423 Roswell, NM 88202-2423

Signed this 7th day of March, 2018.

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Well Number and Locations: Halberd Federal 24-35-18 WXY 3H, FB 12H, TB 6H, WA 5H & WXY 10H Road; Section 13, T24S, R35E, Lea County, New Mexico.

I hereby certify to the Authorized Officer of the Bureau of Land Management that Operator has entered into Surface Use Agreements with the following surface owners.

Pitchfork Cattle Company, LLC 125 Bellavia Circle Dr. Ruidoso, NM 88355 545-631-4444

Signed this 7th day of March, 2018.

Halberd Federal Wells Section 18, T24S-R35E Surface Owner List of Addresses i

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# **ONSITE Review Checklist**

Onsite Inspection - Environmental									
Oil & Gas Op	Oil & Gas Operator: Marathon Oil Permian LLC Field:								
Case #	Case #			Well Name/ Halbord Enderel 24 25 18					
Lease #	NMNM		Number		5101 24 33 10	ai 24 35 18 API #			
Twn:	24	35	34	County:	Lea	Total Depth			
Sec	18	Qtr:	r	State:	NM				
N/S Foot		E/W Foot:		Lat/Long		Formation(s):			
	REPRESENTATIVES PRESENT								
Company:	Nancy Pohl			Contractor: Harvey Wall		er en			
BLM:	Colleen			Other:					
Surface Owner:	Madison H	linkle, et al	PRESENTC	NOT PRESENT	Location Agreement	☑ YES  ☐ NO			
Name:		BLM		Phone:					
Address:									
Other Surfac	e Owners Invo	lved in Access	🖸 YES 🗆 N	NO	Name:	Pitchfork Ca	ttle Company		
			ACCESS	ROAD	<b>.</b>				
Existing Access:	No	Miles:		New Construction:	Yes	Miles:	644' on lease; ~9800' off lease		
RETAIN FOR LAND OWNER     ABA			ANDON	Width (FT.)		Grade (%Max)			
Culverts:	Number:	0	Size:		Location:				
Cuts and Fills: Max Cut:			Max Fill:						
Surfacing: Type: Caliche			Depth:	6"	Source:	Madera			
Low Water Crossing-Number/Location			Q		🗆 RETAIN				
Water Bars-Number/Location			Q		🗆 RETAIN				
Gates-Number/Location			Q		🗆 RETAIN				
Cattleguards-Number/Location		Q		🗆 RETAIN					
WELL SITE									
Cuts	Depth:		Slope:		Top Soil Removal:				
T. 101 1	Max:				Inches:	4" - 6"			
I opsoil Stock	Il Stockpile Location West side of pad								
Pad Size	Pad Size 570' x 400'								
Water Bars Needed									
I YES INO		Fence Crossi		ing Location		LINO			
Location/Spacing		30'							
Available Area for Frac. Equipment		Reserve Pit Lined □ YES _{Closed} ହୁନ୍ୟର							

# **ONSITE Review Checklist**

Production Facilities	Flowlines Length	n: Power Lines Length:					
	□ YES ☑ NO Dept	n: VES D NO #Poles:					
Special Requirements/TOF	Special Requirements/TOPO Features:						
RESOURCES							
T&E Clearance Needed? □ YES ☑ NO	Archeological Inventory Neede	ed Mitigation Present Use:  Grazing Cropland Oil Field Development Other					
Floodplains/Wetlands	ES 🛛 NO Water Source						
Streams/Ponds	I NO Authorization						
		Nearest Drainage:					
Nearest Residence:		Ephemeral I YES INO Perennial I YES INO					
Soil Type/Ecological Site -		Sandy					
Erosion Concerns -	Need to berm pad to prevent on-flow or off-flow						
Native Vegetation Present -	Sandy soil vegetation types						
Invasive Species Present -	Need plan to prevent invasive species being tracked in.						
Wildlife Present -	Outside LPC habitat						
	ALTERNATIVES CONSIDERED						
	MITIGATIC	N/BMP(s)					
RECLAMATION							
Se	ed Mix	RPad Size See plat					
Species	Broadcast Rate (lbs/acre)	Interim Reclamation Requirements					
BLM #2	8#/acre						
Reclamation Plan Discussed	☑ YES □ NO	Other/Special Conditions					

Well Number and Locations: Chicken Fry Federal Com 24 28 22 WD 16H, Chicken Fry Federal Com 24 28 22 WXY 12H, Chicken Fry Federal Com 24 28 22 WA 15H

I hereby certify to the Authorized Officer of the Bureau of Land Management that Operator has entered into negotiations for a Surface Use, Easement, and Damage Agreement with the following surface owners. The Operator and surface owner are finalizing this agreement as of this date.

Rustler Hills Limited Partnership 706 W. Riverside Drive Carlsbad, NM 88220

Signed this 23rd day of April, 2018.

June Pohl BAH

Nancy Pohl, Attorney-in-Fact

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Nancy Pohl, Attorney-in-Fact









BUREAU OF LAND MANAGEMENT

#### **Section 1 - General**

Would you like to address long-term produced water disposal? NO

# **Section 2 - Lined Pits**

Would you like to utilize Lined Pit PWD options? NO Produced Water Disposal (PWD) Location: PWD surface owner: Lined pit PWD on or off channel: Lined pit PWD discharge volume (bbl/day): Lined pit specifications: Pit liner description: Pit liner manufacturers information: Precipitated solids disposal: Decribe precipitated solids disposal: Precipitated solids disposal permit: Lined pit precipitated solids disposal schedule: Lined pit precipitated solids disposal schedule attachment: Lined pit reclamation description: Lined pit reclamation attachment: Leak detection system description: Leak detection system attachment: Lined pit Monitor description: Lined pit Monitor attachment: Lined pit: do you have a reclamation bond for the pit? Is the reclamation bond a rider under the BLM bond? Lined pit bond number: Lined pit bond amount: Additional bond information attachment:

PWD disturbance (acres):

- تعرب أثري برمنامه

PWD Data Report

#### Section 3 - Unlined Pits

#### Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

**PWD surface owner:** 

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

**Unlined pit Monitor attachment:** 

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

**Unlined Produced Water Pit Estimated percolation:** 

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

#### **Section 4 - Injection**

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

**PWD disturbance (acres):** 

**PWD disturbance (acres):** 

Injection well type: Injection well number: Assigned injection well API number? Injection well new surface disturbance (acres): Minerals protection information: **Mineral protection attachment: Underground Injection Control (UIC) Permit? UIC Permit attachment:** 

# Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location: **PWD** surface owner: Surface discharge PWD discharge volume (bbl/day): Surface Discharge NPDES Permit? Surface Discharge NPDES Permit attachment: Surface Discharge site facilities information: Surface discharge site facilities map: Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location: PWD surface owner:

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Injection well name: Injection well API number:

**PWD disturbance (acres):** 

**PWD disturbance (acres):** 



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

# Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001555

**BIA Bond number:** 

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Bond Info Data Report

02/11/2019

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

**Reclamation bond number:** 

**Reclamation bond amount:** 

**Reclamation bond rider amount:** 

Additional reclamation bond information attachment: