

Santa Fe Main Office  
Phone: (505) 476-3441  
General Information  
Phone: (505) 629-6116

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
Revised July 18, 2013

Online Phone Directory Visit:  
<https://www.emnrd.nm.gov/ocd/contact-us/>

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>		WELL API NO. 30-015-56285
2. Name of Operator Permian Resource Operating LLC		5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
3. Address of Operator 300 N. Marienfeld Ste 1000, Midland, TX 79701		6. State Oil & Gas Lease No.
4. Well Location Unit Letter <u>  M  </u> : <u>  952  </u> feet from the <u>  South  </u> line and <u>  557  </u> feet from the <u>  West  </u> line Section <u>  16  </u> Township <u>  21S  </u> Range <u>  26E  </u> NMPM County <u>  Eddy  </u>		7. Lease Name or Unit Agreement Name Safari State Com
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3278'		8. Well Number 14H
12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data		9. OGRID Number 372165
13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.		10. Pool name or Wildcat 96381; Avalon; Bone Spring

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

<b>NOTICE OF INTENTION TO:</b> PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input checked="" type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> DOWNHOLE COMMINGLE <input type="checkbox"/> CLOSED-LOOP SYSTEM <input type="checkbox"/> OTHER: <input type="checkbox"/>	<b>SUBSEQUENT REPORT OF:</b> REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: <input type="checkbox"/>
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Permian Resources Operating, LLC, respectfully requests permission to make the following changes to the original APD: Acreage Change, SHL/FTP/LTP/BHL Change, Updated Drilling Program

API#: 30-015-56285

Name Change:

Change From: Safari State Com 124H

Change To: Safari State Com 14H

SHL: Revised

Change From: 952'FSL & 557'FWL, SWSW-Sec 16-21S-26E

Change To: 2561'FNL & 1271'FWL, SWNW-Sec 16-21S-26E

FTP: Revised

Change From: 660'FSL & 100'FWL, SWSW-Sec 16-21S-26E

Change To: 330'FSL & 100'FWL, SWSW-Sec 16-21S-26E

LTP: Revised

Change From: 660'FSL & 100'FEL, SESE -16-21S-26E

Change To: 330'FSL & 100'FEL, SESE (Lot 3)-15-21S-26E

BHL: Revised

Change From: 660'FSL & 50'FEL, SESE -16-21S-26E

Change To: 330'FSL & 100'FEL, SESE (Lot 3)-Sec 15-21S-26E

Acreage: Revised  
Change From: 160  
Change To: 321.66  
Change From Infill to Defining well  
CA: Pending

Updated Drilling Program reflecting casing / cement / mud circulation depth changes.

Spud Date:  Rig Release Date:

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

SIGNATURE \_\_\_\_\_ TITLE: Regulatory \_\_\_\_\_ DATE 12/10/25 \_\_\_\_\_

Type or print name Cassie Evans \_\_\_\_\_ E-mail address: Cassie.Evans@permianres.com \_\_\_\_\_ PHONE: 432-313-1732 \_\_\_\_\_

**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Conditions of Approval (if any):

<b>C-102</b>  Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department <b>OIL CONSERVATION DIVISION</b>		Revised July 9, 2024	
			Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal
				<input type="checkbox"/> Amended Report
		<input type="checkbox"/> As Drilled		

## WELL LOCATION INFORMATION

API Number 30-015-56285	Pool Code 96381	Pool Name Avalon; Bone Spring
Property Code	Property Name <b>SAFARI STATE COM</b>	Well Number <b>14H</b>
OGRID No. <b>372165</b>	Operator Name <b>PERMIAN RESOURCES OPERATING, LLC</b>	Ground Level Elevation <b>3,278'</b>
Surface Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal		Mineral Owner: <input checked="" type="checkbox"/> State <input checked="" type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal

## Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
<b>E</b>	<b>16</b>	<b>21S</b>	<b>26E</b>		<b>2,561' FNL</b>	<b>1,271' FWL</b>	<b>32.480313°</b>	<b>-104.302587°</b>	<b>EDDY</b>

## Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	<b>15</b>	<b>21S</b>	<b>26E</b>	<b>LOT 3</b>	<b>330' FSL</b>	<b>100' FEL</b>	<b>32.473838°</b>	<b>-104.272169°</b>	<b>EDDY</b>

Dedicated Acres 321.66	Infill or Defining Well Defining	Defining Well API	Overlapping Spacing Unit (Y/N) N	Consolidation Code C
Order Numbers. TBD			Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

## Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
<b>E</b>	<b>16</b>	<b>21S</b>	<b>26E</b>		<b>2,561' FNL</b>	<b>1,271' FWL</b>	<b>32.480313°</b>	<b>-104.302587°</b>	<b>EDDY</b>


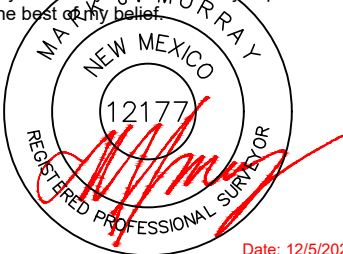
## First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
<b>M</b>	<b>16</b>	<b>21S</b>	<b>26E</b>		<b>330' FSL</b>	<b>100' FWL</b>	<b>32.473653°</b>	<b>-104.306355°</b>	<b>EDDY</b>

## Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	<b>15</b>	<b>21S</b>	<b>26E</b>	<b>LOT 3</b>	<b>330' FSL</b>	<b>100' FEL</b>	<b>32.473838°</b>	<b>-104.272169°</b>	<b>EDDY</b>

Unitized Area or Area of Uniform Interest NA	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation: TBD
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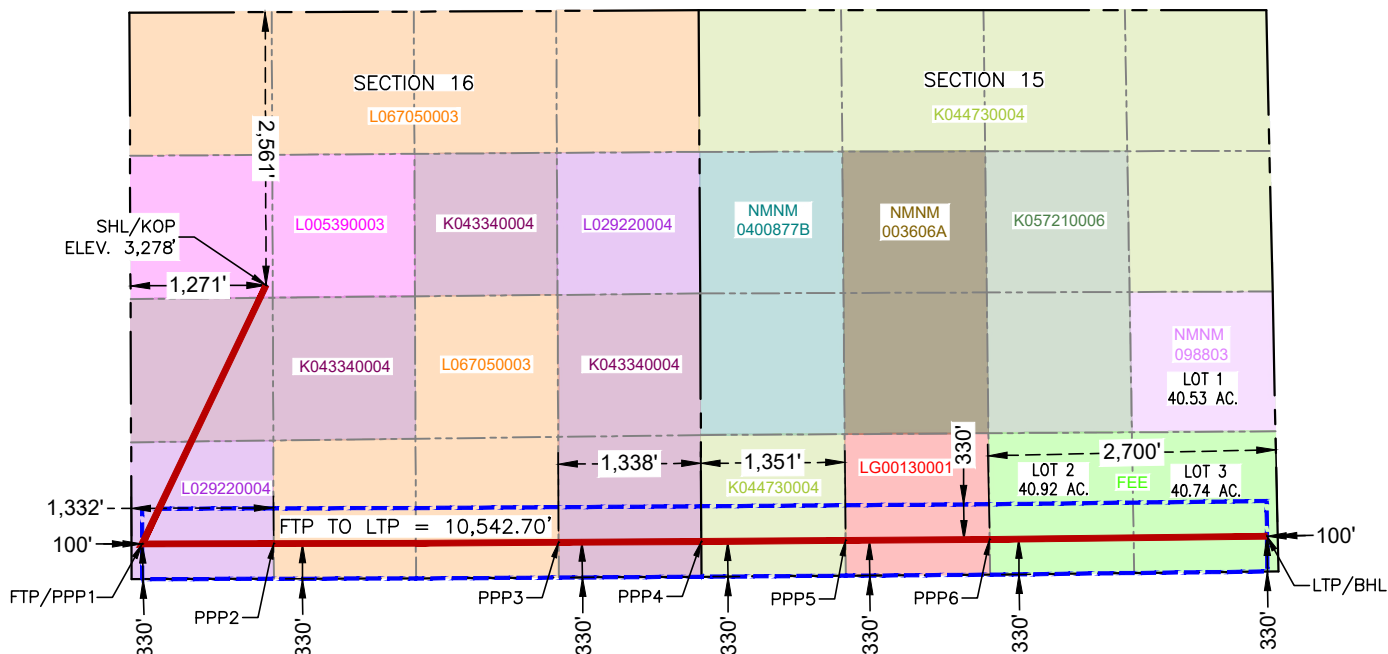
<b>OPERATOR CERTIFICATIONS</b>  I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.		<b>SURVEYOR CERTIFICATIONS</b>  I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.	
Signature  Date 12/10/25		Signature and Seal of Professional Surveyor  Date: 12/5/2025	
Printed Name Cassie Evans  Email Address cassie.evans@permianres.com		Certificate Number 12177	Date of Survey 12/5/2025
		Revision Number 3	

Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

## ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



## SAFARI STATE COM 14H

**SURFACE HOLE LOCATION  
& KICK-OFF POINT**  
2,561' FNL & 1,271' FWL  
ELEV. = 3,278'

NAD 83 X = 550,818.50'  
NAD 83 Y = 538,470.11'  
NAD 83 LAT = 32.480313°  
NAD 83 LONG = -104.302587°  
NAD 27 X = 509,638.21'  
NAD 27 Y = 538,410.03'  
NAD 27 LAT = 32.480197°  
NAD 27 LONG = -104.302078°

**FIRST TAKE POINT &  
PENETRATION POINT 1**  
330' FSL & 100' FWL

NAD 83 X = 549,657.28'  
NAD 83 Y = 536,046.84'  
NAD 83 LAT = 32.473653°  
NAD 83 LONG = -104.306355°  
NAD 27 X = 508,476.97'  
NAD 27 Y = 535,986.85'  
NAD 27 LAT = 32.473537°  
NAD 27 LONG = -104.305846°

**PENETRATION POINT 2**  
330' FSL & 1,332' FWL

NAD 83 X = 550,890.13'  
NAD 83 Y = 536,049.93'  
NAD 83 LAT = 32.473660°  
NAD 83 LONG = -104.302357°  
NAD 27 X = 509,709.79'  
NAD 27 Y = 535,989.92'  
NAD 27 LAT = 32.473544°  
NAD 27 LONG = -104.301848°

**PENETRATION POINT 3**  
330' FSL & 1,338' FEL

NAD 83 X = 553,560.31'  
NAD 83 Y = 536,061.16'  
NAD 83 LAT = 32.473689°  
NAD 83 LONG = -104.293698°  
NAD 27 X = 512,379.89'  
NAD 27 Y = 536,001.10'  
NAD 27 LAT = 32.473572°  
NAD 27 LONG = -104.293190°

**PENETRATION POINT 4**  
330' FSL & 0' FWL

NAD 83 X = 554,898.12'  
NAD 83 Y = 536,069.26'  
NAD 83 LAT = 32.473710°  
NAD 83 LONG = -104.289360°  
NAD 27 X = 513,717.67'  
NAD 27 Y = 536,009.18'  
NAD 27 LAT = 32.473593°  
NAD 27 LONG = -104.288852°

**PENETRATION POINT 5**  
330' FSL & 1,351' FWL

NAD 83 X = 556,248.97'  
NAD 83 Y = 536,078.84'  
NAD 83 LAT = 32.473734°  
NAD 83 LONG = -104.284980°  
NAD 27 X = 515,068.49'  
NAD 27 Y = 536,018.73'  
NAD 27 LAT = 32.473618°  
NAD 27 LONG = -104.284472°

**PENETRATION POINT 6**  
330' FSL & 2,700' FEL

NAD 83 X = 557,599.88'  
NAD 83 Y = 536,088.41'  
NAD 83 LAT = 32.473759°  
NAD 83 LONG = -104.280599°  
NAD 27 X = 516,419.36'  
NAD 27 Y = 536,028.28'  
NAD 27 LAT = 32.473642°  
NAD 27 LONG = -104.280091°

**LAST TAKE POINT &  
BOTTOM HOLE LOCATION**  
330' FSL & 100' FEL

NAD 83 X = 560,199.68'  
NAD 83 Y = 536,118.53'  
NAD 83 LAT = 32.473838°  
NAD 83 LONG = -104.272169°  
NAD 27 X = 519,019.10'  
NAD 27 Y = 536,058.35'  
NAD 27 LAT = 32.473721°  
NAD 27 LONG = -104.271661°

## Permian Resources - Safari State Com 14H

## 1. Geologic Formations

Formation	Elevation	TVD	Target
Rustler	3029	200	No
Top of Salt	2724	505	No
Capitan	2475	754	No
Bell Canyon	1829	1400	No
Cherry Canyon	1149	2080	No
Brushy Canyon	139	3090	No
Bone Spring	-1401	4430	No
1st Bone Spring	-2590	5819	No
2nd Bone Spring	-3361	6590	#REF!
3rd Bone Spring	-4807	8036	No
Wolfcamp	-5265	8494	Yes

## 2. Blowout Prevention

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12.25	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
8.75	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		

**Equipment:** BOPE will meet all requirements for above listed system per 43 CFR 3172. BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. 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 of the components installed will be functional, tested, and will meet all requirements per 43 CFR 3172. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing of the surface x intermediate annulus without breaking the connection between the BOP & wellhead. A variance is requested to utilize a flexible choke line (flexhose) from the BOP to choke manifold.

**Requesting Variance?** YES

**Variance request:** Multibowl Wellhead, Flexhose, Breaktesting, Offline Cementing Variances. Attachments in Section 8.

**Testing Procedure:** Operator requests to ONLY test broken pressure seals per API Standard 53 and the attachments in Section 8. The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed, b. whenever any seal subject to test pressure is broken, c. following related repairs, d. at 21-day intervals. Testing of the ram type preventer(s) and annual type preventer(s) shall be tested per 43 CFR 3172. The BOPE configuration, choke manifold layout, and accumulator system will be in compliance with 43 CFR 3172. Bleed lines will discharge 100' from wellhead in non-H2S scenarios and 150' from wellhead in H2S scenarios.

Choke Diagram Attachemnt: 5M Choke Manifold

BOP Diagram Attachment: BOP Schematic

**3. Casing**

String	Hole Size	Casing Size	Top	Bottom	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	525	J55	54.5	BTC	4.36	8.29	Dry	7.07	Dry	6.63
Intermediate	12.25	9.625	0	2070	J55	36	BTC	3.59	1.81	Dry	4.09	Dry	3.61
Production	8.75	5.5	0	7980	P110RY	17	Bushmaster SP	2.94	3.06	Dry	2.95	Dry	2.95
Production	8.5	5.5	7980	18045	P110RY	17	Bushmaster SP	2.94	3.06	Dry	2.95	Dry	2.95
BLM Min Safety Factor								1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

**4. Cement**

String	Lead/Tail	Top MD	Bottom MD	Quantity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Lead	0	420	320	1.88	12.9	590	100%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Surface	Tail	420	525	90	1.34	14.8	110	50%	Class C	Accelerator
Intermediate	Lead	779	1650	220	1.88	12.9	410	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate	Tail	1650	2070	150	1.34	14.8	200	50%	Class C	Retarder
Stage Tool Depth		779								
Intermediate 2nd Stage	Lead	0	779	170	1.88	12.9	310	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Production	Lead	0	7230	990	2.41	11.5	2370	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	7230	18045	1810	1.73	12.5	3120	25%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

**5. Circulating Medium**

**Mud System Type:** Closed

**Will an air or gas system be used:** No

**Describe what will be on location to control well or mitigate other conditions:** Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

**Describe the mud monitoring system utilized:** Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

**Cuttings Volume:** 8580 Cu Ft

**Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	525	Spud Mud	8.6	9.5
525	2070	Fresh Water	8.6	9.5
2070	7980	OBM	9	10.5
7980	18045	OBM	9	10.5

6. Test, Logging, Coring

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

Will utilize MWD/LWD from intermediate hole to TD of the well.

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

DIRECTIONAL SURVEY

Coring operation description for the well:

N/A

7. Pressure

Anticipated Bottom Hole Pressure	3780	psi
Anticipated Surface Pressure	2256	psi
Anticipated Bottom Hole Temperature	128	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	



Operator	Permian Resources	
Well Name	Safari Fed Com 14H	
Date	12/12/2025	
State	New Mexico	
County	Lea	
Target Formation	SBSG	
SHL		
BHL		
GL Elevation	3,278'	
KB	26'	
KB Elevation	3,229'	
	MD	TVD
KOP	7,230'	6,444'
EOC	7,980'	6,921'
TD	18,045'	6,921'

Formation Tops (Geoprog)	SSTVD	TVD	Target
Rustler	3,029'	200	
Top of Salt	2,724'	505	
Capitan	2,475'	754	
Lamar	3,229'		
Bell Canyon	1,829'	1400	
Cherry Canyon	1,149'	2080	
Brushy Canyon	139'	3090	
Bone Spring	-1,401'	4430	
1st Bone Spring	-2,590'	5819	
2nd Bone Spring	-3,361'	6590	Yes
3rd Bone Spring	-4,807'	8036	
Wolfcamp	-5,265'	8494	

Source

Plat

Plat

Plat

Geo Prog

Plat

Plat

Plat

Constant

Calc

Well Plan

Well Plan

Well Plan

Geo Prog

Well Design Table

	Hole Size	From
Surface	17.5"	0
Intermediate	12.25"	0
Production	8.75"	0
Production	8.5"	7,980'

Cement Design Table

String	Slurry	Top
Surface	Lead	0
Surface	Tail	420
Intermediate	Lead	779
Intermediate	Tail	1650
Intermediate 2nd Stage	Lead	0
Production	Lead	0
Production	Tail	7,230'

Plug Back	Tail	6,144'
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Cuttings Volume	8580	Cu Ft
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BHP	3780	psi
BH Temp	128	°F

INT BOP Calc	567.18	psi
Prod BOP Calc	2256	psi

To	Casing Size	Casing ID	Casing W	Grade	Connectio	Collapse	Burst
525	13.375	12.615	54.5	J55	BTC	1130	2740
2070	9.625	8.835	36	J55	BTC	2570	3950
7,980'	5.5	4.778	17	P110RY	Bushmaster	11100	12630
18,045'	5.5	4.778	17	P110RY	Bushmaster	11100	12630

Bottom	Quantity (sx)	Yield	Density	Cu FT	Excess	Cement Type	Additives
420	320	1.88	12.9	590	100%	Class C	EconoCem-H
525	90	1.34	14.8	110	50%	Class C	Accelerator
1650	220	1.88	12.9	410	50%	Class C	EconoCem-H
2070	150	1.34	14.8	200	50%	Class C	Retarder
779	170	1.88	12.9	310	50%	Class C	EconoCem-H
7,230'	990	2.41	11.5	2370	40%	Class H	POZ, Extender
18,045'	1810	1.73	12.5	3120	25%	Class H	POZ, Extender

11,175'	1370	0.97	17.5	1320	10%	Class C	Defoamer, H
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Body Yield	Joint Yield	Mud Type	Min Mud Weight	Max Mud Weight	SF Collapse	SF Burst
853	909	Spud Mud	8.6	9.5	4.36	8.29
630	714	Fresh Water	8.6	9.5	3.59	1.81
641	641	OBM	9	10.5	2.94	3.06
641	641	OBM	9	10.5	2.94	3.06

ILC + 5% Salt + 5% Kol-Seal

ILC + 5% Salt + 5% Kol-Seal

ILC + 5% Salt + 5% Kol-Seal

er, Fluid Loss, Dispersant, Retarder

er, Fluid Loss, Dispersant, Retarder

IR-601, Salt

SF Tension Joint	SF Tension Body
7.07	6.63
4.09	3.61
2.95	2.95
2.95	2.95

## Permian Resources - Safari Fed Com 14H

Formation	Elevation	TVD	Target
Rustler	3029	200	No
Top of Salt	2724	505	No
Capitan	2475	754	No
Bell Canyon	1829	1400	No
Cherry Canyon	1149	2080	No
Brushy Canyon	139	3090	No
Bone Spring	-1401	4430	No
1st Bone Spring	-2590	5819	No
2nd Bone Spring	-3361	6590	#REF!
3rd Bone Spring	-4807	8036	No
Wolfcamp	-5265	8494	Yes
0	0	0	No
0	0	0	No
0	0	0	No







BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12.25	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
8.75	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		





String	Hole Size	Casing Size	Top	Bottom	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF
Surface	17.5	13.375	0	525	J55	54.5	BTC	4.36	8.29	Dry	7.07
Intermediate	12.25	9.625	0	2070	J55	36	BTC	3.59	1.81	Dry	4.09
Production	8.75	5.5	0	7980	P110RY	17	Bushmaster SP	2.94	3.06	Dry	2.95
Production	8.5	5.5	7980	18045	P110RY	17	Bushmaster SP	2.94	3.06	Dry	2.95
BLM Min Safety Factor								1.125	1		1.6





Body SF Type	Body SF
Dry	6.63
Dry	3.61
Dry	2.95
Dry	2.95
	1.6

String	Lead/Tail	Top MD	Bottom MD	Quantity (sx)	Yield	Density	Cu Ft
Surface	Lead	0	420	320	1.88	12.9	590
Surface	Tail	420	525	90	1.34	14.8	110
Intermediate	Lead	779	1650	220	1.88	12.9	410
Intermediate	Tail	1650	2070	150	1.34	14.8	200
Stage Tool Depth		779					
Intermediate 2nd Stage	Lead	0	779	170	1.88	12.9	310
Production	Lead	0	7230	990	2.41	11.5	2370
Production	Tail	7230	18045	1810	1.73	12.5	3120







Excess %	Cement Type	Additives
100%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
50%	Class C	Accelerator
50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
50%	Class C	Retarder
50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
25%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

Top Depth	Bottom Depth	Mud Type
0	525	Spud Mud
525	2070	Fresh Water
2070	7980	OBM
7980	18045	OBM

Cuttings Volume: 8580 Cu Ft





Min Weight	Max Weight
8.6	9.5
8.6	9.5
9	10.5
9	10.5

Anticipated Bottom Hole Pressure	3780
Anticipated Surface Pressure	2256
Anticipated Bottom Hole Temperature	128
Anticipated Abnormal pressure, temp, or geo hazards	No







psi
psi
°F

Waste Type:
Waste content description:
Amount of waste:
Waste disposal frequency:
Safe containment description:
Waste disposal type:
Disposal location ownership:
Waste Type:
Waste content description:
Amount of waste:
Waste disposal frequency:
Safe containment description:

Waste disposal type:
Disposal location ownership:
Waste Type:
Waste content description:
Amount of waste:
Waste disposal frequency:
Safe containment description:
Waste disposal type:
Disposal location ownership:
Waste Type:
Waste content description:
Amount of waste:
Waste disposal frequency:
Safe containment description:
Waste disposal type:
Disposal location ownership:
Waste Type:
Waste content description:
Amount of waste:
Waste disposal frequency:
Safe containment description:
Waste disposal type:
Disposal location ownership:



Drilling
Fresh water based drilling fluid
1500 bbls
Weekly (after drilling all surfaces)
Steel tanks with plastic-lined containment berms
Haul to commercial facility
Commercial
Grey Water & Human Waste
Grey Water/Human Waste
5000 gallons
Weekly
Approved waste storage tanks with containment

Haul to commercial facility
Commercial
Garbage
General trash/garbage
5000 lbs
Weekly
Enclosed trash trailer
Haul to commercial facility
Commercial
Drilling
Drill Cuttings
8580 Cu Ft
Per well
Steel tanks
Haul to commercial facility
Commercial
Drilling
Brine water based drilling fluid
1500 bbls
Monthly
Steel tanks with plastic-lined containment berms
Haul to commercial facility
Commercial

## Permian Resources - Safari Fed Com 14H

### 1. Geologic Formations

Formation	Elevation	TVD	Target
Rustler	3029	200	No
Top of Salt	2724	505	No
Capitan	2475	754	No
Bell Canyon	1829	1400	No
Cherry Canyon	1149	2080	No
Brushy Canyon	139	3090	No
Bone Spring	-1401	4430	No
1st Bone Spring	-2590	5819	No
2nd Bone Spring	-3361	6590	#REF!
3rd Bone Spring	-4807	8036	No
Wolfcamp	-5265	8494	Yes

### 2. Blowout Prevention

BOP installed and tested before drilling	Size?	Min. Required WP	Type	x	Tested to:
12.25	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
8.75	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		

Equipment: BOPE will meet all requirements for above listed system per 43 CFR 3172. BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. 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 of the components installed will be functional, tested, and will meet all requirements per 43 CFR 3172. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing of the surface x intermediate annulus without breaking the connection between the BOP & wellhead. A variance is requested to utilize a flexible choke line (flexhose) from the BOP to choke manifold.

Requesting Variance? YES

Variance request: Multibowl Wellhead, Flexhose, Breaktesting, Offline Cementing Variances. Attachments in Section 8.

Testing Procedure: Operator requests to ONLY test broken pressure seals per API Standard 53 and the attachments in Section 8. The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed, b. whenever any seal subject to test pressure is broken, c. following related repairs, d. at 21-day intervals. Testing of the ram type preventer(s) and annual type preventer(s) shall be tested per 43 CFR 3172. The BOPE configuration, choke manifold layout, and accumulator system will be in compliance with 43 CFR 3172. Bleed lines will discharge 100' from wellhead in non-H2S scenarios and 150' from wellhead in H2S scenarios.

Choke Diagram Attachment: 5M Choke Manifold

BOP Diagram Attachment: BOP Schematic

### 3. Casing

String	Hole Size	Casing Size	Top	Bottom	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	525	J55	54.5	BTC	4.36	8.29	Dry	7.07	Dry	6.63
Intermediate	12.25	9.625	0	2070	J55	36	BTC	3.59	1.81	Dry	4.09	Dry	3.61
Production	8.75	5.5	0	7980	P110RY	17	Bushmaster SP	2.94	3.06	Dry	2.95	Dry	2.95
Production	8.5	5.5	7980	18045	P110RY	17	Bushmaster SP	2.94	3.06	Dry	2.95	Dry	2.95
BLM Min Safety Factor								1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

### 4. Cement

String	Lead/Tail	Top MD	Bottom MD	Quantity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Lead	0	420	320	1.88	12.9	590	100%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Surface	Tail	420	525	90	1.34	14.8	110	50%	Class C	Accelerator
Intermediate	Lead	779	1650	220	1.88	12.9	410	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate	Tail	1650	2070	150	1.34	14.8	200	50%	Class C	Retarder
Stage Tool Depth		779								
Intermediate 2nd Stage	Lead	0	779	170	1.88	12.9	310	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Production	Lead	0	7230	990	2.41	11.5	2370	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	7230	18045	1810	1.73	12.5	3120	25%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

### 5. Circulating Medium

Mud System Type: Closed

Will an air or gas system be used: No

Describe what will be on location to control well or mitigate other conditions: Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

Describe the mud monitoring system utilized: Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

Cuttings Volume: 8580 Cu Ft

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	525	Spud Mud	8.6	9.5
525	2070	Fresh Water	8.6	9.5
2070	7980	OBM	9	10.5
7980	18045	OBM	9	10.5



## 6. Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:  
Will utilize MWD/LWD from intermediate hole to TD of the well.

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

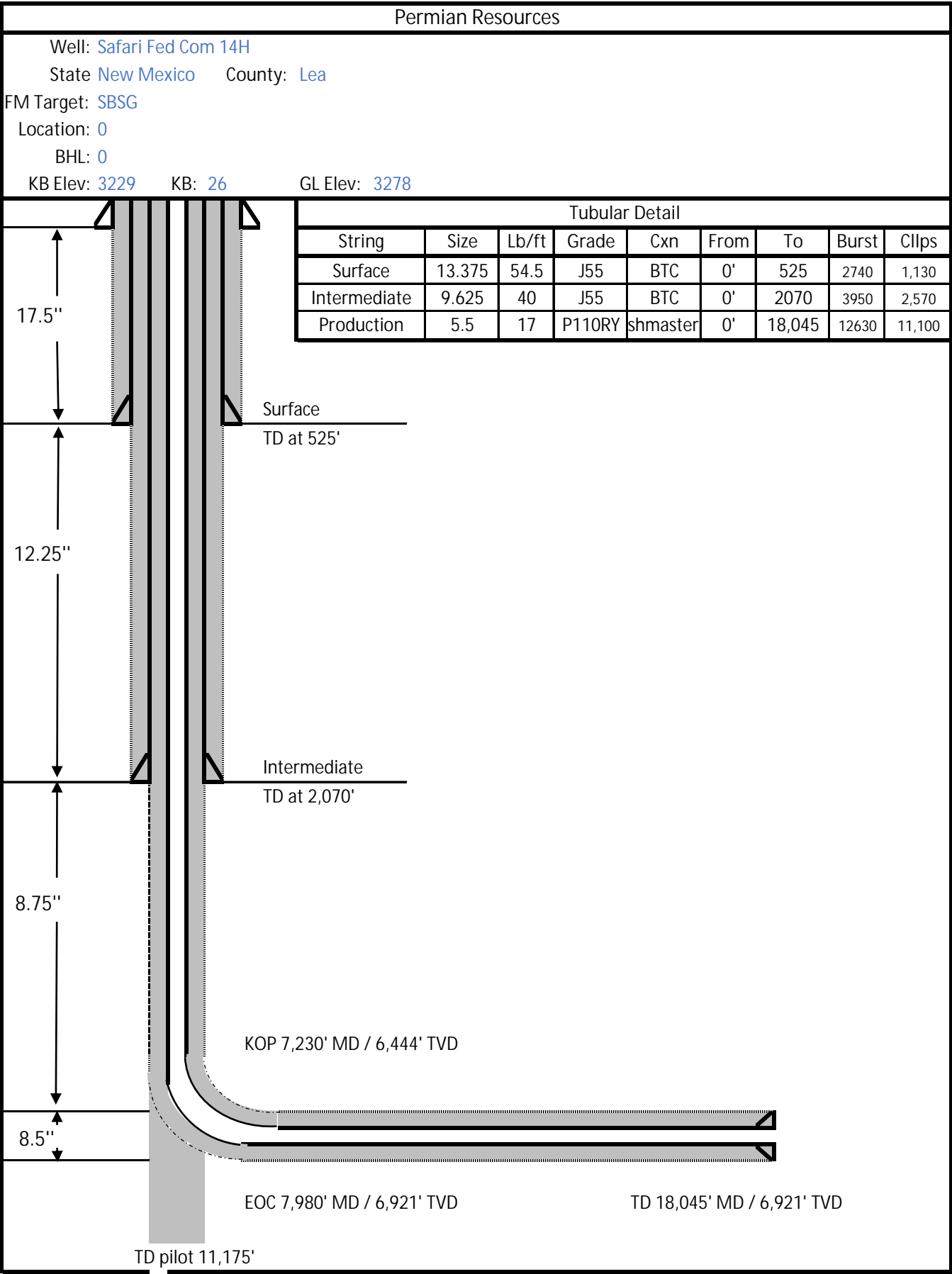
DIRECTIONAL SURVEY

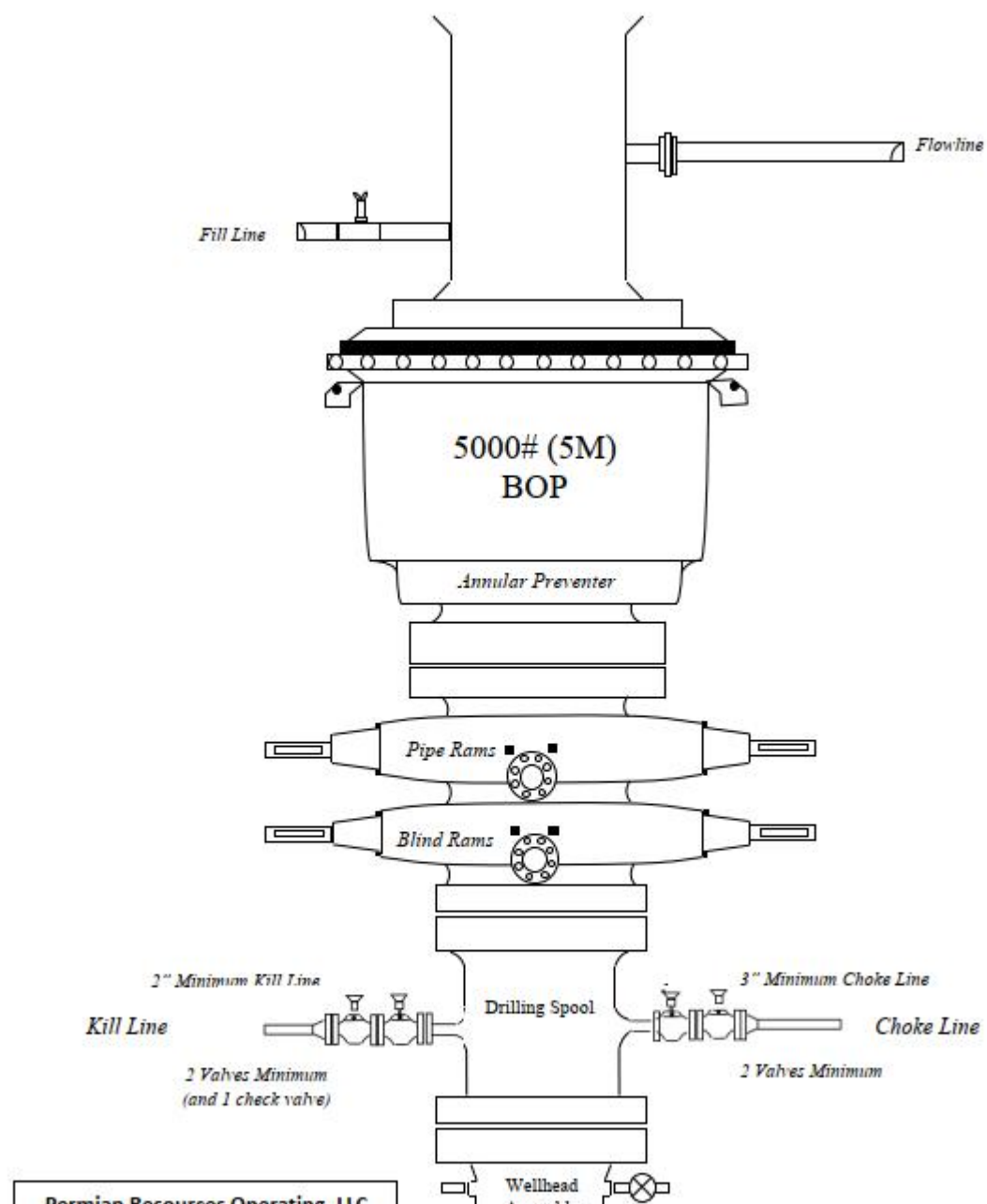
Coring operation description for the well:

N/A

## 7. Pressure

Anticipated Bottom Hole Pressure	3780	psi
Anticipated Surface Pressure	2256	psi
Anticipated Bottom Hole Temperature	128	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	





Permian Resources Operating, LLC  
5000# BOP

Assembly







**BLACK GOLD®**

**GATES ENGINEERING & SERVICES NORTH AMERICA**  
7603 Prairie Oak Dr.  
Houston, TX. 77086

PHONE: +1 (281) 602-4100  
FAX: +1 (281) 602-4147  
EMAIL: gesna.quality@gates.com  
WEB: www.gates.com/oilandgas

## CERTIFICATE OF CONFORMANCE

This is to verify that the items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following items were inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

**CUSTOMER:** HELMERICH & PAYNE INTERNATIONAL DRILLING CO.  
**CUSTOMER P.O.#:** 740414061 (SN: 62429 - 88061537)  
**CUSTOMER P/N:** SN: 62429 - 88061537

**PART DESCRIPTION:** INSPECT AND RETEST CUSTOMER HOSE 3IN X 16FT CHOKE & KILL ASSEMBLY C/W 3-1/16 FLANGES BX154 SS INLAID RING GROOVE EACH END

**SALES ORDER #:** 525826  
**QUANTITY:** 1  
**SERIAL #:** 62429 H3-012523-17

**SIGNATURE:**

*F. Cisneros*

**TITLE:**

**QUALITY ASSURANCE**

**DATE:**

1/26/2023



## TEST REPORT

**H3-12183**

1/25/2023 2:59:32 PM

**CUSTOMER**

Company:

HELMERICH & PAYNE  
INTERNATIONAL DRILLING CO.

Production description:

SN62429

**TEST OBJECT**

Serial number:

H3-012523-17

Lot number:

Description:

SN62429

Sales order #: 525826

Customer reference:

Hose ID: 3.0 CK03 16C 10K

Part number:

#### TEST INFORMATION

Test procedure: GTS-04-053  
Test pressure: 15000.00 psi  
Test pressure hold: 3600.00 sec  
Work pressure: 10000.00 psi  
Work pressure hold: 900.00 sec  
Length difference: 0.00 %  
Length difference: 0.00 inch

Fitting 1: 3.0 x 3-1/16 10K

Part number:

Description:

Fitting 2: 3.0 x 3-1/16 10K

Part number:

Description:

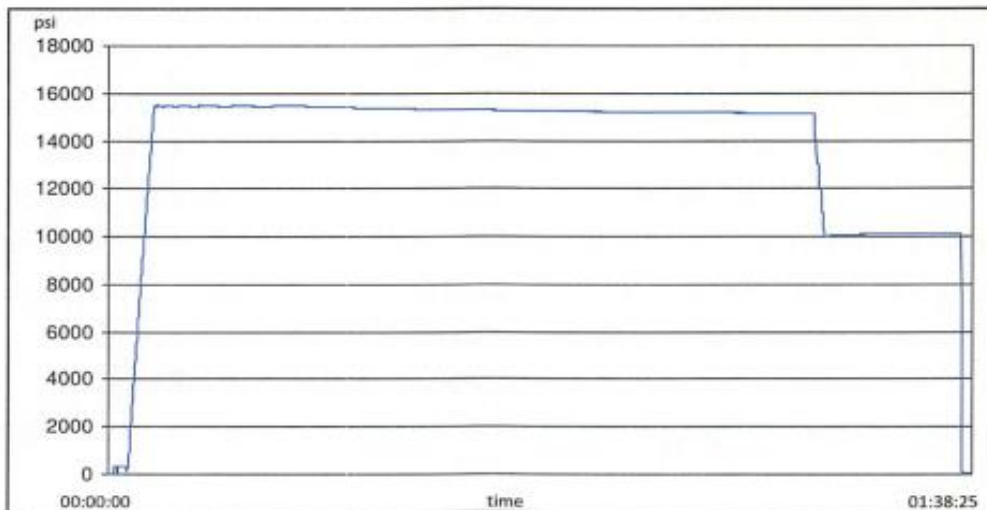
Visual check:

Length: 16 feet

Pressure test result: PASS

Length measurement result:

Test operator: Martin



Filename: D:\Certificates\Report\_012523-H3-012523-17.pdf

Page 1/2



## TEST REPORT

H3-12183

1/25/2023 2:59:32 PM

#### GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110AQ15	2022-03-09	2023-03-09
S-25-A-W	110CBWV	2022-03-09	2023-03-09

#### Comment

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ContiTech

CONTITECH RUBBER Industrial Kft.	No: QC-DB-062 / 2022
	Page: 16 / 131

<b>TEST CERTIFICATE according to EN 10204 3.1 and Supplier's Declaration of Conformity acc. to ISO/IEC 17050-1</b>				CERT. N°: 81142	
CUSTOMER: ContiTech Oil & Marine Corp.			C.O. N°: 4501624407		
Supplier's name: Contitech Rubber Industrial Kft.			Supplier's address: Budapesti út 10. H-6728 Szeged		
CONTITECH ORDER N°: 1386035		HOSE TYPE: 3" ID Choke & Kill Hose			
HOSE SERIAL N°: 81142		NOMINAL / ACTUAL LENGTH: 7,92 m / 7,90 m			
W.P. 69,0 MPa 10000 psi		T.P. 103,5 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature					
See attachment ( 1 page )					
COUPLINGS Type	Serial N°	Quality	Heat N°		
3" coupling with	4411	AISI 4130	68655		
3 1/16" 10K API b.w. Flange end		AISI 4130	043795		
3" coupling with	4428	AISI 4130	68626		
3 1/16" 10K API Swivel Flange end		AISI 4130	041743		
Hub		AISI 4130	54538		
<b>Not Designed For Well Testing</b>			<b>API Spec 16C 3<sup>rd</sup> Edition – FSL3</b>		

Temperature rate: "B"

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER 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 Customer Order and that these items/equipment were fabricated/inspected and tested in accordance with the referenced standards, other technical standards and specifications and meet the relevant acceptance criteria and design requirements. This declaration of conformity is issued under the sole responsibility of the manufacturer.

COUNTRY OF ORIGIN HUNGARY/EU

### Quality Control

István Farkas

Lajos Bacsa

CorTech Rubber Industrial Kft. | Budapesti út 10. H-8726 Szeged | H-8701 P.O. Box 182 Szeged, Hungary  
Phone: +36 20 192 2075 | e-mail: info@cor-tech.hu | internet: www.cor-tech-rubber.hu | www.cor-tech-gt-gas.com  
The Court of Szeged County as Registry Court | Registry Court No: Cg.08-09-002502 | EU VAT No: HU15087200  
Bank data: Csomorbank Zrt., Budapest | 14202108-28830403

**CONTITECH RUBBER**  
Industrial Kft.

No: QC-DB-062 / 2022  
Page: 17 / 131

229

5,000 mg  
2022/03/26 11:20:10 000  
2022/03/26 11:20:10 000  
2022/03/26 11:20:10 000

Damping In:  
Start Time  
Sleep Time

Yasir  
Control Rubber  
Industrial KRL  
Quality Control Dept.  
(1)

048174, 81137-81142, GEN, ..., 048181, 81137-81142, GEN  
81137, 81138, 81139, 81140, 81141, 81142

GX10  
SEPTEMBER  
1995

Price-Term:  
2022/03/26 11:20:10.000 - 2022/03/26 13:08:00.000  
110BFC(H) 81137.81135,81139,81140,81141,81142

Case No.	Case A	Case B	Difference
20220109	133	193	720
20220109	20220109	20220109	01:00:00.000
12:54:30.300	12:54:30.300	12:54:30.300	Value B-A
Value A	Value B	Value B-A	-13.31
10:57:40	10:57:49	10.99	-0.02
10:57:40	10:57:49	10.99	-0.02

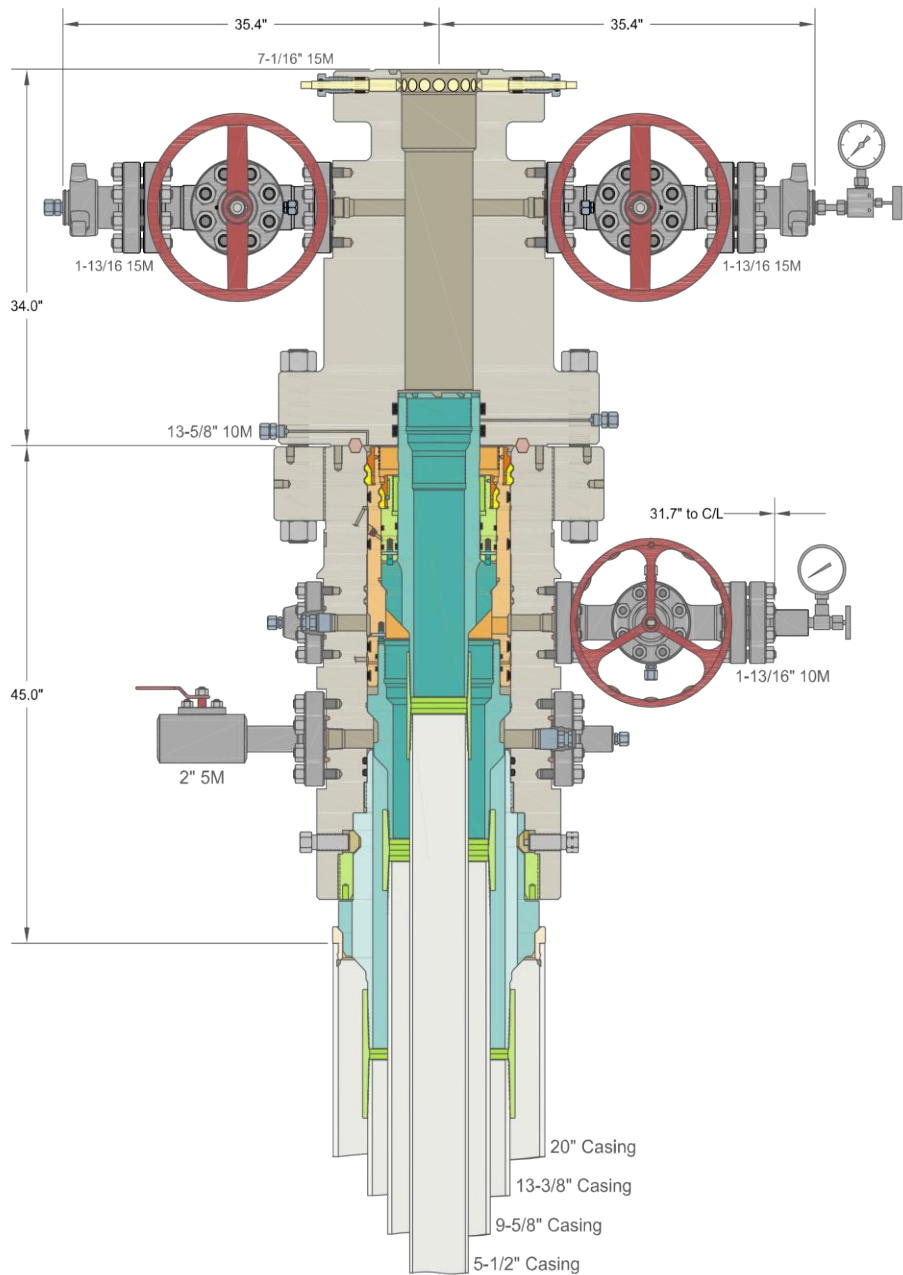












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ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC		CENTENNIAL RESOURCE DEVELOPMENT LEE CO, NM	
20" x 13-3/8" x 9-5/8" x 5-1/2" 10M MBU-3T-CFL-R-DBLO System With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head, 20" Landing Ring & Pin Down Mandrel Casing Hangers	DRAWN	DLE	10JUN20
	APPRV		
DRAWING NO.		HBE0000338	

## Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

### Casing Design Assumptions:

#### Surface

- 1) Burst Design Loads
  - a) Displacement to Gas
    - (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Intermediate I

- 1) Burst Design Loads
  - a) Displacement to Gas
    - (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.



- (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Intermediate or Intermediate II

- 1) Burst Design Loads
  - a) Gas Kick Profile
    - (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Production

- 1) Burst Design Loads
  - a) Injection Down Casing
    - (1) Internal: Surface pressure plus injection fluid gradient.
    - (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test (Drilling)
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - c) Casing Pressure Test (Production)
    - (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
    - (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
  - d) Tubing Leak
    - (1) Internal: SITP plus a packer fluid gradient to the top of packer.
    - (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
  - b) Full Evacuation
    - (1) Internal: Full void pipe.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

## Permian Resources BOP Break Testing Variance Procedure

Subject: Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

### Background

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in [§§ 3172.6](#) through [3172.12](#). All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s)." Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources submits this request for the variance.

### Supporting Documentation

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Permian Resources drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack



Figure 2: BOP Winch System



American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

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API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>a,c</sup> psig (MPa)	Pressure Test—High Pressure <sup>a,c</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>a,c</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes*	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes*	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>d</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

\* Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

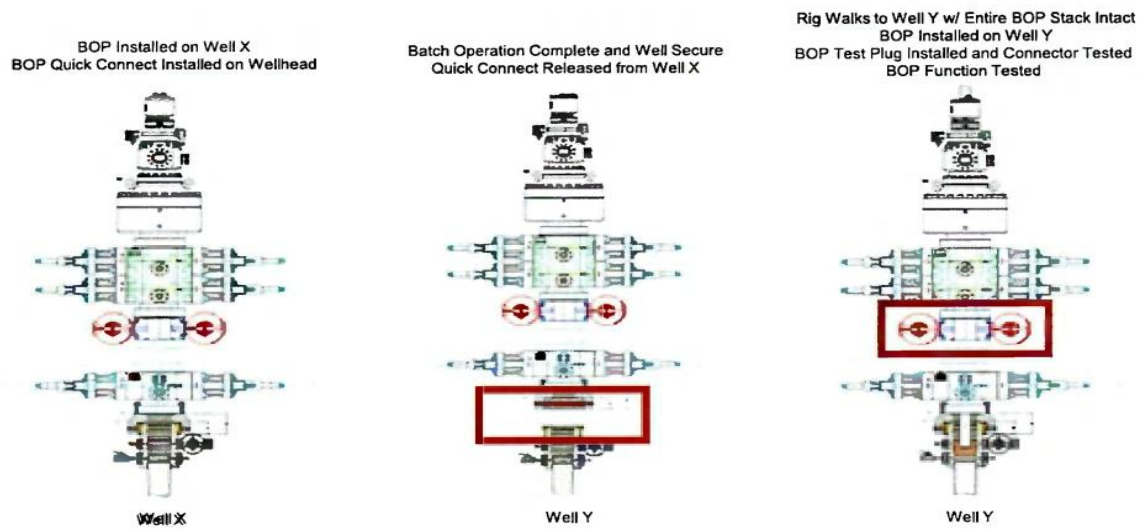
Permian Resources feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Permian Resources internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Permian Resources performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

#### Procedures

- 1) Permian Resources will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2) Permian Resources will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a) A full BOP test will be conducted on the first well on the pad.
  - b) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
  - c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d) A full BOP test will be required prior to drilling any production hole.
- 3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a) Between the HCV valve and choke line connection
  - b) Between the BOP quick connect and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6) The connections mentioned in 3a and 3b will then be reconnected.
- 7) Install test plug into the wellhead using test joint or drill pipe.
- 8) A shell test is performed against the upper pipe rams testing the two breaks.
- 9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
- 11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.



*Note: Picture below highlights BOP components that will be tested during batch operations*



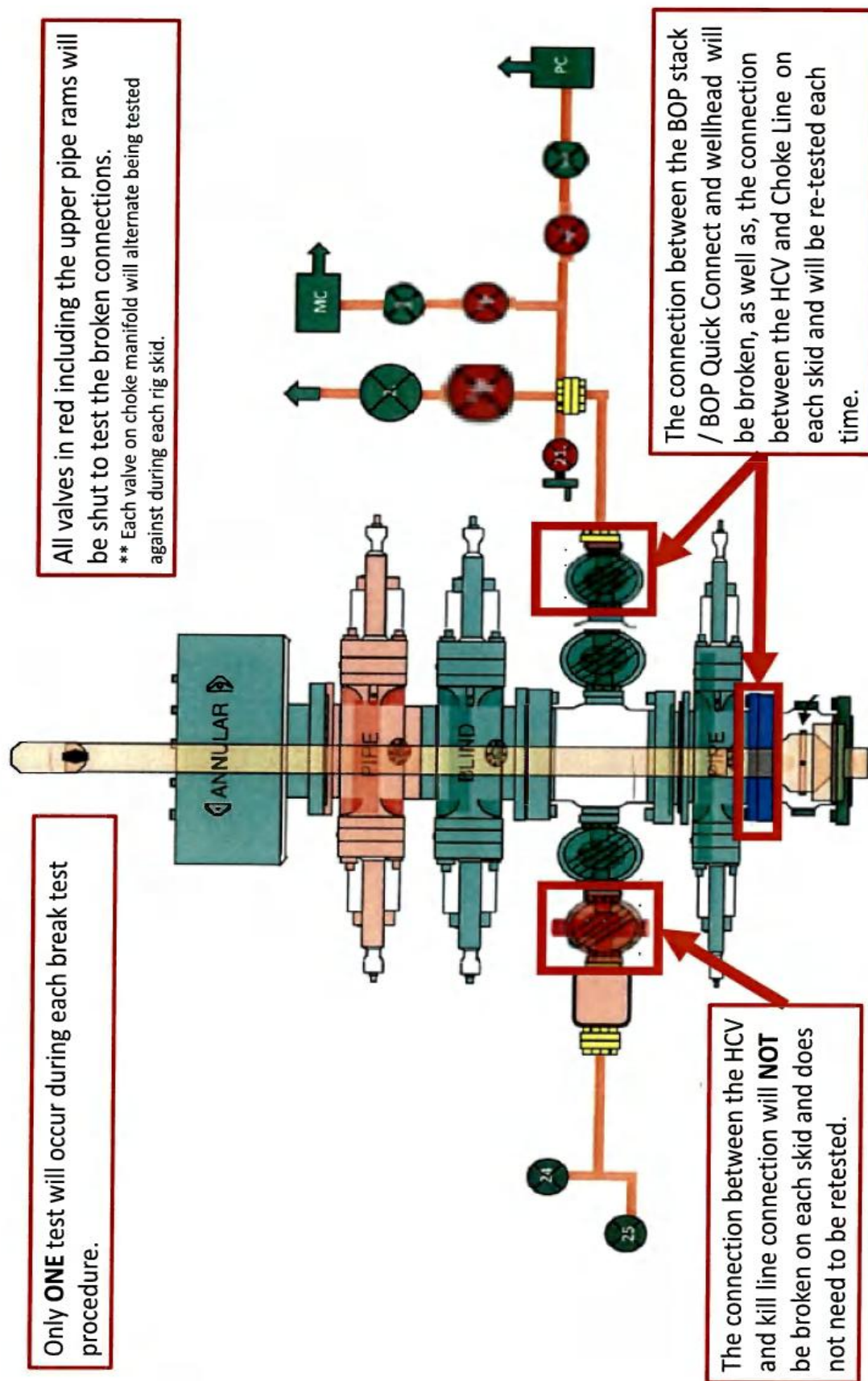
### Summary

A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

- 1) After a full BOP test is conducted on the first well on the pad.
- 2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
- 3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
- 4) A full BOP test will be required prior to drilling the production hole.



## Permian Resources Multi-Well Pad Batch Drilling Procedure

Surface Casing - PR intends to Batch set all 13-3/8" casing to a depth approved in the APD. 17-1/2" Surface Holes will be batch drilled by a rig. Appropriate notifications will be made prior to spudding the well, running and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill 17-1/2" Surface hole to Approved Depth with Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run and land 13-3/8" 54.5# J55 BTC casing see Illustration 1-1 Below to depth approved in APD.
3. Set packoff and test to 5k psi
4. Offline Cement
5. Install wellhead with pressure gauge and nightcap. Nightcap is shown on final wellhead Stack up Illustration #2-2.
6. Skid Rig to adjacent well to drill Surface hole.
7. Surface casing test will be performed by the rig in order to allow ample time for Cement to develop 500psi compressive strength. Casing test to 0.22 psi/ft or 1500 psi whichever is

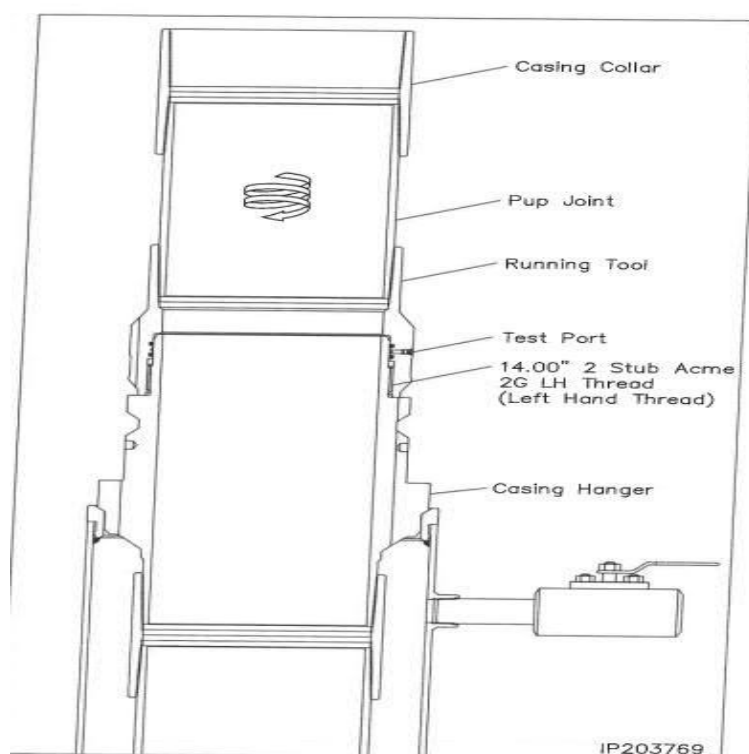


Illustration 1-1



Intermediate Casing – PR intends to Batch set all intermediate casing strings to a depth approved in the APD, typically set into Lamar. 12-1/4" Intermediate Holes will be batch drilled by the rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Test Surface casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
3. Install wear bushing then drill out 13-3/8" shoe-track plus 20' and conduct FIT to minimum of the MW equivalent anticipated to control the formation pressure to the next casing point.
4. Drill Intermediate hole to approved casing point. Trip out of hole with BHA to run Casing.
5. Remove wear bushing then run and land Intermediate Casing with mandrel hanger in wellhead.
6. Cement casing to surface with floats holding.
7. Washout stack then run wash tool in wellhead and wash hanger and pack-off setting area.
8. Install pack-off and test void to 5,000 psi for 15 minutes. Nightcap shown on final wellhead stack up illustration 2-2 on page 3.
9. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
10. Install nightcap – skid rig to adjacent well to drill Intermediate hole.

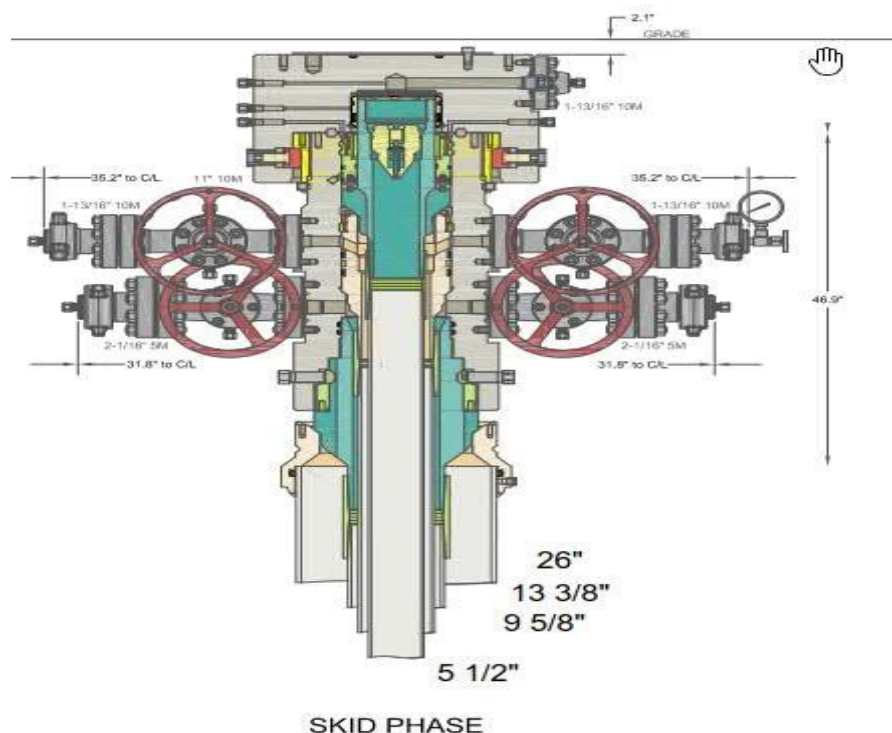


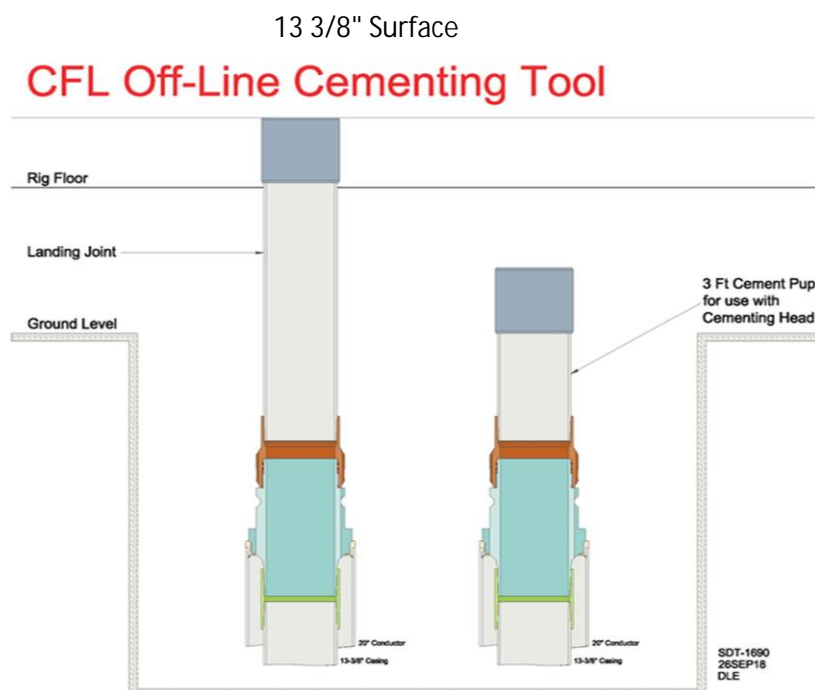
Illustration 2-2

Production Casing – PR intends to Batch set all Production casings with Rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

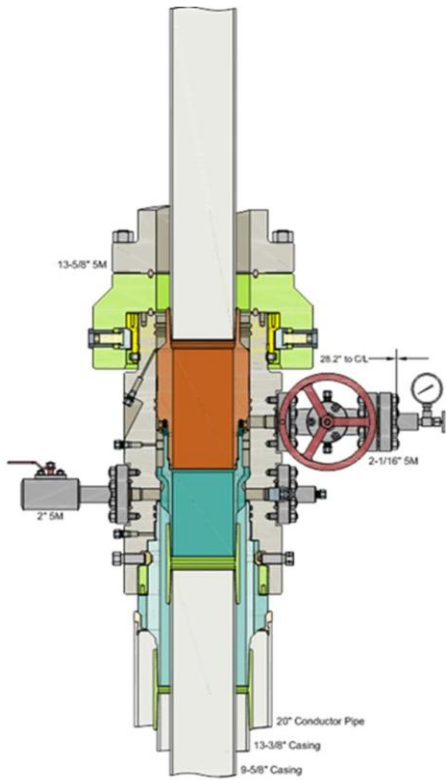
1. Big Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run 5 1/2" Production Casing.
6. Remove wear bushing then run 5-1/2" production casing to TD landing casing mandrel in wellhead.
7. Cement 5-1/2" Production string with floats holding.
8. Run in with wash tool and wash wellhead area – install pack-off and test void to 5,000psi for 15 minutes.
9. Install BPV in 5-1/2" mandrel hanger – Nipple down BOPE and install nightcap.
10. Test nightcap void to 5,000psi for 30 minutes per illustration 2-2
11. Skid rig to adjacent well on pad to drill production hole.

### Permian Resources Offline Cementing Procedure 13-3/8" & 9-5/8" Casing

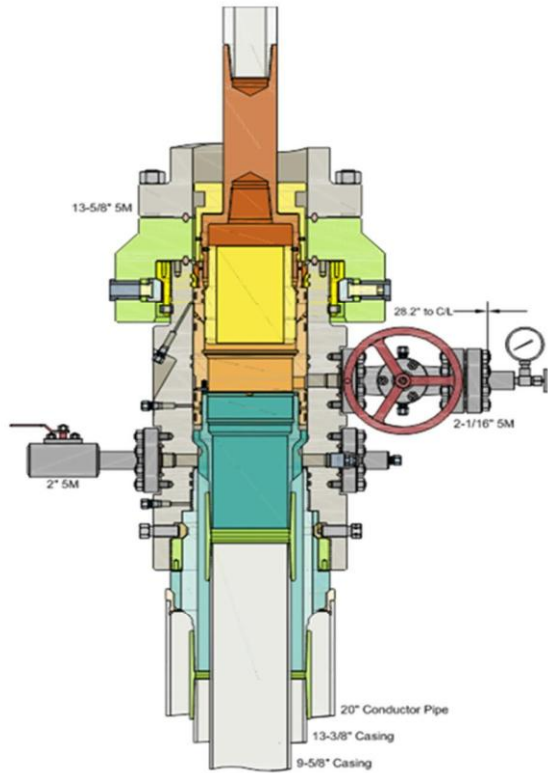
1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Rig down cementers and equipment
16. Install night cap with pressure gauge to monitor.



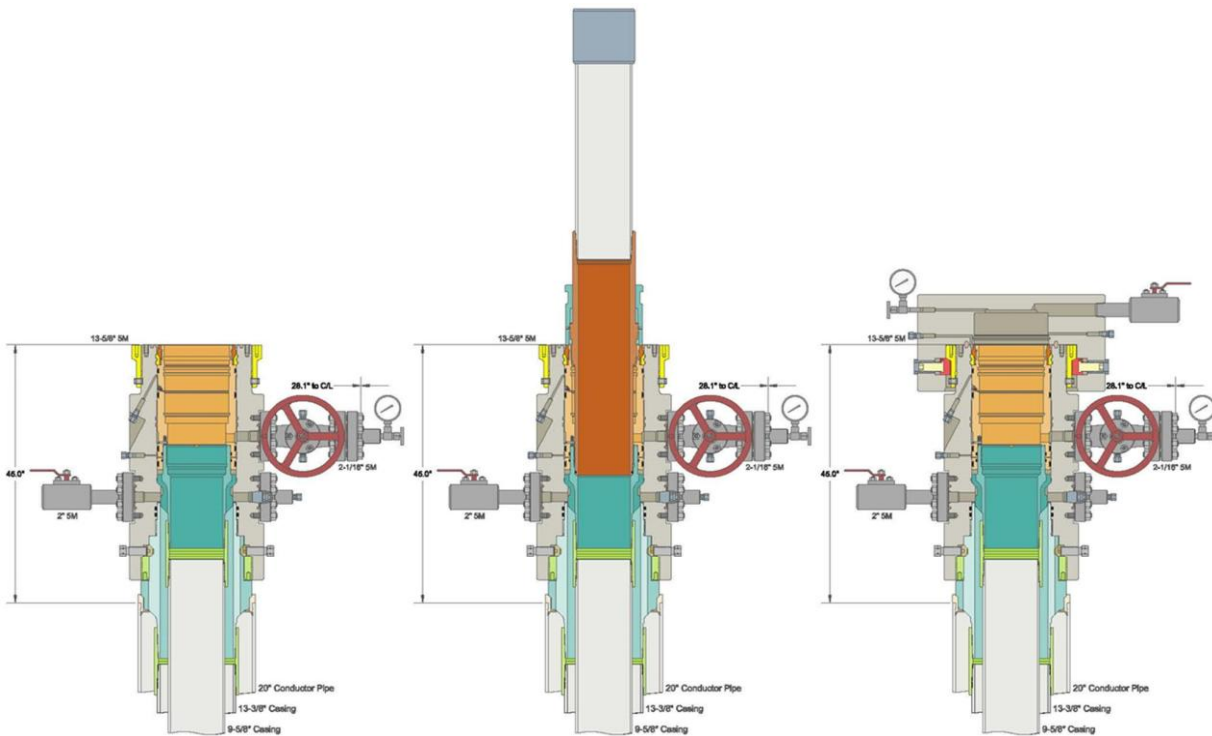
## 9 5/8" Intermediate



Run 9-5/8" Casing  
Land Casing on 9-5/8" Mandrel Hanger  
Cement 9-5/8" Casing  
Retrieve Running Tool



Run 13-5/8" Packoff  
Test Upper and Lower Seals  
Engage Lockring  
Retrieve Running Tool





Size	5.5
Grade	P110 RY
Weight	20

**TCBC-HT**

SeAH Steel

Coupling and Pipe Dimensions (in)						
	Outer Diameter	Inner Diameter	Coupling Length	Make-up Loss	Wall Thickness	Drift Diameter
Coupling	6.300	5.383				
Pipe		4.778	8.250	4.125	0.361	4.653
Pin		4.778				

Torque Values (ft-lbs)				
Field End Make-Up			Max. Working Torque <sup>1</sup>	Yield Torque
Minimum	Optimum <sup>2</sup>	Maximum		
10,000	13,500	18,500	22,250	25,200

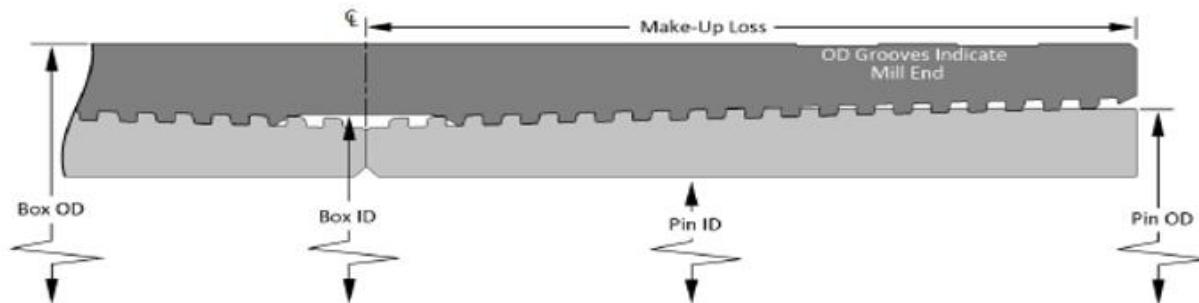
Yield Stress (x1000 lbs.)	
Tensile	Compressive
100%	100%

Maximum Pressure (psi)	
Internal	External
100%	100%



<sup>1</sup> Max. Working Torque value is not to be exceeded during operation.

<sup>2</sup> If Optimum Torque does not meet the Base of Triangle Stamp, M/U to the Base of Triangle.



\*Data are for information purposes only. Though HIS has made efforts to ensure accuracy, HIS makes no warranty for loss or damage due to its use.

Rev 0

19996 Hickory Twig Way Spring, TX 77388  
Phone: (281) 602-7550  
Fax: (281) 602-7557



5.5"    20#    .361"    P-110 Restricted Yield (RY)

**Dimensions (Nominal)**

Outside Diameter	5.500	in.
Wall	0.361	in.
Inside Diameter	4.778	in.
Drift	4.653	in.
Weight, T&C	20.000	lbs/ft
Weight, PE	19.830	lbs/ft

**Performance Properties (Minimum)**

Minimum Yield Strength	110000	psi
Maximum Yield Strength	125000	psi
Collapse, PE	11100	psi
Internal Yield Pressure		
PE	12630	psi
LTC	12360	psi
BTC	12360	psi
Yield Strength, Pipe Body	641	1000 lbs
Joint Strength		
LTC	548	1000 lbs
BTC	667	1000 lbs

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

## Permian Resources

### Multi-Well Pad Batch Drilling Procedure

Surface Casing - PR intends to Batch set all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a rig. Appropriate notifications will be made prior to spudding the well, running and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill Surface hole to Approved Depth with Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run and land planned surface casing see Illustration 1-1 Below to depth approved in APD.
3. Set packoff and test to 5k psi
4. Offline Cement
5. Install wellhead with pressure gauge and nightcap. Nightcap is shown on final wellhead Stack up Illustration #2-2.
6. Skid Rig to adjacent well to drill Surface hole.
7. Surface casing test will be performed by the rig in order to allow ample time for Cement to develop 500psi compressive strength. Casing test to 0.22 psi/ft or 1500 psi whichever is greater - not to exceed 70% casing burst.

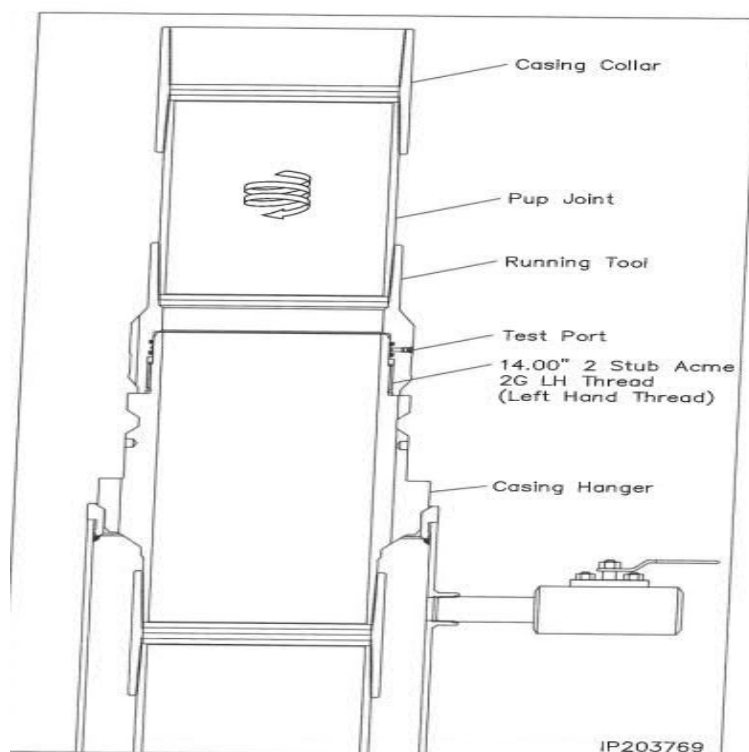


Illustration 1-1



Intermediate Casing – PR intends to Batch set all intermediate casing strings to a depth approved in the APD. Intermediate Holes will be batch drilled by the rig. Appropriate notifications will be made prior to testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Test Surface casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
3. Install wear bushing then drill out surface casing shoe-track plus 20' and conduct FIT to minimum of the MW equivalent anticipated to control the formation pressure to the next casing point.
4. Drill Intermediate hole to approved casing point. Trip out of hole with BHA to run Casing.
5. Remove wear bushing then run and land Intermediate Casing with mandrel hanger in wellhead.
6. Cement casing to surface with floats holding.
7. Washout stack then run wash tool in wellhead and wash hanger and pack-off setting area.
8. Install pack-off and test void to 5,000 psi for 15 minutes. Nightcap shown on final wellhead stack up illustration 2-2 on page 3.
9. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
10. Install nightcap – skid rig to adjacent well to drill Intermediate hole.

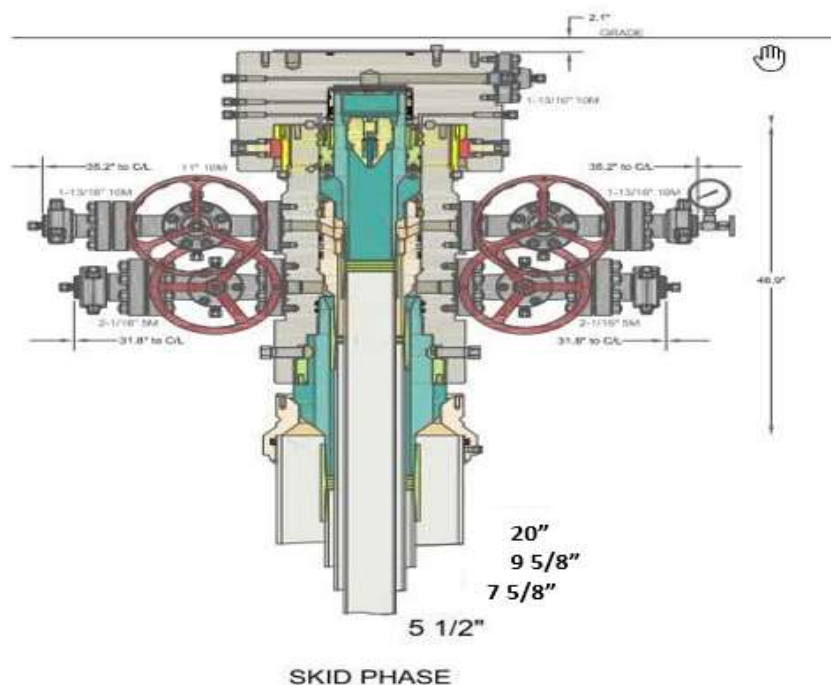


Illustration 2-2



Production Casing – PR intends to Batch set all Production casings with Rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Drilling Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run Production Casing.
6. Remove wear bushing then run Production casing to TD landing casing mandrel in wellhead.
7. Cement Production string with floats holding.
8. Run in with wash tool and wash wellhead area – install pack-off and test void to 5,000psi for 15 minutes.
9. Install BPV in Production mandrel hanger – Nipple down BOPE and install nightcap.
10. Test nightcap void to 5,000 psi for 30 minutes per illustration 2-2
11. Skid rig to adjacent well on pad to drill production hole.

## Permian Resources BOP Break Testing Variance Procedure

Subject: Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

### Background

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in [§§ 3172.6](#) through [3172.12](#). All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s)." Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources submits this request for the variance.

### Supporting Documentation

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Permian Resources drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack



Figure 2: BOP Winch System



American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

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API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>a,c</sup> psig (MPa)	Pressure Test—High Pressure <sup>a,c</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>a,c</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>d</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

<sup>e</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

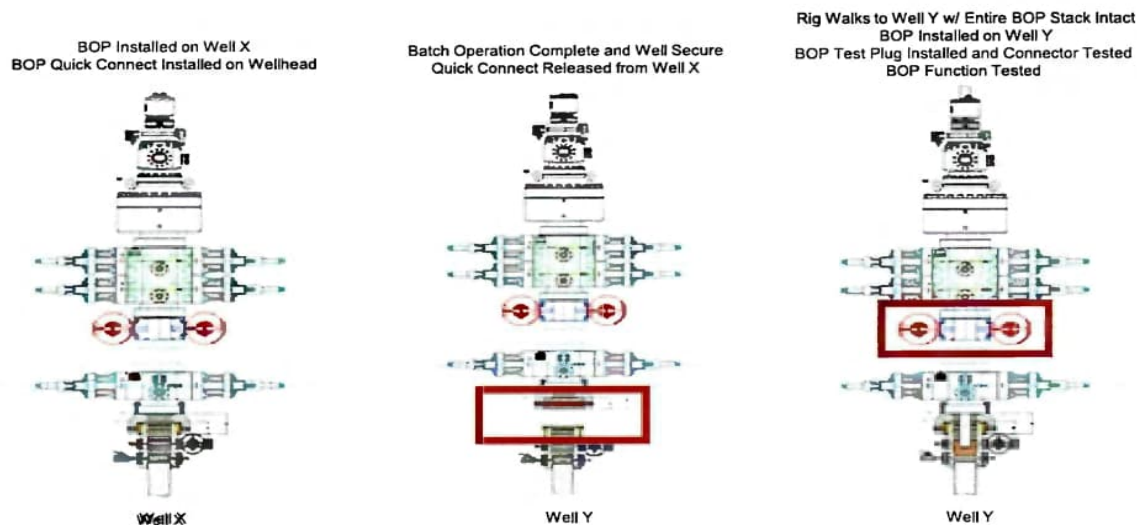
Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

Permian Resources feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Permian Resources internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Permian Resources performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

#### Procedures

- 1) Permian Resources will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2) Permian Resources will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a) A full BOP test will be conducted on the first well on the pad.
  - b) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
  - c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d) A full BOP test will be required prior to drilling any production hole.
- 3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a) Between the HCV valve and choke line connection
  - b) Between the BOP quick connect and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6) The connections mentioned in 3a and 3b will then be reconnected.
- 7) Install test plug into the wellhead using test joint or drill pipe.
- 8) A shell test is performed against the upper pipe rams testing the two breaks.
- 9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
- 11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

*Note: Picture below highlights BOP components that will be tested during batch operations*



### Summary

A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

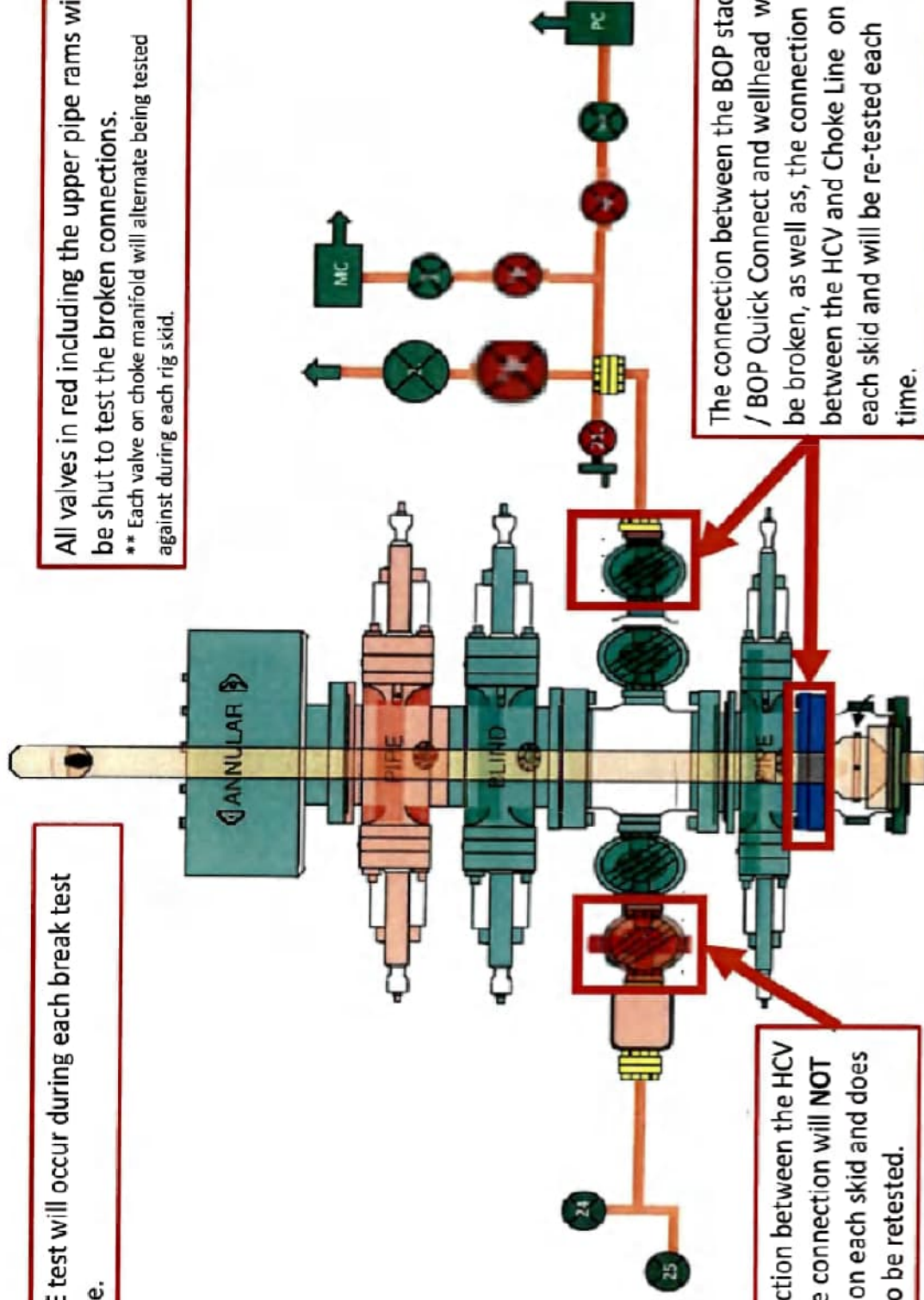
Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

- 1) After a full BOP test is conducted on the first well on the pad.
- 2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
- 3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
- 4) A full BOP test will be required prior to drilling the production hole.



Only **ONE** test will occur during each break test procedure.

All valves in red including the upper pipe rams will be shut to test the broken connections.  
\*\* Each valve on choke manifold will alternate being tested against during each rig skid.

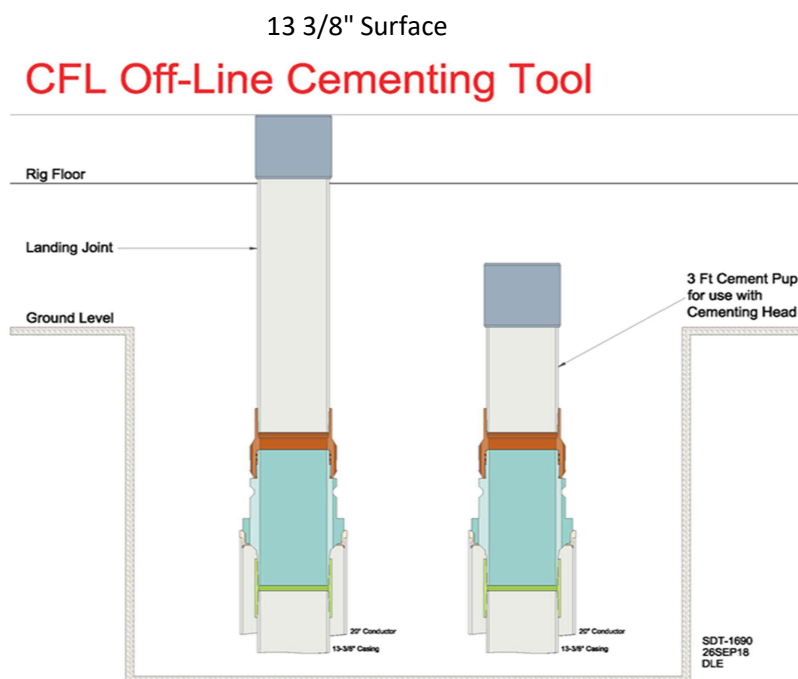


The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.

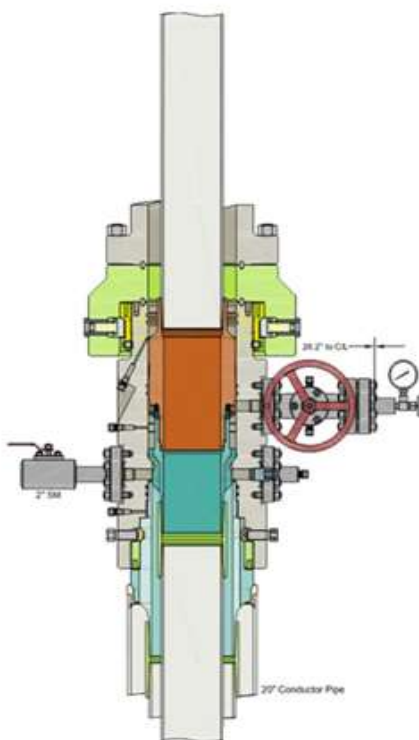
The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.

### Permian Resources Offline Cementing Procedure Surface & Intermediate Casing

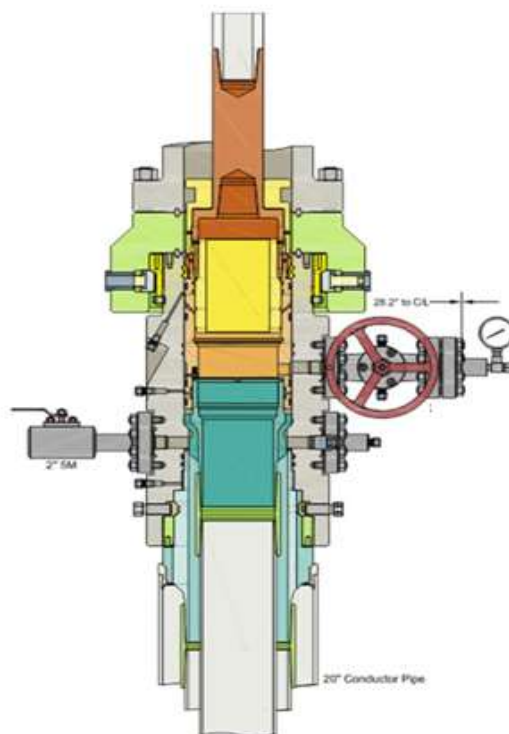
1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Rig down cementers and equipment
16. Install night cap with pressure gauge to monitor.



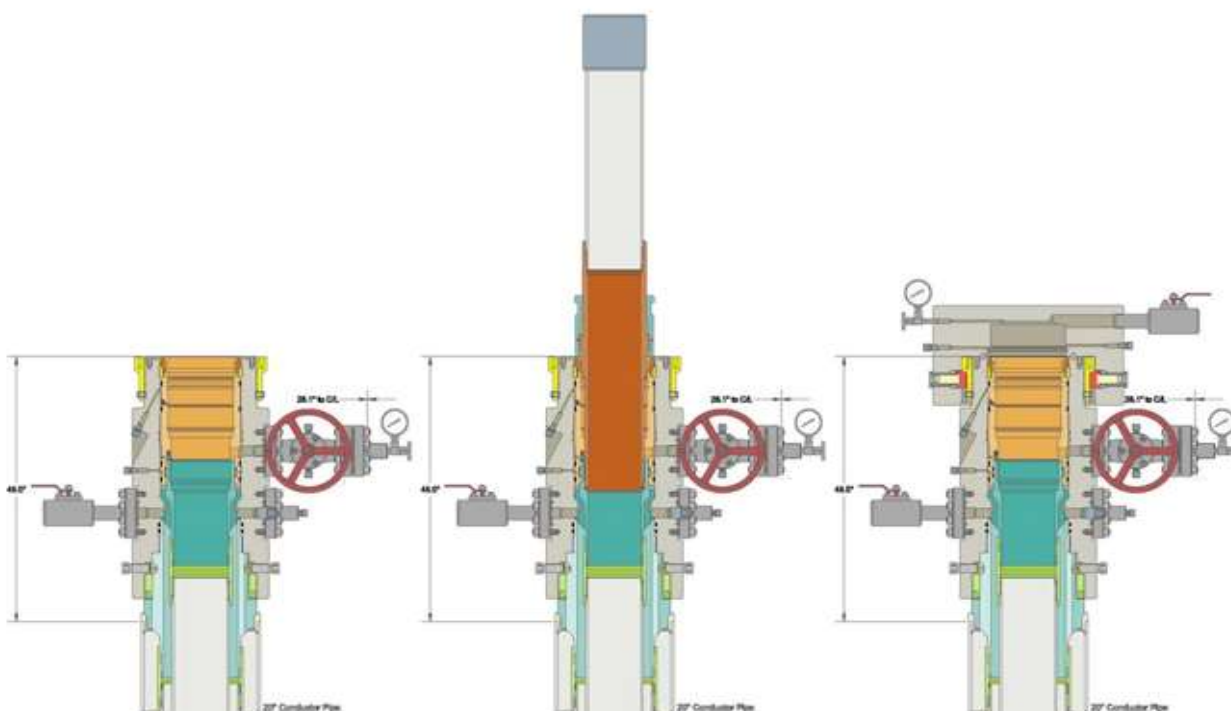
## Intermediate



Run 7 5/8" Casing  
Land Casing on 7 5/8" Mandrel Hanger  
Cement 7 5/8" Casing  
Retrieve Running Tool

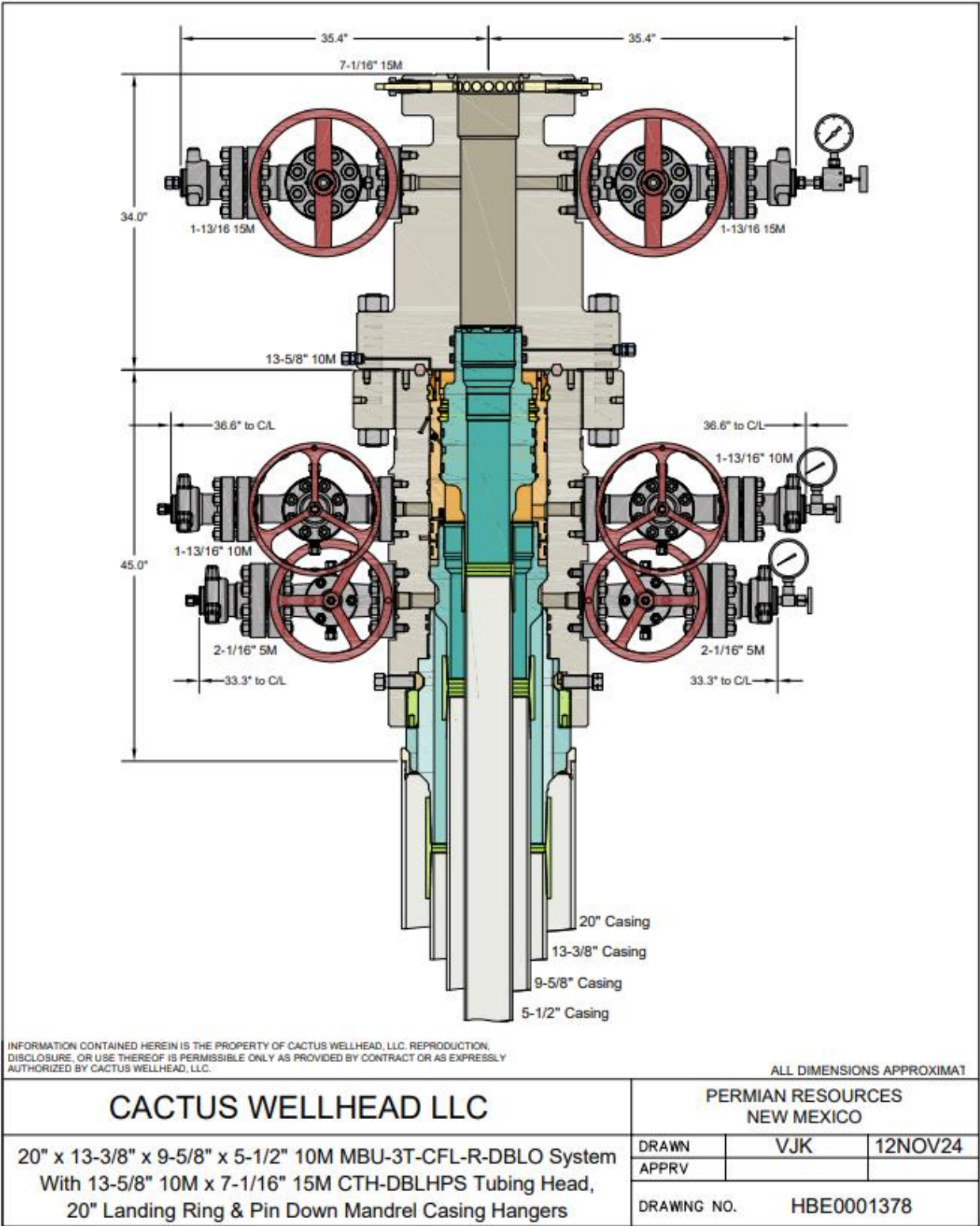


Run 9 5/8" Packoff  
Test Upper and Lower Seals  
Engage Lockring  
Retrieve Running Tool











ContiTech Fluid Technology

ContiTech Oil & Marine Corp. # 11535 Brittmoore Park Dr., Houston, TX 77041-6916 USA		<b>Packing list / Delivery note</b>		
CONSIGNEE / Ship-to address:  HELMERICH & PAYNE INT'L DRILLING CO ATTN: FLEX RIG WHSE - B-BAY 210 MAGNOLIA DRIVE GALENA PARK TX 77547		Document No. <b>71461553</b> Document Date 28.01.2022		
Buyer:  HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER 74119 TULSA		Customer Number 11697 Customer VAT No. Supplier Number Purchase Order No. 740362040 Purchase Order Date 18.01.2022 Sales Order Number 1388153 Sales Order Date 18.01.2022		
Conditions  Incoterms EXW Houston Ex Works		Unloading Point RAN-No.		
		<b>Page 1 of 2</b>		
		Weights (Gross / Net) Total Gross Weight 2,507.000 LB Total Net Weight 2,507.000 LB		
Item	Material/Description	Quantity	Net Weight	Gross Weight
20	Buyer: Jack Peebles E-mail: Jackie.Peebles@hpinc.com Tel: 832-782-6000  Rig/Whse: HOW <b>00RECERTIFY</b> Recert of HP Hoses Serial# 67094 Commodity Code: 3" X 35 FT 10K Choke & Kill Hoses API 16C  End 1: 4 - 1/16" 10Kpsi API Spec 6A Type 6BX Flange End 2: 4 - 1/16" 10Kpsi API Spec 6A Type 6BX Flange c/w BX155 ring groove each end Standard: API Spec 16C - Monogrammed  Working Pressure: 10,000psi Test Pressure: 15,000psi  Inspection & Certification includes: External inspection of the hose & couplings Internal boroscopic inspection of hose liner Hydrostatic pressure test of hose assembly Repair of any external damage to hose body and end connections (limited to minor repairs). Clean & protect end connections Inspection Report Disposal of hose assembly if hose fails inspection and recertification process. Please Flush Hoses before sending them to our Facility.	1 PC	2,507.000 LB	2,507.000 LB

ContiTech Rubber Industrial Kft.  
 H-6728 Szeged Budapesti út 10.  
 P. O. Box 152 Szeged H-6701  
 Phone: (62)566-700, Fax: (62)566-713  
 Tax Number: 11087209-2-06  
 EU Community VAT: HU11087209  
 Registration No.: Cg. 0609-002502  
 Registry Court: Csongrád Megyei Cégbíróság

COMMERZBANK ZRT. (HUF)  
 H-1054 Budapest, Széchenyi rakpart 8.  
 H-1245 Budapest P.O. Box 1070  
 Account No.: 14220108-26830003  
 IBAN: HU83 1422 0108 2683 0003 0000 0000  
 SWIFT: COBA HU HXXX

COMMERZBANK AG Hannover (EUR)  
 30159 Hannover, Theaterstr. 11-12.  
 Account No.: 3 066 156 00  
 Sort Code: 250 400 66  
 BIC: COBADEFF250  
 IBAN: DE41250400660306615600

Record Rotary Hose sleeve number on the CBC Made Hose List!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!



## Hydrostatic Test Certificate

ContiTech

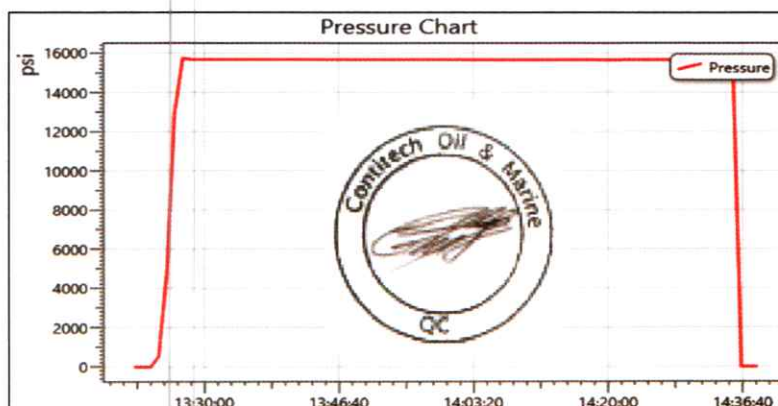
<b>Certificate Number</b> H100122	<b>COM Order Reference</b> 1388153	<b>Customer Name &amp; Address</b> HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA	
<b>Customer Purchase Order No:</b> 740362040			
<b>Project:</b>			
<b>Test Center Address</b> ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	<b>Accepted by COM Inspection</b> Signed: Gerson Mejia-Lazo Date: 02/09/22	<b>Accepted by Client Inspection</b>	

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	Part No.	Description	Qty	Serial Number	Work. Press. (psi)	Test Press. (psi)	Test Time (minutes)
20	RECERTIFICATION	3" ID 10K Choke and Kill Hose x 35ft OAL	1	67094	10,000	15,000	60

Record Information	
Start Time	1/27/2022 13:21:21
End Time	1/27/2022 14:38:28
Interval	00:01:00
Number	78
MaxValue	15849
MinValue	-3
AvgValue	14240
RecordName	67094-sh
RecordNumber	199

Gauge Information	
Model	ADT680
SN	21817380014
Range	(0-40000)psi
Unit	psi







# Connection Data Sheet

Issued on: May. 09, 2025

## 5.500" 17.00# P-110 RY (SeAH) Bushmaster® SP SC6.050

Pipe Body Data	
Nominal OD	5.500 in.
Wall Thickness	0.304 in.
Weight	17.00 lb/ft
PE Weight	16.89 lb/ft
Nominal ID	4.892 in.
Drift	4.767 in.
Minimum Yield Strength	110,000 psi
Minimum Tensile Strength	125,000 psi
Remaining Body Wall (RBW)	95.0% Rating

Connection Data	
Connection OD	6.050 in.
Connection ID	4.892 in.
Make-Up Loss	4.209 in.
Tension Efficiency	100.0% Rating
Compression Efficiency	100.0% Rating
Yield Strength in Tension	546,000 lbs
Yield Strength in Compression	546,000 lbs
MIYP (Burst)	11,550 psi
Collapse	7,480 psi
Uniaxial Bending	91.7 °/100ft.

Make-up Torque		
Max. Operating Torque	-	37,300 ft. lbs
Maximum Make-up	-	17,900 ft. lbs
Optimum Make-Up	-	16,300 ft. lbs
Minimum Make-Up	-	14,700 ft. lbs

Buck-on Torque		
Maximum Make-Up	-	19,900 ft. lbs
Optimum Make-Up	-	18,100 ft. lbs
Minimum Make-Up	-	16,300 ft. lbs



For technical support please email [support@fermata-tech.com](mailto:support@fermata-tech.com) or call (281) 941-5257.

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Connection performance values pertain to structural capacity.

# **PERMIAN**

## **R E S O U R C E S**

### **NEW MEXICO**

**(SP) EDDY**

**SAFARI**

**SAFARI STATE COM 14H**

**OWB**

**Plan: PWP0**

## **Standard Planning Report - Geographic**

**09 December, 2025**

# PERMIAN

## RESOURCES

### Planning Report - Geographic

<b>Database:</b>	Compass_17	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

<b>Project</b>	(SP) EDDY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	SAFARI		
<b>Site Position:</b>		<b>Northing:</b>	539,708.46 usft
<b>From:</b>	Map	<b>Easting:</b>	550,108.19 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	32° 29' 1.383 N
		<b>Longitude:</b>	104° 18' 17.602 W

Well	SAFARI STATE COM 14H					
Well Position	+N/-S	0.0 usft	Northing:	538,470.11 usft	Latitude:	32° 28' 49.127 N
	+E/-W	0.0 usft	Easting:	550,818.50 usft	Longitude:	104° 18' 9.313 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,278.0 usft
Grid Convergence:		0.02 °				

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	8.10	60.35	48,866.05173383

<b>Design</b>	PWP0			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	104.07

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/9/2025		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	18,045.2 PWP0 (OWB)	MWD	
			OWSG_Rev2_ MWD - Standai	

# PERMIAN

## RESOURCES

### Planning Report - Geographic

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<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,924.3	38.49	205.60	2,782.8	-561.2	-268.9	2.00	2.00	0.00	205.60	
5,242.2	38.49	205.60	4,597.2	-1,862.1	-892.3	0.00	0.00	0.00	0.00	
7,166.5	0.00	0.00	6,380.0	-2,423.3	-1,161.2	2.00	-2.00	0.00	180.00	
7,230.0	0.00	0.00	6,443.5	-2,423.3	-1,161.2	0.00	0.00	0.00	0.00	
7,979.9	90.00	89.86	6,921.0	-2,422.1	-683.8	12.00	12.00	11.98	89.86	
8,735.4	90.00	89.86	6,921.0	-2,420.2	71.6	0.00	0.00	0.00	0.00	PP2 SAFARI SC 14H
8,740.2	90.00	89.76	6,921.0	-2,420.2	76.5	2.00	0.05	-2.00	-88.43	
11,405.6	90.00	89.76	6,921.0	-2,408.9	2,741.8	0.00	0.00	0.00	0.00	PP3 SAFARI SC 14H
11,410.9	90.00	89.65	6,921.0	-2,408.9	2,747.1	2.00	0.00	-2.00	-90.00	
12,743.4	90.00	89.65	6,921.0	-2,400.8	4,079.6	0.00	0.00	0.00	0.00	PP4 SAFARI SC 14H
12,746.4	90.00	89.59	6,921.0	-2,400.8	4,082.6	2.00	0.00	-2.00	-90.00	
14,094.3	90.00	89.59	6,921.0	-2,391.3	5,430.5	0.00	0.00	0.00	0.00	PP5 SAFARI SC 14H
15,445.2	90.00	89.59	6,921.0	-2,381.7	6,781.4	0.00	0.00	0.00	0.00	PP6 SAFARI SC 14H
15,458.1	90.00	89.34	6,921.0	-2,381.6	6,794.3	2.00	0.00	-2.00	-90.00	
18,045.2	90.00	89.34	6,921.0	-2,351.6	9,381.2	0.00	0.00	0.00	0.00	LTP/BHL SAFARI SC



# PERMIAN

## RESOURCES

### Planning Report - Geographic

<b>Database:</b>	Compass_17	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
100.0	0.00	0.00	100.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
200.0	0.00	0.00	200.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
300.0	0.00	0.00	300.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
400.0	0.00	0.00	400.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
500.0	0.00	0.00	500.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
600.0	0.00	0.00	600.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
700.0	0.00	0.00	700.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
800.0	0.00	0.00	800.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
900.0	0.00	0.00	900.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	538,470.11	550,818.50	32° 28' 49.127 N	104° 18' 9.313 W
Start Build 2.00									
1,100.0	2.00	205.60	1,100.0	-1.6	-0.8	538,468.54	550,817.75	32° 28' 49.112 N	104° 18' 9.322 W
1,200.0	4.00	205.60	1,199.8	-6.3	-3.0	538,463.82	550,815.49	32° 28' 49.065 N	104° 18' 9.348 W
1,300.0	6.00	205.60	1,299.5	-14.2	-6.8	538,455.96	550,811.72	32° 28' 48.987 N	104° 18' 9.392 W
1,400.0	8.00	205.60	1,398.7	-25.1	-12.0	538,444.97	550,806.45	32° 28' 48.878 N	104° 18' 9.454 W
1,500.0	10.00	205.60	1,497.5	-39.2	-18.8	538,430.86	550,799.69	32° 28' 48.739 N	104° 18' 9.533 W
1,600.0	12.00	205.60	1,595.6	-56.5	-27.1	538,413.66	550,791.45	32° 28' 48.569 N	104° 18' 9.629 W
1,700.0	14.00	205.60	1,693.1	-76.7	-36.8	538,393.37	550,781.73	32° 28' 48.368 N	104° 18' 9.743 W
1,800.0	16.00	205.60	1,789.6	-100.1	-48.0	538,370.03	550,770.54	32° 28' 48.137 N	104° 18' 9.873 W
1,900.0	18.00	205.60	1,885.3	-126.4	-60.6	538,343.67	550,757.91	32° 28' 47.876 N	104° 18' 10.021 W
2,000.0	20.00	205.60	1,979.8	-155.8	-74.7	538,314.31	550,743.84	32° 28' 47.586 N	104° 18' 10.185 W
2,100.0	22.00	205.60	2,073.2	-188.1	-90.1	538,281.99	550,728.36	32° 28' 47.266 N	104° 18' 10.366 W
2,200.0	24.00	205.60	2,165.2	-223.4	-107.0	538,246.76	550,711.47	32° 28' 46.917 N	104° 18' 10.563 W
2,300.0	26.00	205.60	2,255.8	-261.5	-125.3	538,208.65	550,693.21	32° 28' 46.540 N	104° 18' 10.777 W
2,400.0	28.00	205.60	2,344.9	-302.4	-144.9	538,167.71	550,673.59	32° 28' 46.135 N	104° 18' 11.006 W
2,500.0	30.00	205.60	2,432.4	-346.1	-165.9	538,123.99	550,652.64	32° 28' 45.703 N	104° 18' 11.250 W
2,600.0	32.00	205.60	2,518.1	-392.6	-188.1	538,077.55	550,630.39	32° 28' 45.243 N	104° 18' 11.510 W
2,700.0	34.00	205.60	2,602.0	-441.7	-211.7	538,028.43	550,606.85	32° 28' 44.757 N	104° 18' 11.785 W
2,800.0	36.00	205.60	2,683.9	-493.4	-236.4	537,976.71	550,582.07	32° 28' 44.245 N	104° 18' 12.075 W
2,900.0	38.00	205.60	2,763.7	-547.7	-262.4	537,922.44	550,556.06	32° 28' 43.708 N	104° 18' 12.379 W
2,924.3	38.49	205.60	2,782.8	-561.2	-268.9	537,908.90	550,549.57	32° 28' 43.574 N	104° 18' 12.454 W
Start 2317.9 hold at 2924.3 MD									
3,000.0	38.49	205.60	2,842.1	-603.7	-289.3	537,866.39	550,529.20	32° 28' 43.154 N	104° 18' 12.692 W
3,100.0	38.49	205.60	2,920.4	-659.8	-316.2	537,810.27	550,502.31	32° 28' 42.599 N	104° 18' 13.006 W
3,200.0	38.49	205.60	2,998.6	-716.0	-343.1	537,754.15	550,475.42	32° 28' 42.043 N	104° 18' 13.321 W
3,300.0	38.49	205.60	3,076.9	-772.1	-370.0	537,698.03	550,448.52	32° 28' 41.488 N	104° 18' 13.635 W
3,400.0	38.49	205.60	3,155.2	-828.2	-396.9	537,641.91	550,421.63	32° 28' 40.933 N	104° 18' 13.949 W
3,500.0	38.49	205.60	3,233.5	-884.3	-423.8	537,585.79	550,394.74	32° 28' 40.377 N	104° 18' 14.263 W
3,600.0	38.49	205.60	3,311.7	-940.4	-450.7	537,529.67	550,367.85	32° 28' 39.822 N	104° 18' 14.577 W
3,700.0	38.49	205.60	3,390.0	-996.6	-477.5	537,473.55	550,340.95	32° 28' 39.267 N	104° 18' 14.891 W
3,800.0	38.49	205.60	3,468.3	-1,052.7	-504.4	537,417.43	550,314.06	32° 28' 38.712 N	104° 18' 15.205 W
3,900.0	38.49	205.60	3,546.6	-1,108.8	-531.3	537,361.31	550,287.17	32° 28' 38.156 N	104° 18' 15.520 W
4,000.0	38.49	205.60	3,624.8	-1,164.9	-558.2	537,305.19	550,260.28	32° 28' 37.601 N	104° 18' 15.834 W
4,100.0	38.49	205.60	3,703.1	-1,221.0	-585.1	537,249.07	550,233.38	32° 28' 37.046 N	104° 18' 16.148 W
4,200.0	38.49	205.60	3,781.4	-1,277.2	-612.0	537,192.95	550,206.49	32° 28' 36.490 N	104° 18' 16.462 W
4,300.0	38.49	205.60	3,859.7	-1,333.3	-638.9	537,136.83	550,179.60	32° 28' 35.935 N	104° 18' 16.776 W
4,400.0	38.49	205.60	3,938.0	-1,389.4	-665.8	537,080.70	550,152.70	32° 28' 35.380 N	104° 18' 17.090 W
4,500.0	38.49	205.60	4,016.2	-1,445.5	-692.7	537,024.58	550,125.81	32° 28' 34.825 N	104° 18' 17.404 W
4,600.0	38.49	205.60	4,094.5	-1,501.6	-719.6	536,968.46	550,098.92	32° 28' 34.269 N	104° 18' 17.718 W
4,700.0	38.49	205.60	4,172.8	-1,557.8	-746.5	536,912.34	550,072.03	32° 28' 33.714 N	104° 18' 18.033 W
4,800.0	38.49	205.60	4,251.1	-1,613.9	-773.4	536,856.22	550,045.13	32° 28' 33.159 N	104° 18' 18.347 W
4,900.0	38.49	205.60	4,329.3	-1,670.0	-800.3	536,800.10	550,018.24	32° 28' 32.604 N	104° 18' 18.661 W
5,000.0	38.49	205.60	4,407.6	-1,726.1	-827.2	536,743.98	549,991.35	32° 28' 32.048 N	104° 18' 18.975 W

# PERMIAN

## RESOURCES

### Planning Report - Geographic

<b>Database:</b>	Compass_17	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,100.0	38.49	205.60	4,485.9	-1,782.3	-854.0	536,687.86	549,964.46	32° 28' 31.493 N	104° 18' 19.289 W	
5,200.0	38.49	205.60	4,564.2	-1,838.4	-880.9	536,631.74	549,937.56	32° 28' 30.938 N	104° 18' 19.603 W	
5,242.2	38.49	205.60	4,597.2	-1,862.1	-892.3	536,608.06	549,926.21	32° 28' 30.703 N	104° 18' 19.736 W	
Start Drop -2.00										
5,300.0	37.33	205.60	4,642.8	-1,894.1	-907.6	536,576.03	549,910.87	32° 28' 30.386 N	104° 18' 19.915 W	
5,400.0	35.33	205.60	4,723.4	-1,947.5	-933.2	536,522.61	549,885.27	32° 28' 29.858 N	104° 18' 20.214 W	
5,500.0	33.33	205.60	4,805.9	-1,998.4	-957.6	536,471.76	549,860.90	32° 28' 29.355 N	104° 18' 20.499 W	
5,600.0	31.33	205.60	4,890.4	-2,046.6	-980.7	536,423.53	549,837.79	32° 28' 28.878 N	104° 18' 20.769 W	
5,700.0	29.33	205.60	4,976.7	-2,092.1	-1,002.5	536,378.00	549,815.97	32° 28' 28.427 N	104° 18' 21.023 W	
5,800.0	27.33	205.60	5,064.8	-2,134.9	-1,023.0	536,335.20	549,795.46	32° 28' 28.004 N	104° 18' 21.263 W	
5,900.0	25.33	205.60	5,154.4	-2,174.9	-1,042.2	536,295.21	549,776.30	32° 28' 27.608 N	104° 18' 21.487 W	
6,000.0	23.33	205.60	5,245.5	-2,212.1	-1,060.0	536,258.06	549,758.50	32° 28' 27.240 N	104° 18' 21.695 W	
6,100.0	21.33	205.60	5,338.0	-2,246.3	-1,076.4	536,223.80	549,742.08	32° 28' 26.901 N	104° 18' 21.886 W	
6,200.0	19.33	205.60	5,431.8	-2,277.6	-1,091.4	536,192.47	549,727.07	32° 28' 26.591 N	104° 18' 22.062 W	
6,300.0	17.33	205.60	5,526.7	-2,306.0	-1,105.0	536,164.11	549,713.48	32° 28' 26.311 N	104° 18' 22.221 W	
6,400.0	15.33	205.60	5,622.6	-2,331.4	-1,117.2	536,138.76	549,701.33	32° 28' 26.060 N	104° 18' 22.362 W	
6,500.0	13.33	205.60	5,719.5	-2,353.7	-1,127.9	536,116.44	549,690.63	32° 28' 25.839 N	104° 18' 22.487 W	
6,600.0	11.33	205.60	5,817.2	-2,372.9	-1,137.1	536,097.18	549,681.41	32° 28' 25.649 N	104° 18' 22.595 W	
6,700.0	9.33	205.60	5,915.6	-2,389.1	-1,144.8	536,081.01	549,673.66	32° 28' 25.489 N	104° 18' 22.686 W	
6,800.0	7.33	205.60	6,014.5	-2,402.2	-1,151.1	536,067.95	549,667.40	32° 28' 25.359 N	104° 18' 22.759 W	
6,900.0	5.33	205.60	6,113.9	-2,412.1	-1,155.9	536,058.01	549,662.63	32° 28' 25.261 N	104° 18' 22.814 W	
7,000.0	3.33	205.60	6,213.6	-2,418.9	-1,159.1	536,051.20	549,659.37	32° 28' 25.194 N	104° 18' 22.852 W	
7,100.0	1.33	205.60	6,313.5	-2,422.6	-1,160.9	536,047.54	549,657.62	32° 28' 25.157 N	104° 18' 22.873 W	
7,166.5	0.00	0.00	6,380.0	-2,423.3	-1,161.2	536,046.84	549,657.28	32° 28' 25.150 N	104° 18' 22.877 W	
Start 63.5 hold at 7166.5 MD										
7,200.0	0.00	0.00	6,413.5	-2,423.3	-1,161.2	536,046.84	549,657.28	32° 28' 25.150 N	104° 18' 22.877 W	
7,230.0	0.00	0.00	6,443.5	-2,423.3	-1,161.2	536,046.84	549,657.28	32° 28' 25.150 N	104° 18' 22.877 W	
Start DLS 12.00 TFO 89.86										
7,250.0	2.40	89.86	6,463.5	-2,423.3	-1,160.8	536,046.84	549,657.70	32° 28' 25.150 N	104° 18' 22.872 W	
7,275.0	5.40	89.86	6,488.5	-2,423.3	-1,159.1	536,046.85	549,659.40	32° 28' 25.150 N	104° 18' 22.852 W	
7,300.0	8.40	89.86	6,513.3	-2,423.3	-1,156.1	536,046.85	549,662.41	32° 28' 25.151 N	104° 18' 22.817 W	
7,325.0	11.40	89.86	6,537.9	-2,423.2	-1,151.8	536,046.87	549,666.71	32° 28' 25.151 N	104° 18' 22.767 W	
7,350.0	14.40	89.86	6,562.3	-2,423.2	-1,146.2	536,046.88	549,672.29	32° 28' 25.151 N	104° 18' 22.702 W	
7,375.0	17.40	89.86	6,586.3	-2,423.2	-1,139.4	536,046.90	549,679.14	32° 28' 25.151 N	104° 18' 22.622 W	
7,400.0	20.40	89.86	6,610.0	-2,423.2	-1,131.3	536,046.92	549,687.24	32° 28' 25.151 N	104° 18' 22.527 W	
7,425.0	23.40	89.86	6,633.2	-2,423.2	-1,121.9	536,046.94	549,696.57	32° 28' 25.151 N	104° 18' 22.418 W	
7,450.0	26.40	89.86	6,655.8	-2,423.1	-1,111.4	536,046.97	549,707.09	32° 28' 25.152 N	104° 18' 22.295 W	
7,475.0	29.40	89.86	6,677.9	-2,423.1	-1,099.7	536,047.00	549,718.79	32° 28' 25.152 N	104° 18' 22.159 W	
7,500.0	32.40	89.86	6,699.4	-2,423.1	-1,086.9	536,047.03	549,731.63	32° 28' 25.152 N	104° 18' 22.009 W	
7,525.0	35.40	89.86	6,720.1	-2,423.0	-1,072.9	536,047.06	549,745.57	32° 28' 25.152 N	104° 18' 21.846 W	
7,550.0	38.40	89.86	6,740.1	-2,423.0	-1,057.9	536,047.10	549,760.58	32° 28' 25.153 N	104° 18' 21.671 W	
7,575.0	41.40	89.86	6,759.3	-2,423.0	-1,041.9	536,047.14	549,776.62	32° 28' 25.153 N	104° 18' 21.484 W	
7,600.0	44.40	89.86	6,777.6	-2,422.9	-1,024.9	536,047.18	549,793.64	32° 28' 25.153 N	104° 18' 21.285 W	
7,601.9	44.63	89.86	6,778.9	-2,422.9	-1,023.6	536,047.19	549,794.94	32° 28' 25.154 N	104° 18' 21.270 W	
FTP SAFARI SC 14H										
7,625.0	47.40	89.86	6,795.0	-2,422.9	-1,006.9	536,047.23	549,811.59	32° 28' 25.154 N	104° 18' 21.076 W	
7,650.0	50.40	89.86	6,811.4	-2,422.8	-988.1	536,047.28	549,830.43	32° 28' 25.154 N	104° 18' 20.856 W	
7,675.0	53.40	89.86	6,826.8	-2,422.8	-968.4	536,047.33	549,850.10	32° 28' 25.155 N	104° 18' 20.626 W	
7,700.0	56.40	89.86	6,841.2	-2,422.7	-948.0	536,047.38	549,870.55	32° 28' 25.155 N	104° 18' 20.387 W	
7,725.0	59.40	89.86	6,854.5	-2,422.7	-926.8	536,047.43	549,891.73	32° 28' 25.156 N	104° 18' 20.140 W	
7,750.0	62.40	89.86	6,866.6	-2,422.6	-904.9	536,047.48	549,913.57	32° 28' 25.156 N	104° 18' 19.885 W	
7,775.0	65.40	89.86	6,877.6	-2,422.6	-882.5	536,047.54	549,936.02	32° 28' 25.157 N	104° 18' 19.623 W	
7,800.0	68.40	89.86	6,887.4	-2,422.5	-859.5	536,047.60	549,959.01	32° 28' 25.157 N	104° 18' 19.355 W	
7,825.0	71.40	89.86	6,896.0	-2,422.5	-836.0	536,047.66	549,982.49	32° 28' 25.158 N	104° 18' 19.080 W	

# PERMIAN

## RESOURCES

### Planning Report - Geographic

<b>Database:</b>	Compass_17	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,850.0	74.40	89.86	6,903.4	-2,422.4	-812.1	536,047.72	550,006.38	32° 28' 25.158 N	104° 18' 18.802 W
7,875.0	77.40	89.86	6,909.5	-2,422.3	-787.9	536,047.78	550,030.63	32° 28' 25.159 N	104° 18' 18.519 W
7,900.0	80.40	89.86	6,914.3	-2,422.3	-763.3	536,047.84	550,055.16	32° 28' 25.159 N	104° 18' 18.232 W
7,925.0	83.40	89.86	6,917.8	-2,422.2	-738.6	536,047.90	550,079.90	32° 28' 25.160 N	104° 18' 17.943 W
7,950.0	86.40	89.86	6,920.0	-2,422.1	-713.7	536,047.96	550,104.80	32° 28' 25.160 N	104° 18' 17.653 W
7,975.0	89.40	89.86	6,920.9	-2,422.1	-688.7	536,048.03	550,129.78	32° 28' 25.161 N	104° 18' 17.361 W
7,979.9	90.00	89.86	6,921.0	-2,422.1	-683.8	536,048.04	550,134.72	32° 28' 25.161 N	104° 18' 17.303 W
<b>Start 755.4 hold at 7979.9 MD</b>									
8,000.0	90.00	89.86	6,921.0	-2,422.0	-663.7	536,048.09	550,154.78	32° 28' 25.161 N	104° 18' 17.069 W
8,100.0	90.00	89.86	6,921.0	-2,421.8	-563.7	536,048.34	550,254.78	32° 28' 25.164 N	104° 18' 15.902 W
8,200.0	90.00	89.86	6,921.0	-2,421.5	-463.7	536,048.59	550,354.78	32° 28' 25.166 N	104° 18' 14.734 W
8,300.0	90.00	89.86	6,921.0	-2,421.3	-363.7	536,048.84	550,454.78	32° 28' 25.168 N	104° 18' 13.567 W
8,400.0	90.00	89.86	6,921.0	-2,421.0	-263.7	536,049.09	550,554.78	32° 28' 25.170 N	104° 18' 12.400 W
8,500.0	90.00	89.86	6,921.0	-2,420.8	-163.7	536,049.34	550,654.78	32° 28' 25.173 N	104° 18' 11.232 W
8,600.0	90.00	89.86	6,921.0	-2,420.5	-63.7	536,049.59	550,754.78	32° 28' 25.175 N	104° 18' 10.065 W
8,700.0	90.00	89.86	6,921.0	-2,420.3	36.3	536,049.84	550,854.78	32° 28' 25.177 N	104° 18' 8.898 W
8,735.4	90.00	89.86	6,921.0	-2,420.2	71.6	536,049.93	550,890.13	32° 28' 25.178 N	104° 18' 8.485 W
<b>Start DLS 2.00 TFO -88.43 - PP2 SAFARI SC 14H</b>									
8,740.2	90.00	89.76	6,921.0	-2,420.2	76.5	536,049.95	550,895.01	32° 28' 25.178 N	104° 18' 8.428 W
<b>Start 2665.3 hold at 8740.2 MD</b>									
8,800.0	90.00	89.76	6,921.0	-2,419.9	136.3	536,050.20	550,954.78	32° 28' 25.180 N	104° 18' 7.730 W
8,900.0	90.00	89.76	6,921.0	-2,419.5	236.3	536,050.62	551,054.78	32° 28' 25.184 N	104° 18' 6.563 W
9,000.0	90.00	89.76	6,921.0	-2,419.1	336.3	536,051.04	551,154.78	32° 28' 25.188 N	104° 18' 5.395 W
9,100.0	90.00	89.76	6,921.0	-2,418.6	436.3	536,051.46	551,254.78	32° 28' 25.192 N	104° 18' 4.228 W
9,200.0	90.00	89.76	6,921.0	-2,418.2	536.3	536,051.88	551,354.78	32° 28' 25.196 N	104° 18' 3.061 W
9,300.0	90.00	89.76	6,921.0	-2,417.8	636.3	536,052.30	551,454.77	32° 28' 25.199 N	104° 18' 1.893 W
9,400.0	90.00	89.76	6,921.0	-2,417.4	736.3	536,052.72	551,554.77	32° 28' 25.203 N	104° 18' 0.726 W
9,500.0	90.00	89.76	6,921.0	-2,417.0	836.3	536,053.14	551,654.77	32° 28' 25.207 N	104° 17' 59.559 W
9,600.0	90.00	89.76	6,921.0	-2,416.5	936.3	536,053.57	551,754.77	32° 28' 25.211 N	104° 17' 58.391 W
9,700.0	90.00	89.76	6,921.0	-2,416.1	1,036.3	536,053.99	551,854.77	32° 28' 25.215 N	104° 17' 57.224 W
9,800.0	90.00	89.76	6,921.0	-2,415.7	1,136.3	536,054.41	551,954.77	32° 28' 25.219 N	104° 17' 56.057 W
9,900.0	90.00	89.76	6,921.0	-2,415.3	1,236.3	536,054.83	552,054.77	32° 28' 25.223 N	104° 17' 54.889 W
10,000.0	90.00	89.76	6,921.0	-2,414.9	1,336.3	536,055.25	552,154.77	32° 28' 25.226 N	104° 17' 53.722 W
10,100.0	90.00	89.76	6,921.0	-2,414.4	1,436.3	536,055.67	552,254.77	32° 28' 25.230 N	104° 17' 52.554 W
10,200.0	90.00	89.76	6,921.0	-2,414.0	1,536.3	536,056.09	552,354.77	32° 28' 25.234 N	104° 17' 51.387 W
10,300.0	90.00	89.76	6,921.0	-2,413.6	1,636.3	536,056.51	552,454.77	32° 28' 25.238 N	104° 17' 50.220 W
10,400.0	90.00	89.76	6,921.0	-2,413.2	1,736.3	536,056.93	552,554.76	32° 28' 25.242 N	104° 17' 49.052 W
10,500.0	90.00	89.76	6,921.0	-2,412.8	1,836.3	536,057.35	552,654.76	32° 28' 25.246 N	104° 17' 47.885 W
10,600.0	90.00	89.76	6,921.0	-2,412.3	1,936.3	536,057.77	552,754.76	32° 28' 25.249 N	104° 17' 46.718 W
10,700.0	90.00	89.76	6,921.0	-2,411.9	2,036.3	536,058.19	552,854.76	32° 28' 25.253 N	104° 17' 45.550 W
10,800.0	90.00	89.76	6,921.0	-2,411.5	2,136.3	536,058.61	552,954.76	32° 28' 25.257 N	104° 17' 44.383 W
10,900.0	90.00	89.76	6,921.0	-2,411.1	2,236.3	536,059.03	553,054.76	32° 28' 25.261 N	104° 17' 43.215 W
11,000.0	90.00	89.76	6,921.0	-2,410.7	2,336.3	536,059.46	553,154.76	32° 28' 25.265 N	104° 17' 42.048 W
11,100.0	90.00	89.76	6,921.0	-2,410.2	2,436.3	536,059.88	553,254.76	32° 28' 25.268 N	104° 17' 40.881 W
11,200.0	90.00	89.76	6,921.0	-2,409.8	2,536.3	536,060.30	553,354.76	32° 28' 25.272 N	104° 17' 39.713 W
11,300.0	90.00	89.76	6,921.0	-2,409.4	2,636.3	536,060.72	553,454.76	32° 28' 25.276 N	104° 17' 38.546 W
11,405.6	90.00	89.76	6,921.0	-2,408.9	2,741.8	536,061.16	553,560.31	32° 28' 25.280 N	104° 17' 37.314 W
<b>Start DLS 2.00 TFO -90.00 - PP3 SAFARI SC 14H</b>									
11,410.9	90.00	89.65	6,921.0	-2,408.9	2,747.1	536,061.19	553,565.62	32° 28' 25.280 N	104° 17' 37.252 W
<b>Start 1332.5 hold at 11410.9 MD</b>									
11,500.0	90.00	89.65	6,921.0	-2,408.4	2,836.3	536,061.73	553,654.75	32° 28' 25.285 N	104° 17' 36.211 W
11,600.0	90.00	89.65	6,921.0	-2,407.8	2,936.2	536,062.34	553,754.75	32° 28' 25.291 N	104° 17' 35.044 W
11,700.0	90.00	89.65	6,921.0	-2,407.2	3,036.2	536,062.94	553,854.75	32° 28' 25.297 N	104° 17' 33.877 W
11,800.0	90.00	89.65	6,921.0	-2,406.6	3,136.2	536,063.55	553,954.75	32° 28' 25.302 N	104° 17' 32.709 W

# PERMIAN

## RESOURCES

### Planning Report - Geographic

<b>Database:</b>	Compass_17	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Planned Survey										
Measured			Vertical			Map	Map			
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
11,900.0	90.00	89.65	6,921.0	-2,406.0	3,236.2	536,064.15	554,054.75	32° 28' 25.308 N	104° 17' 31.542 W	
12,000.0	90.00	89.65	6,921.0	-2,405.4	3,336.2	536,064.76	554,154.74	32° 28' 25.313 N	104° 17' 30.375 W	
12,100.0	90.00	89.65	6,921.0	-2,404.7	3,436.2	536,065.36	554,254.74	32° 28' 25.319 N	104° 17' 29.207 W	
12,200.0	90.00	89.65	6,921.0	-2,404.1	3,536.2	536,065.97	554,354.74	32° 28' 25.325 N	104° 17' 28.040 W	
12,300.0	90.00	89.65	6,921.0	-2,403.5	3,636.2	536,066.58	554,454.74	32° 28' 25.330 N	104° 17' 26.872 W	
12,400.0	90.00	89.65	6,921.0	-2,402.9	3,736.2	536,067.18	554,554.74	32° 28' 25.336 N	104° 17' 25.705 W	
12,500.0	90.00	89.65	6,921.0	-2,402.3	3,836.2	536,067.79	554,654.74	32° 28' 25.341 N	104° 17' 24.538 W	
12,600.0	90.00	89.65	6,921.0	-2,401.7	3,936.2	536,068.39	554,754.73	32° 28' 25.347 N	104° 17' 23.370 W	
12,700.0	90.00	89.65	6,921.0	-2,401.1	4,036.2	536,069.00	554,854.73	32° 28' 25.353 N	104° 17' 22.203 W	
12,743.4	90.00	89.65	6,921.0	-2,400.8	4,079.6	536,069.26	554,898.12	32° 28' 25.355 N	104° 17' 21.696 W	
Start DLS 2.00 TFO -90.00 - PP4 SAFARI SC 14H										
12,746.4	90.00	89.59	6,921.0	-2,400.8	4,082.6	536,069.28	554,901.09	32° 28' 25.355 N	104° 17' 21.662 W	
Start 1347.9 hold at 12746.4 MD										
12,800.0	90.00	89.59	6,921.0	-2,400.4	4,136.2	536,069.66	554,954.73	32° 28' 25.359 N	104° 17' 21.036 W	
12,900.0	90.00	89.59	6,921.0	-2,399.7	4,236.2	536,070.37	555,054.73	32° 28' 25.365 N	104° 17' 19.868 W	
13,000.0	90.00	89.59	6,921.0	-2,399.0	4,336.2	536,071.08	555,154.72	32° 28' 25.372 N	104° 17' 18.701 W	
13,100.0	90.00	89.59	6,921.0	-2,398.3	4,436.2	536,071.79	555,254.72	32° 28' 25.379 N	104° 17' 17.534 W	
13,200.0	90.00	89.59	6,921.0	-2,397.6	4,536.2	536,072.50	555,354.72	32° 28' 25.385 N	104° 17' 16.366 W	
13,300.0	90.00	89.59	6,921.0	-2,396.9	4,636.2	536,073.21	555,454.72	32° 28' 25.392 N	104° 17' 15.199 W	
13,400.0	90.00	89.59	6,921.0	-2,396.2	4,736.2	536,073.92	555,554.71	32° 28' 25.398 N	104° 17' 14.032 W	
13,500.0	90.00	89.59	6,921.0	-2,395.5	4,836.2	536,074.63	555,654.71	32° 28' 25.405 N	104° 17' 12.864 W	
13,600.0	90.00	89.59	6,921.0	-2,394.8	4,936.2	536,075.34	555,754.71	32° 28' 25.412 N	104° 17' 11.697 W	
13,700.0	90.00	89.59	6,921.0	-2,394.1	5,036.2	536,076.05	555,854.71	32° 28' 25.418 N	104° 17' 10.529 W	
13,800.0	90.00	89.59	6,921.0	-2,393.4	5,136.2	536,076.75	555,954.70	32° 28' 25.425 N	104° 17' 9.362 W	
13,900.0	90.00	89.59	6,921.0	-2,392.6	5,236.2	536,077.46	556,054.70	32° 28' 25.431 N	104° 17' 8.195 W	
14,000.0	90.00	89.59	6,921.0	-2,391.9	5,336.2	536,078.17	556,154.70	32° 28' 25.438 N	104° 17' 7.027 W	
14,094.3	90.00	89.59	6,921.0	-2,391.3	5,430.5	536,078.84	556,248.97	32° 28' 25.444 N	104° 17' 5.927 W	
Start 1350.9 hold at 14094.3 MD - PP5 SAFARI SC 14H										
14,100.0	90.00	89.59	6,921.0	-2,391.2	5,436.2	536,078.88	556,254.70	32° 28' 25.444 N	104° 17' 5.860 W	
14,200.0	90.00	89.59	6,921.0	-2,390.5	5,536.2	536,079.59	556,354.69	32° 28' 25.451 N	104° 17' 4.693 W	
14,300.0	90.00	89.59	6,921.0	-2,389.8	5,636.2	536,080.30	556,454.69	32° 28' 25.458 N	104° 17' 3.525 W	
14,400.0	90.00	89.59	6,921.0	-2,389.1	5,736.2	536,081.01	556,554.69	32° 28' 25.464 N	104° 17' 2.358 W	
14,500.0	90.00	89.59	6,921.0	-2,388.4	5,836.2	536,081.72	556,654.69	32° 28' 25.471 N	104° 17' 1.191 W	
14,600.0	90.00	89.59	6,921.0	-2,387.7	5,936.2	536,082.43	556,754.68	32° 28' 25.477 N	104° 17' 0.023 W	
14,700.0	90.00	89.59	6,921.0	-2,387.0	6,036.2	536,083.14	556,854.68	32° 28' 25.484 N	104° 16' 58.856 W	
14,800.0	90.00	89.59	6,921.0	-2,386.3	6,136.2	536,083.85	556,954.68	32° 28' 25.490 N	104° 16' 57.689 W	
14,900.0	90.00	89.59	6,921.0	-2,385.6	6,236.2	536,084.56	557,054.68	32° 28' 25.497 N	104° 16' 56.521 W	
15,000.0	90.00	89.59	6,921.0	-2,384.8	6,336.2	536,085.27	557,154.67	32° 28' 25.503 N	104° 16' 55.354 W	
15,100.0	90.00	89.59	6,921.0	-2,384.1	6,436.2	536,085.98	557,254.67	32° 28' 25.510 N	104° 16' 54.187 W	
15,200.0	90.00	89.59	6,921.0	-2,383.4	6,536.2	536,086.68	557,354.67	32° 28' 25.517 N	104° 16' 53.019 W	
15,300.0	90.00	89.59	6,921.0	-2,382.7	6,636.2	536,087.39	557,454.67	32° 28' 25.523 N	104° 16' 51.852 W	
15,400.0	90.00	89.59	6,921.0	-2,382.0	6,736.2	536,088.10	557,554.66	32° 28' 25.530 N	104° 16' 50.685 W	
15,445.2	90.00	89.59	6,921.0	-2,381.7	6,781.4	536,088.42	557,599.88	32° 28' 25.533 N	104° 16' 50.157 W	
Start DLS 2.00 TFO -90.00 - PP6 SAFARI SC 14H										
15,458.1	90.00	89.34	6,921.0	-2,381.6	6,794.3	536,088.53	557,612.78	32° 28' 25.534 N	104° 16' 50.006 W	
Start 2587.1 hold at 15458.1 MD										
15,500.0	90.00	89.34	6,921.0	-2,381.1	6,836.2	536,089.02	557,654.66	32° 28' 25.538 N	104° 16' 49.517 W	
15,600.0	90.00	89.34	6,921.0	-2,379.9	6,936.2	536,090.18	557,754.65	32° 28' 25.549 N	104° 16' 48.350 W	
15,700.0	90.00	89.34	6,921.0	-2,378.8	7,036.1	536,091.34	557,854.65	32° 28' 25.560 N	104° 16' 47.183 W	
15,800.0	90.00	89.34	6,921.0	-2,377.6	7,136.1	536,092.50	557,954.64	32° 28' 25.571 N	104° 16' 46.015 W	
15,900.0	90.00	89.34	6,921.0	-2,376.5	7,236.1	536,093.66	558,054.63	32° 28' 25.582 N	104° 16' 44.848 W	
16,000.0	90.00	89.34	6,921.0	-2,375.3	7,336.1	536,094.82	558,154.63	32° 28' 25.593 N	104° 16' 43.681 W	
16,100.0	90.00	89.34	6,921.0	-2,374.1	7,436.1	536,095.98	558,254.62	32° 28' 25.604 N	104° 16' 42.513 W	
16,200.0	90.00	89.34	6,921.0	-2,373.0	7,536.1	536,097.14	558,354.61	32° 28' 25.615 N	104° 16' 41.346 W	

# PERMIAN

## RESOURCES

### Planning Report - Geographic

<b>Database:</b>	Compass_17	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
16,300.0	90.00	89.34	6,921.0	-2,371.8	7,636.1	536,098.29	558,454.61	32° 28' 25.626 N	104° 16' 40.179 W	
16,400.0	90.00	89.34	6,921.0	-2,370.7	7,736.1	536,099.45	558,554.60	32° 28' 25.637 N	104° 16' 39.011 W	
16,500.0	90.00	89.34	6,921.0	-2,369.5	7,836.1	536,100.61	558,654.59	32° 28' 25.648 N	104° 16' 37.844 W	
16,600.0	90.00	89.34	6,921.0	-2,368.3	7,936.1	536,101.77	558,754.59	32° 28' 25.659 N	104° 16' 36.677 W	
16,700.0	90.00	89.34	6,921.0	-2,367.2	8,036.1	536,102.93	558,854.58	32° 28' 25.670 N	104° 16' 35.510 W	
16,800.0	90.00	89.34	6,921.0	-2,366.0	8,136.1	536,104.09	558,954.57	32° 28' 25.681 N	104° 16' 34.342 W	
16,900.0	90.00	89.34	6,921.0	-2,364.9	8,236.1	536,105.25	559,054.57	32° 28' 25.692 N	104° 16' 33.175 W	
17,000.0	90.00	89.34	6,921.0	-2,363.7	8,336.1	536,106.41	559,154.56	32° 28' 25.703 N	104° 16' 32.008 W	
17,100.0	90.00	89.34	6,921.0	-2,362.5	8,436.0	536,107.57	559,254.55	32° 28' 25.714 N	104° 16' 30.840 W	
17,200.0	90.00	89.34	6,921.0	-2,361.4	8,536.0	536,108.73	559,354.55	32° 28' 25.724 N	104° 16' 29.673 W	
17,300.0	90.00	89.34	6,921.0	-2,360.2	8,636.0	536,109.89	559,454.54	32° 28' 25.735 N	104° 16' 28.506 W	
17,400.0	90.00	89.34	6,921.0	-2,359.1	8,736.0	536,111.05	559,554.53	32° 28' 25.746 N	104° 16' 27.338 W	
17,500.0	90.00	89.34	6,921.0	-2,357.9	8,836.0	536,112.21	559,654.53	32° 28' 25.757 N	104° 16' 26.171 W	
17,600.0	90.00	89.34	6,921.0	-2,356.7	8,936.0	536,113.37	559,754.52	32° 28' 25.768 N	104° 16' 25.004 W	
17,700.0	90.00	89.34	6,921.0	-2,355.6	9,036.0	536,114.53	559,854.51	32° 28' 25.779 N	104° 16' 23.836 W	
17,800.0	90.00	89.34	6,921.0	-2,354.4	9,136.0	536,115.69	559,954.51	32° 28' 25.790 N	104° 16' 22.669 W	
17,900.0	90.00	89.34	6,921.0	-2,353.3	9,236.0	536,116.85	560,054.50	32° 28' 25.801 N	104° 16' 21.502 W	
18,000.0	90.00	89.34	6,921.0	-2,352.1	9,336.0	536,118.01	560,154.49	32° 28' 25.812 N	104° 16' 20.335 W	
18,045.2	90.00	89.34	6,921.0	-2,351.6	9,381.2	536,118.53	560,199.68	32° 28' 25.817 N	104° 16' 19.807 W	
TD at 18045.2 - LTP/BHL SAFARI SC 14H										

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting		
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude	Longitude
FTP SAFARI SC 14H - plan misses target center by 197.8usft at 7601.9usft MD (6778.9 TVD, -2422.9 N, -1023.6 E) - Point	0.00	0.00	6,921.0	-2,423.3	-1,161.2	536,046.84	549,657.28	32° 28' 25.150 N	104° 18' 22.877 W
PP4 SAFARI SC 14H - plan hits target center - Point	0.00	0.00	6,921.0	-2,400.8	4,079.6	536,069.26	554,898.12	32° 28' 25.355 N	104° 17' 21.696 W
LTP/BHL SAFARI SC 14 - plan hits target center - Point	0.00	0.00	6,921.0	-2,351.6	9,381.2	536,118.53	560,199.68	32° 28' 25.817 N	104° 16' 19.807 W
PP2 SAFARI SC 14H - plan hits target center - Point	0.00	0.00	6,921.0	-2,420.2	71.6	536,049.93	550,890.13	32° 28' 25.178 N	104° 18' 8.485 W
PP3 SAFARI SC 14H - plan hits target center - Point	0.00	0.00	6,921.0	-2,408.9	2,741.8	536,061.16	553,560.31	32° 28' 25.280 N	104° 17' 37.314 W
PP6 SAFARI SC 14H - plan hits target center - Point	0.00	0.00	6,921.0	-2,381.7	6,781.4	536,088.41	557,599.88	32° 28' 25.532 N	104° 16' 50.157 W
PP5 SAFARI SC 14H - plan hits target center - Point	0.00	0.00	6,921.0	-2,391.3	5,430.5	536,078.84	556,248.97	32° 28' 25.444 N	104° 17' 5.927 W

<b>Database:</b>	Compass_17	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site:</b>	SAFARI	<b>North Reference:</b>	Grid
<b>Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,000.0	1,000.0	0.0	0.0	Start Build 2.00	
2,924.3	2,782.8	-561.2	-268.9	Start 2317.9 hold at 2924.3 MD	
5,242.2	4,597.2	-1,862.1	-892.3	Start Drop -2.00	
7,166.5	6,380.0	-2,423.3	-1,161.2	Start 63.5 hold at 7166.5 MD	
7,230.0	6,443.5	-2,423.3	-1,161.2	Start DLS 12.00 TFO 89.86	
7,979.9	6,921.0	-2,422.1	-683.8	Start 755.4 hold at 7979.9 MD	
8,735.4	6,921.0	-2,420.2	71.6	Start DLS 2.00 TFO -88.43	
8,740.2	6,921.0	-2,420.2	76.5	Start 2665.3 hold at 8740.2 MD	
11,405.6	6,921.0	-2,408.9	2,741.8	Start DLS 2.00 TFO -90.00	
11,410.9	6,921.0	-2,408.9	2,747.1	Start 1332.5 hold at 11410.9 MD	
12,743.4	6,921.0	-2,400.8	4,079.6	Start DLS 2.00 TFO -90.00	
12,746.4	6,921.0	-2,400.8	4,082.6	Start 1347.9 hold at 12746.4 MD	
14,094.3	6,921.0	-2,391.3	5,430.5	Start 1350.9 hold at 14094.3 MD	
15,445.2	6,921.0	-2,381.7	6,781.4	Start DLS 2.00 TFO -90.00	
15,458.1	6,921.0	-2,381.6	6,794.3	Start 2587.1 hold at 15458.1 MD	
18,045.2	6,921.0	-2,351.6	9,381.2	TD at 18045.2	



# PERMIAN RESOURCES

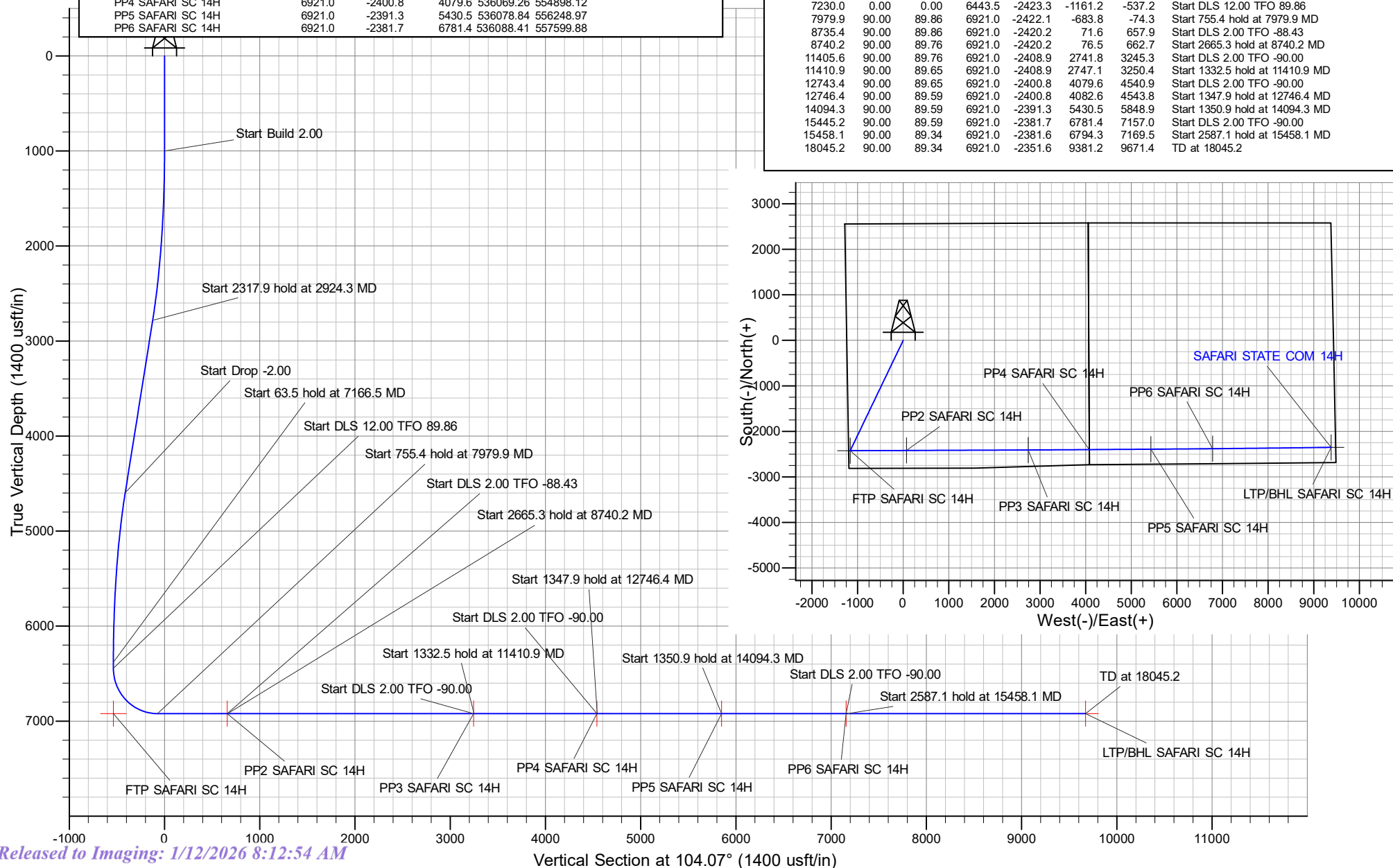
County: (SP) EDDY  
Site: SAFARI  
Well: SAFARI STATE COM 14H  
GE: 3278.0  
Plan: PWP0

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
FTP SAFARI SC 14H	6921.0	-2423.3	-1161.2	536046.84	549657.28
LTP/BHL SAFARI SC 14H	6921.0	-2351.6	9381.2	536118.53	560199.68
PP2 SAFARI SC 14H	6921.0	-2420.2	71.6	536049.93	550890.13
PP3 SAFARI SC 14H	6921.0	-2408.9	2741.8	536061.16	553560.31
PP4 SAFARI SC 14H	6921.0	-2400.8	4079.6	536069.26	554898.12
PP5 SAFARI SC 14H	6921.0	-2391.3	5430.5	536078.84	556248.97
PP6 SAFARI SC 14H	6921.0	-2381.7	6781.4	536088.41	557599.88

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.0	
1000.0	0.00	0.00	1000.0	0.0	0.0	0.0	Start Build 2.00
2924.3	38.49	205.60	2782.8	-561.2	-268.9	-124.4	Start 2317.9 hold at 2924.3 MD
5242.2	38.49	205.60	4597.2	-1862.1	-892.3	-412.8	Start Drop -2.00
7166.5	0.00	0.00	6380.0	-2423.3	-1161.2	-537.2	Start 63.5 hold at 7166.5 MD
7230.0	0.00	0.00	6443.5	-2423.3	-1161.2	-537.2	Start DLS 12.00 TFO 89.86
7979.9	90.00	89.86	6921.0	-2422.1	-683.8	-74.3	Start 755.4 hold at 7979.9 MD
8735.4	90.00	89.86	6921.0	-2420.2	71.6	657.9	Start DLS 2.00 TFO -88.43
8740.2	90.00	89.76	6921.0	-2420.2	76.5	662.7	Start 2665.3 hold at 8740.2 MD
11405.6	90.00	89.76	6921.0	-2408.9	2741.8	3245.3	Start DLS 2.00 TFO -90.00
11410.9	90.00	89.65	6921.0	-2408.9	2747.1	3250.4	Start 1332.5 hold at 11410.9 MD
12743.4	90.00	89.65	6921.0	-2400.8	4079.6	4540.9	Start DLS 2.00 TFO -90.00
12746.4	90.00	89.59	6921.0	-2400.8	4082.6	4543.8	Start 1347.9 hold at 12746.4 MD
14094.3	90.00	89.59	6921.0	-2391.3	5430.5	5848.9	Start 1350.9 hold at 14094.3 MD
15445.2	90.00	89.59	6921.0	-2381.7	6781.4	7157.0	Start DLS 2.00 TFO -90.00
15458.1	90.00	89.34	6921.0	-2381.6	6794.3	7169.5	Start 2587.1 hold at 15458.1 MD
18045.2	90.00	89.34	6921.0	-2351.6	9381.2	9671.4	TD at 18045.2



# **PERMIAN**

## **R E S O U R C E S**

### **NEW MEXICO**

**(SP) EDDY**

**SAFARI**

**SAFARI STATE COM 14H**

**OWB**

**PWP0**

## **Anticollision Report**

**09 December, 2025**



# PERMIAN

## RESOURCES

### Anticollision Report

<b>Company:</b>	NEW MEXICO	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Project:</b>	(SP) EDDY	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Reference Site:</b>	SAFARI	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	Compass_17
<b>Reference Design:</b>	PWP0	<b>Offset TVD Reference:</b>	Offset Datum

Reference	PWP0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,000.0usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	12/9/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	18,045.2	PWP0 (OWB)	MWD	OWSG_Rev2_ MWD - Standard	

Summary							
		Reference	Offset	Distance			
Site Name		Measured	Measured	Between	Between	Separation	Warning
Offset Well - Wellbore - Design		Depth	Depth	Centres	Ellipses	Factor	
SAFARI							
SAFARI FED COM 113H - OWB - PWP0		1,000.0	1,000.0	40.0	33.0	5.752	CC, ES
SAFARI FED COM 113H - OWB - PWP0		1,100.0	1,100.4	41.3	33.6	5.397	SF
SAFARI FED COM 123H - OWB - PWP0		1,000.0	1,000.0	20.0	13.0	2.875	CC
SAFARI FED COM 123H - OWB - PWP0		1,200.0	1,201.3	20.5	12.2	2.472	ES
SAFARI FED COM 123H - OWB - PWP0		1,300.0	1,301.9	21.5	12.6	2.403	SF
SAFARI STATE COM 133H - OWB - PWP0		1,000.0	1,000.0	60.0	53.0	8.627	CC, ES
SAFARI STATE COM 133H - OWB - PWP0		1,100.0	1,099.0	62.5	54.8	8.169	SF

Offset Design: SAFARI - SAFARI FED COM 113H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program:		0-MWD <th colspan="5">Rule Assigned:</th> <th>Offset Well Error:</th> <td>0.0 usft</td>					Rule Assigned:					Offset Well Error:	0.0 usft	
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Minimum Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	26.58	35.8	17.9	40.0					
100.0	100.0	100.0	100.0	0.3	0.3	26.58	35.8	17.9	40.0	39.5	0.50	79.701		
200.0	200.0	200.0	200.0	0.6	0.6	26.58	35.8	17.9	40.0	38.8	1.22	32.818		
300.0	300.0	300.0	300.0	1.0	1.0	26.58	35.8	17.9	40.0	38.1	1.94	20.663		
400.0	400.0	400.0	400.0	1.3	1.3	26.58	35.8	17.9	40.0	37.3	2.65	15.079		
500.0	500.0	500.0	500.0	1.7	1.7	26.58	35.8	17.9	40.0	36.6	3.37	11.870		
600.0	600.0	600.0	600.0	2.0	2.0	26.58	35.8	17.9	40.0	35.9	4.09	9.788		
700.0	700.0	700.0	700.0	2.4	2.4	26.58	35.8	17.9	40.0	35.2	4.80	8.327		
800.0	800.0	800.0	800.0	2.8	2.8	26.58	35.8	17.9	40.0	34.5	5.52	7.246		
900.0	900.0	900.0	900.0	3.1	3.1	26.58	35.8	17.9	40.0	33.8	6.24	6.413		
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	26.58	35.8	17.9	40.0	33.0	6.95	5.752 CC, ES		
1,100.0	1,100.0	1,100.4	1,100.3	3.8	3.8	178.60	36.1	16.2	41.3	33.6	7.65	5.397 SF		
1,200.0	1,199.8	1,200.4	1,200.3	4.1	4.2	172.32	37.0	11.0	45.5	37.2	8.33	5.464		
1,300.0	1,299.5	1,300.0	1,299.4	4.5	4.5	164.26	38.5	2.4	53.5	44.5	9.02	5.930		
1,400.0	1,398.7	1,398.7	1,397.5	4.8	4.9	156.46	40.6	-9.4	65.8	56.1	9.72	6.773		
1,500.0	1,497.5	1,496.5	1,494.0	5.2	5.3	149.96	43.3	-24.4	82.8	72.3	10.43	7.938		
1,600.0	1,595.6	1,592.9	1,588.7	5.6	5.6	144.92	46.5	-42.3	104.3	93.1	11.15	9.349		
1,700.0	1,693.1	1,687.9	1,681.3	6.0	6.0	141.06	50.1	-63.0	130.1	118.2	11.89	10.940		
1,800.0	1,789.6	1,782.4	1,772.9	6.4	6.4	138.24	54.2	-86.2	159.9	147.2	12.66	12.625		
1,900.0	1,885.3	1,876.9	1,864.3	6.9	6.9	136.76	58.4	-109.6	192.4	178.9	13.47	14.280		
2,000.0	1,979.8	1,970.6	1,955.0	7.4	7.3	136.18	62.5	-132.8	227.3	213.0	14.30	15.889		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# PERMIAN

## RESOURCES

### Anticollision Report

<b>Company:</b>	NEW MEXICO	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Project:</b>	(SP) EDDY	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Reference Site:</b>	SAFARI	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	Compass_17
<b>Reference Design:</b>	PWP0	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> SAFARI - SAFARI FED COM 113H - OWB - PWP0													<b>Offset Site Error:</b>	0.0 usft
<b>Survey Program:</b> 0-MWD													<b>Offset Well Error:</b>	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
2,100.0	2,073.2	2,063.4	2,044.8	7.9	7.8	136.13	66.6	-155.8	264.6	249.4	15.16	17.451		
2,200.0	2,165.2	2,155.1	2,133.6	8.5	8.2	136.40	70.6	-178.5	304.2	288.2	16.03	18.972		
2,300.0	2,255.8	2,245.7	2,221.2	9.1	8.6	136.87	74.6	-200.9	346.2	329.3	16.92	20.457		
2,400.0	2,344.9	2,335.0	2,307.6	9.8	9.1	137.44	78.5	-223.0	390.7	372.8	17.82	21.916		
2,500.0	2,432.4	2,422.9	2,392.7	10.5	9.5	138.05	82.4	-244.8	437.5	418.8	18.73	23.355		
2,600.0	2,518.1	2,509.3	2,476.4	11.3	10.0	138.67	86.2	-266.2	486.9	467.2	19.65	24.780		
2,700.0	2,602.0	2,594.1	2,558.5	12.1	10.4	139.27	89.9	-287.2	538.7	518.2	20.56	26.197		
2,800.0	2,683.9	2,677.3	2,638.9	13.0	10.8	139.84	93.6	-307.8	593.0	571.5	21.48	27.610		
2,900.0	2,763.7	2,758.6	2,717.7	13.9	11.3	140.35	97.2	-328.0	649.8	627.4	22.39	29.024		
2,924.3	2,782.8	2,778.1	2,736.5	14.1	11.4	140.46	98.0	-332.8	663.9	641.3	22.61	29.365		
3,000.0	2,842.1	2,838.6	2,795.1	14.9	11.7	141.45	100.7	-347.8	708.4	685.1	23.29	30.413		
3,100.0	2,920.4	2,918.6	2,872.5	15.8	12.1	142.58	104.2	-367.6	767.3	743.1	24.20	31.709		
3,200.0	2,998.6	2,998.5	2,949.9	16.8	12.5	143.55	107.7	-387.4	826.3	801.2	25.11	32.912		
3,300.0	3,076.9	3,078.5	3,027.2	17.8	12.9	144.40	111.2	-407.2	885.5	859.5	26.02	34.029		
3,400.0	3,155.2	3,158.5	3,104.6	18.8	13.3	145.14	114.7	-427.0	944.8	917.8	26.94	35.070		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

**PERMIAN****RESOURCES****Anticollision Report**

<b>Company:</b>	NEW MEXICO	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Project:</b>	(SP) EDDY	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Reference Site:</b>	SAFARI	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	Compass_17
<b>Reference Design:</b>	PWP0	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> SAFARI - SAFARI FED COM 123H - OWB - PWP0												<b>Offset Site Error:</b>	0.0 usft
<b>Survey Program:</b> 0-MWD												<b>Offset Well Error:</b>	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	26.59	17.9	8.9	20.0				
100.0	100.0	100.0	100.0	0.3	0.3	26.59	17.9	8.9	20.0	19.5	0.50	39.842	
200.0	200.0	200.0	200.0	0.6	0.6	26.59	17.9	8.9	20.0	18.8	1.22	16.405	
300.0	300.0	300.0	300.0	1.0	1.0	26.59	17.9	8.9	20.0	18.1	1.94	10.329	
400.0	400.0	400.0	400.0	1.3	1.3	26.59	17.9	8.9	20.0	17.3	2.65	7.538	
500.0	500.0	500.0	500.0	1.7	1.7	26.59	17.9	8.9	20.0	16.6	3.37	5.934	
600.0	600.0	600.0	600.0	2.0	2.0	26.59	17.9	8.9	20.0	15.9	4.09	4.893	
700.0	700.0	700.0	700.0	2.4	2.4	26.59	17.9	8.9	20.0	15.2	4.80	4.163	
800.0	800.0	800.0	800.0	2.8	2.8	26.59	17.9	8.9	20.0	14.5	5.52	3.622	
900.0	900.0	900.0	900.0	3.1	3.1	26.59	17.9	8.9	20.0	13.8	6.24	3.206	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	26.59	17.9	8.9	20.0	13.0	6.95	2.875 CC	
1,100.0	1,100.0	1,100.7	1,100.6	3.8	3.8	179.22	16.7	7.7	20.1	12.5	7.64	2.630	
1,200.0	1,199.8	1,201.3	1,201.1	4.1	4.2	174.04	13.0	3.9	20.5	12.2	8.29	2.472 ES	
1,300.0	1,299.5	1,301.9	1,301.3	4.5	4.5	165.97	6.9	-2.5	21.5	12.6	8.96	2.403 SF	
1,400.0	1,398.7	1,402.4	1,401.1	4.8	4.9	156.15	-1.7	-11.4	23.6	13.9	9.64	2.447	
1,500.0	1,497.5	1,502.8	1,500.2	5.2	5.2	146.12	-12.6	-22.8	27.0	16.7	10.35	2.612	
1,600.0	1,595.6	1,603.1	1,598.7	5.6	5.6	137.11	-26.0	-36.6	32.1	21.0	11.11	2.887	
1,700.0	1,693.1	1,703.3	1,696.2	6.0	6.0	129.69	-41.7	-52.9	38.7	26.8	11.92	3.248	
1,800.0	1,789.6	1,803.3	1,792.8	6.4	6.5	123.83	-59.7	-71.7	46.9	34.1	12.80	3.667	
1,900.0	1,885.3	1,903.1	1,888.2	6.9	6.9	119.27	-80.0	-92.8	56.6	42.8	13.73	4.119	
2,000.0	1,979.8	2,002.7	1,982.4	7.4	7.4	115.71	-102.6	-116.2	67.6	52.8	14.73	4.586	
2,100.0	2,073.2	2,102.0	2,075.3	7.9	8.0	113.55	-126.7	-141.3	79.9	64.1	15.80	5.059	
2,200.0	2,165.2	2,201.0	2,168.0	8.5	8.5	113.80	-150.9	-166.4	93.7	76.8	16.90	5.545	
2,300.0	2,255.8	2,299.8	2,260.5	9.1	9.1	115.58	-175.0	-191.4	109.0	90.9	18.02	6.045	
2,400.0	2,344.9	2,398.1	2,352.5	9.8	9.7	118.26	-199.0	-216.4	125.9	106.8	19.15	6.575	
2,500.0	2,432.4	2,496.0	2,444.1	10.5	10.3	121.39	-222.9	-241.2	144.9	124.6	20.26	7.151	
2,600.0	2,518.1	2,593.2	2,535.1	11.3	10.9	124.69	-246.6	-265.8	166.2	144.9	21.35	7.785	
2,700.0	2,602.0	2,689.6	2,625.4	12.1	11.5	127.97	-270.1	-290.3	190.2	167.7	22.41	8.487	
2,800.0	2,683.9	2,785.2	2,714.9	13.0	12.1	131.10	-293.5	-314.5	216.9	193.4	23.42	9.259	
2,900.0	2,763.7	2,879.8	2,803.4	13.9	12.7	134.02	-316.5	-338.5	246.5	222.1	24.41	10.102	
2,924.3	2,782.8	2,902.6	2,824.7	14.1	12.8	134.69	-322.1	-344.3	254.2	229.5	24.64	10.316	
3,000.0	2,842.1	2,973.6	2,891.2	14.9	13.3	136.91	-339.4	-362.3	278.5	253.2	25.37	10.981	
3,100.0	2,920.4	3,067.4	2,979.0	15.8	13.9	139.32	-362.3	-386.0	311.2	284.8	26.34	11.816	
3,200.0	2,998.6	3,161.2	3,066.8	16.8	14.5	141.28	-385.2	-409.8	344.2	316.9	27.32	12.600	
3,300.0	3,076.9	3,255.0	3,154.6	17.8	15.1	142.89	-408.1	-433.6	377.6	349.3	28.32	13.334	
3,400.0	3,155.2	3,348.8	3,242.4	18.8	15.7	144.24	-431.0	-457.4	411.1	381.8	29.33	14.020	
3,500.0	3,233.5	3,442.5	3,330.1	19.8	16.3	145.39	-453.9	-481.2	444.9	414.5	30.34	14.662	
3,600.0	3,311.7	3,536.3	3,417.9	20.9	16.9	146.38	-476.8	-504.9	478.8	447.4	31.37	15.262	
3,700.0	3,390.0	3,630.1	3,505.7	21.9	17.6	147.24	-499.6	-528.7	512.8	480.4	32.41	15.823	
3,800.0	3,468.3	3,723.9	3,593.5	22.9	18.2	147.99	-522.5	-552.5	546.8	513.4	33.45	16.349	
3,900.0	3,546.6	3,817.7	3,681.3	24.0	18.8	148.66	-545.4	-576.3	581.0	546.5	34.50	16.843	
4,000.0	3,624.8	3,911.5	3,769.1	25.0	19.4	149.25	-568.3	-600.1	615.2	579.7	35.55	17.306	
4,100.0	3,703.1	4,005.3	3,856.9	26.0	20.0	149.78	-591.2	-623.8	649.5	612.9	36.61	17.742	
4,200.0	3,781.4	4,099.0	3,944.6	27.1	20.7	150.25	-614.1	-647.6	683.8	646.1	37.67	18.152	
4,300.0	3,859.7	4,192.8	4,032.4	28.1	21.3	150.69	-637.0	-671.4	718.2	679.4	38.74	18.538	
4,400.0	3,938.0	4,286.6	4,120.2	29.2	21.9	151.08	-659.9	-695.2	752.5	712.7	39.81	18.903	
4,500.0	4,016.2	4,380.4	4,208.0	30.3	22.5	151.43	-682.7	-718.9	787.0	746.1	40.88	19.248	
4,600.0	4,094.5	4,474.2	4,295.8	31.3	23.2	151.76	-705.6	-742.7	821.4	779.4	41.96	19.575	
4,700.0	4,172.8	4,568.0	4,383.6	32.4	23.8	152.06	-728.5	-766.5	855.8	812.8	43.04	19.884	
4,800.0	4,251.1	4,661.7	4,471.3	33.4	24.4	152.34	-751.4	-790.3	890.3	846.2	44.12	20.177	
4,900.0	4,329.3	4,755.5	4,559.1	34.5	25.1	152.60	-774.3	-814.1	924.8	879.6	45.21	20.456	
5,000.0	4,407.6	4,849.3	4,646.9	35.5	25.7	152.84	-797.2	-837.8	959.3	913.0	46.30	20.721	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

PERMIAN  
RESOURCES

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well SAFARI STATE COM 14H
Project:	(SP) EDDY	TVD Reference:	KB @ 3308.0usft
Reference Site:	SAFARI	MD Reference:	KB @ 3308.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	SAFARI STATE COM 14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Compass_17
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: SAFARI - SAFARI FED COM 123H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.0	4,485.9	4,943.1	4,734.7	36.6	26.3	153.06	-820.1	-861.6	993.9	946.5	47.39	20.973		

**PERMIAN****RESOURCES**

## Anticollision Report

<b>Company:</b>	NEW MEXICO	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Project:</b>	(SP) EDDY	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Reference Site:</b>	SAFARI	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	Compass_17
<b>Reference Design:</b>	PWP0	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> SAFARI - SAFARI STATE COM 133H - OWB - PWP0												<b>Offset Site Error:</b>	0.0 usft
<b>Survey Program:</b> 0-MWD												<b>Offset Well Error:</b>	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	26.59	53.6	26.9	60.0				
100.0	100.0	100.0	100.0	0.3	0.3	26.59	53.6	26.9	60.0	59.5	0.50	119.551	
200.0	200.0	200.0	200.0	0.6	0.6	26.59	53.6	26.9	60.0	58.8	1.22	49.227	
300.0	300.0	300.0	300.0	1.0	1.0	26.59	53.6	26.9	60.0	58.1	1.94	30.995	
400.0	400.0	400.0	400.0	1.3	1.3	26.59	53.6	26.9	60.0	57.3	2.65	22.618	
500.0	500.0	500.0	500.0	1.7	1.7	26.59	53.6	26.9	60.0	56.6	3.37	17.806	
600.0	600.0	600.0	600.0	2.0	2.0	26.59	53.6	26.9	60.0	55.9	4.09	14.682	
700.0	700.0	700.0	700.0	2.4	2.4	26.59	53.6	26.9	60.0	55.2	4.80	12.490	
800.0	800.0	800.0	800.0	2.8	2.8	26.59	53.6	26.9	60.0	54.5	5.52	10.868	
900.0	900.0	900.0	900.0	3.1	3.1	26.59	53.6	26.9	60.0	53.8	6.24	9.619	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	26.59	53.6	26.9	60.0	53.0	6.95	8.627	CC, ES
1,100.0	1,100.0	1,099.0	1,099.0	3.8	3.8	179.54	55.0	25.8	62.5	54.8	7.65	8.169	SF
1,200.0	1,199.8	1,197.6	1,197.4	4.1	4.2	175.81	59.0	22.6	70.2	61.8	8.33	8.422	
1,300.0	1,299.5	1,295.1	1,294.6	4.5	4.5	171.16	65.5	17.4	83.4	74.4	9.01	9.254	
1,400.0	1,398.7	1,391.1	1,389.9	4.8	4.9	166.70	74.5	10.2	102.4	92.7	9.69	10.574	
1,500.0	1,497.5	1,485.2	1,482.9	5.2	5.2	162.93	85.7	1.2	127.3	117.0	10.36	12.295	
1,600.0	1,595.6	1,577.0	1,573.1	5.6	5.6	159.91	98.9	-9.3	157.9	146.9	11.02	14.336	
1,700.0	1,693.1	1,666.1	1,660.1	6.0	6.0	157.51	113.8	-21.3	194.0	182.3	11.67	16.626	
1,800.0	1,789.6	1,752.2	1,743.6	6.4	6.3	155.59	130.3	-34.5	235.3	223.0	12.31	19.112	
1,900.0	1,885.3	1,835.0	1,823.2	6.9	6.7	154.00	148.0	-48.7	281.6	268.7	12.95	21.750	
2,000.0	1,979.8	1,914.4	1,898.9	7.4	7.1	152.65	166.6	-63.6	332.6	319.0	13.57	24.505	
2,100.0	2,073.2	1,990.1	1,970.5	7.9	7.5	151.46	185.9	-79.0	388.0	373.8	14.19	27.347	
2,200.0	2,165.2	2,062.2	2,038.0	8.5	7.9	150.37	205.6	-94.8	447.6	432.8	14.80	30.248	
2,300.0	2,255.8	2,130.4	2,101.3	9.1	8.2	149.33	225.5	-110.7	511.1	495.7	15.40	33.197	
2,400.0	2,344.9	2,200.0	2,165.2	9.8	8.7	148.30	247.0	-127.9	578.3	562.3	16.05	36.035	
2,500.0	2,432.4	2,257.1	2,217.2	10.5	9.0	147.26	265.5	-142.8	648.8	632.3	16.58	39.134	
2,600.0	2,518.1	2,323.3	2,277.1	11.3	9.4	146.26	287.5	-160.3	722.0	704.8	17.27	41.821	
2,700.0	2,602.0	2,389.2	2,336.7	12.1	9.9	145.34	309.3	-177.8	797.2	779.2	17.98	44.348	
2,800.0	2,683.9	2,452.8	2,394.3	13.0	10.3	144.44	330.4	-194.7	874.3	855.6	18.69	46.785	
2,900.0	2,763.7	2,514.0	2,449.7	13.9	10.7	143.54	350.7	-211.0	953.1	933.7	19.39	49.152	
2,924.3	2,782.8	2,528.4	2,462.8	14.1	10.8	143.32	355.5	-214.8	972.5	952.9	19.56	49.709	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

**PERMIAN**

## RESOURCES

## Anticollision Report

<b>Company:</b>	NEW MEXICO	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Project:</b>	(SP) EDDY	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Reference Site:</b>	SAFARI	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	Compass_17
<b>Reference Design:</b>	PWP0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB @ 3308.0usft

Offset Depths are relative to Offset Datum

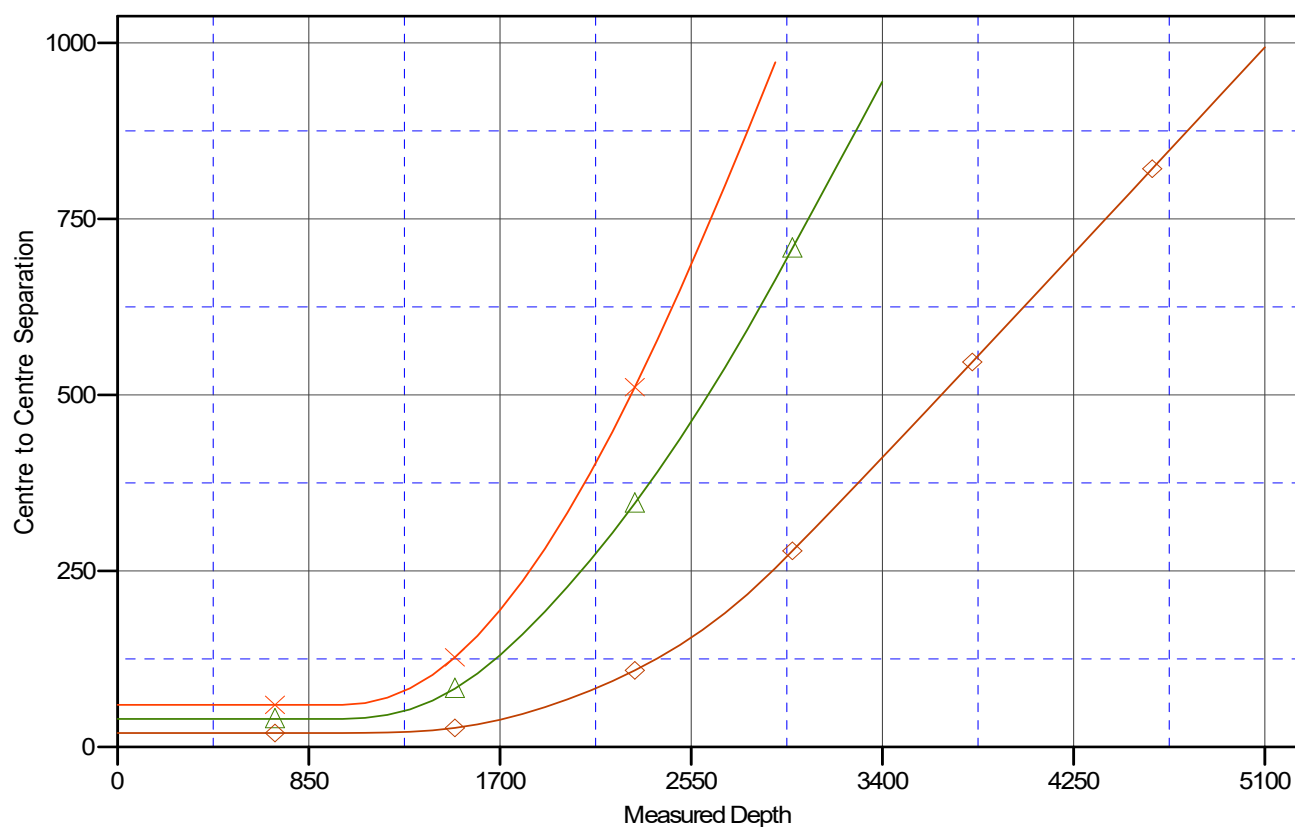
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: SAFARI STATE COM 14H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.02°

## Ladder Plot



## LEGEND



SAFARI STATE COM 133H, OWB/PWP0 V0



SAFARI STATE COM 113H, OWB/PWP0 V0



SAFARI STATE COM 123H, OWB/PWP0 V0

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# PERMIAN

## RESOURCES

### Anticollision Report

<b>Company:</b>	NEW MEXICO	<b>Local Co-ordinate Reference:</b>	Well SAFARI STATE COM 14H
<b>Project:</b>	(SP) EDDY	<b>TVD Reference:</b>	KB @ 3308.0usft
<b>Reference Site:</b>	SAFARI	<b>MD Reference:</b>	KB @ 3308.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	SAFARI STATE COM 14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	Compass_17
<b>Reference Design:</b>	PWP0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB @ 3308.0usft

Offset Depths are relative to Offset Datum

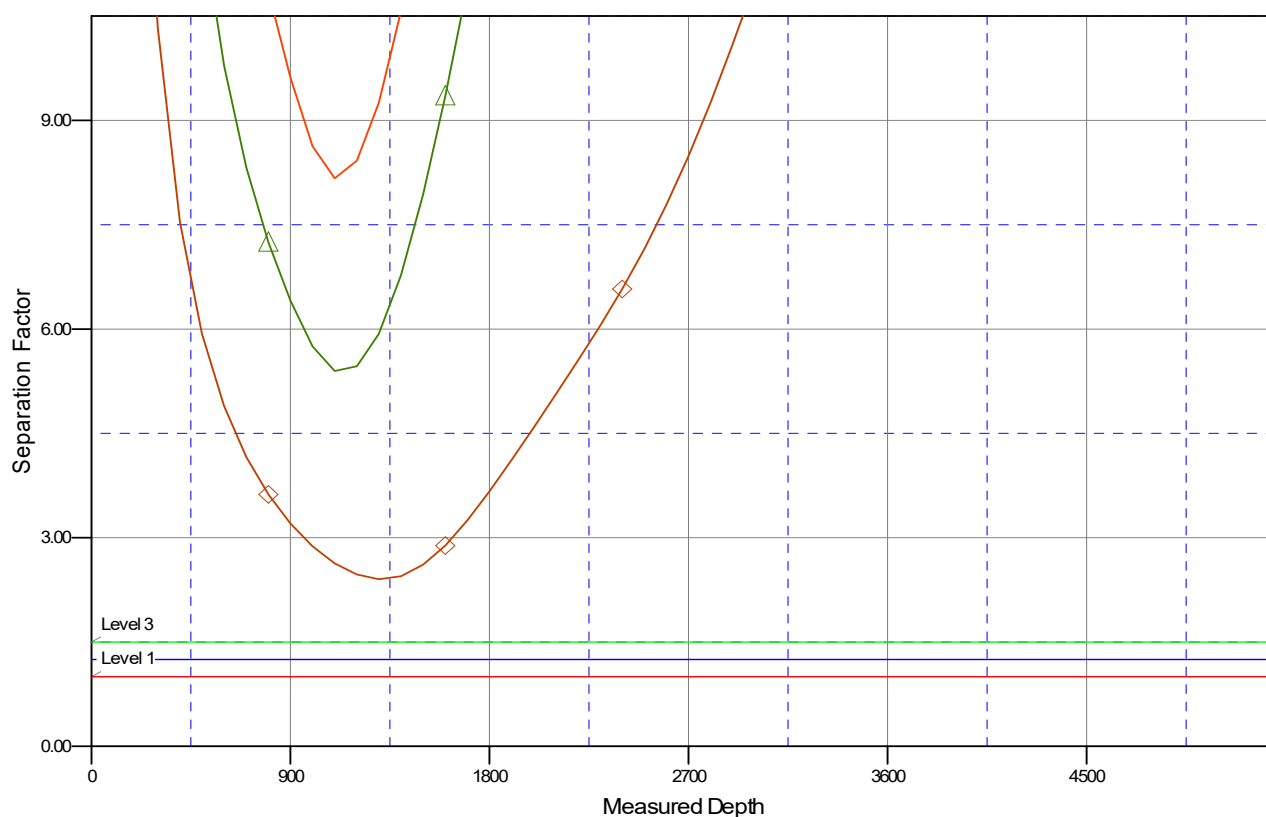
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: SAFARI STATE COM 14H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.02°

## Separation Factor Plot



### LEGEND

✕ SAFARISTATECOM133H,OWB,PWP0
 ✕ SAFARIFED COM113H,OWB,PWP0
 ✕ SAFARIFED COM123H,OWB,PWP0

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State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

CONDITIONS

Action 534301

CONDITIONS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 534301
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	1/12/2026