Sante Fe Main Office
Phone: (505) 476-3441

General Information
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https://www.emnrd.nm.gov/ocd/contact-us

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

Form C-101
August 1, 2011

Permit 380923

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address	2. OGRID Number
Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	372165
	3. API Number 30-025-54262

4. Property Code	5. Property Name	6. Well No.
336595	CASA BONITA 5 STATE COM	303H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
B	5	22S	35E	2	598	N	1365	E	Lea

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
O	17	22S	35E	O	100	S	1980	E	Lea

9. Pool Information

WC-025 G-07 S223505N;BONE SPRING	98136

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		State	3628
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	24950	1st Bone Spring Sand		2/1/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1857	1400	0
Int1	12.25	9.625	40	5705	1680	0
Prod	8.5	5.5	20	24950	2680	8915
Prod	8.75	5.5	20	9665	530	5205

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	2500	2500	
Double Ram	5000	5000	
Pipe	5000	5000	
Blind	5000	5000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.** Signature:		**OIL CONSERVATION DIVISION**	
Printed Name:	Electronically filed by Stephanie Rabadue	Approved By:	Matthew Gomez
Title:	Regulatory Manager	Title:	
Email Address:	stephanie.rabadue@permianres.com	Approved Date: 1/27/2025	Expiration Date: 1/27/2027
Date: 1/24/2025	Phone: 432-260-4388	Conditions of Approval Attached	

C-102	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024
Submit Electronically Via OCD Permitting		Submittal Type: ☑ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name	
30-025-54262	98136	WC-025 G-07 S223505N; Bone Spring	
Property Code	Property Name		Well Number
336595	CASA BONITA 5 STATE COM		303H
OGRID No.	Operator Name		Ground Level Elevation
372165	PERMIAN RESOURCES OPERATING, LLC		3,628.00'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal	

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
LOT 2	5	22S	35E		598' FNL	1,365' FEL	32.426580°	-103.385447°	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
O	17	22S	35E		100' FSL	1,980' FEL	32.384760°	-103.387508°	LEA

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
482.11	Defining		N	
Order Numbers.			Well setbacks are under Common Ownership: ☒Yes ☐No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
LOT 2	5	22S	35E		598' FNL	1,365' FEL	32.426580°	-103.385447°	LEA

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
LOT 2	5	22S	35E		100' FNL	1,980' FEL	32.427947°	-103.387432°	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
O	17	22S	35E		100' FSL	1,980' FEL	32.384760°	-103.387508°	LEA

Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:

OPERATOR CERTIFICATIONS

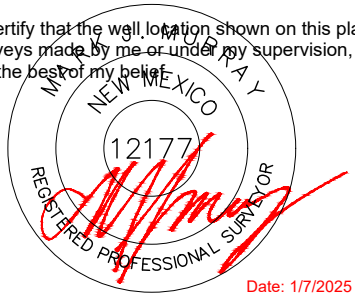
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location 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.

Signature	Date
Cassie Evans	1/24/25
Printed Name: Cassie Evans	
Email Address: Cassie.Evans@permianres.com	

SURVEYOR CERTIFICATIONS

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.



Date: 1/7/2025

Signature and Seal of Professional Surveyor

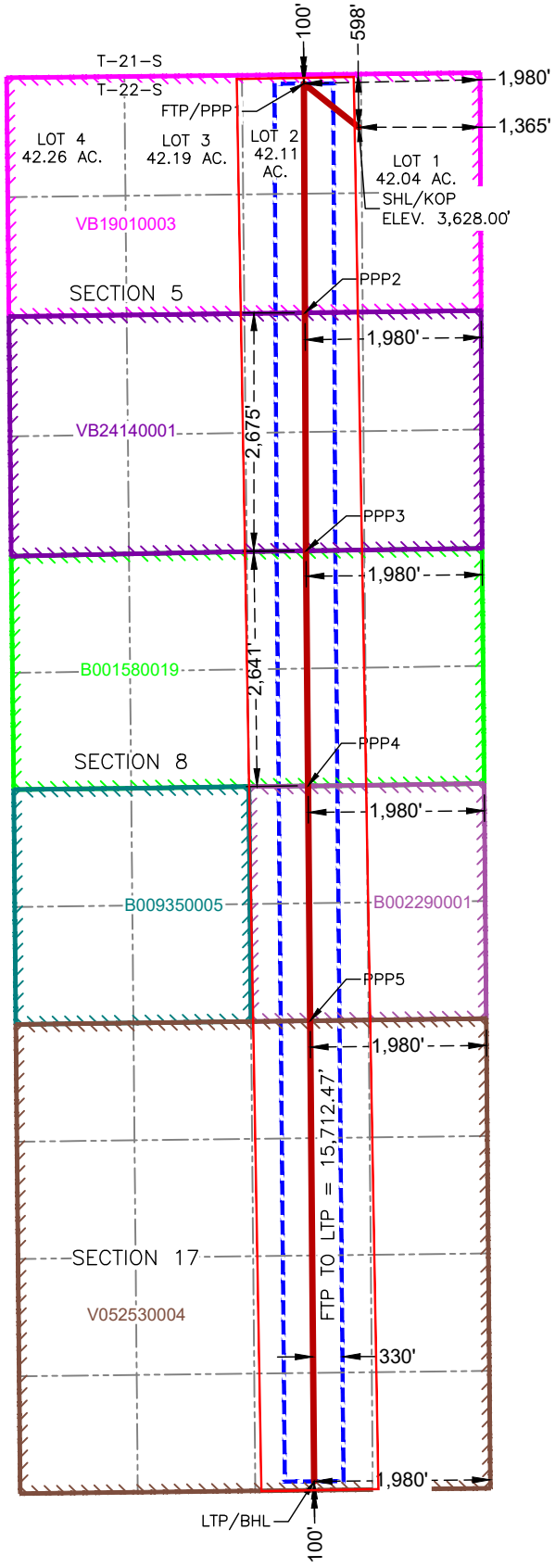
Certificate Number	Date of Survey
12177	1/7/2025

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.



SURFACE HOLE LOCATION
& KICK-OFF POINT
598' FNL & 1,365' FEL
ELEV. = 3,628.00'

NAD 83 X = 833,808.20'
NAD 83 Y = 520,218.29'
NAD 83 LAT = 32.426580°
NAD 83 LONG = -103.385447°
NAD 27 X = 792,624.71'
NAD 27 Y = 520,157.14'
NAD 27 LAT = 32.426455°
NAD 27 LONG = -103.384969°

FIRST TAKE POINT &
PENETRATION POINT 1
100' FNL & 1,980' FEL

NAD 83 X = 833,191.33'
NAD 83 Y = 520,710.09'
NAD 83 LAT = 32.427947°
NAD 83 LONG = -103.387432°
NAD 27 X = 792,007.87'
NAD 27 Y = 520,648.93'
NAD 27 LAT = 32.427822°
NAD 27 LONG = -103.386954°

PENETRATION POINT 2
2,675' FSL & 1,980' FEL

NAD 83 X = 833,202.68'
NAD 83 Y = 518,133.14'
NAD 83 LAT = 32.420864°
NAD 83 LONG = -103.387469°
NAD 27 X = 792,019.17'
NAD 27 Y = 518,072.05'
NAD 27 LAT = 32.420739°
NAD 27 LONG = -103.386991°

PENETRATION POINT 3
0' FSL & 1,980' FEL

NAD 83 X = 833,214.46'
NAD 83 Y = 515,458.27'
NAD 83 LAT = 32.413512°
NAD 83 LONG = -103.387507°
NAD 27 X = 792,030.90'
NAD 27 Y = 515,397.26'
NAD 27 LAT = 32.413387°
NAD 27 LONG = -103.387030°

PENETRATION POINT 4
2,641' FNL & 1,980' FEL

NAD 83 X = 833,237.81'
NAD 83 Y = 512,817.04'
NAD 83 LAT = 32.406252°
NAD 83 LONG = -103.387507°
NAD 27 X = 792,054.20'
NAD 27 Y = 512,756.10'
NAD 27 LAT = 32.406127°
NAD 27 LONG = -103.387031°

PENETRATION POINT 5
0' FSL & 1,980' FEL

NAD 83 X = 833,261.16'
NAD 83 Y = 510,175.51'
NAD 83 LAT = 32.398991°
NAD 83 LONG = -103.387507°
NAD 27 X = 792,077.49'
NAD 27 Y = 510,114.63'
NAD 27 LAT = 32.398867°
NAD 27 LONG = -103.387031°

LAST TAKE POINT &
BOTTOM HOLE LOCATION
100' FSL & 1,980' FEL

NAD 83 X = 833,306.74'
NAD 83 Y = 504,998.08'
NAD 83 LAT = 32.384760°
NAD 83 LONG = -103.387508°
NAD 27 X = 792,122.97'
NAD 27 Y = 504,937.34'
NAD 27 LAT = 32.384635°
NAD 27 LONG = -103.387032°

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Oil Conservation Division
1220 S. St Francis Dr.
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Form APD Comments

Permit 380923

PERMIT COMMENTS

Operator Name and Address:	API Number:
Permian Resources Operating, LLC [372165] 300 N. Marienfeld St Ste 1000 Midland, TX 79701	30-025-54262
	Well: CASA BONITA 5 STATE COM #303H

Created By	Comment	Comment Date
matthew.gomez	To prevent ground water contamination a four (4) string casing design must be utilized. Surface casing shall be set a minimum of 25 feet into the Rustler. This well is within the Capitan Reef. The first intermediate casing string shall be sat and cemented back to surface immediately above the Capitan Reef. The second intermediate string shall be set and cemented back to surface immediately below the base of the Capitan Reef.	1/15/2025
matthew.gomez	The entire length of the lateral is within the pool "WC-025 G-07 S223505N;BONE SPRING [98136]'. Please resubmit as a singular pool well with a single C-102 for the appropriate pool and acreage.	1/24/2025

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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 380923

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
Permian Resources Operating, LLC [372165] 300 N. Marienfeld St Ste 1000 Midland, TX 79701	30-025-54262
	Well: CASA BONITA 5 STATE COM #303H

OCD Reviewer	Condition
matthew.gomez	A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.
matthew.gomez	Notify the OCD 24 hours prior to casing & cement.
matthew.gomez	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.
matthew.gomez	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
matthew.gomez	Cement is required to circulate on both surface and intermediate1 strings of casing.
matthew.gomez	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.
matthew.gomez	File As Drilled C-102 and a directional Survey with C-104 completion packet.
matthew.gomez	Brine water shall not be used in the Capitan Reef. Only fresh water shall be utilized until the Capitan Reef is cased and cemented.

NEW MEXICO

(SP) LEA
CASA BONITA PROJECT
CASA BONITA 5 STATE COM 303H

OWB

Plan: PWP0

Standard Planning Report - Geographic

07 January, 2025

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project (SP) LEA

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site CASA BONITA PROJECT

Site Position:		**Northing:**	513,047.06 usft	**Latitude:**	32° 24' 24.711 N
From:	Map	**Easting:**	834,057.80 usft	**Longitude:**	103° 23' 5.439 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well CASA BONITA 5 STATE COM 303H

Well Position	**+N/-S**	0.0 usft	**Northing:**	520,360.43 usft	**Latitude:**	32° 25' 37.091 N
	+E/-W	0.0 usft	**Easting:**	833,849.49 usft	**Longitude:**	103° 23' 7.112 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,626.0 usft
Grid Convergence:		0.51 °				

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.68	60.46	48,935.05866890

Design PWP0

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	182.02

Plan Survey Tool Program **Date** 1/7/2025

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	24,950.1	PWP0 (OWB)	MWD OWSG_Rev2_ MWD - Star	

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,400.0	8.00	301.27	2,398.7	14.5	-23.8	2.00	2.00	0.00	301.27	
7,532.2	8.00	301.27	7,480.9	385.2	-634.3	0.00	0.00	0.00	0.00	
7,932.2	0.00	0.00	7,879.6	399.7	-658.2	2.00	-2.00	0.00	180.00	
8,915.0	0.00	0.00	8,862.5	399.7	-658.2	0.00	0.00	0.00	0.00	
9,665.0	90.00	179.58	9,340.0	-77.8	-654.7	12.00	12.00	0.00	179.58	LTP/BHL CB5SC 3(
11,885.4	90.00	179.58	9,340.0	-2,298.0	-638.4	0.00	0.00	0.00	0.00	PP2 CB5SC 303H
14,493.9	90.00	179.58	9,340.0	-4,906.5	-619.3	0.00	0.00	0.00	0.00	PP3 CB5SC 303H
17,132.4	90.00	179.58	9,340.0	-7,544.9	-600.0	0.00	0.00	0.00	0.00	PP4 CB5SC 304H
19,773.1	90.00	179.58	9,340.0	-10,185.5	-580.7	0.00	0.00	0.00	0.00	PP5 CB5SC 304H
24,950.1	90.00	179.58	9,340.0	-15,362.3	-542.7	0.00	0.00	0.00	0.00	LTP/BHL CB5SC 3(

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	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	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
100.0	0.00	0.00	100.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
200.0	0.00	0.00	200.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
300.0	0.00	0.00	300.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
400.0	0.00	0.00	400.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
500.0	0.00	0.00	500.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
600.0	0.00	0.00	600.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
700.0	0.00	0.00	700.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
800.0	0.00	0.00	800.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
900.0	0.00	0.00	900.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	520,360.43	833,849.49	32° 25' 37.091 N	103° 23' 7.112 W
Start Build 2.00									
2,100.0	2.00	301.27	2,100.0	0.9	-1.5	520,361.34	833,848.00	32° 25' 37.100 N	103° 23' 7.129 W
2,200.0	4.00	301.27	2,199.8	3.6	-6.0	520,364.05	833,843.52	32° 25' 37.127 N	103° 23' 7.181 W
2,300.0	6.00	301.27	2,299.5	8.1	-13.4	520,368.58	833,836.07	32° 25' 37.173 N	103° 23' 7.268 W
2,400.0	8.00	301.27	2,398.7	14.5	-23.8	520,374.90	833,825.66	32° 25' 37.236 N	103° 23' 7.388 W
Start 5132.2 hold at 2400.0 MD									
2,500.0	8.00	301.27	2,497.7	21.7	-35.7	520,382.13	833,813.76	32° 25' 37.309 N	103° 23' 7.526 W
2,600.0	8.00	301.27	2,596.8	28.9	-47.6	520,389.35	833,801.87	32° 25' 37.381 N	103° 23' 7.664 W
2,700.0	8.00	301.27	2,695.8	36.1	-59.5	520,396.58	833,789.97	32° 25' 37.454 N	103° 23' 7.802 W
2,800.0	8.00	301.27	2,794.8	43.4	-71.4	520,403.80	833,778.08	32° 25' 37.526 N	103° 23' 7.940 W
2,900.0	8.00	301.27	2,893.8	50.6	-83.3	520,411.02	833,766.18	32° 25' 37.599 N	103° 23' 8.079 W
3,000.0	8.00	301.27	2,992.9	57.8	-95.2	520,418.25	833,754.29	32° 25' 37.671 N	103° 23' 8.217 W
3,100.0	8.00	301.27	3,091.9	65.0	-107.1	520,425.47	833,742.39	32° 25' 37.744 N	103° 23' 8.355 W
3,200.0	8.00	301.27	3,190.9	72.3	-119.0	520,432.70	833,730.49	32° 25' 37.816 N	103° 23' 8.493 W
3,300.0	8.00	301.27	3,289.9	79.5	-130.9	520,439.92	833,718.60	32° 25' 37.889 N	103° 23' 8.631 W
3,400.0	8.00	301.27	3,389.0	86.7	-142.8	520,447.14	833,706.70	32° 25' 37.961 N	103° 23' 8.769 W
3,500.0	8.00	301.27	3,488.0	93.9	-154.7	520,454.37	833,694.81	32° 25' 38.034 N	103° 23' 8.907 W
3,600.0	8.00	301.27	3,587.0	101.2	-166.6	520,461.59	833,682.91	32° 25' 38.106 N	103° 23' 9.045 W
3,700.0	8.00	301.27	3,686.0	108.4	-178.5	520,468.82	833,671.02	32° 25' 38.179 N	103° 23' 9.183 W
3,800.0	8.00	301.27	3,785.1	115.6	-190.4	520,476.04	833,659.12	32° 25' 38.251 N	103° 23' 9.321 W
3,900.0	8.00	301.27	3,884.1	122.8	-202.3	520,483.27	833,647.23	32° 25' 38.324 N	103° 23' 9.459 W
4,000.0	8.00	301.27	3,983.1	130.1	-214.2	520,490.49	833,635.33	32° 25' 38.396 N	103° 23' 9.597 W
4,100.0	8.00	301.27	4,082.2	137.3	-226.1	520,497.71	833,623.44	32° 25' 38.469 N	103° 23' 9.735 W
4,200.0	8.00	301.27	4,181.2	144.5	-237.9	520,504.94	833,611.54	32° 25' 38.541 N	103° 23' 9.873 W
4,300.0	8.00	301.27	4,280.2	151.7	-249.8	520,512.16	833,599.64	32° 25' 38.614 N	103° 23' 10.011 W
4,400.0	8.00	301.27	4,379.2	159.0	-261.7	520,519.39	833,587.75	32° 25' 38.687 N	103° 23' 10.149 W
4,500.0	8.00	301.27	4,478.3	166.2	-273.6	520,526.61	833,575.85	32° 25' 38.759 N	103° 23' 10.287 W
4,600.0	8.00	301.27	4,577.3	173.4	-285.5	520,533.83	833,563.96	32° 25' 38.832 N	103° 23' 10.425 W
4,700.0	8.00	301.27	4,676.3	180.6	-297.4	520,541.06	833,552.06	32° 25' 38.904 N	103° 23' 10.563 W
4,800.0	8.00	301.27	4,775.3	187.9	-309.3	520,548.28	833,540.17	32° 25' 38.977 N	103° 23' 10.701 W
4,900.0	8.00	301.27	4,874.4	195.1	-321.2	520,555.51	833,528.27	32° 25' 39.049 N	103° 23' 10.839 W
5,000.0	8.00	301.27	4,973.4	202.3	-333.1	520,562.73	833,516.38	32° 25' 39.122 N	103° 23' 10.977 W
5,100.0	8.00	301.27	5,072.4	209.5	-345.0	520,569.96	833,504.48	32° 25' 39.194 N	103° 23' 11.115 W

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	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
5,200.0	8.00	301.27	5,171.5	216.7	-356.9	520,577.18	833,492.58	32° 25' 39.267 N	103° 23' 11.253 W
5,300.0	8.00	301.27	5,270.5	224.0	-368.8	520,584.40	833,480.69	32° 25' 39.339 N	103° 23' 11.391 W
5,400.0	8.00	301.27	5,369.5	231.2	-380.7	520,591.63	833,468.79	32° 25' 39.412 N	103° 23' 11.529 W
5,500.0	8.00	301.27	5,468.5	238.4	-392.6	520,598.85	833,456.90	32° 25' 39.484 N	103° 23' 11.667 W
5,600.0	8.00	301.27	5,567.6	245.6	-404.5	520,606.08	833,445.00	32° 25' 39.557 N	103° 23' 11.805 W
5,700.0	8.00	301.27	5,666.6	252.9	-416.4	520,613.30	833,433.11	32° 25' 39.629 N	103° 23' 11.943 W
5,800.0	8.00	301.27	5,765.6	260.1	-428.3	520,620.52	833,421.21	32° 25' 39.702 N	103° 23' 12.081 W
5,900.0	8.00	301.27	5,864.6	267.3	-440.2	520,627.75	833,409.32	32° 25' 39.774 N	103° 23' 12.219 W
6,000.0	8.00	301.27	5,963.7	274.5	-452.1	520,634.97	833,397.42	32° 25' 39.847 N	103° 23' 12.357 W
6,100.0	8.00	301.27	6,062.7	281.8	-464.0	520,642.20	833,385.52	32° 25' 39.919 N	103° 23' 12.495 W
6,200.0	8.00	301.27	6,161.7	289.0	-475.9	520,649.42	833,373.63	32° 25' 39.992 N	103° 23' 12.633 W
6,300.0	8.00	301.27	6,260.7	296.2	-487.8	520,656.64	833,361.73	32° 25' 40.064 N	103° 23' 12.771 W
6,400.0	8.00	301.27	6,359.8	303.4	-499.7	520,663.87	833,349.84	32° 25' 40.137 N	103° 23' 12.910 W
6,500.0	8.00	301.27	6,458.8	310.7	-511.5	520,671.09	833,337.94	32° 25' 40.209 N	103° 23' 13.048 W
6,600.0	8.00	301.27	6,557.8	317.9	-523.4	520,678.32	833,326.05	32° 25' 40.282 N	103° 23' 13.186 W
6,700.0	8.00	301.27	6,656.9	325.1	-535.3	520,685.54	833,314.15	32° 25' 40.355 N	103° 23' 13.324 W
6,800.0	8.00	301.27	6,755.9	332.3	-547.2	520,692.77	833,302.26	32° 25' 40.427 N	103° 23' 13.462 W
6,900.0	8.00	301.27	6,854.9	339.6	-559.1	520,699.99	833,290.36	32° 25' 40.500 N	103° 23' 13.600 W
7,000.0	8.00	301.27	6,953.9	346.8	-571.0	520,707.21	833,278.47	32° 25' 40.572 N	103° 23' 13.738 W
7,100.0	8.00	301.27	7,053.0	354.0	-582.9	520,714.44	833,266.57	32° 25' 40.645 N	103° 23' 13.876 W
7,200.0	8.00	301.27	7,152.0	361.2	-594.8	520,721.66	833,254.67	32° 25' 40.717 N	103° 23' 14.014 W
7,300.0	8.00	301.27	7,251.0	368.5	-606.7	520,728.89	833,242.78	32° 25' 40.790 N	103° 23' 14.152 W
7,400.0	8.00	301.27	7,350.0	375.7	-618.6	520,736.11	833,230.88	32° 25' 40.862 N	103° 23' 14.290 W
7,500.0	8.00	301.27	7,449.1	382.9	-630.5	520,743.33	833,218.99	32° 25' 40.935 N	103° 23' 14.428 W
7,532.2	8.00	301.27	7,480.9	385.2	-634.3	520,745.66	833,215.16	32° 25' 40.958 N	103° 23' 14.472 W
Start Drop -2.00									
7,600.0	6.64	301.27	7,548.2	389.7	-641.7	520,750.15	833,207.77	32° 25' 41.003 N	103° 23' 14.558 W
7,700.0	4.64	301.27	7,647.7	394.8	-650.1	520,755.25	833,199.37	32° 25' 41.054 N	103° 23' 14.656 W
7,800.0	2.64	301.27	7,747.5	398.1	-655.6	520,758.55	833,193.93	32° 25' 41.087 N	103° 23' 14.719 W
7,900.0	0.64	301.27	7,847.5	399.6	-658.0	520,760.04	833,191.48	32° 25' 41.102 N	103° 23' 14.747 W
7,932.2	0.00	0.00	7,879.6	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
Start 982.9 hold at 7932.2 MD									
8,000.0	0.00	0.00	7,947.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,100.0	0.00	0.00	8,047.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,200.0	0.00	0.00	8,147.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,300.0	0.00	0.00	8,247.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,400.0	0.00	0.00	8,347.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,500.0	0.00	0.00	8,447.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,600.0	0.00	0.00	8,547.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,700.0	0.00	0.00	8,647.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,800.0	0.00	0.00	8,747.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,900.0	0.00	0.00	8,847.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
8,915.0	0.00	0.00	8,862.5	399.7	-658.2	520,760.13	833,191.33	32° 25' 41.103 N	103° 23' 14.749 W
Start Build 12.00									
8,925.0	1.19	179.58	8,872.5	399.6	-658.2	520,760.03	833,191.33	32° 25' 41.102 N	103° 23' 14.749 W
8,950.0	4.19	179.58	8,897.4	398.4	-658.2	520,758.85	833,191.34	32° 25' 41.091 N	103° 23' 14.749 W
8,975.0	7.19	179.58	8,922.3	395.9	-658.1	520,756.37	833,191.36	32° 25' 41.066 N	103° 23' 14.749 W
9,000.0	10.19	179.58	8,947.0	392.2	-658.1	520,752.59	833,191.38	32° 25' 41.029 N	103° 23' 14.749 W
9,025.0	13.19	179.58	8,971.5	387.1	-658.1	520,747.53	833,191.42	32° 25' 40.979 N	103° 23' 14.749 W
9,050.0	16.19	179.58	8,995.7	380.8	-658.0	520,741.19	833,191.47	32° 25' 40.916 N	103° 23' 14.749 W
9,075.0	19.19	179.58	9,019.5	373.2	-658.0	520,733.59	833,191.52	32° 25' 40.841 N	103° 23' 14.749 W
9,100.0	22.19	179.58	9,042.9	364.3	-657.9	520,724.75	833,191.59	32° 25' 40.753 N	103° 23' 14.749 W
9,125.0	25.19	179.58	9,065.8	354.3	-657.8	520,714.71	833,191.66	32° 25' 40.654 N	103° 23' 14.750 W
9,150.0	28.19	179.58	9,088.1	343.0	-657.7	520,703.48	833,191.74	32° 25' 40.543 N	103° 23' 14.750 W

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	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
9,175.0	31.19	179.58	9,109.8	330.7	-657.7	520,691.10	833,191.83	32° 25' 40.420 N	103° 23' 14.750 W
9,200.0	34.19	179.58	9,130.8	317.2	-657.6	520,677.60	833,191.93	32° 25' 40.287 N	103° 23' 14.750 W
9,225.0	37.19	179.58	9,151.1	302.6	-657.4	520,663.01	833,192.04	32° 25' 40.142 N	103° 23' 14.751 W
9,250.0	40.19	179.58	9,170.7	287.0	-657.3	520,647.38	833,192.15	32° 25' 39.988 N	103° 23' 14.751 W
9,275.0	43.19	179.58	9,189.3	270.3	-657.2	520,630.76	833,192.28	32° 25' 39.823 N	103° 23' 14.751 W
9,300.0	46.19	179.58	9,207.1	252.7	-657.1	520,613.18	833,192.40	32° 25' 39.649 N	103° 23' 14.751 W
9,325.0	49.19	179.58	9,223.9	234.3	-656.9	520,594.69	833,192.54	32° 25' 39.466 N	103° 23' 14.752 W
9,350.0	52.19	179.58	9,239.7	214.9	-656.8	520,575.35	833,192.68	32° 25' 39.275 N	103° 23' 14.752 W
9,375.0	55.19	179.58	9,254.5	194.8	-656.7	520,555.20	833,192.83	32° 25' 39.076 N	103° 23' 14.752 W
9,400.0	58.19	179.58	9,268.3	173.9	-656.5	520,534.31	833,192.98	32° 25' 38.869 N	103° 23' 14.753 W
9,425.0	61.19	179.58	9,280.9	152.3	-656.3	520,512.73	833,193.14	32° 25' 38.655 N	103° 23' 14.753 W
9,450.0	64.19	179.58	9,292.4	130.1	-656.2	520,490.52	833,193.30	32° 25' 38.436 N	103° 23' 14.754 W
9,475.0	67.19	179.58	9,302.6	107.3	-656.0	520,467.74	833,193.47	32° 25' 38.210 N	103° 23' 14.754 W
9,500.0	70.19	179.58	9,311.7	84.0	-655.8	520,444.45	833,193.64	32° 25' 37.980 N	103° 23' 14.754 W
9,525.0	73.19	179.58	9,319.6	60.3	-655.7	520,420.72	833,193.81	32° 25' 37.745 N	103° 23' 14.755 W
9,550.0	76.19	179.58	9,326.2	36.2	-655.5	520,396.61	833,193.99	32° 25' 37.506 N	103° 23' 14.755 W
9,575.0	79.19	179.58	9,331.5	11.8	-655.3	520,372.19	833,194.17	32° 25' 37.265 N	103° 23' 14.756 W
9,600.0	82.19	179.58	9,335.5	-12.9	-655.1	520,347.52	833,194.35	32° 25' 37.021 N	103° 23' 14.756 W
9,625.0	85.19	179.58	9,338.3	-37.8	-655.0	520,322.67	833,194.53	32° 25' 36.775 N	103° 23' 14.757 W
9,650.0	88.19	179.58	9,339.7	-62.7	-654.8	520,297.72	833,194.71	32° 25' 36.528 N	103° 23' 14.757 W
9,665.0	90.00	179.58	9,340.0	-77.8	-654.7	520,282.68	833,194.82	32° 25' 36.379 N	103° 23' 14.757 W
Start 2220.3 hold at 9665.0 MD									
9,700.0	90.00	179.58	9,340.0	-112.7	-654.4	520,247.72	833,195.08	32° 25' 36.033 N	103° 23' 14.758 W
9,800.0	90.00	179.58	9,340.0	-212.7	-653.7	520,147.73	833,195.81	32° 25' 35.044 N	103° 23' 14.760 W
9,900.0	90.00	179.58	9,340.0	-312.7	-652.9	520,047.73	833,196.54	32° 25' 34.054 N	103° 23' 14.762 W
10,000.0	90.00	179.58	9,340.0	-412.7	-652.2	519,947.73	833,197.28	32° 25' 33.065 N	103° 23' 14.763 W
10,100.0	90.00	179.58	9,340.0	-512.7	-651.5	519,847.73	833,198.01	32° 25' 32.075 N	103° 23' 14.765 W
10,200.0	90.00	179.58	9,340.0	-612.7	-650.7	519,747.74	833,198.74	32° 25' 31.086 N	103° 23' 14.767 W
10,300.0	90.00	179.58	9,340.0	-712.7	-650.0	519,647.74	833,199.47	32° 25' 30.096 N	103° 23' 14.769 W
10,400.0	90.00	179.58	9,340.0	-812.7	-649.3	519,547.74	833,200.21	32° 25' 29.107 N	103° 23' 14.770 W
10,500.0	90.00	179.58	9,340.0	-912.7	-648.6	519,447.74	833,200.94	32° 25' 28.117 N	103° 23' 14.772 W
10,600.0	90.00	179.58	9,340.0	-1,012.7	-647.8	519,347.75	833,201.67	32° 25' 27.128 N	103° 23' 14.774 W
10,700.0	90.00	179.58	9,340.0	-1,112.7	-647.1	519,247.75	833,202.40	32° 25' 26.138 N	103° 23' 14.776 W
10,800.0	90.00	179.58	9,340.0	-1,212.7	-646.4	519,147.75	833,203.13	32° 25' 25.149 N	103° 23' 14.778 W
10,900.0	90.00	179.58	9,340.0	-1,312.7	-645.6	519,047.76	833,203.87	32° 25' 24.159 N	103° 23' 14.779 W
11,000.0	90.00	179.58	9,340.0	-1,412.7	-644.9	518,947.76	833,204.60	32° 25' 23.170 N	103° 23' 14.781 W
11,100.0	90.00	179.58	9,340.0	-1,512.7	-644.2	518,847.76	833,205.33	32° 25' 22.180 N	103° 23' 14.783 W
11,200.0	90.00	179.58	9,340.0	-1,612.7	-643.4	518,747.76	833,206.06	32° 25' 21.191 N	103° 23' 14.785 W
11,300.0	90.00	179.58	9,340.0	-1,712.7	-642.7	518,647.77	833,206.80	32° 25' 20.201 N	103° 23' 14.787 W
11,400.0	90.00	179.58	9,340.0	-1,812.7	-642.0	518,547.77	833,207.53	32° 25' 19.212 N	103° 23' 14.788 W
11,500.0	90.00	179.58	9,340.0	-1,912.7	-641.2	518,447.77	833,208.26	32° 25' 18.222 N	103° 23' 14.790 W
11,600.0	90.00	179.58	9,340.0	-2,012.7	-640.5	518,347.77	833,208.99	32° 25' 17.233 N	103° 23' 14.792 W
11,700.0	90.00	179.58	9,340.0	-2,112.7	-639.8	518,247.78	833,209.72	32° 25' 16.243 N	103° 23' 14.794 W
11,800.0	90.00	179.58	9,340.0	-2,212.7	-639.0	518,147.78	833,210.46	32° 25' 15.254 N	103° 23' 14.795 W
11,885.4	90.00	179.58	9,340.0	-2,298.0	-638.4	518,062.39	833,211.08	32° 25' 14.409 N	103° 23' 14.797 W
Start 2608.6 hold at 11885.4 MD									
11,900.0	90.00	179.58	9,340.0	-2,312.6	-638.3	518,047.78	833,211.19	32° 25' 14.265 N	103° 23' 14.797 W
12,000.0	90.00	179.58	9,340.0	-2,412.6	-637.6	517,947.79	833,211.92	32° 25' 13.275 N	103° 23' 14.799 W
12,100.0	90.00	179.58	9,340.0	-2,512.6	-636.8	517,847.79	833,212.65	32° 25' 12.286 N	103° 23' 14.801 W
12,200.0	90.00	179.58	9,340.0	-2,612.6	-636.1	517,747.79	833,213.39	32° 25' 11.296 N	103° 23' 14.803 W
12,300.0	90.00	179.58	9,340.0	-2,712.6	-635.4	517,647.79	833,214.12	32° 25' 10.307 N	103° 23' 14.804 W
12,400.0	90.00	179.58	9,340.0	-2,812.6	-634.6	517,547.80	833,214.85	32° 25' 9.317 N	103° 23' 14.806 W
12,500.0	90.00	179.58	9,340.0	-2,912.6	-633.9	517,447.80	833,215.58	32° 25' 8.328 N	103° 23' 14.808 W
12,600.0	90.00	179.58	9,340.0	-3,012.6	-633.2	517,347.80	833,216.31	32° 25' 7.338 N	103° 23' 14.810 W

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	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
12,700.0	90.00	179.58	9,340.0	-3,112.6	-632.4	517,247.80	833,217.05	32° 25' 6.349 N	103° 23' 14.811 W
12,800.0	90.00	179.58	9,340.0	-3,212.6	-631.7	517,147.81	833,217.78	32° 25' 5.359 N	103° 23' 14.813 W
12,900.0	90.00	179.58	9,340.0	-3,312.6	-631.0	517,047.81	833,218.51	32° 25' 4.370 N	103° 23' 14.815 W
13,000.0	90.00	179.58	9,340.0	-3,412.6	-630.2	516,947.81	833,219.24	32° 25' 3.380 N	103° 23' 14.817 W
13,100.0	90.00	179.58	9,340.0	-3,512.6	-629.5	516,847.81	833,219.97	32° 25' 2.391 N	103° 23' 14.819 W
13,200.0	90.00	179.58	9,340.0	-3,612.6	-628.8	516,747.82	833,220.71	32° 25' 1.401 N	103° 23' 14.820 W
13,300.0	90.00	179.58	9,340.0	-3,712.6	-628.0	516,647.82	833,221.44	32° 25' 0.412 N	103° 23' 14.822 W
13,400.0	90.00	179.58	9,340.0	-3,812.6	-627.3	516,547.82	833,222.17	32° 24' 59.422 N	103° 23' 14.824 W
13,500.0	90.00	179.58	9,340.0	-3,912.6	-626.6	516,447.83	833,222.90	32° 24' 58.433 N	103° 23' 14.826 W
13,600.0	90.00	179.58	9,340.0	-4,012.6	-625.9	516,347.83	833,223.64	32° 24' 57.443 N	103° 23' 14.828 W
13,700.0	90.00	179.58	9,340.0	-4,112.6	-625.1	516,247.83	833,224.37	32° 24' 56.454 N	103° 23' 14.829 W
13,800.0	90.00	179.58	9,340.0	-4,212.6	-624.4	516,147.83	833,225.10	32° 24' 55.464 N	103° 23' 14.831 W
13,900.0	90.00	179.58	9,340.0	-4,312.6	-623.7	516,047.84	833,225.83	32° 24' 54.475 N	103° 23' 14.833 W
14,000.0	90.00	179.58	9,340.0	-4,412.6	-622.9	515,947.84	833,226.56	32° 24' 53.485 N	103° 23' 14.835 W
14,100.0	90.00	179.58	9,340.0	-4,512.6	-622.2	515,847.84	833,227.30	32° 24' 52.496 N	103° 23' 14.836 W
14,200.0	90.00	179.58	9,340.0	-4,612.6	-621.5	515,747.84	833,228.03	32° 24' 51.507 N	103° 23' 14.838 W
14,300.0	90.00	179.58	9,340.0	-4,712.6	-620.7	515,647.85	833,228.76	32° 24' 50.517 N	103° 23' 14.840 W
14,400.0	90.00	179.58	9,340.0	-4,812.6	-620.0	515,547.85	833,229.49	32° 24' 49.528 N	103° 23' 14.842 W
14,493.9	90.00	179.58	9,340.0	-4,906.5	-619.3	515,453.90	833,230.18	32° 24' 48.598 N	103° 23' 14.843 W
Start 2638.4 hold at 14493.9 MD									
14,500.0	90.00	179.58	9,340.0	-4,912.6	-619.3	515,447.85	833,230.23	32° 24' 48.538 N	103° 23' 14.844 W
14,600.0	90.00	179.58	9,340.0	-5,012.6	-618.5	515,347.85	833,230.96	32° 24' 47.549 N	103° 23' 14.845 W
14,700.0	90.00	179.58	9,340.0	-5,112.6	-617.8	515,247.86	833,231.69	32° 24' 46.559 N	103° 23' 14.847 W
14,800.0	90.00	179.58	9,340.0	-5,212.6	-617.1	515,147.86	833,232.42	32° 24' 45.570 N	103° 23' 14.849 W
14,900.0	90.00	179.58	9,340.0	-5,312.6	-616.3	515,047.86	833,233.15	32° 24' 44.580 N	103° 23' 14.851 W
15,000.0	90.00	179.58	9,340.0	-5,412.6	-615.6	514,947.87	833,233.89	32° 24' 43.591 N	103° 23' 14.852 W
15,100.0	90.00	179.58	9,340.0	-5,512.6	-614.9	514,847.87	833,234.62	32° 24' 42.601 N	103° 23' 14.854 W
15,200.0	90.00	179.58	9,340.0	-5,612.6	-614.1	514,747.87	833,235.35	32° 24' 41.612 N	103° 23' 14.856 W
15,300.0	90.00	179.58	9,340.0	-5,712.6	-613.4	514,647.87	833,236.08	32° 24' 40.622 N	103° 23' 14.858 W
15,400.0	90.00	179.58	9,340.0	-5,812.6	-612.7	514,547.88	833,236.81	32° 24' 39.633 N	103° 23' 14.860 W
15,500.0	90.00	179.58	9,340.0	-5,912.6	-611.9	514,447.88	833,237.55	32° 24' 38.643 N	103° 23' 14.861 W
15,600.0	90.00	179.58	9,340.0	-6,012.5	-611.2	514,347.88	833,238.28	32° 24' 37.654 N	103° 23' 14.863 W
15,700.0	90.00	179.58	9,340.0	-6,112.5	-610.5	514,247.88	833,239.01	32° 24' 36.664 N	103° 23' 14.865 W
15,800.0	90.00	179.58	9,340.0	-6,212.5	-609.7	514,147.89	833,239.74	32° 24' 35.675 N	103° 23' 14.867 W
15,900.0	90.00	179.58	9,340.0	-6,312.5	-609.0	514,047.89	833,240.48	32° 24' 34.685 N	103° 23' 14.869 W
16,000.0	90.00	179.58	9,340.0	-6,412.5	-608.3	513,947.89	833,241.21	32° 24' 33.696 N	103° 23' 14.870 W
16,100.0	90.00	179.58	9,340.0	-6,512.5	-607.5	513,847.89	833,241.94	32° 24' 32.706 N	103° 23' 14.872 W
16,200.0	90.00	179.58	9,340.0	-6,612.5	-606.8	513,747.90	833,242.67	32° 24' 31.717 N	103° 23' 14.874 W
16,300.0	90.00	179.58	9,340.0	-6,712.5	-606.1	513,647.90	833,243.40	32° 24' 30.727 N	103° 23' 14.876 W
16,400.0	90.00	179.58	9,340.0	-6,812.5	-605.4	513,547.90	833,244.14	32° 24' 29.738 N	103° 23' 14.877 W
16,500.0	90.00	179.58	9,340.0	-6,912.5	-604.6	513,447.91	833,244.87	32° 24' 28.748 N	103° 23' 14.879 W
16,600.0	90.00	179.58	9,340.0	-7,012.5	-603.9	513,347.91	833,245.60	32° 24' 27.759 N	103° 23' 14.881 W
16,700.0	90.00	179.58	9,340.0	-7,112.5	-603.2	513,247.91	833,246.33	32° 24' 26.770 N	103° 23' 14.883 W
16,800.0	90.00	179.58	9,340.0	-7,212.5	-602.4	513,147.91	833,247.07	32° 24' 25.780 N	103° 23' 14.885 W
16,900.0	90.00	179.58	9,340.0	-7,312.5	-601.7	513,047.92	833,247.80	32° 24' 24.791 N	103° 23' 14.886 W
17,000.0	90.00	179.58	9,340.0	-7,412.5	-601.0	512,947.92	833,248.53	32° 24' 23.801 N	103° 23' 14.888 W
17,100.0	90.00	179.58	9,340.0	-7,512.5	-600.2	512,847.92	833,249.26	32° 24' 22.812 N	103° 23' 14.890 W
17,132.4	90.00	179.58	9,340.0	-7,544.9	-600.0	512,815.57	833,249.50	32° 24' 22.491 N	103° 23' 14.890 W
Start 2640.7 hold at 17132.4 MD									
17,200.0	90.00	179.58	9,340.0	-7,612.5	-599.5	512,747.92	833,249.99	32° 24' 21.822 N	103° 23' 14.892 W
17,300.0	90.00	179.58	9,340.0	-7,712.5	-598.8	512,647.93	833,250.73	32° 24' 20.833 N	103° 23' 14.893 W
17,400.0	90.00	179.58	9,340.0	-7,812.5	-598.0	512,547.93	833,251.46	32° 24' 19.843 N	103° 23' 14.895 W
17,500.0	90.00	179.58	9,340.0	-7,912.5	-597.3	512,447.93	833,252.19	32° 24' 18.854 N	103° 23' 14.897 W
17,600.0	90.00	179.58	9,340.0	-8,012.5	-596.6	512,347.94	833,252.92	32° 24' 17.864 N	103° 23' 14.899 W

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	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
17,700.0	90.00	179.58	9,340.0	-8,112.5	-595.8	512,247.94	833,253.66	32° 24' 16.875 N	103° 23' 14.901 W
17,800.0	90.00	179.58	9,340.0	-8,212.5	-595.1	512,147.94	833,254.39	32° 24' 15.885 N	103° 23' 14.902 W
17,900.0	90.00	179.58	9,340.0	-8,312.5	-594.4	512,047.94	833,255.12	32° 24' 14.896 N	103° 23' 14.904 W
18,000.0	90.00	179.58	9,340.0	-8,412.5	-593.6	511,947.95	833,255.85	32° 24' 13.906 N	103° 23' 14.906 W
18,100.0	90.00	179.58	9,340.0	-8,512.5	-592.9	511,847.95	833,256.58	32° 24' 12.917 N	103° 23' 14.908 W
18,200.0	90.00	179.58	9,340.0	-8,612.5	-592.2	511,747.95	833,257.32	32° 24' 11.927 N	103° 23' 14.909 W
18,300.0	90.00	179.58	9,340.0	-8,712.5	-591.4	511,647.95	833,258.05	32° 24' 10.938 N	103° 23' 14.911 W
18,400.0	90.00	179.58	9,340.0	-8,812.5	-590.7	511,547.96	833,258.78	32° 24' 9.948 N	103° 23' 14.913 W
18,500.0	90.00	179.58	9,340.0	-8,912.5	-590.0	511,447.96	833,259.51	32° 24' 8.959 N	103° 23' 14.915 W
18,600.0	90.00	179.58	9,340.0	-9,012.5	-589.2	511,347.96	833,260.24	32° 24' 7.969 N	103° 23' 14.917 W
18,700.0	90.00	179.58	9,340.0	-9,112.5	-588.5	511,247.96	833,260.98	32° 24' 6.980 N	103° 23' 14.918 W
18,800.0	90.00	179.58	9,340.0	-9,212.5	-587.8	511,147.97	833,261.71	32° 24' 5.990 N	103° 23' 14.920 W
18,900.0	90.00	179.58	9,340.0	-9,312.5	-587.0	511,047.97	833,262.44	32° 24' 5.001 N	103° 23' 14.922 W
19,000.0	90.00	179.58	9,340.0	-9,412.5	-586.3	510,947.97	833,263.17	32° 24' 4.011 N	103° 23' 14.924 W
19,100.0	90.00	179.58	9,340.0	-9,512.5	-585.6	510,847.98	833,263.91	32° 24' 3.022 N	103° 23' 14.925 W
19,200.0	90.00	179.58	9,340.0	-9,612.5	-584.9	510,747.98	833,264.64	32° 24' 2.033 N	103° 23' 14.927 W
19,300.0	90.00	179.58	9,340.0	-9,712.5	-584.1	510,647.98	833,265.37	32° 24' 1.043 N	103° 23' 14.929 W
19,400.0	90.00	179.58	9,340.0	-9,812.4	-583.4	510,547.98	833,266.10	32° 24' 0.054 N	103° 23' 14.931 W
19,500.0	90.00	179.58	9,340.0	-9,912.4	-582.7	510,447.99	833,266.83	32° 23' 59.064 N	103° 23' 14.933 W
19,600.0	90.00	179.58	9,340.0	-10,012.4	-581.9	510,347.99	833,267.57	32° 23' 58.075 N	103° 23' 14.934 W
19,700.0	90.00	179.58	9,340.0	-10,112.4	-581.2	510,247.99	833,268.30	32° 23' 57.085 N	103° 23' 14.936 W
19,773.1	90.00	179.58	9,340.0	-10,185.5	-580.7	510,174.90	833,268.83	32° 23' 56.362 N	103° 23' 14.937 W
Start 5177.0 hold at 19773.1 MD									
19,800.0	90.00	179.58	9,340.0	-10,212.4	-580.5	510,147.99	833,269.03	32° 23' 56.096 N	103° 23' 14.938 W
19,900.0	90.00	179.58	9,340.0	-10,312.4	-579.7	510,048.00	833,269.76	32° 23' 55.106 N	103° 23' 14.940 W
20,000.0	90.00	179.58	9,340.0	-10,412.4	-579.0	509,948.00	833,270.50	32° 23' 54.117 N	103° 23' 14.941 W
20,100.0	90.00	179.58	9,340.0	-10,512.4	-578.3	509,848.00	833,271.23	32° 23' 53.127 N	103° 23' 14.943 W
20,200.0	90.00	179.58	9,340.0	-10,612.4	-577.5	509,748.00	833,271.96	32° 23' 52.138 N	103° 23' 14.945 W
20,300.0	90.00	179.58	9,340.0	-10,712.4	-576.8	509,648.01	833,272.69	32° 23' 51.148 N	103° 23' 14.947 W
20,400.0	90.00	179.58	9,340.0	-10,812.4	-576.1	509,548.01	833,273.42	32° 23' 50.159 N	103° 23' 14.949 W
20,500.0	90.00	179.58	9,340.0	-10,912.4	-575.3	509,448.01	833,274.16	32° 23' 49.169 N	103° 23' 14.950 W
20,600.0	90.00	179.58	9,340.0	-11,012.4	-574.6	509,348.02	833,274.89	32° 23' 48.180 N	103° 23' 14.952 W
20,700.0	90.00	179.58	9,340.0	-11,112.4	-573.9	509,248.02	833,275.62	32° 23' 47.190 N	103° 23' 14.954 W
20,800.0	90.00	179.58	9,340.0	-11,212.4	-573.1	509,148.02	833,276.35	32° 23' 46.201 N	103° 23' 14.956 W
20,900.0	90.00	179.58	9,340.0	-11,312.4	-572.4	509,048.02	833,277.08	32° 23' 45.211 N	103° 23' 14.957 W
21,000.0	90.00	179.58	9,340.0	-11,412.4	-571.7	508,948.03	833,277.82	32° 23' 44.222 N	103° 23' 14.959 W
21,100.0	90.00	179.58	9,340.0	-11,512.4	-570.9	508,848.03	833,278.55	32° 23' 43.232 N	103° 23' 14.961 W
21,200.0	90.00	179.58	9,340.0	-11,612.4	-570.2	508,748.03	833,279.28	32° 23' 42.243 N	103° 23' 14.963 W
21,300.0	90.00	179.58	9,340.0	-11,712.4	-569.5	508,648.03	833,280.01	32° 23' 41.253 N	103° 23' 14.965 W
21,400.0	90.00	179.58	9,340.0	-11,812.4	-568.7	508,548.04	833,280.75	32° 23' 40.264 N	103° 23' 14.966 W
21,500.0	90.00	179.58	9,340.0	-11,912.4	-568.0	508,448.04	833,281.48	32° 23' 39.274 N	103° 23' 14.968 W
21,600.0	90.00	179.58	9,340.0	-12,012.4	-567.3	508,348.04	833,282.21	32° 23' 38.285 N	103° 23' 14.970 W
21,700.0	90.00	179.58	9,340.0	-12,112.4	-566.5	508,248.04	833,282.94	32° 23' 37.295 N	103° 23' 14.972 W
21,800.0	90.00	179.58	9,340.0	-12,212.4	-565.8	508,148.05	833,283.67	32° 23' 36.306 N	103° 23' 14.973 W
21,900.0	90.00	179.58	9,340.0	-12,312.4	-565.1	508,048.05	833,284.41	32° 23' 35.317 N	103° 23' 14.975 W
22,000.0	90.00	179.58	9,340.0	-12,412.4	-564.3	507,948.05	833,285.14	32° 23' 34.327 N	103° 23' 14.977 W
22,100.0	90.00	179.58	9,340.0	-12,512.4	-563.6	507,848.06	833,285.87	32° 23' 33.338 N	103° 23' 14.979 W
22,200.0	90.00	179.58	9,340.0	-12,612.4	-562.9	507,748.06	833,286.60	32° 23' 32.348 N	103° 23' 14.981 W
22,300.0	90.00	179.58	9,340.0	-12,712.4	-562.2	507,648.06	833,287.34	32° 23' 31.359 N	103° 23' 14.982 W
22,400.0	90.00	179.58	9,340.0	-12,812.4	-561.4	507,548.06	833,288.07	32° 23' 30.369 N	103° 23' 14.984 W
22,500.0	90.00	179.58	9,340.0	-12,912.4	-560.7	507,448.07	833,288.80	32° 23' 29.380 N	103° 23' 14.986 W
22,600.0	90.00	179.58	9,340.0	-13,012.4	-560.0	507,348.07	833,289.53	32° 23' 28.390 N	103° 23' 14.988 W
22,700.0	90.00	179.58	9,340.0	-13,112.4	-559.2	507,248.07	833,290.26	32° 23' 27.401 N	103° 23' 14.989 W
22,800.0	90.00	179.58	9,340.0	-13,212.4	-558.5	507,148.07	833,291.00	32° 23' 26.411 N	103° 23' 14.991 W

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	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
22,900.0	90.00	179.58	9,340.0	-13,312.4	-557.8	507,048.08	833,291.73	32° 23' 25.422 N	103° 23' 14.993 W
23,000.0	90.00	179.58	9,340.0	-13,412.4	-557.0	506,948.08	833,292.46	32° 23' 24.432 N	103° 23' 14.995 W
23,100.0	90.00	179.58	9,340.0	-13,512.3	-556.3	506,848.08	833,293.19	32° 23' 23.443 N	103° 23' 14.997 W
23,200.0	90.00	179.58	9,340.0	-13,612.3	-555.6	506,748.09	833,293.93	32° 23' 22.453 N	103° 23' 14.998 W
23,300.0	90.00	179.58	9,340.0	-13,712.3	-554.8	506,648.09	833,294.66	32° 23' 21.464 N	103° 23' 15.000 W
23,400.0	90.00	179.58	9,340.0	-13,812.3	-554.1	506,548.09	833,295.39	32° 23' 20.474 N	103° 23' 15.002 W
23,500.0	90.00	179.58	9,340.0	-13,912.3	-553.4	506,448.09	833,296.12	32° 23' 19.485 N	103° 23' 15.004 W
23,600.0	90.00	179.58	9,340.0	-14,012.3	-552.6	506,348.10	833,296.85	32° 23' 18.495 N	103° 23' 15.005 W
23,700.0	90.00	179.58	9,340.0	-14,112.3	-551.9	506,248.10	833,297.59	32° 23' 17.506 N	103° 23' 15.007 W
23,800.0	90.00	179.58	9,340.0	-14,212.3	-551.2	506,148.10	833,298.32	32° 23' 16.516 N	103° 23' 15.009 W
23,900.0	90.00	179.58	9,340.0	-14,312.3	-550.4	506,048.10	833,299.05	32° 23' 15.527 N	103° 23' 15.011 W
24,000.0	90.00	179.58	9,340.0	-14,412.3	-549.7	505,948.11	833,299.78	32° 23' 14.537 N	103° 23' 15.012 W
24,100.0	90.00	179.58	9,340.0	-14,512.3	-549.0	505,848.11	833,300.51	32° 23' 13.548 N	103° 23' 15.014 W
24,200.0	90.00	179.58	9,340.0	-14,612.3	-548.2	505,748.11	833,301.25	32° 23' 12.558 N	103° 23' 15.016 W
24,300.0	90.00	179.58	9,340.0	-14,712.3	-547.5	505,648.11	833,301.98	32° 23' 11.569 N	103° 23' 15.018 W
24,400.0	90.00	179.58	9,340.0	-14,812.3	-546.8	505,548.12	833,302.71	32° 23' 10.579 N	103° 23' 15.020 W
24,500.0	90.00	179.58	9,340.0	-14,912.3	-546.0	505,448.12	833,303.44	32° 23' 9.590 N	103° 23' 15.021 W
24,600.0	90.00	179.58	9,340.0	-15,012.3	-545.3	505,348.12	833,304.18	32° 23' 8.600 N	103° 23' 15.023 W
24,700.0	90.00	179.58	9,340.0	-15,112.3	-544.6	505,248.13	833,304.91	32° 23' 7.611 N	103° 23' 15.025 W
24,800.0	90.00	179.58	9,340.0	-15,212.3	-543.8	505,148.13	833,305.64	32° 23' 6.622 N	103° 23' 15.027 W
24,900.0	90.00	179.58	9,340.0	-15,312.3	-543.1	505,048.13	833,306.37	32° 23' 5.632 N	103° 23' 15.028 W
24,950.1	90.00	179.58	9,340.0	-15,362.3	-542.7	504,998.08	833,306.74	32° 23' 5.137 N	103° 23' 15.029 W
TD at 24950.1									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP CB5SC 303H - plan misses target center by 163.4usft at 9317.8usft MD (9219.2 TVD, 239.7 N, -657.0 E) - Point	0.00	0.00	9,340.0	349.7	-658.2	520,710.09	833,191.33	32° 25' 40.608 N	103° 23' 14.754 W
PP5 CB5SC 304H - plan misses target center by 7.7usft at 19772.4usft MD (9340.0 TVD, -10184.9 N, -580.7 E) - Point	0.00	0.00	9,340.0	-10,184.9	-588.3	510,175.51	833,261.16	32° 23' 56.369 N	103° 23' 15.027 W
PP1 CB5SC 303H - plan misses target center by 163.4usft at 9317.8usft MD (9219.2 TVD, 239.7 N, -657.0 E) - Point	0.00	0.00	9,340.0	349.7	-658.2	520,710.09	833,191.33	32° 25' 40.608 N	103° 23' 14.754 W
PP4 CB5SC 304H - plan misses target center by 11.7usft at 17130.8usft MD (9340.0 TVD, -7543.3 N, -600.0 E) - Point	0.00	0.00	9,340.0	-7,543.4	-611.7	512,817.04	833,237.81	32° 24' 22.507 N	103° 23' 15.027 W
PP3 CB5SC 303H - plan misses target center by 15.7usft at 14489.5usft MD (9340.0 TVD, -4902.0 N, -619.3 E) - Point	0.00	0.00	9,340.0	-4,902.2	-635.0	515,458.27	833,214.46	32° 24' 48.643 N	103° 23' 15.026 W
PP2 CB5SC 303H - plan misses target center by 7.9usft at 11814.6usft MD (9340.0 TVD, -2227.2 N, -638.9 E) - Point	0.00	0.00	9,340.0	-2,227.3	-646.8	518,133.14	833,202.68	32° 25' 15.110 N	103° 23' 14.888 W
LTP/BHL CB5SC 303I - plan hits target center - Point	0.00	0.00	9,340.0	-15,362.3	-542.7	504,998.08	833,306.74	32° 23' 5.137 N	103° 23' 15.029 W

Planning Report - Geographic

Database:	Compass_17	**Local Co-ordinate Reference:**	Well CASA BONITA 5 STATE COM 303H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3656.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3656.0usft
Site:	CASA BONITA PROJECT	**North Reference:**	Grid
Well:	CASA BONITA 5 STATE COM 303H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	Start Build 2.00
2,400.0	2,398.7	14.5	-23.8	Start 5132.2 hold at 2400.0 MD
7,532.2	7,480.9	385.2	-634.3	Start Drop -2.00
7,932.2	7,879.6	399.7	-658.2	Start 982.9 hold at 7932.2 MD
8,915.0	8,862.5	399.7	-658.2	Start Build 12.00
9,665.0	9,340.0	-77.8	-654.7	Start 2220.3 hold at 9665.0 MD
11,885.4	9,340.0	-2,298.0	-638.4	Start 2608.6 hold at 11885.4 MD
14,493.9	9,340.0	-4,906.5	-619.3	Start 2638.4 hold at 14493.9 MD
17,132.4	9,340.0	-7,544.9	-600.0	Start 2640.7 hold at 17132.4 MD
19,773.1	9,340.0	-10,185.5	-580.7	Start 5177.0 hold at 19773.1 MD
24,950.1	9,340.0	-15,362.3	-542.7	TD at 24950.1

Permian Resources - Casa Bonita 5 State Com 303H

1. Geologic Formations

Formation	Elevation	TVD	Target
Rustler	1826	1832	No
Top of Salt	1350	2308	No
Yates	-50	3708	No
Capitan	-535	4193	No
Cherry Canyon	-1997	5655	No
Brushy Canyon	-3289	6947	No
Bone Spring Lime	-4718	8376	No
1st Bone Spring Sand	-5775	9433	Yes
2nd Bone Spring Sand	-5963	9621	No
3rd Bone Spring Sand	-6710	10368	No
Wolfcamp	-8896	12554	No

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 intermedicate 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	Top TVD	Bottom TVD	Length	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	1857	0	1857	1857	J55	54.5	BTC	1.23	1.35	Dry	4.52	Dry	4.24
Intermediate	12.25	9.625	0	5705	0	5705	5705	J55	40	BTC	2.53	1.54	Dry	2.18	Dry	1.92
Production	8.75	5.5	0	9665	0	9340	9665	VA-SS-95	20	VA Rough	2.32	2.41	Dry	2.03	Dry	2.03
Production	8.5	5.5	9665	24950	9340	9340	15285	P110RY	20	Rattler	2.18	2.41	Dry	2.24	Dry	2.24
								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	Quanity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	lead	0	1480	1100	1.88	12.9	2060	100%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Surface	Tail	1480	1857	300	1.34	14.8	400	50%	Class C	Accelerator
Intermediate	Lead	3733	4560	280	1.88	12.9	520	100%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate	Tail	4560	5705	390	1.34	14.8	510	40%	Class C	Retarder
Stage Tool Depth		3733								
Intermediate 2nd Stage	Lead	0	3233	820	1.88	12.9	1540	100%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate 2nd Stage	Tail	3233	3733	190	1.33	14.8	240	50%	Class C	Salt
Production	Lead	5205	8915	530	2.41	13	1270	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	8915	24950	2680	1.73	10.5	4620	25%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Plug Back	Tail	8562	11175	720	0.97	17.5	690	10%	Class C	Defoamer, HR-601, Salt

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 oter 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

Cuttings Volume: 13930 Cu Ft

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	1857	Spud Mud	8.6	9.5
1857	5705	Salt Saturated	10	10
5705	9665	Water Based Mud	9	10.5
9665	24950	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	5100	psi
Anticipated Surface Pressure	3045	psi
Anticipated Bottom Hole Temperature	150	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	

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TECHNICAL DATA SHEET

Connection: **VAroughneckAC**
Size: **5 1/2 in X 20.00 lb/ft**
Drift: **standard**
Bevel: **standard**

Grade: **VA-SS-95-XP**

Material:	US Customary	Metric
Yield Strength Min.	100,000 psi	689 Mpa
Yield Strength Max.	110,000 psi	758 Mpa
Tensile Strength Min.	105,000 psi	724 Mpa

Pipe:

	US Customary	Metric		US Customary	Metric
Nominal OD:	5.500 in	139.70 mm	Wall Thickness:	0.361 in	9.17 mm
Nominal ID:	4.778 in	121.36 mm	Standard Drift:	4.653 in	118.19 mm
Nominal Weight:	20.00 lb/ft	30.07 kg/m	Pipe Body Yield Strength:	583 klb	2,590 kN
Pipe Cross Section:	5.828 in²	3,759.99 mm²			

Connection:

	US Customary	Metric		
OD:	6.300 in	160.02 mm	Threads per inch:	5 Threads
ID:	4.764 in	121.00 mm		
Length:	8.976 in	228.00 mm		

Connection Performance (Uniaxial Load):

	US Customary	Metric		US Customary	Metric
Joint Strength:	582 klb	2,590 kN	Tension Efficiency:	> 100.0 %	
Collapse Resistance:.	11,810 psi	81.40 Mpa	Displacement:	1.240 gal/ft	15.40 l/m
Internal Yield Pressure:	12,470 psi	86.00 Mpa	Production:	0.932 gal/ft	11.57 l/m
Load on Coupling Face:	569 klb	2,530 kN			

Field Make Up (Friction Factor = 1.0):

	US Customary	Metric		US Customary	Metric
Minimum Torque:	14,340 ft.lb	19,440 Nm	Make-Up Loss:	4.370 in	111.00 mm
Optimum Torque:	15,930 ft.lb	21,600 Nm	Yield Torque:	19,910 ft.lb	27,000 Nm
Maximum Torque:	17,520 ft.lb	23,760 Nm			
Min. Torque on Shoulder:	%				

voestalpine
ONE STEP AHEAD.

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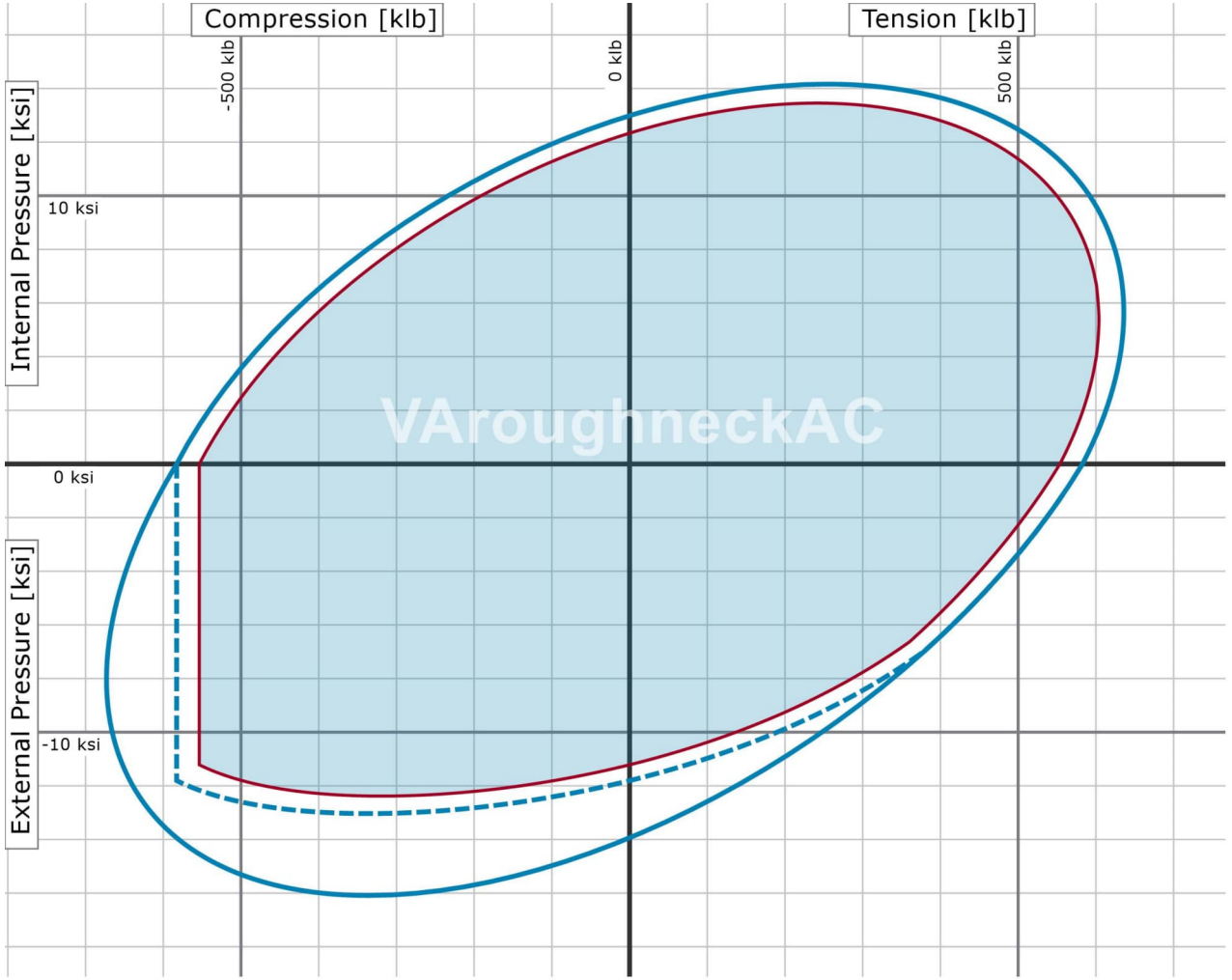
LOAD ENVELOPE



Recommended Field of Application

Pipe Body Envelope

Pipe Body Collapse

Efficiency (% Pipe Body) under Uniaxial Loads	
Tension:	100.0 %
Compression:	100.0 %
Internal Pressure:	100.0 %
External Pressure:	100.0 %

Sealability Rating (% Efficiency) under Combined Loads	
Tension:	100.0 %
Compression:	100.0 %
Internal Pressure:	100.0 %
External Pressure:	100.0 %

Test Conditions	
Test Medium:	Fluid
Von Mises Envelope:	95.0 %
Bending:	20.00 °/100ft

The graph is calculated under consideration of the requirements of EN ISO 13679 and API 5C3. The combined loads are calculated without the consideration of wall thickness tolerances and differ from the values in the data sheet, which are calculated with tolerances determined by API. Any printout is NOT SUBJECT TO REGULAR REVISION. The generated performance envelope shall solely be used as a tool to facilitate the comparison of performance properties under combined loads, of different grades, sizes and connections of voestalpine Tubulars products. Field-specific safety/design factors as well as other loads are not considered. Thus the results shall by no means be used to replace the own string design engineering or to justify any warranty/guaranty cases.

voestalpine
ONE STEP AHEAD.

Fermata Technologies

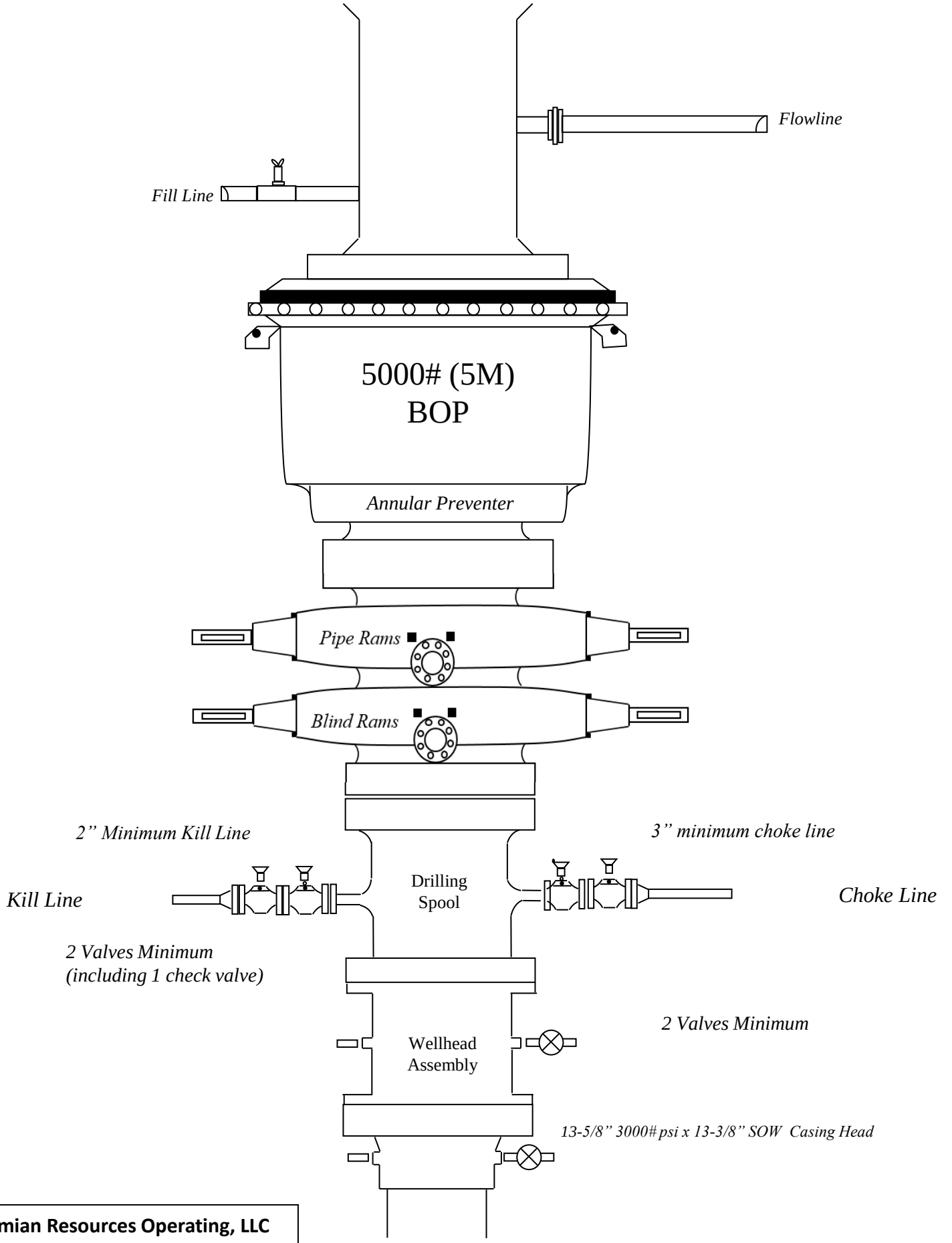
5.500 x 20.00# P-110 RY Rattler® SC 95% RBW (SeAH Pipe Body)

Pipe Body Data		
Nominal OD	5.500	Inches
Wall Thickness	0.361	Inches
Weight	20.00	lb/ft
PE Weight	19.83	lb/ft
Nominal ID	4.778	Inches
Drift	4.653	Inches
Minimum Yield Strength	110,000	PSI
Minimum Tensile Strength	125,000	PSI
RBW	95.0%	Rating

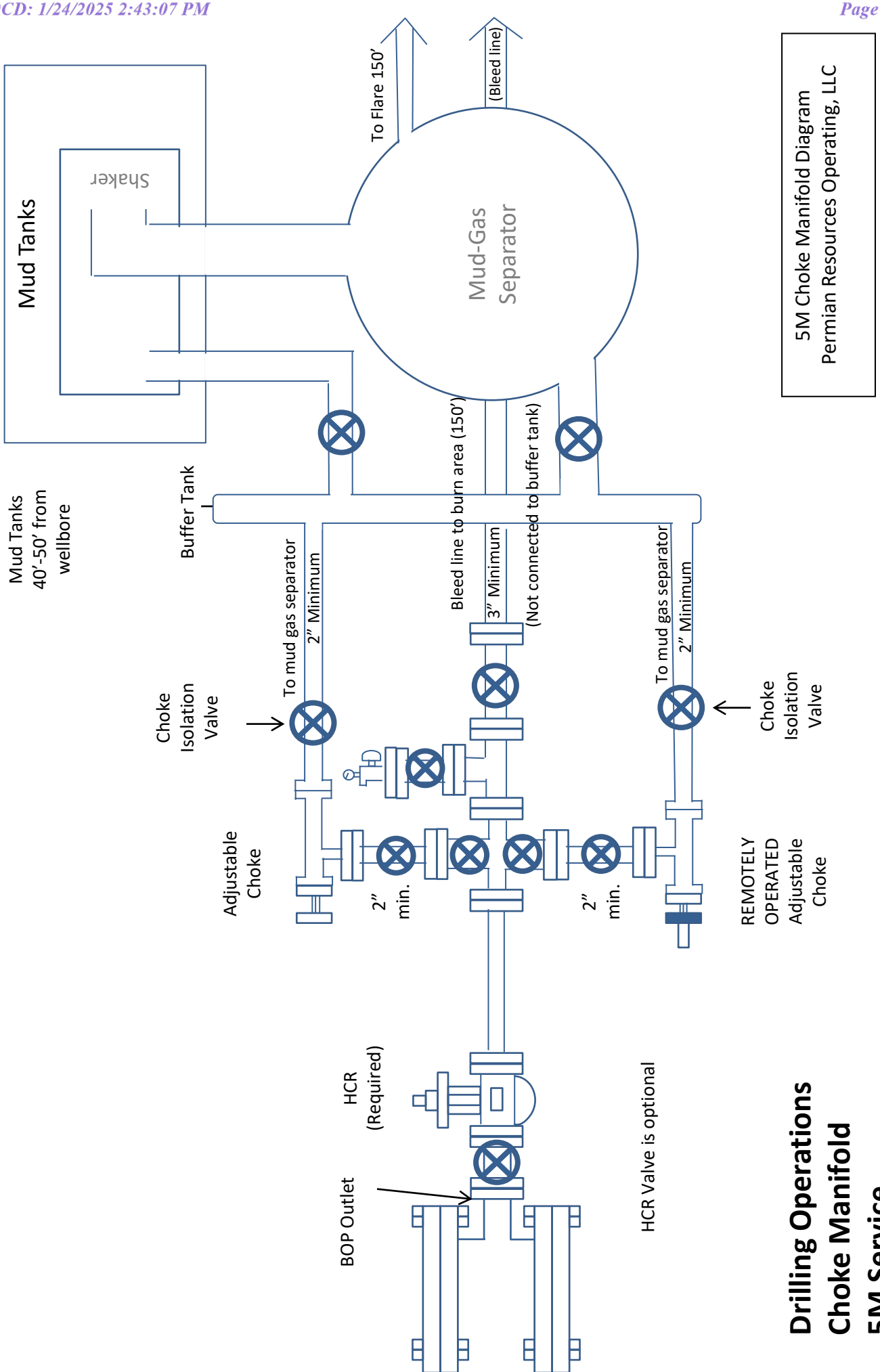
Connection Data		
Connection OD	6.050	Inches
Connection ID	4.778	Inches
Make-Up Loss	4.175	Inches
Tension Efficiency	100%	Rating
Compression Efficiency	100%	Rating
Yield Strength in Tension	641,000	LBS.
Yield Strength in Compression	641,000	LBS.
MIYP (Burst)	13,720	PSI
Collapse	11,110	PSI
Uniaxial Bending	92	º/100 FT

Make-Up Torques		
Yield Torque	28,500	FT-LBS.
Max Operating Torque	24,200	FT-LBS.
Max Make-Up	16,400	FT-LBS.
Optimum Make-Up	14,300	FT-LBS.
Minimum Make-Up	12,200	FT-LBS.

For Technical Support please email support@fermata-tech.com or call (281) 941-5257. 1/24/2024



Permian Resources Operating, LLC
5000# BOP


5M Choke Manifold Diagram
Permian Resources Operating, LLC
Mud Tanks
Shaker
Mud-Gas Separator
To Flare 150'
(Bleed line)
Mud Tanks 40'-50' from wellbore
Buffer Tank
Bleed line to burn area (150')
(Not connected to buffer tank)
3" Minimum
To mud gas separator
2" Minimum
Choke Isolation Valve
Adjustable Choke
2" min.
REMOTELY OPERATED Adjustable Choke
HCR (Required)
BOP Outlet
HCR Valve is optional
Drilling Operations
Choke Manifold
5M Service

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.

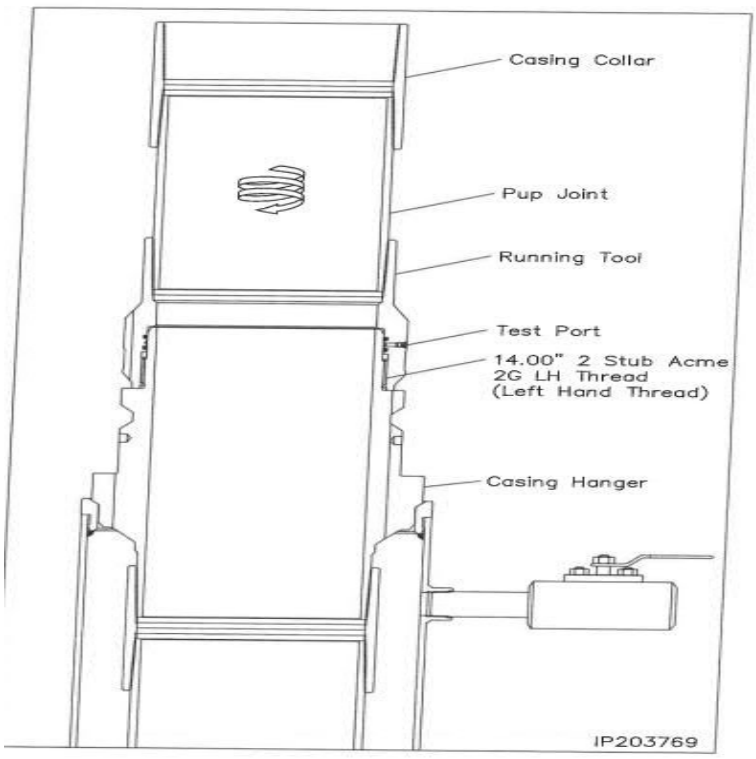


Illustration 1-1

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.

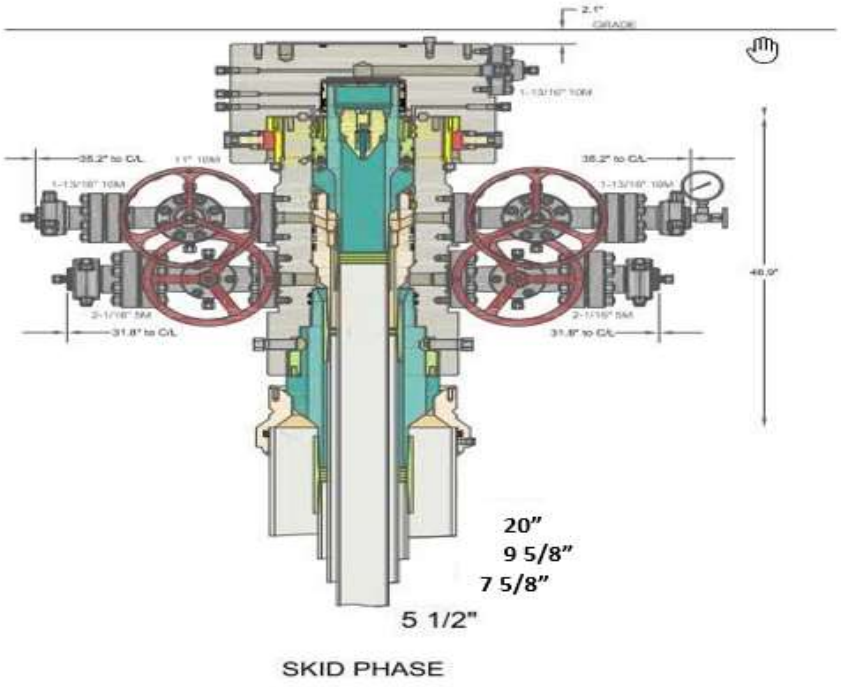


Illustration 2-2

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.

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

H3-12183

1/25/2023 2:59:32 PM

TEST REPORT

CUSTOMER

Company:	HELMERICH & PAYNE INTERNATIONAL DRILLING CO.
Production description:	SN62429
Sales order #:	525826
Customer reference:	

TEST OBJECT

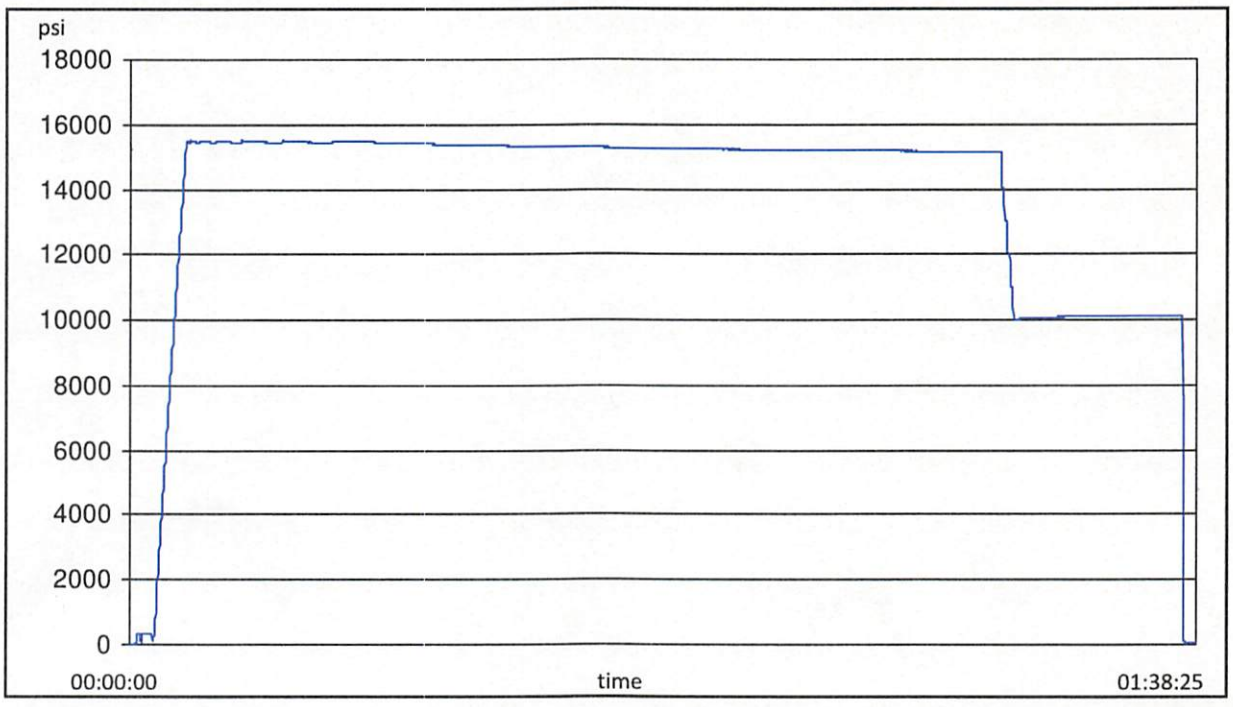
Serial number:	H3-012523-17
Lot number:	
Description:	SN62429
Hose ID:	3.0 CK03 16C 10K
Part number:	

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:	
Length:	16 feet

Visual check:	
Pressure test result:	PASS
Length measurement result:	
Test operator:	Martin



Filename: D:\Certificates\Report_012523-H3-012523-17.pdf

H3-12183

1/25/2023 2:59:32 PM

TEST REPORT

GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110AQA1S	2022-03-09	2023-03-09
S-25-A-W	110CBWVV	2022-03-09	2023-03-09

Comment

Continental

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

ContiTech

TEST CERTIFICATE according to EN 10204 3.1 and Supplier's Declaration of Conformity acc. to ISO/IEC 17050-1				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

Not Designed For Well Testing **API Spec 16C 3rd Edition – FSL3**

Fire Rated **Temperature rate: "B"**

All metal parts are flawless

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

Date:	Inspector	Quality Control
28. February 2022.		ContiTech Rubber Industrial Kft. Quality Control Dept. (1)
		István Farkas Lajos Bacsa

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE
No: 81137, 81138, 81139,
81140, 81141, 81142

CONTITECH RUBBER Industrial Kft.	No: QC-DB-062 / 2022
	Page: 17 / 131

1/1

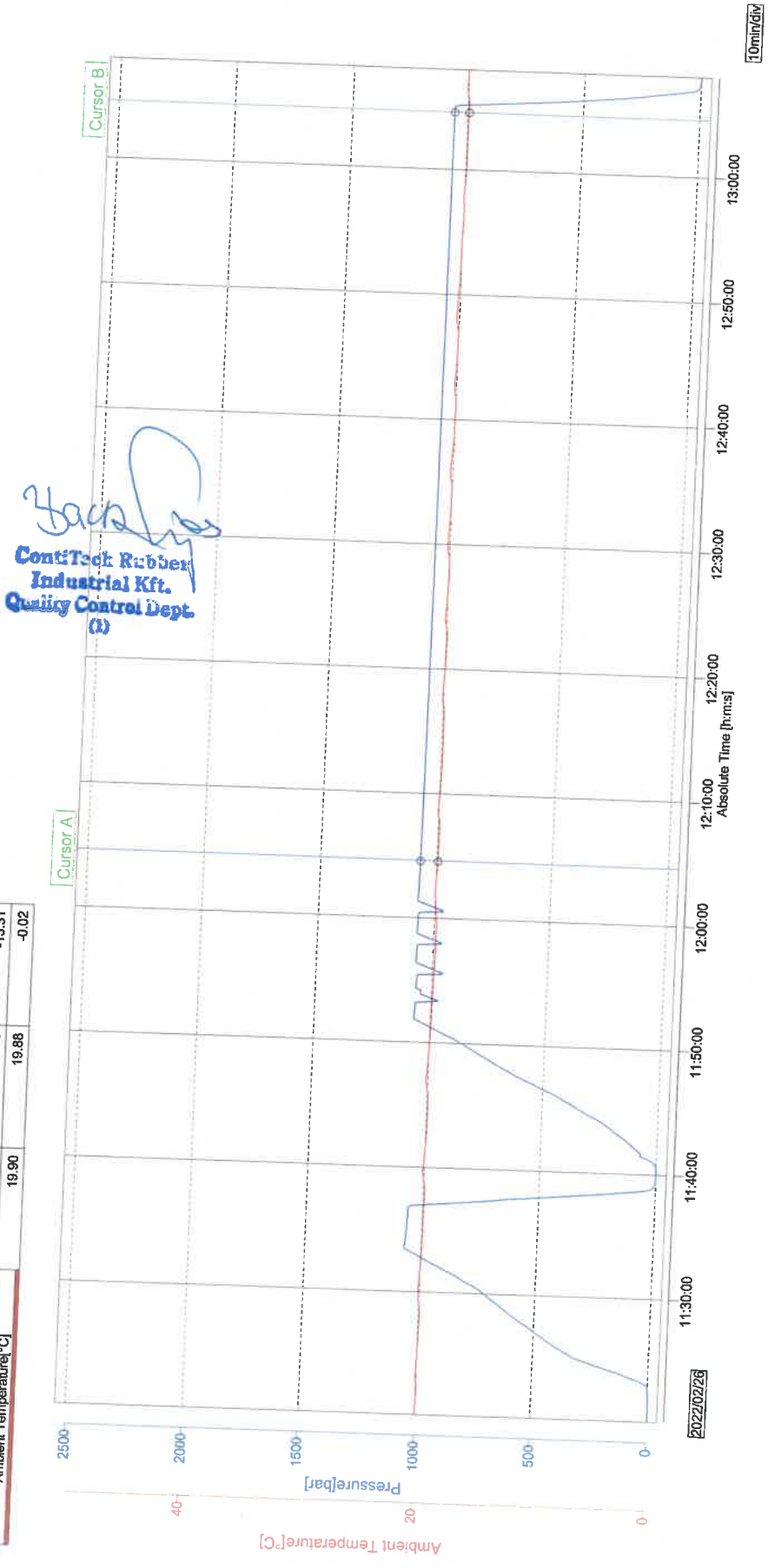
File Name : 048171_81137-81142.GEV,...,048181_81137-81142.GEV
File Message : 81137,81138,81139,81140,81141,81142
Device Type : GX10
Serial No. : S5P606399
Data Count : 1295

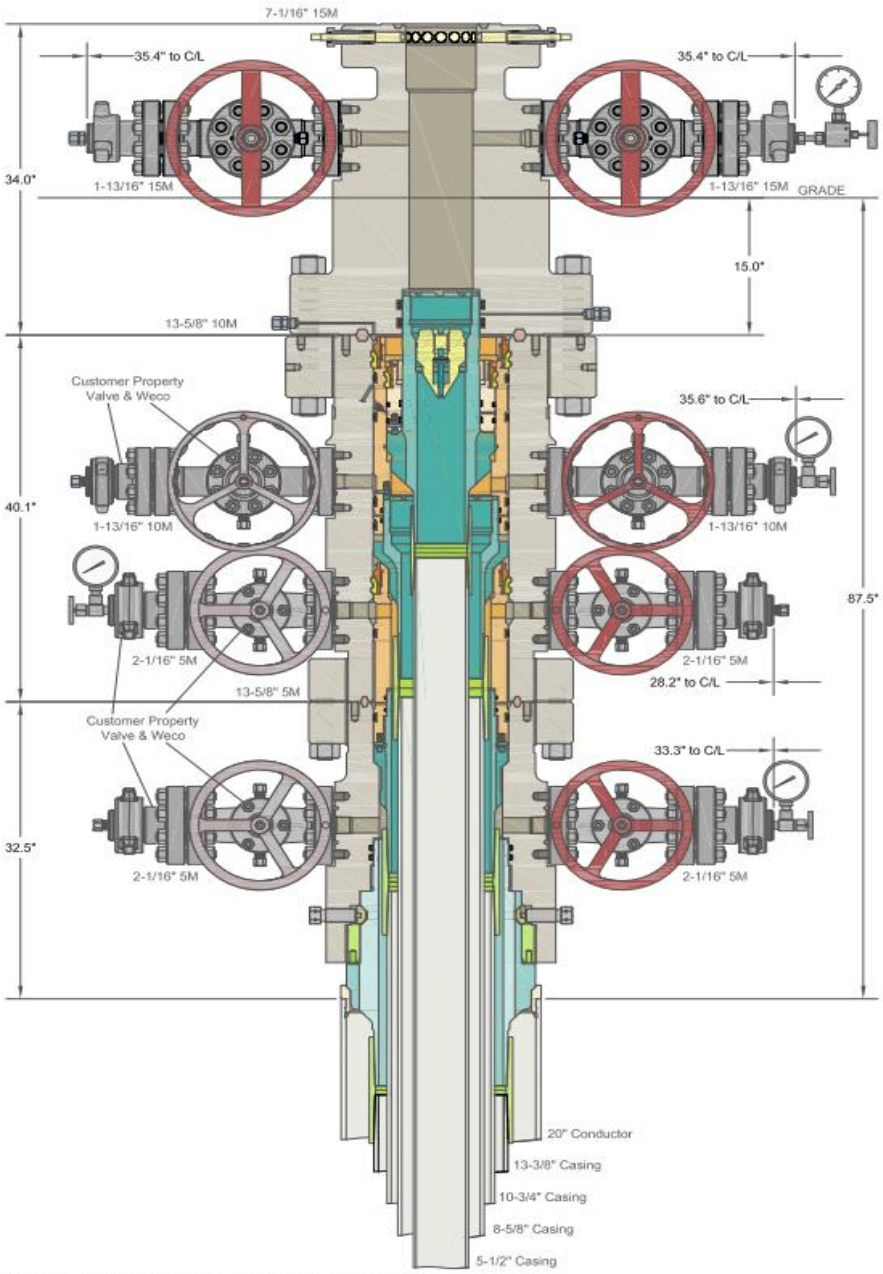
Print Group : Press-Temp
Print Range : 2022/02/26 11:20:10.000 - 2022/02/26 13:08:00.000
Comment : 110BFGHI 81137,81138,81139,81140,81141,81142

Sampling Int. : 5.000 sec
Start Time : 2022/02/26 11:20:10.000
Stop Time : 2022/02/26 13:08:00.000

Data No.	Cursor A	Cursor B	Difference
	533	1253	720
Absolute Time	2022/02/26 12:04:35.000	2022/02/26 13:04:35.000	01:00:00.000
Tag Comment	Value A	Value B	Value B-A
Pressure[bar]	1070.80	1057.49	-13.31
Ambient Temperature[°C]	19.90	19.88	-0.02

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





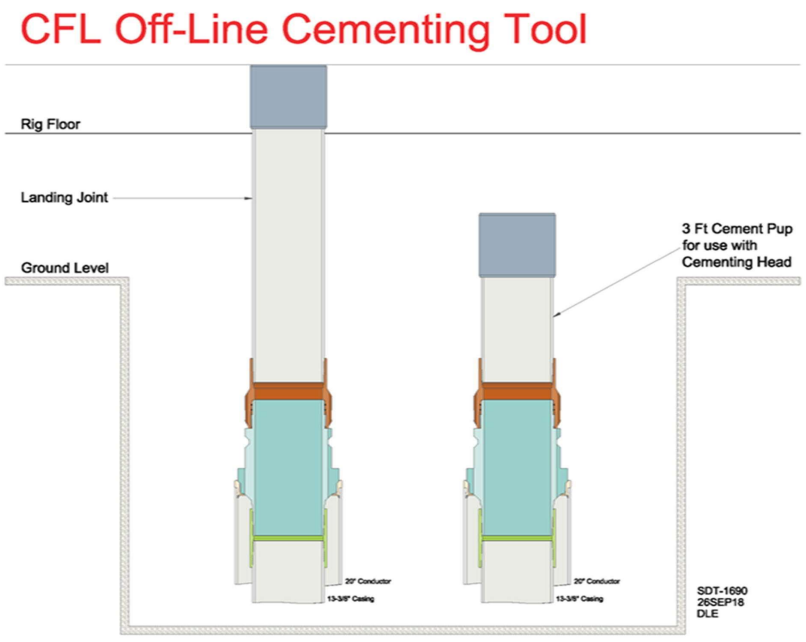
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	PERMIAN RESOURCES NEW MEXICO		
20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO Sys. With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 10-3/4" & 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers	DRAWN	DLE	26OCT23
	APPRV		
	DRAWING NO.	HBE0001038	

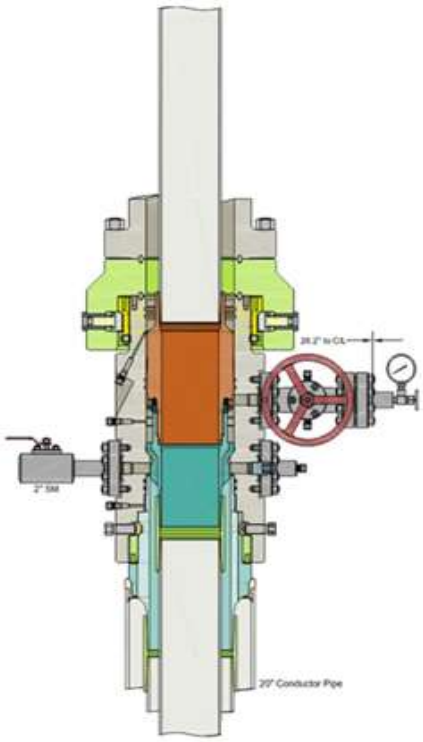
Permian Resources Offline Cementing Procedure
Surface & Intermediate Casing

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.

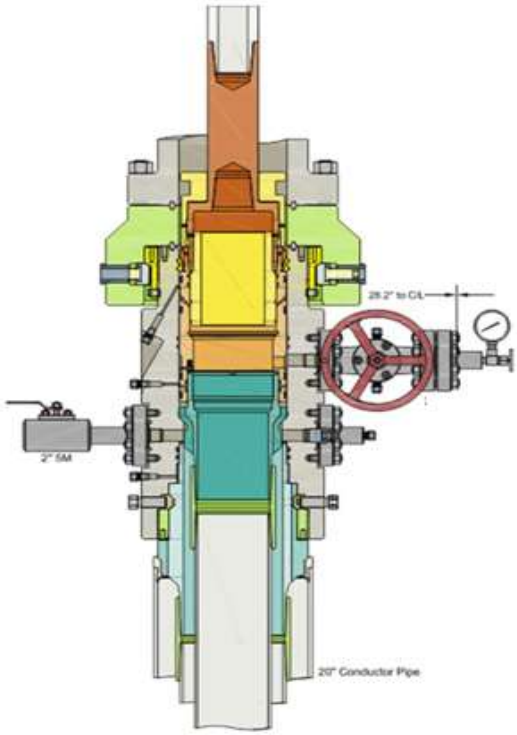
13 3/8" Surface



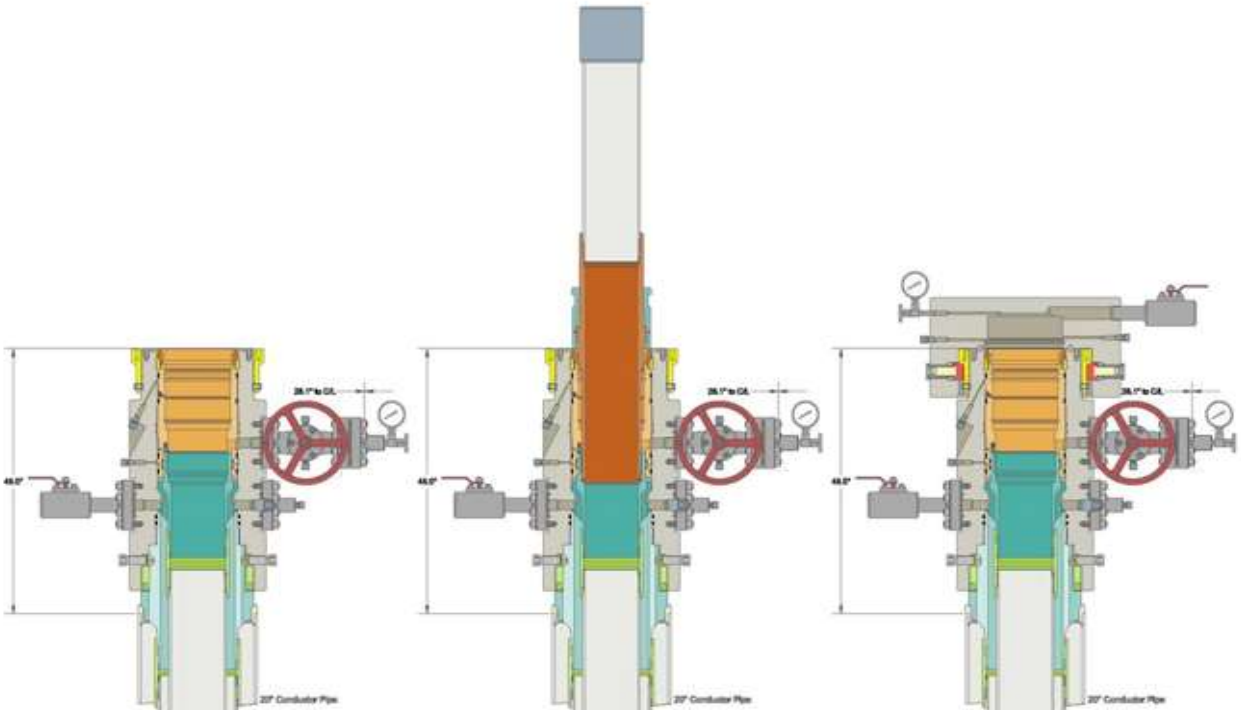
Intermediate



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





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

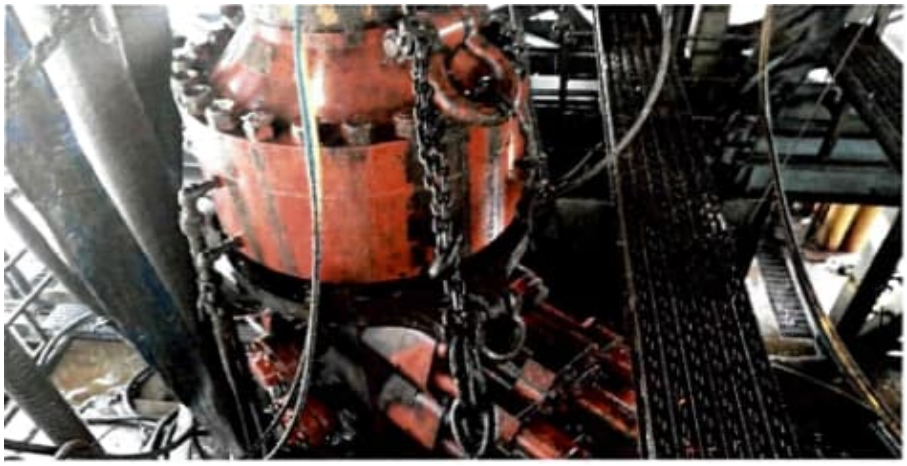


Figure 2: BOP Winch System

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.

62 API STANDARD 53

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

Component to be Pressure Tested	Pressure Test—Low Pressure[a,c] psig (MPa)	Pressure Test—High Pressure[a,c]	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer[b]	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[a,c]	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[e]	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes[e]	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	

[a] 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.

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

[c] 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.

[d] 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.

[e] 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.

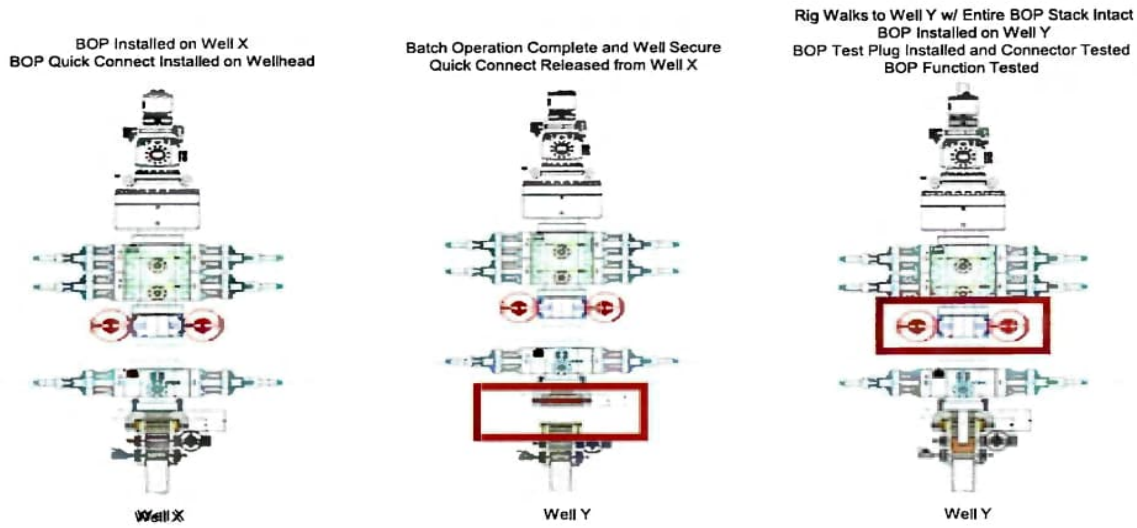
Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

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.

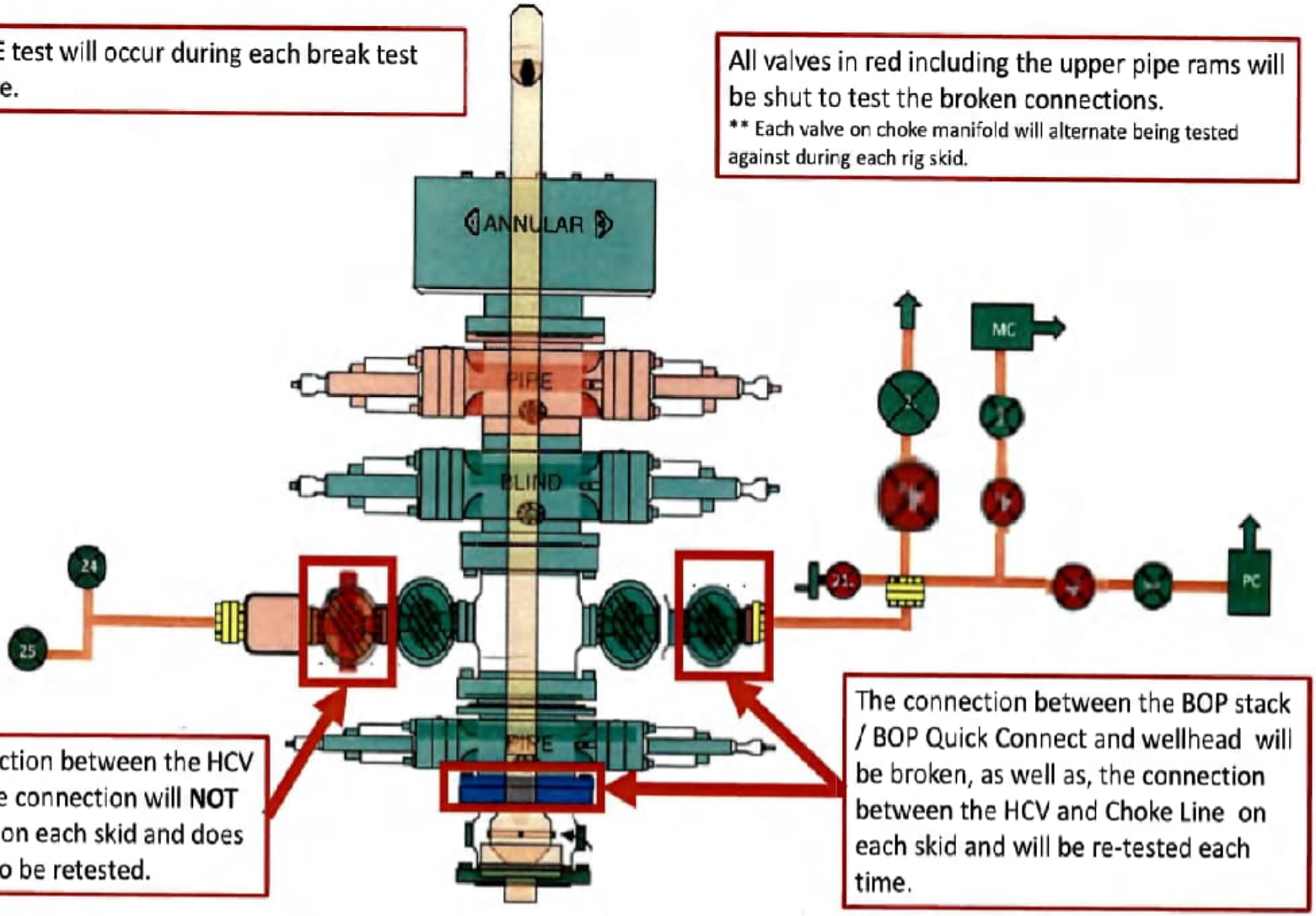
Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

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

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.

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Permian Resources Operating, LLC **OGRID:** 372165 **Date:** 12 / 12 / 2024

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
SEE ATTACHED LIST						

IV. Central Delivery Point Name: Butters Stotch/Casa Bonita CTB [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
SEE ATTACHED LIST						

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

WELL NAME	API	UL/SECT/T/R	FOOTAGES	ANTICIPATED OIL BBL/D	ANTICIPATED GAS MCF/D	ANTICIPATED WATER BBL/D
CASA BONITA 5 STATE COM 301H		N-32-21S-35E	316'FSL, 1420'FWL	1200	1800	3200
CASA BONITA 5 STATE COM 302H		N-32-21S-35E	316'FSL, 1453'FWL	1200	1800	3200
CASA BONITA 5 STATE COM 303H		Lot 1-5-22S-35E	456' FNL, 1323'FEL	1200	1800	3200
CASA BONITA 5 STATE COM 304H		Lot 1-5-22S-35E	465'FNL, 1294'FEL	1200	1800	3200
WELL NAME	API	SPUD	TD	COMPLETION DATE	FLOW BACK DATE	FIRST PRODUCTION
CASA BONITA 5 STATE COM 301H		29-Jan-25	1-Mar-25	1-May-25	30-May-25	31-May-25
CASA BONITA 5 STATE COM 302H		29-Jan-25	1-Mar-25	1-May-25	30-May-25	31-May-25
CASA BONITA 5 STATE COM 303H		17-Feb-25	30-Mar-25	1-May-25	30-May-25	31-May-25
CASA BONITA 5 STATE COM 304H		17-Feb-25	30-Mar-25	1-May-25	30-May-25	31-May-25

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	
Printed Name:	JENNIFER ELROD
Title:	SR. REGULATORY ANALYST
E-mail Address:	JENNIFER.ELROD@PERMIANRES.COM
Date:	12/18/2024
Phone:	940-452-6214

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Permian Resources Operating, LLC (372165)

Natural Gas Management Plan Descriptions

VI. Separation Equipment:

Permian Resources Operating, LLC (Permian) utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations. Our goal is to maintain 5 minutes of retention time in the test vessel and 20 minutes in the heater treater at peak production rates. The gas produced is routed from the separator to the gas sales line.

VII. Operational Practices:

Drilling

During Permian's drilling operations it is uncommon for venting or flaring to occur. If flaring is needed due to safety concerns, gas will be routed to a flare and volumes will be estimated.

Flowback

During completion/recompletion flowback operations, after separation flowback begins and as soon as it is technically feasible, Permian routes gas though a permanent separator and the controlled facility where the gas is either sold or flared through a high-pressure flare if needed.

Production

Per 19.15.27.8.D, Permian's facilities are designed to minimize waste. Our produced gas will only be vented or flared in an emergency or malfunction situation, except as allowed for normal operations noted in 19.15.27.8.D(2) & (4). All gas that is flared is metered. All gas that may be vented will be estimated.

Performance Standards

Permian utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations.

All of Permian's permanent storage tanks associated with production operations which are routed to a flare or control device are equipped with an automatic gauging system.

All of Permian's flare stacks, both currently installed and for future installation, are:

1) Appropriately sized and designed to ensure proper combustion effciency.

2)Equipped with an automatic ignitor or continuous pilot.

3) Anchored and located at least 100 feet from the well and storage tanks.

Permian's field operations and HSE teams have implemented an AVO inspection schedule that adheres to the requirements of 19.15.27.8.E(5).

All of our operations and facilities are designed to minimize waste. We routinely employ the following methods and practices:

- Closed-loop systems
- Enclosed and properly sized tanks

- Vapor recovery units to maximize recovery of low-pressure gas streams and potential unauthorized emissions
- Low-emitting or electric engines whenever practical
- Combustors and flare stacks in the event of a malfunction or emergency
- Routine facility inspections to identify leaking components, functioning control devices, such as flares and combustors, and repair / replacement of malfunctioning components where applicable

Measurement or estimation

Permian measures or estimates the volumes of natural gas vented, flared and/or beneficially used for all of our drilling, completing and producing wells. We utilize accepted industry standards and methodology which can be independently verified. Annual GOR testing is completed on our wells and will be submitted as required by the OCD. None of our equipment is designed to allow diversion around metering elements except during inspection, maintenance and repair operations.

VIII. Best Management Practices:

Permian Resources utilizes the following BMPs to minimize venting during active and planned maintenance activities:

- Use a closed-loop process wherever possible during planned maintenance activities, such as blowdowns, liquid removal, and work over operations.
- Employ low-emitting or electric engines for equipment, such as compressors
- Adhere to a strict preventative maintenance program which includes routine facility inspections, identification of component malfunctions, and repairing or replacing components such as hatches, seals, valves, etc. where applicable
- Utilize vapor recovery units (VRU's) to maximize recovery of volumes of low-pressure gas streams and potential unauthorized emissions
- Route low pressure gas and emissions streams to a combustion device to prevent venting where necessary

Enhanced Natural Gas Management Plan

Operator's Plan to Manage Production in Response to Increased Line Pressure

Permian Resources Operating, LLC (Permian) anticipates that its existing wells connected to the same portion of the natural gas gathering system will continue to meet anticipated increases in line pressure caused by the new wells. Permian will actively monitor line pressure throughout the field and will make necessary adjustments to existing production separators' pressures to send gas to sales. Permian also plans to implement automated alarms on all flare meters to alert of flaring events as they occur. The alarms will send notifications to field operations and engineering staff via text message and email at every occurrence of flaring. In addition, Permian plans to implement automated alarms on all flare meters to alert of any continuous flaring event that has continued for at least 4 hours. The alarms will send notifications to field operations and engineering management. Permian personnel will promptly respond to these alarms, communicate with midstream partners, and take the appropriate action to reduce flaring caused by high line pressure from new well production.