

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
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Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-5170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

SEP 08 2016

☐ AMENDED REPORT

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-43898	Pool Code 98/89	Pool Name WC-015 G-06 5242713N; Upw Wolfcamp
Property Code 39924	Property Name MAD RIVER 13 STATE Com	Well Number 3H
GRID No. 249099	Operator Name CAZA OPERATING, LLC	Elevation 3103'

Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	13	24-S	27-E		330	SOUTH	100	EAST	EDDY

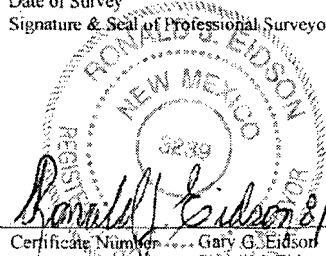
Bottom Hole Location If Different From Surface									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	24-S	27-E		330	SOUTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
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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

GEODETIC COORDINATES NAD 27 NME BOTTOM HOLE LOCATION Y= 440475.5 N X= 556304.2 E LAT.=32.210853° N LONG.=104.151286° W	GEODETIC COORDINATES NAD 83 NME BOTTOM HOLE LOCATION Y= 440533.7 N X= 597487.3 E LAT.=32.210974° N LONG.=104.151781° W	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 440597.3 N X= 561238.7 E LAT.=32.211164° N LONG.=104.135331° W	GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y= 440655.6 N X= 602421.9 E LAT.=32.211285° N LONG.=104.135825° W
CORNER COORDINATES TABLE NAD 27 NME A - Y=441491.2 N, X=555970.5 E B - Y=441598.5 N, X=561336.9 E C - Y=440137.4 N, X=555975.6 E D - Y=440269.8 N, X=561339.3 E	CORNER COORDINATES TABLE NAD 83 NME A - Y=441549.5 N, X=597153.6 E B - Y=441656.8 N, X=602520.0 E C - Y=440195.6 N, X=597158.6 E D - Y=440328.1 N, X=602522.5 E		

330' B.H.
330'
GRID AZ.=268°35'05"
HORIZ. DIST.=4937.3'
S.L. 100'

OPERATOR CERTIFICATION	
I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and 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 such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.	
	08/08/2016
Signature	Date
Steve Morris	
Printed Name	
steve.morris@mojoenergy.com	
E-mail Address	
SURVEYOR CERTIFICATION	
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.	
AUGUST 8, 2016	
Date of Survey	
Signature & Seal of Professional Surveyor:	
 Ronald J. Eidson 8/10/2016	
Certificate Number	2641
	Ronald J. Eidson 3239
ACK REL W.O. 15111057 JWSC W.O. 16.11.0609	



Azimuths to Grid North
 True North: -0.18°
 Magnetic North: 7.77°

 Magnetic Field
 Strength: 48739.0snT
 Dip Angle: 60.15°
 Date: 12/31/2009
 Model: IGRF200510



PROJECT DETAILS: Black River

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001

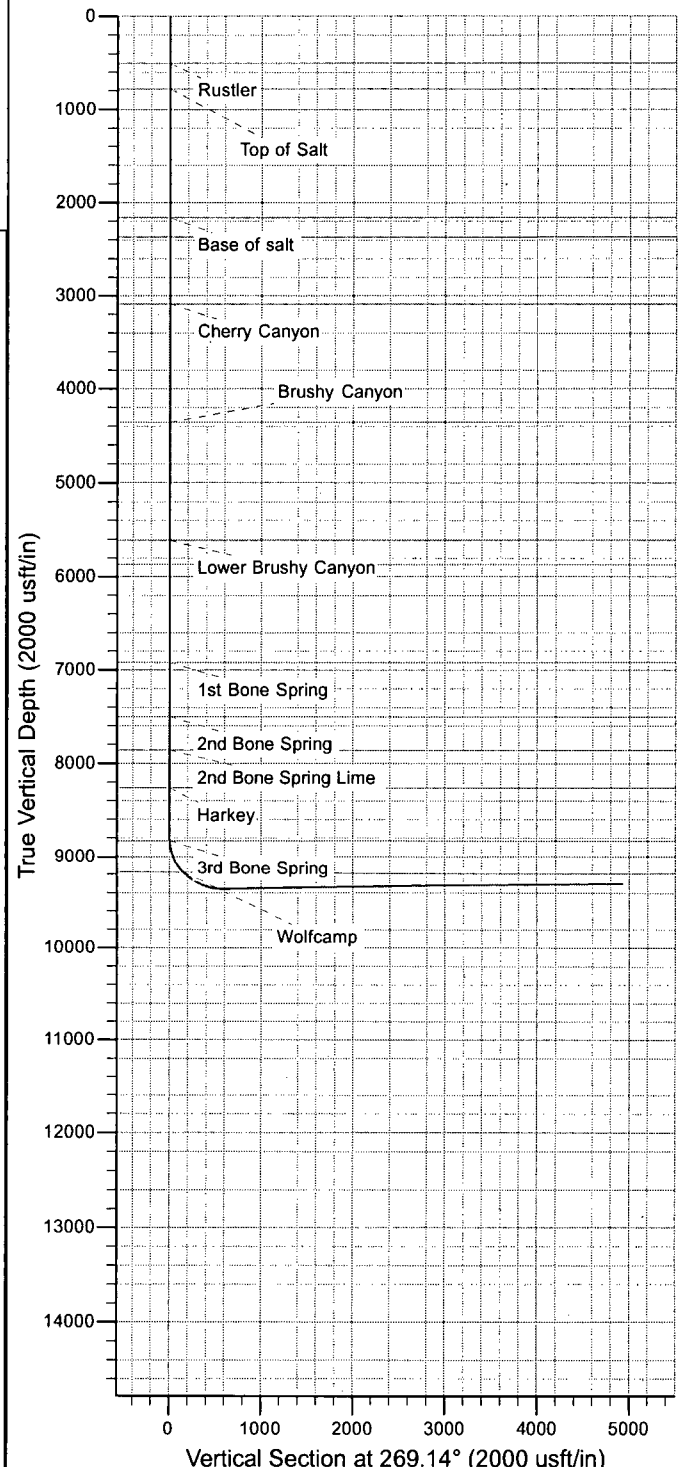
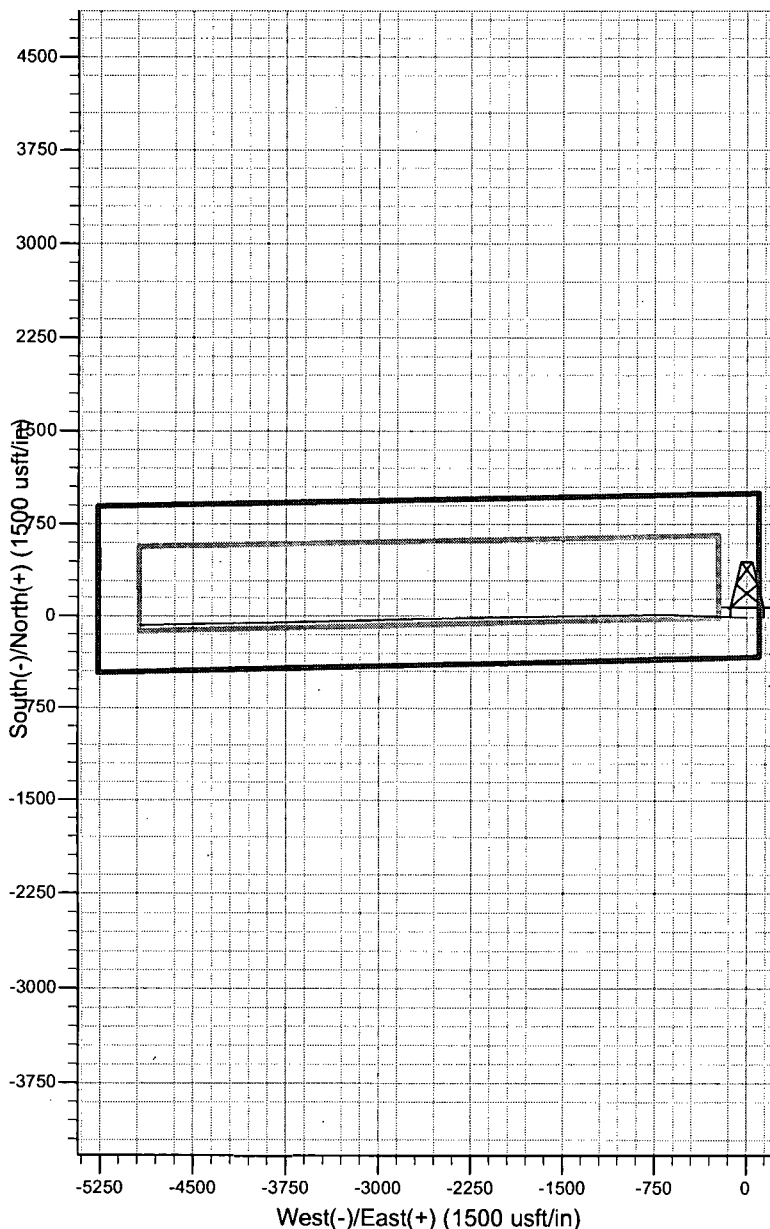
 System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
500.0	500.0	Rustler
780.0	780.0	Top of Salt
2160.0	2160.0	Base of salt
2370.0	2370.0	Delware
3090.0	3090.0	Cherry Canyon
4360.0	4360.0	Brushy Canyon
5610.0	5610.0	Lower Brushy Canyon
5870.0	5870.0	Bone Spring/ Gloreitta
6920.0	6920.0	1st Bone Spring
7500.0	7500.0	2nd Bone Spring
7860.0	7860.0	2nd Bone Spring Lime
8260.0	8260.0	Harkey
8830.0	8830.0	3rd Bone Spring
9174.0	9212.5	Wolfcamp

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSe	Departure	Annotation
8785.0	8785.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 9.99
9358.2	9695.0	90.95	272.00	20.3	-582.4	582.0	582.8	Start Turn -2.86
9357.0	9765.0	90.95	270.00	21.6	-652.4	652.0	652.8	Start Turn -1.30
9355.4	9865.0	90.95	268.70	20.4	-752.4	752.0	752.8	Start 4175.0 hold at 9865.0 MD
9286.2	14040.0	90.95	268.70	-74.3	-4925.7	4926.3	4927.2	TD at 14040.0



Caza Oil and Gas

Black River

Mad River

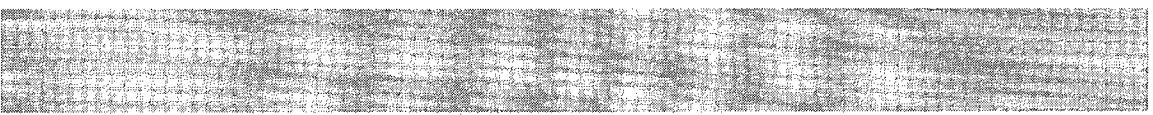
Mad River 13 State 3H

Mad River 13 State 3H

Plan: 160901 Mad River 13 State 3H

MOJO Standard Plan

06 September, 2016



MOJO Standard Plan

Company: Caza Oil and Gas Project: Black River Site: Mad River Well: Mad River 13 State 3H Wellbore: Mad River 13 State 3H Design: 160901 Mad River 13 State 3H		Local Co-ordinate Reference: TVD Reference: Well @ 3121.0usft (Original Well Elev) MD Reference: Well @ 3121.0usft (Original Well Elev) North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 5000.1 Single User Db	
Project Black River		System Datum: Mean Sea Level	
Map System: US State Plane 1927 (Exact solution) Geo Datum: NAD 1927 (NADCON CONUS) Map Zone: New Mexico East 3001			
Site Mad River			
Site Position: From: Map Position Uncertainty: 1.0 usft	Northing: 440,524.40 usft Easting: 558,283.60 usft Slot Radius: 17-1/2"	Latitude: 32° 12' 39.522 N Longitude: 104° 8' 41.589 W Grid Convergence: 0.10°	
Well Mad River 13 State 3H			
Well Position +N-S 0.0 usft +E-W 0.0 usft 1.0 usft	Wellhead Elevation: 0.0 usft	Latitude: 32° 12' 39.764 N Longitude: 104° 0' 7.828 W Ground Level: 3,103.0 usft	
Wellbore Mad River 13 State 3H			
Magnetics IGRF200510 12/31/2009		Decination (°) 7.94 Dip Angle (°) 60.15 Field Strength (nT) 48,739	
Design 160901 Mad River 13 State 3H			
Audit Notes:			
Version:		Phase: PLAN Tie On Depth: 0.0	
Vertical Section:		Depth From (TVD) (usft) 0.0 +N-S (usft) 0.0 +E-W (usft) 0.0 Direction (°) 269.14	
Survey Tool Program		Date: 9/6/2016	
From (usft) 0.0 To (usft) 14,040.0 Survey (Wellbore) 160901 Mad River 13 State 3H (Mad River)	Tool Name MWD Description MWD - Standard		

MOJO Standard Plan

Caza Oil and Gas				Well Mad River 13 State 3H							
Company:	Black River	Local Co-ordinate Reference:		WELL @ 3121.0usft (Original Well Elev)							
Project:	Mad River	TVD Reference:		WELL @ 3121.0usft (Original Well Elev)							
Site:	Mad River 13 State 3H	MD Reference:		Grid							
Well:	Mad River 13 State 3H	North Reference:		Minimum Curvature							
Wellbore:	Mad River 13 State 3H	Survey Calculation Method:		EDM 5000.1 Single User Db							
Design:	160901 Mad River 13 State 3H	Database:									
Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLog (°/100usft)	Northing (usft)	Easting (usft)	
0.0	0.00	0.00	0.0	-3,121.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
100.0	0.00	0.00	100.0	-3,021.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
200.0	0.00	0.00	200.0	-2,921.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
300.0	0.00	0.00	300.0	-2,821.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
400.0	0.00	0.00	400.0	-2,721.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
500.0	0.00	0.00	500.0	-2,621.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
Rustler											
600.0	0.00	0.00	600.0	-2,521.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
700.0	0.00	0.00	700.0	-2,421.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
780.0	0.00	0.00	780.0	-2,341.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
Top of Salt											
800.0	0.00	0.00	800.0	-2,321.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
900.0	0.00	0.00	900.0	-2,221.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,000.0	0.00	0.00	1,000.0	-2,121.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,100.0	0.00	0.00	1,100.0	-2,021.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,200.0	0.00	0.00	1,200.0	-1,921.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,300.0	0.00	0.00	1,300.0	-1,821.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,400.0	0.00	0.00	1,400.0	-1,721.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,500.0	0.00	0.00	1,500.0	-1,621.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,600.0	0.00	0.00	1,600.0	-1,521.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,700.0	0.00	0.00	1,700.0	-1,421.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,800.0	0.00	0.00	1,800.0	-1,321.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
1,900.0	0.00	0.00	1,900.0	-1,221.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
2,000.0	0.00	0.00	2,000.0	-1,121.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
2,100.0	0.00	0.00	2,100.0	-1,021.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
2,160.0	0.00	0.00	2,160.0	-961.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	
Base of salt											
2,200.0	0.00	0.00	2,200.0	-921.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90	

MOJO Standard Plan

Caza Oil and Gas				Local Co-ordinate Reference:							Well Mad River 13 State 3H	
Project: Black River				TVD Reference:							WELL @ 3121.0ustf (Original Well Elev)	
Site: Mad River				MD Reference:							WELL @ 3121.0ustf (Original Well Elev)	
Well: Mad River 13 State 3H				North Reference:							Grid	
Wellbore: Mad River 13 State 3H				Survey Calculation Method:							Minimum Curvature	
Design: 160901 Mad River 13 State 3H				Database:							EDM 5000.1 Single User Db	
Planned Survey												
MD (ustf)	Inc (°)	Azi (azimuth) (°)	TVD (ustf)	TVDSS (ustf)	N/S (ustf)	E/W (ustf)	V. Sec (ustf)	DLeg (°/100ustf)	Northing (ustf)	Easting (ustf)		
2,300.0	0.00	0.00	2,300.0	-821.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
2,370.0	0.00	0.00	2,370.0	-751.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
Delaware												
2,400.0	0.00	0.00	2,400.0	-721.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
2,500.0	0.00	0.00	2,500.0	-621.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
2,600.0	0.00	0.00	2,600.0	-521.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
2,700.0	0.00	0.00	2,700.0	-421.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
2,800.0	0.00	0.00	2,800.0	-321.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
2,900.0	0.00	0.00	2,900.0	-221.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,000.0	0.00	0.00	3,000.0	-121.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,090.0	0.00	0.00	3,090.0	-31.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
Cherry Canyon												
3,100.0	0.00	0.00	3,100.0	-21.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,200.0	0.00	0.00	3,200.0	79.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,300.0	0.00	0.00	3,300.0	179.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,400.0	0.00	0.00	3,400.0	279.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,500.0	0.00	0.00	3,500.0	379.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,600.0	0.00	0.00	3,600.0	479.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,700.0	0.00	0.00	3,700.0	579.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,800.0	0.00	0.00	3,800.0	679.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
3,900.0	0.00	0.00	3,900.0	779.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
4,000.0	0.00	0.00	4,000.0	879.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
4,100.0	0.00	0.00	4,100.0	979.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
4,200.0	0.00	0.00	4,200.0	1,079.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
4,300.0	0.00	0.00	4,300.0	1,179.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
4,360.0	0.00	0.00	4,360.0	1,239.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		
Brushy Canyon												
4,400.0	0.00	0.00	4,400.0	1,279.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90		

MOJO Standard Plan

Company: Caza Oil and Gas				Local Co-ordinate Reference:						
Project: Black River				TVD Reference: WELL @ 3121.0usft (Original Well Elev)						
Site: Mad River				MD Reference: WELL @ 3121.0usft (Original Well Elev)						
Well: Mad River 13 State 3H				North Reference: Grid						
Wellbore: Mad River 13 State 3H				Survey Calculation Method: Minimum Curvature						
Design: 150901 Mad River 13 State 3H				Database: EDM 5000.1 Single User Db						
Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLog (°/100usft)	Northing (usft)	Easting (usft)
4,500.0	0.00	0.00	4,500.0	1,379.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
4,600.0	0.00	0.00	4,600.0	1,479.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
4,700.0	0.00	0.00	4,700.0	1,579.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
4,800.0	0.00	0.00	4,800.0	1,679.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
4,900.0	0.00	0.00	4,900.0	1,779.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,000.0	0.00	0.00	5,000.0	1,879.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,100.0	0.00	0.00	5,100.0	1,979.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,200.0	0.00	0.00	5,200.0	2,079.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,300.0	0.00	0.00	5,300.0	2,179.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,400.0	0.00	0.00	5,400.0	2,279.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,500.0	0.00	0.00	5,500.0	2,379.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,600.0	0.00	0.00	5,600.0	2,479.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,610.0	0.00	0.00	5,610.0	2,489.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
Lower Brushy Canyon										
5,700.0	0.00	0.00	5,700.0	2,579.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,800.0	0.00	0.00	5,800.0	2,679.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
5,870.0	0.00	0.00	5,870.0	2,749.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
Bone Spring/ Gloreitta										
5,900.0	0.00	0.00	5,900.0	2,779.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,000.0	0.00	0.00	6,000.0	2,879.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,100.0	0.00	0.00	6,100.0	2,979.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,200.0	0.00	0.00	6,200.0	3,079.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,300.0	0.00	0.00	6,300.0	3,179.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,400.0	0.00	0.00	6,400.0	3,279.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,500.0	0.00	0.00	6,500.0	3,379.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,600.0	0.00	0.00	6,600.0	3,479.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90
6,700.0	0.00	0.00	6,700.0	3,579.0	0.0	0.0	0.0	0.0	440,655.60	602,421.90

MOJO Standard Plan

Company:			Caza Oil and Gas			Local Co-ordinate Reference:				
Project:			Black River			WELL @ 3121.0usft (Original Well Elev)				
Site:			Mad River			WELL @ 3121.0usft (Original Well Elev)				
Well:			Mad River 13 State 3H			Grid				
Wellbore:			Mad River 13 State 3H			Minimum Curvature				
Design:			160901 Mad River 13 State 3H			EDM 5000.1 Single User Db				
Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
6,800.0	0.00	0.00	6,800.0	3,679.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
6,900.0	0.00	0.00	6,900.0	3,779.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
6,920.0	0.00	0.00	6,920.0	3,799.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
1st Bone Spring										
7,000.0	0.00	0.00	7,000.0	3,879.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,100.0	0.00	0.00	7,100.0	3,979.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,200.0	0.00	0.00	7,200.0	4,079.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,300.0	0.00	0.00	7,300.0	4,179.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,400.0	0.00	0.00	7,400.0	4,279.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,500.0	0.00	0.00	7,500.0	4,379.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
2nd Bone Spring										
7,600.0	0.00	0.00	7,600.0	4,479.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,700.0	0.00	0.00	7,700.0	4,579.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,800.0	0.00	0.00	7,800.0	4,679.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
7,860.0	0.00	0.00	7,860.0	4,739.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
2nd Bone Spring Lime										
7,900.0	0.00	0.00	7,900.0	4,779.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,000.0	0.00	0.00	8,000.0	4,879.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,100.0	0.00	0.00	8,100.0	4,979.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,200.0	0.00	0.00	8,200.0	5,079.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,260.0	0.00	0.00	8,260.0	5,139.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
Harkey										
8,300.0	0.00	0.00	8,300.0	5,179.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,400.0	0.00	0.00	8,400.0	5,279.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,500.0	0.00	0.00	8,500.0	5,379.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,600.0	0.00	0.00	8,600.0	5,479.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90
8,700.0	0.00	0.00	8,700.0	5,579.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90

MOJO Standard Plan

Company: Caza Oil and Gas		Local Co-ordinate Reference:										Well Mad River 13 State 3H	
Project: Black River		TVD Reference:										WELL @ 3121.0usft (Original Well Elev)	
Site: Mad River		MD Reference:										WELL @ 3121.0usft (Original Well Elev)	
Well: Mad River 13 State 3H		North Reference:										Grid	
Wellbore: Mad River 13 State 3H		Survey Calculation Method:										Minimum Curvature	
Design: 160901 Mad River 13 State 3H		Database:										EDM 5000.1 Single User Db	
Planned Survey													
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D. Leg (°/100usft)	Northing (usft)	Easting (usft)			
8,785.0	0.00	0.00	8,785.0	5,664.0	0.0	0.0	0.0	0.00	440,655.60	602,421.90			
Start Build 9.99													
8,800.0	1.50	272.00	8,800.0	5,679.0	0.0	-0.2	0.2	9.99	440,655.61	602,421.70			
8,830.0	4.50	272.00	8,830.0	5,709.0	0.1	-1.8	1.8	9.99	440,655.66	602,420.13			
3rd Bone Spring													
8,900.0	11.49	272.00	8,899.2	5,778.2	0.4	-11.5	11.5	9.99	440,656.00	602,410.41			
9,000.0	21.49	272.00	8,995.0	5,874.0	1.4	-39.8	39.8	9.99	440,656.99	602,382.08			
9,100.0	31.48	272.00	9,084.4	5,963.4	2.9	-84.3	84.3	9.99	440,658.55	602,337.56			
9,200.0	41.48	272.00	9,164.7	6,043.7	5.0	-143.7	143.6	9.99	440,660.62	602,278.22			
9,212.5	42.73	272.00	9,174.0	6,053.0	5.3	-152.1	152.0	9.99	440,660.91	602,269.81			
Wolfcamp													
9,300.0	51.47	272.00	9,233.5	6,112.5	7.5	-216.0	215.9	9.99	440,663.14	602,205.85			
9,400.0	61.47	272.00	9,288.6	6,167.6	10.5	-299.3	299.1	9.99	440,666.05	602,122.65			
9,500.0	71.46	272.00	9,328.5	6,207.5	13.6	-390.8	390.5	9.99	440,669.25	602,031.14			
9,600.0	81.46	272.00	9,351.9	6,230.9	17.0	-487.8	487.5	9.99	440,672.63	601,934.10			
9,695.0	90.95	272.00	9,358.2	6,237.2	20.3	-582.4	582.0	9.99	440,675.94	601,839.48			
Start Turn -2.86													
9,700.0	90.95	271.86	9,358.1	6,237.1	20.5	-587.4	587.0	2.86	440,676.11	601,834.48			
9,765.0	90.95	270.00	9,357.0	6,236.0	21.6	-652.4	652.0	2.86	440,677.16	601,769.50			
Start Turn -1.30													
9,800.0	90.95	269.55	9,356.5	6,235.5	21.4	-687.4	687.0	1.30	440,677.02	601,734.51			
9,865.0	90.95	268.70	9,355.4	6,234.4	20.4	-752.4	752.0	1.30	440,676.03	601,669.52			
Start 4175.0 hold at 9865.0 MD													
9,900.0	90.95	268.70	9,354.8	6,233.8	19.6	-787.4	787.0	0.00	440,675.23	601,634.54			
10,000.0	90.95	268.70	9,353.1	6,232.1	17.4	-887.3	887.0	0.00	440,672.96	601,534.58			
10,100.0	90.95	268.70	9,351.5	6,230.5	15.1	-987.3	986.9	0.00	440,670.70	601,434.62			
10,200.0	90.95	268.70	9,349.8	6,228.8	12.8	-1,087.2	1,086.9	0.00	440,668.43	601,334.66			
10,300.0	90.95	268.70	9,348.2	6,227.2	10.6	-1,187.2	1,186.9	0.00	440,666.16	601,234.70			

MOJO Standard Plan

Company: Caza Oil and Gas				Local Co-ordinate Reference:						
Project: Black River				WELL @ 3121.0usft (Original Well Elev)						
Site: Mad River				WELL @ 3121.0usft (Original Well Elev)						
Well: Mad River 13 State 3H				Grid						
Wellbore: Mad River 13 State 3H				Minimum Curvature						
Design: 160901 Mad River 13 State 3H				EDM 5000.1 Single User Db						
Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,400.0	90.95	268.70	9,346.5	6,225.5	8.3	-1,287.2	1,286.9	0.00	440,663.89	601,134.73
10,500.0	90.95	268.70	9,344.8	6,223.8	6.0	-1,387.1	1,386.9	0.00	440,661.62	601,034.77
10,600.0	90.95	268.70	9,343.2	6,222.2	3.8	-1,487.1	1,486.9	0.00	440,659.35	600,934.81
10,700.0	90.95	268.70	9,341.5	6,220.5	1.5	-1,587.0	1,586.8	0.00	440,657.08	600,834.85
10,800.0	90.95	268.70	9,339.9	6,218.9	-0.8	-1,687.0	1,686.8	0.00	440,654.82	600,734.89
10,900.0	90.95	268.70	9,338.2	6,217.2	-3.1	-1,787.0	1,786.8	0.00	440,652.55	600,634.93
11,000.0	90.95	268.70	9,336.6	6,215.6	-5.3	-1,886.9	1,886.8	0.00	440,650.28	600,534.97
11,100.0	90.95	268.70	9,334.9	6,213.9	-7.6	-1,986.9	1,986.8	0.00	440,648.01	600,435.01
11,200.0	90.95	268.70	9,333.2	6,212.2	-9.9	-2,086.8	2,086.8	0.00	440,645.74	600,335.05
11,300.0	90.95	268.70	9,331.6	6,210.6	-12.1	-2,186.8	2,186.7	0.00	440,643.47	600,235.09
11,400.0	90.95	268.70	9,329.9	6,208.9	-14.4	-2,286.8	2,286.7	0.00	440,641.21	600,135.13
11,500.0	90.95	268.70	9,328.3	6,207.3	-16.7	-2,386.7	2,386.7	0.00	440,638.94	600,035.17
11,600.0	90.95	268.70	9,326.6	6,205.6	-18.9	-2,486.7	2,486.7	0.00	440,636.67	599,935.21
11,700.0	90.95	268.70	9,325.0	6,204.0	-21.2	-2,586.7	2,586.7	0.00	440,634.40	599,835.25
11,800.0	90.95	268.70	9,323.3	6,202.3	-23.5	-2,686.6	2,686.7	0.00	440,632.13	599,735.29
11,900.0	90.95	268.70	9,321.6	6,200.6	-25.7	-2,786.6	2,786.6	0.00	440,629.86	599,635.33
12,000.0	90.95	268.70	9,320.0	6,199.0	-28.0	-2,886.5	2,886.6	0.00	440,627.60	599,535.37
12,100.0	90.95	268.70	9,318.3	6,197.3	-30.3	-2,986.5	2,986.6	0.00	440,625.33	599,435.41
12,200.0	90.95	268.70	9,316.7	6,195.7	-32.5	-3,086.5	3,086.6	0.00	440,623.06	599,335.45
12,300.0	90.95	268.70	9,315.0	6,194.0	-34.8	-3,186.4	3,186.6	0.00	440,620.79	599,235.48
12,400.0	90.95	268.70	9,313.3	6,192.3	-37.1	-3,286.4	3,286.6	0.00	440,618.52	599,135.52
12,500.0	90.95	268.70	9,311.7	6,190.7	-39.3	-3,386.3	3,386.5	0.00	440,616.25	599,035.56
12,600.0	90.95	268.70	9,310.0	6,189.0	-41.6	-3,486.3	3,486.5	0.00	440,613.98	598,935.60
12,700.0	90.95	268.70	9,308.4	6,187.4	-43.9	-3,586.3	3,586.5	0.00	440,611.72	598,835.64
12,800.0	90.95	268.70	9,306.7	6,185.7	-46.2	-3,686.2	3,686.5	0.00	440,609.45	598,735.68
12,900.0	90.95	268.70	9,305.1	6,184.1	-48.4	-3,786.2	3,786.5	0.00	440,607.18	598,635.72
13,000.0	90.95	268.70	9,303.4	6,182.4	-50.7	-3,886.1	3,886.5	0.00	440,604.91	598,535.76

MOJO Standard Plan

Company: Caza Oil and Gas				Local Co-ordinate Reference: Well Mad River 13 State 3H							
Project: Black River				TVD Reference: WELL @ 3121.0usft (Original Well Elev)							
Site: Mad River				MD Reference: WELL @ 3121.0usft (Original Well Elev)							
Well: Mad River 13 State 3H				North Reference: Grid							
Wellbore: Mad River 13 State 3H				Survey Calculation Method: Minimum Curvature							
Design: 160901 Mad River 13 State 3H				Database: EDM 5000.1 Single User Db							
Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
13,100.0	90.95	288.70	9,301.7	6,180.7	-53.0	-3,986.1	3,986.4	0.00	440,602.64	598,435.80	
13,200.0	90.95	288.70	9,300.1	6,179.1	-55.2	-4,086.1	4,086.4	0.00	440,600.37	598,335.84	
13,300.0	90.95	288.70	9,298.4	6,177.4	-57.5	-4,186.0	4,186.4	0.00	440,598.11	598,235.88	
13,400.0	90.95	288.70	9,296.8	6,175.8	-59.8	-4,286.0	4,286.4	0.00	440,595.84	598,135.92	
13,500.0	90.95	288.70	9,295.1	6,174.1	-62.0	-4,385.9	4,386.4	0.00	440,593.57	598,035.96	
13,600.0	90.95	288.70	9,293.4	6,172.4	-64.3	-4,485.9	4,486.4	0.00	440,591.30	597,936.00	
13,700.0	90.95	288.70	9,291.8	6,170.8	-66.6	-4,585.9	4,586.3	0.00	440,589.03	597,836.04	
13,800.0	90.95	288.70	9,290.1	6,169.1	-68.8	-4,685.8	4,686.3	0.00	440,586.76	597,736.08	
13,900.0	90.95	288.70	9,288.5	6,167.5	-71.1	-4,785.8	4,786.3	0.00	440,584.50	597,636.12	
14,000.0	90.95	288.70	9,286.8	6,165.8	-73.4	-4,885.7	4,886.3	0.00	440,582.23	597,536.16	
14,040.0	90.95	288.70	9,286.2	6,165.2	-74.3	-4,925.7	4,926.3	0.00	440,581.32	597,496.17	
TD at 14040.0											

MOJO Standard Plan

Company:	Caiza Oil and Gas	Local Co-ordinate Reference:	Well Mad River 13 State 3H
Project:	Black River	TVD Reference:	WELL @ 3121.0usft (Original Well Elev)
Site:	Mad River	MD Reference:	WELL @ 3121.0usft (Original Well Elev)
Well:	Mad River 13 State 3H	North Reference:	Grid
Wellbore:	Mad River 13 State 3H	Survey Calculation Method:	Minimum Curvature
Design:	160901 Mad River 13 State 3H	Database:	EDM 5000.1 Single User Db

Formations		Lithology		Dip	Dip
Measured Depth (usft)	Vertical Depth (usft)	Name		(°)	Direction (°)
4,360.0	4,360.0	Brushy Canyon		0.00	
7,500.0	7,500.0	2nd Bone Spring		0.00	
780.0	780.0	Top of Salt		0.00	
9,212.5	9,174.0	Wolfcamp		0.00	
6,920.0	6,920.0	1st Bone Spring		0.00	
5,870.0	5,870.0	Bone Spring/ Gloreitta		0.00	
3,090.0	3,090.0	Cherry Canyon		0.00	
2,370.0	2,370.0	Delware		0.00	
5,610.0	5,610.0	Lower Brushy Canyon		0.00	
7,860.0	7,860.0	2nd Bone Spring Lime		0.00	
8,830.0	8,830.0	3rd Bone Spring		0.00	
8,260.0	8,260.0	Harkey		0.00	
2,160.0	2,160.0	Base of salt		0.00	
500.0	500.0	Rustler		0.00	

Plan Annotations		Local Coordinates		Comment	
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)		
8,785.0	8,785.0	0.0	0.0	Start Build 9.99	
9,695.0	9,358.2	20.3	-582.4	Start Turn -2.86	
9,765.0	9,357.0	21.6	-652.4	Start Turn -1.30	
9,865.0	9,355.4	20.4	-752.4	Start 4175.0 hold at 9865.0 MD	
14,040.0	9,286.2	-74.3	-4,925.7	TD at 14040.0	

Checked By: _____ Approved By: _____ Date: _____