

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Caza Operating LLC 200 N. Lorraine St. #1550, Midland, TX 79701		² OGRID Number 249099
		³ Reason for Filing Code/ Effective Date NW
⁴ API Number 30 - 0 25-46554	⁵ Pool Name WC-025 G-08 S253534O; BONE SPRING	⁶ Pool Code 97088 KZ
⁷ Property Code 317657 326483	⁸ Property Name SIOUX 25-36 STATE FED COM	⁹ Well Number 13H

II. ¹⁰ Surface Location

Ul or lot no. B	Section 25	Township 25S	Range 35E	Lot Idn	Feet from the 143	North/South Line North	Feet from the 1449	East/West line East	County Lea
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¹¹ Bottom Hole Location SL

UL or lot no. P	Section 36	Township 25S	Range 35E	Lot Idn	Feet from the 79	North/South line South	Feet from the 379	East/West line East	County Lea
¹² Lse Code F	¹³ Producing Method Code F	¹⁴ Gas Connection Date 12/29/2020	¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date		

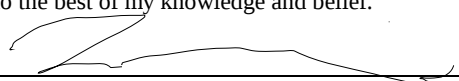
III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
373554	Salt Creek Midstream 5825 N. Sam Houston Pkwy W. #150 Houston, TX 77086	O
24650	Versado Gas Processors Targa Midstream Services, LLC 100 Louisiana, # 4300, Houston TX 77002	G
025670	BC & V OPERATING, INC. P.O. BOX 837 HOBBS, NM 88M1-0837	W

IV. Well Completion Data

²¹ Spud Date 1/19/2020	²² Ready Date 12/29/2020	²³ TD 21962	²⁴ PBDT 21930	²⁵ Perforations 12022-21930	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size	²⁹ Depth Set		³⁰ Sacks Cement
17.5		13.375	1141		910
12.25		9.625	9204		2660
8.5		6	21946		3865

V. Well Test Data

³¹ Date New Oil 1/12/2021	³² Gas Delivery Date 1/12/2021	³³ Test Date 1/29/2021	³⁴ Test Length 24	³⁵ Tbg. Pressure 1009	³⁶ Csg. Pressure 2800
³⁷ Choke Size 48	³⁸ Oil 1253	³⁹ Water 3528	⁴⁰ Gas 1513		⁴¹ Test Method F
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: 			OIL CONSERVATION DIVISION		
Printed name: Steve Morris			Approved by: PATRICIA MARTINEZ		
Title: Engineer			Title: LM II		
E-mail Address: steve.morris@morcorengineering.com			Approval Date: 3/24/2021		
Date: 1/30/2021		Phone: 985-415-9729	FILE BLM 3160-4 COMPLETION REPORT WITHIN 10 DAYS TO NMOCDD AFTER BLM APPROVAL.		

1625 N. French Dr., Hobbs, NM 88240
 Phone: (575) 393-6161 Fax: (575) 393-0720
District II
 811 S. First St., Artesia, NM 88210
 Phone: (575) 748-1283 Fax: (575) 748-9720
District III
 1000 Rio Brazos Road, Aztec, NM 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170
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, NM 87505

Revised August 1, 2011
 Submit one copy to appropriate
 District Office

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION AS-DRILLED PLAT

¹ API Number 30-025-46554	² Pool Code 97088	³ Pool Name WC-025 G-08 S2535340; BONE SPRING
⁴ Property Code -317657 326483	Property Name SIOUX 25-36 STATE FED COM	
⁷ OGRID No. 249099	⁸ Operator Name CAZA OPERATING LLC	⁶ Well Number 13H
		⁹ Elevation 3085'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	25	25S	35E		143	NORTH	1449	EAST	LEA
¹¹ 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
P	36	25S	35E		79	SOUTH	379	EAST	LEA
¹² Dedicated Acres 320.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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.

CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 857448.19' / Y: 394178.53' B - X: 856126.92' / Y: 394166.83' C - X: 856080.33' / Y: 399452.08' D - X: 856028.64' / Y: 404744.97' E - X: 857348.53' / Y: 404765.96' F - X: 857398.43' / Y: 399464.49' CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 816260.47' / Y: 394120.56' B - X: 814939.22' / Y: 394108.87' C - X: 814892.83' / Y: 399393.97' D - X: 814841.35' / Y: 404686.72' E - X: 816161.22' / Y: 404707.70' F - X: 816210.92' / Y: 399406.38' SURFACE HOLE LOCATION 143' FNL 1449' FEL, SECTION 25 NAD 83, SPCS NM EAST X: 855901.35' / Y: 404599.79' LAT: 32.10824894N / LON: 103.31740009W NAD 27, SPCS NM EAST X: 814714.05' / Y: 404541.55' LAT: 32.10812198N / LON: 103.31693816W KICK OFF POINT/FIRST TAKE POINT 636' FNL 376' FEL, SECTION 25 12076' MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X: 856978.17' / Y: 404123.51' LAT: 32.10691193N / LON: 103.31393734W NAD 27, SPCS NM EAST X: 815790.84' / Y: 404065.27' LAT: 32.10678492N / LON: 103.31347561W LAST TAKE POINT 133' FSL 379' FEL, SECTION 36 21904' MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X: 857067.99' / Y: 394307.86' LAT: 32.07993101N / LON: 103.31394695W NAD 27, SPCS NM EAST X: 815880.28' / Y: 394249.89' LAT: 32.07980389N / LON: 103.31348656W BOTTOM HOLE LOCATION 79' FSL 379' FEL, SECTION 36 21962' MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X: 857068.45' / Y: 394254.16' LAT: 32.07978340N / LON: 103.31394710W NAD 27, SPCS NM EAST X: 815880.73' / Y: 394196.19' LAT: 32.07965627N / LON: 103.31348673W SHL KOP/FTP LTP BHL Nearest to the Lease Line MD=15.010' Furthest from the Lease Line MD=16.611' 133' 79' T25S R35E T26S R35E T25S R36E T26S R36E SHEET 1 OF 1 JOB No. R4012_003_F REV 1 JCS 6/5/2020	17 OPERATOR CERTIFICATION I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <u>Steve Morris</u> Date: <u>8/3/2020</u> Printed Name: <u>Steve Morris</u> E-mail Address: <u>steve.morris@morcoreengineering.com</u> 18 SURVEYOR CERTIFICATION I hereby certify that the well surface location shown on this plat was plotted from field notes of the as-staked surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Data used for underground measurements were provided by others for reference only and does not constitute field measurements performed by R-Squared Global. Date of Survey: <u>JUNE 10, 2020</u> Signature and Seal of Professional Surveyor: <u>David W. Myers</u> Certificate Number: <u>DAVID W. MYERS</u>
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Distances/areas relative to NAD 83 Combined Scale Factor: 0.99987673 Convergence Angle: 00°32'19.77000"



Caza Operating, LLC

**Lea County, New Mexico (NAD83)
Sioux 25-36 State Fed Com
13H**

OH / 65839

Survey: Phoenix MWD Surveys

Standard Survey Report

06 April, 2020





Survey Report



Company:	Caza Operating, LLC	Local Co-ordinate Reference:	Well 13H
Project:	Lea County, New Mexico (NAD83)	TVD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Site:	Sioux 25-36 State Fed Com	MD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Well:	13H	North Reference:	Grid
Wellbore:	OH / 65839	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Citadel Rig #2)	Database:	USA Compass

Project	Lea County, New Mexico (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sioux 25-36 State Fed Com		
Site Position:		Northing:	404,579.81 usft
From:	Map	Easting:	855,901.65 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 6' 29.498436 N
		Longitude:	103° 19' 2.638956 W
		Grid Convergence:	0.54 °

Well	13H		
Well Position	+N/-S	0.00 usft	Northing: 404,599.79 usft
	+E/-W	0.00 usft	Easting: 855,901.35 usft
Position Uncertainty	1.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 6' 29.696191 N
		Longitude:	103° 19' 2.640286 W
		Ground Level:	3,085.00 usft

Wellbore	OH / 65839		
Magnetics	Model Name	Sample Date	Declination (°)
	MVHD	2/4/2020	6.51
			Dip Angle (°) 59.70
			Field Strength (nT) 47,677.28757288

Design	Surveys (Citadel Rig #2)		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°) 173.54

Survey Program	Date	4/6/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
127.00	21,962.00	Phoenix MWD Surveys (OH / 65839)	MWD+HRGM	OWSG MWD + HRGM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	0.45	103.77	127.00	-0.12	0.48	0.17	0.35	0.35	0.00
First Phoenix MWD Survey									
218.00	0.53	100.04	218.00	-0.28	1.25	0.42	0.09	0.09	-4.10
313.00	2.40	97.60	312.96	-0.62	3.65	1.02	1.97	1.97	-2.57
405.00	7.39	93.75	404.60	-1.26	11.47	2.54	5.43	5.42	-4.18
497.00	8.52	90.29	495.71	-1.68	24.19	4.39	1.33	1.23	-3.76
589.00	7.46	93.40	586.82	-2.07	36.97	6.21	1.24	-1.15	3.38
681.00	8.28	90.79	677.95	-2.51	49.55	8.07	0.97	0.89	-2.84
774.00	9.20	89.45	769.87	-2.54	63.68	9.68	1.01	0.99	-1.44
866.00	8.04	92.88	860.83	-2.79	77.46	11.49	1.38	-1.26	3.73



Survey Report



Company:	Caza Operating, LLC	Local Co-ordinate Reference:	Well 13H
Project:	Lea County, New Mexico (NAD83)	TVD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Site:	Sioux 25-36 State Fed Com	MD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Well:	13H	North Reference:	Grid
Wellbore:	OH / 65839	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Citadel Rig #2)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
958.00	8.75	93.60	951.84	-3.55	90.87	13.75	0.78	0.77	0.78
1,051.00	8.79	95.48	1,043.75	-4.67	105.00	16.46	0.31	0.04	2.02
1,080.00	8.26	94.15	1,072.43	-5.04	109.29	17.30	1.95	-1.83	-4.59
1,275.00	8.19	95.79	1,265.43	-7.45	137.08	22.83	0.13	-0.04	0.84
1,369.00	8.78	89.69	1,358.40	-8.09	150.91	25.02	1.14	0.63	-6.49
1,463.00	9.34	89.30	1,451.23	-7.96	165.71	26.55	0.60	0.60	-0.41
1,557.00	10.21	90.41	1,543.86	-7.92	181.67	28.31	0.95	0.93	1.18
1,652.00	10.95	91.29	1,637.25	-8.19	199.11	30.54	0.80	0.78	0.93
1,745.00	11.47	92.40	1,728.47	-8.77	217.18	33.15	0.61	0.56	1.19
1,840.00	11.53	89.03	1,821.57	-9.01	236.11	35.51	0.71	0.06	-3.55
1,935.00	11.74	83.24	1,914.62	-7.71	255.20	36.37	1.25	0.22	-6.09
2,030.00	11.67	79.63	2,007.64	-4.84	274.25	35.67	0.77	-0.07	-3.80
2,125.00	12.45	78.88	2,100.55	-1.14	293.75	34.18	0.84	0.82	-0.79
2,218.00	12.41	76.79	2,191.37	3.08	313.32	32.19	0.49	-0.04	-2.25
2,312.00	11.88	75.23	2,283.26	7.86	332.51	29.60	0.66	-0.56	-1.66
2,406.00	11.56	75.75	2,375.30	12.64	350.99	26.93	0.36	-0.34	0.55
2,501.00	12.72	74.64	2,468.18	17.75	370.30	24.02	1.25	1.22	-1.17
2,595.00	11.94	76.10	2,560.01	22.83	389.72	21.16	0.89	-0.83	1.55
2,689.00	12.12	73.61	2,651.94	27.95	408.63	18.20	0.58	0.19	-2.65
2,782.00	12.31	73.97	2,742.84	33.44	427.52	14.87	0.22	0.20	0.39
2,876.00	12.11	75.83	2,834.71	38.63	446.71	11.88	0.47	-0.21	1.98
2,970.00	11.75	76.76	2,926.68	43.23	465.59	9.43	0.43	-0.38	0.99
3,065.00	11.19	77.95	3,019.78	47.37	484.02	7.39	0.64	-0.59	1.25
3,159.00	10.21	76.95	3,112.15	51.16	501.06	5.54	1.06	-1.04	-1.06
3,253.00	10.44	78.24	3,204.63	54.77	517.51	3.80	0.35	0.24	1.37
3,348.00	11.61	81.39	3,297.87	57.96	535.39	2.65	1.38	1.23	3.32
3,441.00	10.19	82.37	3,389.19	60.45	552.80	2.13	1.54	-1.53	1.05
3,536.00	9.10	82.64	3,482.85	62.53	568.58	1.84	1.15	-1.15	0.28
3,631.00	9.73	82.11	3,576.57	64.60	583.98	1.52	0.67	0.66	-0.56
3,726.00	11.40	83.99	3,669.95	66.68	601.27	1.39	1.79	1.76	1.98
3,821.00	10.43	78.94	3,763.24	69.31	619.05	0.78	1.43	-1.02	-5.32
3,915.00	10.08	76.99	3,855.74	72.80	635.41	-0.84	0.52	-0.37	-2.07
4,010.00	10.30	74.28	3,949.24	76.97	651.69	-3.16	0.56	0.23	-2.85
4,103.00	10.63	78.53	4,040.69	80.93	668.10	-5.25	0.90	0.35	4.57
4,198.00	11.05	78.46	4,134.00	84.49	685.61	-6.82	0.44	0.44	-0.07
4,292.00	10.41	82.17	4,226.35	87.45	702.85	-7.82	1.00	-0.68	3.95
4,386.00	10.91	83.55	4,318.73	89.61	720.10	-8.02	0.60	0.53	1.47
4,482.00	10.81	86.38	4,413.01	91.20	738.11	-7.57	0.57	-0.10	2.95
4,575.00	11.66	88.02	4,504.23	92.07	756.21	-6.41	0.98	0.91	1.76
4,668.00	10.94	89.52	4,595.43	92.47	774.43	-4.75	0.84	-0.77	1.61
4,762.00	9.48	87.80	4,687.94	92.84	791.08	-3.25	1.59	-1.55	-1.83
4,856.00	9.84	90.54	4,780.60	93.06	806.85	-1.69	0.62	0.38	2.91
4,949.00	10.28	90.84	4,872.17	92.87	823.09	0.33	0.48	0.47	0.32



Survey Report



Company:	Caza Operating, LLC	Local Co-ordinate Reference:	Well 13H
Project:	Lea County, New Mexico (NAD83)	TVD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Site:	Sioux 25-36 State Fed Com	MD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Well:	13H	North Reference:	Grid
Wellbore:	OH / 65839	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Citadel Rig #2)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,043.00	10.15	88.13	4,964.68	93.01	839.76	2.06	0.53	-0.14	-2.88
5,137.00	9.39	83.81	5,057.32	94.11	855.66	2.76	1.12	-0.81	-4.60
5,230.00	9.45	79.64	5,149.07	96.30	870.71	2.27	0.74	0.06	-4.48
5,324.00	10.02	82.00	5,241.71	98.83	886.40	1.53	0.74	0.61	2.51
5,418.00	10.39	80.36	5,334.23	101.39	902.86	0.84	0.50	0.39	-1.74
5,510.00	10.65	82.80	5,424.68	103.84	919.47	0.27	0.56	0.28	2.65
5,605.00	9.97	79.95	5,518.15	106.38	936.28	-0.36	0.89	-0.72	-3.00
5,698.00	9.77	75.68	5,609.77	109.73	951.85	-1.94	0.82	-0.22	-4.59
5,791.00	8.54	76.73	5,701.59	113.27	966.22	-3.84	1.33	-1.32	1.13
5,886.00	8.35	77.98	5,795.56	116.33	979.83	-5.35	0.28	-0.20	1.32
5,979.00	8.62	78.52	5,887.54	119.12	993.26	-6.61	0.30	0.29	0.58
6,073.00	8.89	78.08	5,980.44	122.02	1,007.27	-7.92	0.30	0.29	-0.47
6,167.00	9.53	78.03	6,073.23	125.14	1,021.99	-9.36	0.68	0.68	-0.05
6,260.00	9.88	79.23	6,164.90	128.22	1,037.36	-10.70	0.43	0.38	1.29
6,354.00	8.15	79.45	6,257.73	130.95	1,051.84	-11.78	1.84	-1.84	0.23
6,448.00	7.62	76.46	6,350.85	133.63	1,064.45	-13.02	0.71	-0.56	-3.18
6,543.00	6.99	80.05	6,445.07	136.10	1,076.26	-14.15	0.82	-0.66	3.78
6,637.00	6.01	83.89	6,538.47	137.61	1,086.79	-14.47	1.14	-1.04	4.09
6,732.00	5.11	82.89	6,633.02	138.67	1,095.93	-14.48	0.95	-0.95	-1.05
6,826.00	3.15	84.82	6,726.77	139.42	1,102.66	-14.47	2.09	-2.09	2.05
6,921.00	1.67	78.04	6,821.69	139.94	1,106.61	-14.55	1.58	-1.56	-7.14
7,015.00	1.36	89.11	6,915.65	140.24	1,109.07	-14.57	0.45	-0.33	11.78
7,108.00	0.78	86.36	7,008.64	140.30	1,110.80	-14.43	0.63	-0.62	-2.96
7,201.00	0.56	55.09	7,101.63	140.60	1,111.81	-14.62	0.45	-0.24	-33.62
7,295.00	0.67	85.88	7,195.63	140.90	1,112.73	-14.81	0.37	0.12	32.76
7,389.00	0.60	95.82	7,289.62	140.89	1,113.77	-14.69	0.14	-0.07	10.57
7,483.00	0.05	336.87	7,383.62	140.88	1,114.25	-14.62	0.67	-0.59	-126.54
7,577.00	0.09	54.15	7,477.62	140.96	1,114.29	-14.70	0.10	0.04	82.21
7,672.00	0.13	20.99	7,572.62	141.11	1,114.39	-14.83	0.08	0.04	-34.91
7,766.00	0.37	348.10	7,666.62	141.50	1,114.36	-15.23	0.29	0.26	-34.99
7,859.00	0.43	352.87	7,759.62	142.14	1,114.26	-15.87	0.07	0.06	5.13
7,953.00	0.45	352.35	7,853.61	142.86	1,114.17	-16.60	0.02	0.02	-0.55
8,048.00	0.69	1.79	7,948.61	143.80	1,114.13	-17.54	0.27	0.25	9.94
8,141.00	0.56	11.36	8,041.60	144.80	1,114.24	-18.52	0.18	-0.14	10.29
8,235.00	0.61	320.97	8,135.60	145.64	1,114.02	-19.38	0.53	0.05	-53.61
8,329.00	0.72	304.26	8,229.59	146.36	1,113.21	-20.19	0.24	0.12	-17.78
8,422.00	0.60	299.20	8,322.59	146.93	1,112.31	-20.85	0.14	-0.13	-5.44
8,517.00	0.53	320.21	8,417.58	147.51	1,111.59	-21.51	0.23	-0.07	22.12
8,610.00	0.72	359.25	8,510.58	148.43	1,111.31	-22.45	0.49	0.20	41.98
8,704.00	0.68	358.67	8,604.57	149.57	1,111.29	-23.59	0.04	-0.04	-0.62
8,798.00	0.73	8.44	8,698.56	150.72	1,111.36	-24.73	0.14	0.05	10.39
8,891.00	0.90	356.71	8,791.55	152.04	1,111.41	-26.03	0.26	0.18	-12.61
8,985.00	0.77	336.53	8,885.54	153.36	1,111.11	-27.37	0.34	-0.14	-21.47



Survey Report



Company:	Caza Operating, LLC	Local Co-ordinate Reference:	Well 13H
Project:	Lea County, New Mexico (NAD83)	TVD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Site:	Sioux 25-36 State Fed Com	MD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Well:	13H	North Reference:	Grid
Wellbore:	OH / 65839	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Citadel Rig #2)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,079.00	1.06	321.76	8,979.53	154.62	1,110.32	-28.71	0.40	0.31	-15.71
9,146.00	1.04	318.87	9,046.52	155.56	1,109.54	-29.74	0.08	-0.03	-4.31
9,246.00	2.26	330.30	9,146.48	157.96	1,107.96	-32.30	1.26	1.22	11.43
9,435.00	2.36	195.28	9,335.41	157.44	1,105.09	-32.11	2.26	0.05	-71.44
9,529.00	4.34	178.65	9,429.25	152.02	1,104.67	-26.77	2.32	2.11	-17.69
9,622.00	4.52	182.59	9,521.97	144.84	1,104.58	-19.64	0.38	0.19	4.24
9,716.00	4.35	188.35	9,615.69	137.61	1,103.90	-12.54	0.51	-0.18	6.13
9,809.00	3.66	197.87	9,708.46	131.30	1,102.47	-6.43	1.03	-0.74	10.24
9,902.00	2.72	200.90	9,801.32	126.41	1,100.78	-1.76	1.03	-1.01	3.26
9,996.00	2.52	199.00	9,895.22	122.37	1,099.31	2.09	0.23	-0.21	-2.02
10,091.00	2.16	205.90	9,990.14	118.79	1,097.85	5.48	0.48	-0.38	7.26
10,184.00	1.17	231.32	10,083.10	116.62	1,096.34	7.47	1.30	-1.06	27.33
10,278.00	0.62	283.51	10,177.09	116.14	1,095.10	7.81	0.99	-0.59	55.52
10,373.00	0.93	327.73	10,272.08	116.91	1,094.18	6.94	0.68	0.33	46.55
10,467.00	1.00	319.44	10,366.07	118.18	1,093.24	5.57	0.17	0.07	-8.82
10,561.00	2.80	248.63	10,460.02	117.96	1,090.57	5.48	2.81	1.91	-75.33
10,656.00	5.40	241.14	10,554.77	114.96	1,084.49	7.79	2.79	2.74	-7.88
10,750.00	4.37	240.36	10,648.43	111.05	1,077.51	10.88	1.10	-1.10	-0.83
10,845.00	3.70	237.01	10,743.19	107.60	1,071.79	13.67	0.75	-0.71	-3.53
10,940.00	4.48	229.66	10,837.95	103.52	1,066.39	17.11	0.99	0.82	-7.74
11,041.00	2.86	220.61	10,938.74	99.06	1,061.74	21.03	1.70	-1.60	-8.96
11,135.00	2.94	138.97	11,032.65	95.46	1,061.80	24.61	4.03	0.09	-86.85
11,229.00	7.50	164.38	11,126.25	87.73	1,065.04	32.66	5.32	4.85	27.03
11,274.00	14.06	171.12	11,170.43	79.49	1,066.67	41.03	14.82	14.58	14.98
11,322.00	18.67	171.39	11,216.48	66.12	1,068.72	54.54	9.61	9.60	0.56
11,369.00	22.71	171.44	11,260.44	49.71	1,071.20	71.13	8.60	8.60	0.11
11,417.00	24.78	175.03	11,304.37	30.52	1,073.45	90.45	5.26	4.31	7.48
11,464.00	29.74	179.85	11,346.14	9.03	1,074.34	111.90	11.54	10.55	10.26
11,512.00	33.11	181.12	11,387.10	-15.99	1,074.11	136.73	7.15	7.02	2.65
11,559.00	35.52	181.33	11,425.92	-42.47	1,073.55	162.99	5.13	5.13	0.45
11,607.00	40.24	180.29	11,463.79	-71.93	1,073.14	192.22	9.92	9.83	-2.17
11,654.00	44.50	178.74	11,498.51	-103.60	1,073.43	223.71	9.33	9.06	-3.30
11,701.00	48.50	177.66	11,530.86	-137.66	1,074.51	257.68	8.67	8.51	-2.30
11,748.00	52.47	176.74	11,560.75	-173.87	1,076.29	293.86	8.58	8.45	-1.96
11,794.00	56.78	177.76	11,587.38	-211.33	1,078.08	331.28	9.54	9.37	2.22
11,841.00	61.92	178.13	11,611.33	-251.72	1,079.52	371.58	10.96	10.94	0.79
11,888.00	66.47	178.63	11,631.79	-294.01	1,080.72	413.73	9.73	9.68	1.06
11,935.00	71.74	179.55	11,648.54	-337.89	1,081.41	457.42	11.36	11.21	1.96
11,982.00	77.97	181.74	11,660.82	-383.23	1,080.88	502.41	14.00	13.26	4.66
12,076.00	87.54	183.25	11,672.66	-476.28	1,076.82	594.41	10.30	10.18	1.61
12,119.00	88.82	183.08	11,674.02	-519.19	1,074.44	636.78	3.00	2.98	-0.40
12,169.00	88.94	183.37	11,675.00	-569.11	1,071.63	686.06	0.63	0.24	0.58
12,217.00	88.35	181.96	11,676.14	-617.04	1,069.40	733.44	3.18	-1.23	-2.94
12,284.00	86.89	181.55	11,678.92	-683.95	1,067.35	799.69	2.26	-2.18	-0.61



Survey Report



Company:	Caza Operating, LLC	Local Co-ordinate Reference:	Well 13H
Project:	Lea County, New Mexico (NAD83)	TVD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Site:	Sioux 25-36 State Fed Com	MD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Well:	13H	North Reference:	Grid
Wellbore:	OH / 65839	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Citadel Rig #2)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,377.00	85.83	181.75	11,684.82	-776.72	1,064.68	891.58	1.16	-1.14	0.22
12,471.00	85.80	181.38	11,691.68	-870.43	1,062.12	984.41	0.39	-0.03	-0.39
12,565.00	85.97	181.37	11,698.43	-964.17	1,059.87	1,077.29	0.18	0.18	-0.01
12,658.00	86.05	180.74	11,704.90	-1,056.92	1,058.16	1,169.27	0.68	0.09	-0.68
12,751.00	85.88	179.49	11,711.44	-1,149.69	1,057.97	1,261.42	1.35	-0.18	-1.34
12,845.00	85.77	177.83	11,718.29	-1,243.41	1,060.17	1,354.80	1.77	-0.12	-1.77
12,939.00	84.85	177.41	11,725.97	-1,337.02	1,064.06	1,448.24	1.08	-0.98	-0.45
13,032.00	87.65	178.71	11,732.06	-1,429.75	1,067.20	1,540.74	3.32	3.01	1.40
13,126.00	87.76	178.52	11,735.82	-1,523.65	1,069.47	1,634.30	0.23	0.12	-0.20
13,220.00	87.98	178.25	11,739.31	-1,617.55	1,072.11	1,727.90	0.37	0.23	-0.29
13,315.00	88.91	177.87	11,741.89	-1,712.46	1,075.33	1,822.57	1.06	0.98	-0.40
13,408.00	88.46	177.79	11,744.03	-1,805.36	1,078.85	1,915.28	0.49	-0.48	-0.09
13,503.00	88.55	176.66	11,746.51	-1,900.22	1,083.45	2,010.05	1.19	0.09	-1.19
13,597.00	88.15	177.96	11,749.21	-1,994.07	1,087.86	2,103.81	1.45	-0.43	1.38
13,691.00	88.54	178.51	11,751.93	-2,087.99	1,090.75	2,197.45	0.72	0.41	0.59
13,785.00	89.83	179.51	11,753.26	-2,181.96	1,092.37	2,291.01	1.74	1.37	1.06
13,880.00	91.43	179.87	11,752.22	-2,276.95	1,092.89	2,385.46	1.73	1.68	0.38
13,975.00	91.18	180.27	11,750.06	-2,371.93	1,092.77	2,479.82	0.50	-0.26	0.42
14,069.00	89.13	179.08	11,749.80	-2,465.92	1,093.30	2,573.27	2.52	-2.18	-1.27
14,163.00	88.91	179.23	11,751.41	-2,559.90	1,094.69	2,666.81	0.28	-0.23	0.16
14,258.00	88.80	178.49	11,753.31	-2,654.86	1,096.58	2,761.38	0.79	-0.12	-0.78
14,352.00	87.17	178.73	11,756.61	-2,748.77	1,098.86	2,854.95	1.75	-1.73	0.26
14,445.00	85.91	177.85	11,762.23	-2,841.55	1,101.63	2,947.46	1.65	-1.35	-0.95
14,539.00	87.09	178.60	11,767.96	-2,935.33	1,104.53	3,040.97	1.49	1.26	0.80
14,634.00	87.57	179.50	11,772.39	-3,030.21	1,106.11	3,135.42	1.07	0.51	0.95
14,728.00	87.29	179.61	11,776.60	-3,124.12	1,106.84	3,228.81	0.32	-0.30	0.12
14,821.00	88.82	179.04	11,779.76	-3,217.05	1,107.93	3,321.28	1.76	1.65	-0.61
14,916.00	90.11	179.31	11,780.65	-3,312.04	1,109.30	3,415.82	1.39	1.36	0.28
15,010.00	93.19	179.44	11,777.94	-3,405.98	1,110.33	3,509.28	3.28	3.28	0.14
15,104.00	90.97	179.55	11,774.53	-3,499.91	1,111.15	3,602.70	2.36	-2.36	0.12
15,197.00	86.59	179.93	11,776.51	-3,592.87	1,111.58	3,695.12	4.73	-4.71	0.41
15,293.00	90.62	180.52	11,778.85	-3,688.82	1,111.20	3,790.42	4.24	4.20	0.61
15,385.00	90.31	180.91	11,778.10	-3,780.81	1,110.05	3,881.69	0.54	-0.34	0.42
15,480.00	85.55	180.29	11,781.53	-3,875.71	1,109.06	3,975.88	5.05	-5.01	-0.65
15,574.00	86.47	179.66	11,788.07	-3,969.48	1,109.10	4,069.06	1.19	0.98	-0.67
15,669.00	87.17	180.68	11,793.34	-4,064.33	1,108.81	4,163.28	1.30	0.74	1.07
15,763.00	85.55	180.41	11,799.31	-4,158.14	1,107.92	4,256.39	1.75	-1.72	-0.29
15,856.00	85.55	179.69	11,806.52	-4,250.85	1,107.84	4,348.51	0.77	0.00	-0.77
15,950.00	88.82	181.63	11,811.14	-4,344.72	1,106.76	4,441.65	4.04	3.48	2.06
16,044.00	88.18	182.60	11,813.60	-4,438.62	1,103.29	4,534.57	1.24	-0.68	1.03
16,139.00	87.40	182.89	11,817.26	-4,533.44	1,098.74	4,628.27	0.88	-0.82	0.31
16,233.00	84.42	181.55	11,823.97	-4,627.12	1,095.11	4,720.95	3.47	-3.17	-1.43
16,328.00	84.67	181.49	11,833.00	-4,721.65	1,092.60	4,814.60	0.27	0.26	-0.06



Survey Report



Company:	Caza Operating, LLC	Local Co-ordinate Reference:	Well 13H
Project:	Lea County, New Mexico (NAD83)	TVD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Site:	Sioux 25-36 State Fed Com	MD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Well:	13H	North Reference:	Grid
Wellbore:	OH / 65839	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Citadel Rig #2)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,423.00	83.84	180.04	11,842.51	-4,816.16	1,091.34	4,908.37	1.75	-0.87	-1.53
16,517.00	84.11	180.17	11,852.38	-4,909.65	1,091.17	5,001.24	0.32	0.29	0.14
16,611.00	83.95	179.32	11,862.15	-5,003.13	1,091.58	5,094.18	0.92	-0.17	-0.90
16,705.00	83.75	179.03	11,872.22	-5,096.58	1,092.93	5,187.19	0.37	-0.21	-0.31
16,799.00	83.84	178.45	11,882.38	-5,190.01	1,094.98	5,280.25	0.62	0.10	-0.62
16,893.00	85.49	178.71	11,891.12	-5,283.57	1,097.30	5,373.48	1.78	1.76	0.28
16,986.00	89.92	180.13	11,894.85	-5,376.46	1,098.24	5,465.89	5.00	4.76	1.53
17,080.00	86.14	177.77	11,898.08	-5,470.37	1,099.96	5,559.39	4.74	-4.02	-2.51
17,173.00	87.68	178.60	11,903.09	-5,563.18	1,102.90	5,651.95	1.88	1.66	0.89
17,267.00	90.98	179.77	11,904.19	-5,657.15	1,104.24	5,745.47	3.72	3.51	1.24
17,361.00	91.34	179.83	11,902.29	-5,751.13	1,104.57	5,838.89	0.39	0.38	0.06
17,455.00	88.97	179.28	11,902.03	-5,845.12	1,105.30	5,932.37	2.59	-2.52	-0.59
17,549.00	89.36	179.38	11,903.40	-5,939.11	1,106.39	6,025.88	0.43	0.41	0.11
17,642.00	92.71	179.92	11,901.72	-6,032.08	1,106.96	6,118.32	3.65	3.60	0.58
17,738.00	92.99	179.81	11,896.95	-6,127.96	1,107.19	6,213.62	0.31	0.29	-0.11
17,832.00	92.58	179.57	11,892.38	-6,221.84	1,107.70	6,306.97	0.51	-0.44	-0.26
17,927.00	93.47	179.37	11,887.37	-6,316.71	1,108.57	6,401.33	0.96	0.94	-0.21
18,021.00	91.17	178.92	11,883.56	-6,410.61	1,109.98	6,494.79	2.49	-2.45	-0.48
18,113.00	94.51	179.80	11,879.01	-6,502.48	1,111.00	6,586.19	3.75	3.63	0.96
18,207.00	92.01	179.46	11,873.66	-6,596.32	1,111.61	6,679.50	2.68	-2.66	-0.36
18,302.00	94.87	179.01	11,867.96	-6,691.13	1,112.88	6,773.85	3.05	3.01	-0.47
18,397.00	96.00	178.70	11,858.96	-6,785.68	1,114.76	6,868.02	1.23	1.19	-0.33
18,492.00	96.84	179.15	11,848.34	-6,880.07	1,116.54	6,962.01	1.00	0.88	0.47
18,587.00	92.46	179.08	11,840.64	-6,974.72	1,118.00	7,056.22	4.61	-4.61	-0.07
18,682.00	91.65	178.60	11,837.24	-7,069.64	1,119.92	7,150.75	0.99	-0.85	-0.51
18,777.00	90.06	176.92	11,835.82	-7,164.55	1,123.63	7,245.48	2.43	-1.67	-1.77
18,871.00	88.46	176.40	11,837.03	-7,258.38	1,129.11	7,339.33	1.79	-1.70	-0.55
19,020.00	88.82	177.15	11,840.57	-7,407.10	1,137.49	7,488.05	0.56	0.24	0.50
19,114.00	91.23	178.77	11,840.53	-7,501.03	1,140.83	7,581.76	3.09	2.56	1.72
19,209.00	91.51	178.82	11,838.26	-7,595.98	1,142.83	7,676.33	0.30	0.29	0.05
19,304.00	91.85	178.72	11,835.47	-7,690.92	1,144.87	7,770.90	0.37	0.36	-0.11
19,398.00	91.48	179.96	11,832.74	-7,784.87	1,145.95	7,864.37	1.38	-0.39	1.32
19,493.00	91.04	180.55	11,830.65	-7,879.85	1,145.53	7,958.70	0.77	-0.46	0.62
19,681.00	90.62	180.43	11,827.93	-8,067.82	1,143.92	8,145.30	0.23	-0.22	-0.06
19,776.00	90.76	180.19	11,826.78	-8,162.81	1,143.41	8,239.63	0.29	0.15	-0.25
19,871.00	90.92	180.16	11,825.39	-8,257.80	1,143.12	8,333.98	0.17	0.17	-0.03
20,061.00	90.62	179.64	11,822.84	-8,447.78	1,143.45	8,522.79	0.32	-0.16	-0.27
20,155.00	90.81	179.55	11,821.66	-8,541.77	1,144.11	8,616.26	0.22	0.20	-0.10
20,251.00	90.92	179.67	11,820.21	-8,637.76	1,144.77	8,711.71	0.17	0.11	0.13
20,346.00	90.73	179.64	11,818.85	-8,732.75	1,145.34	8,806.16	0.20	-0.20	-0.03
20,441.00	90.98	179.13	11,817.43	-8,827.73	1,146.36	8,900.66	0.60	0.26	-0.54
20,535.00	92.10	178.84	11,814.90	-8,921.68	1,148.02	8,994.20	1.23	1.19	-0.31
20,629.00	92.55	178.89	11,811.09	-9,015.58	1,149.88	9,087.71	0.48	0.48	0.05



Survey Report



Company:	Caza Operating, LLC	Local Co-ordinate Reference:	Well 13H
Project:	Lea County, New Mexico (NAD83)	TVD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Site:	Sioux 25-36 State Fed Com	MD Reference:	RKB @ 3109.00usft (Citadel Rig #2)
Well:	13H	North Reference:	Grid
Wellbore:	OH / 65839	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Citadel Rig #2)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,724.00	93.42	179.00	11,806.14	-9,110.44	1,151.63	9,182.16	0.92	0.92	0.12
20,820.00	93.08	179.47	11,800.70	-9,206.28	1,152.91	9,277.54	0.60	-0.35	0.49
20,914.00	92.97	179.32	11,795.74	-9,300.14	1,153.90	9,370.91	0.20	-0.12	-0.16
21,009.00	93.50	179.37	11,790.38	-9,394.98	1,154.99	9,465.28	0.56	0.56	0.05
21,104.00	93.64	179.37	11,784.46	-9,489.79	1,156.03	9,559.60	0.15	0.15	0.00
21,198.00	93.36	179.15	11,778.72	-9,583.61	1,157.24	9,652.96	0.38	-0.30	-0.23
21,294.00	94.43	179.27	11,772.20	-9,679.38	1,158.56	9,748.27	1.12	1.11	0.13
21,388.00	93.72	179.10	11,765.52	-9,773.13	1,159.89	9,841.57	0.78	-0.76	-0.18
21,483.00	94.01	179.11	11,759.12	-9,867.90	1,161.37	9,935.91	0.31	0.31	0.01
21,578.00	94.13	179.20	11,752.38	-9,962.65	1,162.77	10,030.22	0.16	0.13	0.09
21,672.00	93.96	179.29	11,745.75	-10,056.41	1,164.01	10,123.52	0.20	-0.18	0.10
21,766.00	94.03	179.43	11,739.20	-10,150.17	1,165.06	10,216.81	0.17	0.07	0.15
21,861.00	94.23	179.23	11,732.36	-10,244.92	1,166.16	10,311.08	0.30	0.21	-0.21
21,894.00	94.34	179.51	11,729.89	-10,277.83	1,166.53	10,343.81	0.91	0.33	0.85
Final Phoenix MWD Survey									
21,962.00	94.34	179.51	11,724.74	-10,345.63	1,167.10	10,411.25	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
127.00	127.00	-0.12	0.48	First Phoenix MWD Survey
21,894.00	11,729.89	-10,277.83	1,166.53	Final Phoenix MWD Survey
21,962.00	11,724.74	-10,345.63	1,167.10	Projection to TD

This survey is true and accurate to the best of my knowledge.

Steve Morris

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 16418

CONDITIONS OF APPROVAL

Operator: CAZA OPERATING, LLC Suite 1550 Midland, TX79701	200 N Loraine St	OGRID: 249099	Action Number: 16418	Action Type: C-104C
OCD Reviewer plmartinez	Condition None			