

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

NMOCD

Hobbs

HOBBS OCD

SUBMIT IN TRIPLICATE - Other instructions on page 2

AUG 14 2017

RECEIVED

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. EAGLECLAW FEDERAL COM 1H
2. Name of Operator CAZA OPERATING, LLC /		9. API Well No. 30-025-42988
3a. Address 200 N LORRAINE SUITE 1550 MIDLAND, TX 79701		10. Field and Pool or Exploratory Area WILDCAT;BONE SPRING
3b. Phone No. (include area code) Ph: 505-466-8120		11. County or Parish, State LEA COUNTY, NM
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 5 T20S R35E Mer NMP NWNW 190FNL 467FWL		

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Correction in cement specifications to original sundry submitted:

Will change goal from Wolfcamp to Bone Spring (3rd).
Must spud before 8-31-17 to honor farmout agreement.

Following changes result:

Will communitize with NMNM 007484 & NMNM 004786;
New BHL = 1677 FSL and 570 FWL 8-20S-35E;
TVD@BHL will change from 11250' to 11243';
MD@BHL will change from 15778' to 19835';
Production lead cement will change from 900 sx (2259 cu ft.) to 1200 sx (3012 cu ft.);
Production tail cement will change from 1140 sx (1425 cu ft.) to 1200 sx (1520 cu ft.);

Rejected - submit as NOI,
sundry lacking cement type
details. not all attachments
came through. submit
drilling plan/deepen plan,
was approved need casing details

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #378963 verified by the BLM Well Information System
For CAZA OPERATING, LLC, sent to the Hobbs
Committed to AFMSS for processing by DEBORAH MCKINNEY on 06/30/2017 ()

Name (Printed/Typed) BRIAN WOOD

Title CONSULTANT

Signature (Electronic Submission)

Date 06/15/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <i>[Signature]</i>	Title <i>[Signature]</i>	Date 08/02/2017
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

Additional data for EC transaction #378963 that would not fit on the form

32. Additional remarks, continued

See attached C-102, well bore diagrams, & planning report.

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 354-6178 Fax: (505) 354-6170

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, New Mexico 87505

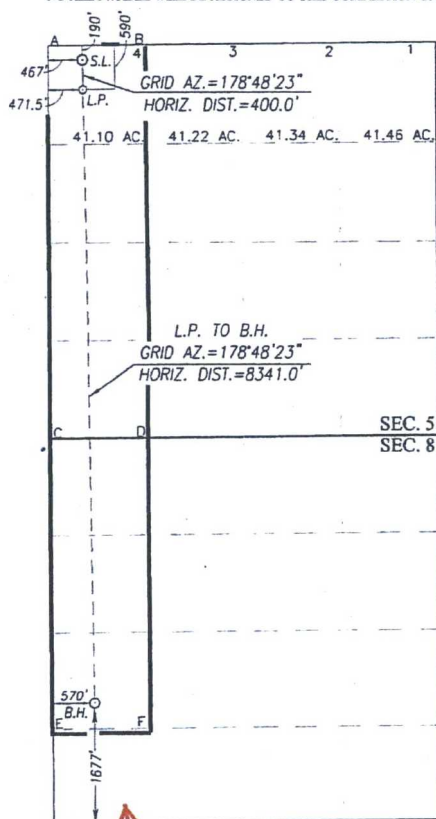
Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

X AMENDED REPORT
(Change BHL
& pool)

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 39-025-42988		Pool Code 97983		Pool Name WC-025 G-08 S203506D; Bone Spring					
Property Code		Property Name EAGLE CLAW FEDERAL COM						Well Number 1H	
OGRID No. 249099		Operator Name CAZA OPERATING, LLC						Elevation 3696'	
Surface Location									
UL or lot No. 4	Section 5	Township 20-S	Range 35-E	Lot Idn	Feet from the 190	North/South line NORTH	Feet from the 467	East/West line WEST	County LEA
Bottom Hole Location If Different From Surface									
UL or lot No. L	Section 8	Township 20-S	Range 35-E	Lot Idn	Feet from the 1677	North/South line SOUTH	Feet from the 570	East/West line WEST	County LEA
Landing Point Location									
UL or lot No. 4	Section 5	Township 20-S	Range 35-E	Lot Idn	Feet from the 590	North/South line NORTH	Feet from the 471.5	East/West line WEST	County LEA
Dedicated Acres 281.10		Joint or Infill		Consolidation Code C		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



SCALE: 1"=2000'

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y= 586346.0 N
X= 802082.8 E
LAT.=32.609062° N
LONG.=103.486555° W

LANDING POINT
NAD 83 NME
Y= 585946.1 N
X= 802091.1 E
LAT.=32.607963° N
LONG.=103.486538° W

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y= 586282.9 N
X= 760901.9 E
LAT.=32.608938° N
LONG.=103.486066° W

LANDING POINT
NAD 27 NME
Y= 585883.1 N
X= 760910.2 E
LAT.=32.607839° N
LONG.=103.486049° W

CORNER COORDINATES TABLE
NAD 27 NME
A - Y= 586468.3 N, X= 760433.1 E
B - Y= 586481.3 N, X= 761754.6 E
C - Y= 581149.3 N, X= 760484.8 E
D - Y= 581159.2 N, X= 761805.1 E
E - Y= 577185.7 N, X= 760516.7 E
F - Y= 577196.2 N, X= 761837.3 E

CORNER COORDINATES TABLE
NAD 83 NME
A - Y= 586531.4 N, X= 801614.0 E
B - Y= 586544.3 N, X= 802935.5 E
C - Y= 581212.2 N, X= 801665.8 E
D - Y= 581222.1 N, X= 802986.1 E
E - Y= 577248.5 N, X= 801697.8 E
F - Y= 577258.9 N, X= 803018.5 E

BOTTOM HOLE LOCATION
NAD 83 NME
Y= 577608.5 N
X= 802264.8 E
LAT.=32.585044° N
LONG.=103.486190° W

BOTTOM HOLE LOCATION
NAD 27 NME
Y= 577545.7 N
X= 761083.7 E
LAT.=32.584920° N
LONG.=103.485701° W

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.

Signature: *Brian Wood* Date: **6-7-17**

Brian Wood

Printed Name

brian@permitswest.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.

DECEMBER 14, 2016

Date of Survey
Signature & Seal of Professional Surveyor

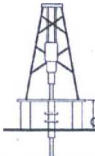
Ronald J. Eidson
NEW MEXICO
3239

Certificates Number: Gary G. Eidson 12641
Ronald J. Eidson 3239

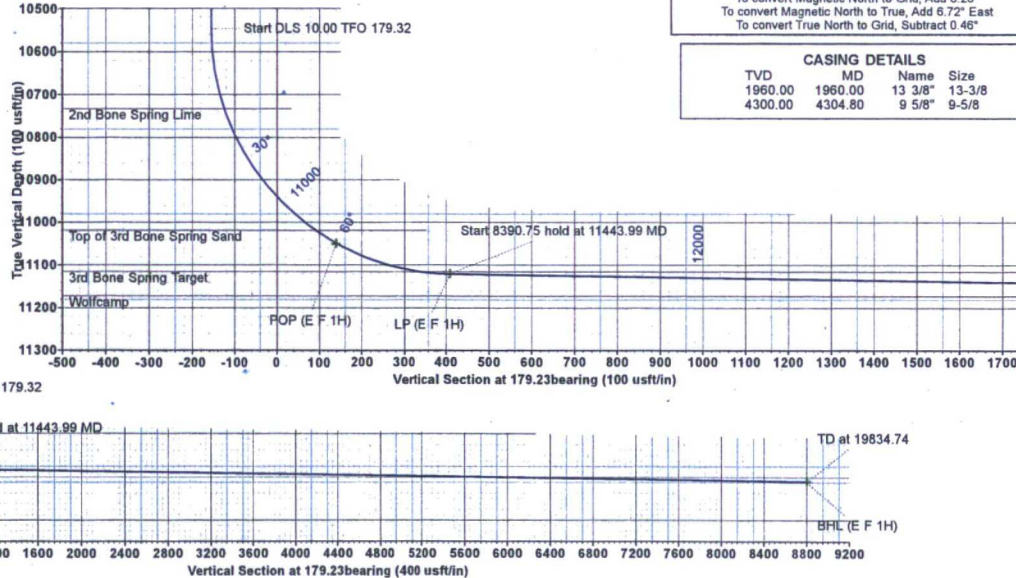
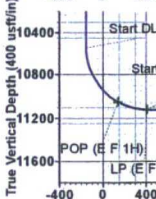
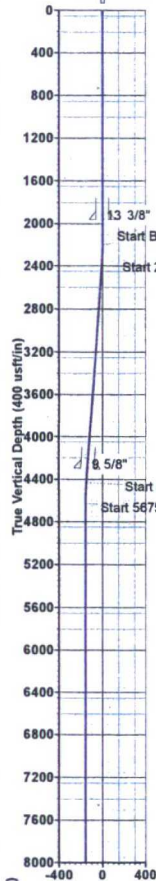
ACK JWSC W.O. 16.11.0992

BLM O&G lease NMLC-066147
S2SW4 8-20s-35e terminated 12-1-10

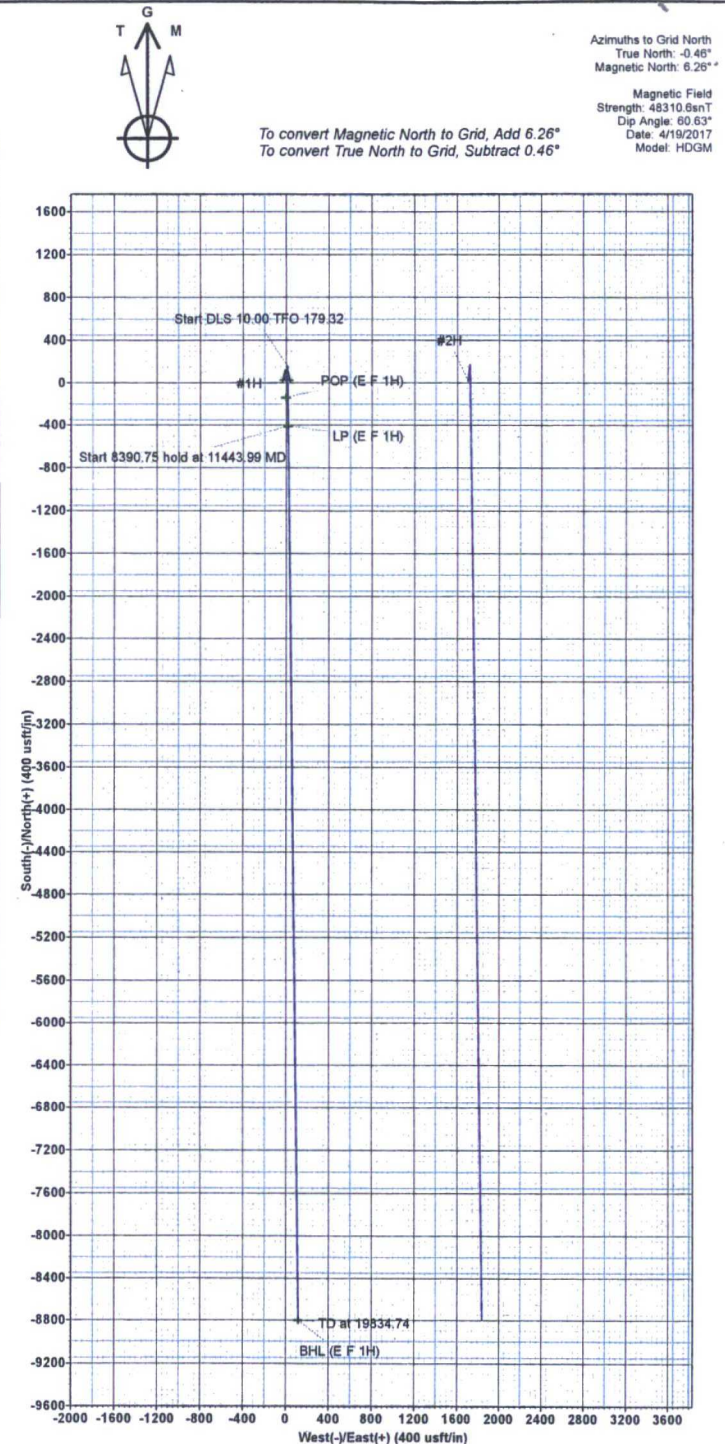
Eagleclaw Federal #1H
Lea County, NM (NAD 83 NME)
Northing: (Y) 586346.00
Easting: (X) 802083.00
Plan #2



KB=27" @ 3723.00ustf
 Ground Level: 3696.00



WELL DETAILS:									
+N-S		+E-W		Northing		Easting		Ground Level: 3696.00	
0.00		0.00		586346.00		802083.00		Latitude 32° 36' 32.624 N Longitude 103° 29' 11.595 W	
SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
2400.00	4.00	4.48	2399.84	6.96	0.55	2.00	4.48	-6.95	
4437.00	4.00	4.48	4431.86	148.82	11.64	0.00	0.00	-148.45	
4637.00	0.00	0.00	4631.71	155.57	12.19	2.00	180.00	-155.40	
10312.00	0.00	0.00	10306.71	155.57	12.19	0.00	0.00	-155.40	
10552.39	0.00	0.00	10547.10	155.57	12.19	0.00	0.00	-155.40	
11443.99	89.16	179.32	11420.00	-408.94	18.87	10.00	179.32	-408.16	
19834.74	89.16	179.32	1243.00	-8798.21	118.12	0.00	0.00	8799.00	BHL (E F 1H)
DESIGN TARGET DETAILS									
Name	TVD			+N-S	+E-W	Northing	Easting		
POP (E F 1H)	11049.59			-140.00	1.00	586206.00	802084.00		
LP (E F 1H)	11120.00			-408.94	18.87	585937.06	802101.87		
BHL (E F 1H)	11243.00			-8798.21	118.12	577547.79	802201.12		
SITE DETAILS: Eagleclaw Federal					PROJECT DETAILS: Lea County, NM (NAD 83 NME)				
Site Centre Northing: 586346.00					Geodetic System: US State Plane 1983				
Easting: 802083.00					Datum: North American Datum 1983				
Positional Uncertainty: 0.00					Ellipsoid: GRS 1980				
Convergence: 0.46					Zone: New Mexico Eastern Zone				
Local North: Grid					System Datum: Mean Sea Level				
FORMATION TOP DETAILS									
TVDPath	MDPath	Formation							
1910.00	1910.00	Rustler							
2106.00	2106.00	Top of Salt							
3584.00	3587.05	Base of Salt							
3812.00	3815.61	Yates							
4180.00	4184.51	Capitan							
5587.00	5572.29	Delaware							
5817.00	5822.29	Cherry Canyon							
6476.00	6481.29	Brushy Canyon							
8144.00	8149.29	Bone Spring/Glorieta							
9595.00	9600.29	1st Bone Spring Sand							
10201.00	10206.29	2nd Bone Spring Sand							
10732.00	10740.66	2nd Bone Spring Lime							
11018.00	11105.12	Top of 3rd Bone Spring Sand							
11115.00	11376.20	3rd Bone Spring Target							
11172.00	14991.45	Wolfcamp							
CASING DETAILS									
TVD	MD	Name	Size						
1960.00	1960.00	13 3/8"	13-3/8						
4300.00	4304.80	9 5/8"	9-5/8						





Caza Operating, LLC

Lea County, NM (NAD 83 NME)

Eagleclaw Federal

#1H

OH

Plan: Plan #2

Standard Planning Report

30 May, 2017



www.scientificdrilling.com

Database:	Midland District	Local Co-ordinate Reference:	Well #1H
Company:	Caza Operating, LLC	TVD Reference:	KB=27' @ 3723.00usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB=27' @ 3723.00usft
Site:	Eagleclaw Federal	North Reference:	Grid
Well:	#1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Eagleclaw Federal			
Site Position:		Northing:	586,346.00 usft	Latitude:	32° 36' 32.624 N
From:	Map	Easting:	802,083.00 usft	Longitude:	103° 29' 11.595 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.46°

Well	#1H					
Well Position	+N/-S	0.00 usft	Northing:	586,346.00 usft	Latitude:	32° 36' 32.624 N
	+E/-W	0.00 usft	Easting:	802,083.00 usft	Longitude:	103° 29' 11.595 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,696.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/19/2017	6.72	60.63	48,311

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)	
	0.00	0.00	0.00	179.23	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	4.00	4.48	2,399.84	6.96	0.55	2.00	2.00	0.00	4.48	
4,437.00	4.00	4.48	4,431.88	148.62	11.64	0.00	0.00	0.00	0.00	
4,637.00	0.00	0.00	4,631.71	155.57	12.19	2.00	-2.00	0.00	180.00	
10,312.00	0.00	0.00	10,306.71	155.57	12.19	0.00	0.00	0.00	0.00	
10,552.39	0.00	0.00	10,547.10	155.57	12.19	0.00	0.00	0.00	0.00	
11,443.99	89.16	179.32	11,120.00	-408.94	18.87	10.00	10.00	20.11	179.32	
19,834.74	89.16	179.32	11,243.00	-8,798.21	118.12	0.00	0.00	0.00	0.00	BHL (E F 1H)

Database:	Midland District	Local Co-ordinate Reference:	Well #1H
Company:	Caza Operating, LLC	TVD Reference:	KB=27' @ 3723.00usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB=27' @ 3723.00usft
Site:	Eagleclaw Federal	North Reference:	Grid
Well:	#1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,910.00	0.00	0.00	1,910.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,960.00	0.00	0.00	1,960.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,106.00	0.00	0.00	2,106.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	2.00	4.48	2,299.98	1.74	0.14	-1.74	2.00	2.00	0.00
2,400.00	4.00	4.48	2,399.84	6.96	0.55	-6.95	2.00	2.00	0.00
2,500.00	4.00	4.48	2,499.59	13.91	1.09	-13.90	0.00	0.00	0.00
2,600.00	4.00	4.48	2,599.35	20.87	1.63	-20.84	0.00	0.00	0.00
2,700.00	4.00	4.48	2,699.11	27.82	2.18	-27.79	0.00	0.00	0.00
2,800.00	4.00	4.48	2,798.86	34.77	2.72	-34.73	0.00	0.00	0.00
2,900.00	4.00	4.48	2,898.62	41.73	3.27	-41.68	0.00	0.00	0.00
3,000.00	4.00	4.48	2,998.38	48.68	3.81	-48.63	0.00	0.00	0.00
3,100.00	4.00	4.48	3,098.13	55.64	4.36	-55.57	0.00	0.00	0.00
3,200.00	4.00	4.48	3,197.89	62.59	4.90	-62.52	0.00	0.00	0.00
3,300.00	4.00	4.48	3,297.65	69.55	5.45	-69.47	0.00	0.00	0.00
3,400.00	4.00	4.48	3,397.40	76.50	5.99	-76.41	0.00	0.00	0.00
3,500.00	4.00	4.48	3,497.16	83.45	6.54	-83.36	0.00	0.00	0.00
3,587.05	4.00	4.48	3,584.00	89.51	7.01	-89.41	0.00	0.00	0.00
Base of Salt									
3,600.00	4.00	4.48	3,596.91	90.41	7.08	-90.31	0.00	0.00	0.00
3,700.00	4.00	4.48	3,696.67	97.36	7.63	-97.25	0.00	0.00	0.00
3,800.00	4.00	4.48	3,796.43	104.32	8.17	-104.20	0.00	0.00	0.00
3,815.61	4.00	4.48	3,812.00	105.40	8.26	-105.28	0.00	0.00	0.00
Yates									
3,900.00	4.00	4.48	3,896.18	111.27	8.72	-111.15	0.00	0.00	0.00
4,000.00	4.00	4.48	3,995.94	118.23	9.26	-118.09	0.00	0.00	0.00
4,100.00	4.00	4.48	4,095.70	125.18	9.81	-125.04	0.00	0.00	0.00
4,184.51	4.00	4.48	4,180.00	131.06	10.27	-130.91	0.00	0.00	0.00

Database:	Midland District	Local Co-ordinate Reference:	Well #1H
Company:	Caza Operating, LLC	TVD Reference:	KB=27' @ 3723.00usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB=27' @ 3723.00usft
Site:	Eagleclaw Federal	North Reference:	Grid
Well:	#1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Capitan									
4,200.00	4.00	4.48	4,195.45	132.14	10.35	-131.98	0.00	0.00	0.00
4,300.00	4.00	4.48	4,295.21	139.09	10.90	-138.93	0.00	0.00	0.00
4,304.80	4.00	4.48	4,300.00	139.42	10.92	-139.26	0.00	0.00	0.00
9 5/8"									
4,400.00	4.00	4.48	4,394.97	146.04	11.44	-145.88	0.00	0.00	0.00
4,437.00	4.00	4.48	4,431.88	148.62	11.64	-148.45	0.00	0.00	0.00
4,500.00	2.74	4.48	4,494.77	152.31	11.93	-152.14	2.00	-2.00	0.00
4,600.00	0.74	4.48	4,594.71	155.34	12.17	-155.16	2.00	-2.00	0.00
4,637.00	0.00	0.00	4,631.71	155.57	12.19	-155.40	2.00	-2.00	0.00
4,700.00	0.00	0.00	4,694.71	155.57	12.19	-155.40	0.00	0.00	0.00
4,800.00	0.00	0.00	4,794.71	155.57	12.19	-155.40	0.00	0.00	0.00
4,900.00	0.00	0.00	4,894.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,000.00	0.00	0.00	4,994.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,100.00	0.00	0.00	5,094.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,200.00	0.00	0.00	5,194.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,300.00	0.00	0.00	5,294.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,400.00	0.00	0.00	5,394.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,500.00	0.00	0.00	5,494.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,572.29	0.00	0.00	5,567.00	155.57	12.19	-155.40	0.00	0.00	0.00
Delaware									
5,600.00	0.00	0.00	5,594.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,700.00	0.00	0.00	5,694.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,800.00	0.00	0.00	5,794.71	155.57	12.19	-155.40	0.00	0.00	0.00
5,822.29	0.00	0.00	5,817.00	155.57	12.19	-155.40	0.00	0.00	0.00
Cherry Canyon									
5,900.00	0.00	0.00	5,894.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,000.00	0.00	0.00	5,994.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,100.00	0.00	0.00	6,094.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,200.00	0.00	0.00	6,194.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,300.00	0.00	0.00	6,294.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,400.00	0.00	0.00	6,394.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,481.29	0.00	0.00	6,476.00	155.57	12.19	-155.40	0.00	0.00	0.00
Brushy Canyon									
6,500.00	0.00	0.00	6,494.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,600.00	0.00	0.00	6,594.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,700.00	0.00	0.00	6,694.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,800.00	0.00	0.00	6,794.71	155.57	12.19	-155.40	0.00	0.00	0.00
6,900.00	0.00	0.00	6,894.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,000.00	0.00	0.00	6,994.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,100.00	0.00	0.00	7,094.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,200.00	0.00	0.00	7,194.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,300.00	0.00	0.00	7,294.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,400.00	0.00	0.00	7,394.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,500.00	0.00	0.00	7,494.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,600.00	0.00	0.00	7,594.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,700.00	0.00	0.00	7,694.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,800.00	0.00	0.00	7,794.71	155.57	12.19	-155.40	0.00	0.00	0.00
7,900.00	0.00	0.00	7,894.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,000.00	0.00	0.00	7,994.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,100.00	0.00	0.00	8,094.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,149.29	0.00	0.00	8,144.00	155.57	12.19	-155.40	0.00	0.00	0.00
Bone Spring/Glorieta									

Database:	Midland District	Local Co-ordinate Reference:	Well #1H
Company:	Caza Operating, LLC	TVD Reference:	KB=27' @ 3723.00usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB=27' @ 3723.00usft
Site:	Eagleclaw Federal	North Reference:	Grid
Well:	#1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,200.00	0.00	0.00	8,194.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,300.00	0.00	0.00	8,294.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,400.00	0.00	0.00	8,394.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,500.00	0.00	0.00	8,494.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,600.00	0.00	0.00	8,594.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,700.00	0.00	0.00	8,694.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,800.00	0.00	0.00	8,794.71	155.57	12.19	-155.40	0.00	0.00	0.00
8,900.00	0.00	0.00	8,894.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,000.00	0.00	0.00	8,994.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,100.00	0.00	0.00	9,094.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,200.00	0.00	0.00	9,194.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,300.00	0.00	0.00	9,294.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,400.00	0.00	0.00	9,394.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,500.00	0.00	0.00	9,494.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,600.00	0.00	0.00	9,594.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,600.29	0.00	0.00	9,595.00	155.57	12.19	-155.40	0.00	0.00	0.00
1st Bone Spring Sand									
9,700.00	0.00	0.00	9,694.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,800.00	0.00	0.00	9,794.71	155.57	12.19	-155.40	0.00	0.00	0.00
9,900.00	0.00	0.00	9,894.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,000.00	0.00	0.00	9,994.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,100.00	0.00	0.00	10,094.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,200.00	0.00	0.00	10,194.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,206.29	0.00	0.00	10,201.00	155.57	12.19	-155.40	0.00	0.00	0.00
2nd Bone Spring Sand									
10,300.00	0.00	0.00	10,294.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,312.00	0.00	0.00	10,306.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,400.00	0.00	0.00	10,394.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,500.00	0.00	0.00	10,494.71	155.57	12.19	-155.40	0.00	0.00	0.00
10,552.39	0.00	0.00	10,547.10	155.57	12.19	-155.40	0.00	0.00	0.00
10,600.00	4.76	179.32	10,594.66	153.60	12.21	-153.42	10.00	10.00	0.00
10,650.00	9.76	179.32	10,644.24	147.28	12.29	-147.10	10.00	10.00	0.00
10,700.00	14.76	179.32	10,693.09	136.67	12.41	-136.49	10.00	10.00	0.00
10,740.66	18.83	179.32	10,732.00	124.92	12.55	-124.74	10.00	10.00	0.00
2nd Bone Spring Lime									
10,750.00	19.76	179.32	10,740.82	121.83	12.59	-121.65	10.00	10.00	0.00
10,800.00	24.76	179.32	10,787.08	102.90	12.81	-102.72	10.00	10.00	0.00
10,850.00	29.76	179.32	10,831.51	80.01	13.08	-79.82	10.00	10.00	0.00
10,900.00	34.76	179.32	10,873.78	53.33	13.40	-53.14	10.00	10.00	0.00
10,950.00	39.76	179.32	10,913.56	23.07	13.76	-22.88	10.00	10.00	0.00
11,000.00	44.76	179.32	10,950.55	-10.55	14.15	10.73	10.00	10.00	0.00
11,050.00	49.76	179.32	10,984.47	-47.25	14.59	47.45	10.00	10.00	0.00
11,100.00	54.76	179.32	11,015.07	-86.78	15.06	86.97	10.00	10.00	0.00
11,105.12	55.27	179.32	11,018.00	-90.97	15.11	91.17	10.00	10.00	0.00
Top of 3rd Bone Spring Sand									
11,150.00	59.76	179.32	11,042.10	-128.82	15.55	129.02	10.00	10.00	0.00
11,200.00	64.76	179.32	11,065.36	-173.06	16.08	173.26	10.00	10.00	0.00
11,250.00	69.76	179.32	11,084.68	-219.15	16.62	219.36	10.00	10.00	0.00
11,300.00	74.76	179.32	11,099.91	-266.76	17.19	266.96	10.00	10.00	0.00
11,350.00	79.76	179.32	11,110.93	-315.51	17.76	315.72	10.00	10.00	0.00
11,376.20	82.38	179.32	11,115.00	-341.39	18.07	341.60	10.00	10.00	0.00
3rd Bone Spring Target									
11,400.00	84.76	179.32	11,117.66	-365.03	18.35	365.25	10.00	10.00	0.00
11,443.99	89.16	179.32	11,120.00	-408.94	18.87	409.16	10.00	10.00	0.00

Database:	Midland District	Local Co-ordinate Reference:	Well #1H
Company:	Caza Operating, LLC	TVD Reference:	KB=27' @ 3723.00usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB=27' @ 3723.00usft
Site:	Eagleclaw Federal	North Reference:	Grid
Well:	#1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,500.00	89.16	179.32	11,120.82	-464.95	19.53	465.17	0.00	0.00	0.00
11,600.00	89.16	179.32	11,122.28	-564.93	20.71	565.16	0.00	0.00	0.00
11,700.00	89.16	179.32	11,123.75	-664.91	21.90	665.15	0.00	0.00	0.00
11,800.00	89.16	179.32	11,125.22	-764.89	23.08	765.14	0.00	0.00	0.00
11,900.00	89.16	179.32	11,126.68	-864.88	24.26	865.12	0.00	0.00	0.00
12,000.00	89.16	179.32	11,128.15	-964.86	25.44	965.11	0.00	0.00	0.00
12,100.00	89.16	179.32	11,129.61	-1,064.84	26.63	1,065.10	0.00	0.00	0.00
12,200.00	89.16	179.32	11,131.08	-1,164.82	27.81	1,165.09	0.00	0.00	0.00
12,300.00	89.16	179.32	11,132.55	-1,264.81	28.99	1,265.08	0.00	0.00	0.00
12,400.00	89.16	179.32	11,134.01	-1,364.79	30.18	1,365.07	0.00	0.00	0.00
12,500.00	89.16	179.32	11,135.48	-1,464.77	31.36	1,465.06	0.00	0.00	0.00
12,600.00	89.16	179.32	11,136.94	-1,564.75	32.54	1,565.05	0.00	0.00	0.00
12,700.00	89.16	179.32	11,138.41	-1,664.73	33.73	1,665.04	0.00	0.00	0.00
12,800.00	89.16	179.32	11,139.87	-1,764.72	34.91	1,765.03	0.00	0.00	0.00
12,900.00	89.16	179.32	11,141.34	-1,864.70	36.09	1,865.02	0.00	0.00	0.00
13,000.00	89.16	179.32	11,142.81	-1,964.68	37.27	1,965.00	0.00	0.00	0.00
13,100.00	89.16	179.32	11,144.27	-2,064.66	38.46	2,064.99	0.00	0.00	0.00
13,200.00	89.16	179.32	11,145.74	-2,164.65	39.64	2,164.98	0.00	0.00	0.00
13,300.00	89.16	179.32	11,147.20	-2,264.63	40.82	2,264.97	0.00	0.00	0.00
13,400.00	89.16	179.32	11,148.67	-2,364.61	42.01	2,364.96	0.00	0.00	0.00
13,500.00	89.16	179.32	11,150.14	-2,464.59	43.19	2,464.95	0.00	0.00	0.00
13,600.00	89.16	179.32	11,151.60	-2,564.58	44.37	2,564.94	0.00	0.00	0.00
13,700.00	89.16	179.32	11,153.07	-2,664.56	45.55	2,664.93	0.00	0.00	0.00
13,800.00	89.16	179.32	11,154.53	-2,764.54	46.74	2,764.92	0.00	0.00	0.00
13,900.00	89.16	179.32	11,156.00	-2,864.52	47.92	2,864.91	0.00	0.00	0.00
14,000.00	89.16	179.32	11,157.47	-2,964.50	49.10	2,964.90	0.00	0.00	0.00
14,100.00	89.16	179.32	11,158.93	-3,064.49	50.29	3,064.89	0.00	0.00	0.00
14,200.00	89.16	179.32	11,160.40	-3,164.47	51.47	3,164.87	0.00	0.00	0.00
14,300.00	89.16	179.32	11,161.86	-3,264.45	52.65	3,264.86	0.00	0.00	0.00
14,400.00	89.16	179.32	11,163.33	-3,364.43	53.83	3,364.85	0.00	0.00	0.00
14,500.00	89.16	179.32	11,164.80	-3,464.42	55.02	3,464.84	0.00	0.00	0.00
14,600.00	89.16	179.32	11,166.26	-3,564.40	56.20	3,564.83	0.00	0.00	0.00
14,700.00	89.16	179.32	11,167.73	-3,664.38	57.38	3,664.82	0.00	0.00	0.00
14,800.00	89.16	179.32	11,169.19	-3,764.36	58.57	3,764.81	0.00	0.00	0.00
14,900.00	89.16	179.32	11,170.66	-3,864.34	59.75	3,864.80	0.00	0.00	0.00
14,991.45	89.16	179.32	11,172.00	-3,955.77	60.83	3,956.23	0.00	0.00	0.00
Wolfcamp									
15,000.00	89.16	179.32	11,172.13	-3,964.33	60.93	3,964.79	0.00	0.00	0.00
15,100.00	89.16	179.32	11,173.59	-4,064.31	62.11	4,064.78	0.00	0.00	0.00
15,200.00	89.16	179.32	11,175.06	-4,164.29	63.30	4,164.77	0.00	0.00	0.00
15,300.00	89.16	179.32	11,176.52	-4,264.27	64.48	4,264.75	0.00	0.00	0.00
15,400.00	89.16	179.32	11,177.99	-4,364.26	65.66	4,364.74	0.00	0.00	0.00
15,500.00	89.16	179.32	11,179.46	-4,464.24	66.85	4,464.73	0.00	0.00	0.00
15,600.00	89.16	179.32	11,180.92	-4,564.22	68.03	4,564.72	0.00	0.00	0.00
15,700.00	89.16	179.32	11,182.39	-4,664.20	69.21	4,664.71	0.00	0.00	0.00
15,800.00	89.16	179.32	11,183.85	-4,764.18	70.39	4,764.70	0.00	0.00	0.00
15,900.00	89.16	179.32	11,185.32	-4,864.17	71.58	4,864.69	0.00	0.00	0.00
16,000.00	89.16	179.32	11,186.79	-4,964.15	72.76	4,964.68	0.00	0.00	0.00
16,100.00	89.16	179.32	11,188.25	-5,064.13	73.94	5,064.67	0.00	0.00	0.00
16,200.00	89.16	179.32	11,189.72	-5,164.11	75.13	5,164.66	0.00	0.00	0.00
16,300.00	89.16	179.32	11,191.18	-5,264.10	76.31	5,264.65	0.00	0.00	0.00
16,400.00	89.16	179.32	11,192.65	-5,364.08	77.49	5,364.64	0.00	0.00	0.00
16,500.00	89.16	179.32	11,194.11	-5,464.06	78.67	5,464.62	0.00	0.00	0.00

Database:	Midland District	Local Co-ordinate Reference:	Well #1H
Company:	Caza Operating, LLC	TVD Reference:	KB=27' @ 3723.00usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB=27' @ 3723.00usft
Site:	Eagleclaw Federal	North Reference:	Grid
Well:	#1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
16,600.00	89.16	179.32	11,195.58	-5,564.04	79.86	5,564.61	0.00	0.00	0.00	
16,700.00	89.16	179.32	11,197.05	-5,664.03	81.04	5,664.60	0.00	0.00	0.00	
16,800.00	89.16	179.32	11,198.51	-5,764.01	82.22	5,764.59	0.00	0.00	0.00	
16,900.00	89.16	179.32	11,199.98	-5,863.99	83.41	5,864.58	0.00	0.00	0.00	
17,000.00	89.16	179.32	11,201.44	-5,963.97	84.59	5,964.57	0.00	0.00	0.00	
17,100.00	89.16	179.32	11,202.91	-6,063.95	85.77	6,064.56	0.00	0.00	0.00	
17,200.00	89.16	179.32	11,204.38	-6,163.94	86.95	6,164.55	0.00	0.00	0.00	
17,300.00	89.16	179.32	11,205.84	-6,263.92	88.14	6,264.54	0.00	0.00	0.00	
17,400.00	89.16	179.32	11,207.31	-6,363.90	89.32	6,364.53	0.00	0.00	0.00	
17,500.00	89.16	179.32	11,208.77	-6,463.88	90.50	6,464.52	0.00	0.00	0.00	
17,600.00	89.16	179.32	11,210.24	-6,563.87	91.69	6,564.50	0.00	0.00	0.00	
17,700.00	89.16	179.32	11,211.71	-6,663.85	92.87	6,664.49	0.00	0.00	0.00	
17,800.00	89.16	179.32	11,213.17	-6,763.83	94.05	6,764.48	0.00	0.00	0.00	
17,900.00	89.16	179.32	11,214.64	-6,863.81	95.23	6,864.47	0.00	0.00	0.00	
18,000.00	89.16	179.32	11,216.10	-6,963.79	96.42	6,964.46	0.00	0.00	0.00	
18,100.00	89.16	179.32	11,217.57	-7,063.78	97.60	7,064.45	0.00	0.00	0.00	
18,200.00	89.16	179.32	11,219.04	-7,163.76	98.78	7,164.44	0.00	0.00	0.00	
18,300.00	89.16	179.32	11,220.50	-7,263.74	99.97	7,264.43	0.00	0.00	0.00	
18,400.00	89.16	179.32	11,221.97	-7,363.72	101.15	7,364.42	0.00	0.00	0.00	
18,500.00	89.16	179.32	11,223.43	-7,463.71	102.33	7,464.41	0.00	0.00	0.00	
18,600.00	89.16	179.32	11,224.90	-7,563.69	103.51	7,564.40	0.00	0.00	0.00	
18,700.00	89.16	179.32	11,226.37	-7,663.67	104.70	7,664.39	0.00	0.00	0.00	
18,800.00	89.16	179.32	11,227.83	-7,763.65	105.88	7,764.37	0.00	0.00	0.00	
18,900.00	89.16	179.32	11,229.30	-7,863.63	107.06	7,864.36	0.00	0.00	0.00	
19,000.00	89.16	179.32	11,230.76	-7,963.62	108.25	7,964.35	0.00	0.00	0.00	
19,100.00	89.16	179.32	11,232.23	-8,063.60	109.43	8,064.34	0.00	0.00	0.00	
19,200.00	89.16	179.32	11,233.70	-8,163.58	110.61	8,164.33	0.00	0.00	0.00	
19,300.00	89.16	179.32	11,235.16	-8,263.56	111.79	8,264.32	0.00	0.00	0.00	
19,400.00	89.16	179.32	11,236.63	-8,363.55	112.98	8,364.31	0.00	0.00	0.00	
19,500.00	89.16	179.32	11,238.09	-8,463.53	114.16	8,464.30	0.00	0.00	0.00	
19,600.00	89.16	179.32	11,239.56	-8,563.51	115.34	8,564.29	0.00	0.00	0.00	
19,700.00	89.16	179.32	11,241.03	-8,663.49	116.53	8,664.28	0.00	0.00	0.00	
19,800.00	89.16	179.32	11,242.49	-8,763.48	117.71	8,764.27	0.00	0.00	0.00	
19,834.74	89.16	179.32	11,243.00	-8,798.21	118.12	8,799.00	0.00	0.00	0.00	

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting		
- Shape	(°)	(bearing	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude	Longitude
POP (E F 1H)	0.00	0.00	11,049.59	-140.00	1.00	586,206.00	802,084.00	32° 36' 31.239 N	103° 29' 11.596 W
- plan misses target center by 14.73usft at 11163.23usft MD (11048.63 TVD, -140.33 N, 15.69 E)									
- Point									
LP (E F 1H)	0.00	0.00	11,120.00	-408.94	18.87	585,937.06	802,101.87	32° 36' 28.576 N	103° 29' 11.412 W
- plan hits target center									
- Point									
BHL (E F 1H)	0.00	0.00	11,243.00	-8,798.21	118.12	577,547.79	802,201.12	32° 35' 5.562 N	103° 29' 11.033 W
- plan hits target center									
- Point									

Database:	Midland District	Local Co-ordinate Reference:	Well #1H
Company:	Caza Operating, LLC	TVD Reference:	KB=27' @ 3723.00usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB=27' @ 3723.00usft
Site:	Eagleclaw Federal	North Reference:	Grid
Well:	#1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,960.00	1,960.00	13 3/8"		13-3/8	17-1/2
4,304.80	4,300.00	9 5/8"		9-5/8	12-1/4

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
1,910.00	1,910.00	Rustler				
2,106.00	2,106.00	Top of Salt				
3,587.05	3,584.00	Base of Salt				
3,815.61	3,812.00	Yates				
4,184.51	4,180.00	Capitan				
5,572.29	5,567.00	Delaware				
5,822.29	5,817.00	Cherry Canyon				
6,481.29	6,476.00	Brushy Canyon				
8,149.29	8,144.00	Bone Spring/Glorieta				
9,600.29	9,595.00	1st Bone Spring Sand				
10,206.29	10,201.00	2nd Bone Spring Sand				
10,740.66	10,732.00	2nd Bone Spring Lime				
11,105.12	11,018.00	Top of 3rd Bone Spring Sand				
11,376.20	11,115.00	3rd Bone Spring Target				
14,991.45	11,172.00	Wolfcamp				