

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.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM132073	
2. Name of Operator MEWBOURNE OIL COMPANY		6. If Indian, Allottee or Tribe Name	
3a. Address P O BOX 5270 HOBBS, NM 88241		7. If Unit or CA/Agreement, Name and/or No.	
3b. Phone No. (include area code) Ph: 505-393-5905		8. Well Name and No. ANATOLIAN 22 FEDERAL STATE COM 1H	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 22 T23S R34E SWSW 200FSL 756FWL		9. API Well No. 30-025-43397-00-X1	
10. Field and Pool or Exploratory Area ANTELOPE RIDGE-BONE SPRING, W		11. County or Parish, State LEA COUNTY, NM	

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	Change to Original APD
	☐ 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 recompleat 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 recompleat 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.

Mewbourne Oil Company has an approved APD for the above well. Mewbourne requests approval to make the following changes:

- 1) Change well name to Carlsbad 22 Federal State Com #1H
- 2) Change 5 1/2" production csg to 7" production csg & 4 1/2" cemented liner.
- 3) Change cement to suit new plan.
- 4) Change wellhead to multi-bowl type wellhead.
- 5) Request variance for use of a flexible choke line from the BOP to choke manifold.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

Please see attachments for C-102, wellhead schematic, new drilling plan, casing & cement information.

Proposed TS 16236'

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #414120 verified by the BLM Well Information System For MEWBOURNE OIL COMPANY, sent to the Hobbs Committed to AFMSS for processing by ZOTA STEVENS on 04/26/2018 (18ZS0064SE)	
Name (Printed/Typed) ANDREW TAYLOR	Title ENGINEER
Signature (Electronic Submission)	Date 04/25/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>ZOTA STEVENS</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>05/30/2018</u>
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 <u>Hobbs</u>

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)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional data for EC transaction #414120 that would not fit on the form

32. Additional remarks, continued

Please contact Andy Taylor with any questions.

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 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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-43397	² Pool Code 2209	³ Pool Name Antelope Ridge; Bone Spring West
⁴ Property Code	⁵ Property Name GAZELLE 22 B3MD FEDERAL COM	⁶ Well Number 1H
⁷ GRID NO. 14744	⁸ Operator Name MEWBOURNE OIL COMPANY	⁹ Elevation 3491'

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
M	22	23S	34E		200	SOUTH	756	WEST	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
D	22	23S	34E		330	NORTH	380	WEST	LEA

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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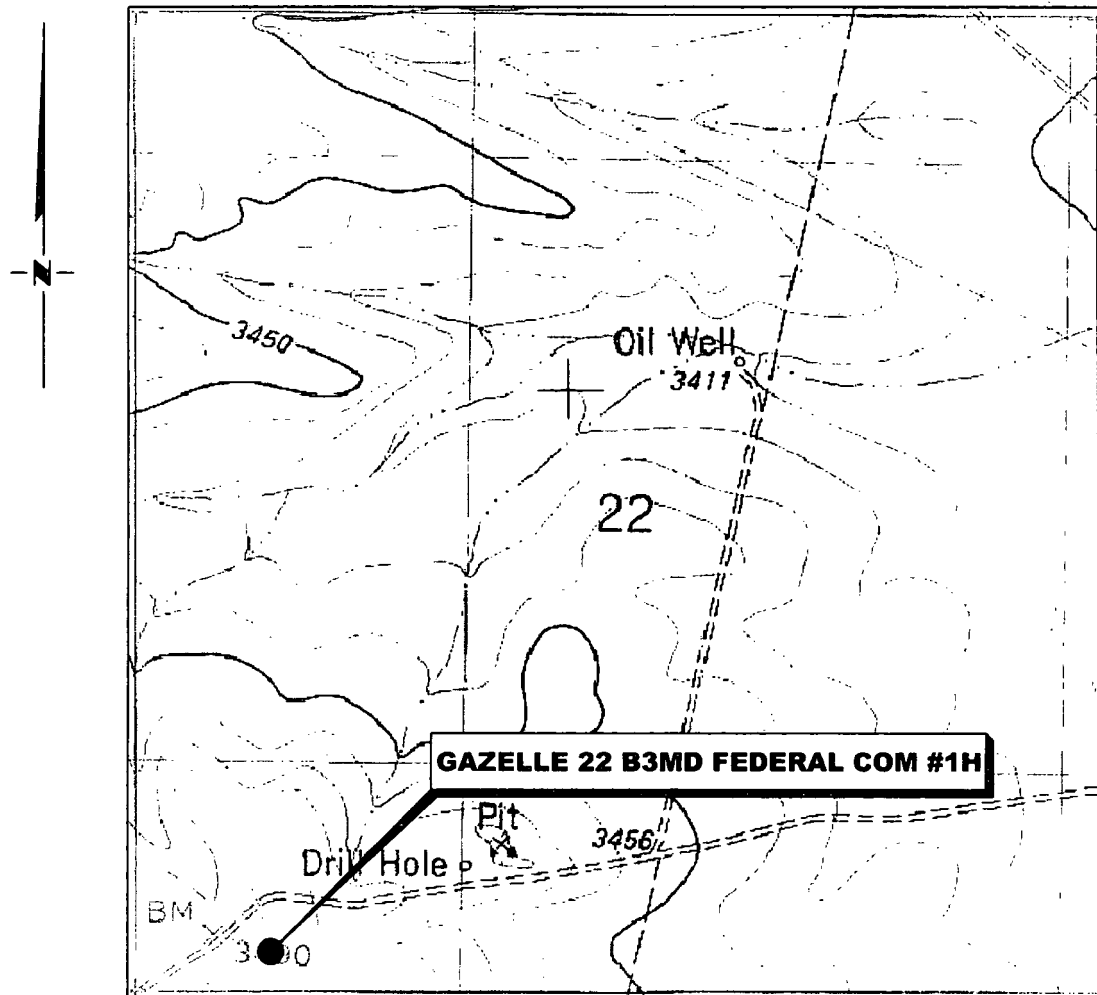
No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

	¹⁶ GEODETIC DATA NAD 83 GRID - NM EAST ¹⁷ SURFACE LOCATION N: 467921.5 - E: 809984.8 LAT: 32.2833979° N LONG: 103.4640257° W ¹⁸ BOTTOM HOLE N: 472670.7 - E: 809566.5 LAT: 32.2964607° N LONG: 103.4652549° W ¹⁹ CORNER DATA NAD 83 GRID - NM EAST A: FOUND BRASS CAP "1918" N: 467715.6 - E: 809230.7 B: FOUND BRASS CAP "1918" N: 470357.7 - E: 809207.0 C: FOUND BRASS CAP "1918" N: 472997.8 - E: 809183.6 D: FOUND BRASS CAP "1918" N: 4730178 - E: 811823.8 E: FOUND BRASS CAP "1918" N: 473037.5 - E: 814463.3 F: FOUND BRASS CAP "1918" N: 470396.6 - E: 814487.5 G: CALCULATED CORNER N: 467756.2 - E: 814507.6 H: FOUND BRASS CAP "1918" N: 467736.6 - E: 811871.1	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: <i>Andrew Taylor</i> Date: 4/24/2018 Andrew Taylor Printed Name ataylor@mewbourne.com E-mail Address ¹⁸ 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. 4-2-18 Date of Survey Signature and Seal of Professional Surveyor 19680 Certificate Number
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RRC-Job No.: LS1804478

LOCATION VERIFICATION MAP

NOT TO SCALE



*SECTION 22, TWP. 23 SOUTH, RGE. 34 EAST,
N. M. P. M., LEA CO., NEW MEXICO*

OPERATOR: Mewbourne Oil Company
LEASE: Gazelle 22 B3MD Federal Com
WELL NO.: 1H
ELEVATION: 3491'

LOCATION: 200' FSL & 756' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
San Simon Sink, N.M. (1984)

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NO.	REVISION	DATE
JOB NO.: LS1804478		
DWG. NO.: 1804478LVM		

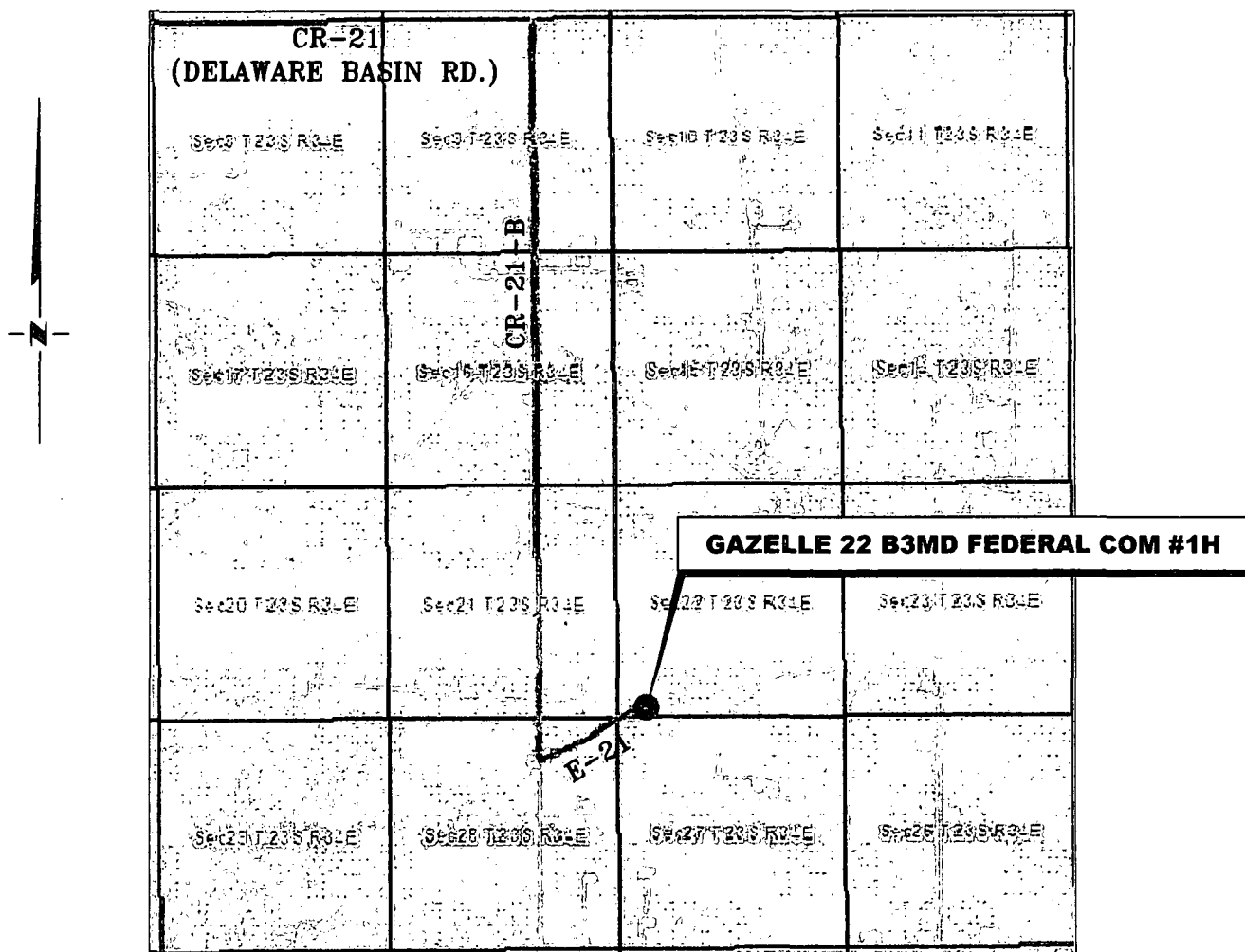
RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 4-2-18
SURVEYED BY: ML
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

VICINITY MAP

NOT TO SCALE



**SECTION 22, TWP. 23 SOUTH, RGE. 34 EAST,
N. M. P. M., LEA COUNTY, NEW MEXICO**

OPERATOR: Mewbourne Oil Company
LEASE: Gazelle 22 B3MD Federal Com
WELL NO.: 1H

LOCATION: 200' FSL & 756' FWL
ELEVATION: 3491'

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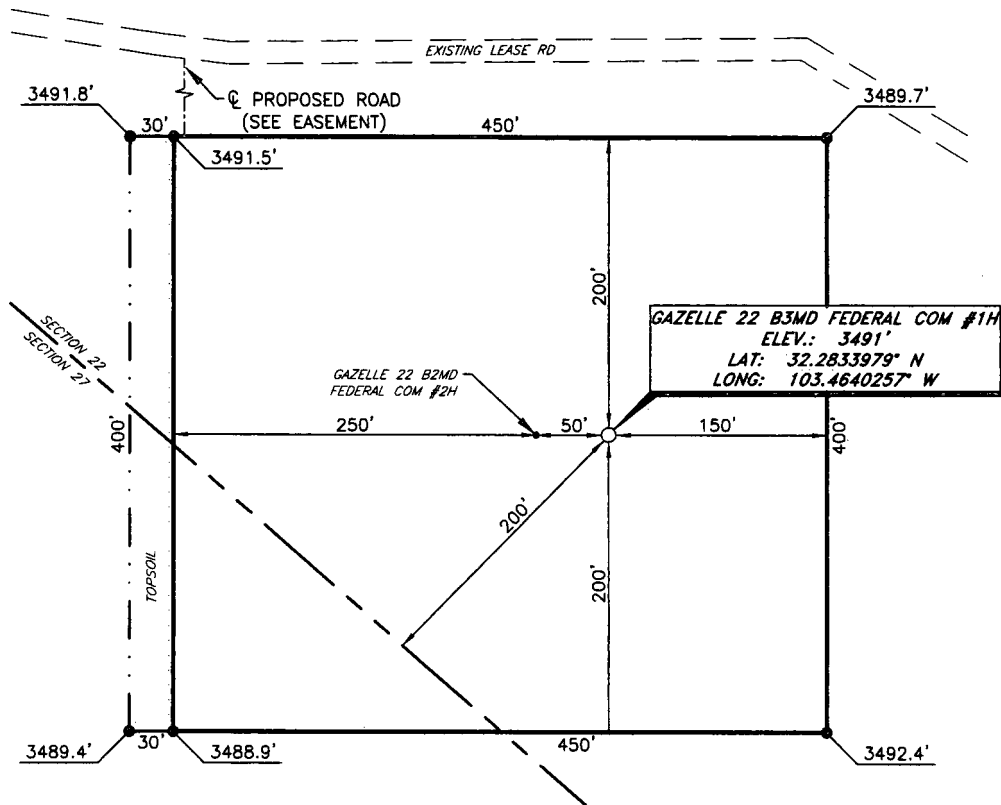
NO.	REVISION	DATE
JOB NO.: LS1804478		
DWG. NO.: 1804478VM		

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 4-2-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

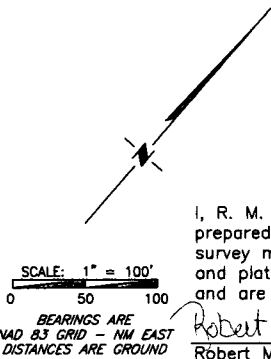
MEWBOURNE OIL COMPANY
GAZELLE 22 B3MD FEDERAL COM #1H
 (200' FSL & 756' FWL)
 SECTION 22, T23S, R34E
 N. M. P. M., LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR-21 (Delaware Basin Rd.) and CR-21B (Antelope Rd.)
 Go South on CR-21B approx. 3.2 miles to CR-E21 (Adobe Rd.) on left;
 Turn left and go Northeast approx. 0.5 miles to proposed road on right;
 Turn right on proposed road and South approx. 250 feet to location on the left.

THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY CORNERS AND PROPERTY LINES ARE SHOWN FOR INFORMATION ONLY. BOUNDARY DATA IS SHOWN FROM A PREVIOUS SURVEY REFERENCED HEREON.



I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett
 Robert M. Howett NM PS 19680



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NO.	REVISED	DATE
JOB NO.:	LS1804478	
DWG. NO.:	1804478PAD	

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

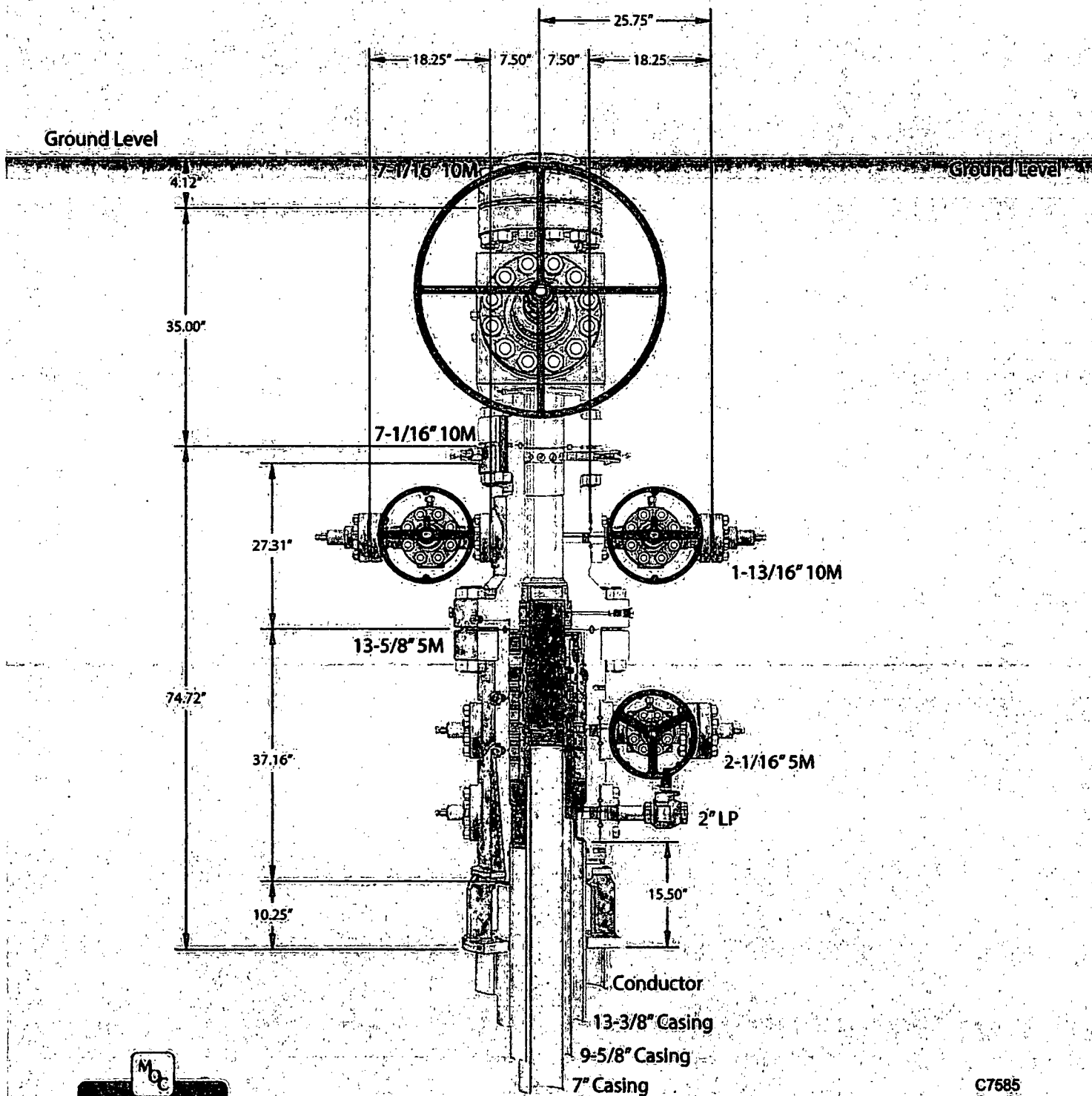
SCALE:	1" = 100'
DATE:	4-2-18
SURVEYED BY:	ML
DRAWN BY:	GA
APPROVED BY:	RMH
SHEET:	1 OF 1



CAMERON

A Schlumberger Company

13-5/8" MN-DS Wellhead System



Capping Plug 59" conductor cut-off
79

C7585
Rev. 02

NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

Mewbourne Oil Company

Lea County, New Mexico NAD 83

Gazelle 22 B3MD Fed Com #1H

Sec 22, T23S, R34E

SL: 200' FSL & 756' FWL

BHL: 330' FNL & 380' FWL

Plan: Design #1

Standard Planning Report

18 April, 2018

Planning Report

Database: Hobbs
Company: Mewbourne Oil Company
Project: Lea County, New Mexico NAD 83
Site: Gazelle 22 B3MD Fed Com #1H
Well: Sec 22, T23S, R34E
Wellbore: BHL: 330' FNL & 380' FWL
Design: Design #1

Local Co-ordinate Reference: Site Gazelle 22 B3MD Fed Com #1H
TVD Reference: WELL @ 3498.0usft (Original Well Elev)
MD Reference: WELL @ 3498.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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

Site	Gazelle 22 B3MD Fed Com #1H			
Site Position:		Northing:	467,922.00 usft	Latitude: 32.2833993
From:	Map	Easting:	809,985.00 usft	Longitude: -103.4640250
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.46 °

Well	Sec 22, T23S, R34E			
Well Position	+N/-S	0.0 usft	Northing:	467,922.00 usft
	+E/-W	0.0 usft	Easting:	809,985.00 usft
Position Uncertainty	0.0 usft		Wellhead Elevation:	3,498.0 usft
			Ground Level:	3,471.0 usft

Wellbore	BHL: 330' FNL & 380' FWL				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/18/2018	6.69	60.08	47,978

Design	Design #1			
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	354.97

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	
5,050.0	0.00	0.00	5,050.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,332.9	4.24	242.70	5,332.6	-4.8	-9.3	1.50	1.50	0.00	242.70	
10,738.0	4.24	242.70	10,722.9	-188.2	-364.7	0.00	0.00	0.00	0.00	
11,020.9	0.00	0.00	11,005.5	-193.0	-374.0	1.50	-1.50	0.00	180.00	KOP @ 11,006'
11,771.4	90.06	359.49	11,483.0	285.0	-378.3	12.00	12.00	0.00	-0.51	
16,235.6	90.06	359.49	11,478.0	4,749.0	-418.0	0.00	0.00	0.00	0.00	BHL: 330' FNL & 380'

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Lea County, New Mexico NAD 83
 Site: Gazelle 22 B3MD Fed Com #1H
 Well: Sec 22, T23S, R34E
 Wellbore: BHL: 330' FNL & 380' FWL
 Design: Design #1

Local Co-ordinate Reference: Site Gazelle 22 B3MD Fed Com #1H
 TVD Reference: WELL @ 3498.0usft (Original Well Elev)
 MD Reference: WELL @ 3498.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SL: 200' FSL & 756' FWL									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,050.0	0.00	0.00	5,050.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.75	242.70	5,100.0	-0.2	-0.3	-0.1	1.50	1.50	0.00

Planning Report

Database: Hobbs
Company: Mewbourne Oil Company
Project: Lea County, New Mexico NAD 83
Site: Gazelle 22 B3MD Fed Com #1H
Well: Sec 22, T23S, R34E
Wellbore: BHL: 330' FNL & 380' FWL
Design: Design #1

Local Co-ordinate Reference: Site Gazelle 22 B3MD Fed Com #1H
TVD Reference: WELL @ 3498.0usft (Original Well Elev)
MD Reference: WELL @ 3498.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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)
5,200.0	2.25	242.70	5,200.0	-1.4	-2.6	-1.1	1.50	1.50	0.00
5,300.0	3.75	242.70	5,299.8	-3.8	-7.3	-3.1	1.50	1.50	0.00
5,332.9	4.24	242.70	5,332.6	-4.8	-9.3	-4.0	1.50	1.50	0.00
5,400.0	4.24	242.70	5,399.6	-7.1	-13.7	-5.8	0.00	0.00	0.00
5,500.0	4.24	242.70	5,499.3	-10.5	-20.3	-8.7	0.00	0.00	0.00
5,600.0	4.24	242.70	5,599.0	-13.9	-26.9	-11.5	0.00	0.00	0.00
5,700.0	4.24	242.70	5,698.7	-17.3	-33.4	-14.3	0.00	0.00	0.00
5,800.0	4.24	242.70	5,798.5	-20.7	-40.0	-17.1	0.00	0.00	0.00
5,900.0	4.24	242.70	5,898.2	-24.0	-46.6	-19.9	0.00	0.00	0.00
6,000.0	4.24	242.70	5,997.9	-27.4	-53.2	-22.7	0.00	0.00	0.00
6,100.0	4.24	242.70	6,097.6	-30.8	-59.7	-25.5	0.00	0.00	0.00
6,200.0	4.24	242.70	6,197.4	-34.2	-66.3	-28.3	0.00	0.00	0.00
6,300.0	4.24	242.70	6,297.1	-37.6	-72.9	-31.1	0.00	0.00	0.00
6,400.0	4.24	242.70	6,396.8	-41.0	-79.5	-33.9	0.00	0.00	0.00
6,500.0	4.24	242.70	6,496.5	-44.4	-86.0	-36.7	0.00	0.00	0.00
6,600.0	4.24	242.70	6,596.3	-47.8	-92.6	-39.5	0.00	0.00	0.00
6,700.0	4.24	242.70	6,696.0	-51.2	-99.2	-42.3	0.00	0.00	0.00
6,800.0	4.24	242.70	6,795.7	-54.6	-105.8	-45.1	0.00	0.00	0.00
6,900.0	4.24	242.70	6,895.4	-58.0	-112.3	-47.9	0.00	0.00	0.00
7,000.0	4.24	242.70	6,995.2	-61.4	-118.9	-50.7	0.00	0.00	0.00
7,100.0	4.24	242.70	7,094.9	-64.8	-125.5	-53.5	0.00	0.00	0.00
7,200.0	4.24	242.70	7,194.6	-68.2	-132.1	-56.3	0.00	0.00	0.00
7,300.0	4.24	242.70	7,294.3	-71.5	-138.6	-59.1	0.00	0.00	0.00
7,400.0	4.24	242.70	7,394.1	-74.9	-145.2	-61.9	0.00	0.00	0.00
7,500.0	4.24	242.70	7,493.8	-78.3	-151.8	-64.7	0.00	0.00	0.00
7,600.0	4.24	242.70	7,593.5	-81.7	-158.4	-67.5	0.00	0.00	0.00
7,700.0	4.24	242.70	7,693.3	-85.1	-164.9	-70.3	0.00	0.00	0.00
7,800.0	4.24	242.70	7,793.0	-88.5	-171.5	-73.1	0.00	0.00	0.00
7,900.0	4.24	242.70	7,892.7	-91.9	-178.1	-75.9	0.00	0.00	0.00
8,000.0	4.24	242.70	7,992.4	-95.3	-184.7	-78.7	0.00	0.00	0.00
8,100.0	4.24	242.70	8,092.2	-98.7	-191.2	-81.5	0.00	0.00	0.00
8,200.0	4.24	242.70	8,191.9	-102.1	-197.8	-84.3	0.00	0.00	0.00
8,300.0	4.24	242.70	8,291.6	-105.5	-204.4	-87.1	0.00	0.00	0.00
8,400.0	4.24	242.70	8,391.3	-108.9	-211.0	-90.0	0.00	0.00	0.00
8,500.0	4.24	242.70	8,491.1	-112.3	-217.5	-92.8	0.00	0.00	0.00
8,600.0	4.24	242.70	8,590.8	-115.7	-224.1	-95.6	0.00	0.00	0.00
8,700.0	4.24	242.70	8,690.5	-119.0	-230.7	-98.4	0.00	0.00	0.00
8,800.0	4.24	242.70	8,790.2	-122.4	-237.3	-101.2	0.00	0.00	0.00
8,900.0	4.24	242.70	8,890.0	-125.8	-243.8	-104.0	0.00	0.00	0.00
9,000.0	4.24	242.70	8,989.7	-129.2	-250.4	-106.8	0.00	0.00	0.00
9,100.0	4.24	242.70	9,089.4	-132.6	-257.0	-109.6	0.00	0.00	0.00
9,200.0	4.24	242.70	9,189.1	-136.0	-263.6	-112.4	0.00	0.00	0.00
9,300.0	4.24	242.70	9,288.9	-139.4	-270.1	-115.2	0.00	0.00	0.00
9,400.0	4.24	242.70	9,388.6	-142.8	-276.7	-118.0	0.00	0.00	0.00
9,500.0	4.24	242.70	9,488.3	-146.2	-283.3	-120.8	0.00	0.00	0.00
9,600.0	4.24	242.70	9,588.0	-149.6	-289.9	-123.6	0.00	0.00	0.00
9,700.0	4.24	242.70	9,687.8	-153.0	-296.4	-126.4	0.00	0.00	0.00
9,800.0	4.24	242.70	9,787.5	-156.4	-303.0	-129.2	0.00	0.00	0.00
9,900.0	4.24	242.70	9,887.2	-159.8	-309.6	-132.0	0.00	0.00	0.00
10,000.0	4.24	242.70	9,986.9	-163.2	-316.2	-134.8	0.00	0.00	0.00
10,100.0	4.24	242.70	10,086.7	-166.6	-322.7	-137.6	0.00	0.00	0.00
10,200.0	4.24	242.70	10,186.4	-169.9	-329.3	-140.4	0.00	0.00	0.00
10,300.0	4.24	242.70	10,286.1	-173.3	-335.9	-143.2	0.00	0.00	0.00
10,400.0	4.24	242.70	10,385.9	-176.7	-342.5	-146.0	0.00	0.00	0.00

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Lea County, New Mexico NAD 83
 Site: Gazelle 22 B3MD Fed Com #1H
 Well: Sec 22, T23S, R34E
 Wellbore: BHL: 330' FNL & 380' FWL
 Design: Design #1

Local Co-ordinate Reference: Site Gazelle 22 B3MD Fed Com #1H
 TVD Reference: WELL @ 3498.0usft (Original Well Elev)
 MD Reference: WELL @ 3498.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned 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)
10,500.0	4.24	242.70	10,485.6	-180.1	-349.0	-148.8	0.00	0.00	0.00
10,600.0	4.24	242.70	10,585.3	-183.5	-355.6	-151.6	0.00	0.00	0.00
10,700.0	4.24	242.70	10,685.0	-186.9	-362.2	-154.4	0.00	0.00	0.00
10,738.0	4.24	242.70	10,722.9	-188.2	-364.7	-155.5	0.00	0.00	0.00
10,800.0	3.31	242.70	10,784.8	-190.1	-368.3	-157.0	1.50	-1.50	0.00
10,900.0	1.81	242.70	10,884.7	-192.1	-372.3	-158.7	1.50	-1.50	0.00
11,000.0	0.31	242.70	10,984.7	-193.0	-373.9	-159.4	1.50	-1.50	0.00
11,020.9	0.00	0.00	11,005.5	-193.0	-374.0	-159.5	1.50	-1.50	0.00
KOP @ 11,006'									
11,100.0	9.50	359.49	11,084.3	-186.5	-374.1	-152.9	12.00	12.00	0.00
11,200.0	21.50	359.49	11,180.5	-159.8	-374.3	-126.4	12.00	12.00	0.00
11,300.0	33.50	359.49	11,269.0	-113.7	-374.7	-80.4	12.00	12.00	0.00
11,400.0	45.50	359.49	11,346.1	-50.2	-375.3	-17.1	12.00	12.00	0.00
11,500.0	57.50	359.49	11,408.2	27.9	-376.0	60.7	12.00	12.00	0.00
11,600.0	69.50	359.49	11,452.8	117.2	-376.8	149.8	12.00	12.00	0.00
11,613.6	71.12	359.49	11,457.3	130.0	-376.9	162.5	12.00	12.00	0.00
FTP: 330' FSL & 380' FWL									
11,700.0	81.50	359.49	11,477.8	213.8	-377.6	246.1	12.00	12.00	0.00
11,771.4	90.06	359.49	11,483.0	285.0	-378.3	317.1	12.00	12.00	0.00
LP: 485' FSL & 380' FWL									
11,800.0	90.06	359.49	11,483.0	313.6	-378.5	345.6	0.00	0.00	0.00
11,900.0	90.06	359.49	11,482.9	413.6	-379.4	445.2	0.00	0.00	0.00
12,000.0	90.06	359.49	11,482.7	513.6	-380.3	544.9	0.00	0.00	0.00
12,100.0	90.06	359.49	11,482.6	613.6	-381.2	644.6	0.00	0.00	0.00
12,200.0	90.06	359.49	11,482.5	713.6	-382.1	744.3	0.00	0.00	0.00
12,300.0	90.06	359.49	11,482.4	813.6	-383.0	844.0	0.00	0.00	0.00
12,400.0	90.06	359.49	11,482.3	913.6	-383.9	943.7	0.00	0.00	0.00
12,500.0	90.06	359.49	11,482.2	1,013.5	-384.7	1,043.4	0.00	0.00	0.00
12,600.0	90.06	359.49	11,482.1	1,113.5	-385.6	1,143.1	0.00	0.00	0.00
12,700.0	90.06	359.49	11,482.0	1,213.5	-386.5	1,242.8	0.00	0.00	0.00
12,800.0	90.06	359.49	11,481.8	1,313.5	-387.4	1,342.4	0.00	0.00	0.00
12,900.0	90.06	359.49	11,481.7	1,413.5	-388.3	1,442.1	0.00	0.00	0.00
13,000.0	90.06	359.49	11,481.6	1,513.5	-389.2	1,541.8	0.00	0.00	0.00
13,100.0	90.06	359.49	11,481.5	1,613.5	-390.1	1,641.5	0.00	0.00	0.00
13,200.0	90.06	359.49	11,481.4	1,713.5	-391.0	1,741.2	0.00	0.00	0.00
13,300.0	90.06	359.49	11,481.3	1,813.5	-391.9	1,840.9	0.00	0.00	0.00
13,400.0	90.06	359.49	11,481.2	1,913.5	-392.8	1,940.6	0.00	0.00	0.00
13,500.0	90.06	359.49	11,481.1	2,013.5	-393.6	2,040.3	0.00	0.00	0.00
13,600.0	90.06	359.49	11,481.0	2,113.5	-394.5	2,140.0	0.00	0.00	0.00
13,700.0	90.06	359.49	11,480.8	2,213.5	-395.4	2,239.6	0.00	0.00	0.00
13,800.0	90.06	359.49	11,480.7	2,313.5	-396.3	2,339.3	0.00	0.00	0.00
13,900.0	90.06	359.49	11,480.6	2,413.5	-397.2	2,439.0	0.00	0.00	0.00
13,925.5	90.06	359.49	11,480.6	2,439.0	-397.4	2,464.5	0.00	0.00	0.00
PPP 2: 2640' FNL & 380' FWL									
14,000.0	90.06	359.49	11,480.5	2,513.5	-398.1	2,538.7	0.00	0.00	0.00
14,100.0	90.06	359.49	11,480.4	2,613.5	-399.0	2,638.4	0.00	0.00	0.00
14,200.0	90.06	359.49	11,480.3	2,713.5	-399.9	2,738.1	0.00	0.00	0.00
14,300.0	90.06	359.49	11,480.2	2,813.5	-400.8	2,837.8	0.00	0.00	0.00
14,400.0	90.06	359.49	11,480.1	2,913.5	-401.7	2,937.5	0.00	0.00	0.00
14,500.0	90.06	359.49	11,479.9	3,013.5	-402.5	3,037.2	0.00	0.00	0.00
14,600.0	90.06	359.49	11,479.8	3,113.5	-403.4	3,136.8	0.00	0.00	0.00
14,700.0	90.06	359.49	11,479.7	3,213.5	-404.3	3,236.5	0.00	0.00	0.00
14,800.0	90.06	359.49	11,479.6	3,313.5	-405.2	3,336.2	0.00	0.00	0.00

Planning Report

Database: Hobbs
Company: Mewbourne Oil Company
Project: Lea County, New Mexico NAD 83
Site: Gazelle 22 B3MD Fed Com #1H
Well: Sec 22, T23S, R34E
Wellbore: BHL: 330' FNL & 380' FWL
Design: Design #1

Local Co-ordinate Reference: Site Gazelle 22 B3MD Fed Com #1H
TVD Reference: WELL @ 3498.0usft (Original Well Elev)
MD Reference: WELL @ 3498.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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)
14,900.0	90.06	359.49	11,479.5	3,413.5	-406.1	3,435.9	0.00	0.00	0.00
15,000.0	90.06	359.49	11,479.4	3,513.4	-407.0	3,535.6	0.00	0.00	0.00
15,100.0	90.06	359.49	11,479.3	3,613.4	-407.9	3,635.3	0.00	0.00	0.00
15,200.0	90.06	359.49	11,479.2	3,713.4	-408.8	3,735.0	0.00	0.00	0.00
15,300.0	90.06	359.49	11,479.0	3,813.4	-409.7	3,834.7	0.00	0.00	0.00
15,400.0	90.06	359.49	11,478.9	3,913.4	-410.6	3,934.4	0.00	0.00	0.00
15,500.0	90.06	359.49	11,478.8	4,013.4	-411.5	4,034.0	0.00	0.00	0.00
15,600.0	90.06	359.49	11,478.7	4,113.4	-412.3	4,133.7	0.00	0.00	0.00
15,700.0	90.06	359.49	11,478.6	4,213.4	-413.2	4,233.4	0.00	0.00	0.00
15,800.0	90.06	359.49	11,478.5	4,313.4	-414.1	4,333.1	0.00	0.00	0.00
15,900.0	90.06	359.49	11,478.4	4,413.4	-415.0	4,432.8	0.00	0.00	0.00
16,000.0	90.06	359.49	11,478.3	4,513.4	-415.9	4,532.5	0.00	0.00	0.00
16,100.0	90.06	359.49	11,478.2	4,613.4	-416.8	4,632.2	0.00	0.00	0.00
16,200.0	90.06	359.49	11,478.0	4,713.4	-417.7	4,731.9	0.00	0.00	0.00
16,235.6	90.06	359.49	11,478.0	4,749.0	-418.0	4,767.4	0.00	0.00	0.00

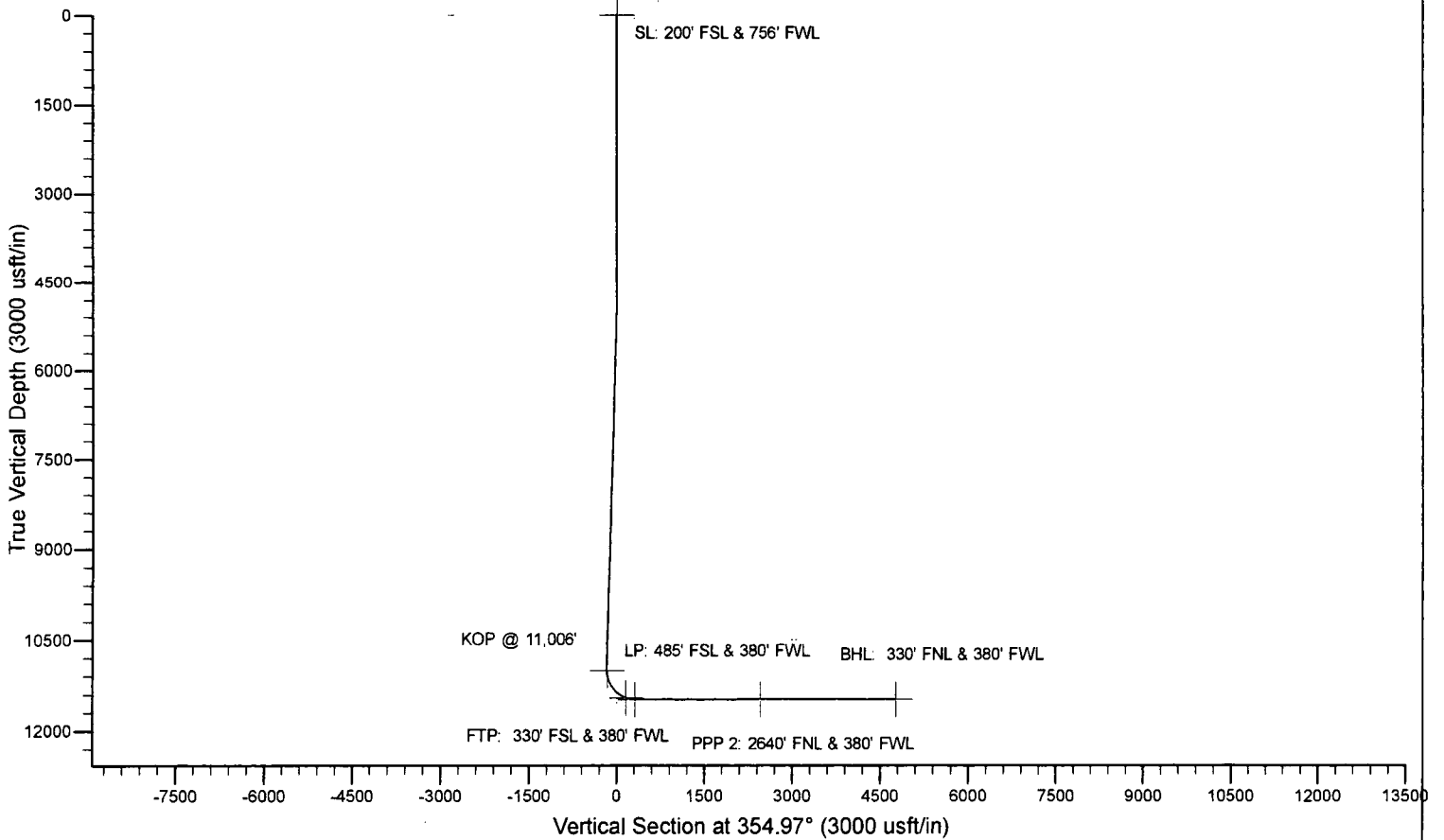
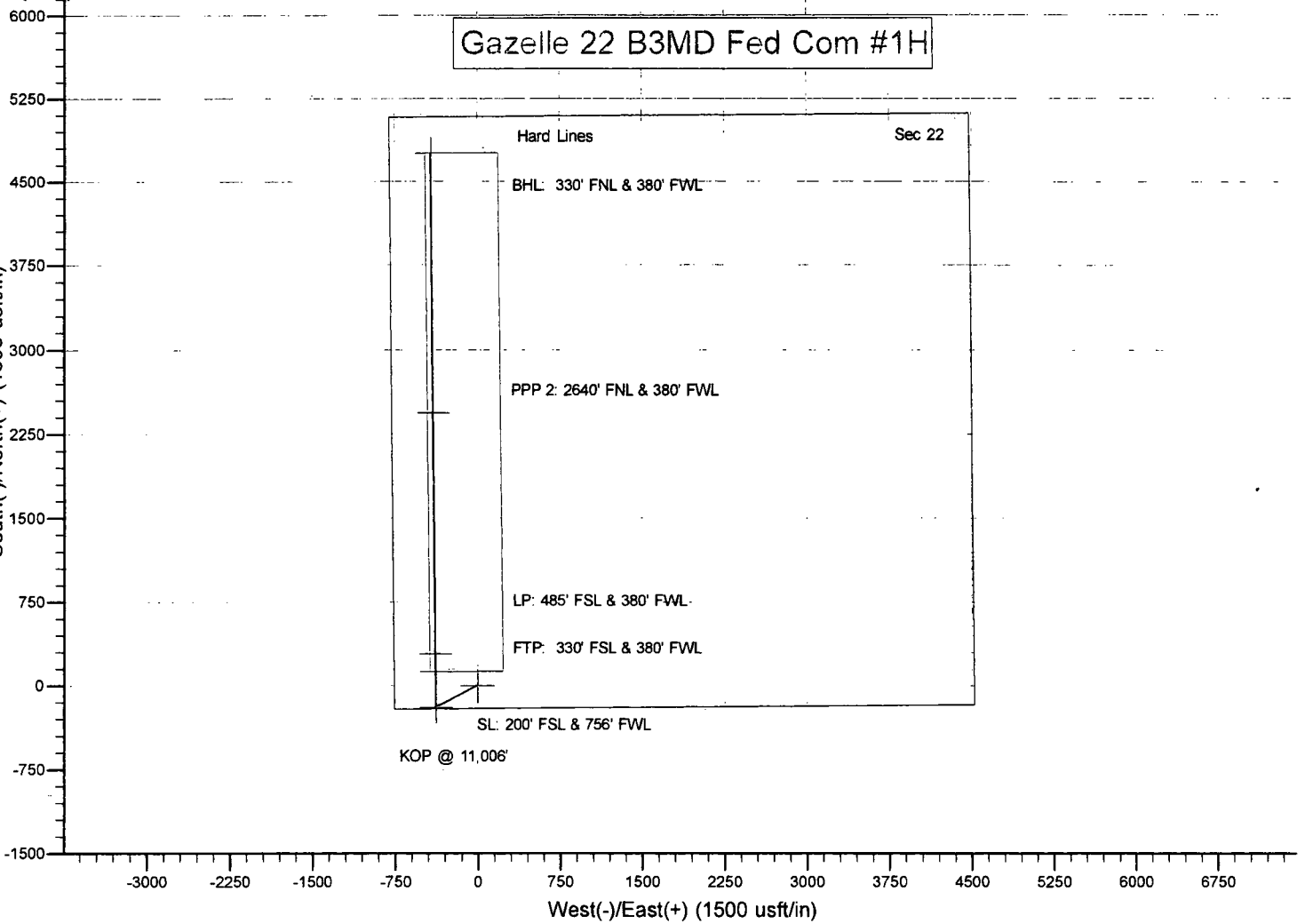
BHL: 330' FNL & 380' FWL

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
SL: 200' FSL & 756' FWL - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	467,922.00	809,985.00	32.2833993	-103.4640250
KOP @ 11,006' - plan hits target center - Point	0.00	0.00	11,005.5	-193.0	-374.0	467,729.00	809,611.00	32.2828771	-103.4652402
FTP: 330' FSL & 380' F - plan hits target center - Point	0.00	0.00	11,457.3	130.0	-376.9	468,052.00	809,608.12	32.2837650	-103.4652410
BHL: 330' FNL & 380' F - plan hits target center - Point	0.00	0.00	11,478.0	4,749.0	-418.0	472,671.00	809,567.00	32.2964615	-103.4652531
PPP 2: 2640' FNL & 380 - plan hits target center - Point	0.00	0.00	11,480.6	2,439.0	-397.4	470,361.00	809,587.56	32.2901119	-103.4652471
LP: 485' FSL & 380' FWL - plan hits target center - Point	0.00	0.00	11,483.0	285.0	-378.3	468,207.00	809,606.70	32.2841910	-103.4652416

Gazelle 22 B3MD Fed Com #1H

South(-)/North(+) (1500 usft/in)



Mewbourne Oil Company Gazelle 22 B3MD Fed Com #1H

Sec 22, T23S, R34E

SL: 200' FSL & 756' FWL

BHL: 330' FNL & 380' FWL

1. Geologic Formations

TVD of target	11,483'	Pilot hole depth	NA
MD at TD:	16,236'	Deepest expected fresh water:	300'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler	970	Water	
Top Salt	2035		
Castile			
Base Salt	4325		
Yates		Oil/Gas	
Seven Rivers			
Queen			
Lamar	5075	Oil/Gas	
Bell Canyon	5100	Oil/Gas	
Cherry Canyon	5845	Oil/Gas	
Manzanita Marker			
Brushy Canyon	7270	Oil/Gas	
Bone Spring	8575	Oil/Gas	
1 st Bone Spring Sand	9650		
2 nd Bone Spring Sand	10,175	Target Zone	
3 rd Bone Spring Sand			
Abo			
Wolfcamp			
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

*H₂S, water flows, loss of circulation, abnormal pressures, etc.

Mewbourne Oil Company Gazelle 22 B3MD Fed Com #1H
Sec 22, T23S, R34E
SL: 200' FSL & 756' FWL
BHL: 330' FNL & 380' FWL

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	960'	13.375"	48	H40	STC	1.54	3.47	6.99	11.74
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.41	3.00
12.25"	3453'	4393'	9.625"	40	J55	LTC	1.13	1.73	8.14	9.86
12.25"	4393'	5050'	9.625"	40	N80	LTC	1.18	2.19	28.05	34.86
8.75"	0'	11,771'	7"	26	P110	LTC	1.36	1.74	2.13	2.71
6.125"	11,021'	16,236'	4.5"	13.5	P110	LTC	1.79	2.08	4.80	5.99
BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet				

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h
Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company Gazelle 22 B3MD Fed Com #1H
Sec 22, T23S, R34E
SL: 200' FSL & 756' FWL
BHL: 330' FNL & 380' FWL

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft ³ / sack	H ₂ O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	510	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Inter.	845	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Prod.	400	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
Liner	215	11.2	2.97	17	16	Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

A copy of cement test will be available on location at time of cement job providing pump times, compressive strengths, etc.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	4850'	25%
Liner	11,021'	25%

Mewbourne Oil Company Gazelle 22 B3MD Fed Com #1H
Sec 22, T23S, R34E
SL: 200' FSL & 756' FWL
BHL: 330' FNL & 380' FWL

4. Pressure Control Equipment

Variance: None

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	5M	Annular	X	2500#
			Blind Ram	X	5000#
			Pipe Ram	X	
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. 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 the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Provide description here: See attached schematic.

Mewbourne Oil Company Gazelle 22 B3MD Fed Com #1H

Sec 22, T23S, R34E

SL: 200' FSL & 756' FWL

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5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0'	1045'	Spud Mud	8.6-8.8	28-34	N/C
1045'	5000'	BW	10.0	28-34	N/C
5000'	11,006'	FW w/ Polymer	8.6-9.7	28-34	N/C
11,006'	11,483'	OBM	8.6-10.0	30-40	<10cc

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	Pason/PVT/Visual Monitoring
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from KOP (11,021') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned	Interval
X Gamma Ray	11,021' (KOP) to TD
Density	
CBL	
Mud log	
PEX	

Mewbourne Oil Company Gazelle 22 B3MD Fed Com #1H

Sec 22, T23S, R34E

SL: 200' FSL & 756' FWL

BHL: 330' FNL & 380' FWL

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5971 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
	H2S is present
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe.

Will be pre-setting casing? If yes, describe.

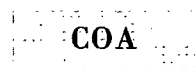
Attachments

___ Directional Plan

___ Other, describe

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
LEASE NO.:	NMNM132073
WELL NAME & NO.:	GAZELLE 22 B3MD FED COM 1H
SURFACE HOLE FOOTAGE:	200' FSL & 756' FWL
BOTTOM HOLE FOOTAGE:	330' FNL & 380' FWL
LOCATION:	Section 22, T. 23 S., R 34 E., NMPM
COUNTY:	Eddy County, New Mexico



H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. CASING

Operator shall filled 1/3rd of the casing with fluid while running production casing.

- The minimum required fill of cement behind the 7 inch production casing is:
 - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.
- The minimum required fill of cement behind the 4-1/2 inch production liner is:
 - Cement should tie-back 100' into the previous casing. Operator shall provide method of verification.

B. PRESSURE CONTROL

- Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
- Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
- Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **5000 (5M)** psi.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

ZS 053018

In a Lesser Prairie-Chicken section.

13 3/8	surface csg in a	17 1/2	inch hole.	Design Factors			SURFACE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	48.00	H 40	ST&C	6.99	1.75	0.66	960	46,080	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 792				Tail Cmt	does not	circ to sfc.	Totals:	960 46,080	
<u>Comparison of Proposed to Minimum Required Cement Volumes</u>									
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
17 1/2	0.6946	710	1349	722	87	8.80	1512	2M	1.56

Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.

9 5/8	casing inside the	13 3/8	Design Factors				INTERMEDIATE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	36.00	J 55	LT&C	2.41	1.13	0.61	3,453	124,308	
"B"	40.00	J 55	LT&C	8.14	1.13	0.68	940	37,600	
"C"	40.00	N 80	LT&C	28.04	1.18	0.99	657	26,280	
"D"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	5,050	188,188	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		960	overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
12 1/4	0.3132	1045	2059	1661	24	10.00	3260	5M	0.81

Burst Frac Gradient(s) for Segment(s): A, B, C, D = 1.02, 0.9, 1.14, d All > 0.70, OK.

ALT. BURST SF IS GOOD. BURST SAFETY GRADIENT IS GOOD.

7	casing inside the			9 5/8	Design Factors		PRODUCTION		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	Weight
"A"	26.00	P 110		LT&C	2.32	1.12	1.72	11,021	286,546
"B"	26.00	P 110		LT&C	4.63	0.98	1.72	750	19,500
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,425							Totals:	11,771	306,046
B	would be:				57.69	1.07	if it were a vertical wellbore.		
No Pilot Hole Planned			MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC
			11771	11483	11483	11021	90	12	11771
The cement volume(s) are intended to achieve a top of					4850	ft from surface or a		200	overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
8 3/4	0.1503	800	1384	1053	31	9.70	3439	5M	0.55

Class 'H' tail cmt yld > 1.20

ALT. COLLAPSE SF= 0.98* 1.5= 1.47

Tail cmt									
4 1/2	Liner w/top @	11021	-		Design Factors		LINER		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	13.50	P 110	LT&C	3.01	1.61	2.08	750	10,125	
"B"	13.50	P 110	LT&C	2.33	1.79	2.08	4,465	60,278	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,525							Totals:	5,215	70,403
A Segment Design Factors would be:				2.18	1.79	if it were a vertical wellbore.			
0462		MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC	
		16236	11483	11478	11021	90	12	11771	
The cement volume(s) are intended to achieve a top of				11021	ft from surface or a		750	overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
6 1/8	0.0942	215	639	435	47	10.00			0.56

Class 'H' tail cmt yld > 1.20

Capitan Reef est top XXXX.